

# National Institute of Health Sciences Research Bulletin

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Volume 4  
Issue 1

ISSN: 1649-0681  
June 2007



# Research Bulletin

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**ISSN: 1649-0681**

**Volume 4**  
**Issue 1**

2007      National Institute of Health Sciences, St. Camillus Hospital, Shelbourne Road, Limerick, Ireland

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Published by Designers Ink, Limerick

If you wish to contribute to future editions of this publication, please contact:

The National Institute of Health Sciences  
St. Camillus Hospital  
Shelbourne Road  
Limerick

t:            061-483975  
f:            061-326670  
e:            [info@nihs.ie](mailto:info@nihs.ie)  
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# Clinical Research

## Medical

<b>TITLE</b>	<b>An Audit of the Use of PIIINP in the Management of Patients on Methotrexate</b>
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<b>AUTHORS</b>	<i>Ahmad, K., Ramsay, B. Dermatology Department, Mid-Western Regional Hospital, Limerick</i>
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### INTRODUCTION

Aminoterminal peptide of type III procollagen (PIIINP) has been used as a marker for hepatic fibrosis in patients on methotrexate (MTX) and it has been suggested that serial assay of PIIINP could reduce or eliminate the need for liver biopsies in these patients.

### RATIONALE

To assess the recent practice in our department regarding monitoring of MTX therapy with PIIINP in comparison to recommended guidelines.

### METHODOLOGY

Patients treated with MTX between April 2004 and December 2006 were included in the audit. Patients were identified from our departmental database. Data collected included demographics, date of starting MTX, indication for MTX, date of baseline PIIINP test and the interval between the tests. The test is available to our Hospital since April 2004. The blood was taken in a gel free neutral tube and was delivered to Biochemistry Department for centrifugation and freezing. The tubes were then despatched to Liver Unit in Manchester Royal Infirmary Hospital, UK.

### RESULTS

PIIINP was performed in 32 patients (14 males and 18 females) since the service became available in 2004. 9 of these patients were already taking MTX and 23 patients started MTX since 2004. 13 of 23 (56%) patients had PIIINP done at baseline. However in 2006, 5 of the 6 patients (83%) who started MTX, had baseline PIIINP performed. The mean interval between the tests was 6.3 months (range 4-10 months). Indication of MTX was: psoriasis (25 patients), dermatomyositis (2), linear morphoea (2), rheumatoid arthritis (1), hidradenitis suppurativa (1) and bullous pemphigoid (1). Five patients (15%) had to discontinue MTX because they had raised PIIINP levels.

### DISCUSSION

Methotrexate (MTX) is an established and relatively inexpensive treatment. Concerns about possible toxicity may limit its use and continuous monitoring of patients receiving the drug is needed. Guidelines of the American Academy of Dermatology recommend repeating liver biopsies after every 1.0–1.5 g cumulative dose of MTX, assuming that the preceding biopsy shows no significant abnormalities.<sup>1</sup> Liver biopsies have a significant morbidity, and a mortality rate of up to 0.33% was reported in an audit of percutaneous liver biopsies performed in the U.K.<sup>2</sup> Unfortunately, alternatives to liver biopsy for detecting hepatic fibrosis, such as ultrasound, magnetic resonance imaging and radioisotope scans have proved unreliable.



The PIIINP is formed during the synthesis of type III collagen and can be measured in the serum. It has been used as a marker for hepatic fibrosis in patients on long-term methotrexate and it has been suggested that serial assay of PIIINP could reduce or eliminate the need for liver biopsies in these patients.<sup>3</sup> Although patients have baseline and regular monitoring of liver enzymes during MTX treatment, studies have confirmed that standard liver function tests cannot be relied upon to detect hepatic fibrosis in patients on MTX. On the basis of this test, it has been suggested that a baseline liver biopsy is only necessary if there are concerns about pre-existing liver damage. The serial PIIINP analysis has been suggested to be performed at least three times a year.<sup>4</sup>

## RECOMMENDATIONS

Our results show that we only measured baseline PIIINP in 40% of patients, though this figure improved to 83% in 2006. Overall we were performing this test every 6 months instead of every 4 months. This is reflected in the comparison of projected testing versus actual testing where there was a shortfall of 45 (42%) tests. PIIINP testing, however, did detect 5 patients who needed to discontinue MTX because of abnormal PIIINP levels.

We recommend that patients who are starting MTX should initially have baseline PIIINP followed by a repeat of the test every four months. In response to this audit, we are introducing a dedicated systemic clinic to improve the monitoring of the patients on MTX and similar systemic agents.

## CONCLUSION

This audit demonstrated that our frequency of performing PIIINP was deficient both at baseline and throughout the course of MTX treatment. It will help us utilise this test better in the future. The audit has clarified that the best way for monitoring these patients is through a dedicated systemic treatment clinic to ensure testing is done at the recommended frequency.

## REFERENCES

Available on request.



# Clinical Research

## Medical

<b>TITLE</b>	<b>Analysis of the Dermatologic Inpatient Consultation - A Tool for Identifying the Acute Dermatologic Conditions that Junior Doctor Trainees Need to be Taught</b>
<b>AUTHORS</b>	<i>Ahmad, K., Ramsay, B. Dermatology Department, Mid-Western Regional Hospital, Limerick</i>

### OBJECTIVE

To identify the educational needs of junior/trainee doctors by analysis of inpatient consultation referrals to the Dermatology Department.

### METHODOLOGY

In January 2007, we reviewed the consultation data of 703 inpatients referred to the Dermatology Department between 10/7/'01 and 10/1/'07 that had been stored on a Filemaker Pro database. These were a randomised subset and represented approximately 50% of all inpatient consultations to the Dermatology Department in that time period.

### RESULTS

703 consultation records were identified. 88% were for patients at Limerick Regional Hospital, 10% from St John's Hospital, 1.2% from the Maternity Hospital and 0.5% from St Camillus Hospital. The ages of patients ranged from a 33 week premature baby with purpura to a 92 year old female with facial contact dermatitis. Patients were referred from all wards in the hospital across all the specialties. 177 (25%) of referrals were paediatric and 160 (22%) patients were 65 years of age or older.

371 patients (52%) were admitted because of acute skin failure and this was the primary reason for their admission. In 391 cases (55%) the Consultant Dermatologist's diagnosis was different to the inpatient referral diagnosis on the consultation referral form. There was a total of 113 different dermatological diagnoses in the group. 159 consultations (22%) were for skin infections. 89 patients (12%) had Atopic Dermatitis and 60 (8%) had Psoriasis. 57 (8%) had clear or suspected drug cause for their rash and referral.

388 patients (55%) required one consultation visit but 45% required 2 or more review visits from the Dermatology Team. This figure was higher in the paediatric patients referred: 76% of paediatric referrals (135 of 177 patients) were admitted with acute skin disease as the primary or main reason for their admission. Of these 82% required 2 or more visits during that admission. 260 patients (36%) required follow up in Dermatology Outpatients after their admission.

### DISCUSSION

The Dermatological Conditions seen ranged from minor to life threatening dermatoses and acute skin failure. The age spectrum of patients that Dermatologists look after is very wide (25% in this study group were children and 22% were in the elderly age group). Over half the referrals were admitted via the Accident and Emergency department primarily because of their acute skin failure indicating that a significant proportion of these dermatology patients were seriously ill. That 20% of referrals were for patients with the 2 commonest inflammatory dermatoses (Atopic Dermatitis and Psoriasis) reflects poorly on facilities available for their care in the community and hospital outpatient setting.





In more than half of the referrals the Dermatologist's diagnosis was different to the admitting team. This has important implications on clinical outcome as appropriate treatment and short length of stay would be dependant on accurate and timely diagnosis.

The figures and complexity of clinical problem support the concept of developing dedicated Dermatology inpatient beds/ward to maximise specialist Dermatologic Nursing Care and optimise treatment. The complex nature of some of their dermatoses is reflected in 45% requiring more than one consultation during the admission and 36% needing follow up in Dermatology Outpatients.

## CONCLUSIONS

This study has allowed identification of a range of acute life threatening conditions that present in the skin of inpatients. We are using the information retrieved to prepare the Dermatologic component of Continuing Medical Education of Junior Doctors locally. It emphasises the need for Junior Dermatology Trainees to undertake extra training in both the Dermatologic conditions of paediatric patients and those with older skin as they form a significant component of the inpatient referrals to Dermatology.

Inadequate outpatient assessment and treatment resources for people with common dermatoses like Atopic Dermatitis and Psoriasis lead to these patients' skin failing and ultimately their presentation to the Accident and Emergency Department – these formed one-fifth of patients seen on inpatient consultation. This data supports the need for expansion of service provision of Dermatology in the Region.

## PRESENTED

As a Poster Presentation at the Annual Meeting of the Irish Association of Dermatology Conference in Belfast on April 28<sup>th</sup> and 29<sup>th</sup>, 2007.



# Clinical Research

## Medical

TITLE	An Audit on the Use of Venous Thromboprophylaxis in Acutely Ill Medical Patients
AUTHORS	Mohamed , A. Naas General Hospital, Naas, Co. Kildare

### INTRODUCTION

Venous thromboembolism (VTE) is a common complication among acutely ill medical patients, causing significant morbidities and contributing to fatal outcomes.<sup>1,2</sup> Moreover the cost of investigating possible/probable VTE and treating confirmed cases utilises a good proportion of the health expenditure.<sup>3,4</sup> The effectiveness and safety of VTE prophylaxis is well established and several guidelines from reputed bodies have strongly recommended routine thromboprophylaxis in acutely ill medical patients.<sup>5, 6, 7</sup> However the use of such prophylaxis remains low among such patients.<sup>8, 9, 10, 11</sup>

Naas General Hospital (NGH) is a secondary care facility with 145 'medical' beds. This audit was carried out to assess the use of thromboprophylaxis among acutely ill medical in-patients between November 27<sup>th</sup> and 30<sup>th</sup>, 2006.

### METHODOLOGY

Since the risk factors for VTE are multiple and cumulative,<sup>1,2</sup> the MEDENOX trial risk profile and inclusion criteria were used<sup>13</sup>, excluding patients with contraindication to both pharmacological and mechanical thromboprophylaxis, and those on therapeutic anticoagulation for other indications. The details of the index admission of 110 medical in-patients were reviewed and 32 patients (29.1%) fulfilled the inclusion criteria for thromboprophylaxis. Acute respiratory failure (almost always in patients with severe chronic obstructive pulmonary disease) and acute infections in the elderly are the leading risk factors for prescribing VTE prophylaxis (12/32 {37.5% each}). The current drug charts of these 32 patients were reviewed to check whether thromboprophylaxis has been prescribed and if so which method/s.

### RESULTS

Only 12 patients (37.5%) were prescribed thromboprophylaxis. 10 patients (83.3%) received low molecular weight heparins (used alone in 8 patients and with TED stockings in 2 more patients). Mechanical prophylaxis (TED stockings) was used on its own in only 2 patients.

### CONCLUSIONS

Thromboprophylaxis for VTE among acutely ill medical patients remains significantly underused, with only 37.5% of those who would have benefited from this safe and effective preventive intervention getting it. To rectify this, the VTE risk status should be assessed and included in the overall assessment and management plan for every acute medical admission.

### REFERENCES

Available on request.



# Clinical Research Medical

<b>TITLE</b>	<b>Community Acquired Pneumonia Audit</b>
<b>AUTHORS</b>	<i>McNamara, P., Abdel Rahman, Z., Mubarak, M., Hennessy, T. Mid-Western Regional Hospital, Ennis, Co. Clare</i>

## INTRODUCTION

Hospital admissions for Pneumonia have increased in recent years making it one of the most common causes of admissions. Pneumonia accounts for nearly 200 hospitalizations per year in the MWRH, Ennis. The incidence of Pneumonia increases with age and more than 90% of deaths due to this condition are in the population aged 65 and older.<sup>1</sup> Community Acquired Pneumonia continues to be a common cause of morbidity, mortality and consumption of the hospital resources. It is estimated that the average total cost of hospitalization for pneumonia to the Irish economy per annum is about €54 million.

