

**HSE COMMUNITY NUTRITION & DIETETIC SERVICE  
CARE GUIDELINES for the MANAGEMENT of  
TYPE 2 DIABETES**

**Developed by a Working Group of HSE Community Dietitians**

**October 2020 – Version 3**

**This document (October 2020 – Version 3) was developed by HSE Community Diabetes Dietitians during 2019 - 2020 to support their clinical practice. It will be updated by the group as new evidence emerges.**

**Please contact the local Community Nutrition & Dietetic Service for the latest version.**

## 2019-2020 Guidelines Working Group of Integrated Care Programme (ICP) Diabetes Community Dietitians

CHO 1	Marie Boyce, ICP Snr. Diabetes Dietitian
CHO 1	Pamela Cartwright, ICP Snr. Diabetes Dietitian
CHO 2	Dearbhla McGing, ICP Snr. Diabetes Dietitian
CHO 2	Katriona Kilkelly, ICP Snr. Diabetes Dietitian
CHO 3	Yvonne Kozarov, ICP Snr. Diabetes Dietitian
CHO 3	Tonya O' Neill, ICP Snr. Diabetes Dietitian
CHO 4	Dr. Ciara McGowan, ICP Snr. Diabetes Dietitian
CHO 4	Annemarie O' Connor, ICP Snr. Diabetes Dietitian
CHO 5	Mary O' Sullivan, ICP Snr. Diabetes Dietitian
CHO 6	Celine Honohan, ICP Snr. Diabetes Dietitian
CHO 6	Mary T. O' Loughlin, ICP Snr. Diabetes Dietitian
CHO 7	Laura McNamara, ICP Snr. Diabetes Dietitian
CHO 7	Michelle Carey, ICP Snr. Diabetes Dietitian
CHO 8	Olive Tully, ICP Snr. Diabetes Dietitian
CHO 8	Orla Brady, ICP Snr. Diabetes Dietitian
CHO 9	Aoife Ward, ICP Snr. Diabetes Dietitian
CHO 9	Orlaith Burkett, ICP Snr. Diabetes Dietitian
National	Dr. Karen Harrington, National Clinical Specialist Dietitian (Diabetes)

**Co-ordinated by the National Diabetes Clinical/Weight Management Working Group of ICP Community Diabetes Dietitians:**  
Orlaith Burkett, Dr. Karen Harrington, Katriona Kilkelly, Dearbhla McGing, Aoife Ward.

**Leads:** Dr. Karen Harrington & Dearbhla McGing.

### Acknowledgements

We would like to express our thanks to members of the Joint Working Group of HSE Community Dietitians who produced the original "National HSE Nutrition & Dietetic Care Plan for Type 2 Diabetes in Primary Care 2013" as part of their primary care roles. Their work served as the foundation to these updated Guidelines. The original document served as an important reference document for Dietitians in Ireland. We would like to thank Community Dietitians across the 9 Community Health Organisations who participated in the consultation process and provided invaluable feedback. In particular we would like to thank Ciara Heverin, Senior Diabetes Dietitian, Sarah McEvoy, Senior Community Diabetes Dietitian and Sally-Ann McLaughlin, Senior Community Dietitian for their specialist knowledge. We would like to acknowledge the HSE ICP Diabetes Nurse Specialists and the INDI Diabetes Interest Group Dietitians who also participated in the consultation process. Thank you to the HSE National Clinical Programme for Diabetes for its endorsement. We would like to thank the following for their assistance with specific sections:

#### Healthcare Professional

Margaret Humphreys, National Clinical Specialist Dietitian/National SPE lead

Ceara Clearly, Dental Hygienist, Ballyfermot PCC  
Anne-Marie Cleere, Integrated Care CNS in Diabetes, CHO3  
Hilary Devine, Clinical Specialist Dietitian, National Maternity Hospital  
Ciara Heverin, Snr. Diabetes Dietitian, CHO2  
HSE Live Manager, Geraldine Charman & team members  
Maternity Dietitians Ireland  
Maternity Dietitians Ireland: Sinead Curran, Catherine Chambers  
  
Maura McKenna, Integrated Care CNS in Diabetes, South Tipperary, CHO5  
Siobhan Meehan, Integrated Care CNS in Diabetes, CHO8  
Dorothy Moore, Integrated Care CNS in Diabetes, Carlow Kilkenny, CHO 5  
Dr. Muriel Pate, Medication Safety Specialist Pharmacist, HSE  
Podiatrists DSC/DW area - Caoimhe Joyce Hearne and Lucy Conway  
Podiatrists: Angela Ferris and Michael Cassidy  
Louisa Power, MPSI, Chief II Pharmacist - Pharmacy Services, Limerick  
Edel Russell, Senior Dietitian Cavan Monaghan  
Suzanne Seery, Lead Dietitian, CROÍ  
Oonagh Smith, Clinical Specialist Dietitian (Renals) & Chair of the INDI RIG  
& members of the INDI RIG  
Helen Twamley, Integrated Care CNS in Diabetes. CHO9

#### Care Plan Section

Support, Guidance, Resources

Dental care  
Medicines  
Pregnancy/Pre-pregnancy planning  
Dietary recommendations (fish oil)  
Entitlements, support SMES course registration  
2019 leaflet to support pre-pregnancy planning  
Diet recommendation (Fish intake in pregnancy/  
Breast-feeding women)  
Illness  
Blood Glucose Monitoring Best Practice Guidelines  
Illness  
My Medicines Campaign (HSE, 2019)  
Entitlements re foot care  
Possible complications  
Hypo treatments & LTI scheme, Fish oils.  
NCPM  
Dietary recommendations (Fat, fish and fish oils)  
  
CKD  
Possible complications

<b>CONTENTS</b>	<b>PAGE</b>
<b>INTRODUCTION</b>	<b>2</b>
<b>PHILOSOPHY OF CARE</b>	<b>3</b>
<b>AIMS &amp; OBJECTIVES</b>	<b>4</b>
<b>NUTRITION CARE PROCESS FOR TYPE 2 DIABETES</b>	<b>5</b>
<b>APPENDICES OF EVIDENCE (LIST)</b>	<b>7</b>
<b>SUPPORT FOLDERS TO THE APPENDICES OF EVIDENCE (LIST) - AVAILABLE ON THE DSME SHARED DRIVES</b>	<b>8</b>
<b>RESOURCES</b>	<b>69</b>
<b>REFERENCES</b>	<b>69</b>

## INTRODUCTION

The 2013 Community Nutrition and Dietetic Service careplan for Type 2 Diabetes is updated in line with national and international evidence and best practice. It has been developed by a working group of Integrated care programme (ICP) Community Dietitians for Diabetes in Primary Care, with many new topics added to meet the Dietitian role in diabetes care. The HSE Model of Integrated care for people with type 2 diabetes (2018) outlines current recommendations of care and relevant information has been integrated into this document.

The guidelines are

- presented in the context of the **Nutrition Care Process 'Nutrition Assessment Structure Checklist'**
- supported with **Evidence** on relevant topics presented in Appendices.
- supported with **Support folders** which contain additional information referred to in the Appendices. Available on the DSME shared drives.
- summarised in a separate **Summary document** to share high level updates since 2013.

The guidelines and further information provided (i.e. website addresses, contact details) are correct as of January 2020. Please inform the working group of any amendment required.

- Advice re website addresses: The HSE Communications team is in the process of updating all HSE website information during 2020. Please inform the working group of any changes observed.
- Resources and educational aids to assist delivery of services are being updated in phase 2 of this project.

A major development in the delivery of diabetes care to people with diabetes, since 2013 guidelines, is the use of **language** when describing people (not diabetics) and their experience with their care (no longer referring to adherence/compliance). See Appendix on **Language** and the supporting folder on Language for further guidance.

A **philosophy of care** has been defined in the provision of dietetic care and diabetes education to people with diabetes and their families or carers (see page 3).

**The role of the person with diabetes (and their family)** as leaders in their own care is now well recognised in national and international recommendations.

**The challenge for health care professionals** is to not only keep up-to date with current treatment/management evidence but to recognise the key role and influence of one's interpersonal skills, attitudes to and with people, and one's language used with people and talking about people and their current care.

### Overview of Type 2 Diabetes

Diabetes is recognised as a pre-mature cause of death and ill health. People living with diabetes are at risk of developing a number of serious and life-threatening complications, leading to an increased need for medical care, a reduced quality of life, and undue stress on families. Diabetes and its complications, if not well managed, can lead to frequent hospital admissions and premature death (IDF, 2019). Diabetes is associated with substantial cost burden for the person with diabetes, their families and for the economy. Additional costs for diabetes in Ireland are estimated as approx. €89million annually, with 2/3 of costs associated with hospital admissions (O'Neill et al, 2018). With prompt and accurate diagnosis and access to appropriate care, diabetes can be managed and its complications prevented. Furthermore, type 2 diabetes can often be prevented and there is compelling evidence to suggest it can, in some circumstances, be reversed (IDF, 2019).

**The definition of Type 2 Diabetes as a chronic progressive illness is currently challenged.** The understanding of type 2 diabetes, gained through the initial research and recent DIRECT study in primary care, has offered people HOPE in how they approach management and treatment. A person's role in their unique treatment plan is crucial.

In Ireland, there are estimates of ¼ million people with diabetes although there is not currently a national diabetes register. The National Clinical Programme for Diabetes prioritised diabetes care development and a register is seen as a national requirement. The HSE Integrated Care Programme for the Prevention and Treatment of Chronic Disease considers diabetes services a priority. In 2009 the HSE published a Review of Diabetes Structured Education.

- A Clinical Specialist Dietitian (Diabetes) commenced work nationally with the national clinical programme for diabetes in 2015.
- National guidelines were produced to support delivery of care by diabetes health care professionals in 2016 (2016 ICGP) and the HSE Model of Integrated care for patients with Type 2 Diabetes was published in 2018.
- Services in primary care for diabetes have expanded since 2016 with placement of community podiatrists, integrated care diabetes specialist nurses and 19 Integrated care Community Dietitian posts in 2017/2018.
- The HSE launched the GP cycle of care for Diabetes in 2015, supporting GMS clients to receive 2 diabetes appointments in primary care with their GP. An updated national GP contract inviting GPs to participate in the Chronic Disease Management Programme commenced in Jan 2020 for GMS/GPVC. Type 2 Diabetes is included and phase 1 addresses those over 75years. In 2020 further development of diabetes services is facilitated through Sláintecare.

## PHILOSOPHY OF CARE

A **philosophy of care** has been defined in the provision of dietetic care and diabetes education to people with diabetes and their families or carers (see below).

A philosophy is both a viewpoint (a perspective of how things are) and a system of values (a perspective of how things should be), (Funnell et al 1991).

Philosophy is important because it influences our professional behaviours, attitudes, satisfaction and effectiveness (Anderson, 1987). Our philosophy of care outlines the goals and values that underpin the care we deliver & how we deliver it.

A defined philosophy underpins the recommended 4 quality standards for diabetes patient education programmes or structured patient education courses (SPE) (i.e. a structured written Curriculum, Trained educators, Quality assurance and Audit). (Diabetes UK & DH 2005, HSE 2009), now being referred to as **Self Management Education and Support (SMES)**.

### **The underlying guiding philosophy for dietetic care for people with type 2 diabetes is:**

1. HSE Values
2. Person Centred Care (i.e. Patient-Centred Model of Care)
3. The Empowerment Approach to Care
4. The Principles of Adult Learning (i.e. Andragogy), patient education and group facilitation
5. Theories of Behaviour Change
6. Integration of psychosocial care to address disease burden and convey hope
7. The health literacy, numeracy literacy and cultural needs of the Irish population
8. Attention to language used in diabetes care, use of recommended language and awareness of impact
9. Integration of the person & their family

These elements guide what we deliver & how we deliver and enable us to articulate the value of our services (1-1 and group) to our clients, colleagues and those unfamiliar with the role of diabetes educators and DSME.

**Our philosophy of care** for people with/at risk of diabetes is that dietitians deliver **person centred** and **person driven** care.

The dietitian has a unique relationship with their clients, respecting that the **person has 98% control** over their care (Anderson & Funnell, 2002).

The dietitian invites a person's spouse, families, and carers to attend appointments and courses to create a positive support network that aims to help the person in their efforts to self-manage diabetes.

## AIMS & OBJECTIVES

### AIMS OF DIETETIC CARE:

1. To devise and deliver nutrition and dietetic care, based on current evidence and best practice, which helps the individual and their families/carers to make and maintain lifestyle changes (i.e. behaviour changes) that are best suited to their particular needs, expectations, capabilities, preferences and values, as recommended in the HSE Model of Integrated care for patients with Type 2 Diabetes.
2. To offer all people with type 2 diabetes access to a structured education package where they will receive appropriate dietary and clinical care advice. People not suitable for group education should be offered one to one education with a Dietitian.
3. To facilitate people's self-management i.e. to support people with type 2 diabetes to recognise their essential and active role in their own diabetes care.
4. To collaborate with people to achieve their individual recommended health result targets, recognising that a key guiding principle of current diabetes care is that one size does not fit all and all care is individualised.
5. To support delivery of integrated diabetes care to people and their families as part of a collaborative multi-disciplinary diabetes care team (e.g. GP, PN, DNS, Podiatrist, Pharmacist, etc).

### OBJECTIVES OF DIETETIC CARE:

- To support the person being informed that type 2 diabetes is a serious BUT treatable condition and to convey HOPE that it is a condition that can be very well treated and for some reversed to a 'state of remission'.
- To educate the person with diabetes by providing information and advice (i.e. knowledge), to support them gaining awareness of their current diabetes management, the recommended diet and lifestyle advice for type 2 diabetes and recommended general diabetes education.
- Through use of behaviour change skills and strategies (i.e. BCT training), provide the person with behavioural strategies to support their diabetes self-management.
- To empower the person to apply the principles of a healthy eating plan for diabetes and CVD risk reduction.
- To empower the person to become more physically active, to become aware of their sedentary behaviour (sitting/lying time) and to consider reducing same to support their diabetes care and overall health care.
- To empower the person to achieve and maintain a healthier body weight as appropriate & be informed of evidence of supporting diabetes remission.
- To empower the person to develop the skills, knowledge and confidence to self-manage their diabetes. People with diabetes should receive diabetes self-management education when their diabetes is diagnosed and as needed thereafter with 4 time points recommended by the ADA (See Appendix on Diabetes Self-Management).
- To improve the person's overall health and diabetes management through promotion of healthy lifestyle choices that would support other cardiovascular risk factor reduction (e.g. healthier body weight, improved physical activity, smoking cessation, healthy alcohol intake and stress management). Focus on behaviours, as they lead to better health results.
- To explore medicine taking with the person and empower them to consider challenges and discuss with GP/pharmacist/PN/DNS further as needed.
- To support the person to achieve diabetes health results such as blood glucose levels, HbA1c levels, blood pressure readings, blood lipid levels and renal function tests (i.e. urine albumin:creatinine ratio (ACR) and eGFR) in line with the targets recommended by their lead diabetes health care professional (e.g. GP or consultant) or national guidelines.
- To ensure the nutritional adequacy and balance of the diet (e.g. Vitamin D, prevention of anaemia, malnutrition, wound healing).
- To support prevention, delay, detection and treatment of acute and chronic complications and maintain quality of life through supporting general diabetes education (e.g. discussing annual diabetic renal screening tests, care of the feet, advice to recheck diabetes health results (i.e. repeat ACR, BP, etc.) & consider associated psychosocial needs.
- To address individual needs taking into consideration personal/cultural preferences and lifestyle, and respecting wishes and willingness to change.
- To support the person to recognise that caring for diabetes can be demanding sometimes and can result in times where it is difficult to cope e.g. diabetes distress, more severe diabetes burnout or indeed affect our mental health more seriously causing depression. To support the person to learn coping skills.
- To support the person to recognise and explore the role of creating a supportive environment to help maintain healthy lifestyle choices and optimal diabetes care, through the support of health care professionals, family/carers/friends and social and peer supports.

**These guidelines support Community Dietitians in the delivery of dietetic care and DSME to people with diabetes and their families, in line with the recommendations of HSE Model of Integrated Care for the management of people with type 2 diabetes. The care delivered and translation of this guidance into practical advice, education and support to people and their families, will be guided by the clinical judgement of the dietitian to meet the individual needs of every client and their individual circumstances.**

## Nutrition Care Process for Type 2 Diabetes – adapted nutrition assessment structure checklist for medical and dietetic notes

Follow local Policies, Procedures and Guidelines when providing care and obtaining consent.

### 1. Medical Tests and Procedures

#### New assessment:

- Note the date of and reason for referral, medical diagnosis: newly diagnosed or existing T2DM with +/- CKD disease, uncomplicated/complicated for primary care only or joint primary & secondary care. Note other medical conditions e.g. hypertension, heart disease, coeliac disease, cancer, arthritis, etc.  
Psychosocial care Investigations/observations/tests: Document any diagnoses of mental health/psychological disorders e.g. anxiety, depression, diabetes distress, disordered eating & if receiving support for same. Refer to **Psychosocial Care** Appendix
- Summarise other investigations/observations/tests if relevant (as per patient group) to dietetic intervention e.g., symptoms prior diagnosis, US for investigation of Fatty liver, recent retinal screen/foot check, Blood Pressure, attendance at appointments (acute service, primary care (GP, DNS, PN)).
- Identify patient group e.g. Older Adults, Women of child bearing age & tailor screening and advice accordingly. Refer to **Older Adults & Pre-Pregnancy Planning & Pregnancy and Type 2 Diabetes** Appendices.
- Include relevant MDT recommendations: e.g. PN/DNS & when next review is, physiotherapy e.g. guidance on suitable exercises.

#### Review assessment:

- Comment on date of review assessment e.g. assessment 2 of 3 for 2019/SPE (link it to Model of Integrated Care 2018) or as per local CNDs appointments guidelines/PPGs.
- Review Behavioural and/or Psychosocial care investigations/observations/tests as listed above & appendices.
- Comment on relevant information/updates since last assessment e.g. hospital visits, DNS visits, GP/PN visits, retinal or foot screening, investigations, Blood pressure.

### 2. Biochemistry

#### New assessment:

- Review and note relevant biochemistry as indicated in the **Clinical Targets** table (see Appendix) - HbA1c, Blood Glucose, Lipid profile, Urine albumin: creatinine ratio if available. Note actual result and date taken. Comment on change since last test i.e. normal result or if out of target, note increase/decrease.
- Note if check-up appointment due for tests - advise on tests that require checking with GP/PN as appropriate e.g. ACR, repeat, lipid profile.
- When assessing blood glucose, interpret in the context of diabetes medicines and determine if using a blood glucose monitor, frequency of checking, timing of testing, recording of results, if they have been advised on blood glucose target levels. (See BGM and Clinical Targets Appendix).
- Check person's awareness and knowledge of diabetes health results and if advised on individual targets. Re **Older Adults** and supporting women of child-bearing age with **pre-pregnancy planning and pregnancy**, see Appendices.
- Provide available results in written record such as the My Diabetes Health Result Form as part of the PLAN section 8 and use Diabetes Passport as per local hospital care pathway:
- Check and note renal tests completed to date (serum creatinine, eGFR calculation) and translate to CKD stage. Discuss with GP as required i.e. results suggestive of CKD and not stated in referral or shared by person with diabetes.
- Check and note liver function tests and note same.
- If a woman of child-bearing age, consider if appropriate to share targets for non-pregnant women are different to pregnant women, who will require their care reviewed by their care team to support their care during pregnancy. See Appendix **pre-pregnancy planning & pregnancy**.

#### Review Assessment:

- Comment on relevant results as per recommended **Clinical Targets** e.g. elevated/decreased HbA1c since last review, declining renal function. Document date of recent bloods, GP or hospital request.
- Cross reference with relevant medicines if appropriate e.g. impact of last medicine on biochemistry.

### 3. Relevant Medicines

#### New & Review Assessment:

- Include all relevant *prescribed* Medicines and electrolyte supplementation (can cross-reference with biochemistry). See Appendix.
- If there are no medicines of dietetic relevance, record 'Nil of dietetic relevance'.
- Document any change(s) of dietetic relevance. If no change(s) document 'No change(s) of dietetic relevance'.
- Cross-reference with relevant biochemistry if appropriate e.g. diabetes, hyperlipidaemia and hypertension medicines. Interpret and review HbA1c and blood glucose self-monitoring results together and consider diabetes medicines effects. and influences as appropriate e.g. on insulin, sulphonylureas, timing of medicines.
- Identify any medicine that may contribute to hypoglycaemia and enquire if any episodes of same. Liaise with GP, PN or DNS to discuss as appropriate.
- Consider medicine issues of relevance which will also support review of HbA1c and blood glucose tests - timing of medicines, experience taking (e.g. polypharmacy, injections), challenges, storage issues, pharmacy support.

### 4. Nutrition Focused physical findings

#### New Assessment:

- Appetite, bowels, Nausea and vomiting. \* for additional information refer to **Medicines** Appendix
- Fluid Balance –visual assessment of feet/legs for fluid retention. Weight changes. Diuretic prescription..
- Skin- slow healing wounds may be an indicator of poor glycaemic control. Diabetic Foot Ulcer presence/history.
- Presence of poor glycaemic control symptoms e.g. polydipsia, nocturia, increased thirst/tiredness
- Possible observations could include (taken from Nutritional Diagnosis catalogue): Negative body language, e.g., frowning, lack of eye contact, fidgeting, defensive posture, crying (Note: body language varies by culture)

**Review Assessment:** Document any changes of dietetic relevance since initial consult, if any.

### 5. Anthropometric Measurements, Nutrition Requirements

#### New Assessment:

- As relevant: height, weight, BMI, waist circumference, % weight change over time (include reasons, if applicable), ulna length, MUAC, muscle and subcutaneous fat wasting, abdominal circumference, body surface area, fat mass, % body fat/fat free mass/body water.

- Check for any fluid retention and estimate weight adjustment accordingly
- Nutritional requirements: Indicate predictive equations used for energy and protein requirements by name, e.g. Henry Oxford or by full equation, e.g.  $10.2(64) + 572$ . Indicate use of food pyramid and portion sizes in estimating requirements. Estimate energy, protein, lipid/fat, carbohydrate, fluid, micronutrient, non-nutrient (e.g. fibre/cafeine) requirements if relevant. Refer to date of last estimated nutritional requirements if not re-estimating requirements. Based on information collected in relation to activity levels include an activity factor and/or stress factors as appropriate based on clinical condition. Include adjustments as necessary for any recommended weight loss/gain

#### Review Assessment:

- If appropriate, weigh patient and measure waist circumference and compare weight, waist circumference and BMI to previous measures and reassess targets.

### 6. Food & Nutrition Related History

#### New assessment:

- Behavioural Investigations/observations/tests
  1. Identify person's "perception of diagnosis of diabetes", their thoughts on this referral & how the person envisages the Dietitian supporting them.
  2. Identify their expectations with regard to weight loss/gain & other treatments.
  3. Use Interpersonal skills & tools to assess willingness/ability to make diet & lifestyle changes e.g. Importance & Confidence, Reasons for Change, Pros and Cons of Change, Ambivalence Grid, readiness, potential barriers to change, goal setting, problem solving, self-monitoring & rewards. Explore importance & build confidence as needed.
- Psychosocial care Investigations/observations/tests: Consider person's social support, social situation. See Psychosocial care Appendix.

Dietary Intake: example: N/A / 24hr recall / Typical Day / Food Diary/ Food Pyramid/ Food Frequency Questionnaire/ Carbohydrate foods & portions, Other

- Refer to **Dietary recommendations for adults with Type 2 Diabetes** Appendix. Cooking skills/food shopping ability. Functional capabilities preventing food procurement or preparation.
- Mealtime routine – regular meals/skipping meals, work hours/days, number of meals and snacks, social eating occasions, alcohol intake, other.
- Non-prescribed supplements, vitamins, minerals, or complementary/alternative medicines. If taken for diabetes control explore if rationale.
- Behaviour, attitudes to food, readiness to change and motivation – Refer to **Behaviour Change** Appendix
- Alcohol – refer to **Alcohol** Appendix
- Smoking – refer to **Smoking & Smoking services** Appendix
- Identify activity patterns – assess the person's physical activity level through open-ended questions, use activity diaries and pedometers. Refer to **Physical Activity/Sitting Time** Appendix.

#### Review Assessment:

Invite feedback on progress since initial consult; assess understanding of goals set – what went well/to improve on

Cover additional topics around diet and diabetes as appropriate since initial consult

### 7. Nutritional Diagnosis/Goal and Summary of Nutritional Issues

Problem - Aetiology - Signs and Symptoms (specific and evidenced in 1-6).

### 8. Plan – new and review assessment

The nutrition care PLAN should include the headings below (guide):

These areas will be addressed during the dietetic care offered (group/1-1), discussing and providing written information as deemed appropriate.

- Care and advice will be based on an individual's diagnosis (Section 7) of diabetes and other co-existing conditions/needs. Discuss Type 2 Diabetes as a serious but treatable condition, the key role of the person themselves (i.e. self-care), the potential to prevent and possibly support remission (see Appendix). See Appendices re **obesity/overweight/weight management, hypertension, hyperlipidaemia, CKD, older adults, pregnancy, minority ethnic groups.**
- Nutrition education / **Dietary recommendations for adults with Type 2 Diabetes** (see Appendix): provided according to the needs identified in section 6. Negotiate dietary goals, as appropriate and at review, negotiate new goals, when previous goals have been successful.
- Food and nutrient delivery: oral sip feeds, supplements if required or not required i.e. micronutrients, fish oil supplements, plant sterols/stanols.
- Nutrition counselling: **behaviour change** skills and strategies and counselling techniques used e.g. exploring importance, confidence, readiness and exploring ambivalence as needed, goal setting, problem solving, self-monitoring, social support.
- Co-ordination of nutrition care: special diet orders, liaising with MDT staff. Link with other MDT as required (i.e. GP, PN, DNS, family/carers).
- **Diabetes Self-Management Education and Support** (see Appendix): Discuss the following to support the person to develop the knowledge, skills and confidence to self-manage:
  - Courses - Recommend completion of locally available diabetes self-management course as part of treatment. Refer if not attended to date. Offer family member, carer or friend to attend for support. Offer 1-1 if cannot attend or on course waiting list.
  - My diabetes health results (see Appendix **Clinical Targets**)
  - **Entitlements & check-ups** (see Appendix)
  - Lifestyle treatment for Type 2 Diabetes - **Physical Activity, Smoking, Alcohol, Sleep** (see Appendices).
  - **Medicines** (see Appendix)
  - **Psychosocial care & support** (see Appendix)
  - Other key diabetes education topics. **Blood Glucose Monitoring, Hypoglycaemia & Driving Guidance, Illness/sick day guidance, Holidays/travel** – see Appendices.
  - Management of co-existing complications and associated psychosocial issues through discussion on entitlements/services as appropriate (e.g. DRS, foot checks, dentists, GP check-ups). See Appendix **Complications of Diabetes**.
- Planned follow-up:
  - Discuss care in terms of service recommended i.e. group diabetes course, 1-1, both, block of care.
  - Discuss appointments/referrals recommended e.g. GP/DNS appointment, follow-up tests/checks (e.g. ACR), DRS, foot check, psychosocial care services/supports, pharmacy support, physical activity support, smoking cessation support.
  - Consider discussion required with GP in GP feedback letter or by phone/meeting regarding care e.g. the person's knowledge of their diagnosis, repeat ACR, clarification regarding CKD status and person's knowledge re same, concerns re any aspect of care.

**Note: This NCPM document will be continually revised with the guidance of local and National NCPM representatives.**



## APPENDICES OF EVIDENCE

<b>1</b>	<b>Dietary recommendations for adults with Type 2 Diabetes</b>	<b>10</b>
	Diet –NEW	10
	Dietary Pattern – NEW	10
	Energy	10
	Carbohydrate	10
	GI – NEW	11
	Sucrose	11
	Fructose – NEW	11
	Fruit –NEW	11
	Yogurt –NEW	11
	Fizzy Drinks – NEW	12
	Sweeteners	12
	Diabetic Foods	12
	Fibre	12
	Protein	13
	Red Meat and Processed - NEW	13
	Fat	13
	Saturated Fat, MUFA, PUFA, Trans Fat	14
	Plant Sterols & Stanols	14
	Fish & Oily Fish	15
	Fish oil supplements	16
	Micronutrients	16
	Salt/Sodium	16
	Further information on dietary recommendations;	17
	Prompts to support dietary recommendations discussion	17
<b>2</b>	<b>Alcohol</b>	<b>18</b>
<b>3</b>	<b>Behaviour Change</b>	<b>19</b>
<b>4</b>	<b>Blood Glucose Monitoring –NEW</b>	<b>21</b>
<b>5</b>	<b>Chronic Kidney Disease</b>	<b>25</b>
<b>6</b>	<b>Clinical Targets - for ADULTS and for OLDER ADULTS</b>	<b>28 &amp; 31</b>
<b>7</b>	<b>Complications of Diabetes - NEW</b>	<b>32</b>
<b>8</b>	<b>Diabetes Self-Management Education and Support – NEW</b>	<b>36</b>
	Driving Guidance – see 11.Hypoglycaemia Appendix – NEW	46
<b>9</b>	<b>Entitlements – NEW</b>	<b>39</b>
	Food labelling – NEW – see Support folder	
<b>10</b>	<b>Hypertension and Hyperlipidaemia</b>	<b>43</b>
<b>11</b>	<b>Hypoglycaemia, including Driving Guidance</b>	<b>44</b>
<b>12</b>	<b>Illness/sick day guidance – NEW</b>	<b>47</b>
<b>13</b>	<b>Language – NEW</b>	<b>48</b>
<b>14</b>	<b>Medicines - NEW</b>	<b>49</b>
<b>15</b>	<b>Minority Ethnic Groups - NEW</b>	<b>50</b>
<b>16</b>	<b>Obesity/Overweight/Weight Management including Diabetes Remission (NEW)</b>	<b>51</b>
<b>17</b>	<b>Older Adults and Diabetes – NEW</b>	<b>54</b>
<b>18</b>	<b>Physical Activity</b>	<b>59</b>
<b>19</b>	<b>Pre-pregnancy planning &amp; Pregnancy for women of child-bearing age – NEW</b>	<b>60</b>
<b>20</b>	<b>Psychosocial Care and Support – including stress – NEW</b>	<b>61</b>
<b>21</b>	<b>Sleep – NEW</b>	<b>65</b>
<b>22</b>	<b>Smoking – Training for Health care professionals – NEW</b>	<b>65</b>
<b>23</b>	<b>Smoking and Smoking Services</b>	<b>66</b>
<b>24</b>	<b>Training and Support for Dietitians – NEW</b>	<b>67</b>
<b>25</b>	<b>Travel Guidance &amp; Holidays – NEW</b>	<b>68</b>

## SUPPORT FOLDERS TO THE APPENDICES OF EVIDENCE (SEE DSME SHARED DRIVES)

The following folders support the relevant Appendix with information to support the dietitian or the person with diabetes.

Support Folder on	Supporting Information
Alcohol	Drinkaware – Alcohol and the body (Poster)
Blood Glucose Monitoring	<b>Guide to Blood Glucose Testing (HSE) – Leaflet</b> References: Glycaemic Targets for Adults (ADA 2019) Type 2 Diabetes Test Strips Q&A for patients (2016) Type 2 Diabetes Test Strips Reimbursement Q&A for healthcare professionals (2016) Report on self-monitoring of blood glucose 2014, 2016 (HSE) <u>Best Practice Guidelines Folder :</u> - Best Practice Guidelines for health care professionals when educating patients & carers to self-test capillary blood glucose (2017) - Best Practice Guidelines for health care professionals when monitoring capillary blood glucose in health care settings (acute & long-term) (2017) <u>Free Style Libre 2019</u> Media Release . Free style libre update DI (June 2009) User Experience of Flash Glucose Monitoring on Daily Life Experiences (June 2019) Tyndall et al 2019 – Paper on marked improvement in HbA1c in type 1 diabetes
CKD	Guide to NCP in CKD Stage 1-3A INDI Renal Interest Group (2018) RIG stages of dietary intervention oct19 (INDI Renal Interest Group)
Clinical Targets	<b>My Diabetes Health Results sept19 – form for use with clients (2019)</b> <b>My Diabetes Health Results with name and dob – can support leaving with GP (2019)</b> Diabetes cycle of care 2015 Folder of reference info My Diabetes Health Result Form Folder of reference info Type 2 Diabetes Clinical Targets Evidence – word review
Diabetes SMES	Diabetes SMES Alog of care and Action Steps (Powers et al, 2015 ADA, AADE, AND)
Diet	ADA May 2019 - Nutrition Therapy for Adults with Diabetes or Prediabetes: A Consensus Report
Entitlements	<b>Diabetic Retina Screen Folder:</b> About eye drops Consent info DRS and Dietitians update CHO4 <b>DRS consent form for health care professionals</b> Paper on diet and eye health <b>LTI: Centralisation of the LTI letter (2019)</b>
Food labelling	<b>Food labelling Appendix</b>
Hypos and Driving	<b>Diabetes and Driving Leaflet 2017</b> <i>Guidance on Hypos for clients from Discover Diabetes – Type 2 being prepared into resource for 1-1/SPE.</i> Glucotabs and Glucojuice 2019 rebranding info Dietitian reference documents: 1) Fizzy drink aug19; 2) Glucose Tablets aug19 Medical Fitness to Drive Guidelines Aug 2019 (updated from April 2019) - RSA
Language	Language table for reference and 3 reference papers – Australia, NHS UK and ADA.
Medicines	Appendix 1 – Glucose lowering medications      Appendix 2 – Characteristics of medications <b>Appendix 3 – My Medicine List (HSE, 2019)</b> Appendix 4 – 5 moments for medication safety (WHO) Appendix 5 - Fish oil guidance from pharmacists on interaction with medication Appendix 6 - Know, Check Ask Medication Safety Campaign, Sept. 2019 Appendix 7 – Key messages for people promoting Know, Check, Ask <i>Note: The My Medicine List (HSE) leaflet has been adapted adding guidance on LTIs and awareness of hypo risk – it will be made available in this folder when ready.</i>
Pregnancy	<b>Pre-pregnancy planning and diabetes leaflet – 2019</b> Pre-pregnancy planning and diabetes DSME Curriculum content 2019 HSE staff communication – Pregnancy, Alcohol & FASD – Sept 2019
Psychosocial care & support	2019 – Evidence review for guidelines - Psychosocial care and support for diabetes Diabetes UK/Australia Handbook Psychosocial care 2019 – Diabetes and Emotional Health – a practical guide for healthcare professionals supporting adults with type 1 and type 2 diabetes Textbooks – The art of empowerment; 101 Tips behaviour change book Self-management support directory CHO4 jul19 – HSE communication
Resources	HSE Diabetes patient resources – updated Sept. 2020 How to register on healthpromotion.ie
Smoking	Resource to support health care professionals in consult – 30 second stop smoking advice HSE Quit team and national no smoking tips mar19

## **APPENDICES OF EVIDENCE**

## 1. DIETARY RECOMMENDATIONS FOR ADULTS WITH TYPE 2 DIABETES

The dietary recommendations are supported with guidance on **FOOD LABELLING** – see support folder on food labelling.

DIET/NUTRIENT ADVICE	RECOMMENDATION
DIET	There is no single ideal dietary distribution of calories among carbohydrates, fats, and proteins for people with diabetes; therefore, meal plans should be <b>individualised</b> while keeping <b>total calorie and metabolic goals</b> in mind. Emphasis should be on <b>healthful eating patterns</b> containing <b>nutrient-dense foods</b> , with <b>less focus on specific nutrients</b> . (ADA, 2019)
DIETARY PATTERN	A variety of eating patterns are acceptable for the management of type 2 diabetes (ADA, 2019). Until the evidence surrounding comparative benefits of different eating patterns in specific individuals strengthens, healthcare providers should focus on the key factors that are common among the patterns: 1) emphasize non-starchy vegetables, 2) minimize added sugars and refined grains, and 3) choose whole foods over highly processed foods to the extent possible (ADA, 2019). Low-carbohydrate, low glycaemic index, and high-protein diets, and the Dietary Approaches to Stop Hypertension (DASH) diet <b>ALL improve glycaemic control</b> , but the effect of the <b>Mediterranean eating pattern</b> appears to be the greatest. Three trials of a Mediterranean eating pattern reported modest weight loss and improved glycaemic control, (ADA & EASD 2018). See <b>FURTHER INFORMATION BELOW</b> on Dietary Recommendations for further information on the components of the DASH and Mediterranean diets.
ENERGY	<p><b>Individual energy requirements</b> can be calculated using the Henry Oxford equation and taking account of Physical Activity Level or individualise based on stage of CKD as relevant (INDI, Nutrition Support reference guide 2015).</p> <p><b>For overweight or obese people</b> with Type 2 Diabetes reducing energy intake to achieve weight loss should be the primary nutritional management strategy (Diabetes UK 2018). Weight loss can be attained with lifestyle programs that achieve a 500–750 kcal/day energy deficit (ADA 2019).</p> <p>When provided by trained practitioners in medical care settings with close medical monitoring, short-term (3-month) interventions that use <b>very-low-calorie diets (defined as &lt;800 kcal/day) and total meal replacements (800-1200kcal/day)</b> may achieve greater short-term weight loss (10–15%) than intensive behavioural lifestyle interventions that typically achieve 5% weight loss, (ADA, 2019). These interventions are <b>not routinely offered</b> in community settings at present.</p> <p>In case of obesity and weight management in older adults with diabetes, please refer to the respective recommendations in the Appendices for Obesity/weight management and Older Adults.</p>
CARBOHYDRATE	<p><b>General Carbohydrate Guidance for Type 2 Diabetes</b></p> <p>-The ideal proportion for macronutrients including carbohydrate is <u>unclear</u>. <b>However monitoring carbohydrate intake and considering the blood glucose response to dietary carbohydrate are key to improving postprandial glucose control (ADA, 2019).</b></p> <p>No specific ideal proportion of macronutrients, including carbohydrates, is advised (Diabetes UK 2018).</p> <p>-Carbohydrate intake should consist of <u>nutrient-dense</u> carbohydrates including vegetables, fruits, legumes, whole grains and low fat dairy products. The <u>quality</u> of carbohydrates selected, ideally rich in dietary fibre, vitamins and minerals and low in added sugars, fat and salt should be addressed (ADA 2019). Avoidance of sugar-sweetened drinks and fruit juices, as well as foods with added sugars, should be advised to control glycaemia, weight and reduce cardiovascular risk and risk of NAFLD (ADA, 2019).</p> <p><b>Low carbohydrate diets for Type 2 Diabetes</b></p> <p>-Low carbohydrate diets (50-130g) can be effective in the short term (&lt;12months) to reduce weight, improve glycaemic control, and reduce CVD risk in T2DM (BDA 2018). <u>More research</u> is required to determine the <u>long term</u> effect of low carbohydrate diets and to agree on what amount of dietary carbohydrate constitutes a low carbohydrate diet as there is currently <b>no agreed definition</b>. When dietary carbohydrate is restricted there is a tendency to increase other macronutrients. Individuals adhering to a low carbohydrate diet should ensure their fat is provided from <u>MUFA rich sources and not saturated fat</u>.</p> <p><b>-More research is required to assess the optimum dietary patterns to ensure both good glycaemic control and to reduce cardiovascular risk.</b></p> <p>-Reducing overall carbohydrate has shown to be effective to improve glycaemia in individuals with diabetes and may be a viable option for those not meeting glycaemic targets or those requiring reductions in diabetes medicines. (ADA 2019).</p> <p>-At present, there is <u>insufficient evidence that low carbohydrate diets are superior for weight loss</u> in the long term and it should be recognised that people on low carbohydrate diets will require additional dietetic support. Because of concerns regarding the use of very low carbohydrate diets in people with CKD, disordered eating patterns and pregnant women; ADA guidelines suggest further research is required (ADA 2019). In addition, careful consideration will need to be given to diabetes medicine prescriptions <b>when considering dietary carbohydrate reduction</b> to reduce the risk of hypoglycaemia. <b>More frequent monitoring</b></p>

