

# PRESSURE ULCER PREVENTION AND MANAGEMENT-THE ROLE OF OT

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### OVERVIEW

- Context Who am I and what is my experience?
- Teamwork Pressure Ulcer Prevention and Management at NRH
- OT Role & Skills applicable
- Surfaces
- Cushions
- Pressure Ulcer Prevention SCI
- Practical considerations

#### CONTEXT

#### National Rehabilitation Hospital

- National Service Tertiary Hospital
- Acquired Physical, Cognitive and Communication Disabilities (Specialised Care Service)
- Inpatients, Day Patients, Outpatients, RTU Trainees

#### Programmes

- Brain Injury and Stroke
- Spinal Cord System of Care (SCSC) 2 beds assigned for pressure ulcer management
- Prosthetic, Orthotic and Limb Absence Rehabilitation (POLAR)
- Paediatrics

#### **Other Relevant Services**

- Seating Clinic (inpatients only)
- Splinting
- Outreach Liaison

### WHO AM I?

- Senior Occupational Therapist
- National Rehabilitation Hospital (NRH) since 2008
- SCSC Programme
- Splinting Clinic
- Electronic Assistive Technology Clinic (Powered Mobility – alternative access)





### HIERARCHY OF RISK FACTORS (MOORE ET AL. 2011)



Prime cause of pressure ulcers

Immobility

Prime factors exposing individual to pressure & shear

Age, incontinence, malnutrition, general health

Factors influencing tolerance of pressure & shear

#### WHY ARE OT SKILLS RELEVANT?

Environmental Assessment Task Analysis & Adaptation (ADLs) Washing, Dressing, Toileting, Transfers

Equipment Assessment & Provision Seating, Mobility and Posture – Assistive Technology

Cognitive assessment and interventions

Splinting

Patient and Family Education

### OT ASSESSMENT & INTERVENTION

 $\longleftrightarrow$ 

Transfers – Bed, Shower Chair, Toilet, Wheelchair, Chair, Car, Floor



ADLs – Bed Mobility, Washing, Dressing, Toileting



Mobility – Home and Community



Seating – Wheelchair, Armchair



Does the patient use orthotics or splints?



Does the patient have any cognitive impairments?

# EQUIPMENT PROVISION

E.G. LONG HANDLED MIRROR

## SURFACES

- Wheelchair Cushion but also more.....footplates, backrest, headrest, chest strap etc.
- Armchair/couch
- Shower Chair
- Toilet
- Transport e.g. car









# CUSHIONS

"No seat cushion has been shown to perform better than another, so this guideline makes no recommendation about which type to use for pressure redistribution purposes"

NICE Pressure Ulcer Risk & Assessment (2001)



"Consider a high-specification foam or equivalent pressure redistribution cushion for adults who use a wheelchair or who sit for prolonged periods"

NICE Pressure ulcers: prevention & management (2014)

Levy et al. (2014) state: "air cushions provide 57% better immersion than foam cushions, and claim it offers better protection from atrophy-, spasm-, and deformity-induced skin issues "longer safe sitting times for SCI patients"

.....however, they can be difficult to transfer from, risk of damage/deflation, more challenging to maintain postural alignment with <u>some</u> air cushions.

## PRESSURE MAPPING

The role of the occupational therapist (OT) is to adapt the most appropriate wheelchair or seat cushion, and to educate clients and caregivers regarding pressure ulcer prevention and management.

The process of pressure mapping is outlined by the International Standards Organization (ISO) protocol (ISO <u>2013</u>).

https://nursekey.com/wheelchair-seatingand-pressure-mapping/





# CUSHIONS CONTD.

- Dry flotation (air cells) provide greater pressure relief than gel.
- Greater pressure relief provided using contoured cushions than with flat surface, particularly in SCI.
- Foam and foam-based cushion tend to produce greater surface temperatures in prolonged sitting in SCI.
- Individualised assessment necessary based on clinical needs.
  - (Regan et al., 2009)
- Always consider having a second cushion cover.

# CUSHIONS USED IN NRH - AIR

- Starlock 5" air cushion high levels of immersion and useful "locking mechanism" to optimise postural alignment. Can be confusing for patients/families/carers.
- ROHO Quadtro Select 5" alternative to above. 4 "lockable sectors".
- ROHO Hybrid Elite firm foam base with air cell insert in pelvic well. Provides greater stability than full air surface

# CUSHIONS USED IN THE NRH – GEL/FLUID

- Jay 2/Jay Balance/Jay Xtreme Aktiv established products, offers pressure relief and postural support. Has been described as getting hot. Odour over time. Firm foam base occasionally causes difficulty with pressure.
- Flotech Solution(/Xtra) Alternative to above with soft foam base.
- Jay Easy Fluid/Flotech Image thinner base, with smaller pelvic well/gel pad.











# CUSHIONS USED AT THE NRH - FOAM

- Stimulite Contoured XS/Slimline Honeycomb matrix. Breathable. High pressure relief. Provides good postural stability
- Jay Easy Visco/Matrx Visco/Funke Gelseat standard contoured foam with overlay/pelvic well of 'memory foam'
- Flotech Lite/Funke X-Seat standard contoured foam
- Spex High pressure relieving. Highly adaptable. Also described as getting hot (often unsuccessful with SCI patients).

#### PRESSURE ULCER PREVENTION - SCI

Consortium of Spinal Cord medicine (2014): *Pressure Ulcer Prevention and Treatment Following* **Spinal cord Injury**.

- Visual daily skin inspection with particular attention to vulnerable area.
- Elevate the head of the bed no higher than 30 degrees unless medically necessary.
- Reposition individuals in bed at least every 2hrs.

Cosgrave & Rose (2003) in Stoke Mandeville stated 'brief pressure lifts of 15– 30 seconds' are ineffective in allowing reperfusion.

- Lifting from the seat "for the necessary extended duration is neither practical nor desirable... alternative methods of pressure relief were more easily sustainable and very efficient"
- On average, almost 2 minutes needed to allow full re-oxygenation and forward lean, side to side or backwards tilt adequate









### THE PRESSURE RELIEF TECHNIQUE

#### This will depend on:

- Patient's condition, e.g. SCI level.
- Type of surfaces in use.
- How much movement and strength the person has.

# USE OF TILT & RECLINE MECHANISM (RESNA 2015)

- Tilt and recline wheelchair functions affect pressure and perfusion at the skin and muscle tissue at the ischial tuberosity and to a minimum extent at the sacrum.
- Tilt when used alone should be greater than 25° to achieve pressure relief and or tissue perfusion at the ischial tuberosity.
- The greatest reduction in pressure are seen when tilt and recline are used together. Either at tilt of 35 ° with recline of 100° or tilt of 15-25° with recline of 120°.
- Greater tilt and recline angles generally provide better pressure relief.
- 3 minutes duration of 35° tilt with 120° recline is more effective than 1 minute.
- Lateral weight shifting may sufficiently offload the ischial tuberosities on one side, but also simultaneously increase pressure on the other.



#### PRACTICAL CONSIDERATIONS



Check clothing, e.g. shoes, pockets, type of clothing



What supports does a person have.Are they independent or need assistance?



What is important for the person to be able to do?



Patient and Family Education – repeated, multiple formats, person's learning style

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# THANK YOU FOR LISTENING



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