One of the most effective ways of prevention is pneumococcal vaccination. The pneumococcal vaccination helps protect against pneumococcal diseases, such as pneumonia, septicaemia and meningitis caused by *Streptococcus Pneumonia*.<sup>2</sup>

## RATIONALE

This study was conducted to assess the aspects of care for patients diagnosed with Pneumonia in the MWRH, Ennis during the year 2006, and to discover how best to align these aspects of care with best practice measures of the Joint Commission on Accreditation of Hospital Organizations (JCAHO). Improving care where needed will help to decrease morbidity and mortality associated with this disease.

### The standards for hospital treatment of Pneumonia are as follows:

- Uncomplicated Community Acquired Pneumonia - All patients should be prescribed aminopenicillin plus macrolide. Patients allergic to penicillin should be prescribed a broad spectrum plus a macrolide. A quinolone may be prescribed in cases allergic to penicillin and cephalosporin (or to macrolide).
- Severe Community Acquired Pneumonia - Patients should be treated with parental antibiotics (betalactam plus macrolide) or alternatively fluoroquinolone immediately after diagnosis.
- Patients who have two or more risk factors CURB – 65, are at high risk of death and should be managed as severe pneumonia according to BTS recommendations.

## OBJECTIVES

1. To determine the compliance of BTS guidelines.
2. Performance to specific change processes of care may lead to improved outcome.
3. To address any gaps that exist between care provided to patients in MWRH, Ennis and the optimal patient care management with the intention of reducing unnecessary admissions.



## METHODOLOGY

A retrospective review of 50 charts of patients admitted with a clinical diagnosis of Pneumonia. The ages ranged from 19-97 years, with an average age of 72. Data collection occurred from September to November 2006. Various aspects of care for the disease, as shown in Table 1 were audited, using the core measures of Pneumonia care, as published by the Hospital Quality Alliance.<sup>3</sup>

**Table 1 - Aspects of Care for Patients with Pneumonia**

Pneumonia Audit - October 2006 Measures
1. Collection of ABG's during the first 24 hours.
2. Screening for immunization status (Pneumococcal) and vaccinate prior to discharge, if indicated.
3. Antibiotic administration within four hours of arrival.
4. Use of initial antibiotic therapy consistent with current guidelines.
5. Collection of blood cultures prior to the initial antibiotic dose.
6. Screening for influenza immunization status and vaccinate prior to discharge, if indicated.
7. Smoking cessation counselling during hospitalization if a smoker.

## RESULTS

Data collection was completed for 50 patients. 56% of the patients had arterial blood gases (ABG's) done during the first 24 hours of their hospital stay. Screening for pneumococcal immunization status was not done at all, as the patient's own General Practitioner (GP) generally provides this service. Antibiotic administration within four hours of arrival was done for 94% of patients. Use of initial antibiotic therapy consistent with current guidelines was followed in 84% of patients.

42% of patients had collection of blood cultures prior to the initial antibiotic administration.

Screening for influenza immunization was done on only 2% of the patients, for the same reasons as the pneumococcal immunization screening was not done. The referral to smoking cessation counselling was documented on 4% of patients with Pneumonia, 18% had no documentation, and there were 78% exceptions (either non-smokers or previous smokers who had quit).



## CONCLUSIONS

Standards of treatment for patients diagnosed with Pneumonia were generally adequate. However, collection of blood cultures prior to antibiotic administration should be done in all patients with diagnosis of severe pneumonia. Smoking cessation referrals (or documentation of same) is an area which needs improvement. The use of antibiotics consistent with current guidelines shows another area where improvement is required. See Table 2.

**Table 2 - Preferred and Alternative Initial Empirical Treatment Regimens and Parenteral to Oral Switch Regimens for Community Acquired Pneumonia UPDATED 2004**

PREFERRED	ALTERNATIVE
<b>Hospital-Treated, Not Severe</b> Either oral amoxicillin 500 mg – 1.0 g tds po plus erythromycin 500 mg qds po or clarithromycin 500 mg bd b po	Fluoroquinolone with enhanced pneumococcal activity e.g. levofloxacin 500 mg od po OR moxifloxacin 400mg od poc (the only such licensed agents in the UK at time of writing)
or if IV needed ampicillin 500 mg qds iv or benzylpenicillin 1.2g qds iv plus erythromycin 500 mg qds iv or clarithromycin 500 mg bd iv	levofloxacin 500 mg od iv c
<b>Hospital-Treated, Severe</b> co-amoxiclav 1.2 g tds iv or cefuroxime 1.5 g tds iv or cefotaxime 1gm tds iv or ceftriaxone 2 gm od iv plus erythromycin 500 mg qds iv or clarithromycin 500 mg bd iv (with or without rifampicin 600 mg od or bd iv)	Fluoroquinolone with enhanced pneumococcal activity e.g. levofloxacin 500 mg bd iv or po c plus benzylpenicillin 1.2g qds iv

## RECOMMENDATIONS

1. Synopsis of the main recommendation for BTS guidelines on antibiotic treatment for community acquired pneumonia should be disseminated to all medical staff.
2. The necessity to check patient's oxygenation status during the first 24 hours of admission to hospital is essential.
3. Referral of all smokers to smoking cessation is necessary.
4. Use of antibiotic therapy consistent with current guidelines is vital. Even though it was done 84% of the time, the standard is 100%. Antibiotics should be given according to current guidelines.



5. Checking each patient's immunization status prior to discharge is an area open for discussion, since this has historically been the remit of the patient's GP. Perhaps if there was simply a notation in the record that the patient's immunization status was verified, it would increase the uptake of the vaccination among those most at risk.
6. These improvements in care for patients diagnosed with Pneumonia may help to reduce morbidity and mortality from the disease.
7. Liaison with GPs regarding immunisation.
8. Re-audit should be carried out after 12 months.

## REFERENCES

Available on request.

## PRESENTED

To be presented in the coming weeks as part of a series of Audit Presentation Evenings in the Mid-Western Regional Hospital, Ennis by Ms. P. McNamara and Dr. E. Mohamed.

## ACKNOWLEDGEMENT

The author wishes to thank Dr. Zein Elabdein Abdel Rahman and Dr. Mayswon Mubarek for their assistance with this audit.





# Clinical Research

## Medical

TITLE	An Audit of the Occurrence of <i>C. Difficile</i> Infection in the Mid-Western Regional Hospital, Ennis during 2006
AUTHORS	McNamara, P., <sup>1</sup> Quinn, G. <sup>2</sup> Clinical Audit Department, Mid-Western Regional Hospital, Ennis, Co. Clare <sup>1</sup> Infection Control, Mid-Western Regional Hospital, Ennis, Co. Clare <sup>2</sup>

### INTRODUCTION

Health care-associated infections (HCAI) remain a major cause of morbidity, mortality and cost. In recent years, treatment of these infections has become more complex due to an alarming rise in antibiotic resistance. Not only is it becoming increasingly difficult to find effective antibiotics to treat resistant HCAI, but antibiotic therapy itself predisposes patients to the potentially life threatening infection, *Clostridium Difficile* Toxin (CDT). CDT infection contributes significantly to length of stay and costs in hospitals. Third generation Cephalosporins are independently linked to the emergence of CDT and MRSA (SARI, 2005). There is a mortality rate of up to 25% in elderly patients (Pepin et al, 2004). The Carey Report (2001) has identified HCAI as forming a large percentage of adverse events affecting patients. It is thought that about 9% of all hospital inpatients may acquire a HCAI during their hospital stay, extending their length of stay (LOS) by up to 11 days. Research informs us that 30% of all HCAI are preventable by "the better application of existing knowledge and realistic infection control practices (NAO, 2000).

### OBJECTIVES

According to the Centers for Disease Control and Prevention (CDC), the incidence of CDT has been increasing for years, but the recent emergence and spread of strains that produce much higher levels of potent toxin have made control even more urgent. These potent strains have emerged in Ireland over the past year and this deadly toxin-type is associated with the use of Fluoroquinolones. This strain carries an increased mortality rate compared to others. It is thought that the increased and extended use of Fluoroquinolones in the treatment of CDT may lend itself to Resistant Enterococcal (RE) Infections. This study was conducted to determine the incidence of *C. Difficile* infection in the MWRH, Ennis over a one year timeframe (from January - December 2006) and to review the most frequently used antibiotics prior to infection as well as some of the associated costs. Figure 1 shows the type and most frequent antibiotics prescribed prior to *C. Difficile* infection.

**Figure 1: - Type and Most Frequent Antibiotics Prescribed Prior to Infection**

ANTIBIOTIC	ROUTE	NUMBER OF DOSES	
AUGMENTIN	IV	6	PO x 3
KLACID LA	PO	8	
FLAGYL	IV	2	PO x 4
ROCEPHIN	IV	4	
CEFODOX	PO	4	

The three most costly antibiotics prescribed in this hospital are: AUGMENTIN, ROCEPHIN, and TAZOCIN. A review of the monthly spending on these antibiotics showed a sum of €22,359.10 which accounts for 40% of the total Pharmacy budget. The cost of antibiotics associated with CDT is approximately €5,843 per patient per



episode of infection. Thus, the associated costs for the 21 cases for 2006 is €122,703 for antibiotics alone. 30% of this may have been prevented, saving an estimated €86,000. Often, there is more than one hospitalization required for patients who acquire CDT, which then adds further to the costs.

## METHODOLOGY

An ongoing surveillance of healthcare associated infections in the hospital is carried out on an ongoing basis by the Infection Control Service. Concurrent and retrospective patient chart reviews were utilized for this study throughout 2006, to determine the incidence and occurrence of *C. Difficile* infection in this hospital.

## RESULTS

There were 21 cases of *C. Difficile* found over the 12 month period. Among these, 7 were male patients and 14 were female patients. The average age of males was 87.4 years and females 75.9 years.

## CONCLUSION

The targeted surveillance of CDT shows that we are still experiencing a high prevalence of the infection (21 cases over one year). The use of third generation Cephalosporin's are independently linked to the emergence of CDT, particularly in the over-65 age group. The use of Claforen has been restricted to its main use for Meningococcal Meningitis. There is still a high usage of Rocephin and Cefodox however.

## RECOMMENDATIONS

It is clear from this study that the use of multiple antibiotics and/or the use of third generation Cephalosporin's and extended use of Fluoroquinolones should be avoided to reduce the incidence of CDT in the hospital. The recommended antibiotics for use are Tazocin and Tavanic, as they are more "bowel friendly" (Dr. Nuala O'Connell, Consultant Microbiologist, 2006). As CDT spores form, their chances of survival in the environment, with resistance to disinfectant and onward transfer to hands is inevitable. Therefore, it is imperative that strict hand-hygiene by staff, patients and visitors is adhered to as well as attention to environmental decontamination by cleaning personnel. The Infection Control Service in the MWRH, Ennis has developed some control measures such as a Nursing Care Plan for use when a patient develops a HCAI. A new medication record with automatic stop dates for antibiotics has also been developed by a quality improvement team. Hopefully, these measures will help in the control of *C. Difficile* infections in the MWRH, Ennis.

## PRESENTED

To be presented in the coming weeks as part of a series of Audit Presentation Evenings in the Mid-Western Regional Hospital, Ennis by Ms. G. Quinn and Ms. P. McNamara.