	<b>of blood glucose levels may be necessary initially. Liaise with GP / DNS re same as required.</b>																		
<b>GLYCAEMIC INDEX</b>	Replacing high GI foods with low GI alternatives has been associated with a small but significant reduction in HbA1c levels in some studies but this reduction of 4-6mmol/l was <b>not seen in larger RCT</b> trials comparing low GI and standard diet. In addition, this reduction in HbA1c was not shown to be independent of weight loss (Diabetes UK 2018). The ADA concurs that there is <b>no clear clinical benefit</b> in using either GI or Glycaemic Load (GL) in clinical practice. (ADA 2019). Further information on the GI food lists is available at <a href="https://www.diabetes.org.uk/guide-to-diabetes/enjoy-food/carbohydrates-and-diabetes/glycaemic-index-and-diabetes">https://www.diabetes.org.uk/guide-to-diabetes/enjoy-food/carbohydrates-and-diabetes/glycaemic-index-and-diabetes</a>																		
<b>SUCROSE</b>	There are currently no specific sugar recommendations in diabetes management. People with T2DM should be encouraged to reduce sugar intake in line with recommendations for the general population (Diabetes UK 2018). The ADA recommends that people with diabetes minimise intakes of refined carbohydrates and added sugars and instead focus on including carbohydrates from vegetables, legumes, fruits, dairy and whole grains (ADA 2019). In addition, they advise against the inclusion of sugar-sweetened drinks (including fruit juice) and processed low fat or non-fat products with added sugars. In addition, NICE recommends that foods with added sugars that may displace healthier more nutrient-dense foods should be avoided (NICE 2015).																		
<b>FRUCTOSE</b>	The quality of evidence for the effects of fructose in diabetes is limited (Diabetes UK 2018). Consuming naturally occurring fructose i.e. from fruit/honey is not more deleterious than other forms of sugar unless intake exceeds approx. 12%. The quality of the evidence for the effects of fructose in Type 2 Diabetes is limited, with trials suggesting that the isocaloric exchange of fructose for other carbohydrate does not significantly affect glucose or insulin levels (Diabetes UK 2018). However, there is evidence that fructose may be a factor in increased serum and postprandial triglyceride levels (Diabetes UK 2018). The ADA recommends that people with and at risk of diabetes avoid sugar-sweetened beverages including fruit juices, in order to control glycaemia and weight and reduce cardiovascular risks and risk of fatty liver (ADA 2019).																		
<b>FRUIT</b>	<p>The guidelines recommend that the largest proportion of our diets should be made up of vegetables, salads and fruit (5-7 portions per day (FSAI 2019). There is much confusion about current guidance on fruit intake for diabetes (e.g. grapes, strawberries, banana, dried fruit, fruit juices).</p> <p>-Educate on current recommendations for health, versus knowledge needed for diabetes e.g. awareness of carbohydrate intake from fruit portion size effects and effects of glycaemic intake and glycaemic load.</p> <p>-Educate on the nutritional value of fruit in terms of fibre and micronutrients (e.g. daily Vitamin C needs).</p> <p>-Educate on the difference between fruit in the form of whole fruits versus juice intake.</p> <p>The table below gives examples of fruit portions = 15g carbohydrate</p> <table><tr><td>Fruit</td><td>Portion</td></tr><tr><td>Apple</td><td>1 medium (160-175g)</td></tr><tr><td>Apricot</td><td>3 small</td></tr><tr><td>Banana</td><td>1 small (120g)</td></tr><tr><td>Grapes</td><td>17 (100g)</td></tr><tr><td>Juice</td><td>150mls</td></tr><tr><td>Melon</td><td>1 slice</td></tr><tr><td>Orange</td><td>1 medium</td></tr><tr><td>Raisins</td><td>2 tbsp.</td></tr></table>	Fruit	Portion	Apple	1 medium (160-175g)	Apricot	3 small	Banana	1 small (120g)	Grapes	17 (100g)	Juice	150mls	Melon	1 slice	Orange	1 medium	Raisins	2 tbsp.
Fruit	Portion																		
Apple	1 medium (160-175g)																		
Apricot	3 small																		
Banana	1 small (120g)																		
Grapes	17 (100g)																		
Juice	150mls																		
Melon	1 slice																		
Orange	1 medium																		
Raisins	2 tbsp.																		
<b>YOGURTS</b>	<p>-There is much confusion about current guidance on yogurt intake for diabetes</p> <p>-Educate on current recommendations for health, versus knowledge needed for diabetes e.g. awareness of carbohydrate intake, added sugars, natural sugars and artificial sweeteners</p> <p>-Educate on the nutritional value of yoghurt in terms of macro and micro-nutrients (e.g. daily Calcium needs).</p> <p>Resources: To support education on yoghurts – see Diabetes Ireland - Yoghurt smart 2016 or Diabetes UK 'Whats in your pot' resource</p> <p><a href="https://www.diabetes.ie/are-you-at-risk-free-diabetes-test/get-sugar-smart/yoghurts/">https://www.diabetes.ie/are-you-at-risk-free-diabetes-test/get-sugar-smart/yoghurts/</a></p> <p><a href="https://www.diabetes.org.uk/guide-to-diabetes/enjoy-food/eating-with-diabetes/diabetes-food-myths/yogurts">https://www.diabetes.org.uk/guide-to-diabetes/enjoy-food/eating-with-diabetes/diabetes-food-myths/yogurts</a></p>																		

<b>FIZZY DRINKS</b>	<p>-For those who consume sugar-sweetened beverages regularly, a <u>low-calorie or non-nutritive sweetened beverage</u> may serve as a short-term replacement strategy and can be used (ICGP, 2016), but overall, people are encouraged to decrease both sweetened and non-nutritive sweetened beverages and use other alternatives, with an emphasis on water intake (ADA, 2018).</p> <p>-Swapping sugar-sweetened beverages for artificially sweetened beverages such as sugar-free and low sugar or diet squashes and fizzy drinks (ICGP, 2016) is likely to be beneficial for most individuals from a weight management point of view (Diabetes UK, 2018). However, healthier drink options/alternatives should be actively encouraged (e.g., milk-based drinks) as these provide additional nutritional benefits that artificially sweetened beverages do not (BDA, 2016).</p> <p>-Sugar, sweets and sweetened beverages should be avoided (IDF, 2017). The consumption of sugar-sweetened drinks should be minimised in children and adults (SACN, 2015).</p>
<b>SWEETENERS</b>	<p>Educate that they are non-essential yet they may have a potential role in trying to support a client in reducing their total carbohydrate intake.</p> <p>- The evidence-base shows that artificial sweeteners are considered safe to consume in the general population with the exception of foods for infants and young children and are authorised and approved for use by EFSA. From a dietetic perspective, artificial sweeteners may be included as part of a dietetic intervention though recommendation should be given on a <b>case-by-case basis</b> (BDA, 2016; Diabetes UK, 2018).</p> <p>-Consumers can safely enjoy a range of nutritive and non-nutritive sweeteners when consumed as part of a balanced, healthy diet and within acceptable daily intake levels as advised by the Scientific Committee on Food (SCF) and since 2002 by the European Food Safety Authority (EFSA) (INDI, 2016).</p> <p>-The use of <b>non-nutritive sweeteners</b> (NNS) may have the potential to reduce overall calorie and carbohydrate intake if substituted for caloric (sugar) sweeteners and without compensation by intake of additional calories from other food sources. While use of non-nutritive sweeteners does not appear to have a significant effect on glycaemic control (Diabetes UK, 2018). Most systematic reviews and meta-analyses show benefits for non-nutritive sweetener use in weight loss however, some research suggests an association with weight gain.</p> <p>Regulatory agencies set acceptable daily intake levels (ADI) for each non-nutritive sweetener, defined as the amount that can be safely consumed over a person's lifetime (ADA, 2018). For example, ADI aspartame is 40mg/kg body weight per day (70kg) = 2800mg /day and an average of 180mg aspartame in a can of diet coke.</p> <p>-Regulation 1333/2008/EC states that food labels of foods containing more than 10% added polyols must state 'excessive consumption may produce laxative effects' (FSAI, 2018).</p> <p>-People who take insulin and eat foods containing polyols may need less insulin as not all the carbohydrate from polyols is absorbed but is still included in the total carbohydrate amount on food labels. They do not affect blood glucose and do not provide calories.</p> <p>Non-nutritive sweeteners (NNS) approved by the EU are Acesulfame-K, Aspartame, Aspartame-acesulfame salt, Cyclamate, Neohesperidine DC, Saccharin, Sucralose, Thaumatin, Neotame and Steviol glycosides. Polyols approved by the EU are sorbitol, mannitol, isomalt, maltitol, xylitol, lactitol, erythritol and polyglycitol syrup (Diabetes UK, 2018).</p>
<b>DIABETIC FOODS</b>	<p>-Avoid food labelled –'diabetic' or suitable for diabetics' (Diabetes UK, 2018).</p> <p>-Labelling food as 'diabetic' misleads the consumer as it implies a health benefit. So called 'diabetic' foods are often energy-dense and contain similar amounts of energy and saturated fat as standard products and they have a laxative effect when consumed in large amounts and can lead to weight gain (Diabetes UK, 2018; NICE, 2015).</p> <p>-Polyols are the sweeteners usually added to 'diabetic foods.' Diabetic foods use can take the place of more nutritious foods in the diet and these products tend to be expensive (INDI, 2016; ICGP, 2016).</p>
<b>FIBRE</b>	<p>People with type 2 diabetes should be encouraged to increase their fibre intake through high fibre, low glycaemic index carbohydrates including vegetables, fruits, legumes and whole grains. Fibre intake is generally inadequate and increases have been shown to benefit health.</p> <p>SACN (2015) identified that current fibre intake in adults is around 19g/day per day. Soluble fibre has glucose and lipid-lowering effects and insoluble cereal fibre mainly affects bowel function. High fibre diets reduce post-prandial glucose levels and can result in a modest reduction in HbA1c. Dietary fibre has many health benefits but the impact on hyperglycaemia is limited (Diabetes UK, 2018). Fibre intake recommendations vary from 25-45g/day, with emphasis on whole grains (Diabetes UK, 2018; SACN 2015; European Guidelines on CVD prevention in clinical practice 2016).</p> <p><u>Food labelling &amp; Fibre</u></p> <p>It is <b>no longer compulsory for fibre</b> to be listed on food labelling. Fibre values will only be found in the nutrition table on back-of-pack as g/100 g and/or per portion, and such declarations will be voluntary, making it more difficult to interpret a product's contribution to daily fibre needs at-a-glance (as a percentage</p>

	<p>of the RI).</p> <p><b>Source of fibre:</b> contains at least 3g of fibre per 100g or at least 1.5g of fibre per 100kcal (FSAI, 2016).</p> <p><b>High fibre:</b> contains at least 6g of fibre per 100g or at least 3g of fibre per 100kcal (FSAI, 2016).</p>
<b>PROTEIN</b>	<p><b>There is no single ideal intake</b> of carbohydrates, fats and protein for people with type 2 diabetes. With regards protein, opting for <b>lean protein sources, commonly found in vegetarian and Mediterranean diets</b> is beneficial (ADA 2019, ADA &amp; EASD, 2018).</p> <p>The Healthy Ireland HSE Food Pyramid advises 2 portions per day from the meat, poultry, fish, eggs, beans and nuts group. Regarding specific protein sources, the food pyramid recommends choosing lean meat, poultry (without skin) and fish. Eat oily fish up to twice a week. Limit processed salty meats such as sausages, bacon and ham (HSE Food Pyramid, Department of Health, 2016). The FSAI Healthy Eating Guidelines (2019) recommends eating vegetarian 1-2 day per week and advises that peas, beans and lentils provide good-quality protein and are a low-fat, high-fibre alternative to meat. See Oily Fish section below for more detail. <b>It is ESSENTIAL people with diabetes with Chronic Kidney Disease (CKD) have their individual requirements calculated – see Appendix on CKD.</b></p>
<b>RED MEAT &amp; PROCESSED MEAT</b>	<p>Red meat is a good source of some nutrients, such as protein, iron, zinc and vitamin B12. However, the overall consumption of red and processed meat should be <u>limited</u> (BDA, 2015). This is due to the recognised carcinogenic effects of red and processed meats (RPM) when consumed in large amounts. They found that each 50 g portion of processed meat eaten daily increased the risk of colorectal cancer by 18% and the risk of colorectal cancer could increase by 17% for every 100 g portion of red meat eaten daily (WHO 2015). Also, high red and processed meat consumption may be related to the high saturated fat in animal products, high salt levels in processed meats or to the displacement of fruit and vegetables and cereals (Scarborough et al., 2012). To reduce RPM intake, advise on <u>smaller portions of red and processed meat, eating these meats less often or swapping them for alternatives</u> (SACN, 2011).</p> <p>Consumption of red and processed meat is “probably carcinogenic to humans” and “carcinogenic to humans” respectively (WHO, 2015). Consumption of RPM is associated with increased cardiovascular disease risk (Diabetes UK, 2018).</p> <p><b>Guidance varies</b> regarding how much RPM we should consume. The Irish Cancer Society recommends limiting your intake to 500g or 18oz of cooked lean red meat per week (800g/28oz of lean raw meat). This can be split into four or five small portions over the week. While the NHS/SACN advises if you eat more than 90g of red or processed meat a day, it's recommended that you reduce your intake to 70g a day.</p> <p><u>Example of RPM portions:</u></p> <p><b>Ireland</b> - Pork or lamb chop - 75g or ‘Quarter pounder’ beef burger - 90g or Medium Steak - 145g. (Irish Cancer Society). The <b>2019 FSAI</b> Healthy eating guidelines (technical guide for health professionals) state a meat serving is 50-75 g (half the size of your hand) cooked lean beef, lamb, pork or mince.</p> <p><b>UK</b> - <a href="https://www.nhs.uk/live-well/eat-well/red-meat-and-the-risk-of-bowel-cancer/#portion-sizes-and-cutting-down">https://www.nhs.uk/live-well/eat-well/red-meat-and-the-risk-of-bowel-cancer/#portion-sizes-and-cutting-down</a></p> <p>portion of Sunday roast (3 thin-cut slices of roast lamb, beef or pork, each about the size of half a slice of sliced bread) – 90g; grilled 8oz beef steak – 163g; cooked breakfast (2 standard British sausages, around 9cm long, and 2 thin-cut rashers of bacon) – 130g; large doner kebab – 130g; 5oz rump steak – 102g; thin slice of corned beef – 38g; a slice of black pudding – 30g; a slice of ham – 23g</p> <p><u>Education Resource:</u> Visual aids are available to laminate and show the different fat contents of meat, poultry and fish.</p>
<b>FAT</b>	<p>-Evidence continues to suggest that there is not an ideal percentage of calories from carbohydrate, protein, and fat for people with diabetes (Evert et al 2019, DUK 2018, ADA 2019, EASD ADA 2018, ESC 2019 Diabetes).</p> <p>-<b>ESC 2019 Diabetes</b> recommend nutrient distribution should be based on an individualised assessment of current eating patterns, preferences and metabolic goals.</p> <p>-Recent findings suggest that any effects of fat on <b>CVD risk factors, for prevention of CVD and metabolic goals</b>, are likely to be derived from the <b>type of fat rather than the amount</b> per se (ESC 2016 CVD, DUK 2018, ADA 2019).</p> <p>-There is increasing evidence that it is important to consider the <b>food sources</b> of the nutrients rather than a sole focus on nutrients (like SFA) and dietary advice should focus on the <b>overall health benefits or potential risk associated with foods</b> that are high or low in different types of fat, as part of a <b>whole diet approach</b> (2015 Diabetes UK and BDA statement).</p> <p>-Emphasis should be on <b>healthful eating patterns containing nutrient-dense foods</b>, with less focus on specific nutrients (ADA 2019, EASD ADA 2018).</p> <p>ADA 2019, DUK 2018 &amp; ESC 2019 Diabetes recommend <b>dietary patterns</b>, specifically the <b>Mediterranean and</b></p>

	<p><b>DASH-style diets</b> to reduce CVD risk factors and CVD events in people with diabetes. See <b>FURTHER INFORMATION on DIETARY RECOMMENDATIONS: Key features of the Mediterranean and DASH-style diets below.</b></p> <p>-ADA 2019 and ESC 2019 Diabetes advise people with diabetes to follow the guidelines for the general population for the recommended intakes of dietary cholesterol.</p>
<b>SATURATED FAT (SFA)</b>	<p>The <b>percentage of total calories</b> from SFA should be <b>limited</b> (ADA 2019, ESC 2016 CVD, ESC Dyslipidaemia 2019). <b>People with diabetes should follow guidelines for the general population for the recommended intakes of SFA (ADA 2019 and ESC 2019 Diabetes).</b> See below.</p> <p>-The 2016 HEG rationale paper, the recent SACN 2019 report on saturated fat and health, and the cardiology guidelines ESC 2016 CVD &amp; ESC 2019 Dyslipidaemia recommend <b>SFA</b> to account for <b>&lt;10% of total energy intake.</b></p> <p><b>-Replace SFA with unsaturated fats</b> (Evert et al 2019, ADA 2019, DUK 2018, ESC 2019 Dyslipidaemia, SACN 2019).</p> <p><b>-General population (Irish Guidelines):</b> FSAI HEG 2019 - recommend fats, spreads and oils rich in SFA need to be limited as much as possible and recommend MUFA and PUFA fats and oils can be used sparingly to replace SFA fats and oils</p> <p>The BDA &amp; Diabetes UK 2015 position statement recommends <u>more research is needed</u> before suggesting any major changes to the current healthy eating guidance and in the absence of evidence for either the superiority or the long-term effects of adopting <b>high SFA diets, they should not be recommended for people with type 2 diabetes.</b></p>
<b>Monounsaturated FAT</b>	<p>For CVD risk reduction, <b>replace SFA with unsaturated fats</b> (Evert et al 2019) <u>in the context of Mediterranean and DASH-style diets</u> (ADA 2019, DUK 2018). The <b>recent SACN 2019 report</b> on Saturated fat and health recommends to substitute SFA with unsaturated fat.</p> <p><b>General population (Irish Guidelines):</b></p> <ul style="list-style-type: none"> <li>• FSAI HEG 2019 recommend MUFA and PUFA fats and oils can be used sparingly to replace SFA fats and oils. Choose limited amounts of these fats.</li> <li>• HEG 2016 rationale paper- a healthy dietary pattern includes very small amounts of unsaturated reduced fat spreads and oils.</li> </ul> <p>HEG 2016 Food pyramid advise to choose MUFA or PUFA reduced-fat or light spreads and oils and to use as little as possible.</p>
<b>Polyunsaturated FAT</b>	<p>For CVD risk reduction, <b>replace SFA with unsaturated fats</b> (Evert et al 2019) <u>in the context of Mediterranean and DASH-style diets</u> (ADA 2019, DUK 2018). The <b>recent SACN 2019 report</b> on Saturated fat and health recommends to substitute SFA with unsaturated fat.</p> <p>-ESC 2019 states there is <u>not enough data</u> are available to make a recommendation regarding the optimal n-3: n-6 fatty acid ratio.</p> <p><b>General population (Irish Guidelines):</b></p> <ul style="list-style-type: none"> <li>• FSAI HEG 2019 recommend MUFA and PUFA fats and oils can be used sparingly to replace SFA fats and oils. Choose limited amounts of these fats.</li> <li>• HEG 2016 rationale paper- a healthy dietary pattern includes very small amounts of unsaturated reduced fat spreads and oils.</li> </ul> <p>HEG 2016 Food pyramid advise to choose MUFA or PUFA reduced-fat or light spreads and oils and to use as little as possible.</p>
<b>Trans FAT</b>	<p>Trans fats should be <b>avoided</b> (ADA 2019, DUK 2018, ESC Dyslipidaemia 2019, ESC 2016 CVD, ESC 2019 Diabetes).</p> <p><b>General population (Irish Guidelines):</b></p> <ul style="list-style-type: none"> <li>• FSAI HEG 2019 advise intake of TFA should be kept as low as possible. Small amounts of TFA naturally occur in meat and dairy products. It is easy to keep intake of TFA from these sources low by simply choosing low-fat dairy and lean cuts of meat.</li> </ul> <p>HEG 2016 rationale paper, a healthy diet should contain &lt;1% energy intake from TFA.</p>
<b>Plant Sterols &amp; Stanols</b>	<p>These are widely recognised to be effective in significantly reducing total and LDL cholesterol, in people with and without diabetes. The reductions in LDL cholesterol are also seen in people already using cholesterol-lowering statin drugs. Intakes of 2-3 grams per day of plant sterol and stanol esters are effective in lowering total and LDL cholesterol and may be recommended. <b>However, NICE does not recommend the use of plant sterol/stanol products for primary prevention of CVD in people with Diabetes, partly due to the lack of evidence from hard CVD endpoints (Diabetes UK, 2018).</b></p> <p>Based on LDL-C lowering and the absence of adverse signals, functional foods with plant sterols/stanols (at</p>



	<p>least 2 g/day <u>with the main meal</u>) <b>may be considered:</b> (i) in individuals with high cholesterol levels at intermediate or low global CV risk who do not qualify for pharmacotherapy; (ii) as an adjunct to pharmacologic therapy in high- and very high-risk individuals who fail to achieve LDL-C goals on statins or are statin-intolerant; and (iii) in adults and children (&gt;6 years) with FH, in line with current guidance (European Society of Cardiology, 2016).</p> <p>Therefore, <b>these products should be advised on a case by case basis</b>, they are not suitable for children under 5 or pregnant women (BDA, 2015). These products are more expensive to buy compared to ordinary spreads, milk and yoghurts, if these foods are chosen it is important to continue to buy healthy foods and have a diet rich in fruit and vegetables to ensure adequate intake of fat-soluble vitamins. The sugar content of the various cholesterol-lowering products available to buy varies and 'no added sugar' varieties are available. Refer to food labelling guidance (food shopping card) available on <a href="http://www.irisheart.ie">www.irisheart.ie</a> to aid the consumer in making healthy choices. These products may offer no additional benefit if the persons cholesterol-lowering medicines works in the same way on inhibiting cholesterol absorption (e.g. as in the case with ezetimibe) (BDA, 2015).</p>
<b>Fish &amp; Oily Fish</b>	<p><b>General population:</b></p> <ul style="list-style-type: none"> <li>• A serving of cooked fish is 100g (2019 FSAI HEG &amp; 2016 HEG).</li> <li>• The <b>2019 FSAI HEG</b> state that regular monitoring of contaminants in food show that it is safe to <b>eat fish up to two times</b> a week. <u>Oily fish</u> is the best food source of long chain omega-3 fatty acids (EPA and DHA), but tends to be higher in contaminants, so enjoy it <b>no more than once a week</b>. If only choosing <b>white fish</b>, this can be eaten <b>twice a week</b>.</li> <li>• Note the 2016 HEG recommends to "eat oily fish up to twice a week".</li> </ul> <p><b>Toxicity:</b></p> <ul style="list-style-type: none"> <li>• The 2019 FSAI HEG recommendation takes into account toxicity and took the 2018 EFSA dioxin report recommending lower tolerable weekly intake levels than previously stated into consideration. <u>Of note:</u> the concentration of contaminants is specific to the particular species of oily fish. <b>The FSAI is currently in the process of developing species specific Fish Consumption Guidelines.</b> The guidelines will provide the number of portions of fish per week, on a species specific level, which can be safely consumed by different population groups. The basis of these guidelines will be concentration data for methylmercury and dioxins and the portion size of fish consumed by different population groups. These two inputs will be combined to derive dietary exposure levels for each contaminant per fish species and population group. The dietary exposure levels will then be compared to the established safety thresholds for these contaminants in order to derive the number of portions/week, which will be protective against the adverse effects associated with these two contaminants.</li> <li>• Of note, SACN issued a report on fish consumption in 2004 and recommended women of reproductive age should aim to consume within the range of one to two portions of oily fish a week. Women past reproductive age and men should aim to consume within the range of one to four portions of oily fish a week.</li> </ul> <p><b>Population of People with Diabetes:</b></p> <ul style="list-style-type: none"> <li>• People with diabetes are at increased risk of CVD. To reduce CVD risk factors and CHD events, eat <b>2 portions of oily fish each week</b> (DUK 2018). Note this is <u>higher</u> than what is recommended for the general population.</li> <li>• Plant sources of n-3, alpha-linolenic acid (ALA), have been shown to be associated with lower risk of CVD (DUK 2018).</li> <li>• Vegetarian sources of <b>PUFA n-3</b> are found in walnuts, flax seeds, chia seeds, rapeseed oil and soya bean oil, however <b>dietary ALA has a low conversion rate</b> to EPA/DHA (Pan et al 2012) and is influenced by gender, genetics and diet (Burdge, Jones et al 2002; Burdge &amp; Wootten 2002; Vannice et al, 2014).</li> </ul> <p><b>Fish consumption for pregnancy and breastfeeding women (2019 FSAI HEG):</b></p> <ul style="list-style-type: none"> <li>• Aim to eat <u>oily fish up to once a week</u> which provides women with omega-3 fatty acids (EPA and DHA) for baby's brain and eye development and a good source of vitamin D.</li> <li>• White fish especially cod and haddock provides iodine for brain development.</li> <li>• <u>Avoid</u> shark, marlin and swordfish. These fish contain mercury which affects the nervous system and developing brain of the foetus.</li> <li>• <u>Avoid</u> all oysters and mussels as these may contain biotoxins which are not destroyed on cooking.</li> <li>• <u>Limit</u> fresh tuna intake to once a week and tinned tuna to not more than two 8 oz. cans per week.</li> <li>• Breastfeeding: eat oily fish up to once a week for vitamin D and omega-3 fatty acids.</li> </ul> <p><b>Note:</b> the 2018 HSE "My Pregnancy Expert advice for every step" guidelines:</p> <ul style="list-style-type: none"> <li>• recommends to eat <b>1 to 2 portions of oily fish</b> each week and do not have more than two portions of oily fish per week because of pollutants such as dioxins.</li> <li>• Breastfeeding: don't have more than two portions of oily fish per week.</li> </ul>

<b>Fish oil supplements</b>	<p>-There is much confusion about current guidance on fish oil supplements, which are available over the counter (including fish oil, krill oil, cod liver oil and algal oil). These provide a range of doses and forms of omega 3. Of note cod liver oil also contains vitamin A &amp; vitamin D.</p> <p>-Fish oil supplements are also available at high doses as a medical prescription. If someone is taking prescription dose n-3 PUFA they need to be under the care and monitored by a medical doctor.</p> <p>The Community Dietitian educates people on <b>dietary strategies to increase omega-3 intake from foods</b> as part of a healthy balanced diet. FSAI 2019 state oily fish is the best food source of long chain omega 3 fatty acids (EPA &amp; DHA). See oily fish section above for more information.</p> <p><b>Regarding supplements:</b></p> <p><b>Re CVD risk:</b> Routine use of n-3 fish oil supplements is <b>not recommended for CVD risk reduction in Type 2 Diabetes</b> at this time (Evert et al 2019, ADA 2019, SIGN 2017, NICE CVD 2014, ESC 2019 Diabetes).</p> <p><b>Re Drug treatment for Hypertriglyceridaemia:</b></p> <p>-DUK 2018 states there is conflicting evidence and concerns about the potential adverse effect on lipid profile but there is some evidence of the beneficial effects for those with elevated <b>blood triglycerides</b>.</p> <p>- For your information, the recent <b>ESC Dyslipidaemia 2019 guidelines</b> include a new recommendation for Drug treatments of patients with hypertriglyceridaemia - "In high-risk (or above*) patients with triglyceride levels between 1.5-5.6 mmol/L despite statin treatment, n-3 PUFAs (icosapent ethyl 2X2 g/day) should be considered in combination with a statin". *'Above' classifies different patients types in ESC 2019 – see guidelines for more information.</p> <p>Note this is a <u>medical prescription</u> and anyone taking a prescription of n-3 PUFAs for lowering high triglycerides <u>need to be under the care of a GP/consultant. The GP/consultant advises on same, not the dietitian – the dietitian advises people to discuss further with the medical team.</u></p> <p>-Of note, there are currently no n-3 PUFA containing products available on the community drug scheme. These items were removed in 2012. The HSE will not reimburse for any prescription for this range of products under the primary care schemes at this time.</p> <p><b>Caution and safety:</b></p> <p>-Fish oil supplements can adversely interact with medicines including warfarin, aspirin, propranolol &amp; clopidogrel and <b>should only be taken after discussion with either your Community Pharmacist or a doctor.</b> (See Medicine Appendix for more info).</p> <p>-People with diabetes should consult their doctor if they are already taking them or before taking them.</p>
<b>MICRONUTRIENTS</b>	<p>Supplementation is not recommended in the management or prevention of Type 2 Diabetes (Diabetes UK, 2018; ADA, 2019). Encourage individuals choosing supplements to discuss their needs with their Dietitian. See <b>Pregnancy Appendix re folic acid</b>.</p> <p>Encourage foods naturally rich in <b>antioxidants</b> (tocopherols, carotenoids, vitamin C, flavonoids, polyphenols, and phytic acid), <b>trace elements</b> and <b>other vitamins</b>. Consume a variety of fruit &amp; vegetables for vitamins and antioxidants. Intakes of wholegrain bread, cereals and oily fish are sources of water and fat-soluble vitamins.</p> <p>A <b>Multi-vitamin supplement</b> may be needed for elderly, women planning a pregnancy, vegetarians, people with coeliac disease, individuals following an eating pattern that restricts calories or a macronutrient (ADA, 2019).</p> <p><b>Vitamin B12</b> must be <b>checked annually for those on metformin</b> due to risk of deficiency (HSE Diabetes Model of Care 2018).</p> <p>The FSAI Healthy Eating Guidelines (2019) advise that <b>Vitamin D</b>-rich foods and low-dose vitamin D supplements are the most reliable and safe sources of vitamin D. Oily fish is the best natural source and vitamin D fortified dairy products are also available. People choosing a supplement of vitamin D should take a low-dose supplement which provides a maximum of 5-10 µg of vitamin D per day as taking very high amounts of vitamin D can be harmful.</p>
<b>SALT/SODIUM</b>	<p>≤6g Salt (NaCl) per day as per general population. Aim for a diet high in <b>fruits and vegetables and low-fat dairy products</b>. Studies suggest benefits to lowering salt intake to &lt;3g Salt (NaCl)/ day in people with Type 2 Diabetes (Diabetes UK, 2018). While reducing sodium to the general recommendation of &lt;2.3g/day demonstrates beneficial effects on blood pressure, further reduction warrants caution &amp; should be considered only on an individual basis. (ADA, 2019) Reductions in salt in general in both normotensive and hypertensive individuals are effective in lowering blood pressure. DASH style diet has been shown to decrease blood pressure in people with Type 2 Diabetes (Diabetes UK, 2018; ADA 2019). Food Shopping Card available on <a href="https://irishheart.ie/publications/food-shopping-card/">https://irishheart.ie/publications/food-shopping-card/</a> to aid the consumer in choosing low salt foods.</p> <p><b>People with diabetes with CKD are recommended a no added salt diet – see Appendix.</b></p>

## FURTHER INFORMATION on DIETARY RECOMMENDATIONS:

### Key features of the Mediterranean and DASH-style diets

- Decrease salt intake (<6g/day).
- Eat two portions of oily fish each week.
- Eat more whole grains, fruit and vegetables, fish, nuts and legumes.
- Eat less red and processed meat, refined carbohydrate and sugar-sweetened beverages.
- Replace saturated fats with unsaturated fats, and limit intakes of trans fatty acids.
- Limit alcohol to <14 units per week (Diabetes UK, 2018). NOTE: Irish guidance on alcohol less than 17 standard drinks. (170g alcohol) per week for men and 11 standard drinks (110g alcohol) per week for women.

### Key reference:

The ADA May 2019 report (Nutrition Therapy for Adults with Diabetes or Prediabetes: A Consensus Report) summarises different eating patterns and the potential benefits reported in Table 3 – it is a useful reference for supporting discussions with peers and people with diabetes (see Support folder on Diet).

### Prompts to support Dietary recommendations discussion

Food Group	Servings per day	Prompts
<b>Foods and drinks high in fat, sugar and salt</b>	Not every day. Maximum once or twice per week	Diet/full sugar fizzy drinks/dilutable drinks, sugar/sweetener, Honey/jam/marmalade-beliefs regarding sugar substitutes. Diabetic products. Processed foods. Dressings/sauces. Biscuits/crisps/cakes/chocolate/sweets/ice-cream/desserts
<b>Fats, spreads and oils</b>	In very small amount	Type (saturated/unsaturated/trans) and amount used, mayonnaise/dressings.
<b>Meat, poultry, fish, eggs, beans and nuts</b>	2 servings	Oily fish, red/processed meats, eggs. Nuts – salted/unsalted and amount. Misconceptions re: cholesterol. Use of pulses/vegetarian meals.
<b>Milk, yogurt &amp; Cheese</b>	3 servings	Full-fat/low-fat/reduced fat. See Appendix on <b>Food Labelling</b> for further information.
<b>Wholemeal cereals and bread, potatoes, pasta and rice</b>	3-7 servings	Servings dependent on gender, age, activity. Fibre content of choices. Fat added – spread/sauces/fried, etc. Portion sizes.
<b>Vegetables, salad and fruit</b>	5-7 servings	Soups –homemade/salt/fat content. Fruit juices/smoothies – amount/processed/sugar added. Tinned fruit – in juice/syrup. Dried fruit – portions. Cooking methods – steamed/roasted/fried. Additions – sugar, salt, fat.

## 2. ALCOHOL

### Alcohol and Type 2 Diabetes

- Assess alcohol consumption and discuss current intake in the context of; the effect on diabetes and potential risks associated with alcohol intake and diabetes as appropriate (↑ risk of hypoglycaemia, weight gain, ↑ HTN, ↑ Triglycerides, aggravates hypertriglyceridaemia). Encourage avoidance in overweight, hypertension, hypertriglyceridaemia, history of alcohol abuse, pregnancy, medical problems – liver disease, neuropathy, pancreatitis, erectile dysfunction.
- If overweight, hypertensive or hypertriglyceridaemic – limit alcohol.
- Alcohol is high in calories and does not provide any nourishment with one standard drink containing between 100-150 calories. E.g. 3.5pts of beer = 3 slices pepperoni pizza (<https://www.askaboutalcohol.ie/health/>). Guidance for the public available (2020) at <https://www2.hse.ie/wellbeing/alcohol/physical-health/alcohols-effect-on-the-body/weight-gain.html> and <https://www2.hse.ie/healthy-you/alcohol-blogs/7-things-to-know-about-alcohol-and-your-weight.html>
- Red wine may confer additional cardiovascular benefits only for those consuming a Mediterranean style diet (Dyson et al., 2018). A reduction in alcohol intake in hypertensive individuals has been shown to reduce blood pressure especially if more than 28g alcohol is consumed daily (Dyson et al., 2018).
- If on insulin/ sulphonylureas - consume alcohol with meal containing carbohydrate to prevent hypoglycaemia and note there is increased risk of hypoglycaemia with quantity of alcohol consumed. There is risk of delayed nocturnal or fasting hypoglycaemia after evening alcohol consumption. Educating people with diabetes about the signs, symptoms, and self-management of delayed hypoglycaemia after drinking alcohol, especially when using insulin or sulphonylureas is recommended. The importance of glucose monitoring after drinking alcohol beverages to reduce hypoglycaemia risk should be emphasised (ADA, 2019).
- Provide hypoglycaemia advice as appropriate to those prescribed diabetes medicine that pose a hypo risk (see Appendix on Hypoglycaemia).
- Provide current advice regarding weekly low risk drinking guidelines for alcohol, choices and use of mixers.
- It may also be useful to discuss the amount of carbohydrate and calories in alcoholic drinks.

### Weekly low risk drinking guidelines for alcohol

- Moderate use of alcohol is recommended. The Irish weekly low risk drinking guidelines on alcohol are available on <https://www2.hse.ie/wellbeing/alcohol/improve-your-health/weekly-low-risk-alcohol-guidelines.html> and are based on research about the amount of alcohol that reduces the risk of harm over a person's lifetime (based on a lifetime risk of dying from alcohol) and that reduces the risk of injury on a single occasion of drinking.
- Though moderate drinking may have benefits, non-drinkers are not advised to commence taking alcohol.
- Weekly low risk drinking guidelines are:

- **less than 11 standard drinks a week for women and less than 17 standard for men, spread out over the course of a week, with at least 2-3 alcohol free days.** 1 standard drink (SD) = approx. 10g pure alcohol (1/2 pint beer, 1 pub measure spirits 35.5mls, 1 small glass wine 12.5% volume). Note: 1 bottle of wine (12.5%) is about 7 SDs.

- **2-3 alcohol free days per week to minimise tolerance and habit formation.**

- **Not consuming more than 6 Standard Drinks on any one occasion.**

- It is also recommended to not to exceed the upper limits - drinking more than 6 standard drinks in a single session is considered binge drinking and can seriously increase the harmful effects of drinking. It increases risk of serious health problems like cancer, liver disease and high blood pressure (<https://www.askaboutalcohol.ie/faqs/>). More information available at <https://www2.hse.ie/alcohol-and-health/>

### Resources

- The HSE website on Alcohol (2020) [www.askaboutalcohol.ie](http://www.askaboutalcohol.ie) now links to <https://www2.hse.ie/alcohol/> providing guidance, a drinks calculator, self-assessment tool and information on alcohol supports and services. The website [www.askaboutalcohol.ie](http://www.askaboutalcohol.ie) has been merged into the new HSE website as of 2020. A poster is available in the support folder on alcohol.
- HSE Alcohol Helpline on **1800 459 459**.
- Drinkaware is an independent, national not-for-profit organisation which offers educational resources on [www.drinkaware.ie](http://www.drinkaware.ie), i.e. standard drink measure cup, drinks wheel calculator to support education.

### 3. BEHAVIOUR CHANGE – Supporting Behaviour Change

Whilst diabetes management is in essence about maintaining healthy lifestyle behaviours which result in improved outcomes and thus improved quality of life and health, it remains a challenge.

It is now acknowledged that **only the person with diabetes has expertise about their own diabetes and their own life**. The responsibility of the health care professional is to help them to explore their own expertise, to highlight how diabetes fits into their lives and where there is an obstacle that can prevent optimal management of diabetes. People are responsible for their own self-management (Hendrieckx et al., 2016).

In discussing how to support people to face life with diabetes Hendrieckx et al (2016) reminds that understanding the condition facilitates the coping process and will help people in making sense of their new reality. It is important for the person:

- To be informed of the treatment options, the course of diabetes and the seriousness of diabetes
- Know that the condition can be effectively managed and does not have to lead to complications – untreated diabetes is the leading cause of many complications but well-managed diabetes is the leading cause of nothing.
- Understand that they will experience ‘ups and downs’ in the way they feel about diabetes. (Hendrieckx et al., 2016)

The challenge for healthcare professionals is to develop an understanding of what influences health behaviour and to acquire the necessary skills that will enable them to facilitate change (Pearson, 2014). It is recognised that the single most important factor that influences change is the practitioner communication skills, which can influence motivation and change (Najvitis & Weiss, 1994; Miller & Rollick, 2013). As health care professionals, **consideration to our philosophy of care** in terms of the care we deliver and how we deliver it, is important to supporting people with diabetes with effective behaviour change. A philosophy of care for supporting people with type 2 diabetes and their families is summarised in the introduction of this guideline. Working in a person centred way (that takes account of the psychosocial aspects of care), with the understanding and practice of an empowerment approach to care, is now recognised as essential in health care, particularly when supporting those with chronic diseases to self manage and change behaviours (Diabetes UK, 2018; HSE, 2018; ADA, 2019).

It is also necessary to have some understanding of a person’s previous experience and how they think and feel about their situation, as this will ultimately influence behaviour. Attitudes, beliefs, individual learning styles and the social, cultural, religious and economic situation will also affect behaviour. A person’s environment also influences health and ability and motivation to change (Pearson, 2014).

The **skills and mindset of health care professionals** is recognised to influence how effective they are as behaviour change agents (Pearson, 2014). The opportunity to reflect on and develop good communication/interpersonal skills through training, self-reflection and peer support/reflection is important for health care professionals.

**An integrated approach to changing behaviour in dietetic practice** has been presented, outlining the theories, guiding principles, communication skills and practitioner development (Pearson, 2014). These are summarised below:

Theory addresses: 1. Models used to understand and influence behaviour, including Egan’s Helping Model and the Stages of Change Model by Prochaska and DiClemente. As the complexity of human behaviour can never fully be understood, no model or approach can be complete, though they help. Michie et al. (2014) present 83 theories in the *ABC of Behaviour Change Theories* that guide our understanding and care delivery. 2. Psychological approaches, such as motivational interviewing, behaviour therapy and cognitive behaviour therapy.

Guiding principles that motivate and guide health care professionals and influence the way they apply skills include core conditions of a helping relationship (empathy, genuineness, acceptance), respect client autonomy, client responsibility, social influence (everyone has the ability to change), collaboration, self efficacy (believe change is possible), empowerment, client centred model of care vs. medical model. Stewart (1995) developed the client centred model to consider the client as a person addressing:

1. Explore the disease and the illness experience
2. Understand the whole person
3. Find common ground
4. Incorporate prevention and health promotion
5. Enhance the client-practitioner relationship
6. Be realistic.

Communication skills to support client care include: meeting and greeting clients and their families/carers, attending behaviour (e.g. non-verbal communication, pace, tone, minimal encouragers, verbal following), paraphrasing, reflecting feelings, questions, summarising, how to provide information, listen and reflecting change talk.

Motivational strategies to support client care include for example: OARS (Open questions, affirmations, reflecting, summarise), establishing common agendas, eliciting information on current behaviours, understanding a typical day, exploring ambivalence/resistance (pros & cons), importance, confidence, readiness to change, exploring barriers to change, exploring options for change, problem solving, making plans, setting goals, use of rewards, building support, self monitoring and developing self awareness, supporting lapses and setbacks.

Cognitive behaviour strategies to support client care includes raising awareness of unhelpful thoughts and their impact on behaviour (thoughts, feelings, actions), the role of helpful thoughts and their impact on coping and supporting helpful behaviours.

In 2016 clinical guidelines were developed by a mental health team in Australia to support people with diabetes and their emotional health (Hendrieckx et al., 2016). These were adapted by the NHS in 2019 (see Appendix on Psychosocial care and the support folder for a copy, Hendrieckx et al., 2016). These guidelines highlight the importance of supporting behaviour change through;

- Health care professionals considering and developing communication skills
- Health care professionals supporting people in a 'helpful way' to face up to the diagnosis of diabetes & support change
- To consider how the health literacy needs of people are supported during care delivery (also acknowledged by the HSE)
- To consider the language that is used by health care professionals that may not be helpful to supporting self-care (see Appendix on Language for more information).

**Guidance for helping a person make changes to fit into their life** has been concisely described in the Diabetes and Emotional Health handbook (Hendrieckx et al., 2016)

- When asking people to make significant changes to their lifestyle, it is important to convey a **message of hope, empathy, and understanding**, while being factual and informative.
- It is important to **refrain** from using threat or fear-based persuasion, particularly if the person is not ready to face the reality and the consequences of diabetes for their future.
- It is more constructive to **understand** why a person may not be making the changes that would be appear to be 'good' for them.
- Help the person to understand their **own barriers** in implementing optimal diabetes self-management and ways to overcome these barriers.
- **Create a space** where the person can reflect on where they are now, so they can realise their own priorities and preferences – what is it they like and don't like about where they are now, and what they like and don't like about where they see themselves in X years' time, if they don't make some changes.
- Acknowledge that other issues may have greater priority for them right now; explore the person's own '**road blocks**' and help them to identify how important these are to them or whether they can find ways to overcome them.
- With all this in mind, **explore what options** they have for making changes that would benefit their health.
- Enhance the person's **confidence** to undertake specific behaviours. When someone is asking for help to achieve their goals, help them to reflect on their options for changing, and support them to make realistic steps. This makes it more likely that they will try and succeed.
- Successful completion of **one step** (e.g. walking for 30 minutes once a week) increases people's confidence in undertaking the next step (e.g. walking for 30 minutes three times a week) and so on.
- Work with the person to develop a **realistic and individualised action plan**, and to identify resources to aid change. Ensure that the actions you agree upon are relatively easy with few barriers.

In the real word there are many barriers to optimal self-care which hamper individual efforts to achieve optimal outcomes or change their motivational focus. As a health care professional, acknowledge barriers with empathy at all times. If in doubt, over-celebrate, under-criticise and **honour effort** as well as outcomes (Hendrieckx et al., 2016)

NICE has highlighted the importance of behaviour change in recommendations in 2007 and in 2014 and the ADA in 2019. Supporting behaviour change is NOT about getting people to comply with or adhere to provider-selected goals. Behaviour strategies are NOT applied to people to get them to change. Our role is not to change behaviour but to **INSPIRE, INFORM, SUPPORT and FACILITATE** their efforts to identify and attain their own goals (Funnell & Anderson, 2005).