# Clinical Research

## Medical

<b>TITLE</b>	<b>Exercise before a High-Fat Breakfast: Preventing the Damaging Effects on Vascular Health</b>
<b>AUTHORS</b>	<i>Clegg, M.,<sup>1</sup> McClean, C.,<sup>2</sup> Davison, G.W.,<sup>2</sup> Murphy, M.H.,<sup>2</sup> Trinick, T.,<sup>3</sup> Duly, E.,<sup>3</sup> McLaughlin, J.,<sup>2</sup> Fogarty, M.,<sup>2</sup> Shafat, A.<sup>1</sup> University of Limerick<sup>1</sup>, University of Ulster, Jordanstown, Northern Ireland <sup>2</sup>, Ulster Hospital, Dundonald, Northern Ireland <sup>3</sup></i>

### INTRODUCTION

Substantial evidence exists outlining the relationship between the postprandial state and vascular function. It has been proposed that postprandial hypertriglyceridaemia (PHTG) can cause endothelial dysfunction, via an oxidative stress mechanism, and that repeated episodes of PHTG may promote the development of atherosclerosis.<sup>1,2</sup> Exercise may reduce post-prandial lipaemia by slowing gastric emptying (GE) rates, or, increasing the removal of lipids into muscle tissue.

### OBJECTIVE

The purpose of this study was to determine if moderate exercise prior to fat ingestion influences gastrointestinal transit, lipid absorption, oxidative stress and arterial wall function.

### METHODOLOGY

8 apparently healthy males (age  $23.6 \pm 2.8$  yrs; height  $181.4 \pm 8.1$  cm; weight  $83.4 \pm 16.2$  kg; all data mean  $\pm$  S.D.) participated in the study. Volunteers ingested either (i) a high-fat meal alone (control), or (ii) ingested a high-fat meal, preceded by 1 h of moderate intensity exercise in a randomised balanced crossover design. Pulse Wave Velocity (PWV) was examined at baseline, post-exercise, and two and four hours following the high fat meal. GE was measured using the  $^{13}\text{C}$ -octanoic acid breath test and mouth to caecum transit (MCTT) using the breath hydrogen technique. Venous blood samples were obtained prior to and following exercise and at two, four and six hours post-ingestion, and analysed for lipids, serum C-reactive protein (CRP), glucose and lipid hydroperoxides.

### RESULTS

PWV increased from rest ( $6.48 \pm 1.91$  m/sec) at 2 ( $8.90 \pm 1.67$  m/sec) and 4 hrs ( $8.99 \pm 1.61$  m/sec) post-ingestion in the control group only (time x group interaction,  $p < 0.05$ ). There was also a difference between groups at the 2 hrs post-ingestion time point;  $8.90 \pm 1.67$  vs.  $6.15 \pm 1.30$  m/sec (time x group interaction,  $p < 0.05$ ). Lipid hydroperoxides increased over time (pooled exercise and control data,  $p < 0.05$ ). Serum triacylglycerols were elevated postprandially (pooled exercise and control data,  $p < 0.05$ ). There were no changes in GE, MCTT, cholesterol or CRP concentration between groups ( $p > 0.05$ ).



**Table 3 - Biochemical Markers and Gastrointestinal Transit Results following Ingestion of High-Fat Meal for Control and Exercise**

Variable	Mean ( $\pm$ S.D.)				
	Baseline	Pre-ingestion	2h-post ingestion	4h-post ingestion	6-h post ingestion
<b>Control</b>					
Total cholesterol (mmol/L)	3.74 $\pm$ 0.99	3.07 $\pm$ 1.20	3.63 $\pm$ 1.23	3.81 $\pm$ 0.42	3.75 $\pm$ 0.62
LDL cholesterol (mmol/L)	2.21 $\pm$ 0.67	1.88 $\pm$ 0.48	1.83 $\pm$ 0.57	1.91 $\pm$ 0.39	2.02 $\pm$ 0.30
HDL cholesterol (mmol/L)	1.15 $\pm$ 0.35	0.92 $\pm$ 0.65	1.16 $\pm$ 0.43	1.27 $\pm$ 0.55	1.22 $\pm$ 0.45
Triglycerides (mmol/L)	0.82 $\pm$ 0.45	0.60 $\pm$ 0.25	1.40 $\pm$ 0.93	1.40 $\pm$ 0.73	1.12 $\pm$ 0.69
CRP (mg/L)	1.24 $\pm$ 1.28	0.71 $\pm$ 0.39	0.92 $\pm$ 0.65	0.95 $\pm$ 0.87	1.19 $\pm$ 1.25
Glucose (mmol/L)	5.06 $\pm$ 0.38	4.90 $\pm$ 0.28	4.51 $\pm$ 0.24	5.06 $\pm$ 0.18	n/a
LOOH ( $\mu$ M)	1.52 $\pm$ 0.39	2.26 $\pm$ 1.10	2.13 $\pm$ 0.91*	2.46 $\pm$ 1.20*	1.77 $\pm$ 0.80
GE half time (mins)	238 $\pm$ 137				
MCTT (mins)	126 $\pm$ 56				
<b>Exercise</b>					
Total cholesterol (mmol/L)	3.93 $\pm$ 0.91	3.63 $\pm$ 1.02	4.06 $\pm$ 0.92	3.73 $\pm$ 1.11	3.58 $\pm$ 1.25
LDL cholesterol (mmol/L)	2.37 $\pm$ 0.64	2.25 $\pm$ 0.71	2.08 $\pm$ 0.49	2.01 $\pm$ 0.54	2.09 $\pm$ 0.66
HDL cholesterol (mmol/L)	1.16 $\pm$ 0.33	1.07 $\pm$ 0.26	1.18 $\pm$ 0.36	1.04 $\pm$ 0.48	1.00 $\pm$ 0.47
Triglycerides (mmol/L)	0.89 $\pm$ 0.62	0.69 $\pm$ 0.54	1.76 $\pm$ 1.12	1.51 $\pm$ 1.38	1.09 $\pm$ 1.04
CRP (mg/L)	1.28 $\pm$ 0.85	1.08 $\pm$ 0.83	1.26 $\pm$ 0.88	1.24 $\pm$ 0.83	1.26 $\pm$ 0.88
Glucose (mmol/L)	4.95 $\pm$ 0.29	4.59 $\pm$ 0.26†	4.76 $\pm$ 0.41	4.98 $\pm$ 0.27	n/a
LOOH ( $\mu$ M)	1.19 $\pm$ 0.25	0.97 $\pm$ 0.36	2.28 $\pm$ 0.90†	2.13 $\pm$ 1.19	1.44 $\pm$ 0.57
GE half time (mins)	208 $\pm$ 98				
MCTT (mins)	98 $\pm$ 44				

\* p<0.05 vs. baseline control trial; † p<0.05 vs. baseline exercise trial



## CONCLUSIONS

Although the benefits of exercise are widely known to decrease the risk of cardiovascular disease, debate remains over the optimum intensity and duration of exercise that would promote such benefits. This study highlights the benefits to PWV of a single session of moderate intensity exercise performed prior to the ingestion of a high-fat meal. It is likely that these benefits are the result of a reduction in oxidative stress levels attributed to the exercise bout. Gastrointestinal regulation of lipaemia may require an exercise bout that is longer, more intensive or repeated.

## REFERENCES

Available on request.

## PRESENTED

At the American College of Sports Medicine Annual meeting, New Orleans, Louisiana, by Mr. C. McClean on May 31<sup>st</sup>, 2007 and by Ms. M. Clegg on June 2<sup>nd</sup>, 2007.

## FUNDING

The authors wish to gratefully acknowledge funding received for this project from the Irish Research Council for Science, Engineering and Technology.





# Clinical Research

## Medical

<b>TITLE</b>	<b>An Audit of Identification of Chronic Kidney Disease (CKD) in Elderly and its Implications on Cardiovascular (CVS) Risk Factors Control and on Drug Prescription</b>
<b>AUTHORS</b>	<i>Suliman, A., O' Driscoll A. Naas General Hospital, Naas, Co. Kildare</i>

### INTRODUCTION

Chronic kidney disease is defined by glomerular filtration rate (GFR) of  $<60 \text{ mL/min/1.73m}^2$  for  $\geq 3$  months, with or without kidney damage, irrespective of the cause.<sup>1,2</sup> CKD is much underestimated in elderly people in hospital practice. For an elderly patient a normal looking serum creatinine could turn to be stage 3 CKD<sup>1,2</sup> or more when calculating creatinine clearance according to Cockcroft and Gault formula (C&G).<sup>3,4</sup> Recent research suggests that 1 in 10 of the population may have CKD, but it is less common in young adults, being present in 1 in 50 people. In those aged over 75 years, CKD is present in 1 out of 2 people.<sup>5</sup> Although the greater majority of patients with early CKD do not progress to end stage renal disease (ESRD) but do have increased risks of CVS diseases, and the risk of death from CVS diseases outweighs the risk of progression to ESRD, moreover controlling risk factors for CVS also reduces the risk of progression to ESRD<sup>6,7,8</sup> Elderly people with CKD are usually taking a lot of medicines which could also adversely affect the kidneys. An audit is done to measure the percentage of elderly people with CKD and to evaluate management regarding CVS risk control and adjustment of medications to the level of CKD the elderly patients could have.

### METHODOLOGY

A retrospective review was performed on charts of 50 patients admitted to medical wards in Naas General Hospital in the year 2005-2006. A sample was randomly selected, aged 65 years or more, calculating creatinine clearance to estimate the stage of CKD they have, blood pressure BP control, reviewing CVS risk management and reviewing other nephrotoxic medications. Serum creatinine readings were taken from the latest reports before patient discharge. Creatinine clearance was estimated according to modified Cockcroft and Gault formula:

$1.2 \times (140 - \text{age in years}) \times \text{weight in kg} / \text{Plasma creatinine in } \mu\text{mol}$

X 0.85 if female and X 1.18 if black

### RESULTS

Data collection was completed on 50 patients in three months. 2 patients (4%) have stage 1 CKD, 10 patients (20%) have stage 2 CKD, 30 patients (60%) have stage 3 CKD, 8 patients (16%) have stage 4 CKD. No patient had stage 5 CKD.

35 patients (70%) had their urine tested, but only 10 patients (28%) of these had a urine dipstick test done and no one had urine protein/creatinine ratio (PCR) calculated. Only 8 patients (16%) had their serum lipids checked. 34 patients (68%) had BP of  $\leq 130/80$ , 9 patients (18%) had BP of  $\leq 140/85$  and 7 patients (14%) had BP of  $\geq 140/85$ . 27 patients (54%) were on Angiotensin Converting Enzyme Inhibitors (ACEI) or Angiotensin II Receptor





Blockers (ARBs), 24 patients (48%) were on statins, 27 patients (54%) were on aspirin or clopidogrel, 7 patients (14%) were on warfarin, one patient on Digoxin 0.125 with ( CrCl ) of 23 and 1 patient on enoxaparine 1mg/kg bd with ( CrCl ) of < 30 .Only one patient was documented to have CKD.

## CONCLUSION

Although the Cockcroft and Gault (C&G) equations overestimate measured GFR in people with normal renal function as stated by some researchers<sup>11</sup>, two-thirds of the elderly patients have significant CKD. Serum lipids were under assessed. Although BP is well controlled, other cardiovascular risk factors were undercontrolled as statins, ACEI, ARBS and aspirin were underused.

By increasing awareness for diagnosis and documentation of CKD, adoption of glomerular filtration rate (GFR) calculation, maximizing CVS risk control through increase utilization of statins, ACEI, ARBS and aspirin and avoiding nephrotoxic medications we can reduce morbidity and mortality of CKD in elderly people.

## ACKNOWLEDGEMENTS

The authors wish to gratefully acknowledge the assistance of Medical Records Staff in Naas General Hospital.

## REFERENCES

Available on request.



# Clinical Research

## Medical

<b>TITLE</b>	<b>Audit on Type Two Diabetes in Naas General Hospital</b>
<b>AUTHORS</b>	<i>Hussain, M., Lakhani, A., Anwar, A., Power, J., Durity, M. Department of Medicine, Naas General Hospital, Naas, Co. Kildare</i>

### INTRODUCTION

Type two Diabetes Mellitus (T2DM) is a chronic multisystem disease resulting from progressive pancreatic B-cell dysfunction with long-term micro and macro vascular complications. Numerous studies have already established that treating these patients to the target levels improves these long-term sequelae. Estimated annual total direct cost for both diagnosed and undiagnosed diabetes in Ireland corresponds to 4.1% and 6.4% of healthcare expenditure respectively.<sup>1</sup> Therefore treating these patients to the internationally accepted target levels may reduce these long term complications to a great extent and thereby reduce a huge amount of healthcare expenditure.

### OBJECTIVE

To evaluate the goals achieved to date in T2DM patients attending the Diabetes Clinics of Naas General Hospital (NGH).

### METHODOLOGY

A retrospective study involving all T2DM patients who attended the Diabetes Clinics of NGH over a three months period between October and December 2005. Type 1 Diabetes and other T2DM patients attending different medical clinics were excluded. Data were abstracted from individual case notes and laboratory database to standardised forms. In a few cases where glycosylated haemoglobin (HbA<sub>1c</sub>) results were unavailable on the day of review, immediate pre or post review date's results were taken. These data were transferred to the spreadsheet of Microsoft Excel, Windows XP Edition for further analysis. Local ethics committee approved the study. Since a recent unpublished study looked into the details of lipid profile and smoking habits in the diabetic population of NGH, this audit is mainly confined to other target goal achievements and treatment aspects of T2DM patients.

### RESULTS

Of the total 161 patients collected, there were 71 (44%) female and 90 (56%) male with an average age of 62.9 years. The sample demographics and baseline characteristics are summarised in Table 1.

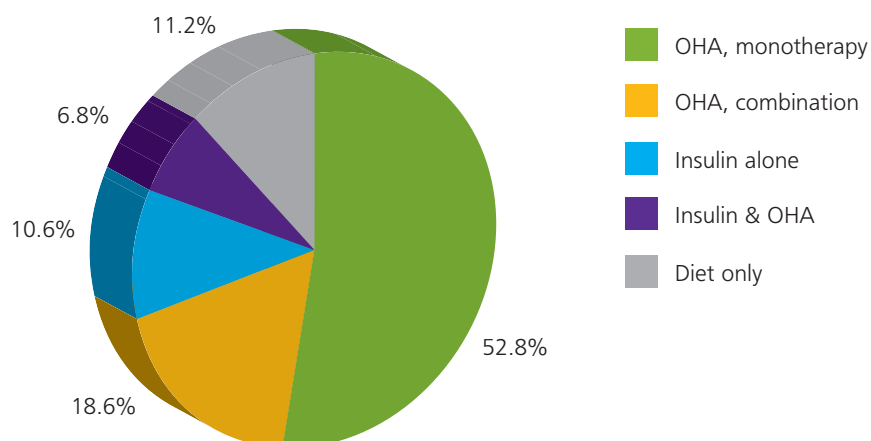


**Table 1 - Summary Statistics**

Variables	Minimum	Maximum	Mean	Available no.
Age (Years)	32	91	62.91	161
Systolic BP (mm of Hg)	100	210	146.5	155
Diastolic BP (")	48	123	79.83	155
Weight (Kg)	47.3	164.2	81.92	154
Creatinine (m mol/L)	50	267	88.19	141
Cholesterol (m mol/L)	2.3	7.4	4.23	121
HbA <sub>1c</sub> (%)	5.6	12.1	7.83	138

Mean blood pressure was 146.5 / 79.8 mm of Hg. Mean HbA<sub>1c</sub> was 7.83%. Only 29% of patients achieved the target HbA<sub>1c</sub> of below 7%; 34% had systolic blood pressure below 135mm of Hg. and 51% had diastolic blood pressure below 80mm of Hg. When both were considered together, 49% had blood pressure above the combined target level of 135/80mm of Hg. About 19% had proteinuria on routine dip-stick urinalysis. The most common treatment (71.4%) was oral hypoglycaemia agents (OHA, Fig.1) and the commonly used OHA was metformin (47.8%). Overall glitazones were used only in 1.7% of cases and around 59% were on anti-platelet therapy.

**Figure 1 - Treatment Modalities**





## CONCLUSION

This audit will work as a baseline and will help us to highlight any deficiencies and to formulate a future strategy to improve our performance to the international level. The mean value of certain variables were close to target goal but breakdown analysis showed a significant number of patients were actually outside these targets (Table 2). This group of patients needs further careful monitoring. Also a significant number of patients had blood pressure

**Table 2 - Glycosylated Haemoglobin**

HbA <sub>1c</sub> in %	No. of patients	% of patients
<7	47	29.19
7 - 10	69	42.86
>10	22	13.66
Unavailable	23	14.29
Total	161	100%

A more co-ordinated and integrated approach including the involvement of multidisciplinary team is essential for overall improvement. Establishing a local and a national database is essential for proper care and resource management of diabetic patients.

## REFERENCE

Available on request.



# Clinical Research

## Medical

<b>TITLE</b>	<b>Audit: Osteoporosis in General Practice</b>
<b>AUTHORS</b>	<i>Kennedy, B., Boylan, D. John's Gate House, John Street, Limerick</i>

### INTRODUCTION

A list of women on bone protective agents over 45 years of age was compiled. 48 female subjects were identified in the practice and data compiled about the drugs initiated and documented evidence base/indications for their use.

### OBJECTIVES

To gauge how our practice conformed to SIGN (Scottish Intercollegiate Guidelines Network) guidelines for bone protection and osteoporosis including nutritional, lifestyle and pharmacological interventions and indications for DEXA scanning and based on findings to introduce a practice protocol and aim to complete the audit cycle by repeat assessment.

### METHODOLOGY

Library and Internet search of the available relevant guidelines relating to bone protective agents was done. It was decided to compare our practice with best practice guidelines as set out by SIGN.

A list of all those on bone protective agents was made. 48 females over the age of 45 years were identified who were taking calcium, vitamin D, bisphosphonates, Strontium Ranelate and Raloxifene. For each subject a list was compiled of the drugs prescribed, any adverse events recorded on the meds, duration of treatment, whether or not DEXA scanned, time interval to repeat scanning and whether treatment initiated in hospital or in the community. In short, the history of treatment initiation, instigation and tests ordered etc. was recorded. Data was entered on a spreadsheet.

### RESULTS

1. Drugs prescribed in the practice were Calcium, Vitamin D, Alendronate, Risedronate, Didronel and Strontium Ranelate.
2. 66% of scripts were as a result of screening in the community. 34% of scripts were from hospital consultants.
3. Protocol bloods were done only as clinically indicated.
4. Lifestyle modification with reference to nutrition and exercise etc. was done in the practice but not habitually documented or approached in a standardised way.
5. It was not always clear from data entered, whether the fall risk was also adequately assessed in tandem with Bone Mineral Density (BMD).
6. DEXA Scanning referral: The study highlighted 14 patients without documented evidence base to warrant prescription of their medication.
7. Time interval to DEXA scanning from letter writing seemed to be within one month for private patients and within two months for public patients.



8. 70% of the patient cohort had been DEXA scanned and given a diagnosis of 'osteopenia', 'osteoporosis' or 'normal'. Of these 38% had been rescanned. Average time to rescanning was 33.4 months and never less than the recommended minimal interval of two years. It was not always clear that rescanning at appropriate time intervals had been discussed or arranged. T scores and Z scores were not always available on the files. There was room for standardising data entry of results at an administrative level. Communication of DEXA scan results from secondary care was extremely variable in details supplied and recorded.
  - 35% had a label of osteoporosis be it from DEXA or X-ray i.e. two vertebral fractures.
  - 31% had a label of osteopenia from DEXA scan.
  - 6% had normal BMD according to DEXA.
  - 31% had no definitive documented diagnosis. These included 14 patients - (2 had a DEXA, 3 had spinal x-rays, no diagnoses or results of tests were entered). Half (7) of these scripts were from hospital, 6 were from community. One could not be sure from the notes where the remaining patient's script was initiated.
  - 13% had been diagnosed with osteoporosis from having 2 vertebral fractures on x-ray.

## CONCLUSIONS

1. Need identified for creation of practice protocol for bone protection: Prevention/screening/diagnosis/treatment/follow-up.
2. Need identified for practice leaflet for non-pharmacological interventions i.e. lifestyle modification for primary and secondary prevention.
3. Need identified for dietary education, which could reduce calcium prescribing.
4. Practice protocol for rational standardised prescribing habits established.
5. Practice questionnaire for assessment risk factors for osteoporosis established.
6. Clear-cut recall system for repeat DEXA scanning at interval not less than 2 years established for the practice.
7. Need to improve communication between primary and secondary care and ensure rationale for bone protective agents was clearly defined and if not, standard letter sent back to the consultant to establish need for drugs.





# Clinical Research

## Medical

<b>TITLE</b>	<b><i>BAP-like Proteins Associated with Meticillin Resistant <i>Staphylococcus Aureus</i> (MRSA) are Involved in Biofilm Formation and Virulence and May Provide a Target for Drug Intervention in Staphylococcal Infection</i></b>
<b>AUTHORS</b>	Pembroke, J.T., <sup>1</sup> Adley, C.C., <sup>2</sup> Ryan, M.P. <sup>2</sup> Molecular and Structural Biochemistry Laboratory, <sup>1</sup> Systems Microbiology Laboratory, <sup>2</sup> Department of Chemical and Environmental Sciences, University of Limerick

### INTRODUCTION

*Staphylococcus aureus* is a permanent coloniser of over 20% of the population and is transiently associated with another 60%<sup>1</sup>. It is an opportunistic pathogen of both animals and humans. Because of the high level of human association, post surgical or catheterized patients are at increased risk of infectious disease and with the advent of MRSA and its associated resistance, antibiotic treatments have become increasingly problematic.<sup>2</sup> The nature of the way *Staphylococcus aureus* evades the immune response is associated with its ability to compromise neutrophils and macrophages of the innate immune response. It can inhibit complement activation, neutralise antimicrobial defensin peptides, modify its cell surface to evade targeting, inhibit neutrophil chemotaxis and lyse neutrophils.<sup>3</sup> In addition the organism is capable of utilising the phagosome as a shelter, inhibits opsonisation by complement and antibody and produces a cell wall that is resistant to lysozyme.<sup>2,4,5</sup> A range of immunomodulatory molecules are produced by *Staphylococcus aureus* including protein A which cause IgM bearing cells to undergo apoptosis<sup>6</sup> and enterotoxin superantigens that bind to MHC class II protein on T-cells activating them, resulting in toxic shock syndrome.<sup>7</sup> The organism can also bind to platelets, activate them and cause endocarditis.<sup>8</sup> As if this were not enough *Staphylococcus aureus* contains a range of potent cell-surface and secretory virulence factors that contribute to its pathogenicity. These include surface adhesins that promote binding to the host,<sup>9</sup> factors that promote iron uptake<sup>10</sup> and the production of a protective capsule.<sup>11</sup> The organism can also contribute to tissue destruction by secreting lipases, membrane damaging toxins, proteases, hyaluronidases and nucleases.<sup>2,12</sup> This organism is a true pathogen adapted to life in a mammalian host and this coupled to its increasing antibiotic resistance profile makes it of major concern in terms of infection control.

Many strains of *Staphylococcus* produce biofilms as part of the infection cycle.<sup>13</sup> Biofilm formation occurs as a developmental cycle involving adherence, secretion of biofilm forming exopolysaccharides and secretion of communication signals in the form of homoserine lactones to aid development of the biofilm. Such biofilms are highly resistant to antibiotics<sup>14</sup> and biofilm association appears to increase virulence.<sup>13</sup>

### OBJECTIVE

The aim of this work was to identify biofilm associated genes in the genome of *Staphylococcus aureus* and correlate these with virulence by generating gene knockouts of these genes.

### METHODOLOGY

A number of *Staphylococcus aureus* genomes have been sequenced including N315 (MRSA), MRSA252, MRSA 476, MU50, NCTC\*325, Col and MW2.