Dietitians support people and their families with making behaviour changes in both the group and 1-1 setting. Good communication is essential in both settings and the learning for one setting is transferable to the other. Facilitation skills are required to support care delivery in the group setting. Self-reflection and peer reflection and support are essential to developing skills for both settings.

**Key reference/Further reading:** Facing Life with Diabetes (Chapter 2) in Hendrieckx, C., Halliday, J.A., Beeney, L.J., Speight, J. (2016) *Diabetes and Emotional Health: a practical guide for healthcare professionals supporting adults with Type 1 and Type 2 Diabetes*, ed. Canberra: National Diabetes Services Scheme, 19-30; **Manual of Dietetic Practice** 2014 – Chapter 1.3 Changing health behaviour by Dymphna Pearson; **The Art of Empowerment** by Bob Anderson (see psychosocial care folder); **101 Tips for Behaviour Change in Diabetes Education** by R Anderson et al (ADA 2002) (see psychosocial care folder).

#### 4. BLOOD GLUCOSE MONITORING - Self-monitoring blood glucose (SMBG)

SMBG recommendations for people with Type 2 Diabetes living in Ireland are based on their diabetes treatment and recommendations of their diabetes care team (e.g. GP, PN, DNS). SMBG is based on capillary blood glucose measurements.

The Medicines Management programme report on Self-Monitoring of Blood Glucose (SMBG) in Type 2 Diabetes 2016 is available on [www.hse.ie/yourmedicines](http://www.hse.ie/yourmedicines) along with Frequently Asked Questions for healthcare professionals and people with diabetes and in the support folder on blood glucose monitoring.

- Some people with Type 2 diabetes **may not be required** to self-test their capillary blood glucose levels.
- Those who are **prescribed medicine for diabetes** management are generally advised to self-test.
- The **frequency of testing** is dependent upon the type of medicine prescribed. Medicines associated with hypoglycaemia require more frequent blood glucose monitoring e.g. sulphonylureas and insulin.
- The leaflet '[Guide to Blood Glucose \(Sugar\) Testing Type 2 Diabetes](#)' outlines **when and how often** testing is required. This leaflet is available to order for use with clients – order from [www.healthpromotion.ie](http://www.healthpromotion.ie) under the Healthy Eating Category and it can be viewed at <https://www.healthpromotion.ie/hp-files/docs/HDP00976.pdf> or in the support folder.

Diabetes treatment:	Guidelines for testing your blood glucose testing:
People with stable Type 2 diabetes on diet alone.	<ul style="list-style-type: none"> <li>• Do not need to self-test.</li> </ul>
People with Type 2 diabetes taking: <ul style="list-style-type: none"> <li>• <b>Metformin</b> alone, or</li> <li>• <b>Metformin</b> with any of the following diabetes medications:               <ul style="list-style-type: none"> <li>– a DPP-IV inhibitor, or</li> <li>– a GLP-1 analog, or</li> <li>– a TZD, or</li> <li>– SGLT2 inhibitor.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Test up to three times a week.</li> </ul>
People with Type 2 diabetes taking a <b>Sulphonylurea or glinides</b> (such as Gliclazide - Diamicron) on its own or taking it with any of the following diabetes medications: <ul style="list-style-type: none"> <li>– a DPP-IV inhibitor, or</li> <li>– a GLP-1 analog, or</li> <li>– a TZD, or</li> <li>– a SGLT2 inhibitor</li> <li>– Metformin.</li> </ul>	<ul style="list-style-type: none"> <li>• Test 1 - 2 times a day.</li> <li>• Test more often if you are:               <ul style="list-style-type: none"> <li>– driving (see driving guidelines),</li> <li>– doing extra physical activities such as gardening or sports,</li> <li>– experiencing hypoglycaemia 'hypo',</li> <li>– feeling ill or stressed,</li> <li>– consuming alcohol.</li> </ul> </li> </ul>
People with Type 2 diabetes on insulin alone or insulin with other diabetes medications.	<ul style="list-style-type: none"> <li>• Test up to four times a day.</li> <li>• Test more often if you are:               <ul style="list-style-type: none"> <li>– driving (see driving guidelines),</li> <li>– doing physical activities such as gardening, sports and so on,</li> <li>– experiencing hypoglycaemia 'hypo',</li> <li>– during illness,</li> <li>– feeling stressed,</li> <li>– consuming alcohol.</li> </ul> </li> </ul>
People with Type 2 diabetes planning a pregnancy or who are pregnant.	<ul style="list-style-type: none"> <li>• Test up to seven times a day.</li> <li>• Test more often if your doctor, nurse or dietitian advises you to.</li> </ul>



### Access to blood-glucose strips for Type 2 Diabetes:

- As of April 1, 2016, rules about access to unlimited amounts of blood glucose strips for some people with type 2 diabetes have changed. The HSE National Clinical Programme for Diabetes (NCPD) published guidance on self-testing for people with Type 2 diabetes. The Primary Care Reimbursement Service (PCSR), under the guidance of the Medicines Management Programme (MMP) and the NCPD, has updated its reimbursement arrangements for blood glucose test strips (BGTS).
- It is recommended to read the document 'Type 2 Diabetes Test Strips Reimbursement, Questions and Answers for Health Professionals' and 'Type 2 Diabetes Test Strips: Questions and Answers for Patients' <http://www.hse.ie/eng/about/Who/clinical/natclinprog/diabetesprogramme/Bloodsugartesting/>. **Available in the support folder** on blood glucose monitoring.
- The **amount of blood glucose test strips required are based on medicine prescribed**, but please note while current guidance recommends that people with Type Two Diabetes treated through **diet alone** do not need to self-test, people managed through diet alone will be reimbursed for **2 boxes of test strips per annum** i.e. 100 test strips/annum, see below, available at; <https://www.hse.ie/eng/services/list/2/primarycare/east-coast-diabetes-service/diabetes-nursing/capillary-blood-glucose-monitoring/>

Diabetes Treatment	Number of Test Strips
Diet	100 / year
Metformin	50 / month
DPP-IV Inhibitor	
GLP-1 Analog	
Thiazolidinedione (TZD)	
SGLT2 Inhibitor	100 / month
Sulphonylurea e.g. Gliclazide	
Insulin therapy	Unlimited
Planning pregnancy	Unlimited

The Letter advising re: Reimbursement of Blood Glucose Test Strips (BGTS) for Patients with Type 2 Diabetes Mellitus, Prof Michael Barry National Clinical Lead, Medicines Management Programme is available at <https://www.hse.ie/eng/services/publications/clinical-strategy-and-programmes/bgts-for-patients-with-type-2-diabetes-mellitus.pdf>

- It is appreciated that **there are clinical situations where enhanced blood glucose monitoring may be required** (e.g. acute illness, therapy changes, pregnancy) and in such cases extra reimbursement support is available via an on-line application system. **Additional strips can be prescribed where necessary by contacting PCRS online services on [www.pcrs.ie](http://www.pcrs.ie)**. This service is available to allow immediate access to additional test strips reimbursed under the community drugs schemes. The person's physician, whether in primary care or in the hospital setting, can then use this online process to increase individual person's reimbursement limits.

**The HSE Blood Glucose Monitoring Review Group in 2017 developed and signed off on two resources for Health Care Professionals** (available in the support folder on blood glucose monitoring).

- Best Practice Guidelines for HCPs – when monitoring capillary blood glucose in healthcare settings; and
- Best Practice Guidelines for HCPs – when educating patients and carers to self-test capillary blood glucose

These Best Practice Guidelines give information on: choice of equipment, registration of device, ordering of results, units of measurement, consumables, quality control, training and contraindications.

**Clinical Targets for targets/goals for SMBG:** **Please be aware of advice in your LHO area (community & acute).** The current My Diabetes Health Result Form uses targets by ADA, 2019 (bolded). See Clinical Targets Appendix. Others are provided for reference.

Reference	Postprandial Capillary Glucose	Target Blood glucose
Harkins, 2008	1 hour	< 8mmol/L
Practice in CUH	2 hours	<7 mmol/L
IDF, 2011 *	Post meal	≤ 9.0mmol/L
<b>ADA, 2019</b>	<b>1-2 hours after the beginning of the meal</b>	<b>&lt;10mmol/L</b>
ICGP, 2016	Nil available	Nil available
Model of Integrated Care, 2018	Nil available	Nil available
Reference	Pre-prandial Capillary Glucose	Target Blood Glucose
<b>ADA, 2019</b>	<b>Before meal</b>	<b>4.4 – 7.2 mmol/L</b>
ICGP, 2016	Nil available	Nil available
Model of Integrated Care, 2018	Nil available	Nil available

ADA 2019 guidance is available in the support folder on blood glucose monitoring.



## Resources (available in the support folder on blood glucose monitoring)

HSE Guide to Blood Glucose Monitoring <https://www.healthpromotion.ie/hp-files/docs/HDP00976.pdf> and see support folder.

Diabetes and Driving - Driving Guidelines from NDLS, RSA (leaflet) <https://www.ndls.ie/images/Documents/Forms/Diabetes-and-Driving.pdf>. For a copy please see the appendix on Hypoglycaemia and the support folder on Hypos and Driving. The RSA Medical Fitness to Drive Guidelines was updated in August 2019 from April and are in the support folder on hypos and driving. [https://www.ndls.ie/images/PDF\\_Documents/Slainte\\_agus\\_Tiomaint\\_Medical\\_Fitness\\_to\\_Drive\\_Guidelines.pdf](https://www.ndls.ie/images/PDF_Documents/Slainte_agus_Tiomaint_Medical_Fitness_to_Drive_Guidelines.pdf)

### Summary of Current Evidence:

1. Please note slight differences exist between recommendations so it is important to be aware of advice in your LHO area (community & acute)/GP practice sites on post-prandial blood glucose and discuss same with the teams in your area to promote consistent evidence based advice for use with people with diabetes.
2. The importance of individual goals being set for people with diabetes by their GP/diabetes team must also be stressed and explained to people.

### Guidelines on SMBG from NICE 2015 (endorsed in the Model of Integrated Care Guidelines, 2018):

1. Do not routinely offer self-monitoring of blood glucose levels for adults with type 2 diabetes unless:
  - the person is on insulin; **or**
  - there is evidence of hypoglycaemic episodes; **or**
  - the person is on oral medicine that may increase their risk of hypoglycaemia while driving or operating machinery or increasing activity level; **or**
  - the person is pregnant, or is planning to become pregnant.
2. Consider short-term self-monitoring of blood glucose levels in adults with type 2 diabetes (and review treatment as necessary) when;
  - starting treatment with oral or intravenous corticosteroids; **or**
  - intercurrent illness; **or**
  - to confirm suspected hypoglycaemia.
3. Be aware that adults with type 2 diabetes who have acute intercurrent illness are at risk of worsening hyperglycaemia. Review treatment as necessary.
4. If adults with type 2 diabetes are self-monitoring their blood glucose levels, carry out a structured assessment at least annually. The assessment should include:
  - the person's self-monitoring skills;
  - the quality and frequency of testing;
  - checking that the person knows how to interpret the blood glucose results and what action to take;
  - the impact on the person's quality of life;
  - the continued benefit to the person; and
  - the equipment used.

### **ICGP, 2016 endorse the following recommendation from NICE Guidelines, 2015;**

- NICE recommend that self-monitoring should not be considered as a stand-alone intervention, but used in conjunction with appropriate therapy as part of integrated self-care and that it should be taught if the need/purpose is clear and agreed with the person with diabetes.

### **ADA, 2019 recommendation re: SMBG;**

- SMBG is an integral component of effective therapy of people taking insulin. In recent years, CGM has emerged as a complementary method for the assessment of glucose levels. Glucose monitoring allows people to evaluate their individual response to therapy and assess whether glycaemic targets are being safely achieved. Integrating results into diabetes management can be a useful tool for guiding medical nutrition therapy and physical activity, preventing hypoglycaemia, and adjusting medicines (particularly prandial insulin doses). **The person's specific needs and goals should dictate SMBG frequency and timing or the consideration of CGM use.**

## Further Information on Flash Glucose Monitoring – THE FREESTYLE LIBRE SYSTEM

In practice the Freestyle Libre System may be prescribed by a hospital consultant to help meet the care of people with Type 2 Diabetes under special circumstances e.g. those with severe visual impairment. Many Community Dietitians are being asked questions by people with type 2 diabetes on same. **Information circulated in June 2019 by Diabetes Ireland is in the support folder on BGM.**

In August 2019, the RSA Medical Fitness to Drive were updated to recognise products measuring interstitial fluid and give specific guidance on same on page 68 – see the support folder on Hypos and Driving for a copy of these guidelines.

### **Freestyle Libre System;**

The Health Technology Assessment Group prepared an Advice Note 2017/001 on the Freestyle Libre System - What is the clinical effectiveness, safety and budget impact of the Freestyle Libre System compared with current glucose monitoring methods for people aged 4 years and over with diabetes mellitus who use multiple daily injections of insulin? It is available at;

<https://www.hse.ie/eng/about/who/healthwellbeing/htag/publications/htag-advice-note-freestyle-libre.pdf>. The advice has been produced following completion of an evidence review by the Health Technology Assessment Group (HTAG), in response to a request from the Primary Care Reimbursement Service (PCRS) of the Health Service Executive. It addresses target population, proposed benefits, clinical effectiveness, device safety, budget implications, conclusions and recommendations and the importance of one year evaluation. As 'no part of this advice may be used without the whole of the advice being quoted in full' it is recommended to read the advice note.

Important points to note in this advice note;

- The sensor measures glucose levels in **interstitial fluid**.
- SMBG is still required during periods of rapidly changing glucose levels, or if hypoglycaemia or impending hypoglycaemia is reported, or the symptoms do not match the system readings.
- Drivers will need to continue with SMBG as there are times when confirmation with capillary blood glucose is required. See the August 2019 RSA guidelines for guidance on Group 1 drivers and legal requirements for Group 2 drivers, to meet current driving requirements in Ireland.

**Reference:** Letter re: Reimbursement of Abbott FreeStyle Libre Sensor effective 1st April 2018  
<https://www.hse.ie/eng/staff/pcrs/circulars/pharmacy/10-2018-pharmacy-circular.pdf>  
From Anne Marie Hoey, Primary Care Reimbursement & Eligibility to Irish Pharmacies.

## 5. CHRONIC KIDNEY DISEASE (CKD)

CKD attributed to diabetes (diabetic kidney disease/Nephropathy), occurs in 20–40% of people with diabetes, typically developing after a duration of 10 years in those with type 1 but **may be present at diagnosis in those with type 2 diabetes**. The presence of CKD markedly increases cardiovascular risk and health care costs. CKD can progress to end-stage renal disease (ESRD) requiring dialysis or kidney transplantation (ADA, 2019).

**Diabetic kidney disease** is usually a clinical diagnosis made based on **the persistent presence of albuminuria and/or reduced eGFR in the absence of signs or symptoms of other primary causes of kidney damage**. The typical presentation of diabetic kidney disease is considered to include a long-standing duration of diabetes, retinopathy, albuminuria without haematuria, and gradually progressive loss of eGFR. However, signs of CKD may be present at diagnosis or without retinopathy in Type 2 diabetes, and reduced eGFR without albuminuria has been frequently reported in type 2 diabetes and is becoming more common over time as the prevalence of diabetes increases in the U.S. (ADA, 2019).

**Dietitian support in the management of CKD in the community is recommended.**

**The INDI Renal Interest Group (RIG) have reviewed the evidence for the dietary management of chronic kidney disease and are providing the latest guidance in an online course which is available in Spring 2020. This training is strongly recommended for all Community Dietitians supporting people with type 2 diabetes.**

Supporting dietitian resources have been updated by RIG and are provided in the support folder on CKD for information only, as training is essential for their use:

- The INDI RIG (2018) Guide to NCP in CKD Stage 1-3A to support dietitian care.
- CKD Stages and Dietary intervention – guidance produced by the INDI Renal Interest Group (RIG) in May 2018

See the Appendix on clinical targets for further guidance on current recommendations for people with type 2 diabetes.

**Follow local PPPGs re clients seen and access/shared care with local acute dietetic care services for renal disease.**

### **Supporting completion of Health results for assessment and monitoring CKD e.g. ACR and eGFR**

(see Appendix on Clinical targets & My diabetes health results form)

#### **a. Assessment**

- Liaison with practice staff in seeking assessment of urine albumin:creatinine ratio (ACR), serum creatinine and estimate eGFR (estimated glomerular filtration rate) in people with diabetes is recommended to assess for CKD (NICE, 2014; ICGP, 2016, Model of Integrated Care, 2018).
- ACR, serum creatinine and eGFR should be measured at diagnosis of diabetes and annually (at least) thereafter (ICGP, 2016; Model of Integrated Care, 2018).
- To detect and identify proteinuria, use urine ACR in preference to protein:creatinine ratio (PCR), because it has greater sensitivity than PCR for low levels of proteinuria. ACR is the recommended method for people with diabetes. (NICE, 2014)

#### **b. Screening – See Appendix on Clinical Targets for further guidance on ACR**

- Screening for albuminuria can be most easily performed by urinary albumin-to-creatinine ratio in a random spot urine collection. If positive result this should be confirmed by a subsequent early morning sample (NICE, 2014).  
IMPORTANT NOTE - (ADA, 2019): Exercise within 24 hours, infection, fever, congestive heart failure, marked hyperglycaemia, menstruation, and marked hypertension may elevate ACR independently of kidney damage.

#### **c. Interpretation of Results – Liaison with practice staff in the interpretation/review of clinical outcomes is recommended.**

#### **d. ACR interpretation – See clinical targets section for details on interpretation of abnormal results**

- **Serum creatinine interpretation** - Use this information to calculate eGFR. eGFR should be calculated from serum creatinine using a validated formula. See [www.mdcalc.com](http://www.mdcalc.com) and use the CKD-EPI or MDRD equation.

#### **e. Results**

- **Confirmation of a diagnosis of CKD is very important and CKD must be diagnosed by GP or diabetologist on a series of results, not once off measurements.**
- **People should be informed about diagnosis of renal disease by GP or diabetologist.**
- **Community Dietitians support the diabetes care team and people with diabetes to have ACR and eGFR assessed and reviewed.**
- Kidney Disease: Improving Global Outcomes (KDIGO) recommends a comprehensive CKD staging that incorporates albuminuria at all stages of eGFR; this system is more closely associated with risk but is also more complex and does not translate directly to treatment decisions (ADA, 2019). **Regardless of classification scheme, both eGFR and albuminuria should be quantified to guide treatment decisions(ADA, 2019).**

- Be aware that:
  - o increased ACR is associated with increased risk of adverse outcomes
  - o decreased GFR is associated with increased risk of adverse outcomes
  - o increased ACR and decreased GFR in combination multiply the risk of adverse outcomes. (NICE, 2014)

### **Classification of chronic kidney disease using GFR and ACR categories (KDIGO, 2012).**

Explanation of CKD classified according to estimated GFR (eGFR) and albumin:creatinine ratio (ACR) (NICE, 2014)

<https://www.nice.org.uk/guidance/cg182/chapter/key-priorities-for-implementation#table-1-classification-of-chronic-kidney-disease-using-gfr-and-acr-categories>

- using 'G' to denote the GFR category (G1–G5, which have the same GFR thresholds as the CKD stages 1–5 recommended previously) and 'A' for the ACR category (A1–A3), for example:

- A person with an eGFR of 25 ml/min/1.73m<sup>2</sup> and an ACR of 15 mg/mmol has CKD G4A2.
- A person with an eGFR of 50 ml/min/1.73m<sup>2</sup> and an ACR of 35 mg/mmol has CKD G3aA3.
- An eGFR of less than 15 ml/min/1.73m<sup>2</sup> (GFR category G5) is referred to as kidney failure.

Permission for inclusion of the table below has been provided to the INDI RIG by KDIGO.

### **Prognosis of CKD by GFR and albuminuria category**

Prognosis of CKD by GFR and Albuminuria Categories: KDIGO 2012				Persistent albuminuria categories Description and range		
				A1	A2	A3
				Normal to mildly increased	Moderately increased	Severely increased
				<30 mg/g <3 mg/mmol	30-300 mg/g 3-30 mg/mmol	>300 mg/g >30 mg/mmol
GFR categories (ml/min/ 1.73 m <sup>2</sup> ) Description and range	G1	Normal or high	≥90	Green	Yellow	Orange
	G2	Mildly decreased	60-89	Green	Yellow	Orange
	G3a	Mildly to moderately decreased	45-59	Yellow	Orange	Red
	G3b	Moderately to severely decreased	30-44	Orange	Red	Red
	G4	Severely decreased	15-29	Red	Red	Red
	G5	Kidney failure	<15	Red	Red	Red

Green: low risk (if no other markers of kidney disease, no CKD); Yellow: moderately increased risk; Orange: high risk; Red, very high risk.

Reference KDIGO 2012 Clinical Practice Guideline for the Evaluation and Management of Chronic Kidney Disease. Kidney International Supplements volume 3 | issue 1 | JANUARY 2013

### **Treatment**

- On assessment and **confirmation of renal function by GP or diabetologist**, advise people on any necessary dietary and lifestyle changes required to slow the progression of renal disease. Model of integrated Care, 2018 recommend treatments to optimise; glycaemic control; lipid control; and blood pressure control (including treatment with an ACE inhibitor or an ARB).
- **The Irish Nutrition and Dietetic Institute Renal Interest Group recommend that the dietary advice** should depend on the stage of the renal disease, based on estimation of the eGFR, using the MDRD equation. See [www.mdcalc.com](http://www.mdcalc.com) and use the MDRD equation.
- **For people with diabetes and CKD, provide appropriate dietary advice for the management of each stage.** It important to classify stage 3 as 3A and 3B.
  - o Follow guidance as advised at INDI RIG training in use of the CKD and dietary interventions guidance.
  - o The guidance for calculation of requirements will be provided at this training in relation to the CKD stages. The INDI Nutrition Support Reference Guide provides guidance for the calculation of requirements (2015). Individual care plans will be based on unique nutritional and biochemical assessments.

- Guidelines for protein requirements, including for the older person with CKD, are available in the INDI Nutrition Support Reference Guide – see Chapter 3 for Adult requirements and Chapter 22 Section E for requirements for Older people.
- People with CKD and type 2 diabetes who attend structured patient education need further dietetic support. It is important to individualise protein requirements. They may require at least one individual appointment.
- A website has been developed for supporting Irish clients with CKD – [www.irishkidneydiet.ie](http://www.irishkidneydiet.ie)

### CKD Stages and Dietary Intervention

GFR Stage	GFR (ml/min/1.73m <sup>2</sup> )	Dietary Intervention
1	> 90	Address co-morbidities e.g. Weight , DM <b>Protein:</b> Healthy Eating Advice <b>Salt:</b> Avoid excessive intakes or No added Salt (NAS) if hypertensive, proteinuric or diabetic
2	60 – 89	
3A 3B	45-59 30-44	<b>Energy, NAS, Protein restriction</b> Phosphate restriction as required Potassium restriction as required
4	15 - 29	Energy, NAS, Protein, Phosphate & Potassium restriction
5	<15	Energy, NAS, Protein, Phosphate & Potassium restriction, may require fluid restriction Renal Replacement Therapy advice as per therapy choice (HD/PD)

Renal Interest Group May 2018

### References

- INDI Renal Interest Group
- ADA, 2019 – American Diabetes Association – Standards of Medical Care in Diabetes; The Journal of Clinical and Applied Research and Education, Diabetes Care, January 2019.
- ICGP, 2016 –A Practical Guide to Integrated Type 2 Diabetes Care.
- Kidney Disease: Improving Global Outcomes (KDIGO) CKD Work Group. KDIGO 2012 Clinical Practice Guideline for the Evaluation and Management of Chronic Kidney Disease. *Kidney international*, Suppl. 3, 2013; 3: 1-150.
- Model of Integrated Care for Patient with Type Two Diabetes - A Guide for Health Care Professional, 2018.
- NICE, 2014 – Chronic Kidney Disease in Adults: Assessment and Management. Clinical Guideline, 2014.

## 6. CLINICAL TARGETS FOR ADULTS WITH TYPE 2 DIABETES

The key message re clinical targets is that each individual clinical measure has a target individualised for every person with diabetes. Those who are pregnant or those planning a pregnancy and older adults will require their individual targets to be reviewed and discussed as part of their care. See relevant **Appendices**.

The person will be advised 'Your diabetes team will work with you to decide what results are best for you. You may aim for higher or lower targets depending on your age, how long you have diabetes for and your medical history', as listed in the 'My Diabetes Health Result Form' resource.

Targets are listed below and referenced. The summary from the references are available in a table in the support folder on **Clinical targets**. Other supporting information is also available in this folder.

### CLINICAL TARGETS for NON-PREGNANT PEOPLE WITH TYPE 2 DIABETES

Outcome of Care	TARGET/GOAL	CHECK
HbA1c <sup>1,2</sup>	≤ 53 (7%)	At least 3 times a year
(Glycated haemoglobin)	≤ 48 (6.5%) may be suitable for those newly diagnosed & without significant co-morbidities	
mmol/mol (%)	≤ 58 (≤7.5%) or less stringent HbA1c goals may be appropriate for some individuals	
Blood Glucose (mmol/l) <sup>4</sup>		As recommended to meet individual treatment needs
- Pre-prandial	4-7	
- Post-prandial (2 hours)	< 10	
Blood Pressure (mmHg) <sup>1,2</sup>	≤140/80	At least 3 times a year
	<130/80 may be appropriate for some (e.g. with HTN & high CVD risk, microvascular disease, CKD, younger people with Type 2 Diabetes)	
Total Cholesterol (mmol/l) <sup>3</sup>	<4.5	As part of annual lipid profile
LDL Cholesterol (mmol/l) <sup>1,2</sup>	≤2.5 primary prevention + statin ≤1.8 secondary prevention + statin	At least once year. 4monthly if not in target.
HDL Cholesterol (mmol/l) <sup>1,2</sup>	≥ 1.0 Men ≥ 1.3 Women	
Triglycerides (mmol/l) <sup>1,2</sup>	≤1.7	
Urine Albumin:Creatinine (ratio) <sup>1,2</sup>	<2.5 Men < 3.5 Women	On diagnosis, annually or at follow-up if raised before
mg/mmol		
eGFR <sup>1,2</sup>	>60	On diagnosis, annually or at follow-up if raised before
Serum Creatinine <sup>1</sup>	<150	On diagnosis, annually or at follow-up if raised before
Stage of CKD <sup>1,4</sup>	Translate the renal results (ACR & eGFR) into the stage of CKD - see notes.	
Liver Function Tests <sup>1</sup>		On diagnosis or annually

HSE Model of Integrated Care for Patients with Type 2 Diabetes (2018)<sup>1</sup>, ICGP (2016)<sup>2</sup>, HSE Diabetes Cycle of Care 2015<sup>3</sup>, ADA 2019<sup>4</sup>

Note: Target BGL may vary depending on local Endocrinologist policy.

#### Client Resources:

1. A form - **My Diabetes Health Result Form (MDHRF)** is available for use in 1-1 care and SMES. It is available in the DISCOVER Diabetes – Type 2 handbook for clients. It is available in 2 formats – one without client name, one with client name and DOB to support people leaving with their GP /PN. In addition to clinical target information it includes other key information (i.e. DRS, foot care and the HSE 'My Medicines list'). See the support folder on Clinical Targets.
  - The targets listed in the current MDHRF is in line with the targets presented above. Note Serum creatinine, stage of CKD and liver function tests are not on the form and are presented here for reference. Note HbA1c targets of 53 are presented. **In practice it is important to consider and discuss HbA1c with groups and individuals in the context of individual goals i.e. ≤ 48**
  - A guidance document re how to use the MDHRF form and a Green Paper of Evidence were prepared in 2018 and are available in the support folder/clinical targets/my diabetes health result form.
  - The form was shared with the DESMOND WG to support exploration of how it could be integrated into DESMOND care, and educators tested use of same. Work will continue on exploring potential use of this form.
2. **Diabetes Passports.** These are small booklets that are in use within some diabetes care teams e.g. CHO2, ECAD, CHO9. Check with your local diabetes care team (e.g. acute, DNS, CDM team) what is in use in your area. It is important to check if the targets used in the MDHRF are different to those in the passports and to consider if discussions are needed with local stakeholders regarding updates, to avoid confusion for the person with diabetes at all times.

*Written records of diabetes health results support care by informing people of their current diabetes care status, supporting the education process, empowering the person to engage in their self-care and attend follow-up check-ups as recommended by their diabetes care team e.g. GP, PN, DNS, consultant and support their participation in review of future results.*



## FURTHER INFORMATION on Clinical Targets

### HbA1c further information:

- ADA 2019 recommends HbA1c more or less stringent **goals should be individualized** and based on factors: duration of diabetes, age/life expectancy, co-morbid conditions, known CVD or advanced micro-vascular complications, hypo unawareness, individual considerations, resources/support system. See Figure 6.1 from ADA pS64 below. Frequency of testing should be based on clinical situation, treatment regimen and clinician judgement.
- ADA EASD 2018 recommends 53 as the target for HbA1c and refers to the importance of atherosclerotic CVD risk management or ASCVD risk.
- **A metabolic memory or legacy effect** has been demonstrated in which a finite period of intensive control has shown benefits that lasted for decades after the control ended and so intensive HbA1c may yield enduring benefits. **Thus striving for optimal HbA1c may now be the target for some, especially for the newly diagnosed as soon as possible after diagnosis and if adverse effects can be avoided. (ADA 2019).**
  - **≤53** appropriate for most and shown to reduce diabetes related complications (NCP-DM, 2018). The ADA EASD 2018 refers to this target offering benefit when the person is likely to have sufficient life expectancy to see microvascular benefits (generally 10 years).
  - **≤48** may be appropriate for select individuals if it can be achieved without hypos or adverse treatment effects (ADA 2019) – it may be suitable for newly diagnosed without significant co-morbidities/CVD, diet, lifestyle and/or metformin treated, those with long life expectancy (ICGP 2016).
  - **≤58** or less stringent may be appropriate for some (NCP-DM, 2018) – those unlikely to achieve longer term risk reduction benefits (i.e. reduced or limited life expectancy), those with a history of hypoglycaemia or with a high risk of the consequences of a hypo (e.g. risk of falling, those with reduced awareness of hypos, those who drive or operate machinery as part of their job), advanced complications (micro or macro), extensive co-morbid conditions, where social circumstances may prevent tight blood glucose control.
- Clinicians are advised to **exercise judgement when interpreting results** and be aware of the limitations of HbA1c which can affect the true result. It is affected by conditions that affect red blood cell turnover (i.e. anaemias, recent blood transfusion, certain meds, pregnancy, CKD).
- HbA1c is not a measure of glycaemic variability or hypoglycaemia - though some clinicians have advised to **consider the risk of possible hypos** in those with HbA1c lower than expected or within tight targets. **A combination of review of SMBG and HbA1c may be important for some clients** e.g. those treated with insulin. The HbA1c may also inform the accuracy of a person's meter.
- See Reference table to assist interpreting HbA1c levels with average blood glucose levels (ADA 2019).

### Blood Pressure further information:

- ADA 2019 recommends all hypertensive people should monitor their BP at home. Its role in detecting white coat hypertension, masked hypertension or other discrepancies between true and office BP and the role of home BP monitoring is highlighted. It can confirm or refute diagnosis and monitor treatment. Studies have shown it may better correlate with ASCVD risk and improve medicine adherence and thus help reduce risk. The Model of Integrated Care (HSE 2018) recommends 24hour blood pressure monitoring if a blood pressure reading is high at the clinic visit. Not reported in ICGP 2016.

### Lipids further information – the following was provided at the CROI Update on CVD – please discuss local practices:

- **CROI 2018 Update on CVD** – There was a move away from total cholesterol targets and no specific targets given for different groups. The 2016 ESC/EAS Guidelines for management of Dyslipidaemia were referred to with the main guidance for people with type 2 diabetes:
  - in people with type 2 diabetes and CVD or CKD, and in those without CVD who are >40 years of age with one or more other CVD risk factors or markers of target organ damage, the recommended goal for **LDL is <1.8mmol/L** and the secondary goal for **non HDL C is <2.6mmol/L** and for **apoB is <80mg/dL**.
  - In all people with type 2 diabetes and no additional risk factors and/or evidence of target organ damage, **LDL <2.6mmol/L** is the primary goal. **Non HDL <3.4mmol/L and apoB <100mg/dL** are the secondary goals.
  - LDL-C was discussed as the main target for atherosclerosis. A UK speaker shared the move away from LDL and the use of non-HDL which is obtained via a non-fasting sample.
- NICE and ICGP had very similar guidance re HbA1c but not re lipids. NICE: of note the NHS implemented a health check initiative which supported CVD risk assessments which is not in place in Ireland. This supported CVD 10year risk assessment recommendations in management of CVD. NICE also highlighted TC and HDL as key lipid measures.

### ACR & eGFR further information

- **ACR** – there is biological variability in urinary albumin excretion and ADA 2019 advises **2 of 3 tests** need to be abnormal to diagnosis albuminuria. ACR requires an early morning specimen and 2 out of 3 need to be positive over a 6 month period to indicate nephropathy (ICGP 2016). This practically means **when a result is high a person is advised to go to their GP** to review their result and to have a repeat ACR, to allow the GP to consider the result. It is important for clinicians to be aware of the factors which can affect ACR including exercise within 24h, infection, fever, congestive heart failure, marked hyperglycaemia, menstruation and marked hypertension.(ADA 2019). Confirmation of a CKD diagnosis is by the GP or diabetologist.
- **ACR and eGFR can vary within people over time and abnormal results should be confirmed to stage CKD (ADA 2019).** Diabetic kidney disease is usually a clinical diagnosis made based on presence of albuminuria, and/or reduced eGFR in the absence of signs or symptoms of other primary causes of kidney damage (ADA 2019). Signs of CKD may be present at diagnosis and reduced eGFR without albuminuria has been reported in type 2 and is more common with the increasing prevalence of diabetes in the USA. At any eGFR the degree of albuminuria is associated with risk of CKD progression, CVD and mortality (ADA 2019).

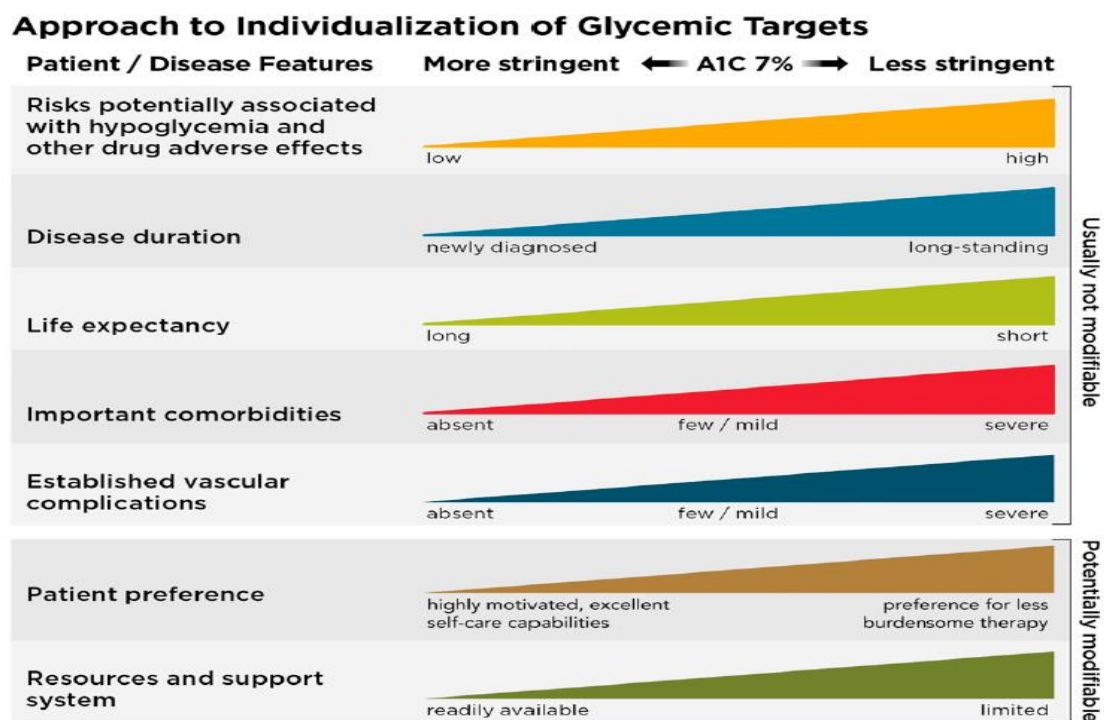


Figure 6.1—Depicted are patient and disease factors used to determine optimal A1C targets. Characteristics and predicaments toward the left justify more stringent efforts to lower A1C; those toward the right suggest less stringent efforts. A1C 7% = 53 mmol/mol. Adapted with permission from Inzucchi et al. (40).

#### Average Blood Glucose Levels for specified HbA1c levels (ADA 2019 – Glycemic Targets S63)

HbA1c % (mmol/mol)	Mean plasma glucose mmol/L	Mean fasting glucose mmol/L	Mean PREMEAL glucose mmol/L	Mean POSTMEAL glucose mmol/L	Mean BEDTIME glucose mmol/L
6 (42)	7.0 (5.5–8.5)				
5.5–6.49 (37–47)		6.8 (6.5–7.0)	6.5 (6.4–6.7)	8.0 (7.7–8.2)	7.5 (7.3–7.8)
6.5–6.99 (47–53)		7.9 (7.5–8.3)	7.7 (7.4–8.0)	9.1 (8.8–9.4)	8.5 (8.0–8.9)
7 (53)	8.6 (6.8–10.3)				
7.0–7.49 (53–58)		8.4 (7.9–9.0)	8.4 (8.2–8.7)	9.8 (9.4–10.2)	9.8 (9.2–10.4)
7.5–7.99 (58–64)		9.3 (8.7–9.8)	8.6 (8.2–8.9)	10.5 (10.0–10.9)	9.7 (9.0–10.4)
8 (64)	10.2 (8.1–12.1)				
8.0–8.5 (64–69)		9.9 (9.1–10.7)	9.9 (9.3–10.6)	11.4 (10.8–12.0)	12.3 (10.9–13.8)
9 (75)	11.8 (9.4–13.9)				
10 (86)	13.4 (10.7–15.7)				
11 (97)	14.9 (12.0–17.5)				
12 (108)	16.5 (13.3–19.3)				



## CLINICAL TARGETS FOR OLDER ADULTS (ADA 2019)

Clinical targets for non-pregnant adults with T2DM is presented in on page 17. The ADA now also recommend extra consideration is given to older adults (65+ years of age). This is not reflected in current Irish guidelines – **discuss current practice in local diabetes care teams**. Please see framework below in the table for considering treatment goals for glycemia, blood pressure, and dyslipidemia in older adults (65+ years of age) with diabetes taken from Older Adults Standards of Medical Care in Diabetes, ADA 2019.

**Older Adults: Standards of Medical Care in Diabetes, ADA 2019 - Framework for considering treatment goals for glycemia, blood pressure, and dyslipidemia in older adults with diabetes.**

Person with diabetes characteristics/health status	Rationale	Reasonable A1C goal <sup>†</sup>	***Fasting or preprandial glucose	***Bedtime glucose	Blood Pressure	Lipids
Healthy (few coexisting chronic illnesses, intact cognitive and functional status)	Longer remaining life expectancy	<58 mmol/mol	5.0–7.2 mmol/L	5.0–8.3 mmol/L	<140/90 mmHg	Statin unless contraindicated or not tolerated
Complex/intermediate (multiple coexisting chronic illnesses* or 2+ instrumental ADL impairments or mild-to-moderate cognitive impairment)	Intermediate remaining life expectancy, high treatment burden, hypoglycemia vulnerability, fall risk	<64 mmol/mol	5.0–8.3 mmol/L	5.6–10.0 mmol/L)	<140/90mmHg	Statin unless contraindicated or not tolerated
Very complex/poor health (LTC or end-stage chronic illnesses** or moderate-to-severe cognitive impairment or 2+ ADL dependencies)	Limited remaining life expectancy makes benefit uncertain	<69mmol/mol	5.6-10.0mmol/L	6.1-11.0mmol/L	<150/90mmHg	Consider likelihood of benefit with statin (secondary prevention more so than primary

This represents a consensus framework for considering treatment goals for glycemia, blood pressure, and dyslipidemia in older adults with diabetes. The person characteristic categories are general concepts. Not every person will clearly fall into a particular category. Consideration of individual and caregiver preferences is an important aspect of treatment individualization. Additionally, a person's health status and preferences may change over time.

\*\*\* Many conditions associated with increased red blood cell turnover, such as haemodialysis, recent blood loss or transfusion, or erythropoietin therapy, are commonly seen in older adults with functional limitations, which can falsely increase or decrease A1C. In these instances, plasma blood glucose and finger stick readings should be used for goal setting

‡ A lower A1C goal may be set for an individual if achievable without recurrent or severe hypoglycemia or undue treatment burden.

\* Coexisting chronic illnesses are conditions serious enough to require medicines or lifestyle management and may include arthritis, cancer, congestive heart failure, depression, emphysema, falls, hypertension, incontinence, stage 3 or worse chronic kidney disease, myocardial infarction, and stroke. “Multiple” means at least three, but many people may have five or more.

\*\* The presence of a single end-stage chronic illness, such as stage 3–4 congestive heart failure or oxygen-dependent lung disease, chronic kidney disease requiring dialysis, or uncontrolled metastatic cancer, may cause significant symptoms or impairment of functional status and significantly reduce life expectancy.

† A1C of 69 mmol/mol equates to an estimated average glucose of ~11.1 mmol/L. Looser A1C targets above 69 mmol/mol are not recommended as they may expose people to more frequent higher glucose values and the acute risks from glycosuria, dehydration, hyperglycemic hyperosmolar syndrome, and poor wound healing.