These can be viewed at the PEDANT website <http://pedant.gsf.de/genomes.jsp?letter=&category=bacterial>. Although working on many candidates, one protein termed BAP (biofilm associated protein), has been identified which is implicated in biofilm adhesion in *Staphylococcus aureus*<sup>15</sup> and which is conserved amongst many gram positive and gram-negative biofilm-forming organisms. This protein is being examined in terms of its utility as a potential target for inhibition via structural analysis.



## RESULTS

*bap*<sup>-</sup> mutants have been generated<sup>15</sup> and implicated in reduced ability to form biofilms on abiotic surfaces. *bap*<sup>-</sup> mutants show in addition reduced virulence and increased susceptibility to antibiotics. Whereas the *bap*<sup>+</sup> strains are resistant to vancomycin at 50µg. ml<sup>-1</sup> in liquid culture *bap*<sup>-</sup> strains are sensitive to vancomycin at <5µg. ml<sup>-1</sup> indicating that the biofilm phenotype contributes significantly to the drug resistance. The *bap* gene was amplified using directed PCR primers from *Staphylococcus aureus* V329 and sequenced. The predicted protein is large containing some 2276 amino acids. Bioinformatic analysis of the predicted protein revealed a large protein of 238.5kDA with a theoretical iso-electric point of pH 3.89. The protein encodes a signal sequence at the N'terminus with a cleavage site at alanine resulting in removal of the first 44 amino acids. The new N'terminus of the protein contains a single transmembrane helix, which presumably anchors the nascent protein into the membrane.

Analysis of the predicted protein sequence using BLAST analysis showed it to be highly homologous to sequenced *Bap*-like proteins in other gram +ve and unusually some gram -ve organisms. CLUSTAL alignments revealed an unusual motif-like structure at the N'terminus of the protein, which consisted of seven repeats of an almost identical motif containing a proline residue at its centre. Such sequences may provide a turn within the protein chain resulting in an anchored binding domain, which is flexible as it penetrates out from the surface. Such a flexible structure may play an essential role in the formation and development of the Staphylococcal biofilm.

## CONCLUSION

The next stage is to progress with the expression of this protein with and without its membrane anchor to allow purification free from the associated aggregation that such a transmembrane helix may cause during the purification stages. The goal of the work is to crystallise and examine this protein to determine what structural characteristics are responsible for its key role in biofilm formation and ultimately to target this protein via inhibitors to examine the possibility of its utility as a target for anti-infective therapy.

## REFERENCES

Available on request.



# Clinical Research

## Medical

<b>TITLE</b>	<b>Imaging for Non-Acute Headache</b>
<b>AUTHORS</b>	<i>O'Riordan, D., Martin, M., Watts, M. Mid-Western Regional Hospital, Limerick</i>

### OBJECTIVE

The purpose of this observational study was to examine the utilisation of neuroimaging in patients with non-acute headache in an attempt to develop a mechanism to rationalise this important resource. Previous studies report 2-15%<sup>2,3,4</sup> of patients with non-acute headache having a significant pathology on neuroimaging.

### METHODOLOGY

340 patients fulfilled the criterion over a 3 year period (September 2002 to September 2005) following review of computerised discharge letters. The mean age was 41.9 years; 65% female, 35% male. 17 (0.5%) had focal neurology on examination. 179 (53%) of the patients had imaging performed; the vast majority non-contrast CT brain (132). 3 (17%) of the patients had abnormal neuroimaging that influence their management. 2 (1.1%) of these patients required neurosurgical intervention.

### CONCLUSION

This study demonstrates the need for further clinical tools in evaluating the patient with non-acute headache, in an attempt to appropriately utilise neuroimaging. It is however acknowledged that patient expectation and medico-legal concerns often influence the use of neuroimaging in such patients.

### REFERENCES

Available on request.



# Clinical Research

## Palliative Medicine

<b>TITLE</b>	<b>An Assessment of Patient's Symptoms on Admission and during the First Seventy Two Hours of Admission to a Specialist Palliative Care Unit</b>
<b>AUTHORS</b>	<i>Lucey M., <sup>1</sup> Conroy, M.<sup>2</sup> Palliative Medicine, Milford Hospice, Limerick</i>

### INTRODUCTION

Patients are admitted for many reasons to Specialist Palliative Care Units (SPCU's).

As symptom control is one of the main aims of palliative care, it should, theoretically, be assessed as a primary end point or outcome measure.<sup>1</sup> The Edmonton Symptom Assessment Scale (ESAS) has been developed and used as an integral part of routine practice by the Edmonton Palliative Care Unit in North America.<sup>2</sup> Assessing how patients' symptoms are controlled in the first seventy two hours after admission to an SPCU will help evaluate the effectiveness of the symptom control measures in the SPCU.

### OBJECTIVE

Ideally, if patients have uncontrolled symptoms on admission to an SPCU, they should experience an improvement in these symptoms in the first seventy two hours with specialist treatment. This study aims to evaluate and quantify this symptom control. Studies in other countries to date have conflicting results, with some showing symptom improvement<sup>2</sup> and others showing symptom deterioration.<sup>1</sup> We intend to perform a more in-depth analysis of the type of admissions and the presenting diagnosis, and therefore highlight confounding factors influencing symptom trends. Ultimately, by highlighting specific symptom trends, we can focus on problem areas and improve symptom management.

### METHODOLOGY

Patients will be shown how to complete the ESAS as part of routine admission. They alone, or with the help of a carer, or one of the Nursing staff will fill out the 10 point assessment each 24 hours. These symptom scores will then be transferred to a graph to provide a visual record of the patient's symptoms over time. Their symptom trends will then be evaluated for specified periods of 24, 48, and 72 hours. Previous studies have concentrated on patient's symptom distress scores towards the end of life. These obviously worsen at this stage.<sup>1</sup> We intend to document the type of admission and the nature of the patient's disease and as such will be able to discern what patient cohorts do better from a symptom control perspective in the Irish setting.

### RESULTS

This study has received clearance from the Research Ethics Committee and commenced on March 1<sup>st</sup>, 2007.

### CONCLUSION

Our hypothesis is that different types of SPCU admissions have different improvements in symptom scores. By highlighting this, we can show what patients benefit most from admission to an SPCU from a symptom control perspective.



## REFERENCES

1. Rees E, Hardy J, Ling J, Broadley K, Ahern R. The use of the Edmonton symptom assessment scale (ESAS) within a palliative care unit in the UK. *Palliat Med.* 1998;12:75-82.
2. Bruera E, Kuehn N, Miller M, Selmser P, Macmillan K. The Edmonton Symptom Assessment System (ESAS): a simple method for the assessment of palliative care patients. *J Palliat Care.* 1991;7(2):6-9.



# Clinical Research

## Surgical

<b>TITLE</b>	<b>An Audit of Vascular Injuries Associated with Traumatic Bone Injuries</b>
<b>AUTHORS</b>	<i>Abdulkarim, A.,<sup>1</sup> O'Malley, N.T.,<sup>1</sup> Fleming, F.J.,<sup>2</sup> Grace, P.A., 2 Burke, T.<sup>1</sup> Department of Trauma and Orthopaedics <sup>1</sup>, Department of Vascular Surgery <sup>2</sup>, Mid-Western Regional Hospital, Limerick</i>

### INTRODUCTION

Vascular injuries associated with limb bone fractures are relatively uncommon.

### OBJECTIVE

To determine the mechanisms of injury and evaluate the outcome of combined orthopaedic and vascular injuries.

### METHODOLOGY

A retrospective review of all patients with vascular injury associated with limb bone fractures between January 1992 and July 2006 was performed. Data collected included demographic details, clinical presentation, assessment, management and outcome.

### RESULTS

Of 22,340 fractures treated during the 14 year period 36 patients sustained a vascular injury that required surgical intervention. Of those, 18 patients (50%) had a concomitant fracture or other orthopaedic injury and this group formed the basis of the audit. The median age was 31.1 (range 3-80) years and 66% were male.

Road traffic accidents accounted for 12 injuries (66%), other accidents 4(22%), iatrogenic injury 1(6%) and 1 gunshot injury (6%). 4 patients had an associated nerve injury with varying severity. Skeletal fixation preceded vascular repair in most of the cases. Peroperative arterial shunting was not used in any patient. The primary vascular procedures included end-to-end anastomosis 2(11%), bypass grafting 1(6%), interposition vein grafts 8(43%), vein patch 1(6%), direct arterial repair 2(11%), ligation 2(11%), primary amputation 1(6%), reposition of normal course of artery 1(6%). During a 17 month follow-up period, the upper and lower limb preservation rate was 100 and 89%, respectively. 9 patients (50%) were symptom free; 3 patients (16.6%) had a neurological deficit.

### CONCLUSION

Vascular injury is uncommon in orthopaedic patients. High suspicion and early intervention is essential to optimise outcome and function.

### PRESENTED

As an oral presentation in the Orthopaedic Session of the Sylvester O'Halloran Surgical Scientific Meeting in the University of Limerick on March 3<sup>rd</sup>, 2007 by Dr Ali Abdulkarim.





# Clinical Research

## Surgical

<b>TITLE</b>	<b>Mandibular Symphyseal Bone Grafting - A Review of 20 Consecutive Patients</b>
<b>AUTHORS</b>	<i>Rogers, S., Kearns, G. Department of Oral and Maxillofacial Surgery, Mid-Western Regional Hospital, Limerick</i>

### INTRODUCTION

Autogenous bone is the gold standard for reconstruction and is an ideal material for augmentation prior to implant placement. The mandibular symphysis is an accessible source of intraoral bone, however there is little information in the literature regarding the morbidity associated with harvesting symphyseal bone grafts.

### OBJECTIVES

This is a retrospective review of morbidity with mandibular symphyseal bone grafting at the Mid-Western Regional Hospital (MWRH). Gender, mean age, surgical indications, smoking status, healing period prior to implant placement, donor site complications, altered sensation at donor pain, altered chin shape, need for endodontics, site and follow-up were recorded.

### METHODOLOGY

Surgical protocol: Gingival marginal incision released in the premolar regions bilaterally, mucoperiosteal flap and protection of mental nerves. Monocortical block(s) harvested, avoiding the mandibular teeth apices and mental nerves. The incision is closed with vicryl sutures and a pressure dressing applied. The recipient site is prepared and the graft secured with two microscrews. Securing screws were removed at implant placement or second stage surgery for immediate implants.

### RESULTS

The study included 20 patients (7 male, 13 female) undergoing mandibular symphyseal bone grafting to facilitate implant placement. Mean age 35.25 (17-62) years. 10% (2) smokers. Donor site morbidity included transient parasthesia of the mental nerve distribution, 7 patients (35%), all resolved at 2 months. There was no chronic post-op pain, alteration in chin morphology, loss of vitality to the mandibular teeth or clinically significant gingival recession. Mean follow-up 19 months (4-74 months).

- 15 maxillary labial veneer grafts, 3 mandibular premolar veneer grafts, 2 sinus lifts.
- 35 implants were placed (10 immediate-4 patients, 35 after healing period-16 patients).
- Mean healing time prior to implant placement 4 months (3.5-74).
- 3 implants (8.5%) became infected and had to be removed.

### CONCLUSION

The mandibular symphysis is a good source of intraoral bone for use in ridge augmentation before implant placement with low morbidity and good success.



# Clinical Research

## Surgical

<b>TITLE</b>	<b>A Role of Interferon in the Management of Aggressive Giant Cell Lesions</b>
<b>AUTHORS</b>	<i>Biabani, A., Rogers, S., Hartnett, A., Kearns, G. Department of Oral and Maxillofacial Surgery, Mid-Western Regional Hospital, Limerick</i>

### INTRODUCTION

Giant Cell Lesions (GCL) of bone are classified according to their biological behaviour as non-aggressive, intermediate and aggressive and account for 7% of benign jaw tumours, presenting in teenagers with a female to male ratio of 2:1. Histologically these lesions consist of fibrous tissue, multinucleate cells and woven bone. Treatment ranges from curettage to en bloc resection. Pharmacologic therapy using corticosteroids and calcitonin has been recommended.

### METHODOLOGY

This is a report of two patients with Aggressive Giant Cell Lesions (AGCL), treated with a combined surgical and pharmacological approach using Interferon-alpha. The aggressive nature of the lesions was based on recurrence of a previously excised lesion (Case 1) and large size, root resorption and extensive bone destruction (Case 2). Evaluation included history, physical examination, plain radiographs and computed tomography. The use of antiangiogenic Interferon-alpha was based on the lesion's vascular histology, to achieve tumour shrinkage by inhibition of angiogenic fibroblast growth factors (FGF).

Two female patients presented at age 7 years and 33 years respectively. Both underwent enucleation of the AGCL following biopsy. One month post operatively, the patients commenced treatment with Interferon-alpha, the dose calculated on body weight. The patients continued treatment on a daily basis for six months. Full Blood Counts and Liver Function Tests were monitored. No adverse clinical or biochemical events were reported with the exception of an initial pyrexia episode on commencing treatment.

### RESULTS

There is no evidence of recurrence with mean follow up 36 months.

### CONCLUSION

The results suggest that a combined surgical and pharmacological approach using Interferon-alpha may be a recommended treatment in the management AGCL of the jaws.

### PRESENTED

As an oral presentation in the Head and Neck Session of the Sylvester O'Halloran Surgical Scientific Meeting in the University of Limerick on March 3<sup>rd</sup>, 2007 by Mr G. Kearns.



# Clinical Research

## Surgical

<b>TITLE</b>	<b>Treatment of Central Giant Cell Granuloma with Interferon-alpha – A Two Patient Case Report</b>
<b>AUTHORS</b>	<i>Rogers, S., Kearns, G. Department of Oral and Maxillofacial Surgery, Mid-Western Regional Hospital, Limerick</i>

### INTRODUCTION

Recent further classification of Central Giant Cell Granulomas (CGCG) of the jaws into non-aggressive, intermediate and aggressive subtypes based on their biological behaviour has allowed clinicians to treat these lesions as conservatively as possible. Treatment ranges from simple curettage to en bloc resection and more recently adjunctive medical treatment with drugs such as Calcitonin and Interferon.

### METHODOLOGY

This is a retrospective case review of two female patients at the Mid-Western Regional Hospital Limerick, under the Department of Oral and Maxillofacial Surgery (OMFS). Both were referred to the OMFS Department for investigation of suspicious lesions. Upon histological diagnosis of CGCG and the clinical picture of “aggressive CGCG”, both underwent curettage and Interferon-alpha treatment.

The Massachusetts General Hospital (Kaban) protocol was followed;

Following histological diagnosis, the lesion is curetted preserving as much soft tissue, nerves, vessels, bone and teeth as possible.

- Interferon-alpha/beta 3,000,000 units/m<sup>2</sup> Sub cutaneous daily starting 48-72 hours post-op.
- After initial follow-up, 3 monthly check-up until radiographically resolved, then 6 monthly review.
- FBC (Hb, WCC, Plt, haematocrit) LFT, Baseline and 6 weekly.
- Baseline OPG, then 6, 12 weeks post op.
- 3 monthly intervals during Interferon therapy.
- Confirmatory CT scan when resolved on OPG view.
- Regular follow-up.

Gender, age, surgical indications, hospital stay, duration and dose of Interferon treatment, complications of surgery and Interferon and follow-up were recorded.

Both patients were female and aged 7 and 33 at curettage and commencement of Interferon-alpha.

### RESULTS

Both patients have successively completed their course of treatment and continue to be reviewed in the OMFS clinic annually with no evidence of recurrence. The patients were 7 and 33 at the time of treatment (mean 20). The mean duration of Interferon treatment was 8.5 months (6-13). The mean time since curettage is 35 months (30-40) and mean time post Interferon treatment is 25.5 months (24-27). None of the reported side effects of Interferon treatment were experienced by our patients. There was no post operative paraesthesia, pathological fractures or infections. Curettage as opposed to peripheral ostectomy or en bloc resection preserves continuity and overall facial aesthetics. It also preserves as many teeth as possible and provides the best opportunity for implant prosthesis in the future.



There have been no recurrences during the period of observation. Both patients are well and continue to be reviewed in the OMFS clinic.

## CONCLUSION

Treatment of Central Giant Cell Granulomas of the jaws with curettage and Interferon-alpha has a role in the management of these lesions, especially the aggressive variant. However, given the number of possible treatment options, more comparative research in this area would be of benefit.



# Clinical Research

## Surgical

<b>TITLE</b>	<b>The Effects of Carnoy's Solution in Management of Odontogenic Keratocysts</b>
<b>AUTHORS</b>	<i>Murphy, C.,<sup>1</sup> Sleeman, D.<sup>2</sup> Department of Oral and Maxillofacial Surgery, Mid-Western Regional Hospital, Limerick<sup>1</sup> Department of Oral and Maxillofacial Surgery, Cork University Hospital<sup>2</sup></i>

### INTRODUCTION

The odontogenic keratocyst is a jaw cyst developing from epithelial remnants of the dental lamina, (*Marx and Stern*). It is usually asymptomatic at time of diagnosis and is often an incidental finding, most commonly in the posterior mandible. The most significant problem with the keratocyst is its high recurrence rate, (*Morgan et al*). Numerous approaches have been described to reduce the recurrence rate including marsupialisation, cryotherapy, block resection, application of Carnoy's solution, (*Stoelinga pjw*).

Carnoy's solution (ethanol, chloroform and acetic acid) is used as an adjuvant therapy to help eliminate epithelial microcysts and prevent recurrence, however it is reported to damage the inferior dental nerve causing numbness. It is thought that the Carnoy's solution blocks the axonal conduction when applied to the inferior alveolar nerve, (*Loescher et al*). The maxillofacial unit in Cork University Hospital has been using Carnoy's solution for a number of years. Cases treated with enucleation and Carnoy's solution had lowest recurrence rate, but the long term affect on nerve function was uncharted.

### OBJECTIVES

The aim of this study was to assess the long term neural function after application of Carnoy's solution.

### METHODOLOGY

We reviewed the last 20 cases of mandibular keratocysts treated surgically by enucleation and application of Carnoy's solution. All cases were more than six months post surgery.

### CONCLUSION

We found no long term neural damage and conclude that the application of Carnoy's solution to prevent recurrence of keratocysts is a successful and safe procedure.



# Clinical Research

## Surgical

TITLE	Can We Defend the Case Report? Valuable Learning Experience for E.N.T. Specialists from Rare Harm Case Reports
AUTHORS	Dias, A., Casserly, P., Fenton, J.E. Department of Otolaryngology, Head and Neck Surgery, Mid-Western Regional Hospital, Limerick

### INTRODUCTION

The study of errors in medicine has proliferated since the publication of The Institute of Medicine Report ‘To Err is Human’ in 2000.<sup>1</sup> Case nuances and process of care issues are valuable areas to explore if the goal is to provide the health care worker with the knowledge to avoid future errors. Whilst meta-analysis and randomized controlled trials can provide a large database of evidence, it is felt that a collection of a series of case reports can provide more valuable information towards improvement and opportunities.<sup>2</sup>

### OBJECTIVE

- To use the published literature to produce a series of rare harm case reports in E.N.T.
- To identify rare harm case reports in E.N.T., previously not described in other forms of evidence-based medicine.

### METHODOLOGY

A systematic literature review was conducted. We retrieved published case reports of rare harm from a series of E.N.T. journals.<sup>3</sup> We rejected any of these case reports that were reported in a randomized controlled trial, meta-analysis or a clinical trial study. Sources of case reports: PUBMED.

### RESULTS

- Journals searched in PUBMED: 60
- Cases obtained from the search: 5,322
- Rare Harm Cases not reported in any other form of evidence-based medicine: 40.

### CONCLUSION

Yes, we can defend case reports.

### REFERENCES

Available on Request.





# Clinical Research

## Surgical

<b>TITLE</b>	<b>Preoperative Pregnancy Testing in Tonsillectomy Patients of Child-Bearing Age</b>
<b>AUTHORS</b>	<i>Safi, S., Kieran, S.M., Manning, K.P., Hughes, J., Fenton, J.E. ENT Department, Mid-Western Regional Hospital, Limerick</i>

### INTRODUCTION

Pre-operative pregnancy testing is advised in patients undergoing general anaesthesia.

### OBJECTIVE

Our study was designed to audit whether all female patients of child-bearing age undergo pregnancy testing in our institution. The setting was an ENT Department in a Regional Hospital.

### METHODOLOGY

#### Patients

There were 428 female patients of child-bearing age (between the onset of menarche and menopause), who underwent elective tonsillectomy, between February 2004 and May 2006. Patients were identified from the hospital inpatient enquiry system (HIPE) and electronic theatre logs. Data was collated via a retrospective chart review.

#### Main Outcome Measure

The percentage of patients undergoing pre-operative pregnancy testing, subdivided into divided age groups.

### RESULTS

Of 428 female patients admitted for tonsillectomy, pregnancy tests were performed on 221(51.6%) (217 (50.7%) negative and 4 (0.9%) positive) while 207 (48.3%) patients' pregnancy status was not known prior to tonsillectomy. When subdivided by age group, pregnancy tests were less likely to be performed in the younger age groups.

### CONCLUSIONS

Preoperative pregnancy testing should be routine in females of child-bearing age undergoing any procedure under general anaesthetic. This requires sensitivity in the case of minors and requires parental/guardian consent.

### PRESENTED

At the Annual Irish Otolaryngology Head and Neck Society Meeting in the Slieve Russell Hotel in Cavan in October 2006 by Dr. S. Safi.



# Clinical Research

## Surgical

<b>TITLE</b>	<b>An MRI-Based Study Comparing The Effect of Standard Vaginal Gauze Pack vs. A Novel Balloon Pack on Compression of the Retropubic Space Following Sling Surgery</b>
<b>AUTHORS</b>	<i>Giri, S.K., <sup>1</sup> Wallis, F., <sup>2</sup> Long, R., <sup>1</sup> Cullen, E., <sup>1</sup> Queally, J., <sup>1</sup> Egan, M., <sup>2</sup> Drumm, J., <sup>1</sup> Flood, H.D.<sup>1</sup> Department of Urology, Mid-Western Regional Hospital, Limerick<sup>1</sup> Department of Radiology <sup>2</sup>, Mid-Western Regional Hospital, Limerick <sup>2</sup></i>

### INTRODUCTION

Traditionally, a vaginal gauze pack (GP) is used after sling surgery for haemostasis. The purpose of the pack is to compress the retropubic space (RS) to prevent retropubic haematoma (RH) formation from bleeding arising from the vaginal and paraurethral dissection and perforation of the endopelvic fascia. In a previous study, we have shown that MRI is a very useful imaging modality in the detection of RH after sling surgery and there was a 25% incidence of RH with a short-term pack.<sup>1</sup> However, the effect of a vaginal pack in compression of the RS and prevention of a RH is unknown. We have devised a novel vaginal balloon pack (BP), which is easy to use and remove with minimum postoperative discomfort.

We hypothesise that the BP through exertion of uniform and infinitely variable compression on the anterior vaginal wall is more effective in reducing the RS and RH formation.

### OBJECTIVE

The aim of our study was to analyse, using MRI, the anatomical effect of a standard GP and BP on the compression of RS following rectus fascia (RF) pubovaginal sling surgery for stress urinary incontinence.