## 7. POSSIBLE COMPLICATIONS OF DIABETES

The GP and practice nurse and DNS appointments (as required), are a critical element to the proactive management of people with diabetes to maximise the quality of their outcomes and reduce the risks of developing diabetes related complications. As part of one to one dietetic care and DSME group courses, the Community Dietitian supports education on possible diabetes complications and the recommended follow-up/check-ups to prevent, detect and treat these. Clients are referred and sign-posted to the appropriate service as required e.g. DRS referral, recommend GP/PN/DNS appointment for review.

### **DIABETIC RETINOPATHY/ EYE CARE GUIDANCE AND DISEASE PREVENTION (MICROVASCULAR)**

---

“Diabetic retinopathy is one of the most common causes of blindness in the working age population in Ireland and is one of the most common serious complications of diabetes. **Up to 5% of patients** with diabetes in Ireland may have sight-threatening diabetic retinopathy. This sight threatening condition is **preventable by early detection**, through population based screening and treatment” (HSE National Clinical Programme for Diabetes 2018).

#### **The National Diabetic Retinal Screening Programme**

“Diabetic Retina Screen which is part of the National Screening Service and Health Service Executive, is a quality assured government-funded programme that offers, free annual diabetic retinopathy screening to people with Type 1 or Type 2 diabetes aged 12 and over. The aim of the programme is to reduce the risk of sight loss among people with diabetes by the early detection and treatment of sight-threatening retinopathy” (HSE National Clinical Programme for Diabetes 2018).

#### **Screening**

“Screening appointments last approximately 30 minutes during which dilating drops are administered to the eyes and specialised digital photographs are taken of the retina. The images are then reviewed and subsequently graded. If the images taken show that further investigation and treatment is required, the participant will be referred to a Diabetic Retina Screen treatment clinic, however most participants will have a normal result and will be re-invited for annual screening” (HSE National Clinical Programme for Diabetes 2018).

#### **Treatment**

“Treatment for screen positive patients is delivered in one of the seven treatment clinics nationally. Treatment is delivered in line with Clinical Practice Guidelines for Treatment Clinics.

A result letter will be sent within three weeks after the screening appointment advising of the next steps. Most people will have a normal result. They will have no retinopathy or will have early changes to their retina and will be invited back for routine diabetic retinopathy eye screening.

Patients will be contacted for a further appointment if:

- The photographs are not clear enough to give a result.
- You have diabetic retinopathy which needs to be assessed.
- Other eye conditions not caused by diabetes are detected and need to be assessed.

Follow up or further assessments of diabetic retinopathy that are recommended as part of the screening programme are free of charge” (HSE National Clinical Programme for Diabetes 2018).

The above information is taken from the Model of Integrated Care for type 2 diabetes, a guide for health care professionals clinical management guidelines (2018) by the HSE National Clinical Programme for Diabetes.

**Please see entitlements section for how to access brochures for the retina screening service, how a person can find out if they are on the retina screening register and the possible options to support self-referral to the retina screening programme.**

### **FOOT CARE GUIDANCE/ DISEASE PREVENTION (MICROVASCULAR)**

---

“Diabetic foot disease is one of the most feared and costly complications of Type 2 diabetes. People with Type 2 diabetes are at increased risk of foot ulceration and lower-limb amputation” (HSE National Clinical Programme for Diabetes 2018).

#### **Incidence**

“The annual risk of foot ulceration is **2.2% -7.0%** in people with diabetes”(Jeffcoate WJ, Harding KG, 2003). “People with diabetes have a **10 to 20-fold** increased risk of lower-limb amputation compared to non-diabetic people” (Abbott CA et al 2002).

#### **Monitoring**

“Everyone with diabetes should have their foot examined at diagnosis and at annual review thereafter” (HSE National Clinical Programme for diabetes 2018).

### Classification of risk

“People with diabetes should have their feet examined and classified according to their risk of foot disease: Low, medium, high or active foot disease” (HSE National Clinical Programme for Diabetes 2018).

The information above is taken from the Model of Integrated Care for type 2 diabetes, a guide for health care professionals clinical management guidelines (2018) by the HSE National Clinical Programme for Diabetes.

### Foot Care Patient Education

“Foot Care education improves the knowledge and behaviour towards foot care in the short term in people with diabetes. This should encompass foot hygiene, the need for daily foot inspection, suitable foot wear, prompt treatment of new lesions and the importance of regular podiatric visits” (SIGN 2010).

It is recommended to be aware of local podiatry services in the local HSE area and services provided by local Diabetes Ireland Care Centres. It would also be beneficial to signpost the client to their practice nurse or GP in their surgery for their annual foot screen as recommended by the model of care for the diabetic foot (HSE 2012).

**Resources** to support foot care advice are available for those with low, moderate and high risk foot.

<https://www.hse.ie/eng/health/hl/living/diabetes/foot%20care%20information%20leaflets.html>

**Further reading:** Model of care for the diabetic foot (HSE October 2011):

<https://www.hse.ie/eng/about/who/cspd/ncps/diabetes/moc/>

Please note the model of care for the diabetic foot is due to be updated, however as of January 2020 there has been no further update.

**Please also see entitlements appendix for further resources and entitlements regarding foot care.**

### NEUROPATHY (MICROVASCULAR)

---

“Diabetic peripheral neuropathy (DPN) is one of the commonest complications of Type 2 diabetes and may be present at time of diagnosis. Diabetes can affect all nerves and so diabetic neuropathies are heterogeneous with diverse clinical manifestations. They may also be focal or diffuse, the most common diffuse neuropathy is the chronic sensory motor neuropathy (glove and stocking) diabetic peripheral neuropathy and the most common focal neuropathy is carpal tunnel syndrome. **DPN may be present at time of diagnosis in over 10% of patients and may affect up to 50% of patients with long standing diabetes.** 50% of diabetic peripheral neuropathy may be asymptomatic but in 16% to 26% of patients with diabetes the neuropathy is painful” (Harkins, Smith and Gleeson.2016).

#### Monitoring

“Patients should be examined for DPN from time of diagnosis and their feet should be examined annually for signs of peripheral neuropathy” (Harkins, Smith and Gleeson, 2016). This is usually completed at diagnosis and as part of the annual foot screen as referenced in the Model of Integrated Care for Type 2 Diabetes (2018).

#### Treatment

“The first step is to aim for stable and optimal glucose control”(Harkins, Smith and Gleeson 2016). It would also be beneficial to signpost the client to their practice nurse or GP in their surgery for their annual foot screen.

### NEPHROPATHY (MICROVASCULAR)

---

Diabetic renal disease is a glomerular disorder characterised by structural and functional changes, which may lead to proteinuria and/or decline in kidney function. It may be progressive and result in end-stage renal disease, which may require renal replacement therapy (dialysis or transplantation) (Waas JH, Shalet SM, 2002)

Please see Appendix on Chronic Kidney disease for further information on assessment and dietetic treatment of CKD.

### ORAL HEALTH (MICROVASCULAR)

---

People with diabetes are susceptible to oral sensory, periodontal and salivary disorders which could increase their risk of developing new and recurrent dental caries. Several studies have reported greater history of dental caries in people with diabetes.

- Factors for caries development include poor control of diabetes control.
- People with diabetes have been reported to complain of dry mouth. A study detected impaired salivary uptake and excretion in adults with type 2 diabetes. The cause is unknown but may be related to polyuria or to alterations in the basement membranes of salivary glands.
- People with diabetes are more susceptible to opportunistic infections such as oral candidiasis. Fungal infections are commonly found in adults with poorly controlled diabetes (Above referenced from Thuyumanavan et al 2015).

## Treatment

Thuyumanavan et al (2015) suggest a good oral hygiene routine, regular visits to a dentist, eating a healthy diet and controlling blood glucose levels will help reduce a client's risk of poor oral health.

**Resource:** Diabetes Ireland and the Dental Health Foundation have also produced an information card on diabetes and oral health for adults which can be given to clients with type 2 diabetes. This can be downloaded or can be ordered from Dental Health Foundation Ireland. [https://www.dentalhealth.ie/assets/files/pdf/diabetes\\_adult\\_postcard\\_final.pdf](https://www.dentalhealth.ie/assets/files/pdf/diabetes_adult_postcard_final.pdf)

**You can find further information on entitlements with regard to oral health in the entitlements appendix of the care plan.**

## ERECTILE DYSFUNCTION (MICROVASCULAR)

"Moderate to severe erectile dysfunction affects approximately 5-20% of all men and is common in middle-aged and older men with type 2 diabetes where it may affect **up to 50%** of patients" (American Diabetes Association, Clinical Practice Recommendations 2013; Scottish Intercollegiate Guidelines Network 2010; National Institute for Clinical Excellence 2009).

## Treatment

The following are all beneficial in improving erectile function:

- reducing alcohol intake (see section on alcohol for further guidelines) ;
- increasing exercise (see section on physical activity for further guidelines)
- losing weight (see section on weight management for further information)

In addition counselling or stress management may help erectile function.

Signposting the person to their GP for a medicine review may also be beneficial as some medicines can affect erectile dysfunction.

This above information has been obtained from the HSE Model of Integrated Care for Diabetes 2018.

## CARDIOVASCULAR DISEASE (MACROVASCULAR)

The ICGP guidelines (2016) state that risk of cardiovascular disease is increased **2- 4 fold** in patients with diabetes. It is the main cause of death in Type 2 diabetes with excess mortality seen in all age groups, especially younger age groups.

The underlying pathology is usually atherosclerosis which develops insidiously over many years and is usually advanced by the time symptoms occur. The risk of myocardial infarction and stroke is **two to five times** higher than in the general population.

Peripheral vascular disease (PVD), defined as lower extremity arterial atherosclerosis, is a significant complication of type 2 diabetes. PVD, as with other manifestations of cardiovascular disease, is more common in individuals with type 2 diabetes than in the general population (MacGregor et al 1999).

## Monitoring

According to the ICGP guidelines (2016) the key to the management of complications is early detection and prompt intervention. Therefore systematic screening for complications forms part of a diabetes integrated care programme including monitoring blood pressure, cholesterol levels and blood glucose.

Further information on monitoring of these risk factors can be found in the section on clinical targets for adults with type 2 diabetes in the care plan.

## Treatment

### Non-Pharmacotherapy

ICGP guidelines (2016) state that lifestyle modification focusing on the reduction of saturated fat, trans fat, and cholesterol intake; increase of omega-3 fatty acids, fibre, and plant stanols/sterols; weight loss (if indicated); and increased physical activity should be recommended to improve the lipid profile in people with diabetes.

The American Diabetes Association (2019) states that nutrition therapy that includes the development of an eating plan designed to optimize blood glucose trends, blood pressure, and lipid profiles is important in the management of diabetes and can lower the risk of CVD, CHD, and stroke. Findings from clinical trials support the role of nutrition therapy for achieving glycaemic targets and decreasing various markers of cardiovascular and hypertension risk.

Please see appendices on dietary recommendations for adults with type 2 diabetes and physical activity for more specific dietetic information.

As the pharmacotherapy treatment is outside the scope of this care plan, further reading on this can be found in the following documents:

1. <https://www.hse.ie/eng/about/who/cspd/ncps/diabetes/moc/model-of-integrated-care-type-2-diabetes-2018.pdf>
2. ICGP A practical Guide to Integrated Type 2 Diabetes Care (2016)

## **NON ALCOHOLIC FATTY LIVER DISEASE (NAFLD)**

---

NAFLD is **Non Alcoholic Fatty Liver Disease** Is considered to be the liver manifestation of the metabolic syndrome, characterised by excessive fat accumulation in the liver (Norris 2018). There is also a progressive form of NAFLD called Non Alcoholic Steatohepatitis (NASH).

According to the EASL-EASD-EASO Clinical Practice Guidelines for the management of NAFLD (2016), **BMI and increased waist circumference** are positively related to the presence of NAFLD. Common comorbidities such as people with Type 2 Diabetes show a higher prevalence of NAFLD and liver disease progression such as NASH.

Screening for NAFLD in the population at risk should be in the context of the available resources, considering the burden for the national health care systems and the currently limited effective treatments.

The ICGP guidelines (2016) and the HSE Model of Integrated Care for Patients with type 2 diabetes (2018) recommends the GP check LFT's at a person's initial assessment after diagnosis of type 2 diabetes. The HSE Model of Integrated Care (2018) also recommends checking LFT's at a person's annual review. However it is important to note that Norris (2018) indicated that LFT's may be normal in 80% of NAFLD patients. Crosbie (2018) reports that there are also non invasive tests to identify those with NAFLD such as fatty liver index, steato test or NAFLD liver fat score which GP's can carry out. A liver ultrasound is the preferred option for those at risk of NASH (Crosbie 2018). This is likely to be an area where we will see more research and guidance emerge for people with type 2 diabetes over the coming years.

### **Treatment**

Norris (2018) states that for people who have NAFLD and type 2 diabetes, the treatment of diabetes in consultation with the diabetic team is important as well as the treatment of obesity through diet and lifestyle and/or bariatric surgery. Losing more than 10% weight can remove some fat from the liver and improve inflammation in your liver (Crosbie 2018). Norris and Crosbie (2018) both describe lifestyle changes in NAFLD as being the foundation of any treatment plan and state that it is advisable to attend a dietitian for guidance on this.

### **Further reading**

1. "What everyone with diabetes should know about liver disease" Prof Suzanne Norris St James's Hospital Presentation at DICE 2018
2. EASL-EASD-EASO Clinical Practice Guidelines for the management of non-alcoholic fatty liver disease (2016) Journal of Hepatology vol 64: 1388-1402
3. "Non alcoholic fatty liver disease (NAFLD)" Dr Orla M. Crosbie Cork University Hospital presentation 6/6/2018

## 8. DIABETES SELF MANAGEMENT EDUCATION (DSME) & HSE Courses

- **Diabetes Self-management Education courses** involve face to face contact in group or individual one to one sessions with trained educators. The role of virtual online sessions is being explored in 2020.
- A key component in self-management support for care of people with diabetes is **Structured Patient Education (SPE)**. Evidence based group education is often referred to as SPE and the standards for same have been defined by NICE in 2003 and adopted by the HSE in 2009. Courses have been referred to as SPE courses, but since 2018 in Ireland, are being referred to as **diabetes support courses when advertising to the public**, to improve the understanding of what the course is for the public and to support better engagement with registration to attend. This will be explored further with public consultation.
- The HSE Model of Integrated care for Type 2 Diabetes suggests that within 3 months of being newly diagnosed with Type 2 Diabetes, people should receive a structured Type 2 Diabetes education package (i.e. X-PERT, DESMOND or CODE). In autumn 2019 the HSE DISCOVER DIABETES-Type 2 course was offered and **in 2020 the DSME courses in Ireland includes DESMOND, DISCOVER DIABETES – Type 2 and CODE**. The package will give the person with diabetes appropriate dietetic input and advice regarding their clinical care. Those not suitable for group will receive a one to one consult with a Dietitian. Individuals and their families/carers can register online at the link [www.hse.ie/diabetescourses](http://www.hse.ie/diabetescourses) or by searching 'Diabetes course'. Courses can facilitate people with diabetes being supported by different members of the multidisciplinary care team (e.g. Dietitian and nurse educators, additional inputs from podiatrists, DNS, physiotherapists, mental health nurses, psychologists, health promotion officers (physical activity, smoking), etc.).
- Courses are intended to be included within an ongoing model of education and care, integrating lifelong learning, care planning and optimisation of treatment.
- There are four critical time points when the need for diabetes education is required and the AAE7 Self-care behaviours provide a framework for identifying topics to include at each time (healthy eating, being active, monitoring, taking medicine, problem solving, reducing risk, healthy coping);
  - (1) At diagnosis,
  - (2) Annually for assessment of education, nutrition and emotional need,
  - (3) When new complicating factors arise (health conditions, physical limitations, emotional factors, or basic living needs) that influence self-management,
  - (4) When transitions in care occur (Powers et al, 2015, ADA 2019). See summary in Diabetes SMES support folder.
- Structured diabetes education courses are beneficial and clinically effective for people with Type 2 Diabetes demonstrating improvements in glycaemic control, weight loss, quality of life and reducing cardiovascular risk (Deakin et al, 2006; Loveman et al, 2008; Piatt et al, 2010; Deakin et al, 2006; Davies et al, 2008; Chrvala et al, 2016; Steinsbeck et al, 2012; Guo et al, 2014)
- The HSE carried out a review of SMES programmes and it was found the benefits of the programme include – increased application by the individual of knowledge/understanding of diabetes, self-empowerment with the person effectively and confidently participating in their own self-management, psychological adjustment to living with diabetes, improved undertaking of diabetes self-management behaviours and improved clinical outcomes (HSE, 2009).
- The Health Technology Assessment (HTA) was carried out by the Health Information and Quality Authority (HIQA) in 2015 at the request of the HSE to examine the clinical and cost effectiveness of generic self-management support interventions for COPD, asthma, cardiovascular disease and diabetes (HIQA, 2015). This showed there is very good evidence that SMES, including culturally appropriate education, can improve blood glucose control in people with Type 2 diabetes. This report also suggests that diabetes self-management education programmes are cost-effective relative to usual care.
- **A 2018 review reported, people who are empowered and skilled to self-manage their diabetes have improved health outcomes. Over the past 20 years, diabetes self-management education programmes have been shown to be efficacious and cost-effective in promotion and facilitation of self-management, with improvements in individuals' knowledge, skills, and motivation leading to improved biomedical, behavioural, and psychosocial outcomes (Chatterjee et al, 2018).**
- The Community Nutrition and Dietetics SPE working group on Audit, completed a review of evidence on effectiveness of HSE ran courses (X-PERT & DESMOND) in 2018. International and national evidence was reviewed. A summary of this evidence and a database of evidence reviewed (as an excel workbook) is available for all educators, see on the next page.
- Self management group education has also been shown to be **cost effective** in people with Type 2 Diabetes (Jacobs et al, 2011).
- SMES should be provided to people with Type 2 Diabetes and ongoing support offered to include follow up (ADA 2019). When group based education courses are offered, education on diet, lifestyle and explanation of clinical outcomes are discussed and a follow up session should be offered within 6 months and ongoing review yearly (MOC, 2018).

**From 2020 in Ireland there will be three programmes for people with type 2 diabetes that aspire to these standards.** The HSE **DISCOVER DIABETES – Type 2** (Diabetes Insights & Self-Care Options Via Education & Reflection) and **DESMOND** (Diabetes Education and Self-Management for On-going and Newly Diagnosed diabetes) courses, offered in primary care and facilitated by Dietitians and diabetes nurses. **CODE** – Community Orientated Diabetic Education is offered by Diabetes Ireland.

**Summary of evidence: Notes for table (\* significant, NS – not significant, M = months).**

X-PERT (Irish MSc 2007 & RCT 2006 & Audit data)	DESMOND (RCT 2008 (new dx of diabetes), follow-up 3yrs 2012 & real world 2018 & Irish research)
<p><b>Weight loss:</b>  <b>↓2.5kg (3%)</b> at 6M with 2 SPE follow up sessions at 3M &amp; 6M (Irish MSc)*.            ↓ 0.5kg at 14M (RCT)* in the intervention group with no follow-up sessions offered vs. ↑1.1kg for the control group.  <b>↓3kg (3%)</b> at 6M and <b>4.7kg (5%)</b> at Y1 suggested in HSE Audit data 2006-2016, but more follow-up data is needed.</p> <p><b>Reduction in HbA1c (mmol/mol):</b>  <b>↓8 (14%)*</b> in HbA1c at 6M (Irish MSc) . ↓5 (11%) NS at Y1.  <b>↓ 6.6 (11%)*</b> in HbA1c at 14M (RCT) vs. small ↑ for controls.  <i>2018 X-PERT Health data: 4.2mmol/mol ↓ at 6M for n98.</i></p> <p><b>↓4 (8%)</b> at 6M and <b>↓4 (7%)</b> at Y1 suggested in HSE audit data 2006-2016, but need more follow-up data.</p> <p><b>Medication:</b> 16% reduced meds (RCT) &amp; 63% remained on the same meds (RCT). No significant increase in those taking diabetes medication between BL and 6M (30% diet controlled).</p> <p><b>Other benefits:</b></p> <ul style="list-style-type: none"> <li>Improvement in their ability to cope with diabetes and feeling in control of looking after their diabetes *</li> <li>Improvement in having more freedom and enjoyment of food *</li> <li>Improvement in diabetes knowledge* (Irish MSc &amp; RCT)</li> <li>More than 9 out of 10 people (99%) said they enjoyed the course and find it useful (Irish MSc)</li> </ul>	<p><b>Weight loss:</b>  <b>RCT 2008:</b> Weight loss in both the intervention (INT.) group (approx. 3kg/3%) and the control group (approx. 2kg/2%) with a <b>1.1kg*</b> loss difference sustained at 12M in the INT. group. <u>INT:</u> <b>2.84kg (3%)*</b> at 4M, NS at 8M and <b>↓2.98kg (3%)</b> at Y1</p> <p><b>3yr data 2012:</b> NS difference between 2 groups in change from BL</p> <p>↑% in the normal weight category (CHO3, 2020) (core+ follow-up sessions attended)</p> <p><b>Reduction in HbA1c (mmol/mol):</b>            ↓ in both INT &amp; control groups but NS (RCT 2008)            NS - 3yr 2012 (↓ in both groups sustained but NS differences)  <b>↓ 10 (16%)*</b> at 6M. <b>↓ 9 (14%)*</b> at 1Y (2018 real world)  <b>↓ 11 (18%)*</b> at 3-6M. <b>↓ 3 (5%)*</b> at 1Y (CHO2 2010)  <b>↓ 11 (18%)*</b> at 3-6M (CHO 2 2016)  <b>↓ 8.25 (13%)*</b> at 3-6M (CHO 3 2016)  <b>↓ 6.8 (12%)*</b> at 6M (CHO 3 2020) (core+ follow-up sessions attended)            More follow up data is needed.</p> <p><b>Other benefits:</b></p> <ul style="list-style-type: none"> <li>Reduction in smoking rates * (RCT) &amp; ↓ depression score * (RCT).</li> <li>↑ understanding of the seriousness of the condition and of their ability to effect the course of the disease* but no difference in depression (3yr follow-up 2012).</li> </ul>
CODE (Diabetes Ireland - Evaluation 2007 & Audit Data)	
<p><b>Weight loss:</b> <b>↓0.6kg*</b> at 26weeks with follow-up support (call at 7weeks, 6M session).</p> <p><b>HbA1c (mmol/mol):</b> a reduction has been reported at 26weeks</p> <p><b>Other benefits:</b></p> <ul style="list-style-type: none"> <li>Significant improvement in knowledge and psychosocial outcomes reported.</li> <li>DI Annual reports report improved empowerment, quality of life, diabetes knowledge, reduction in weight for some, positive association with glycaemic markers and cholesterol with attendance (2013-2017).</li> <li>DI 2019 Annual report reports significant increase in knowledge, quality of life, and weight loss post compared to pre programme attendance. Non significant improvements are reported for blood parameters.</li> </ul>	

## HOW TO REFER TO DIABETES SUPPORT COURSES

**All health care professionals** can refer people with Type 2 Diabetes to local courses through local HSE Community Nutrition and Dietetic Services but also through the online service at [www.hse.ie/diabetescourses](http://www.hse.ie/diabetescourses)

**People with diabetes** can also self-refer at this link and are welcome to **call HSE Live on 1850 24 1850 or 041-6850300** who will help a person register and/or email local team contacts on their behalf.

**People are welcome to bring** a family member, carer or friend but to book a place for them. People are welcome to attend at any location of their preference, anywhere in Ireland. People are welcome to attend the first session to see how it suits their needs.

**Information on courses :** see [www.hse.ie/diabetes](http://www.hse.ie/diabetes) courses for information on available courses.

## Diabetes Ireland Online Course – Diabetes Smart (01-8428118)

Diabetes Ireland offer an online course called 'Diabetes Smart'. It consists of a series of short videos on various topics of living with type 2 diabetes including: 'what is diabetes', 'healthy eating', 'physical activity', 'medicines' and 'diabetes complications'. While it doesn't replace face-to-face structured patient education courses, it is a useful educational tool which gives essential information to people with type 2 diabetes, particularly those who are newly diagnosed. It may be most helpful for those individuals who are unable to attend HSE courses. Follow this link to get access to this FREE online educational course. [www.diabeteseducation.ie](http://www.diabeteseducation.ie)

## FURTHER READING – Self Management & the HSE

### HSE Living with a Chronic Condition: Framework for self management support

In 2017 the HSE launched this framework which provides an overview of the rationale for self-management support; and sets out how the HSE will implement self-management support for these four major chronic conditions, one of which is diabetes. Self Management Support Co-ordinators were later employed in the HSE and in 2019 produced local directory of services to support people with long term conditions. **See the website for your local directory** and the support folder [Psychosocial care & support](#) for an example of the press release.

Diabetes Self-Management support is the systemic provision of education and supportive interventions to increase a person's skills and confidence in managing their health problems, including regular assessment of progress and problems, goal setting and problem solving support. It is an important element of person centred care, acknowledging people with Type 2 Diabetes as partners in their own care, supporting them in developing the knowledge, skills and confidence to make informed decisions

The majority of care for chronic conditions is provided and coordinated by the person themselves with the support of family members and carers at home and in the community. A person with diabetes has on average 3 hours contact a year with a healthcare team. They self-manage their condition for the remaining 8757 hours in the year, remembering to take their medicines, trying to change behaviour, dealing with the effects on emotions and relationships and on the activities of daily living. There is evidence that certain interventions which support self-management improve outcomes for people with diabetes – ranging from quality of life and clinical outcomes, to reduced healthcare utilisation including hospitalisation.

Support for patient self-management is a key element of person centred care, one of the four domains of quality in Irish healthcare.

### Principles of the self-management support framework

There are four overarching, evidence based principles of self-management support which underpin this framework.

1. People with Type 2 Diabetes should be seen as active partners in their healthcare.
2. Supporting self-management is inseparable from high quality care for people with long term conditions
3. Investment should be prioritised in those interventions for which there are good evidence of clinical effectiveness.
4. A whole system approach to implementation of self-management support should be taken (Framework for self-management)

Please follow this link for more information - <https://www.hse.ie/eng/health/hl/selfmanagement/>

**Other Support** - See Appendix - Psychosocial care & support. Link with HSE MDT colleagues and the local health promotion department re other supports for self-management and support e.g. CVD Sub-group/Community Nurse initiatives.



## 9. ENTITLEMENTS for People with Type 2 Diabetes

### Long term illness Card (LTI) - (no longer a booklet)

**Everyone** with Type 2 diabetes, regardless of income/circumstances is entitled to a Long term illness (LTI) book. All people with diabetes are entitled to receive their diabetes medicines, pens/syringes lancets, blood glucose monitoring strips FREE of charge. You will also be able to receive medicines for associated conditions such as cholesterol lowering and blood pressure medicine, if prescribed. Many people with type 2 diabetes have not been aware of this entitlement.

**This information is correct as of July 2019.**

There has been some recent changes to the LTI scheme with regards to the following:

#### 1. A new address for sending completed documentation to

The process for new and review LTI applications is centralised through the Primary Care Reimbursement Scheme rather than through your Local Health Office. The new address is:

*Long Term Illness Scheme, Client Registration **Unit**, PO Box 12962, Dublin 11, D11 XKF3.*

**2. A new form** -There is a new form in use and old forms will no longer be accepted. A copy of the form can be found at <https://www2.hse.ie/services/long-term-illness-scheme/apply-for-a-long-term-illness-scheme-card.html>

**3. A new LTI card** - LTI Cards will be issued going forward but existing LTI Books will remain valid for the time being.

**4. Residency requirements** - Applicants must be ordinarily resident i.e. live here and intend to live here for at least one year.

#### 5. A new online express registration service for pharmacists to register people with certain conditions

For newly diagnosed people who are not yet on the LTI scheme there is a new Express LTI registration which can be completed online by a pharmacist. Express LTI registration is for people with certain new diagnoses where the medicine prescribed confirms the diagnosis. Diabetes Mellitus is one of these diagnoses. If a pharmacist registers the client using the Express LTI registration then you must still submit your completed application form to the LTIS Client Registration Unit within **two months** to continue to get medicine free.

6. For people who already have a LTI book and the book is full, they can contact the LTI who will re-issue a new card in place of the book.

#### List of all medicines which are included on the LTI scheme

- Alpha-glucosidase inhibitor – acarbose.
  - Anti-hypertensives, including diuretics. Aspirin. Biguanides.
  - Consumable items like sensors required for use with insulin pumps. Control solutions for use with meters.
  - **Dextrose gel.**
  - DPP-4 inhibitors, for example: • sitagliptin, • saxagliptin, and • vildagliptin. Glucagen hypokit.
  - Injection swabs.
  - Insulin needles and syringes.
  - Insulins.
  - Lancets.
  - Lipid lowering drugs including: • statins, • fibrates • exetimibe.
  - Liraglutide and exenatide injections.
  - Nateglinide and repaglinide
  - Sulphonylureas.
  - Test strips including: • blood glucose test strips, and • urine test strips.
  - Thiazolidinediones.
  - Warfarin and new oral anticoagulants.
- Please also see list below - <https://www2.hse.ie/services/long-term-illness-scheme/approved-medications.html>
- Note meters are not included.
- More information can be found at - <https://www2.hse.ie/services/long-term-illness-scheme/long-term-illness.html>

**Hypoglycaemia treatment** In relation to hypo treatment following discussion with local pharmacists and with HSE live (CHO 3 & 7), Dextrose gel is approved on the LTI medicine list (see above). Glucogel and glucojuice are also both covered under the LTI scheme. The glucose sweets seem to have been removed in favour of the Glucogel and glucojuice. This information is correct as of July 2019 however this may change and therefore it is important to keep up to date and inform colleagues of any changes you are made aware of. See Hypo Appendix for more information. **In Sept 2020** this was reviewed by the Primary Care Pharmacist (CHO1), rep on the NCP-Diabetes programme and the following was advised for clients 'A range of hypo treatments are available through your pharmacy. If your hypo treatment is prescribed by your GP or clinician it may be available under the LTI scheme. Check with your pharmacy what is currently available under the LTI scheme.' It is best not to specify products as names / strengths change. Where

a patient suffers hypos their consultant or GP can write a prescription for one of the glucose treatments, the pharmacist can upload the prescription to PCRS on their software and seek approval online.

### **How people apply for an LTI book**

Send a completed long term illness scheme application form (LTI form) to *Long Term Illness Scheme, Client Registration Unit, PO Box 12962, Dublin 11, D11 XKF3*. To qualify, you must be 'resident' in the Republic of Ireland. This means that you are living here and intend to live here for at least one year.

The person's doctor or consultant will need to sign the form.

They will:

- confirm the condition
- list the medicine and any appliances the person needs to treat the condition.

You can log onto the HSE website to find more information and to download the LTI application form - **LoCall: 1890 252 919** or go to [www.hse.ie/LTI](http://www.hse.ie/LTI)

*\*Please see correspondence from Anne Marie Hoey, Assistant National Director. Primary Care Reimbursement & eligibility which outlines more information on the centralisation of the LTI scheme in the care plan folder on Entitlements.*

### **Diabetic Retina Screening-annually (NRS)**

**Everyone** with Type 2 Diabetes should have their eyes checked annually. The HSE National Diabetic Retinal Screening Programme (Diabetic RetinaScreen) offers FREE, regular screening for diabetic retinopathy a complication that can happen from diabetes.

- For more information see <http://www.diabeticretinascreen.ie>
- People can check if they are on the eye screening register by
  - A) phoning 1800 45 45 55
  - B) Self-registration is also possible via the DRS website – once people complete the form, they are advised to print the registration form and bring it to their doctor for signing.  
<https://apps.diabeticretinascreen.ie/diabetic-screening/public-registration.612.drsregistration.html>
  - C) If you are a health care professional you can register a person with diabetes by phoning 1800 45 45 55 or see consent form in entitlements folder. **You can sign the health professional section of the consent form and allow the person with diabetes to complete the form and return it themselves to DRS.** It is advised to have copies of the DRS leaflet available for people when discussing the form to support informed consent.
  - D) As a health care professional you can also register a person online or verify they are registered - <http://www.diabeticretinascreen.ie/health-professionals.24.html>
- The locations list for screening has been updated and is on the website, this should be checked regularly for changes in location.

**Resources:** An information leaflet can be downloaded from the website (through link above) also for people with diabetes to be used in clinic/group setting. A pictorial version is also available for those with literacy issues. A poster is available for use in clinic/SPE.

You can download and order copies from [www.healthbrochures.ie](http://www.healthbrochures.ie) -search 'retina' (If ordering online, maximum order 50 leaflets)

- Local HPO for screening provided an information document on DRS in Spring 2019 to CHO 4 which is available to all. More information on eye drops used can be found in the entitlements folder.

**Support from NRS:** NRS have been supporting SPE courses for years as part of an initiative between NRS & X-PERT SPE WG.

1. Screeners were informed of local courses by local Community Dietitian teams and used posters and tear-off pads to promote awareness of DSME core courses and follow-up courses (see the Recruitment Guidance for X-PERT for more info on the initiative). Consider linking with local HPOs and screeners to support promotion of current DSME delivery by your team.

2. Health Promotion Officers for Screening (including Retinal Screening) have attended SMES sessions to promote awareness of the service to people with diabetes and to answer queries. They have also supported local Community Dietitian team updates. The two health promotion officers who can be contacted to discuss any issues are

- Aoife Collins PhD, Senior Health Promotion Officer, National Screening Service, BreastCheck Southern Unit, Infirmary Road, Cork, T12 ET99, Tel: 021-4649720, Mob: 0866083672, Email: [Aoife.collins@screeningservice.ie](mailto:Aoife.collins@screeningservice.ie)
- Lynn Swinburne, Senior Health Promotion Officer NSS Community Services, Tralee University Hospital, Rathass, Tralee, Co Kerry, Tel: 0876876928, Email: [lynn.swinburne@screeningservice.ie](mailto:lynn.swinburne@screeningservice.ie)

**Training - Diabetic Retina screening module:** You can also log onto the health professionals section and complete the Diabetic Retina screening module for Health Professionals.

### **Foot checks – at least annually**

**Every year** your GP/Practice Nurse/ Podiatrist should carry out a foot screening examination on anyone with Type 2 Diabetes where they test the feeling and the blood supply in your feet. From this test the person is classified as having low, moderate or high risk diabetic feet.

-Those who have been classified as having a low or moderate risk diabetic foot, are over the age of 65 years and have a **medical card** may be able to apply for a 'Chiropody Card'. The availability of chiropody/ podiatry services and the chiropody card provided by the HSE varies in different areas therefore it is best to contact your GP, ICP Senior Diabetes Dietitian or Clinical Nurse Specialist in Diabetes in your area to find out further information. The chiropody card if available may entitle you a certain amount of podiatry foot care treatments a year at a reduced price. To apply for this card, a form must be filled out by a person's GP or practice nurse and returned to HSE Local Health Office. If the chiropody card is granted, the amount of podiatry foot care treatments you are entitled to with the card will be provided along with a list of the local private podiatrists who accept the chiropody card. Please follow the following link for more information on foot care.

[https://www.citizensinformation.ie/en/health/health\\_services/care\\_in\\_your\\_community/chiropody\\_services.html](https://www.citizensinformation.ie/en/health/health_services/care_in_your_community/chiropody_services.html)

- For those who have been classified as having a moderate risk or high risk diabetic foot, the HSE holds a Foot clinic run by podiatrists in HSE primary care centres. **SERVICES CAN VARY THEREFORE LINK WITH SERVICES LOCALLY re local management of moderate and high risk diabetes feet.** Those who have an active foot ulceration should be seen by the hospital podiatrist. People can only be referred to these clinics by their GP, nurse, podiatrist or other health care professionals.

**Resources** to support footcare advice are available for those with low, moderate and high risk foot.

<https://www.hse.ie/eng/health/hl/living/diabetes/foot%20care%20information%20leaflets.html>

### **Tax relief and podiatry services**

**Non-medical card holders** may be able to claim tax relief on health services such as podiatry care if they are required to attend as part of medical treatment and your doctor directs you to attend. You may also be able to claim tax relief on any doctor's visits and prescription drugs associated with this care using the Med 1 form.

### **Dietary Financial support**

There is no dietary supplement but a person already receiving a social welfare payment may apply to their local welfare officer to have a discretionary additional payment. For more information see

[https://www.citizensinformation.ie/en/social\\_welfare/social\\_welfare\\_payments/supplementary\\_welfare\\_schemes/supplementary\\_welfare\\_allow.html](https://www.citizensinformation.ie/en/social_welfare/social_welfare_payments/supplementary_welfare_schemes/supplementary_welfare_allow.html)

In addition, a person may be able to claim Tax relief on foods used to treat hypoglycaemia or purchased as part of a dietary plan – For more information see

<https://www.revenue.ie/en/personal-tax-credits-reliefs-and-exemptions/health-and-age/health-expenses/additional-diet-expenses-for-coeliacs-and-diabetics.aspx>

Hypo treatment - Consider if the person is taking medicine that poses a risk of hypo and if they are eligible for support via the LTI re treatment options.

### **Dental services**

There are some dental services which people with Type 2 Diabetes are entitled to if they have a **medical card** under the Dental Treatment Service Scheme. All medical card holders are entitled to specific dental treatments e.g. a dental examination, two fillings in each calendar year, extractions as necessary.

- Additional treatments for example, teeth cleaning are available to those persons with specific medical conditions e.g. Type 2 Diabetes - the person's dentist will be able to advise them of their entitlement if this is the case. The HSE dental section may require written documentation outlining the person's medical condition and/or medicines from their G.P. or other relevant medical person.
- Some treatments such as the provision of dentures require the approval of the HSE before the dentist can proceed and in this case, the dentist applies directly to the HSE. At the end of the treatment the dentist will ask the person with diabetes to sign a form certifying that the treatment detailed on the form has been received by the person and that he/she are willing to attend a HSE dentist for examination if requested.
- The dental treatments available on the medical card may change from time to time.

### **Other information**

The Treatment Benefit Scheme – this is run by the Department of Employment Affairs and Social Protection (DEASP) and provides dental services to insured workers, the self-employed and retired people who have the required number of PRSI contributions. Under this scheme, the Department pays the full cost of an oral examination once a calendar year. Since 28 October 2017, a payment of €42 towards either a scale and polish or, if clinically necessary, periodontal treatment, is also available once a calendar year. If the cost of either cleaning or periodontal treatment is more than €42, you must pay the balance - capped at €15 for a scale and polish. There is no cap on the balance charged for periodontal treatment.

Treatment is provided by private dentists who are on the Department of Employment Affairs and Social Protection's panel. [Lists of dentists on the panel are available on welfare.ie](#). Most dentists are on the panel, so you should not have any difficulty finding one. The dentist will be able to check your eligibility and make a claim for you. The claim form will require details such as your [Personal Public Service Number \(PPS number\)](#), date of birth and signature. If you are a dependent spouse or civil partner, you should give the PPS number of the insured person, who will also be required to sign the claim form.

Private Insurance - Some private insurance companies like - DCARE offers additional dental treatments for people with diabetes.

**Resources** - you can also find out more information on Diabetes and dental health in these leaflets.

Information leaflet from Dental Care Ireland which can be downloaded: <https://www.dentalcareireland.ie/dci2016/wp-content/uploads/2018/09/DCI-Diabetes-Leaflet-WEB-2018-09-20.pdf>

Information leaflet from De Care Dental which can be downloaded: <https://www.diabetes.ie/wp-content/uploads/2015/08/Diabetes-and-Oral-Health-Tips-and-Advice.pdf>

Information post card on dental health and diabetes which can be downloaded or ordered by calling the Dental health foundation on **01 693 0375** <https://www.diabetes.ie/wp-content/uploads/2019/04/Diabetes-and-Oral-Health.pdf>

#### **HSE Live team**

The HSELive team are available to support clients who may have further queries regarding their entitlements. They can be contacted by

<b>Call</b>	Call save:1850 24 1850 Phone – 041-6850300	Monday to Friday 8am – 8pm. Saturday: 10am -5pm
<b>Live Chat</b>	You can contact the HSE Live team	Monday to Friday 8am – 8pm. Saturday: 10am -5pm
<b>Twitter</b>	Send a message @HSE live team	<a href="https://twitter.com/HSELive">https://twitter.com/HSELive</a>
<b>Email</b>	Email your query by emailing <a href="mailto:hselive@hse.ie">hselive@hse.ie</a> or via <a href="https://www.hse.ie/eng/hselive/">https://www.hse.ie/eng/hselive/</a>	
<b>Find a service</b>	Log onto the following link to find a service <a href="https://www.hse.ie/eng/services/list/">https://www.hse.ie/eng/services/list/</a>	

#### **HSE Your Service Your Say**

Information on this service for is available at: <https://www.hse.ie/eng/about/qavd/complaints/>. All HSE staff need to be aware of this service.

For the public - if you would like to make a complaint, comment or praise a service contact your service your say <https://www2.hse.ie/services/hse-complaints-and-feedback/your-service-your-say.html>

#### **Medical Cards and GP visit cards**

Medical cards - <https://www2.hse.ie/medical-cards/>

GP Visit cards - <https://www2.hse.ie/services/gp-visit-cards/gp-visit-cards.html>

##### **GP Visit card**

If you have a GP visit card you don't have to pay to see your doctor. You will have to pay for medicines and other services.

If you have a medical card you do not need a GP visit card.

##### **Who can apply?**

Anyone can apply for a GP visit card. Applications for medical cards and GP visit cards are made through the same system. You will first be assessed for a medical card. If you do not qualify you will be assessed for a GP visit card. You can apply through this link

<https://www.mymedicalcard.ie/>

##### **Over 70's GP visit card**

Everyone over the age of 70 years of age can get a GP visit card. You can register online or download a form and send to The National Medical Card Unit, PO Box 11745, Dublin 11, D11 XKF3.

Please log onto <https://www2.hse.ie/services/gp-visit-cards/over-70s-gp-visit-card.html> to download the application form and find out more information or Lo call 1890252919 to order one in the post.