### METHODOLOGY

Between September 2005 and August 2006, 30 patients were randomly assigned to either a GP (n=15) or a BP (n=15) after a RF rectus fascia pubovaginal sling. All procedures were scheduled early on the list to facilitate later MRI. The intra-operative blood loss was recorded. All patients underwent pelvic MRI 6 hours postoperatively with either a GP or BP and a size 14F Foley catheter in-situ. All the images were analysed by one experienced radiologist (FW). Our primary outcome measures were 1) Shortest distance from the anterior vaginal wall to the mid-point of the posterior surface of the pubic symphysis (SDVP) and 2) maximum anteroposterior (AP) diameter of the vagina (APDV) at the same level. Secondary outcome measure was the incidence of retropubic and vaginal haematoma with the pack in-situ. Hematomas were divided arbitrarily into small (2 – 3.9cm), medium (4 – 5.9cm) and large size ( $\geq 6$ cm) depending on the two largest dimensions.

### RESULTS

The mean SDVP was significantly shorter with a BP (17 vs. 25mm respectively;  $p < 0.001$ ). The mean APDV was significantly greater with the BP (mean 40mm vs. 25mm;  $p < 0.001$ ). Analysis of the MRI images showed that the BP caused uniform compression of the anterior vaginal wall. The vaginal vault was displaced superiorly with the BP and posteriorly with the GP. Although, one patient in the BP group had a large retrorectus and prevesicle haematoma, retropubic space was well compressed and there was neither RH nor VH in this patient. This patient was completely asymptomatic from a haematoma point of view.



## CONCLUSION

This study shows BP exerts better compression on the anterior vaginal wall and the RS than the GP. This may have effect on the incidence of RH and VH after sling surgery.

## REFERENCE

Available on request.

## PRESENTED

Presented at the Irish Society of Urology Annual Meeting, September 29<sup>th</sup>-30<sup>th</sup>, 2006 at the Great Southern Hotel, Killarney by Mr. Subhasis K. Giri.



# Clinical Research

## Surgical

TITLE	Our Experience with Selective Laparoscopy during Groin Exploration through Deep Inguinal Ring in the Management of Undescended Testis
AUTHORS	Giri, S.K., Long, R., Drumm, J., Flood, H.D. Department of Urology, Mid-Western Regional Hospital, Limerick

### INTRODUCTION

Accurate pre-operative and intra-operative localisation of undescended testis (UDT) in children can at times be extremely difficult. Moreover, there has been a great deal of variability in the reported accuracy of various imaging modalities for the localisation of UDT. Groin exploration through inguinal incision (GETII) for UDT, by virtue of its small incision, is already a type of minimal access surgery, and is well tolerated. Thus the benefits of routine laparoscopy for UDT in small children are likely to be small and expensive. We report our experience with a simple strategy of selective laparoscopy through the deep ring (DR) after finding an empty inguinal canal (EIC) in the management of UDT.

### METHODOLOGY

Laparoscopy was performed through the DR only when the inguinal canal was empty and no testis could be localised. A purse-string suture using 3/0 polyglactin was placed at the peritoneal edge of the DR. The blunt 10mm port with inflatable balloon was used to maintain pneumoperitoneum. Then standard laparoscopy using a 0° telescope was performed to localise the testis. Our primary outcome measures were localisation of the testis and detection of additional abnormality with regard to vas or testis and any associated complications.

### RESULTS

Seventy-five GETIIs for UDT were performed between January 2005 and June 2006. Laparoscopy through the DR was performed for 6 UDTs. Mean age was 12m (range 8 to 40). See Table 1. None of these patients developed any postoperative complications after laparoscopy.

**Table 1 - Distribution of Undescended Testis (UDT) and Laparoscopy Findings**

Findings	Number (%)
UDT	75
Palpable Testis	60 (80)
Impalpable Testis	15 (20)
Atrophic Testis in Inguinal Canal	3
Empty Inguinal Canal on Exploration	8
Peeping Testis	2
<b>Laparoscopy through deep inguinal ring</b>	<b>6 (8)</b>
Intra-Abdominal testis	3
Atrophic small testis (Orchidectomy)	2
Normal size testis (Orchidopexy)	1
Blind-ending spermatic Vessels and Vas (Vanishing Testis)	2
Blind-ending Vas and Non-Visible Spermatic Vessels or Testis	1



## CONCLUSION

Selective laparoscopy through the DR during GETII for UDT in children with EIC is a simple and useful technique. We recommend the selective employment of this technique in the management of UDTs.

## PRESENTED

Presented at the Irish Society of Urology Annual Meeting, September 29<sup>th</sup>-30<sup>th</sup>, 2006 at the Great Southern Hotel, Killarney by Mr. Subhasis K. Giri.



# Clinical Research

## Surgical

<b>TITLE</b>	<b>A Prospective Audit on Patients with a Long-Term Indwelling Catheter in a Regional Centre</b>
<b>AUTHORS</b>	<i>Cullen, E.J., Giri, S.K., Aziz M.A. Abdul, A., Ryle, K.F., McElligott, F.M., McSweeney, F.G., Long, R., Drumm, J., Flood, H.D. Department of Urology, Mid-Western Regional Hospital, Limerick</i>

### INTRODUCTION

The aim of this study was to determine the prevalence of catheter related complications in patients with long-term indwelling catheter (LTIDC) in a Regional Centre and to identify the proportion of patients suitable for alternative, less morbid means of bladder drainage such as clean intermittent self catheterisation (CISC).

### METHODOLOGY

A prospective audit of patients presenting with a LTIDC for more than twelve weeks duration to the Mid-Western Regional area from April 2006 to September 2006 was studied. The data was collated on a questionnaire based audit. Our primary outcome measure was the prevalence and risk factors for complications in patients with LTIDC. We also examined patient suitability for CISC.

### RESULTS

Altogether 104 patients were audited prospectively. The median duration of an indwelling catheter was 12 weeks (range, 12 weeks to 5 years). The male to female ratio in all groups was 7:1. The main indication for long-term catheterisation was outlet obstruction and the patient being unfit for surgery (55%). The commonest complication was catheter blockage in the suprapubic catheter group (46.7%) and urosepsis in the urethral catheter group (33%). The risk factors for catheter related complications was proportional to the length of catheterisation in both groups and age in the urethral catheter group. In this study only 10% of patients were offered CISC despite the fact that 40% of our patients were both physically able and suitable for CISC.

### CONCLUSION

Length of catheterisation is the major risk factor for the significant number yet minor catheter related complications in patients with a LTIDC. Awareness and education of patients and Health Care Professionals plays a pivotal role in acceptance of CISC and subsequent reduction of long-term catheter related complications.

### PRESENTED

Presented at the Irish Society of Urology Annual Meeting, September 29<sup>th</sup>-30<sup>th</sup>, 2006 at the Great Southern Hotel, Killarney by Dr. Abdul M.A. Aziz.





# Clinical Research

## Surgical

<b>TITLE</b>	<b>Mobility in Patients with Venous Leg Ulceration</b>
<b>AUTHORS</b>	<p>Clarke-Moloney, M.,<sup>1</sup> Godfrey, A.,<sup>3</sup> O'Connor, V.,<sup>2</sup> Meagher, H.,<sup>1</sup> Burke, P.E.,<sup>1,2</sup> Kavanagh, E.G.,<sup>1</sup> Grace, P.A.,<sup>1</sup> Lyons, G.M.<sup>3</sup></p> <p>Department of Vascular Surgery, Mid-Western Regional Hospital, Limerick <sup>1</sup>  St. John's Hospital, Limerick <sup>2</sup>  Department of Electronic and Computer Engineering, University of Limerick <sup>3</sup></p>

### ABSTRACT

This study compared mobility in patients with venous leg ulcers to age matched controls and determined the influence of mobility, age and ulcer size on ulcer healing.

25 leg ulcer patients, and 25 matched controls wore a mobility monitor (ActivPal) which recorded the number of steps and amount of time spent walking, standing, sitting or lying for a one-week period. A walking index was calculated. The ulcer group were treated with compression bandaging and ulcer healing recorded over 12 weeks.

There were 13 female subjects in each group. The median age was 70.5 (range 30-89) years. There was no difference in the amount of time either group spent standing, walking and resting. There was a significant reduction in the number of steps taken and in the walking index in the ulcer group ( $p < 0.05$ ). Smaller ulcers and ulcers of recent onset were most likely to heal within 12 weeks ( $p = 0.005$  and  $p = 0.011$  respectively). The percentage of time spent mobilising and resting did not influence ulcer healing ( $r_s = -0.125$ ;  $p = 0.552$ ).

Mobility patterns among patients with leg ulcers is not significantly different to age matched controls. Ulcer patients take fewer steps/week compared to controls indicating they have suboptimal calf muscle pump function. Further studies are required to determine whether therapies which increase calf muscle activity have a role in ulcer treatment.

### SOURCE

European Journal of Vascular and Endovascular Surgery. 2007;33(4):488-493.



# Clinical Research

## Surgical

TITLE	The Sensory Distribution of the Penile Dorsal and Ventral Nerves
AUTHORS	Long, R.M., <sup>1</sup> Harmon, D., <sup>3</sup> Flood, H. <sup>2</sup> Department of Urology, Mid-Western Regional Hospital, Limerick <sup>1, 2</sup> Department of Anaesthesia, Mid-Western Regional Hospital, Limerick <sup>3</sup>

### INTRODUCTION

Circumcision is a common surgical day case procedure. Regional anaesthesia is often used either for post operative analgesia or to perform the procedure without the need for general anaesthesia. Since the first description by Kirya in 1978 the penile dorsal nerve block has become the standard technique. Descriptions in the literature vary and include an infrapubic infiltration of local anaesthetic, a ring block or a combination of both.

### OBJECTIVE

Invariably some of these blocks are not effective. A better understanding of the sensory innervation of the penis may help to improve the efficacy of the blocks.

### METHODOLOGY

In adults electing to undergo local anaesthetic (LA), sensation was tested following infiltration of the dorsal aspect of the penis and then again after infiltration of the ventral aspect. 5 mls of 1% lignocaine was added to 5 mls of 0.5% levobupivacaine in a 1:1 ratio. A 23 gauge needle was used to infiltrate at the dorsal base either side of midline of the penis. After 2 minutes the area of anaesthesia was mapped out using pin-prick sensory testing. Then the ventral infiltration was performed bilaterally at the base of the penis and sensation again tested.

### RESULTS

A total of 7 patients have been included to date and the study is ongoing. The dorsal and ventral innervation have been shown to vary. Dorsal infiltration effectively anaesthetised the dorsal aspect of the penile skin and also all of the glans penis. In a minority of cases the frenulum and distal ventral foreskin was also successfully anaesthetised and circumcision could be carried out pain-free without further ventral infiltration. In the majority of patients the frenulum and ventral skin was only anaesthetised after ventral infiltration. In a minority of cases, ventral innervation was unsuccessful and further LA was infiltrated on the distal foreskin at the site for incision. No patient experienced pain during circumcision.

### CONCLUSION

For consistent successful local anaesthesia of the foreskin a dorsal block must be given. For successful ventral anaesthesia the LA should be administered at the site of incision. This method will avoid inconsistencies and allow circumcision under LA in most adults.



# Clinical Research

## Nursing and Midwifery

<b>TITLE</b>	<b>A Descriptive Analysis of the Barriers and Facilitators which Influence the Use of Research Findings as Perceived by Nurses Working in Oncology Practice in Ireland</b>
<b>AUTHORS</b>	<i>Cowan, M. Nursing and Midwifery Planning and Development Unit, HSE West, Limerick</i>

### INTRODUCTION

Research is the basis for knowledge development. The nursing profession has been proactive in recognizing the role of research in clinical practice, and a number of factors which impede or facilitate the use of research in nursing practice have been identified.

Few studies have examined the barriers and facilitators to implementing research findings in nursing practice in Ireland. To date, no investigation has examined the barriers and facilitators as perceived by nurses working in oncology clinical practice in Ireland.

### OBJECTIVE

The aim of this study was to examine what nurses, working in oncology clinical practice in Ireland, perceive as the barriers and facilitators to the use of research findings in their daily practice and to explore if these perceptions are influenced by level of education.