#### **Other INFO**

For other information on other costs, schemes, allowances

- see the HSE website - <https://www2.hse.ie/costs-schemes-allowances/>
- [www.revenue.ie;](http://www.revenue.ie/)
- [www.welfare.ie;](http://www.welfare.ie/)
- <http://www.citizensinformation.ie/en/>

## 10. HYPERTENSION & HYPERLIPIDAEMIA (CVD risk factors) – Summary of Dietary recommendations

Hypertension	Hyperlipidaemia
<ul style="list-style-type: none"> <li>✓ For people with blood pressure &gt; 120/80mmHg <b>weight loss and DASH style dietary pattern are encouraged</b> and include lowering the following;</li> <li>✓ <b>Moderation of Alcohol Intake:</b> Avoid excessive alcohol consumption – 2 servings per day in men and 1 serving per day in women.</li> <li>✓ <b>Lowering Sodium Intake:</b> Decrease salt intake to less than 6g per day.</li> <li>✓ <b>Increase consumption of fruit &amp; vegetables:</b> typically 5-7 portions per day, with ADA 2019 recommending between 8-10 per day.</li> <li>✓ <b>Aim to have low fat dairy:</b> up to 3 servings per day.</li> </ul>	<ul style="list-style-type: none"> <li>✓ <b>Saturated fats should be limited and replaced by unsaturated fats.</b> It is not recommended to replace any reduction in energy from saturated fat with refined carbohydrate.</li> <li>✓ <b>Intake of trans fats from processed foods should be avoided</b> due to their harmful effect.</li> <li>✓ <b>Eating pattern emphasising a diet high in mono and polyunsaturated fats may be considered</b> to lower risk of cardiovascular disease and can be effective <b>as an alternative to a diet low in total fat and high in carbohydrates.</b></li> <li>✓ <b>Plants sterols and stanols are effective in lowering LDL</b> by 10% when 2g per day are consumed in addition to diet &amp; pharmacological therapies. <b>Note:</b> Plant sterols or stanols are <b>not recommended for primary prevention of CVD</b> in Type 2 Diabetes.</li> <li>✓ In people with type 2 diabetes <b>supplementation with Omega 3 PUFA is not recommended.</b></li> <li>✓ <b>Eating foods rich in long chain n3 fatty acids</b> such as fatty fish (EPA &amp; DHA), nuts and seeds (ALA) <b>is recommended.</b></li> <li>✓ Application of a Mediterranean diet or Dietary Approaches to Stop Hypertension is recommended.</li> <li>✓ <b>30g of unsalted nuts per day</b> has been shown to reduce the risk of CVD by 30% but it should be noted that energy intake of nuts is high (ESC 2016)</li> <li>✓ <b>A high fibre intake lowers Total and LDL cholesterol.</b> 30-45g of Fibre is recommended per day preferably from wholegrain products. An increase in viscous fibre is recommended.</li> </ul>
<ul style="list-style-type: none"> <li>✓ <b>Physical activity:</b> 150 mins. of moderate activity over at least 3 days aiming not to have 2 consecutive days without physical activity should be recommended. (See Appendix on Physical Activity).</li> </ul>	
<ul style="list-style-type: none"> <li>✓ <b>A 5% weight loss</b> has been shown to be of benefit. (See Appendix on Obesity/Overweight).</li> </ul>	
<p><b>*Further supporting information on DASH &amp; Mediterranean diet, Fat (saturated, MUFA, PUFA, Trans fat, oily fish &amp; fish oil supplements) above can be found under Dietary Recommendations (see Appendix).</b></p>	

## 11. HYPOGLYCAEMIA – (addressing Management, ID, ICE, Driving Guidance)

Please see Appendix and support folder on Blood Glucose Monitoring and the support folder on Hypoglycaemia for further guidance relevant to this section.

Hypoglycaemia is an acute complication affecting people with type 2 diabetes treated with insulin or insulin secretagogues (D UK, 2018) and individuals at risk for hypoglycaemia (hypo) should be asked about it at every encounter (ADA, 2019). **Prevention is preferable to treatment and attending structured education has been recommended (D UK, 2018). Individual glucose targets, patient education, dietary intervention, exercise management, medicine adjustment, glucose monitoring and routine clinical surveillance improve outcomes (ADA, 2019).**

There is evidence of a prevalence of about 45% among people with type 2 diabetes (D UK, 2018). Changes in food intake, physical activity and/or medicine can contribute. The Model of Integrated care for patients with type 2 diabetes (2018) core dataset includes severe hypoglycaemia and impaired awareness of hypoglycaemia. The 4monthly and annual review visit assessment by a GP or PN includes review of severe hypoglycaemia and hypo awareness (NCP-DM, 2018).

### The ADA 2019 discusses recommendations in terms of 3 levels of classification of hypo

Level	Glycaemic criteria/description	Further details
1	3-3.9 mmol/L	3.9 has been recognised as the threshold for neuroendocrine responses to falling glucose in people without diabetes. Because many people with diabetes demonstrate impaired counterregulatory responses to hypo and/or experience hypo unawareness, <b>a measure of 3.9 is considered clinically important</b> , independent of the severity of the acute hypo symptoms.
2	<3.0 mmol/L	This is the threshold at which neuroglycopenic symptoms begin to occur and requires immediate action to resolve the hypo event.
3	Severe event characterised by altered mental and/or physical status requiring assistance	Requires assistance by another person to recover. Risk factors include age, race, older adults with type 2 diabetes on insulin, those with poor or moderate vs good glycaemic control, albuminuria and poor cognitive function.

- Hypoglycaemia can be frightening and inconvenient to people with diabetes. Symptoms can include shakiness, irritability, confusion, tachycardia and hunger but are not limited to these. Level 3 may be recognised or unrecognized and can progress to loss of consciousness, seizure, coma or death (ADA, 2019).
- The administration of rapid acting glucose or glucagon is required to reverse hypos.
- Hypos can cause acute harm to the person with diabetes and others, especially if it causes falls, motor vehicle accidents or other injury.
- It has been suggested that among older adults with type 2 diabetes a history of level 3 hypo was associated with a greater level of dementia (ADA, 2019).
- Those particularly vulnerable to hypos include: the elderly with type 2 diabetes because of their reduced ability to recognize symptoms and effectively communicate their needs (ADA, 2019).

### Hypoglycaemia Management (ADA, 2019; D UK 2018):

The goal of treatment is to immediately relieve symptoms and limit the risk of injury, while avoiding overtreatment.

1. **TREAT** - 15-20g **glucose** is the preferred firstline treatment for hypoglycaemia but 30g may be needed to treat a severe hypo. 10g and 20g of oral glucose increase blood glucose by approx.2 and 5mmol/L respectively.
  - The acute glycaemic response correlates to the glucose content of the food rather than the carbohydrate content.
  - Sucrose is effective and may be more palatable than glucose e.g. sweets, sugar lumps, dissolved in water.
  - Orange juice is considered to be less effective than oral glucose.
  - Added fat and protein containing foods will not be as effective as glucose containing food/drink.Response to glucose ingestion should occur within 10-20 minutes, when hypo symptoms should have resolved.
2. **Retest blood glucose** after 15 minutes and repeat treatment if blood glucose level has not risen above 4mmol/L. Depending on individual needs and treatment, a follow-up snack providing 15-20g carbohydrate may be necessary to prevent recurrent hypoglycaemia.
3. **Support people to understand the situations** that increase hypo risk (such as fasting, when meals delayed, during after consumption of alcohol, during and after intense exercise and during sleep), to consider their hypo cause and to share this with their diabetes care team.
  - Diabetes UK (2018): an **individualised approach to hypoglycaemia management** with appropriate monitoring is recommended. One example of a strategy commonly recommended is: take 15-20g of glucose; repeat treatment if blood glucose level has not risen above 4mmol/L after 15 minutes; depending on individual needs and treatment, a follow up snack providing 15-20g of carbohydrate may be necessary.
  - The use of a bedtime snack in reducing the risk of nocturnal hypos is not routinely recommended, but may be considered on an individual basis e.g. hypo unawareness, prior physical activity, alcohol consumption, presenting with night time blood glucose levels close to 4.
  - Hypo unawareness can severely compromise diabetes control and quality of life. Several weeks of avoidance of hypos has been demonstrated to improve hypo awareness in many people with diabetes. Hence those with at least 2 clinically significant hypos may benefit from at least short term relaxation of glycaemic targets. Discuss such cases with GPs.
4. The use of glucagon is indicated for treatment for people unable or unwilling to consume carbohydrate by mouth (ADA,2019). Current guidance and practice in Ireland regarding prescribing glucagon kits for people with type 2 diabetes who are insulin treated or may require same, requires further review. Discuss local practices with local diabetes care teams.

## TREATMENT

Hypo Rx	15g Glucose	30g Glucose
<b>Examples</b>	<ul style="list-style-type: none"> <li>• <b>170ml Lucozade Original</b> (new formulation) or</li> <li>• <b>5 Glucose or dextrose sweets</b> ('Lucozade Energy' or 'Dextro-Energy' or 'Lift') or</li> <li>• <b>60ml Lift Glucose Juice Shot</b> (formerly Glucojuice)</li> </ul> <p>Note: 1 glucose tube (Glucogel) has 10g of carb.</p>	<ul style="list-style-type: none"> <li>• <b>340ml Lucozade Original</b> (new formulation) or</li> <li>• <b>9-10 Glucose or dextrose sweets</b> ('Lucozade Energy' or 'Dextro-Energy' or 'Lift') or</li> <li>• <b>120ml Lift Glucose Juice Shot</b> (formerly Glucojuice)</li> </ul>
<b>If pure glucose is not available</b> :	<ul style="list-style-type: none"> <li>• 150ml fruit juice (e.g. 10g carb/100ml)</li> <li>• 3 teaspoons of sugar or</li> <li>• 1glass of fizzy drink (not diet) – check carbohydrate content. (See support folder)</li> </ul>	<ul style="list-style-type: none"> <li>• 300ml fruit juice (e.g. 10g carb/100ml)</li> <li>• 6 teaspoons of sugar or</li> <li>• Fizzy drink (not diet) – check carbohydrate content to calculate volume needed (See support folder)</li> </ul>
Information in table correct as of August 2019.		

- Remind people to check labels of all products as brands can change formulations at any time.
- **Dietitian support:** A summary of the carbohydrate content of current glucose containing products and some fizzy drinks is available in the support folder on Hypos.
- **Hypo Treatment & LTI:** Some treatment is available on the LTI scheme – keep up to date with same – see Appendix on Entitlements for more information on the LTI.
- **Hypo guidance for people with type 2 diabetes:** The Discover Diabetes –Type 2 Handbook includes information for people with diabetes at risk of a hypo that is in line with the current guidelines. This 3 page information is being prepared as a resource to be available for all 1-1 and DSME and will be made available in the support folder when ready.

### Further information on Glucojuice – rebranded to **Lift Glucose Juice Shot** in 2019

- *Glucojuice: in an email from Diabetes Ireland sent on 3<sup>rd</sup> April 2019, they advised that Glucojuice is a product more recently available on the Irish market. It contains 15g glucose in 60ml making it an ideal hypoglycaemia management option. Glucojuice contains 57 calories and is free from gluten, caffeine, artificial colouring, preservative and sweetener see <https://www.gogluco.co.uk/juice/> for further information.*
- Lift Glucose Juice Shot: in an email from Diabetes Ireland sent on 28<sup>th</sup> May 2019, it advised that **Glucojuice will be relaunching** under the new brand name Lift. New product images will be available in early 2019. The only thing that is changing is the name. ALL PIP codes, EAN's and pack configurations are staying the same.
- It can now be prescribed and is available for people with diabetes under the Long Term Illness Scheme. This is because it is classed as a supportive requirement at a reasonable cost to manage hypos.
- It is also available as an "over the counter" product from pharmacy outlets at a cost of €1.99. People with diabetes can claim tax relief on this cost as part of their health expense annual return to Revenue or via [www.revenue.ie](http://www.revenue.ie).

**ID:** It is recommended to carry a form of identity such as engraved jewellery (necklace or bracelet). Identity bracelets are available from Diabetes Ireland [www.diabetes.ie/shop](http://www.diabetes.ie/shop) and most local pharmacies.

### ICE (In Case of Emergency):

- People can add 'ICE' and the name of the person to be contacted in the case of an emergency to their mobile e.g. ICE Mary. If they are involved in an accident or taken ill, this allows the medical personnel to check their mobile phone and contact this emergency contact. On a smartphone, there may be a « Medical ID » where you can store the name and number of your emergency contact.
- An ICE card is an emergency card for a wallet or purse that contains the names and numbers of emergency contacts plus important medical information. Diabetes Ireland (DI) has teamed up with Irish ICE Cards to increase the number of people carrying these cards. The cost is €20 or 2 for €25. €5 is donated to DI for every card sold. The card can be ordered by completing a form, online or phone ICE Card helpline on 087-9777011 (days, evening, weekends). Contact : Connie Danaher, Irish ICE Cards, Killimer, Kilrush, Co. Clare. Email : [conniedanaher@gmail.com](mailto:conniedanaher@gmail.com) or [www.irishicecard.ie](http://www.irishicecard.ie). Flyers are available to people with diabetes at 1-1 clinics or courses.



## DRIVING GUIDANCE

- The RSA Medical to Fitness Guidelines were updated in August 2019 from April 2019 and are available in the support folder on hypos and driving – print chapter 4 for guidance on diabetes. [https://www.ndls.ie/images/PDF\\_Documents/Slainte\\_agus\\_Tiomaint\\_Medical\\_Fitness\\_to\\_Drive\\_Guidelines.pdf](https://www.ndls.ie/images/PDF_Documents/Slainte_agus_Tiomaint_Medical_Fitness_to_Drive_Guidelines.pdf)
- People **taking diabetes medicines** which put them at risk of hypoglycaemia (insulin or sulphonylurea tablets) must take extra precautions and must inform the National Driver Licence Service (NDLS).
- There is **no need to notify the NDLS** if diabetes is managed by diet alone, or by medicines which do not carry a risk of inducing hypoglycaemia, unless diabetic eye problems occur, affecting visual acuity or visual field.
- Please see folder for further reading on driving and diabetes.
- **Resource:** The Diabetes and Driving leaflet to support people with diabetes has been updated (dated April 2017) and is available in the support folder on Hypos and Driving. Since March 2019, it is available to order directly online from the RSA by setting up a health care professional account with them.

### Practical Driving Guidance for People with Diabetes at risk of hypoglycaemia:

For those at risk of hypoglycaemia:

- Always CARRY your glucose meter and blood glucose strips with you.
- You must CHECK your blood glucose BEFORE driving and EVERY two hours whilst driving.
- IMPORTANT - Please make sure that your meter displays the correct TIME and DATE so that you have a record.
- Also, always CARRY personal identification to show that you have diabetes in case of injury in a road traffic accident.
- If your blood glucose is 5.0 mmol/l or less, have a snack. If it is less than 4.0 mmol/l or you feel hypoglycaemic, do not drive. Take appropriate action. Retest to ensure your blood glucose is above 5.1 mmol/l.
- If you develop hypoglycaemia while driving,

1. STOP your vehicle as soon as possible.
2. SWITCH OFF the engine, take the keys out of the ignition, and move from the driver's seat.
3. DO NOT DRIVE again until 45 minutes after your blood glucose level has returned to normal. It takes up to 45 minutes for the brain to recover fully.

- KEEP an emergency supply of fast-acting carbohydrate, such as glucose tablets or sweets, within easy reach in your vehicle.
- Always take regular meals, snacks and rest periods at least every two hours on long journeys.
- Always avoid alcohol.

### Car insurance:

- When diagnosed with diabetes an individual must inform their **motor insurance company**. Not informing your motor insurance may mean you are at risk of driving without insurance and poses risk of non-coverage in the event of an accident.
- The insurance federation has agreed not to load premiums for diabetes. Diabetes Ireland is in partnership with ZURICH and ERM Financial Services offering competitive motor insurance cover. For further information see [www.diabetes.ie](http://www.diabetes.ie) or call Diabetes Ireland on 01-8428118.

## 12. ILLNESS – SICK DAY GUIDANCE

### Evidence

The Model of Integrated care (2018) has included illness/sick days as one of the topics that should be covered by the practice nurse during the initial and review consultation with person with Type 2 diabetes. It is also included as one of the topics to be covered by the Dietitian over a series of sessions, depending on the person's needs. The ICGP (2016) recommend that sick days are a key self-care issue to be covered with a person as part of structured education programmes.

In terms of guidance specifics, current available references are from the ADA 2019 and guidance from Diabetes & Primary Care in 2018. There is no guidance in Diabetes UK 2018 regarding illness management/ sick day guidance and there are no recommendations for DKA.

### Guidance

The following summarises current guidance.

- Any condition leading to the deterioration in glycaemic control necessitates more frequent monitoring of blood glucose: people with diabetes prone to ketosis also require urine or blood ketone monitoring. If accompanied by ketosis, vomiting, or alteration in the level of consciousness, marked hyperglycaemia requires temporary adjustment of the treatment regime and immediate interaction with the diabetes care team.
- The people with diabetes treated with noninsulin therapies or medical nutrition therapy alone may require insulin.
- Adequate fluid and caloric intake must be ensured. Infection or dehydration is more likely to necessitate hospitalisation of the person with the diabetes than the person without the diabetes (ADA, 2019).

**Diabetic ketoacidosis** occurs in type 1 Diabetes and can occur in type 2 diabetes at times of severe illness or, rarely, in those on SGLT2 inhibitor therapy. It requires urgent hospital admission. Signs of diabetic ketoacidosis include excessive thirst, polyuria, dehydration; shortness of breath and laboured breathing, abdominal pain, leg cramps, nausea and vomiting, mental confusion and drowsiness, ketones can be detected on the person's breath or in the blood or urine (Diabetes & Primary Care, 2018).

**Hyperosmolar hyperglycaemias state (HHS)** is potentially life threatening and requires urgent admission to hospital. Signs of HHS include disorientation or confusion, polyuria, thirst and dry mouth, nausea and are typically seen after several days with glucose levels consistently about 30mmols/L (Diabetes & Primary Care 2018).

The aims of managing a person with diabetes during intercurrent illness are to:

- Manage blood glucose levels
- Ensure adequate calorie intake and hydration with fluid replacement
- Test for and manage (if present) ketones
- Recognise when further medical attention required (Diabetes & Primary Care 2018)

Please note if a person is being treated for type 2 diabetes with insulin, education on ketone testing during illness may need to be considered depending on the individual needs of the client.

### **General Guidelines during Illness**

- Diabetes medicine taken as prescribed.
- Blood glucose levels should be checked more frequently if testing at home.
- Eat normally when possible and keep hydrated by sipping on water and sugar free fluids.
- If you are on insulin or tablets that have the potential to cause hypos and you are unable to eat it is important to avoid hypos by taking carbohydrates in fluid form.
- Visit your GP if necessary. Talk to your pharmacist about suitable cold/flu remedies.
- Seek medical help if in any doubt or:
  - Your glucose levels remain high >15mmols/l
  - You are unable to eat
  - You are vomiting or unable to keep fluids down
  - Your temperature remains high
  - Your glucose levels persist low-below 4mmols/L

Reference: *Living well with Type 2 Diabetes*, Diabetes Ireland (2016)

**As of September 2020, 'guidance for sick days' for people with type 2 diabetes is currently being updated by the National Clinical Programme for Diabetes.**

HSE website information is available at: <https://www2.hse.ie/conditions/coronavirus/diabetes-and-coronavirus.html>

## 13. LANGUAGE

### Evidence:

Diabetes Australia published their position statement in 2011 (Speight et al, 2012), followed by the UK adapting this work in the NHS England 'Language Matters' document in 2018 (Cooper et al, 2018). The US made recommendations in 2017 (Dickinson et al, 2017) on the use of language in diabetes care and education and in 2018 (Dickinson, 2018) explored people's experience with diabetes related language.

- **Further reading and information** is provided in the folder on Language in the support folder which includes these references.
- A summary table discussing the words to consider and avoid using is available for reference.

### Language in Diabetes Care and Education

Attention to **language** is now considered to be very important for all diabetes care health care professionals to reflect on, with recommendations to use informative, empowering and an educational style.

Words are immediately shaped into meanings when people hear or read them, and those meanings can affect how a person views him or herself. (Dickinson et al, 2017).

A person's experience of diabetes can influence their self-talk for example 'I am a bad diabetic'. This can influence movement towards behaviour change, which can be supported with positive self-talk.

Attention is advised in the language used by health care professionals

- when working WITH people with diabetes,
- when describing people with diabetes and their current diabetes status
- in the development of literature used to support their care and
- in professional audiences.

Attention to language is now recognised as key to providing person centred care (ADA, 2019).

5 key consensus recommendations re use of language include (Dickinson et al, 2017)

1. Neutral, non-judgemental, based on fact, actions, physiology or biology
2. Free from stigma – for example using non-compliant
3. Strength based, respectful, inclusive and **imparts hope**
4. Fosters collaboration between people with diabetes and providers
5. Is person centred – **person with diabetes, no longer using 'diabetic'**

The use of empowering language can help to inform and motivate yet language that shames and judges may undermine this effort.

## 14. MEDICINES

A support folder on Medicines supports this section.

### Practical points to educate and support clients with include

- Ensure people KNOW if they are taking medicine to treat diabetes, the name and brand
- How to take medicines – when to take, the amount/dose, how to take (e.g. with/without food/water)
- Possible side effects especially risk of hypo and thus be informed on hypo guidance and driving guidance
- Be aware of possible side effects
- To discuss unpleasant side effects with their diabetes team and any self-adjusted alterations to the dose
- If not taking medicines as prescribed, it may not be possible to assess its effectiveness as part of treatment review – inform their diabetes team of any changes they make in taking medicines.
- For advice, questions, concerns, talk to GP, PN, DNS, local pharmacist.

The American Diabetes Association (ADA) and the European Association for the study of Diabetes published 'Management of Hyperglycaemia in Type 2 Diabetes' in 2018. Please see key guidance in Appendix 1 and 2 in support folder on Medicines.

**Appendix 1** describes their new consensus approach to glucose lowering with medicines in type 2 diabetes.

The major change from previous guidelines is based on new evidence from cardiovascular outcome trials showing sodium-glucose co-transporter 2 (SGLT2) inhibitors or glucagon-like peptide 1 (GLP-1) receptor agonists improve cardiovascular outcomes as well as secondary outcomes such as heart failure and progression of renal disease in people with diabetes with established CVD or CKD.

**Appendix 2** provides a list of glucose-lowering medicines and therapies available and specific characteristics that may guide individualized treatment choices in non-pregnant adults with type 2 diabetes.

- **Vitamin B12** is recommended to be checked annually for those treated with metformin – see Appendix on Dietary recommendations – section on micronutrients.

**Appendix 3** My Medicines List (HSE, 2019). Encourage people to complete and carry with them. KNOW that you are using, the right medicine, the right way, CHECK your medicines and keep a list, ASK your healthcare professional if you're unsure.

- In 2019, the HSE National Quality Improvement Team 'National Medication Safety Programme' developed this leaflet to support people with using their medicines. The leaflet is in the support folder and can be downloaded from [www.safermeds.ie](http://www.safermeds.ie) and through local pharmacies.
- The campaign was launched in July 2019 with circulars to all HSE staff in September to be part of the campaign and participate in World Patient Safety Day on 17<sup>th</sup> September. (Appendix 6).
- A support for health care professionals was made available in Sept. 2019 – key messages for people promoting Know, Check, Ask (Appendix 7)
- The use of the word 'medicines' instead of 'medications' was recommended following their work in developing this leaflet.
- A website [www.safermeds.ie](http://www.safermeds.ie) is available for health care professionals and the public with lots of information and videos for support.
- This team are currently addressing the WHO 5 moments for medication safety and how to incorporate same into the current message.
- The SPE course handbook of the HSE Discover Diabetes – Type 2 course, includes a copy of the leaflet in addition to guidance on the long term illness scheme. It is proposed to make this available as a resource to support Type 2 Diabetes.

**Appendix 4** World Health Organisation's 5 Moments for Medication Safety. When starting a medication, taking a medication, adding in a new medication, reviewing medication and stopping medication.

**Appendix 5** Fish oil supplements & Medication - Guidance from Pharmacists on interactions of fish oil supplements with medicine is available in the Medicine folder.

- See **Hypoglycaemia** section if risk of hypoglycaemia with medicines prescribed. If experiencing any problems or unpleasant side effects to discuss with GP to consider review and if alternative available.
- See **Diabetes Remission** section for information regarding medicine adjustment for low-carbohydrate diets.
- See **Entitlements** section for information on the Long Term Illness Book (LTI) to support people with their entitlements for free medicines.

## 15. MINORITY ETHNIC GROUPS and supporting cultural needs

Our culture is such an integral part of our life and often we are unaware of its influence on our thinking, behaviour, attitudes, which can lead to difficulties when we communicate and support those from other cultures (Gable, 2007). Ireland today is a multicultural society and dietitians need to consider how services can meet people's diabetes care needs. Attention to how we communicate can help. Consider social rituals, appropriate introductions, names (how to pronounce, write), explaining your role and purpose, if others attend the appropriateness of what is discussed, use of language, boundaries, cultural specific non-verbals, talking about food. Many cultures have customs associated with food that may be based on moral values, health, social, religious or spiritual needs. Customs around food preparation, cooking and eating are many and varied (Gable, 2007).

Culturally appropriate health education is more effective than usual health education to people from ethnic minority groups.

### **The following points should be considered for 1:1 and/or group interventions:**

- Face-to-face interventions are more effective than tele-communication
- A combination, of both group and individual education sessions, is likely to have the greatest effect in most ethnic minority groups.
- Teaching/counselling of activity change using culturally appropriate activities e.g. dancing and walking.
- Attendance of family member to elicit home based support.
- Use of visual aids to tailor low literacy needs. (DUK 2018)

**HSE Interpreter Service:** It is important to consider how to support an individual's need and how to support those that wish to attend group or 1-1 and if a combination of care may work best. There are various arrangements through the HSE for sourcing and booking interpreters. Obtain approval from your manager to book an interpreter, link with local interpreter agency as per HSE areas service level agreement to arrange face to face or telephone service you require.

**Dietitians can reduce language barriers** by improving their cultural competency, addressing health literacy, and ensuring communication with language assistance (ADA 2018). See resources section for additional information.

### **Special considerations – Ramadan:**

Those people with Type 2 Diabetes classified in the very high and high risk groups are being advised not to fast which includes;

- people with sustained poor glycaemic control including severe hypoglycaemia,
- hyperosmolar hyperglycaemic coma or unexplained ketoacidosis within 3 months prior to Ramadan.
- people with a history of recurrent hypoglycaemia and/or unawareness, acute illness,
- people with CKD stage 3 or higher, advanced macrovascular complications and/or comorbid conditions that present additional risk factors.
- people receiving treatment with drugs that may affect cognitive function including multiple dose or premix insulin therapy
- Elderly with ill health.

People taking sulphonylureas or insulin will need to make adjustments to dose and/or timings to reduce the risk of hypoglycaemia and SMBG is recommended. Fasting should be interrupted if BG values are under 3.9mmol/l or above 16.7.

Newer GLD including basal insulin analogs are associated with a lower risk of hypoglycaemia and may be preferable for using during Ramadan (IDF 2017).

**Structured education programmes** should provide advice relating to diet, activity and medicine management during fasting to reduce the risks of acute complications and to lessen weight gain. (DUK 2018)

### **Resources:**

Diabetes UK – provide resources in other languages and diabetes books e.g. Carbs and Cals World Foods -

[www.diabetes.org.uk/other\\_languages](http://www.diabetes.org.uk/other_languages);

<https://shop.diabetes.org.uk/collections/diabetes-books/products/carbs-and-cals-world-food>

- Diabetes Ireland: "Self Care Guide for People with Diabetes" in different languages to include: Chinese, French, Polish, Romanian, Russian is NO LONGER UP TO DATE (Personal Communication, Diabetes Ireland May 2019).
- Additional information to support dietitians in 1:1 & DSME is available in the following document "HSE, Minority Ethnic Groups: A Nutrition Resource for Dietitians & Health Professionals" January 2010. HSE Emergency Multilingual Aids have been developed to enable healthcare professionals to ask direct questions using these aids to further support their consultation with different ethnic minority groups. <https://www.hse.ie/services/ema>
- **HSE Health Services Intercultural Guide:** responding to the needs of diverse religious communities and cultures in healthcare setting (April 2009) – provides guidance on food and content of medicine relevant for each. <https://www.hse.ie/eng/services/publications/socialinclusion/interculturalguide/interculturalguide.html>
- HSE Guidance and support - <https://www.hse.ie/eng/about/who/primarycare/socialinclusion/intercultural-health/>
- **Intercultural health strategy 2018-2023, launched Jan 2019** - <https://www.publichealth.ie/news/external-news/hse-launches-second-intercultural-health-strategy>

<https://www.hse.ie/eng/about/who/primarycare/socialinclusion/intercultural-health/intercultural-health-strategy.pdf>

The HSE Intercultural Strategy provides a comprehensive and integrated approach to addressing the many unique, health and support needs experienced by the increasing numbers of HSE service users from diverse ethnic and cultural backgrounds and who live in Ireland. With over 200 languages spoken in Ireland, this supports understanding where people are coming from.

## 16. OBESITY, OVERWEIGHT & WEIGHT MANAGEMENT

### 1. CLINICAL ASSESSMENT

- Carry out anthropometrical measurement (in agreement with the person); weight, height, BMI.
- BMI cut off points are slightly different for Asian, Ethnic South and Central American populations due to a higher risk of Cardiovascular disease and Type 2 Diabetes at lower levels of BMI. (SIGN 2010, NICE 2012, NICE 2013)
- Measure waist circumference (WC), as appropriate (for those with BMI  $\leq 35\text{kg/m}^2$ ). Apart from the identification of cardiovascular risk, WC can identify the degree of fat accumulation in the liver and pancreas, which drives the development of Type 2 Diabetes in many cases (Taylor et al, 2005). Addressing WC has the ability to improve glycaemic control and the potential to induce Diabetes remission in a proportion of people with Type 2 Diabetes
- Of note, BMI is not an accurate predictor of the degree of adiposity in older people ( $\geq 65\text{yrs}$ ) due to reduction in body height and changes in body composition during aging (ESPEN 2018, IDF 2013). There is increasing evidence that in terms of metabolic risk, mortality, cardiovascular and function, the distribution of body fat may be more important than the amount per se (ESPEN 2018). In such people there is an increased value is using waist circumference as a measure of risk (in BMI  $\leq 35\text{kg/m}^2$ ).

#### BMI

White European & Sub-Saharan African populations	Asian, Ethnic South & Central American populations	Description
Less than $18.5\text{kg/m}^2$	Less than $18.5\text{kg/m}^2$	underweight
$18.5\text{--}24.9\text{kg/m}^2$	$18.5\text{--}23\text{kg/m}^2$	Normal weight
$25\text{--}29.9\text{kg/m}^2$	$23\text{--}27.5\text{kg/m}^2$	Increased risk
$\geq 30\text{kg/m}^2$	$\geq 27.5\text{kg/m}^2$	High risk

#### Waist circumference cut off points

White European & Sub-Saharan African populations	Men	$\geq 94\text{cm}$ (37inches)
	Women	$\geq 80\text{cm}$ (31.5inches)
Asian, Ethnic South & Central American populations	Men	$\geq 90\text{cm}$ (35inches)
	Women	$\geq 80\text{cm}$ (31.5inches)

For overweight or obese adults with Type 2 Diabetes, reducing energy intake to achieve weight loss should be the primary nutritional management strategy (DUK, 2018). Weight loss of 5% or more significantly improves HbA<sub>1c</sub>, total cholesterol, LDL cholesterol, triglycerides, blood pressure and insulin sensitivity.

### 2. GUIDANCE

- Approaches to weight loss should be **individualised**.
- It is the **degree of consistency of behaviour change** that predicts the outcome of weight loss rather than the type of dietary strategy. People should be supported in following the approach that suits their preferences and lifestyle best and that they are most likely to adhere to (DUK, 2018). Diets that provide the same caloric restriction but differ in protein, carbohydrate and fat content are equally effective in achieving weight loss (ADA, 2019).
- Interventions should be **high intensity** and focus on **diet, physical activity and behavioural strategies** to achieve a 500-750kcal/day energy deficit.
- People should be encouraged to practice **self-monitoring techniques**, including recording of weight, food intake and physical activity to increase their likelihood of maintaining weight loss.
- **Long term support and follow up** of people who achieve short term weight loss should be available to ensure it is maintained.
- The importance of the long term maintenance of behaviours employed in the weight loss phase should be discussed from the outset so that the person clearly understands that if such behaviours are not sustained, there is a strong likelihood of weight regain.
- For those who are motivated to address their weight as part of their overall diabetes management, **weight loss expectations** should be discussed. Unrealistic expectations result in a loss of motivation and lead to unsatisfactory outcomes if not addressed from the outset.
- The initial **goal** of weight management is to stop the trajectory of further weight gain (NICE, 2014). For some people, avoidance of further weight gain will be an appropriate target.

Degree of weight loss required	What works
~5%	Modified macronutrient profile Healthy eating Mediterranean diet
10-15%	Multicomponent lifestyle interventions (high intensity) Partial meal replacements
>15%	Very low energy diets (<800kcal/day) Total meal replacements (800-1200kcal/day)

Approximate values only – devised by Cathy Breen, 2018

#### **Weight management for those over 60 years of age**

- **For those over 60 years of age**, who are overweight, avoidance of weight gain may be considered a success (Model of Integrated care 2018)
- If weight loss is to be considered in older overweight or obese people (age 65+), it must only be done after careful weighing of the risks and benefits. If considered,
  - there should only be a moderate energy restriction (~500 kcal/d less than estimated needs and maintaining a minimum intake of 1000-1200 kcal/d)
  - targeting a weight loss of 0.25-1 kg/week (~5-10% of initial body weight after six months or more) and
  - assuring a protein intake of at least 1 g/kg BW/d and
  - an appropriate intake of micronutrients
  - combined with physical exercise where possible
  - to bring about a slow weight loss in order to preserve lean body mass.
- Weight loss, whether intentional or not, enhances the age-related loss of muscle mass, and consequently increases the risk of sarcopenia, frailty, functional decline, fractures and malnutrition.
- Strict dietary regimens, like diets with very low energy intake (<1000 kcal/day), are strongly discouraged in the older population due to the risk of developing malnutrition and promoting functional decline (ESPEN, 2018).



### 3. DIABETES REMISSION

#### Definitions

Partial remission - Hyperglycemia below diagnostic thresholds for diabetes of at least 1 year's duration with no active pharmacologic therapy or on-going procedures

Complete remission - normal glycemic measures of at least 1 year's duration with no active pharmacologic therapy or ongoing procedures

Prolonged remission - Complete remission of at least 5 years' duration (ADA, 2009)

Buse et al, Diabetes Care, 2009

- Complete remission can be achieved with significant weight loss (**~15kg**), with the effects being more pronounced **earlier in the disease**. Individuals who have diabetes of longer duration should be supported in their weight loss efforts however if this is something they wish to pursue.
- The concept of a **"personal fat threshold"** should be explored with people of lower BMIs. This offers the **hope** that even at lower levels of BMI, weight loss can result in normoglycaemia in a certain cohort of people. People with recent onset Type 2 Diabetes could regain normal glucose control and normal  $\beta$ -cell function when the fat content of the liver and pancreas is reduced by weight loss (Lim et al, 2011, Taylor, 2013).
- Type 2 Diabetes is a clinical consequence of the accumulation of excess weight in ectopic sites by susceptible individuals (Steven et al, 2016).
- Recent work done in the DIRECT trial showed that with a 12 week total diet replacement programme of ~800kcal per day, followed by a structured food reintroduction and regular follow in people with  $\leq 6$  year duration of Type 2 Diabetes up resulted in 46% of participants achieving and maintaining complete Diabetes remission after 1 year, and 36% maintaining remission at 2 years. (Lean et al, 2019).
- **Achieving and maintaining weight loss is the dominant factor behind remission of Type 2 Diabetes, and as with other studies weight loss maintenance remains a challenge.** People require on-going support to help them achieve and maintain weight loss. Of note not all people who achieve 15kg weight loss will achieve remission. **Work on this trial demonstrates that of those who maintained a 15kg weight loss at 1 year 86% achieved complete remission.** Of those who maintained this weight loss at 2 years 70% remained in remission (Lean et al, 2019). The key is maintenance of the 15kg weight loss.

Remission in the DIRECT study was considered having an A1c below 48mmol/mol (6.5%) without diabetes medicine. Results at 12 months showed that:

- Those who lost 5kg had approximately a 1 in 3 chance of remission
- Those who lost 10-15kg, had about a 1 in 2 chance of remission
- **Those who lost 15kg or more, had nearly a 9 in 10 chance of remission**

- If people wish to pursue such interventions, they should be supported in doing so in a safe and collaborative way. They should be advised to also seek the support of their GP or DNS to aid in the adjustment of medicines which may be required with major alterations in their nutritional intake and also with weight loss. **Note: not everyone is suitable for the diet** e.g. those with active or previous history of disordered eating, not medically stable, reduced kidney function, at risk of malnutrition.
- It is important to consider the individual's microvascular complications before embarking upon major dietary change. If there is no retinopathy, or only early changes then no additional precaution is required other than an annual screening. However, if moderate or more severe retinopathy is present then arrangements should be made to re-screen the eyes within six months of achieving a substantial improvement in blood glucose control. The reason for this is that the sudden normalisation (reduction) in retinal blood flow associated with the return of normal blood glucose control can disadvantage areas of the retina in areas of marginal circulation with resulting deterioration in retinopathy. This effect is entirely restricted to individuals with pre-existing moderate or worse retinopathy (Arun CS, Pandit R, Taylor R. *Diabetologia* 2004).

#### **Further information:**

The Community Nutrition and Dietetics SMES working group on weight management completed a review of evidence on Diabetes remission in 2018. International and national evidence was reviewed. A summary of this evidence (as an excel workbook) and all key papers are available for all. *The Discover Diabetes – Type 2 course includes summary guidance on the implications of this research to people with diabetes. It is proposed to make this available as guidance for all 1-1/SMES.*

#### **Key reference information**

- **Position Statement** <https://www.pcdsociety.org/news/details/acbd-and-pcds-release-joint-position-statement-on-remission-of-type-2-diabetes>

From DIRECT Research Team – Roy Taylor and Mike Lean

- <https://www.directclinicaltrial.org.uk/>
- <https://www.ncl.ac.uk/magres/research/diabetes/reversal/#publicinformation> and Info for Doctors (2020) and papers

## 17. OLDER ADULTS

**Older Adults** are generally defined according to a range of characteristics including: chronological age, change in social role and changes in functional abilities. Most developed world countries have accepted the chronological age of 65 years as a definition of 'elderly' or older person (WHO, 2002). Diabetes UK 2018 guidelines referenced below have not defined what they classify as an older adult. ADA 2019 and ESPEN 2018 guidelines have classified older adults as 65+ years of age. The IDF, 2013 have classified older adults as 70+ years of age.

### Refer to self-management education

- Diabetes self-management education and on-going diabetes self-management support are vital components of diabetes care for older adults and their caregivers (ADA, 2019).
- Age should not restrict access to structured education and self-management, as education has been shown to be effective in older adults (Diabetes UK, 2018).
- Self-management knowledge and skills should be reassessed if an individual's functional abilities diminish or when regimen changes are made (ADA, 2019). Please see **Appendix on Self Management Education on Support for additional information**.

### Nutrition and Physical Activity Guidance

- There is some evidence that the older person with diabetes may have poorer nutritional status than those without DM, both in community and hospital (Diabetes UK, 2018).
- Diabetes in the aging population is associated with reduced muscle strength, poor muscle quality and accelerated loss of muscle mass, resulting in sarcopenia. Inadequate nutritional intake, in particular inadequate intake of protein, can increase the risk of sarcopenia and frailty in older adults. Diabetes is recognized as an independent risk factor for frailty, optimal nutrition with adequate protein in combination with aerobic and resistance exercise are crucial in the management of frailty in older population diagnosed with diabetes (ADA 2019).
- Older people with diabetes should be routinely screened for malnutrition with a validated tool in order to identify those with (risk of) malnutrition.(ESPEN, 2018). Assessment of nutritional status and nutrition support for those who maybe malnourished should be available to all older adults with diabetes and overseen by a dietitian (Diabetes UK, 2018). Malnutrition and risk of malnutrition in older people with diabetes should be managed according to the recommendations for malnourished older persons without diabetes mellitus (ESPEN, 2018).
- An older adult residing in an long term care facility may have irregular and unpredictable meal consumption, undernutrition, anorexia, and impaired swallowing. Furthermore, therapeutic diets may inadvertently lead to decreased food intake and contribute to unintentional weight loss and undernutrition. Diets tailored to a person's culture, preferences, and personal goals may increase quality of life, satisfaction with meals, and nutrition status (ADA, 2019). People with diabetes residing in long-term care facilities need careful assessment to establish glycaemic goals and to make appropriate choices of glucose-lowering agents based on their clinical and functional status (ADA, 2019). Diabetes education should be considered for the staff of long-term care facilities to improve the management of older adults with diabetes (ADA, 2019).
- To decrease the risk of malnutrition developing in older persons with diabetes ESPEN 2018 guidelines recommend to avoid restrictive diets.
- In case of obesity and weight management in older people with diabetes please refer to respective recommendations in the Appendix on Obesity/weight management.
- Nutritional management of older adults with diabetes should be **person centred** and **individual**

**For additional relevant or other supportive information, see Appendices e.g.**

- Dietary recommendations for adults with type 2 diabetes
- Physical activity
- Clinical Targets
- Psychosocial care & support for diabetes, including Stress

**Evidence** - The above guidance is taken from recent recommendations from ADA, 2019, Diabetes UK, 2018 and ESPEN, 2018 guidelines.

### FURTHER READING – OLDER ADULTS:

- In addition to these guidelines above further guidance is provided by ESPEN 2018 for **adults 65+ years of age**, see below Table 1.
- Also, the **International Diabetes Federation (IDF)** developed global guidelines for managing older people, **classified as those 70+ years of age** diagnosed with Type 2 Diabetes in 2013.

In these guidelines three main categories, namely general, functional independent, functionally dependent were developed for older people diagnosed with diabetes as a basis for clinical decision making.

Please see below for a detailed explanation of each category (Table 2) and a summary of these nutritional guidelines in Table 3 and exercise guidelines in Table 4.

**Table 1: Summary of recommendations 54- 60 from ESPEN guideline on clinical nutrition and hydration in geriatrics (classified as 65+), (ESPEN 2018)**

Recommendation		Grade of recommendation GPP strong consensus (%) agreement)
54	In overweight older persons weight-reducing diets shall be avoided in order to prevent loss of muscle mass and accompanying functional decline.	95%
Commentary	Experts generally agree that there is usually no need for overweight older people to lose weight as meta-analyses indicate that mortality risk of healthy older people is lowest in the overweight range. Further, weight loss, whether intentional or not, enhances the age-related loss of muscle mass, and consequently increases the risk of sarcopenia, frailty, functional decline, fractures and malnutrition. Moreover, the common weight regain after a weight-reducing diet is predominantly a regain in fat mass and not in lean mass. Thus, repeated phases of weight loss and regain, called “weight cycling”, might contribute to the development of sarcopenic obesity (the presence of reduced muscle mass together with excess fat mass). Therefore, and to avoid a progress to obesity, maintaining a stable body weight is considered desirable for overweight older adults. A combination of a balanced, nutrient-rich diet providing adequate amounts of energy and protein, and physical activity, if possible even exercise, is a sound strategy to keep weight stable and to prevent obesity.	
55	In obese older persons with weight-related health problems, weight-reducing diets shall only be considered after careful and individual weighing of benefits and risks	100%
Commentary	Obesity, especially severe obesity (BMI 35 kg/m <sup>2</sup> ), increases metabolic and cardiovascular risk as well as the risk of mobility limitations and frailty in older persons, particularly when marked muscle loss has already occurred. Current expert recommendations regarding weight reduction in older people primarily refer to cases of obesity that are associated with comorbidities and obesity-related adverse health effects. In these cases, positive effects of intended weight loss on orthopaedic problems, cardiovascular and metabolic risk, insulin sensitivity, chronic inflammation and functional limitations have been reported, partly in combination with physical exercise. On the other hand, as weight loss in older persons may have harmful effects due to the loss of lean mass (see commentary to recommendation 54), the decision for or against weight reduction shall always be taken at the individual level. It should be based on a careful weighing of possible risks and benefits of the intervention considering functional resources, metabolic risk, comorbidities, person’s perspective and priorities, and estimated effects on his or her quality of life. If decision is made against weight reduction, it is advisable to aim at weight stability and avoidance of further aggravation of obesity.	
56	If weight reduction is considered in obese older persons, energy restriction shall be only moderate in order to achieve a slow weight reduction and preserve muscle mass.	95%
Commentary	If weight reduction is considered to be beneficial, it has to be approached with great care . Interventions working in young adults cannot simply be extrapolated to older populations with low muscle mass and frailty. To avoid loss of muscle mass and to achieve a slow weight reduction in older persons, the dietary intervention should consist of a balanced diet as generally recommended for older adults, with a maximally moderate caloric restriction (~500 kcal/d less than estimated needs and maintaining a minimum intake of 1000-1200 kcal/d) targeting a weight loss of 0.25-1 kg/week (~5-10% of initial body weight after six months or more) and assuring a protein intake of at least 1 g/kg BW/d and an appropriate intake of micronutrients. Strict dietary regimens, like diets with very low energy intake (<1000 kcal/day), are	

	strongly discouraged in the older population due to the risk of developing malnutrition and promoting functional decline.	
57	If weight reduction is considered in obese older persons, dietary interventions shall be combined with physical exercise whenever possible in order to preserve muscle mass.	100%
Summary of commentary	As it is of utmost importance for obese older persons to avoid loss of muscle mass while losing their excess fat mass, dietary interventions shall be combined with structured, supervised physical exercise whenever possible, in addition to an increase in everyday physical activity. Before starting an exercise intervention, health status and physical performance level of the person with diabetes needs to be evaluated to exclude contraindications for exercise training and to identify the optimal starting level and exercise type in order to ensure a safe and successful training.	
58	Older people with diabetes mellitus shall routinely be screened for malnutrition with a validated tool in order to identify those with (risk of) malnutrition.	95%
59	In older people with diabetes mellitus restrictive diets shall be avoided in order to prevent malnutrition and accompanying functional decline.	100%
60	Malnutrition and risk of malnutrition in older people with diabetes mellitus shall be managed according to the recommendations for malnourished older persons without diabetes mellitus.	100%
Commentary to recommendations 58-60	To decrease the risk of malnutrition developing in older persons with diabetes we recommend to avoid restrictive diets. These diets have limited benefits and can lead to nutrient deficiencies. In case of obesity in older people diabetes we refer to the respective recommendations provided elsewhere in this guideline (see recommendations 55-57). In case of malnutrition in an older person with diabetes we recommend to follow the same guidelines as for older adults without diabetes. The use of oral nutritional supplements or use of tube feeding can result in a rise of the glucose levels. However, prevention and treatment of malnutrition with its probable negative short-term outcomes are regarded more important than possible long-term complications of hyperglycemia.	

**Table 2: International diabetes federation managing older people with Type 2 Diabetes global guidelines – Functional categories of older people with Diabetes (classified as those 70+ years of age) (IDF, 2013).**

GENERAL	
General guidance in specific clinical areas where it is expected that certain minimum standards of care should apply irrespective of age, co-morbid status, and presence of particular issues such as frailty or dementia	
CATEGORY 1: FUNCTIONALLY INDEPENDENT	
This category is characterized by people who are living independently, have no important impairments of activities of daily living (ADL), and who are receiving none or minimal caregiver support. Although diabetes may be the main medical problem, this category includes those who have other medical co-morbidities which may influence diabetes care.	
CATEGORY 2: FUNCTIONALLY DEPENDENT	
This category represents those individuals who, due to loss of function, have impairments of ADL such as bathing, dressing, or personal care. This increases the likelihood of requiring additional medical and social care. Such individuals living in the community are at particular risk of admission to a care (nursing) home. This category includes a range of functionally dependent older people with diabetes. Two groups require special consideration:	

**Subcategory A: Frail**

These individuals are characterized by a combination of significant fatigue, recent weight loss, severe restriction in mobility and strength, increased propensity to falls, and increased risk of institutionalization. Frailty is a recognized condition and accounts for up to 25% of older people with diabetes.

**Subcategory B: Dementia**

Individuals in this sub-category have a degree of cognitive impairment that has led to significant memory problems, a degree of disorientation, or a change in personality, and who now are unable to self-care. Many will be relatively physically well.

Recommendations in both these sub-categories reflect the emphasis on person safety, poor self-management ability, high risk of and susceptibility to hypoglycaemia and unacceptable hyperglycaemia and their consequences, changing glycaemic goals, higher risk of hospitalization, housebound or aged care home environment, and reduced life expectancy. Recommendations may include relaxing glycaemic goals, simplifying regimens, use of low-risk glucose lowering agents, providing family/person education, and enhanced communication strategies.

**Table 3: Nutrition recommendations - International Diabetes Federation managing older people with type 2 diabetes (classified as those 70+years of age), global guidelines (IDF, 2013)**

Recommendation on NUTRITION	
<b>General</b>	<p>All older people should have a nutritional and biochemical assessment at diagnosis, on admission to an aged care home, and as part of the annual review.</p> <p>The nutrition plan should be individualized and consider the person's food preferences, eating routines, religion and culture, and physical and cognitive health status.</p> <p>The meal plan should include a variety of foods to ensure essential vitamins, minerals, protein, and fibre are consumed in adequate amounts.</p> <p>Medicine administration times must coincide with meal times if the individual is on insulin or sulphonylureas to reduce the risk of hypoglycaemia.</p> <p>People with swallowing difficulties should be identified and referred to a speech therapist if available</p>
<b>Functionally independent</b>	<p>Functionally independent people with diabetes should be encouraged and assisted to achieve and maintain a healthy body weight.</p> <p>A consistent amount of carbohydrate should be provided at each meal.</p> <p>The meal plan can include sugar in moderate amounts but excess sugar, soft drinks and fruit juices should be avoided.</p>
<b>Functionally dependent</b>	<p>Encourage the consumption of adequate amounts of fluid to avoid dehydration especially in hot weather.</p> <p>Education and training are essential to enable healthcare professionals and caregivers to provide nutritional support.</p>
Sub-category A: Frail	<p>The nutritional assessment should be used to identify the presence of malnutrition and/or weight loss and the appropriate nutritional plan to be adopted.</p> <p>Higher protein and higher energy intake foods may be needed to improve nutritional and functional status in frail older people with diabetes.</p>
Sub-category B: Dementia	<p>Healthcare professionals and caregivers should identify actual and potential eating difficulties.</p> <p>Caregivers should provide support at mealtimes to ensure that agitation is managed and meals are consumed.</p>
<b>End of life</b>	<p>Feeding tubes or intravenous (parenteral) nutrition may be needed to meet nutritional needs. The individual, family, and caregivers should be involved in decisions relating to nutritional support with respect of advance</p>

	directive and ethical issues.
Additional Commentary	While weight, BMI, and waist circumference should be documented as part of overall risk assessment, the institution of weight loss programmes in older people should be carefully considered not only because of limited data with regard to improving outcomes, but also because of concerns about potential harms of weight reduction

**Table 4: Exercise recommendations - International Diabetes Federation managing older people with type 2 diabetes (classified as those 70+years of age), global guidelines (IDF, 2013)**

Recommendation on EXERCISE	
<b>General</b>	Older people with diabetes should be encouraged to be as active as their health and functional status allow.  A risk assessment should be undertaken before recommending an activity programme.  Timing and type of activity should be considered in relation to the medicine regimen, especially glucose lowering agents associated with an increased risk of hypoglycaemia.
<b>Functionally independent</b>	Encourage functionally independent older people with diabetes to exercise to targets recommended for all adults with diabetes. (See <b>Appendix</b> on physical activity)
<b>Functionally dependent</b>	Encourage a low intensity home-based exercise programme to improve physical performance and maintain ADL and mobility.  If available, a physiotherapist should be consulted to assist those who are housebound or confined to a bed or chair to undertake exercise to build arm and leg strength and flexibility.
Sub-category A: Frail	Provide light-resistance and balance training to improve physical performance, lower limb strength, and prevent further deterioration in functional status.
Sub-category B: Dementia	Educate family members and caregivers on the safest effective maintenance exercises that individuals can undertake.
<b>End of life care</b>	Encourage some form of exercise consistent with the person's capability and health status

## 18. PHYSICAL ACTIVITY

Physical activity & exercise have numerous benefits in type 2 diabetes including improving blood glucose, cardiovascular risk factors & well being.

1. Discuss Physical Activity and agree personalised targets, bear in mind the National Physical Activity Plan (Healthy Ireland, 2016) on [www.getirelandactive.ie](http://www.getirelandactive.ie) and other guidelines, as appropriate.
2. Encourage structured exercise: The FITT principle (below) can be used as a guide to help determine the level and type of activity. For people who are sedentary the focus should be on establishing a regular pattern of low-moderate intensity activity before moving onto working towards increasing the duration of activity and finally if appropriate the intensity of the exercise.
3. Encourage people to consider how long they spend in sedentary behaviours in a day and/or over a week.
4. Encourage the client to increase activities of daily living.

### The FITT Principle (Model of Integrated Care, 2018)

**FREQUENCY** 3-5 days per week. More frequent exercise is desirable, but care should be taken to first establish a regular exercise habit before recommending levels that may not be sustainable.

**INTENSITY** to avoid musculoskeletal injuries and promote compliance, start at a low to moderate intensity and gradually progress over the course of several weeks or months to more vigorous efforts (if desired by the person). Emphasis should be on increasing duration rather than intensity, with the goal of optimising caloric expenditure.

**TIME** 30-60 minutes, using a gradual progression. Multiple short bouts (10 minutes) produce similar benefits as a single long bout of the same duration.

**TYPE** low-impact activities (e.g. walking, cycling, low-impact aerobics, water exercise) that are convenient, accessible, and perceived as enjoyable by the person.

### Recent Evidence and Recommendations

- General Physical Activity guidelines for Adults in Ireland recommend **150 minutes or more of moderate intensity aerobic activity per week**. More recently the ADA recommends that most adults with type 2 diabetes should engage in **150 minutes or more of moderate-vigorous intensity aerobic activity per week** (can be done in bouts of 10 minutes), spread over at least 3 days/week, with no more than 2 consecutive days without activity. Shorter durations (75mins/week) of vigorous intensity or interval training may be sufficient for younger and more physically fit individuals (ADA, 2019).
- 2-3 sessions/week of **resistance exercise** on non-consecutive days is recommended (ADA, 2019).
- Older adults are recommended to participate in muscle strengthening, **flexibility and balance training 2-3 times/week** (e.g. Yoga and tai chi) (National Physical Activity Plan for Ireland, 2016; ADA, 2019).
- Daily **sedentary behaviour** should be reduced. Prolonged sitting should be interrupted every 30mins for blood glucose benefits particularly in adults with type 2 diabetes (ADA, 2019).
- Physical activity or exercises in isolation are not effective strategies for **weight loss** unless 60mins/day is undertaken. Evidence is conflicting as to whether a combination of diet and physical activity or exercise results in greater weight reduction than diet or activity alone. Independent of weight management, physical activity & exercise have numerous benefits (Diabetes UK 2018).
- **Special considerations** are required for individuals with CVD, uncontrolled retinopathy and severe neuropathy (Chapter 4, ADA 2019).
- Studies show it is safe for individuals with Type 2 diabetes who are treated by diet alone or in conjunction with oral hypoglycaemic agents, to exercise in both the fasting and post-meal state, with the **most beneficial effects on blood glucose levels observed post-prandially** when blood glucose levels have more potential to reduce (Diabetes UK, 2018).
- For individuals treated with insulin or insulin secretagogues, care should be taken to minimise the impact of hypoglycaemia which can occur up to 24 hours after physical activity (Diabetes UK 2018). For individuals on these therapies (e.g. insulin/ insulin secretagogues), added carbohydrate should be ingested if pre-exercise glucose levels are <5.6mmol/l (ADA, 2019).

**Services and Supports** – link with local health promotion departments, physical activity health promotion officers and local sports partnerships for more information on local supports and services. Check services on [www.getirelandactive.ie](http://www.getirelandactive.ie); [www.getirelandwalking.ie](http://www.getirelandwalking.ie) and [www.parkrun.ie](http://www.parkrun.ie). Consult local Self-Management Support Directory (published 2019).



## 19. PRE-PREGNANCY PLANNING AND PREGNANCY CARE FOR WOMEN OF CHILD-BEARING AGE

- With increasing numbers of women around the world developing Type 2 diabetes and doing so at a younger age, and with women in many cultures tending to delay starting a family, the issue of Type 2 diabetes (T2DM) complicating pregnancy has become increasingly important.
- Diabetes is the most common medical problem in pregnant women and is associated with less satisfactory outcomes for the mother and infant when compared with people without diabetes, with an increased risk of congenital malformation, perinatal morbidity and mortality in the offspring.
- In type 2 diabetes the situation is made worse by the fact that the women are often older, more obese, of non-Caucasian background, are frequently of higher parity and are more likely to have chronic hypertension and be treated with medicines associated with congenital abnormalities. (HSE, 2018)
- **Planned pregnancies greatly facilitate preconception diabetes care (HSE, 2018).** To minimize the occurrence of congenital malformations, standard care for all women with type 2 diabetes who have childbearing potential should include:

1. Education about the **risk of malformations** associated with unplanned pregnancies and poor metabolic control, HbA1c target (less than 48mmol/l), blood glucose and testing targets and hypoglycaemia prevention and treatment.
2. Education on the use of **effective contraception** at all times, unless the person with diabetes is in good metabolic control (i.e. HbA1c less than 48mmol/mol) and actively trying to conceive
3. The **possibility of pregnancy** should be discussed at each diabetes consultation
4. All women with diabetes who are **contemplating pregnancy** should be advised to plan their pregnancy and be referred to a secondary care diabetes centre.
5. **Medical and diabetes review** to include possible changes to diabetes medicines / insulin, review of medicines to avoid potentially teratogenic agents and to check for and treat possible complications of diabetes.
6. Women with diabetes in pregnancy should be offered care by a specialised diabetes obstetric multidisciplinary team (HSE, 2010)

**PRE-CONCEPTUAL CARE** is associated with significantly improved pregnancy related outcomes, lower rate of congenital anomalies, earlier ante-natal booking with lower HbA1c at booking and reduced premature deliveries.

### **Dietetic aims of Pre-Conceptual Care:**

1. Optimise glycaemic control prior to conception HbA1c
2. Taking and continuing high dose folic acid (5mg) until the 12<sup>th</sup> week of pregnancy and 400micrograms thereafter.
3. Weight loss for women who have a BMI above 27kg/m<sup>2</sup> to achieve an appropriate weight
4. Ensure the diet is well balanced to meet nutritional requirements for this life stage.
5. Education and action planning on lifestyle factors including regular physical activity, avoiding alcohol and smoking and appropriate food safety.

**CARE DURING PREGNANCY** - If your client with type 2 diabetes presents to an appointment/SPE and informs you they are pregnant:

1. Support them to attend their GP, diabetes service and maternity service straight away.
2. Advise them take 5mg of folic acid each day for the first 12 weeks of pregnancy
3. All pregnant women in Ireland should take a supplement containing 10micrograms (400iu) Vitamin D per day in addition to inclusion of Vitamin D rich foods such as fortified milk and oily fish. (HSE/Institute of Obstetricians & Gynaecologists, Nutrition During Pregnancy – Clinical Practice Guidelines Nov 2019). Of note, the majority of over the counter prenatal multivitamins contain 10 micrograms of Vitamin D3, therefore if a woman chooses to take a prenatal vitamin she will not require additional Vitamin D supplementation. Women who choose a strict vegetarian or vegan diet are advised to take a supplement in form of ergocalciferol (vitamin D2).

Hyperglycaemia during pregnancy is associated with adverse outcomes and women with diabetes require MDT expertise to optimise glycaemic control. Recommendations include:

- Individualised dietary advice to promote adequate nutritional intake and achieve optimal glycaemia appropriate for gestational age (HSE, 2010)
- Monitoring weight to ensure appropriate weight gain during pregnancy based on pre pregnancy BMI.
- Moderate physical activity of 30mins per day in uncomplicated pregnancies.
- Taking a vitamin D supplement (10micrograms) as recommended for all pregnant women.

**Alcohol** – in Sept. 2019, the HSE launched a campaign on Foetal Alcohol Spectrum Disorders advising no amount of alcohol at any stage of pregnancy is safe (See support folder for HSE staff communication).

### **RESOURCES:**

1. A 2019 **leaflet** on Guidance on 'Pregnancy Planning and Diabetes', produced by the Irish Maternity Dietitians Group, is available in the support folder.
2. **HSE website:** Current link - <https://www2.hse.ie/pregnancy/> and <https://www2.hse.ie/my-child/> – it may be changed with developments. The HSE website on diabetes, due in 2020, will address type 2 diabetes and pregnancy.
3. **Curriculum Guidance** for DSME diabetes courses. See support folder on Pregnancy.

## 20. PSYCHOSOCIAL CARE & SUPPORT FOR DIABETES, including STRESS

### EVIDENCE

- Diabetes has behavioural, psychological and social impacts and demands high levels of self-efficacy, resilience, perceived control and empowerment (Hendrieckx C, 2016).
- **Managing the emotional and mental health impact of diabetes is now recognised as key to supporting a person to self-care for diabetes and to reduce the risk of complications.**
- Emotional and mental health problems or psychological problems, such as diabetes distress and depression are common and associated with suboptimal self-management, diabetes related complications, reduced quality of life and increased health-care costs.
- Good psychological well-being and quality of life is an important outcome in its own right.
- Assessment of psychological (emotional well-being and mental health) and social situation should be included as an ongoing part of the medical management of diabetes (ADA 2019) as they can impair an individuals' or families' ability to carry out diabetes care tasks and thus compromise health status.
- Working in a person centred way, using the empowerment approach and person centred active listening skills helps to discover areas that pose a challenge for people.
- **The diabetes health care professional has an important role** in discussing emotional and mental health concerns affecting those with diabetes. **Guidelines** to support clinicians have been lacking until the 2016 handbook publication on diabetes and emotional health by the Mental Health and Diabetes National Development Programme in Australia (Diabetes and Emotional Health – a practical guide for healthcare professionals supporting adults with type 1 and type 2 diabetes). These guidelines have been adapted by the NHS, UK in 2019. See the support folder for the NHS 2019 copy.
- It is recommended to consider the **life course considerations** associated with living with diabetes e.g. ADULTS (women of child bearing age, changes in family support, chronic pain, low socio-economic groups), OLDER ADULTS (mild cognitive impairment or dementia in those over 65y, needs of the older adult). (ADA, 2016).
- **Psychosocial care or health** addresses 1) emotional health and well-being and 2) mental health.

1. **Emotional health and well-being** affected by diabetes can result in diabetes distress (DD) (also referred to as diabetes burnout which is more sustained distress) and require ongoing exploration for people with diabetes. Proposed to affect 1/6 people with non-insulin treated diabetes and 1/5 people with insulin treated diabetes. (Hendrieckx C, 2016). DAWN2 study reported significant DD was **reported by 45%** though only 24% reported that their health care teams asked them how diabetes affected their lives (ADA 2019).

2. **Mental health conditions or psychological disorders** include: anxiety, depression, disordered eating, serious mental illness, suicide risk and require evaluation.

It is recommended older adults (≥ 65y) are screening for cognitive impairment and depression (ADA, 2019).

- **Current evidence and guidance** for further reading is available in support folder/Psychosocial Care & Support in '2019 Evidence Review Psychosocial care and Support'.

### SUPPORTING PSYCHOSOCIAL CARE AND SUPPORT IN CONSULTATIONS AND SMES

1. **Facing life with diabetes** can be different for everyone, with different reactions to the diagnosis which can raise a range of emotions that will effect how a person will cope and self-manage. Listen and assist the person and assure them you can support them to live well with diabetes. Consider the questions you use to support asking a person how they are coping with the diagnosis. (Hendrieckx et al , 2016).

**Asking how a person is coping with the diagnosis of diabetes.** Here are some examples of open-ended questions you might use to enquire about how the person is coping with the news that they have diabetes:

- 'How are you feeling at the moment about the news that you have diabetes?'
- 'How did you react when you were told you had diabetes?'
- 'How do you feel your diabetes may impact on your [school/work/personal relationships/ family/sport/hobbies etc.]?'
- 'How do you feel about telling other people that you have diabetes?'
- 'How did your [close family members] react when you told them about the diagnosis?'
- 'How do you feel you are coping?' – 'What do you foresee will be the hardest thing for you in fitting diabetes into your life?' – 'What do you think will be easy for you to do/change?' – 'What do you think may be more difficult?'

**Acknowledging the daily challenges** of living with diabetes and the efforts it takes to manage the condition can help people feel more comfortable about sharing their thoughts and feelings. You can do this by prefacing these open-ended questions. For example:

- 'Many of the people that I see find living with diabetes challenging' or
- 'Finding out you have diabetes can be a lot to take in' – comments like these 'normalise' the adjustment process and help the person to realise they are not alone in thinking or feeling this way.
- Explain that incorporating diabetes into their life takes time, for example, 'Living with and managing diabetes is a learning process, quite a bit can feel like 'trial and error'. Over time, you will become an expert in managing your diabetes'.

2. Consider and explore **levels of coping skills living with diabetes**, irrespective of how long a person has diabetes for.

**Consider and explore day to day stresses.** Informal verbal enquiries can assist assessment e.g.

‘What is it about living with diabetes that you find most difficult and how does that make you feel?’

‘What are your greatest concerns about your diabetes?’

‘How is your diabetes getting in the way of other things in your life right now?’

Enquiring if there has been a change in mood during the past 2 weeks or since the last visit, when exploring barriers (new or different) to treatment and self-management such as feeling overwhelmed or stressed by diabetes or other life stressors. See table below (Hendrieckx et al, 2016, ICGP 2016, ADA 2019).

4. Be aware of **potential risk of diabetes distress or more severe diabetes burnout** vs. a current diagnosis or treatment for depression or potential risk of same.
5. **Build emotional strength and reliance** through working in a behavioural way and using person centred skills, taking every opportunity to build self-efficacy and use positive affirmations. Highlight any positive outcomes being achieved through any self-care effort – for example, attendance at appointments/SMES is a positive. A person’s perception about their ability or self-efficacy to self-manage is related to improved diabetes self-management and treatment outcomes (ADA 2019).
6. If stresses or **diabetes distress** are identified, discuss coping skills and stress management skills. Educating clients on the skill of problem solving to support self-care and addressing prior successes supports development of their coping skills.
7. Discuss the potential effects of **stress** on blood glucose and self-care tasks. (Polonsky, 1999)
- Stress can have a direct and immediate effect on blood glucose but only for certain people at certain times. There seems to be people who are stress insensitive, stress sensitive where blood glucose levels rise under stress and those whose blood glucose levels drop. Not all stressful situations cause blood glucose problems, most likely when one feels trapped or out of personal control.
  - In summary, stress has the potential to interfere with diabetes self-care, which can elevate blood glucose and to influence blood glucose directly. The more distressed you are the more likely blood glucose is likely to be affected.
8. Discuss **stress management strategies** used by clients or explore options. Have supporting literature available on stress management and diabetes distress.
9. If concerns identified, ask permission to **discuss with GP**.
10. **Recognise when to refer** and be aware of **local services/support** available to support coping skills, stress management and diabetes distress.
11. **In 2019**, this area will be investigated further regarding short psychosocial questionnaires that may be suitable for use by the dietitian with people with diabetes e.g. PAID-20

**Stressors/barriers to self-care which may increase risk of diabetes distress or diabetes burnout may include:**

- **New diagnosis** of diabetes and associated fears of the condition and risk of complications, overwhelmed with treatment advice
- Prospect or Presence of **complications** – associated fear, worry, anxiety, overwhelmed by all the appointments/tests
- Presence of other **co-existing illness** e.g. CVD, Cancers, Respiratory illness, Sight issues
- Attitudes and feelings – fear, denial, anxiety
- **Changes** in medical status – diabetes or other medical conditions, need to intensify treatment
- **Personal issues** – depression, poor coping style, eating disorders, lack of knowledge, inaccurate health beliefs, negative feelings about diabetes, fear and frustration about weight, unrealistic or unclear expectations about self-care
- **Other** Family, social, financial, other life stressors/issues e.g. living conditions, finances, support (too much/too little), alcohol or drug abuse, relationship issues, family confused about self-care responsibilities, chronic life stress at home/work, poor relationship with GP/HCPs, competing priorities, unstructured life (e.g. shiftwork, unemployed, retired), stigma, discrimination, unhelpful reactions
- **Recent** life events
- **Anxiety** about diabetes care i.e. using insulin or injections, hypos management and risk, polypharmacy
- **Burden** of daily self-care tasks

**PSYCHOSOCIAL SUPPORTS:** Consider the need to direct /support people with local services or literature – know referral pathways.

- Be aware of local **HSE and community counselling and stress management services** – link with services locally. On the 17/4/19, the HSE circulated information (by email) to All Users on the New National Directory of Mental Health Services (see below). Discuss within your team and with local diabetes care teams in acute and community services your recommendations for local support/service access e.g.

- HSE mental health departments (e.g. appointment access, WRAP training),
- HSE psychology department support the psychological well-being of people through individual and group based interventions (e.g. appointment access, courses on stress control, mindfulness),
- HSE National Counselling Service in Primary Care (CIPC) for medical card clients. Dietitians have referral permission in many areas – contact your local service to discuss and access leaflets for clients and referrers and referral forms <https://www.hse.ie/eng/services/list/4/mental-health-services/counsellingpc/> More details below.
- local low cost counselling services, local HSE OT service re stress management/relaxation courses, National Learning Network Courses (NLN) personal recovery programmes (e.g. WRAP, wellness for mental health, FOCUS/Pathways) <http://www.nln.ie/Our-Training-Courses.aspx>
- HSE Self Management Education and Support Directory – see Appendix on Diabetes Self-Management Education & Support.

- **HSE support** on mental health is available at <https://www2.hse.ie/mental-health/>. A campaign #LittleThings offers posters, support and information to inform and create awareness of taking care of mental health. Posters and postcards are available to order via [www.healthpromotion.ie](http://www.healthpromotion.ie) under order publications/mental health. Dietitian experience has included use of these, spreading the postcards on the table and inviting clients to select one that they like or has meaning for them – suitable for use in 1-1 and group work. For more info: <https://www2.hse.ie/services/campaigns/littlethings/about-littlethings.html>
- Some HSE areas offer mental health supports in the form of **reference texts and literature** via their local library: [www.hse.ie/yourgoodself](http://www.hse.ie/yourgoodself)
- Consider including a **speaker in the local diabetes support course** on emotional health and well-being and coping skills for looking after diabetes. Some courses have had input from HSE psychologists or the mental health nurse as an extra 30min session either on the core programme or at annual review addressing topics such as stress control, mindfulness, healthy coping, managing mental health/depression.
- **Mentalhealthireland.ie** – offers a range of leaflets and bookmarks which are available to order - 01-2841166. <https://www.mentalhealthireland.ie/>
- **Diabetes Ireland** also has a section on counselling services for diabetes with a list of accredited counsellors – discuss within teams re use.

**BUILDING & MAINTAINING SUPPORT:** Support is offered through

- **REFERRAL** to the local diabetes support courses to develop knowledge, skills, confidence and self-management skills which also offers peer support and social support,
- **INCLUSION** of family members, carers or friends in appointments /courses as deemed appropriate by the person with diabetes,
- **SIGN-POSTING** the person to the relevant supports for any aspect of care that they are addressing e.g. PA supports, classes, etc;
- **INFORMING** them of the Diabetes Ireland organization, contacts, membership details, info days and website details.

**KEY FURTHER READING:** See References list and Evidence review in the care plan folder

- Hendrieckx C 2016 – Clinician Guidelines developed by Australian Team from Mental Health & Diabetes National Development Programme – adapted for NHS, UK in 2019. ‘Diabetes and Emotional Health’.
- Young-Hyman 2016 (ADA) – ADA guidelines on psychosocial care
- ADA 2019 – further guidance on psychosocial care and reference to ADA 2016
- Polonsky WH – Diabetes Burnout 1999 Textbook – recommended reading

## FURTHER DETAILS OF SUPPORTS:

### Diabetes Ireland ([www.diabetes.ie](http://www.diabetes.ie)):

2 Diabetes Ireland Care Centres are purpose built units in Santry, Dublin and Mary Street, Cork City and include a team of practitioners include Podiatrists (*feet*), Counsellors (*mind*), Dietitians (*food*) and Audiologists (*hearing*). They provide a seamless, integrated service that is affordable and can be booked easily with no long waiting lists.

**Contact:** the helpline on **01-8428118** (Mon-Fri, 9am – 5pm) or email [info@diabetes.ie](mailto:info@diabetes.ie) for support or information.

**Cork :** Enterprise House, 36 Mary St, Cork City, T12 YR74 Telephone: (021-4274229

**Dublin :** 19 Northwood House, Northwood Business Campus, Santry, Dublin 9, D09 DH30 Telephone: (01-8428118)

### HSE CIPC counselling - <https://www.hse.ie/eng/services/list/4/mental-health-services/counsellingpc/>

This service is for people with mild to moderate psychological difficulties. It is a short-term counselling service that provides up to 8 counselling sessions with a professionally qualified and accredited Counsellor/Therapist.

It is a service for **medical card holders**, who are 18 years of age or over, and who want help with psychological problems that are appropriate for time limited counselling in primary care.

The service is suitable for people who are experiencing certain difficulties such as: depression, anxiety, panic reactions, relationship problems, loss issues, stress

More information on this can be found on the HSE website below which provides the following information:

- Information for clients, Information for referrers, Referral form

### Aware – your supporting light through depression - <https://www.aware.ie/education/life-skills-online-programme/>

Life Skills Programme – Aware have an online called Life skills. This programme is based on the principles of cognitive behavioural therapy (CBT). The Life Skills programmes are designed to help participants learn more about how we think and how this can influence our actions in helpful or unhelpful ways.

The Life Skills Online Programme is comprised of eight modules which you can work through online in your own time from the comfort of your own home. The participants benefit from the support of an Aware trained volunteer supporter for the first eight weeks, who you can choose to share progress with. It is recommended one module per week for eight consecutive weeks is completed. Your supporter will check in online to see how the participant is getting on with each week's module. After this eight week period, the participant has access to the modules to review and reflect upon for up to 12 months.

These programmes run at various times of the year – check the Aware website for the Life Skills Programme schedule.

**HSE 2019 National Directory of Mental Health Services** - <https://www.hse.ie/eng/services/list/4/mental-health-services/> The HSE circulated information to all HSE Staff on 17/4/19 on the new National Directory for Mental Health Services. The latest copy of the directory is available on the hse intranet as it is updated regularly  
[http://hsenet.hse.ie/HSE\\_Central/MentalHealthDivision/National\\_Directory\\_of\\_Mental\\_Health\\_Services/](http://hsenet.hse.ie/HSE_Central/MentalHealthDivision/National_Directory_of_Mental_Health_Services/)

'Mental Health Services is pleased to inform all staff the availability of the updated version of the [National Directory of Mental Health Services](#) (v.19Q2) which can be downloaded from the HSE intranet. The Directory provides a single national view of all of the HSE mental health services that are available throughout Ireland, alongside those services delivered through a section 38 or section 39 service level agreements.

**How it benefits me?** It provides an up-to-date and valuable tool to inform planning and resource allocation as well as containing data that is useful for report writing and responding to queries. For all staff the directory offers a single source of information when searching for the location, contact details and opening hours of a particular service.

**What sort of information can I access?** Users will find the following data included in the National Directory that will be periodically updated by the HSE Mental Health Services in collaboration with the CHOs:

- Number and type of services in operation in a particular area.
- Number of beds in each Approved Centre, with a more in-depth breakdown for those run by the HSE.
- Service names, Addresses, phone numbers and emails (where possible).
- Opening hours.

**How is the information organised?** The information can be organised by region (county, Community Healthcare Organisation), the population served (CAMHS, adults, older people etc.) and service type (Day Hospital, Community Residence etc.). Users can search/filter for information by means of the Directory's user friendly interface or through the master dataset.

**How often will it be updated?** The Directory will be updated quarterly. You will be informed whenever the latest version of the Directory is available.

More information on data protection and the development of this resource can be found on the intranet and within the Directory. On behalf of Mental Health Services we hope that you will find using the National Directory of Mental Health Services beneficial to your work and that you will contribute to its ongoing development.'

## 21. SLEEP

The assessment of sleep pattern and duration should be considered; recent research found that poor sleep quality, short sleep, and long sleep were associated with higher A1c in people with Type 2 diabetes. As part of comprehensive management of people with Type 2 Diabetes, it is recommended that sleep behaviours are considered at initial, follow up and annual visits. Age adjusted rates of sleep obstructive sleep apnoea are a risk factor in cardiovascular disease and are significantly higher with obesity, especially central obesity. The prevalence of Obstructive sleep apnoea in populations with Type 2 Diabetes may be as high as 23% and the prevalence of any sleep-disordered breathing may be as high as 58%. (ADA 2019)

## 22. SMOKING – TRAINING FOR HEALTH CARE PROFESSIONALS

Training	Further details
<b>Basic Training to support service users to quit smoking</b>	Making Every Contact Count training which is now available online at <a href="http://www.makeeverycontactcount.ie">www.makeeverycontactcount.ie</a> . Following the completion of the online training you will be automatically invited to an optional add on face to face workshop. This is the only Brief Intervention / Motivational Interviewing training offered by Health Promotion at the moment.
<b>Smoking Cessation and Mental Health Briefing Document</b>	This is a tailored resource produced for Mental Health Services in recognition of the unique challenges arising from established practices and misconceptions around mental health and smoking. It is a valuable reference for staff in these services to support and guide them in their day to day interactions with clients and service users. This resource challenges myths and emphasises the crucial role staff play in reducing tobacco prevalence. <a href="https://www.hse.ie/eng/about/who/tobaccocontrol/smoking-cessation-and-mental-health-briefing-document.pdf">https://www.hse.ie/eng/about/who/tobaccocontrol/smoking-cessation-and-mental-health-briefing-document.pdf</a>
<b>National Intensive Tobacco Cessation online training</b>	<b>Stop Smoking Practitioner Training and Certification</b> The HSE intensive smoking cessation training and assessment programme was developed by the National Centre for Smoking Cessation Training UK (NCSCT) and is based on research into what competencies (skills and knowledge) are required by smoking cessation specialists. The training programme includes the information required to pass the practitioner assessment and receive full HSE/NCSCT certification as a tobacco cessation specialist practitioner. Practitioners accessing this intensive smoking cessation training programme are recommended to firstly complete the level 1 Making Every Contact Count online training. Further information on this <a href="https://www.hse.ie/eng/about/who/tobaccocontrol/intensive-smoking-cessation-training/">https://www.hse.ie/eng/about/who/tobaccocontrol/intensive-smoking-cessation-training/</a>
<b>Mental Health Speciality Module</b>	The NCSCT also have an online Mental Health Specialty Module. Access to this course is only open to those who have completed NCSCT Certified Practitioner Assessment. Further information please see <a href="http://www.ncsct.co.uk/publication_MH_specialty_module.php">http://www.ncsct.co.uk/publication_MH_specialty_module.php</a>

## 23. SMOKING & SMOKING SERVICES

### Smoking & Type 2 Diabetes

If on assessment, the person is a smoker, explore interest in targeting smoking as a change.

- If available the person should be sent to a structured program to quit smoking or offer suggestions to facilitate stopping smoking. Inform of local supports available. There are local smoking cessation officers in local primary care services. There is a choice between one to one service and group service. See below for more information on services.
- Inform of the support available from the **National Quitline** 1850201203 (<https://www2.hse.ie/quit-smoking/>) which can **double your chance of quitting for good**. See services table below for other means of contacting QUIT.
- Offer health promotion literature as appropriate or required (review [www.healthpromotion.ie](http://www.healthpromotion.ie) for available literature).
- Advise all people not to use cigarettes and other tobacco products or e-cigarettes. (ADA 2019)
- The most common recommendations by smoking cessation practitioners are two types of NRT, a patch to deal with most common withdrawal symptoms and a short acting NRT for urges to smoke e.g. gum/lozinger/inhaler. Champix is still available and effective but has some side effects e.g. nausea. Champix is available on the medical card.
- Electronic substitutes can be used to replace cigarettes but not as an alternative to start smoking. (IDF 2017) or to facilitate smoking cessation. Research on short and long term safety and health effects of e-cigarettes is ongoing (ADA 2019).
- The HSE official line is not to promote use of e-cigarettes. (Bradshaw, 2019)

**QUIT smoking cessation services** can be accessed through a variety of means as summarised in the table below.

**Resource** for health care professionals is available to support discussion on smoking cessation – 30 second advice for healthcare professionals to stop smoking – order from [www.healthpromotion.ie](http://www.healthpromotion.ie) (See under support folder under “Smoking”)

**Training for Health Care Professionals available on smoking cessation:** see Training section.

### HSE Smoking Cessation Support Services - *Treatment and support*

HSE Smoking Cessation Services provide specialist support to help you quit in community or health service settings.

#### **One-to-one support**

Health care professionals can refer a person with diabetes directly to their local smoking cessation officer. Contact services locally for referral form. This form of intensive support combined with drug treatments has the highest success rates. This service is usually free of charge and is run by health services. Smoking cessation advisors are specially trained to support you through the quitting process. You can attend smoking cessation clinics for one-to-one sessions that are tailored to meet your needs. They usually take place for 1-4 weeks before your quit date and continue for up to one year after you quit.

These sessions will:

1. look at your desire and readiness to quit,
2. take a history of your smoking habit,
3. assess your nicotine addiction,
4. identify your reasons for quitting and any difficulties or risks of relapse,
5. create a personal plan for your quitting,
6. measure your carbon monoxide levels,
7. recommend suitable medical treatment, refer you to doctor for prescription and follow-up.

#### **Group support**

Group courses are usually six weeks long and meet once a week for about an hour. They are usually run by smoking cessation advisors and can be very effective. In the first session the members of the group introduce themselves, they review past attempts to quit, determine reasons for quitting and set a quit date for the group. At follow-up meetings, members discuss their progress, address any difficulties, swap coping tips, and encourage one another to stay quit. The advisors will measure each member's carbon monoxide levels (before and after quitting), their level of nicotine addiction, and recommend medical treatment. Contact the HSE QUIT Team on Freephone 1800 201 203 to talk to an advisor or to find you nearest HSE QUIT Service.

For more information on smoking cessation services log onto <https://www2.hse.ie/quit-smoking/> or [www.quit.ie](http://www.quit.ie)

#### **Other supports**

People can also sign up to the Quit Programme and you decide how you want your plan to work and can get:

- daily support via email and text message
- a personalised web page to track your progress
- one-to-one support from a trained advisor
- tips from people who've successfully stopped smoking

**People can contact the Quit team** as follows or sign up to the Quit Plan and ask them to call you back. See information below:

<b>Telephone - FREEPHONE</b>	1800 201 203. Mon. 10-8pm, Tues.–Thurs. 10am – 7pm, Fri.- 10am – 5pm Sat- 10am – 1pm
<b>Text</b>	Free text QUIT to 50100
<b>Facebook</b>	You can find on facebook – You can Quit
<b>Email</b>	support@quit.ie
<b>Twitter</b>	Tweet @ HSEQuitTeam
<b>Live Chat</b>	<a href="https://www2.hse.ie/quit-smoking/">https://www2.hse.ie/quit-smoking/</a> -follow this link and you will see symbol for live chat
<b>Website link</b>	<a href="https://www2.hse.ie/quit-smoking/">https://www2.hse.ie/quit-smoking/</a>
<b>Support services per county</b>	Click into the Find Support Services box on the right hand side of the page. A list of local smoking cessation services and contact details for officers in your area is provided. <a href="https://www2.hse.ie/wellbeing/quit-smoking/get-help-when-you-quit-smoking/">https://www2.hse.ie/wellbeing/quit-smoking/get-help-when-you-quit-smoking/</a>



## 24. TRAINING & SUPPORT

### TRAINING to support Community Dietitians delivering Dietetic Care to People with Type 2 Diabetes

#### Further training

1. **Skills training** on Person centred care and interpersonal skills for Dietitians such as Behaviour Change Training (BCT) Behaviour Change Skills for Healthcare professionals Level 1: Patient centred skills – ran by INDI.
2. **Skills training** on Motivational Interviewing and Behavioural approach to care for Dietitians such as Behaviour Change Training (BCT) Behaviour Change Skills for Healthcare professionals Level 2: Motivational interviewing – ran by INDI.
3. **DSME Educator** training
4. **Group Facilitation Skills** Training – ran by local health promotion teams, INDI or via SPE office.
5. **Essential Reading and CPD** on Empowerment and Behaviour Change - The Art of Empowerment Book by Bob Anderson and CD with a workbook for completion of reflection (see support folder on Psychosocial care & support).
6. **Dietetic care and Chronic Kidney Disease** Training for Dietitians– ran by INDI and Renal Interest Group. Renal Interest Group Introduction to CKD stage 1 to 3a, online course launched Jan 2020 and [essential](https://learning.indi.ie) for all Dietitians providing diabetes care. <https://learning.indi.ie> Website for patients: [www.irishkidneydiet.ie](http://www.irishkidneydiet.ie)
7. **Diabetes in Primary Care Module** distance learning course ran by UCC, Cork and NUIG, Galway.
8. **Knuston Ireland** – <http://www.diabetescounselling.co.uk/>. Ran in Ireland with support of HSE National Clinical Programme for Diabetes, presenting the empowerment approach to care based on Bob Anderson work.
9. **Courses on supporting psychosocial care** for staff and clients e.g. 6 week Stress Control Courses ran by HSE Psychology Teams, Minding your well-being courses by local health promotion and improvement office, safeTALK training
10. **Physical activity** training – HSEland module.
11. **Making Every Contact Count Training (MECC)** by HSE - <https://www.hse.ie/eng/about/who/healthwellbeing/making-every-contact-count/>, <https://www.hse.ie/eng/about/who/healthwellbeing/making-every-contact-count/training-programme/>
12. **Mental health service learning hub** - <https://www.hse.ie/eng/services/list/4/mental-health-services/>
13. **Open Dialogue (dialogue skills)** to inform and support Recovery oriented clinical practice – available from local HSE Mental Health Service.
14. **Training to support clinicians with suicide prevention** e.g.
  - SafeTalk training - <https://www.hse.ie/eng/services/list/4/mental-health-services/nosp/training/>
  - esuicide training – free training – 1-2 hours exploration in suicide awareness <http://www.yourmentalhealth.ie/get-involved/community-action/esuicidetalk/>
15. **INDI DIG** offer training including Level 1 course on the Dietetic Management of Type 1 Diabetes, for dietitians not specialised in diabetes, but who see clients with type 1 as part of caseload.

#### Supporting texts/reading/sources of info for health care professionals

- Join the National Institute for Preventive Cardiology (NIPC) for access to newsletters, training courses, etc [www.nipc.ie](http://www.nipc.ie)
- Diabetes Ireland in general as a source of info – membership supports and [www.diabetes.ie](http://www.diabetes.ie)
- Diabetes Ireland - SMART Course for clients – [www.diabeteseducation.ie](http://www.diabeteseducation.ie)
- Diabetes UK online course for health care professionals ‘Diabetes in Healthcare’. <https://www.diabetes.org.uk/professionals/training--competencies/diabetes-in-healthcare>
- Primary Care Diabetes Society (PCDS) – access to CPD learning and diabetes info
- Diabetes topic mailing list/Newsletters
  - Medicine Matters diabetes ([newsletter@news.medicinematters.com](mailto:newsletter@news.medicinematters.com); [www.diabetes.medicinematters.com](http://www.diabetes.medicinematters.com))
  - E-newsletter – [www.glycosmedia.com](http://www.glycosmedia.com)
  - <https://www.diabetesonthenet.com/>
- Patient experiences – <https://thriveabetes.ie>

#### CPD Opportunities

- Diabetes Ireland - Annual Diabetes Ireland Conference – Spring; Health Awareness Days linked to World Diabetes Day.
- Annual Primary Care Diabetes Society (PCDS) Conference for health care professionals (UK lead) – Spring
- Diabetes Self-Management Alliance (DSMA) Annual educational meeting
- Local Diabetes Interest Group Conferences and meetings for diabetes team members e.g. CHO 4, CHO 3, CHO 2, ECAD .
- Member of the Diabetes Interest Group of the INDI
- Cambridge Diabetes Education Programme - <http://cdep.org.uk/>

## 25. TRAVEL GUIDANCE & HOLIDAYS

### **If a person is on insulin, the following checklist applies when travelling abroad;**

- A letter on medical stationery stating you have diabetes and use insulin pens or pumps.
- A written prescription using generic medicine names and a copy of it in another bag or with a friend in case of theft/loss.
- Spare pens/insulin, extra glucose strips, ketone tests if travelling for a long break.
- To always get the required vaccines if travelling further afield.
- Insulin Travel Wallets are the most convenient way to carry insulin – It is important that your insulin supplies are kept at the correct temperature. Diabetes Ireland stock Large Insulin travel wallet €25 or Extra Large €30. For more details/to order access website <https://www.diabetes.ie/product-category/insulin-travel-wallet/> or contact Elayne on 01 8428118. Travel Wallets can be sent out in regular post by An Post.
- Carry quick acting carbohydrate in the case of a hypo and advise your travel companion on what to do. Refer to **Hypoglycaemia Appendix**
- Alcohol may lower blood glucose so don't drink alcohol on an empty stomach and if you drink alcohol, eat some carbohydrate before going to bed.
- You should carry vital medicine and equipment in your hand luggage and Airport Police are aware of this, therefore you can ask for their assistance if you encounter difficulty at security.
- Drink plenty of water in a hot climate and paying the extra cost for air conditioning may be beneficial to help prevent night time glucose fluctuations.
- Insulin may be absorbed faster in warm climates, this may cause blood glucose levels to drop which may lead you to require less insulin.
- Blood glucose is measured in mmol/L in Ireland but in mg/dl in many other countries for example in the United States. So if you need to contact a healthcare professional abroad, the conversion rate is 1mmol/L= 18mg/dl. e.g. 6 mmol/L= 108mg/dl.

### **Travel Insurance:**

Ordinary holiday insurance or backpackers insurance booked through your travel agent may not cover your diabetes. Read the small print. Diabetes is categorised as a 'pre-existing condition'. If you fall ill while abroad as a result of diabetes or the diabetes is deemed to be aggravating the illness, an ordinary travel insurance policy will not cover it. ERM Brokers will quote you for Travel Insurance covering Diabetes and we recommend getting a quote. Tel Grainne at ERM on 01 845 4361 (Diabetes Ireland 2019).

### **EHIC (European Health Information Card) information: [www.ehic.ie](http://www.ehic.ie)**

The card is covered under EU regulations only. So you can benefit from holding one only in EU/EEA countries. Hard Brexit obviously will affect it. But if there is agreement reached between UK and the EU - this might be covered in the agreement.

If your pre-existing condition causes a medical emergency while travelling, the card will cover you.

It is used in circumstances when you become ill or have an accident when travelling to another EU country for a short visit.

More information can be obtained from Citizen's Information website under The European Health Information Card section; [https://www.citizensinformation.ie/en/travel\\_and\\_recreation/travel\\_abroad/european\\_health\\_insurance\\_card.html](https://www.citizensinformation.ie/en/travel_and_recreation/travel_abroad/european_health_insurance_card.html)

## RESOURCES

A document is available to support dietitians/educators and other health care professionals with key information on free diabetes resources for use with people with type 2 diabetes. It supports this section by providing links to relevant website and literature – see Support folder/Resources. This has been updated in 2020.

The health promotion website ([www.healthpromotion.ie](http://www.healthpromotion.ie)) is a great resource where health care professionals can log in and register as a health care professional and order resources to be used in clinic /groups. There is a wide range of resources available on various websites presented there.

## **REFERENCES**

### **INTRODUCTION & PHILOSOPHY OF CARE**

Anderson, R. (1987) Diabetes educators as philosophers. *The Diabetes Educator* 13 (3) p259-261

Anderson, R.M., Funnell, M.M., (2002) Using the empowerment approach to help patients change behaviour in Anderson, B.J., Rubin, R.R. 2<sup>nd</sup> ed *Practical Psychology for Diabetes Clinicians* USA: ADA. P3-12.

Diabetes UK, Department of Health, (2015) Structured patient education in diabetes report from the patient education working group. UK: Department of health

Funnell, M.M., Anderson, R.M., Arnold, M.S., Barr, B.S., Donnelly, M., Johnson, P.D., Taylor-Moon, D., White, N.H., (1991) Empowerment: an idea whose time has come in diabetes education *The Diabetes Educator* 17(1) p 37 –41.

Forde, R., Dinneen, S., Humphreys, M., Carmody, M., Clarke, A., O Leary, K., Conway, J. (2009) Health Service Executive (HSE). Review of Diabetes Structured Education.

Harkins, V. (2016) A practical guide to integrated type 2 diabetes care. Irish College of General Practitioners, Health Service Executive, Irish Endocrine Society, editors. Dublin: Health Service Executive.

HSE (2020) GP contract <https://www.hse.ie/eng/about/who/gmscontracts/2019agreement/agreement-2019.pdf>.

<https://www.icgp.ie/index.cfm?spPath=about/news/137284E6-5ADC-4EE8-92D885470B9CEC39.html>

National Clinical Programme for Diabetes Working Group. (2018) *Model of Integrated Care for Type 2 Diabetes. A Guide for Health Care Professionals (Clinical Management Guidelines)*. [Online] Ireland Health Service Executive. Available <https://www.hse.ie/eng/about/who/cspd/ncps/diabetes/moc/model-of-integrated-care-type-2-diabetes-2018.pdf>

International Diabetes Federation (2019) *IDF Diabetes Atlas, 9th edn.* . Brussels: IDF. Available at: <https://www.diabetesatlas.org>

O'Neill, K.N., McHugh, S.M., Tracey, M.L., Fitzgerald, A.P., Kearney, P.M. (2018) Health service utilization and related costs attributable to diabetes. *Diabetes Medicine* 35(12):1727-1734. doi:10.1111/dme.13806

### **1 Dietary recommendations for adults with Type 2 Diabetes**

#### **Diet -NEW, Dietary pattern - NEW, Energy**

American Diabetes Association (2019) Standards of Medical Care in Diabetes. *Diabetes Care* 2019 ; 42( Suppl 1): S81-S89

Evert, A. B., Dennison, M., Gardner C.D., Garvey, W.T., Lau K.H.K, MacLeod, J., Mitri, J., Pereira, R.P., Rawlings, K., Robinson, S., Saslow, L., Uelman, S., Urbanski, P.B., and Yancy Jr., W.S. Nutrition Therapy for adults with diabetes or prediabetes: A consensus report *Diabetes Care* 2019; 42: 731-754

Nutrition Support Interest Group of the INDI (2015). *Nutrition Support Reference Guide*. Dublin: INDI.

Dyson, P.A., Twenefour, D., Breen, C., Duncan, A., Elvin, E., Goff, L., Hill, A., Kalsi, P., Marsland, N., McArdle, P. and Mellor, D. (2018) Diabetes UK evidence-based nutrition guidelines for the prevention and management of diabetes. *Diabetic medicine*, 35(5), pp.541-547. Full guideline: [www.diabetes.org.uk/nutrition-guidelines](http://www.diabetes.org.uk/nutrition-guidelines)

## **Carbohydrate**

Dyson, P.A., Twenefour, D., Breen, C., Duncan, A., Elvin, E., Goff, L., Hill, A., Kalsi, P., Marsland, N., McArdle, P. and Mellor, D. (2018) Diabetes UK evidence-based nutrition guidelines for the prevention and management of diabetes. *Diabetic medicine*, 35(5), pp.541-547. Full guideline: [www.diabetes.org.uk/nutrition-guidelines](http://www.diabetes.org.uk/nutrition-guidelines)

Working group of the BDA Diabetes Specialist Group. (2018). *Low carbohydrate diets for the management of Type 2 Diabetes in adults*. [online] Available at: <https://www.bda.uk.com/resource/low-carbohydrate-diets-for-the-management-of-type-2-diabetes-in-adults.html> [Accessed 19 Feb. 2020].

Diabetes UK (2017). *Position statement Low-carb diets for people with diabetes*. [ebook] London: Diabetes UK. Available at: <https://www.diabetes.org.uk/resources-s3/2017-09/low-carb-diets-position-statement-May-2017.pdf> [Accessed 19 Feb. 2020].

## **GI - NEW**

Dyson, P.A., Twenefour, D., Breen, C., Duncan, A., Elvin, E., Goff, L., Hill, A., Kalsi, P., Marsland, N., McArdle, P. and Mellor, D. (2018) Diabetes UK evidence-based nutrition guidelines for the prevention and management of diabetes. *Diabetic medicine*, 35(5), pp.541-547. Full guideline: [www.diabetes.org.uk/nutrition-guidelines](http://www.diabetes.org.uk/nutrition-guidelines)

## **Sucrose**

American Diabetes Association( 2019) Standards of Medical Care in Diabetes. *Diabetes Care* 2019 ; 42( Suppl 1): S81-S89

Dyson, P.A., Twenefour, D., Breen, C., Duncan, A., Elvin, E., Goff, L., Hill, A., Kalsi, P., Marsland, N., McArdle, P. and Mellor, D. (2018) Diabetes UK evidence-based nutrition guidelines for the prevention and management of diabetes. *Diabetic medicine*, 35(5), pp.541-547. Full guideline: [www.diabetes.org.uk/nutrition-guidelines](http://www.diabetes.org.uk/nutrition-guidelines)

## **Fructose - NEW**

American Diabetes Association (2019) Standards of Medical Care in Diabetes. *Diabetes Care* 2019 ; 42( Suppl 1): S81-S89

Dyson, P.A., Twenefour, D., Breen, C., Duncan, A., Elvin, E., Goff, L., Hill, A., Kalsi, P., Marsland, N., McArdle, P. and Mellor, D. (2018) Diabetes UK evidence-based nutrition guidelines for the prevention and management of diabetes. *Diabetic medicine*, 35(5), pp.541-547. Full guideline: [www.diabetes.org.uk/nutrition-guidelines](http://www.diabetes.org.uk/nutrition-guidelines)

## **Fruit –NEW**

Food Safety Authority of Ireland (2019) *Healthy eating, food safety and food legislation A guide supporting the Healthy Ireland Food Pyramid*, Dublin: Food Safety Authority of Ireland.

## **Yoghurt –NEW**

Diabetes Ireland. 2020. *Trying To Find A Healthy Yoghurt.....* [online] Available at: <<https://www.diabetes.ie/are-you-at-risk-free-diabetes-test/get-sugar-smart/yoghurts/>> [Accessed 27 July 2020].

Diabetes UK. 2020. *Yogurts*. [online] Available at: <<https://www.diabetes.org.uk/guide-to-diabetes/enjoy-food/eating-with-diabetes/diabetes-food-myths/yogurts>> [Accessed 27 July 2020].

## **Fizzy drinks –NEW**

American Diabetes Association (2019) Standards of Medical Care in Diabetes. *Diabetes Care* 2019 ; 42( Suppl 1): S81-S89

Harkins, V., 2016. A practical guide to integrated type 2 diabetes care. *Irish College of General Practitioners, Health Service Executive, Irish Endocrine Society, editors. Dublin: Health Service Executive.*

Dyson, P.A., Twenefour, D., Breen, C., Duncan, A., Elvin, E., Goff, L., Hill, A., Kalsi, P., Marsland, N., McArdle, P. and Mellor, D. (2018) Diabetes UK evidence-based nutrition guidelines for the prevention and management of diabetes. *Diabetic medicine*, 35(5), pp.541-547. Full guideline: [www.diabetes.org.uk/nutrition-guidelines](http://www.diabetes.org.uk/nutrition-guidelines)

International Diabetes Federation.( 2017) *Clinical Practice Recommendations For Managing Type 2 Diabetes In Primary Care*. Online) Brussels : International Diabetes Federation .

Scientific Advisory Committee on Nutrition (SACN), "Carbohydrates and Health," TSO, London, 2015.

### **Sweeteners**

Dyson, P.A., Twenefour, D., Breen, C., Duncan, A., Elvin, E., Goff, L., Hill, A., Kalsi, P., Marsland, N., McArdle, P. and Mellor, D. (2018) Diabetes UK evidence-based nutrition guidelines for the prevention and management of diabetes. *Diabetic medicine*, 35(5), pp.541-547. Full guideline: [www.diabetes.org.uk/nutrition-guidelines](http://www.diabetes.org.uk/nutrition-guidelines)

British Dietetic Association. (2016) *Policy Statement The Use of Artificial Sweeteners*. [online] Available at: [https://www.bda.uk.com/improvinghealth/healthprofessionals/policy\\_statements/sweetners](https://www.bda.uk.com/improvinghealth/healthprofessionals/policy_statements/sweetners) [Accessed 30 Aug. 2019].

Keogh, A. and Devine, H. (2016) *Position Statement of the INDI on Sweeteners*. INDI Diabetes Interest Group.

American Diabetes Association. (2018) Standards of Medical Care in Diabetes. *Diabetes Care*. Volume 41 (Supplement 1).

American Diabetes Association (2019) Standards of Medical Care in Diabetes. *Diabetes Care* 2019 ; 42( Suppl 1): S51

FSAI [Regulation \(EC\) No 1333/2008](#). (OJ L354, p16, 31/12/2008) of the European Parliament and of the Council of 16 December 2008 on food additives

### **Diabetic foods**

Dyson, P.A., Twenefour, D., Breen, C., Duncan, A., Elvin, E., Goff, L., Hill, A., Kalsi, P., Marsland, N., McArdle, P. and Mellor, D. (2018) Diabetes UK evidence-based nutrition guidelines for the prevention and management of diabetes. *Diabetic medicine*, 35(5), pp.541-547. Full guideline: [www.diabetes.org.uk/nutrition-guidelines](http://www.diabetes.org.uk/nutrition-guidelines)

Harkins, V., 2016. A practical guide to integrated type 2 diabetes care. Irish College of General Practitioners, Health Service Executive, Irish Endocrine Society, editors. Dublin: Health Service Executive.

National Institute for Clinical Excellence, 2015. Type 2 diabetes in adults: management. *NICE guidelines [NG28] Published December*.pg 14

### **Fibre**

Scientific Advisory Committee on Nutrition (2015) *Carbohydrates and Health* , London: TSO.

Dyson, P.A., Twenefour, D., Breen, C., Duncan, A., Elvin, E., Goff, L., Hill, A., Kalsi, P., Marsland, N., McArdle, P. and Mellor, D. (2018) Diabetes UK evidence-based nutrition guidelines for the prevention and management of diabetes. *Diabetic medicine*, 35(5), pp.541-547. Full guideline: [www.diabetes.org.uk/nutrition-guidelines](http://www.diabetes.org.uk/nutrition-guidelines)

Piepoli, M.F., Hoes, A.W., Agewall, S., Albus, C., Brotons, C., Catapano, A.L., Cooney, M.T., Corra, U., Cosyns, B., Deaton, C. and Graham, I., 2016. 2016 European Guidelines on cardiovascular disease prevention in clinical practice: The Sixth Joint Task Force of the European Society of Cardiology and Other Societies on Cardiovascular Disease Prevention in Clinical Practice (constituted by representatives of 10 societies and by invited experts) Developed with the special contribution of the European Association for Cardiovascular Prevention & Rehabilitation (EACPR). *European heart journal*, 37(29), pp.2315-2381.

Food Safety Authority of Ireland (2016) *Information on Nutrition and Health Claims*, Dublin : Food Safety Authority of Ireland.

## **Protein**

American Diabetes Association (2019) Standards of Medical Care in Diabetes. *Diabetes Care* 2019 ; 42( Suppl 1): S81-S89

Davies, M.J., D'Alessio, D.A., Fradkin, J., Kernan, W.N., Mathieu, C., Mingrone, G., Rossing, P., Tsapas, A., Wexler, D.J. and Buse, J.B. (2018) Management of hyperglycaemia in type 2 diabetes, 2018. A consensus report by the American Diabetes Association (ADA) and the European Association for the Study of Diabetes (EASD). *Diabetologia*, 61(12), pp.2461-2498.

Department of Health (2016) *Healthy Food for Life Food Pyramid Questions and Answers*, Dublin: Department of Health.

Food Safety Authority of Ireland. (2019) *Healthy eating, food safety and food legislation A guide supporting the Healthy Ireland Food Pyramid*, Dublin: Food Safety Authority of Ireland.

## **Red and Processed meat - NEW**

British Dietetic Association. (2015) *The BDA's stance on the IARC evaluation on red and processed meat*, Available at: <https://www.bda.uk.com/news/view?id=85> (Accessed: 20th June 2019).

Bouvard, V., Loomis, D., Guyton, K.Z., Grosse, Y., El Ghissassi, F., Benbrahim-Tallaa, L., Guha, N., Mattock, H. and Straif, K., 2015. Carcinogenicity of consumption of red and processed meat. *The Lancet Oncology*, 16(16), pp.1599-1600.

Scarborough, P., Allender, S., Clarke, D., Wickramasinghe, K. and Rayner, M., 2012. Modelling the health impact of environmentally sustainable dietary scenarios in the UK. *European journal of clinical nutrition*, 66(6), p.710.

Scientific Advisory Committee on Nutrition (2010) *Iron and Health*, London: TSO.

Dyson, P.A., Twenefour, D., Breen, C., Duncan, A., Elvin, E., Goff, L., Hill, A., Kalsi, P., Marsland, N., McArdle, P. and Mellor, D. (2018) Diabetes UK evidence-based nutrition guidelines for the prevention and management of diabetes. *Diabetic medicine*, 35(5), pp.541-547. Full guideline: [www.diabetes.org.uk/nutrition-guidelines](http://www.diabetes.org.uk/nutrition-guidelines)

Food Safety Authority of Ireland. (2019) *Healthy eating, food safety and food legislation A guide supporting the Healthy Ireland Food Pyramid*, Dublin: Food Safety Authority of Ireland.

## **Fat**

Dyson, P.A., Twenefour, D., Breen, C., Duncan, A., Elvin, E., Goff, L., Hill, A., Kalsi, P., Marsland, N., McArdle, P. and Mellor, D. (2018) Diabetes UK evidence-based nutrition guidelines for the prevention and management of diabetes. *Diabetic medicine*, 35(5), pp.541-547. Full guideline: [www.diabetes.org.uk/nutrition-guidelines](http://www.diabetes.org.uk/nutrition-guidelines)

American Diabetes Association (2019) Standards of Medical Care in Diabetes. *Diabetes Care* 2019 ; 42( Suppl 1): S81-S89

Davies, M.J., D'Alessio, D.A., Fradkin, J., Kernan, W.N., Mathieu, C., Mingrone, G., Rossing, P., Tsapas, A., Wexler, D.J. and Buse, J.B.

(2018) Management of hyperglycaemia in type 2 diabetes, 2018. A consensus report by the American Diabetes Association (ADA) and the European Association for the Study of Diabetes (EASD). *Diabetologia*, 61(12), pp.2461-2498.

Evert, A.B., Dennison, M., Gardner, C.D., Garvey, W.T., Lau, K.H., MacLeod, J., Mitri, J., Pereira, R.F., Rawlings, K., Robinson, S., Saslow, L., Elmen, S., Urbanski, P.B. and Yancy Jr, W.S. (2019) Nutrition Therapy for Adults With Diabetes or Prediabetes: A Consensus Report. *Diabetes Care*, 42: 42:731–754

British Dietetic Association and Diabetes UK. (2015) Policy statement: Dietary fat consumption in the management of Type 2 Diabetes. Available at: <https://www.diabetes.org.uk/professionals/position-statements-reports/food-nutrition-lifestyle/dietary-fat-consumption-in-the-management-of-type-2-diabetes> (Accessed 20<sup>th</sup> May 2019)

Piepoli, M.F., Hoes, A.W., Agewall, S., Albus, C., Brotons, C., Catapano, A.L., Cooney, M.T., Corra, U., Cosyns, B., Deaton, C. and Graham, I. (2016) 2016 European Guidelines on cardiovascular disease prevention in clinical practice: The Sixth Joint Task Force of the European Society of Cardiology and Other Societies on Cardiovascular Disease Prevention in Clinical Practice (constituted by representatives of 10 societies and by invited experts) Developed with the special contribution of the European Association for Cardiovascular Prevention & Rehabilitation (EACPR). *European heart journal*, 37(29), pp.2315-2381.

The Sixth Joint Task Force of the European Society of Cardiology and Other Societies on cardiovascular Disease Prevention in Clinical Practice (constituted by representatives of 10 societies and by invited experts) (2016). 2016 European Guidelines on cardiovascular disease prevention in clinical practice. *European Heart Journal*; 37, 2315–2381

The Task Force for diabetes, pre-diabetes, and cardiovascular diseases of the European Society of Cardiology (ESC) and the European Association for the Study of Diabetes (EASD), (2020) ESC Guidelines on diabetes, pre-diabetes, and cardiovascular diseases developed in collaboration with the EASD. *European Heart Journal*; 41(2):255-323

Cosentino, F., Grant, P.J., Aboyans, V., Bailey, C.J., Ceriello, A., Delgado, V., Federici, M., Filippatos, G., Grobbee, D.E., Hansen, T.B. and Huikuri, H.V. (2019) 2019 ESC guidelines on diabetes, pre-diabetes, and cardiovascular diseases developed in collaboration with the EASD: the task force for diabetes, pre-diabetes, and cardiovascular diseases of the European Society of cardiology (ESC) and the European association for the study of diabetes (EASD). *European heart journal*, 41(2), pp.255-323.

### **Saturated Fat**

American Diabetes Association. (2019) Standards of Medical Care in Diabetes. The journal of Clinical and Applied Research and Education. *Diabetes Care*. Volume 42, Supplement 1.

Piepoli, M.F., Hoes, A.W., Agewall, S., Albus, C., Brotons, C., Catapano, A.L., Cooney, M.T., Corra, U., Cosyns, B., Deaton, C. and Graham, I. (2016) 2016 European Guidelines on cardiovascular disease prevention in clinical practice: The Sixth Joint Task Force of the European Society of Cardiology and Other Societies on Cardiovascular Disease Prevention in Clinical Practice (constituted by representatives of 10 societies and by invited experts) Developed with the special contribution of the European Association for Cardiovascular Prevention & Rehabilitation (EACPR). *European heart journal*, 37(29), pp.2315-2381.

Dyson, P.A., Twenefour, D., Breen, C., Duncan, A., Elvin, E., Goff, L., Hill, A., Kalsi, P., Marsland, N., McArdle, P. and Mellor, D. (2018) Diabetes UK evidence-based nutrition guidelines for the prevention and management of diabetes. *Diabetic medicine*, 35(5), pp.541-547. Full guideline: [www.diabetes.org.uk/nutrition-guidelines](http://www.diabetes.org.uk/nutrition-guidelines)



Evert, A.B., Dennison, M., Gardner, C.D., Garvey, W.T. Lau, K.H., MacLeod, J., Mitri, J., Pereira, R.F., Rawlings, K., Robinson, S., Saslow, L., Elmen, S., Urbanski, P.B. and Yancy Jr, W.S. (2019) Nutrition Therapy for Adults With Diabetes or Prediabetes: A Consensus Report. *Diabetes Care*, 42: 42:731–754

British Dietetic Association and Diabetes UK. (2015) Policy statement: Dietary fat consumption in the management of Type 2 Diabetes. Available at: <https://www.diabetes.org.uk/professionals/position-statements-reports/food-nutrition-lifestyle/dietary-fat-consumption-in-the-management-of-type-2-diabetes> [Accessed 20<sup>th</sup> May 2019]

The Sixth Joint Task Force of the European Society of Cardiology and Other Societies on cardiovascular Disease Prevention in Clinical Practice (constituted by representatives of 10 societies and by invited experts). (2016) 2016 European Guidelines on cardiovascular disease prevention in clinical practice. *European Heart Journal*; 37, 2315–2381

The Task Force for diabetes, pre-diabetes, and cardiovascular diseases of the European Society of Cardiology (ESC) and the European Association for the Study of Diabetes (EASD). (2020) ESC Guidelines on diabetes, pre-diabetes, and cardiovascular diseases developed in collaboration with the EASD. *European Heart Journal*; 41(2):255-323

Scientific Advisory Committee on Nutrition. (2019) *Saturated fats and health*, London: TSO.

The Task Force for the management of dyslipidaemias of the European Society of Cardiology (ESC) and European Atherosclerosis Society (EAS). (2019) 2019 ESC/EAS Guidelines for the management of dyslipidaemias: lipid modification to reduce cardiovascular risk. *European Heart Journal*; 00, 1-78

Food Safety Authority of Ireland. (2019) *Healthy eating, food safety and food legislation A guide supporting the Healthy Ireland Food Pyramid*, Dublin: Food Safety Authority of Ireland.

Department of Health. (2016) *Healthy Food for Life Revised healthy eating guidelines and Food Pyramid rationale*, Dublin: Department of Health.

## **MUFA**

American Diabetes Association Standards of Medical Care in Diabetes. (2019) The journal of Clinical and Applied Research and Education. *Diabetes Care*. Volume 42, Supplement 1.

Dyson, P.A., Twenefour, D., Breen, C., Duncan, A., Elvin, E., Goff, L., Hill, A., Kalsi, P., Marsland, N., McArdle, P. and Mellor, D. (2018) Diabetes UK evidence-based nutrition guidelines for the prevention and management of diabetes. *Diabetic medicine*, 35(5), pp.541-547. Full guideline: [www.diabetes.org.uk/nutrition-guidelines](http://www.diabetes.org.uk/nutrition-guidelines)

Evert, A.B., Dennison, M., Gardner, C.D., Garvey, W.T. Lau, K.H., MacLeod, J., Mitri, J., Pereira, R.F., Rawlings, K., Robinson, S., Saslow, L., Elmen, S., Urbanski, P.B. and Yancy Jr, W.S. (2019) Nutrition Therapy for Adults With Diabetes or Prediabetes: A Consensus Report. *Diabetes Care*, 42: 42:731–754

Food Safety Authority of Ireland. (2019) *Healthy eating, food safety and food legislation A guide supporting the Healthy Ireland Food Pyramid*, Dublin: Food Safety Authority of Ireland.

Department of Health. (2016) *Healthy Food for Life Revised healthy eating guidelines and Food Pyramid rationale*, Dublin : Department of Health.

Department of Health. (2016) *Healthy Food for Life Food Pyramid leaflet*, Dublin: Department of Health.

Scientific Advisory Committee on Nutrition. (2019) *Saturated fats and health*, London: TSO.

## **PUFA**

American Diabetes Association. (2019) Standards of Medical Care in Diabetes. The journal of Clinical and Applied Research and Education. *Diabetes Care*. Volume 42, Supplement 1.

Dyson, P.A., Twenefour, D., Breen, C., Duncan, A., Elvin, E., Goff, L., Hill, A., Kalsi, P., Marsland, N., McArdle, P. and Mellor, D. (2018) Diabetes UK evidence-based nutrition guidelines for the prevention and management of diabetes. *Diabetic medicine*, 35(5), pp.541-547. Full guideline: [www.diabetes.org.uk/nutrition-guidelines](http://www.diabetes.org.uk/nutrition-guidelines)

Evert, A.B., Dennison, M., Gardner, C.D., Garvey, W.T. Lau, K.H., MacLeod, J., Mitri, J., Pereira, R.F., Rawlings, K., Robinson, S., Saslow, L., Elmen, S., Urbanski, P.B. and Yancy Jr, W.S. (2019) Nutrition Therapy for Adults With Diabetes or Prediabetes: A Consensus Report. *Diabetes Care*, 42: 42:731–754

The Task Force for the management of dyslipidaemias of the European Society of Cardiology (ESC) and European Atherosclerosis Society (EAS). (2019) 2019 ESC/EAS Guidelines for the management of dyslipidaemias: lipid modification to reduce cardiovascular risk. *European Heart Journal*; 00, 1-78

Food Safety Authority of Ireland. (2019) *Healthy eating, food safety and food legislation A guide supporting the Healthy Ireland Food Pyramid*, Dublin: Food Safety Authority of Ireland.

Department of Health. (2016) *Healthy Food for Life Revised healthy eating guidelines and Food Pyramid rationale*, Dublin: Department of Health.

Department of Health. (2016) *Healthy Food for Life Food Pyramid leaflet*, Dublin: Department of Health.

Scientific Advisory Committee on Nutrition. (2019) *Saturated fats and health*, London: TSO.

## **TFA**

American Diabetes Association Standards of Medical Care in Diabetes. (2019) The journal of Clinical and Applied Research and Education. *Diabetes Care*. Volume 42, Supplement 1.

Dyson, P.A., Twenefour, D., Breen, C., Duncan, A., Elvin, E., Goff, L., Hill, A., Kalsi, P., Marsland, N., McArdle, P. and Mellor, D. (2018) Diabetes UK evidence-based nutrition guidelines for the prevention and management of diabetes. *Diabetic medicine*, 35(5), pp.541-547. Full guideline: [www.diabetes.org.uk/nutrition-guidelines](http://www.diabetes.org.uk/nutrition-guidelines)

The Sixth Joint Task Force of the European Society of Cardiology and Other Societies on cardiovascular Disease Prevention in Clinical Practice (constituted by representatives of 10 societies and by invited experts). (2016) 2016 European Guidelines on cardiovascular disease prevention in clinical practice. *European Heart Journal*; 37, 2315–2381

The Task Force for diabetes, pre-diabetes, and cardiovascular diseases of the European Society of Cardiology (ESC) and the European Association for the Study of Diabetes (EASD). (2020) ESC Guidelines on diabetes, pre-diabetes, and cardiovascular diseases developed in collaboration with the EASD. *European Heart Journal*; 41(2):255-323

The Task Force for the management of dyslipidaemias of the European Society of Cardiology (ESC) and European Atherosclerosis Society (EAS). (2019) 2019 ESC/EAS Guidelines for the management of dyslipidaemias: lipid modification to reduce cardiovascular risk. *European Heart Journal*; 00, 1-78

Food Safety Authority of Ireland. (2019) *Healthy eating, food safety and food legislation A guide supporting the Healthy Ireland Food Pyramid*, Dublin: Food Safety Authority of Ireland.

Department of Health. (2016) *Healthy Food for Life Revised healthy eating guidelines and Food Pyramid rationale*, Dublin: Department of Health.

### **Plant Sterols and Stanols**

Dyson, P.A., Twenefour, D., Breen, C., Duncan, A., Elvin, E., Goff, L., Hill, A., Kalsi, P., Marsland, N., McArdle, P. and Mellor, D. (2018) Diabetes UK evidence-based nutrition guidelines for the prevention and management of diabetes. *Diabetic medicine*, 35(5), pp.541-547. Full guideline: [www.diabetes.org.uk/nutrition-guidelines](http://www.diabetes.org.uk/nutrition-guidelines)

Catapano, A.L., Graham, I., De Backer, G., Wiklund, O., Chapman, M.J., Drexel, H., Hoes, A.W., Jennings, C.S., Landmesser, U., Pedersen, T.R. and Reiner, Ž. (2016) 2016 ESC/EAS guidelines for the management of dyslipidaemias. *European heart journal*, 37(39), pp.2999-3058.

Main, L., (2015) *Food Fact Sheet Stanols and Sterols*. [online]. (4<sup>th</sup> Edition). Birmingham, BDA. Available <https://www.bda.uk.com/foodfacts/PlantStanolsAndSterols.pdf> [27/08/2019].

### **Fish & Oily Fish**

Food Safety Authority of Ireland. (2019) *Healthy eating, food safety and food legislation A guide supporting the Healthy Ireland Food Pyramid*, Dublin: Food Safety Authority of Ireland.

Healthy Ireland. (2016) *Healthy food for life*. Available at: <https://www.hse.ie/eng/about/who/healthwellbeing/our-priority-programmes/heal/heal-docs/food-pyramid-leaflet.pdf> (Accessed 20<sup>th</sup> May 2019)

European Food Safety Authority (EFSA). (2018) *Dioxins and related PCBs: tolerable intake level updated*. Available at: <https://www.efsa.europa.eu/en/press/news/181120> (accessed 14/5/19)

Dyson, P.A., Twenefour, D., Breen, C., Duncan, A., Elvin, E., Goff, L., Hill, A., Kalsi, P., Marsland, N., McArdle, P. and Mellor, D. (2018) Diabetes UK evidence-based nutrition guidelines for the prevention and management of diabetes. *Diabetic medicine*, 35(5), pp.541-547. Full guideline: [www.diabetes.org.uk/nutrition-guidelines](http://www.diabetes.org.uk/nutrition-guidelines)

Health Service Executive (HSE). (2018) *My Pregnancy Expert advice for every step*. Available at: <https://www2.hse.ie/file-library/child-health/my-pregnancy-book.pdf> (Accessed 20<sup>th</sup> May 2019)

Scientific Advisory Committee on Nutrition. (2004) *SACN Advice on Fish Consumption*, London: TSO.

Pan, A., Chen, M., Chowdhury, R., Wu, J.H., Sun, Q., Campos, H., Mozaffarian, D. and Hu, F.B. (2012)  $\alpha$ -Linolenic acid and risk of cardiovascular disease: a systematic review and meta-analysis. *The American journal of clinical nutrition*, 96(6), pp.1262-1273.

Burdge G.C. and Wootton S.A. (2002) Conversion of  $\alpha$ -linolenic acid to eicosapentaenoic, docosapentaenoic and docosahexaenoic acids in young women. *British Journal of Nutrition*, 88(4), pp.411-420

Burdge, G.C., Jones, A.E. and Wootton, S.A. (2002) Eicosapentaenoic and docosapentaenoic acids are the principal products of  $\alpha$ -linolenic acid metabolism in young men. *British Journal of Nutrition*, 88(4), pp.355-363.

Vannice, G. and Rasmussen, H. (2014) Position of the academy of nutrition and dietetics: dietary fatty acids for healthy adults. *Journal of the Academy of Nutrition and Dietetics*, 114(1), pp.136-153.

## **Fish Oil Supplements**

American Diabetes Association Standards of Medical Care in Diabetes. (2019) The journal of Clinical and Applied Research and Education. *Diabetes Care*. Volume 42, Supplement 1.

Scottish Intercollegiate Guidelines Network (2017). *116 Management of diabetes A national clinical guideline*. Edinburgh: SIGN. Available at <https://www.sign.ac.uk/assets/sign116.pdf> (accessed 25<sup>th</sup> February 2020).

National Institute for Health and Care Excellence (NICE). (2014) *Cardiovascular disease: risk assessment and reduction, including lipid modification*. Available at <https://www.nice.org.uk/guidance/cg181/resources/cardiovascular-disease-risk-assessment-and-reduction-including-lipid-modification-pdf-35109807660997> (Accessed 20<sup>th</sup> May 2019)

Evert, A.B., Dennison, M., Gardner, C.D., Garvey, W.T. Lau, K.H., MacLeod, J., Mitri, J., Pereira, R.F., Rawlings, K., Robinson, S., Saslow, L., Elmen, S., Urbanski, P.B. and Yancy Jr, W.S. (2019) Nutrition Therapy for Adults with Diabetes or Prediabetes: A Consensus Report. *Diabetes Care*, 42: 42:731–754

Dyson, P.A., Twenefour, D., Breen, C., Duncan, A., Elvin, E., Goff, L., Hill, A., Kalsi, P., Marsland, N., McArdle, P. and Mellor, D. (2018) Diabetes UK evidence-based nutrition guidelines for the prevention and management of diabetes. *Diabetic medicine*, 35(5), pp.541-547. Full guideline: [www.diabetes.org.uk/nutrition-guidelines](http://www.diabetes.org.uk/nutrition-guidelines)

Food Safety Authority of Ireland. (2019) *Healthy eating, food safety and food legislation A guide supporting the Healthy Ireland Food Pyramid*, Dublin: Food Safety Authority of Ireland.

The Task Force for diabetes, pre-diabetes, and cardiovascular diseases of the European Society of Cardiology (ESC) and the European Association for the Study of Diabetes (EASD). (2020) ESC Guidelines on diabetes, pre-diabetes, and cardiovascular diseases developed in collaboration with the EASD. *European Heart Journal*; 41(2):255-323

The Task Force for the management of dyslipidaemias of the European Society of Cardiology (ESC) and European Atherosclerosis Society (EAS). (2019) 2019 ESC/EAS Guidelines for the management of dyslipidaemias: lipid modification to reduce cardiovascular risk. *European Heart Journal*; 00, 1-78

## **Micronutrients**

Nutrition Therapy for Adults with Diabetes or Prediabetes: A Consensus Report. *Diabetes Care*, Volume 42, May 2019; pp 744.

Harkins, V., 2016. A practical guide to integrated type 2 diabetes care. *Irish College of General Practitioners, Health Service Executive, Irish Endocrine Society, editors. Dublin: Health Service Executive.*

International Diabetes Federation. (2017) *Clinical Practice Recommendations For Managing Type 2 Diabetes In Primary Care*. Online) Brussels: International Diabetes Federation . Available at [www.idf.org/managing-type2-diabetesSodium](http://www.idf.org/managing-type2-diabetesSodium)

Mancia, G., Fagard, R., Narkiewicz, K., Redán, J., Zanchetti, A., Böhm, M., Christiaens, T., Cifkova, R., De Backer, G., Dominiczak, A. and Galderisi, M. (2013) 2013 Practice guidelines for the management of arterial hypertension of the European Society of Hypertension (ESH) and the European Society of Cardiology (ESC): ESH/ESC Task Force for the Management of Arterial Hypertension. *Journal of hypertension*, 31(10), pp.1925-1938.

## **Salt/Sodium**

American Diabetes Association Standards of Medical Care in Diabetes. (2019)

## **2 Alcohol**

American Diabetes Association Standards of Medical Care in Diabetes. (2019) The journal of Clinical and Applied Research and Education. *Diabetes Care*. Volume 42, Supplement 1.

Dyson, P.A., Twenefour, D., Breen, C., Duncan, A., Elvin, E., Goff, L., Hill, A., Kalsi, P., Marsland, N., McArdle, P. and Mellor, D. (2018) Diabetes UK evidence-based nutrition guidelines for the prevention and management of diabetes. *Diabetic medicine*, 35(5), pp.541-547. Full guideline: [www.diabetes.org.uk/nutrition-guidelines](http://www.diabetes.org.uk/nutrition-guidelines)

Health Service Executive. (2019) Alcohol and Health available at [www.askaboutalcohol.ie/health/](http://www.askaboutalcohol.ie/health/) (accessed 4<sup>th</sup> October 2019).

Health Service Executive. (2019) Weekly Low Risk Drinking Guidelines available at <https://www.askaboutalcohol.ie/your-drinking/weekly-low-risk-drinking-guidelines/> (accessed 4<sup>th</sup> October 2019).

Health Service Executive. (2019) Alcohol and it's effects on the body available at <https://www.askaboutalcohol.ie/health/effects-on-the-body/> accessed 4<sup>th</sup> October 2019)

Drink Aware (2020) [www.drinkaware.ie](http://www.drinkaware.ie) (accessed 26/2/2020)

## **3 Behaviour Change**

American Diabetes Association Standards of Medical Care in Diabetes. (2019) The journal of Clinical and Applied Research and Education. *Diabetes Care*. Volume 42, Supplement 1.

Facing Life with Diabetes (Chapter 2) in Hendrieckx, C., Halliday, J.A., Beeney, L.J., Speight, J. (2016) *Diabetes and Emotional Health: a practical guide for healthcare professionals supporting adults with Type 1 and Type 2 Diabetes*, ed. Canberra: National Diabetes Services Scheme, 19-30.

Anderson, RM., Funnell, MM., Burkhart N., et al. (2008) *101 Tips for Behaviour Change in Diabetes Education*, USA: ADA.

Anderson, RM., Funnell, MM. (2005) *The Art of Empowerment Stories and Strategies for Diabetes Educators*, USA: ADA.

Dyson, P.A., Twenefour, D., Breen, C., Duncan, A., Elvin, E., Goff, L., Hill, A., Kalsi, P., Marsland, N., McArdle, P. and Mellor, D. (2018) Diabetes UK evidence-based nutrition guidelines for the prevention and management of diabetes. *Diabetic medicine*, 35(5), p14-16. Full guideline: [www.diabetes.org.uk/nutrition-guidelines](http://www.diabetes.org.uk/nutrition-guidelines)

Hendrieckx, C., Halliday, J.A., Beeney, L.J., Speight, J. (2019) *Diabetes and Emotional Health: a practical guide for healthcare professionals supporting adults with Type 1 and Type 2 Diabetes*, 2<sup>nd</sup> ed., London: Diabetes UK.

National Clinical Programme for Diabetes Working Group. (2018) *Model of Integrated Care for Type 2 Diabetes. A Guide for Health Care Professionals (Clinical Management Guidelines)*. [Online] Ireland Health Service Executive. Available <https://www.hse.ie/eng/about/who/cspd/ncps/diabetes/moc/model-of-integrated-care-type-2-diabetes-2018.pdf>

Mitchie, S., West, R., Campbell, R., Brown, J., Gainforth, H., (2014) *ABC of Behaviour Change Theories An essential resource for researchers and policy makers and practitioners 83 theories*. UK: Silverback Publishing.

Najvitis, LM, Weiss, S. (1994) Variations in therapist effectiveness in the treatment of patients with substance use disorders: an empirical review. *Addiction*, 89,p 679-688.

National Institute for Health and Care Excellence (NICE), (2007) Behaviour change general approaches  
<https://www.nice.org.uk/guidance/ph6> [Accessed 23<sup>rd</sup> May 2019]

National Institute for Health and Care Excellence (NICE), (2014) Behaviour change: individual approaches  
<https://www.nice.org.uk/Guidance/PH49> [Accessed 23<sup>rd</sup> May 2019]

Miller, W.R., Rollnick, S. (2013) *Motivational interviewing helping people change* 3<sup>rd</sup> edition, New York: Guilford.

Pearson, D. (2014) '1.3 Changing health behaviour' in *BDA Manual of Dietetic Practice* 5th ed., UK: Wiley Blackwell, p25-38.

Stewart, M., Belle Brown, J., Weston, W.W., McWhinney, I.R., McWilliam, C.L., Freeman, T.R., (2006) *Patient centred medicine transforming the clinical method* 2<sup>nd</sup> edition. UK: Radcliffe-Oxford.

#### **4 Blood Glucose Monitoring –NEW**

The Medicines Management programme report on Self-Monitoring of Blood Glucose (SMBG) in Type 2 Diabetes 2016 is available on  
[www.hse.ie/yourmedicines](http://www.hse.ie/yourmedicines) [Accessed 23<sup>rd</sup> May 2019]

Guide to Blood Glucose Testing (leaflet for people with type 2 diabetes) - order from [www.healthpromotion.ie](http://www.healthpromotion.ie) under the Healthy Eating Category and it can be viewed at <https://www.healthpromotion.ie/hp-files/docs/HDP00976.pdf> [Accessed 23<sup>rd</sup> May 2019]

'Type 2 Diabetes Test Strips Reimbursement, Questions and Answers for Health Professionals' and 'Type 2 Diabetes Test Strips: Questions and Answers for Patients'

<http://www.hse.ie/eng/about/Who/clinical/natclinprog/diabetesprogramme/Bloodsugartesting/>. [Accessed 23<sup>rd</sup> May 2019]

Guidance on the quantity of blood glucose test strips available to people with Type Two Diabetes in Ireland based on treatments prescribed, available at - <https://www.hse.ie/eng/services/list/2/primarycare/east-coast-diabetes-service/diabetes-nursing/capillary-blood-glucose-monitoring/> [Accessed 23<sup>rd</sup> May 2019]

Letter re: Reimbursement of Blood Glucose Test Strips (BGTS) for Patients with Type 2 Diabetes Mellitus, Prof Michael Barry  
National Clinical Lead, Medicines Management Programme <https://www.hse.ie/eng/services/publications/clinical-strategy-and-programmes/bgts-for-patients-with-type-2-diabetes-mellitus.pdf>

National Clinical Programme for Diabetes Working Group. (2018) *Model of Integrated Care for Type 2 Diabetes. A Guide for Health Care Professionals (Clinical Management Guidelines)*. [Online] Ireland Health Service Executive. Available  
<https://www.hse.ie/eng/about/who/cspd/ncps/diabetes/moc/model-of-integrated-care-type-2-diabetes-2018.pdf> [Accessed 23<sup>rd</sup> May 2019]

Harkins, V. (2016) *A practical guide to integrated type 2 diabetes care*. Dublin: Irish College of General Practitioners.

American Diabetes Association Standards of Medical Care in Diabetes. (2019) *The journal of Clinical and Applied Research and Education. Diabetes Care*. Volume 42, P.S62.

The HSE Blood Glucose Monitoring Review Group documents from 2017 – accessed from local Clinical Nurse specialist in Diabetes on the review group, Siobhan Meehan [Accessed 20<sup>th</sup> May 2019]

The Health Technology Assessment Group prepared an Advice Note 2017/001 on the Freestyle Libre System -  
<https://www.hse.ie/eng/about/who/healthwellbeing/htag/publications/htag-advice-note-freestyle-libre.pdf> [Accessed 23<sup>rd</sup> May 2019]

Letter re: Reimbursement of Abbott FreeStyle Libre Sensor effective 1st April 2018

<https://www.hse.ie/eng/staff/pcrs/circulars/pharmacy/10-2018-pharmacy-circular.pdf> From Anne Marie Hoey, Primary Care Reimbursement & Eligibility to Irish Pharmacies. [Accessed 23<sup>rd</sup> May 2019]

Guide to Blood Glucose Monitoring - <https://www.healthpromotion.ie/hp-files/docs/HDP00976.pdf>

Diabetes and Driving - Driving Guidelines from NDLS – <https://www.ndls.ie/images/Documents/Forms/Diabetes-and-Driving.pdf>

## **5 Chronic Kidney Disease**

American Diabetes Association Standards of Medical Care in Diabetes. (2019) The journal of Clinical and Applied Research and Education. *Diabetes Care*. Volume 42, Supplement 1.

Harkins, V. (2016) A practical guide to integrated type 2 diabetes care. Dublin: Irish College of General Practitioners.

INDI Renal Interest Group Kidney Disease: Improving Global Outcomes (KDIGO) CKD Work Group. (2012) KDIGO 2012 Clinical Practice Guideline for the Evaluation and Management of Chronic Kidney Disease. *Kidney international*, Suppl. 3, 2013; 3(1): 1-150.

National Clinical Programme for Diabetes Working Group. (2018) *Model of Integrated Care for Type 2 Diabetes. A Guide for Health Care Professionals (Clinical Management Guidelines)*. [Online] Ireland Health Service Executive. Available <https://www.hse.ie/eng/about/who/cspd/ncps/diabetes/moc/model-of-integrated-care-type-2-diabetes-2018.pdf> [Accessed 23<sup>rd</sup> May 2019]

National Institute for Health and Care Excellence. (2014) Chronic kidney disease in adults: assessment and management. Clinical guideline [CG182].

## **6 Clinical Targets - for ADULTS and for OLDER ADULTS**

American Diabetes Association (2019) 'Standards of Medical Care in Diabetes', *Diabetes Care*, 42, S1,S54-S55

Davies, M.J., D'Alessio, D.A., Fradkin, J., Kernan, W.N., Mathieu, C., Mingrone, G., Rossing, P., Tsapas, A., Wexler, D.J. and Buse, J.B. (2018) Management of hyperglycaemia in type 2 diabetes, 2018. A consensus report by the American Diabetes Association (ADA) and the European Association for the Study of Diabetes (EASD). *Diabetologia*, 61(12)

CROI (2018) Cholesterol Masterclass/Update on Cardiovascular Disease <https://nipc.ie/library/nipc-presentations/>

Harkins, V.(2016) 'A practical guide to integrated type 2 diabetes care', *Irish College of General Practitioners, Health Service Executive, Irish Endocrine Society, editors. Dublin: Health Service Executive.*

HSE (2015) Diabetes Cycle of Care – see careplan folder on Clinical Targets

HSE (2018) *Model of Integrated Care for Patients with Type 2 Diabetes – A Guide for Health Care Professionals (Clinical Management Guidelines)*.

X-PERT Ireland. (2018) My Diabetes Health Results Form working group



National Clinical Programme for Diabetes Working Group. (2018) *Model of Integrated Care for Type 2 Diabetes. A Guide for Health Care Professionals (Clinical Management Guidelines)*. [Online] Ireland Health Service Executive. Available <https://www.hse.ie/eng/about/who/cspd/ncps/diabetes/moc/model-of-integrated-care-type-2-diabetes-2018.pdf> [Accessed 27<sup>th</sup> June 2019]

National Clinical Programme for Diabetes Working Group. (2012) Dr Diarmuid Smith, Dr Velma Harkins, Mairead Gleeson (2016). A Practical Guide to Integrated Type 2 diabetes Care produced by the Irish College of General Practitioners (ICGP)

### (i) Foot Care

Jeffcoate, W.J, Harding, K.G. (2003) Diabetic foot ulcers. *Lancet* 361; 1545-1551

Abbott, C.A., Carrington, A.L., Ashe, H., Bath, S., Every, L.C., Griffiths, J., Hann, A.W., Hussein, A., Jackson, N., Johnson, K.E. and Ryder, C.H. (2002) The North-West Diabetes Foot Care Study: incidence of, and risk factors for, new diabetic foot ulceration in a community-based patient cohort. *Diabetic medicine*, 19(5), pp.377-384.

Scottish Intercollegiate Guidelines Network (2017). *116 Management of diabetes A national clinical guideline*. Edinburgh: SIGN. Available at <https://www.sign.ac.uk/assets/sign116.pdf> (accessed 25<sup>th</sup> February 2020).

National Clinical Programme for Diabetes Working Group. (2011) Model of Care for the Diabetic Foot. [Online] Ireland Health Service Executive Available <https://www.hse.ie/eng/services/publications/clinical-strategy-and-programmes/model-of-care-for-the-diabetic-foot-.pdf> [Accessed 27<sup>th</sup> June 2019]

### (ii) Oral Health

Thayumanavan, B., Jeyanthikumari, T. and Abu Dakir, V.N. (2015) 'Diabetes & Oral Health', *International Journal of Medical and dental science*. 4(2) 901-905 Available [http://www.informaticsjournals.com/index.php/ijmds/article/viewFile/19653/16304] Accessed 27<sup>th</sup> June 2019

Dental Health Foundation Ireland (2018)

[https://www.dentalhealth.ie/assets/files/pdf/diabetes\\_adult\\_postcard\\_final.pdf](https://www.dentalhealth.ie/assets/files/pdf/diabetes_adult_postcard_final.pdf)

### (iii) Non Alcoholic Fatty Liver Disease

Norris, S. (2018) *What everyone with diabetes should know about liver disease*.

EASL-EASD-EASO Clinical Practice Guidelines for the management of non-alcoholic fatty liver disease. (2016) *Journal of Hepatology* vol 64, 1388-1402.

Crosbie, O. (2018) *Non Alcohol Fatty Liver Disease*.

### (iv) Cardiovascular Disease

MacGregor AS, Price JF, Hau CM, Lee AJ, Carson MN, Fowkes FG: Role of systolic blood pressure and plasma triglycerides in diabetic peripheral arterial disease: the Edinburgh Artery Study. *Diabetes Care* 22:453–458, 1999



- Powers, A.M., Bordsley, J., Cupress, M., Duker, P., Funnell, M.M, Fischl, Amy Hess., Maryniuk, M.D., Siminerio, L., Vivian, E. (2015) Diabetes Self Management Education and Support in Type 2 Diabetes: A Joint Position Statement of the American Diabetes Association, the American Association of Diabetes Educators and the Academy of Nutrition and Dietetics, *Diabetes Care*.
- American Diabetes Association Standards of Medical Care in Diabetes. (2019) The journal of Clinical and Applied Research and Education. *Diabetes Care*. Volume 42, Supplement 1
- Deakin, T.A., Cade, J.E., Williams, R., Greenwood, D.C. (2006) Structured patient education: the diabetes X-PERT programme makes a difference. *Diabet Med*, 23;944-954.
- Loveman, E., Frampton, G.K., Clegg, A.J. (2008) The clinical effectiveness of diabetes education models for Type 2 Diabetes: a systematic review. *Health Tech Assess*, 12 (9): 1-116, iii.
- Piatt, G.A., Anderson, R.M., Brooks, M.M., Songer, T., Siminerio, L.M., Korytkowski, M.M., Zgibor, J.C. (2010) Three year follow up of clinical and behavioural improvements following a multifaceted diabetes care intervention: results of a randomized controlled trial. *Diabetes Educ*, 36 (2): 301-9.
- Davies, M.J., Heller, S., Skinner, T.C., Campbell, M.J., Carey, M.E., Craddock, S., Dallosso, H.M., Daly, H., Doherty, Y., Eaton, S., FOX, C., Oliver, L., Rantell, K., Rayman, G., Khunti, K. (2008) Diabetes Education and self management for ongoing and newly diagnosed collaborative. Effectiveness of the diabetes education for ongoing and newly diagnosed (DESMOND) programme for people with newly diagnosed Type 2 Diabetes: cluster randomised controlled trial. *BMJ*, 336 (7642): 491-5.
- Chrvala, C.A., Sherr, D., Lipamn, R.D. (2016) Diabetes self management education for adults with type 2 Diabetes mellitus. A systematic review of the effect on glycaemic control. *Patient Educ Couns*, 99 (6): 926-43.
- Steinsbekk, A., Rygg, L.O., Lisulo, M., Rise, M.B., Fretheim, A. (2012) Group based diabetes self management compared to routine treatment for people with type 2 diabetes mellitus. A systematic review with meta analysis. *BMC Health Serv Res*, 12:213
- Guo, X.H., Ji, L.N., Lu, J.M., Liu, J., Lou, Q.Q., Liu, J., Shen, L., Zhang, M.X, Lv, X.F., Gu, M.J. (2014) Efficacy of structured education in patients with Type 2 Diabetes mellitus receiving insulin treatment. *J Diabetes*, 6 (4): 290-7.
- Ford, R., Dinneen, S., Humphreys, M., Carmody, M., Clarke, A., O Leary, K., Conway, J. (2009) Health Service Executive (HSE). Review of Diabetes Structured Education.
- <https://www.hse.ie/eng/services/publications/topics/diabetes/reviewdiabetesstructured2009.pdf>
- Health Information and Quality Authority. (2015) Health Technology assessment of chronic disease self management support interventions. <https://www.hiqa.ie/sites/default/files/2017-01/CDSM-Diabetes.pdf>
- Chatterjee, S., Davies, M.J., Heller, S., Speight, J., Snoek, F.J., Khunti, K. (2018) Diabetes Structured Self Management education programmes: a narrative review and current innovations. *Lancet Diabetes Endocrinol*, 6: 130-42.
- Chronic Conditions Working Group. (2017) Living well with a chronic condition: Framework for self management support. National framework and Implementation plan for self management support for chronic conditions: COPD, Asthma, Diabetes and Cardiovascular Disease.

Long Term Illness scheme. Available <https://www2.hse.ie/costs-schemes-allowances/>

Diabetic retina screening programme. Available <http://www.diabeticretinascreen.ie>

Foot care services. Available

[https://www.citizensinformation.ie/en/health/health\\_services/care\\_in\\_your\\_community/chiropractic\\_services.html](https://www.citizensinformation.ie/en/health/health_services/care_in_your_community/chiropractic_services.html)

Tax credits relief. Available. <https://www.revenue.ie/en/personal-tax-credits-reliefs-and-exemptions/health-and-age/health-expenses/additional-diet-expenses-for-coeliacs-and-diabetics.aspx>

Supplementary payment scheme. Available.

[https://www.citizensinformation.ie/en/social\\_welfare/social\\_welfare\\_payments/supplementary\\_welfare\\_schemes/supplementary\\_welfare\\_allow.html](https://www.citizensinformation.ie/en/social_welfare/social_welfare_payments/supplementary_welfare_schemes/supplementary_welfare_allow.html)

Citizens Information. Available. [www.revenue.ie](http://www.revenue.ie); [www.welfare.ie](http://www.welfare.ie); <http://www.citizensinformation.ie/en/>

### **Food labelling – NEW – see support folder**

Food Safety Authority of Ireland. (2016) *Information on Nutrition and Health Claims*, Dublin : Food Safety Authority of Ireland.

Food Safety Authority of Ireland. (2019) *Healthy eating, food safety and food legislation A guide supporting the Healthy Ireland Food Pyramid*, Dublin : Food Safety Authority of Ireland.

Department of Health. (2016) *Guide to creating a front of pack (FoP) nutrition label for pre-packed products sold through retail outlets*, London: UK Department of Health.

Irish Heart. (2014) *Food shopping card*, Available at: <https://irishheart.ie/wp-content/uploads/2017/01/foodshoppingcard2014.pdf> (Accessed: 20th June 2019).

NHS. (2017) *Reference intakes explained*, Available at: <https://www.nhs.uk/live-well/eat-well/what-are-reference-intakes-on-food-labels/> (Accessed: 20th June 2019).

European Parliament. (2007) *REGULATION (EC) No 1924/2006 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 20 December 2006 on nutrition and health claims made on foods*, European Union: Official Journal of the European Union.

## **10 Hypertension and Hyperlipidaemia**

### **(i) Hyperlipidaemia**

Catapano, A.L., Graham, I., De Backer, G., Wiklund, O., Chapman, M.J., Drexel, H., Hoes, A.W., Jennings, C.S., Landmesser, U., Pedersen, T.R. and Reiner, Ž. (2016) 2016 ESC/EAS guidelines for the management of dyslipidaemias. *European heart journal*, 37(39), pp.2999-3058.

Harkins, V. (2016) A practical guide to integrated type 2 diabetes care. *Irish College of General Practitioners, Health Service Executive, Irish Endocrine Society, editors. Dublin: Health Service Executive.*

Sacks, F.M., Lichtenstein, A.H., Wu, J.H., Appel, L.J., Creager, M.A., Kris-Etherton, P.M., Miller, M., Rimm, E.B., Rudel, L.L., Robinson, J.G. and Stone, N.J. (2017) Dietary fats and cardiovascular disease: a presidential advisory from the American Heart Association. *Circulation*, 136(3), pp.e1-e23.

Scottish Intercollegiate Guidelines Network (2017). *116 Management of diabetes A national clinical guideline*. Edinburgh: SIGN. Available at <https://www.sign.ac.uk/assets/sign116.pdf> (accessed 25<sup>th</sup> February 2020).

Dyson, P.A., Twenefour, D., Breen, C., Duncan, A., Elvin, E., Goff, L., Hill, A., Kalsi, P., Marsland, N., McArdle, P. and Mellor, D. (2018) Diabetes UK evidence-based nutrition guidelines for the prevention and management of diabetes. *Diabetic medicine*, 35(5), pp.541-547. Full guideline: [www.diabetes.org.uk/nutrition-guidelines](http://www.diabetes.org.uk/nutrition-guidelines)

American Diabetes Association. (2019) Standards of Medical Care in Diabetes. *Diabetes Care* 2019; 42(Suppl 1): S81-S89

## **(ii) Hypertension**

Mancia, G., Fagard, R., Narkiewicz, K., Redon, J., Zanchetti, A., Böhm, M., Christiaens, T., Cifkova, R., De Backer, G., Dominiczak, A. and Galderisi, M. (2013) 2013 ESH/ESC guidelines for the management of arterial hypertension: the Task Force for the Management of Arterial Hypertension of the European Society of Hypertension (ESH) and of the European Society of Cardiology (ESC). *Blood pressure*, 22(4), pp.193-278.

Harkins, V. (2016) A practical guide to integrated type 2 diabetes care. *Irish College of General Practitioners, Health Service Executive, Irish Endocrine Society, editors. Dublin: Health Service Executive.*

Scottish Intercollegiate Guidelines Network (2017). *116 Management of diabetes A national clinical guideline*. Edinburgh: SIGN. Available at <https://www.sign.ac.uk/assets/sign116.pdf> (accessed 25<sup>th</sup> February 2020).

International Diabetes Federation. (2017) *Recommendations For Managing Type 2*

*Diabetes In Primary Care*. (Online) Brussels. International Diabetes Federation. Available at [www.idf.org/managing-type2-diabetesSodium](http://www.idf.org/managing-type2-diabetesSodium) [Accessed 01/06/2019]

Dyson, P.A., Twenefour, D., Breen, C., Duncan, A., Elvin, E., Goff, L., Hill, A., Kalsi, P., Marsland, N., McArdle, P. and Mellor, D. (2018) Diabetes UK evidence-based nutrition guidelines for the prevention and management of diabetes. *Diabetic medicine*, 35(5), pp.541-547. Full guideline: [www.diabetes.org.uk/nutrition-guidelines](http://www.diabetes.org.uk/nutrition-guidelines)

American Diabetes Association. (2019) Standards of Medical Care in Diabetes. *Diabetes Car* 2019 ; 42 (Suppl 1): S81-S89

## **11 Hypoglycaemia, including Driving Guidance**

### **(i) Hypoglycaemia**

Care, D., 2019. Standards of Medical Care in Diabetes 2019. *Diabetes Care*, 42, p.S61-S70.

Dyson, P.A., Twenefour, D., Breen, C., Duncan, A., Elvin, E., Goff, L., Hill, A., Kalsi, P., Marsland, N., McArdle, P. and Mellor, D. (2018) Diabetes UK evidence-based nutrition guidelines for the prevention and management of diabetes. *Diabetic medicine*, 35(5), pp.541-547. Full guideline: [www.diabetes.org.uk/nutrition-guidelines](http://www.diabetes.org.uk/nutrition-guidelines)

Harkins, V. (2016) A practical guide to integrated type 2 diabetes care. *Dublin: Irish College of General Practitioners.*

Diabetes Ireland. (2019) *Treatment Options for Hypoglycaemia*. [online]. Available <https://www.diabetes.ie/treatment-options-for-hypoglycaemia/> [Accessed 27<sup>th</sup> June 2019].

Diabetes Ireland. (2019) *Talk Hypos*. [online]. Available <https://www.diabetes.ie/living-with-diabetes/living-type-1/talkhypos/> [Accessed 27th June 2019].

## (ii) Driving

National Driver License Service. (2017) *Diabetes and Driving*. [online]. Road Safety Authority. Available <http://www.rsa.ie/Documents/Licensed%20Drivers/Diabetes%20and%20Driving%202016.pdf> [Accessed 27<sup>th</sup> June 2019].

National Clinical Programme for Diabetes Working Group. (2012) Dr Diarmuid Smith, Dr Velma Harkins, Mairead Gleeson (2016). A Practical Guide to Integrated Type 2 diabetes Care produced by the Irish College of General Practitioners (ICGP)

Diabetes Ireland. (2020). *Driving and Type 2 Diabetes - Diabetes Ireland*. [online] Available at: <https://www.diabetes.ie/living-with-diabetes/living-with-type-2/driving-type-2-diabetes/> [Accessed 19 Feb. 2020].

Diabetes.ie. (2020). *Raising funds with emergency card*. [online] Available at: <https://www.diabetes.ie/wp-content/uploads/2019/04/raising-funds-with-emergency-card.pdf> [Accessed 19 Feb. 2020].

Road Safety Authority. (2019) Sláinte agus Tiomáint. Medical Fitness to Drive Guidelines (Group 1 and 2 Drivers). [online]. Road Safety Authority. Available [https://www.rsa.ie/Documents/Licensed%20Drivers/Medical\\_Issues/Medical%20Fitness%20Guidelines.pdf](https://www.rsa.ie/Documents/Licensed%20Drivers/Medical_Issues/Medical%20Fitness%20Guidelines.pdf) [Accessed 28<sup>th</sup> Feb. 2020].

## **12 Illness/sick day guidance – NEW**

National Clinical Programme for Diabetes Working Group. (2018) *Model of Integrated Care for Type 2 Diabetes. A Guide for Health Care Professionals (Clinical Management Guidelines)*. [Online] Ireland Health Service Executive. Available <https://www.hse.ie/eng/about/who/cspd/ncps/diabetes/moc/model-of-integrated-care-type-2-diabetes-2018.pdf> [Accessed 22<sup>nd</sup> August 2019]

Harkins, V. (2016) A practical guide to integrated type 2 diabetes care. Irish College of General Practitioners, Health Service Executive, Irish Endocrine Society, editors. Dublin: Health Service Executive.

American Diabetes Association. (2019) Standards of Medical Care in Diabetes. *Diabetes Care* 2019 ; 42( Suppl 1): S81-S89

Down, S. (2018). How to advise on sick day rules. *Diabetes & Primary Care*, 20(1), pp.15-16.

Dyson, P.A., Twenefour, D., Breen, C., Duncan, A., Elvin, E., Goff, L., Hill, A., Kalsi, P., Marsland, N., McArdle, P. and Mellor, D. (2018) Diabetes UK evidence-based nutrition guidelines for the prevention and management of diabetes. *Diabetic medicine*, 35(5), pp.541-547. Full guideline: [www.diabetes.org.uk/nutrition-guidelines](http://www.diabetes.org.uk/nutrition-guidelines)

Diabetes Ireland Living well with Type 2 Diabetes 2016 (available online) <https://www.diabetes.ie/downloads/patient-booklets/> (accessed 22/8/19)

## **13 Language – NEW**

American Diabetes Association Standards of Medical Care in Diabetes. (2019) The journal of Clinical and Applied Research and Education. *Diabetes Care* 42(S1)pp S34-45.

Cooper, A., Kanumilli, N., Hill, J., Holt, R.I.G., Howarth, D., Lloyd, C.E., Kar, P., Nagi, D., Naik, S. Nash, J., Nelson, H., Owen, K., Seindell, B., Walker, R., Whicher, C., Wilmot, E. (2018) Language matters. Addressing the use of language in the care of people with diabetes: position statement of the English Advisory Group. *Diabetes Medicine*, 35 (12), pp1630-1634

<https://doi.org/10.1111/dme.13705>

Diabetes Australia (2011). A new language for diabetes. Improving communications with and about people with diabetes (in support folder)

Dickinson, J.K., Guzman, S.J., Marynuik, M.D., O'Brian, C.A., Kadohiro, J.K., Jackson, R.A., D'Hondt, N., Montgomery, B., Close, K.L., Funnell, M.A. (2017) The use of language in diabetes care and education *Diabetes Care* 40(12) pp1790-1799.

<https://care.diabetesjournals.org/content/40/12/1790>

Dickinson, J.K. (2018) The experience of diabetes related language in diabetes care. *Diabetes Spectrum* 31 (1)pp58-64 <https://doi.org/10.2337/ds16-0082> (in support folder)

International Diabetes Federation (2014) Language Philosophy: Technical Document. Available from <http://jaime-dulceguerrero.com/wp-content/uploads/2015/03/IDF-LANGPHI-2.pdf>.

NHS UK (2018) Language Matters Language and Diabetes UK (in support folder)

Speight, J., Conn, J., Dunning, T., Skinner, T.C., Diabetes Australia (2012). Diabetes Australia A new language for diabetes: improving communications with and about people with diabetes. *Diabetes Res Clin Pract* 97(3), pp425-31

<https://www.ncbi.nlm.nih.gov/pubmed/22513346>

#### **14 Medicines - NEW**

American Diabetes Association Standards of Medical Care in Diabetes. (2019) The journal of Clinical and Applied Research and Education. *Diabetes Care*. Volume 42, Supplement 1.

Davies, M.J., D'Alessio, D.A., Fradkin, J., Kernan, W.N., Mathieu, C., Mingrone, G., Rossing, P., Tsapas, A., Wexler, D.J. and Buse, J.B. (2018) Management of hyperglycaemia in type 2 diabetes, 2018. A consensus report by the American Diabetes Association (ADA) and the European Association for the Study of Diabetes (EASD). *Diabetologia*, 61(12)

#### **15 Minority Ethnic Groups - NEW**

Dyson, P.A., Twenefour, D., Breen, C., Duncan, A., Elvin, E., Goff, L., Hill, A., Kalsi, P., Marsland, N., McArdle, P. and Mellor, D. (2018) Diabetes UK evidence-based nutrition guidelines for the prevention and management of diabetes. *Diabetic medicine*, 35(5), pp.541-547. Full guideline: [www.diabetes.org.uk/nutrition-guidelines](http://www.diabetes.org.uk/nutrition-guidelines)

International Diabetes Federation. (2017) *Clinical Practice Recommendations For Managing Type 2 Diabetes In Primary Care*. (Online) Brussels : International Diabetes Federation.

American Diabetes Association. (2018) Standards of Medical Care in Diabetes. *Diabetes Care*. Volume 41 (Supplement 1).

#### **16 Obesity/Overweight/Weight Management including Diabetes Remission (NEW)**

American Diabetes Association. (2019) Standards of Medical Care in Diabetes 2019. *Diabetes Care*, 42, p.S61-S70.

Dyson, P.A., Twenefour, D., Breen, C., Duncan, A., Elvin, E., Goff, L., Hill, A., Kalsi, P., Marsland, N., McArdle, P. and Mellor, D. (2018) Diabetes UK evidence-based nutrition guidelines for the prevention and management of diabetes. *Diabetic medicine*, 35(5), pp.541-547. Full guideline: [www.diabetes.org.uk/nutrition-guidelines](http://www.diabetes.org.uk/nutrition-guidelines)

Harkins, V. (2016) A practical guide to integrated type 2 diabetes care. Irish College of General Practitioners, Health Service Executive, Irish Endocrine Society, editors. *Dublin: Health Service Executive*.

Taylor, R. (2013) Type 2 diabetes: etiology and reversibility. *Diabetes care*, 36(4), pp.1047-1055.

Steven, S. and Taylor, R. (2015) Restoring normoglycaemia by use of a very low calorie diet in long-and short-duration Type 2 diabetes. *Diabetic Medicine*, 32(9), pp.1149-1155.

- Steven, S., Hollingsworth, K.G., Al-Mrabeh, A., Avery, L., Aribisala, B., Caslake, M. and Taylor, R. (2016) Very low-calorie diet and 6 months of weight stability in type 2 diabetes: pathophysiological changes in responders and nonresponders. *Diabetes care*, 39(5), pp.808-815.
- Leslie, W.S., Ford, I., Sattar, N., Hollingsworth, K.G., Adamson, A., Sniehotta, F.F., McCombie, L., Brosnahan, N., Ross, H., Mathers, J.C. and Peters, C. (2016) The Diabetes Remission Clinical Trial (DiRECT): protocol for a cluster randomised trial. *BMC family practice*, 17(1), p.20.
- Lean, M.E., Leslie, W.S., Barnes, A.C., Brosnahan, N., Thom, G., McCombie, L., Peters, C., Zhyzhneuskaya, S., Al-Mrabeh, A., Hollingsworth, K.G. and Rodrigues, A.M. (2018) Primary care-led weight management for remission of type 2 diabetes (DiRECT): an open-label, cluster-randomised trial. *The Lancet*, 391(10120), pp.541-551.
- Lean, M.E., Leslie, W.S., Barnes, A.C., Brosnahan, N., Thom, G., McCombie, L., Peters, C., Zhyzhneuskaya, S., Al-Mrabeh, A., Hollingsworth, K.G. and Rodrigues, A.M. (2019) Durability of a primary care-led weight-management intervention for remission of type 2 diabetes: 2-year results of the DiRECT open-label, cluster-randomised trial. *The lancet Diabetes & endocrinology*, 7(5), pp.344-355.
- Taylor, R. and Holman, R.R. (2015) Normal weight individuals who develop type 2 diabetes: the personal fat threshold. *Clinical Science*, 128(7), pp.405-410.
- Arun, C.S., Pandit, R. and Taylor, R. (2004) Long-term progression of retinopathy after initiation of insulin therapy in Type 2 diabetes: an observational study. *Diabetologia*, 47(8), pp.1380-1384.
- International Diabetes Federation. (2017) *Clinical Practice Recommendations For Managing Type 2 Diabetes In Primary Care* (Online) Brussels: International Diabetes Federation.
- Volkert, D., Beck, A.M., Cederholm, T., Cruz-Jentoft, A., Goisser, S., Hooper, L., Kiesswetter, E., Maggio, M., Raynaud-Simon, A., Sieber, C.C. and Sobotka, L. (2019) ESPEN guideline on clinical nutrition and hydration in geriatrics. *Clinical Nutrition*, 38(1), 10-47
- Scottish Intercollegiate Guidelines Network, 2010. *Management Of Obesity Quick Reference Guide*. Edinburgh: Scottish Intercollegiate Guidelines Network.
- National Institute for Health and Care Excellence (NICE), 2012. *Type 2 Diabetes: Prevention In People At High Risk*. NICE.
- National Institute for Health and Care Excellence (NICE), 2013. *BMI: Preventing ill-health and premature death in Black, Asian and other minority ethnic groups*. NICE.

## **17 Older Adults and Diabetes – NEW**

- American Diabetes Association. (2019) Standards of Medical Care in Diabetes 2019. *Diabetes Care*, 42, p.S139-147
- Dyson, P.A., Twenefour, D., Breen, C., Duncan, A., Elvin, E., Goff, L., Hill, A., Kalsi, P., Marsland, N., McArdle, P. and Mellor, D. (2018) Diabetes UK evidence-based nutrition guidelines for the prevention and management of diabetes. *Diabetic medicine*, 35(5), pp.541-547. Full guideline: [www.diabetes.org.uk/nutrition-guidelines](http://www.diabetes.org.uk/nutrition-guidelines)
- International Diabetes Federation. (2013) *Managing Older People with Type 2 Diabetes Global Guideline*. [online] Brussels: International Diabetes Federation. Available at: <https://www.idf.org/e-library/guidelines/78-global-guideline-for-managing-older-people-with-type-2-diabetes.html> (Accessed 26 Jun. 2019)

Volkert, D., Beck, A.M., Cederholm, T., Cruz-Jentoft, A., Goisser, S., Hooper, L., Kiesswetter, E., Maggio, M., Raynaud-Simon, A., Sieber, C.C. and Sobotka, L. (2019) ESPEN guideline on clinical nutrition and hydration in geriatrics. *Clinical Nutrition*, 38(1), pp.24-26

National Clinical Programme for Diabetes Working Group. (2018) *Model of Integrated Care for Type 2 Diabetes. A Guide for Health Care Professionals (Clinical Management Guidelines)*. [Online] Ireland Health Service Executive. Available <https://www.hse.ie/eng/about/who/cspd/ncps/diabetes/moc/model-of-integrated-care-type-2-diabetes-2018.pdf> (Accessed 26<sup>th</sup> June 2019)

World Health Organisation (2002) World Health Organisation. [ONLINE] Available at: <https://www.who.int/healthinfo/survey/ageingdefnolder/en/>. [Accessed 2 August 2019].

## **18 Physical Activity**

American Diabetes Association. (2019) Standards of Medical Care in Diabetes. The journal of Clinical and Applied Research and Education. *Diabetes Care*. Volume 42, Supplement 1.

Dyson, P.A., Twenefour, D., Breen, C., Duncan, A., Elvin, E., Goff, L., Hill, A., Kalsi, P., Marsland, N., McArdle, P. and Mellor, D. (2018) Diabetes UK evidence-based nutrition guidelines for the prevention and management of diabetes. *Diabetic medicine*, 35(5), pp.541-547. Full guideline: [www.diabetes.org.uk/nutrition-guidelines](http://www.diabetes.org.uk/nutrition-guidelines)

National Clinical Programme for Diabetes Working Group. (2018) *Model of Integrated Care for Type 2 Diabetes. A Guide for Health Care Professionals (Clinical Management Guidelines)*. [Online] Ireland Health Service Executive. Available <https://www.hse.ie/eng/about/who/cspd/ncps/diabetes/moc/model-of-integrated-care-type-2-diabetes-2018.pdf> [Accessed 23<sup>rd</sup> May 2019]

Healthy Ireland. (2016) National Physical Activity Plan for Ireland. Get Ireland Active. [Online] Available <https://www.getirelandactive.ie/Professionals/National-PA-Plan.pdf> [Accessed 1st August 2019]

## **19 Pre-pregnancy planning & Pregnancy for women of child-bearing age – NEW**

Irish Maternity Dietitians Group. (2018) Pregnancy Planning and Diabetes leaflet 2018.

The National Maternity Hospital (2019). *Pregnancy Planning and Diabetes*. Dublin: HSE. Available at <https://www.hse.ie/eng/services/publications/topics/diabetes/pregnancy-planning-and-diabetes-leaflet.pdf> (accessed 25<sup>th</sup> February 2020).

National Clinical Programme for Diabetes Working Group. (2018) *Model of Integrated Care for Type 2 Diabetes. A Guide for Health Care Professionals (Clinical Management Guidelines)*. [Online] Ireland Health Service Executive. Available <https://www.hse.ie/eng/about/who/cspd/ncps/diabetes/moc/model-of-integrated-care-type-2-diabetes-2018.pdf> (Accessed 26<sup>th</sup> June 2019)

Health Service Executive (HSE). (2010) *Guidelines for the Management of Pre-gestational and Gestational Diabetes Mellitus from Pre-conception to the Postnatal period*. Dublin: HSE. Available at <https://www.hse.ie/eng/services/list/2/primarycare/east-coast-diabetes-service/management-of-type-2-diabetes/diabetes-and-pregnancy/guidelines-for-the-management-of-pre-gestational-and-gestational-diabetes-mellitus-from-pre-conception-to-the-postnatal-period.pdf> (accessed 25<sup>th</sup> February 2020).

National Institute for Health and Care Excellence (NICE). (2015) *Diabetes in Pregnancy: Management from pre conception to the postnatal period*. NICE guideline [GN3] available at <https://www.nice.org.uk/guidance/ng3> (accessed 25<sup>th</sup> February 2020).

## **20 Psychosocial Care and Support – including stress – NEW**



American Diabetes Association (2019) 'Standards of Medical Care in Diabetes', *Diabetes Care*, 42, S1,S54-S55

Hendrieckx, C., Halliday, J.A., Beeney, L.J., Speight, J. (2016) *Diabetes and Emotional Health: a practical guide for healthcare professionals supporting adults with Type 1 and Type 2 Diabetes*, ed. Canberra: National Diabetes Services Scheme. **See Chapters 1, 2, 3.**

Hendrieckx, C., Halliday, J.A., Beeney, L.J., Speight, J. (2019) *Diabetes and Emotional Health: a practical guide for healthcare professionals supporting adults with Type 1 and Type 2 Diabetes*, 2<sup>nd</sup> ed., London: Diabetes UK.

Harkins, V., (2016) 'A practical guide to integrated type 2 diabetes care', *Irish College of General Practitioners, Health Service Executive, Irish Endocrine Society, editors. Dublin: Health Service Executive.*

Polonsky, W.H. (1999) 'How Stress Influences Diabetes and what to do about it' in Polonsky, W.H. ed. *Diabetes Burnout What to do when you can't take it anymore*, Canada: American Diabetes Association, 269-285

Polonsky, W.H. (1999) *Diabetes Burnout What to do when you can't take it anymore*, Canada: American Diabetes Association

Young-Hyman, D., de Groot, M., Hill-Briggs, F. et al. (2016) 'Psychosocial care for people with diabetes: a position statement of the ADA', *Diabetes Care*, 39, 2126-2140

## **21 Sleep – NEW**

American Diabetes Association. (2018) Standards of Medical Care in Diabetes. *Diabetes Care*. Volume 41 (Supplement 1).

## **22 Smoking – Training for Health care professionals – NEW**

American Diabetes Association. (2019) Standards of Medical Care in Diabetes. *Diabetes Care* 2019 ; 42( Suppl 1): S53-54

National Institute for Health and Care Excellence (NICE) (March 2018). *Stop Smoking interventions and services*. Available at <https://www.nice.org.uk/guidance/ng92> (accessed 25th February 2020).

Scottish Intercollegiate Guidelines Network (2017). *116 Management of diabetes A national clinical guideline*. Edinburgh: SIGN. Available at <https://www.sign.ac.uk/assets/sign116.pdf> (accessed 25<sup>th</sup> February 2020).

International Diabetes Federation. (2017) *Clinical Practice Recommendations For Managing Type 2 Diabetes In Primary Care*. (Online) Brussels: International Diabetes Federation.

## **23 Smoking and Smoking Services**

Health Service Executive (HSE). (2020) Quit Smoking Available at <https://www2.hse.ie/quit-smoking/> (accessed 25<sup>th</sup> February 2020).

## **24 Training and Support for Dietitians – NEW** see website links

## **25 Travel Guidance & Holidays – NEW**

Diabetes Ireland. (2019) *Travelling With Type 2 Diabetes*. (Online). Available <https://www.diabetes.ie/living-with-diabetes/living-with-type-2/managing-diabetes/travelling-type-2-diabetes/> (Accessed March 2019)

Citizen Information. (2019) *The European Health Insurance Card*. (Online). Available [https://www.citizensinformation.ie/en/travel\\_and\\_recreation/travel\\_abroad/european\\_health\\_insurance\\_card.html](https://www.citizensinformation.ie/en/travel_and_recreation/travel_abroad/european_health_insurance_card.html) (Accessed March 2019)