### METHODOLOGY

This study utilised a descriptive cross sectional survey design. A convenience sample of 136 nurses (SN), clinical nurse managers (CNM) and clinical nurse specialist (CNS) working in oncology clinical practice, in five hospitals, in Ireland was surveyed. A 73.5% response rate was achieved. Data was collected using a demographic questionnaire and the BARRIERS scale. The BARRIERS scale comprised of four subscales, characteristics of the organisation, the research, the nurse and the communication of research. See Table 1.

**Table 1 - Barrier Scale Subscale Items**

Characteristics of the nurse	Characteristics of the organisation	Characteristics of research communication	Characteristics of the research
Research Awareness	Research Culture	Presentation of Research Findings	Methodological Inadequacies
Research Skills	Support for Research Activities	Accessibility of Research Findings	Conflicting Results
Research Attitude			Doubts on Creditability Lack of Replication

Additionally open ended questions were included to provide participants with an opportunity to elaborate or clarify their answers relating to perceived barriers or facilitators to RU. Data was analysed using the statistical package SPSS.



## RESULTS

Barriers to research utilisation in oncology nursing practice in Ireland include characteristics of the organisation, the research, the nurses and the communication of research findings. The three greatest perceived barriers were:

1. 'There is insufficient time on the job to implement new ideas.'
2. 'The nurse does not have time to read research reports.'
3. 'The nurse does not feel she has enough authority to change patient care procedures.'

Interestingly, the organisation subscale contained seven out of the ten greatest perceived barriers.

Participants were asked to submit items they thought would facilitate research utilisation. Qualitative analysis identified the following:

1. Planned research implementation projects.
2. Research utilisation co-ordinators.
3. Designated nursing research teams.
4. Increased communication between the researcher and practitioner.

Level of education appears to play a role with nursing staff in relation to the utilisation of research findings. Those who had a Master's degree perceived all barrier items to a lesser extent than nurses with Degree, H. Dip and Diploma levels of education.

## CONCLUSIONS

The findings of this study suggest that barriers do exist to research utilisation in oncology nursing practice in Ireland. A number of strategies have to be introduced or enhanced to decrease these barriers in order to facilitate research based practice in this specialist area. Nurse leaders can create positive research utilisation cultures by supporting time for research utilisation efforts, giving the authority to nurses to change nursing practices, facilitating access to nursing research experts and providing continuing nursing education related to research.

## REFERENCES

Available on request.

## PRESENTED

At the 14<sup>th</sup> International Conference on Cancer Nursing 2006 in Toronto, Canada from September 27<sup>th</sup> to October 1<sup>st</sup> 2006 by Ms. M. Cowan.



# Clinical Research

## Nursing and Midwifery

<b>TITLE</b>	<b>Evaluation of Breastfeeding Skills Workshop</b>
<b>AUTHORS</b>	<i>Hynes, M., O'Leary, M. Mid-Western Regional Maternity Hospital, Limerick</i>

### INTRODUCTION

The skills of breastfeeding are learned skills, which were lost due to the decline in breastfeeding. Many mothers encountered difficulties on admission to hospital and in order to address this, once a month breastfeeding skills workshops for pregnant women commenced in October 2003, in St. Munchin's Regional Maternity Hospital, Limerick.

### OBJECTIVE

These were in addition to existing antenatal classes. The aim was to provide workshop type, specialist training to mothers who had planned to breastfeed and were now in the later stages of their pregnancy (Generally > 35/40). The groups differ from antenatal class groups – being much smaller and all attending were focused on their plan to breastfeed and wanted to learn more about management of breastfeeding.

### METHODOLOGY

Well-designed posters were sent to all GPs, all obstetric consultant private rooms, all antenatal clinics and displayed in the hospital.

Hot and cold refreshments were provided for women, on arrival at workshop, in an attempt to set an informal setting. A brief introductory session followed giving mothers an opportunity to voice their expectations and invite them to address any possible scenarios or problems they would envisage. Each workshop was adapted to individual mothers needs, varying with each group, but in each case incorporating the following points:

- All women are advised of the hospital policy of all babies receiving skin to skin contact as soon as possible after birth, and continuing same as long as mother wishes (if both are well).
- All women are advised of policy of "rooming in".
- Baby dolls are used to experiment with holding "baby" in different positions and advice sought on how to make "mother and baby" more comfortable.
- Pillows and other "props" are available at workshop.
- Signs of readiness to feed are detailed to all women.

#### **Tips given on how:**

- to rouse sleepy baby
  - to stimulate baby to open his mouth
  - to hand express.
- 
- Using fresh oranges, cut in quarters, we demonstrate just how big a baby has to open his mouth at a wide angle to effectively grasp areolar tissue, and thus avoid nipple sucking.



On attending the workshops mothers were asked for consent for follow up at a later stage, following the birth of their babies, either by questionnaire or telephone call in order to evaluate the workshops.

Questionnaires were sent out on 10<sup>th</sup> February 2005 to 19 mothers who at this stage had been delivered at least 3 months, had initiated breastfeeding and had attended workshops during pregnancy. The medical records of all women who received questionnaires were checked to ensure the mothers and babies were well on discharge.

2 women were excluded due to poor fetal or maternal outcomes.

6 more were excluded due to incorrect recording of address details.

## RESULTS

Out of 19 questionnaires sent out 11 (58%) were returned.

Of these 10 were 1<sup>st</sup> time breast feeders and 1 was a 2<sup>nd</sup> time breast feeder.

## CONCLUSIONS

Overall satisfaction was very high.

- 80% of those who attended workshop and completed questionnaire left hospital exclusively breastfeeding.
- 10% - who supplemented did so for medical reasons.
- 63% - were still breastfeeding at 12/52.

Sore nipples and the perception of insufficient milk continue to be the predominant reason for supplementing babies and initiating combined feeding at a later stage (> 3 weeks).

Maternal tiredness and the desire for more practical help in the early postnatal periods for primigravida were strongly emphasised.

The appreciation of support and the feeling of achievement for mothers who breastfed came through on the comments.

### The Way Forward

- Workshop has continued, 1<sup>st</sup> Thursday of each month, time increased (10.30 – 12.30), Room Outside, Regional Maternity Hospital Limerick.
- New posters distributed to GP and PHN, to encourage attendance.
- More use of practical props in workshop.
- Introduction of UNICEF UK baby friendly video.
- Plan to invite back a breastfeeding mother to workshop was initiated in February 2006.





# Clinical Research

## Nursing and Midwifery

### TITLE

**The Impact of an Acute Pain Education Programme on Registered General Nurses' Knowledge, Skills and Attitudes**

### AUTHORS

*McNamara, M.C.  
Centre for Nurse Education, Mid-Western Regional Hospital, Limerick*

## INTRODUCTION

According to Chiang, (2006) nurses' knowledge of attitudes toward and self efficacy in pain management affect nursing care. Researchers have identified a lack of educational exposure to pain management, incorrect information in textbooks and inadequate knowledge of faculty teaching nurses as barriers to improved care of patients in pain (Wallace, K. Reed, B. Paserro, C. and Olsson, G. 1995). Therefore the knowledge and sensitivity of nurses in dealing with pain problems is critical to effective pain management. A number of initiatives have been implemented to improve healthcare professionals' knowledge of and attitudes toward pain management and assessment nationally and internationally (Wilkes, G. Lasch, K. Lee, J. Greenhill, A. 1999). Locally, HSE West (Limerick, Clare, North Tipperary) addresses this through development of the Acute Pain Management Services.

## OBJECTIVE

The aim of this study is to assess whether a short education programme (4 hours) on acute pain will lead to acquisition and retention of knowledge, skills and attitudes at registered general nurse level.

Its overall objective is not only to ascertain whether registered nurses could learn material but also to identify the optimal contexts and timing of this learning for the best transfer of knowledge to practice.

## METHODOLOGY

Qualitative and quantitative methodology will be employed providing a triangulated approach to the study in an attempt to capture more complete data in relation to the impact of the pain education program on nurses' knowledge of the subject matter.

Each nurse will be requested to complete a questionnaire at three time points during the study; prior to, immediately post and six weeks after the educational day to assess their knowledge, skills and attitudes towards acute pain management. It is hoped that this research will provide valuable feedback on the suitability of using short pain education programmes in meeting registered nurses' needs in relation to managing patients' pain.

### Timescale for the Study

This study will be completed in January 2008.



# Clinical Research

## Clinical Services - Nutrition and Dietetics

<b>TITLE</b>	<b>Evaluation of Ward Practices on the Use and Care of Naso-Gastric Tubes for Feeding</b>
<b>AUTHORS</b>	<i>Daly, D. Department of Nutrition and Dietetics, Mid-Western Regional Hospital, Limerick</i>

### INTRODUCTION

The use of naso-gastric (ng) feeding tubes is an everyday practice in the hospital setting for providing support to those unable to meet their nutritional requirements orally. However, practices relating to the confirmation of placement and after care of ng tubes vary and may not always meet best practice.

### OBJECTIVE

The aim of this study was to assess current daily practices relating to the delivery of a patient's prescribed enteral feeding regimen, from passage of the ng tube through to routine tube care procedures and management of difficulties encountered.

Although an X-ray taken immediately after tube insertion confirms ng tube placement at that time, the tube may displace later. Improperly placed ng tubes have been associated with considerable morbidity yet, chest x-ray is not always practical for reassessments, and for some patients can mean repeated exposure to radiation.

A number of methods can be employed in checking tube position, such as air auscultation and measuring tube length however, the only reliable indicator of correct ng tube placement is the aspiration of gastric contents confirmed by pH graded strips.<sup>1,2</sup> It is advised to check tube position before each intermittent tube feeding, or once a shift if patient receiving continuous feeding, or suspect misplacement.<sup>3, 4</sup>

Difficulties in obtaining an aspirate and in interpretation of pH results potentially influenced by medications must be considered.

The results of this study, considered in light of related evidence will help identification of inconsistencies in local practices and highlight areas for change.

### METHODOLOGY

A literature search was carried out reviewing available evidence relating to ng tube practices and recommendations.

A questionnaire was developed, 100 of which were distributed to nursing staff on a variety of wards (medical, surgical, oncology, paediatric, elderly care) of a teaching hospital. Returned questionnaires were analysed, and the results were discussed with the dietetic department and ward sisters to determine action plans.



## RESULTS

Total response rate was 71% (63.8% to 80% ward variation).

Initial tube placement is confirmed by chest x-ray in 71.8% of cases, with pH paper (7%), litmus paper (35.5%) and air auscultation (15.4%) also used.

When a chest x-ray is indicated, significant delays in the initiation of feeding were often reported (Table 1). Further delays may be encountered due to difficulties with blocked tubes as a result of inappropriate clearing strategies.

**Table 1 - Average Reported Waiting Time Leading to Delays in Feeding**

Time waiting	For chest x – ray (%)	For review of x-ray confirming tube placement prior to use (%)
< 1hr	2.6	16.09
1 – 3hrs	42.2	54.09
3 – 6hrs	23.9	21.01
6 – 8hrs	8.4	0.28
8hrs+	8.4	0.01
Not specified	4.5	9.52

Most recent practice for the most part uses Litmus paper (77.4%) with only 19.8% using pH paper. Only 14% of respondents flush the tube before aspirating and 20% indicated an inappropriate time at which to obtain an aspirate. Only 5.6% reported considering the potential influence of medications ingested in the interpretation of a pH result with 73.2% unable to name any medication that would be likely to alter pH. 42.2% of respondents admitted to not knowing the normal pH value of a gastric aspirate; while other responses varied from 1.4% to 16.9%.

Despite the possibility of tube displacement, only 38% started routinely measuring, documenting or marking tube length. Of these, only 18.5% mark the position and 14.8% subjectively 'observe'.



## CONCLUSIONS

Due to a good response rate and the variety of wards, reliability would indicate that the inconsistencies in practices highlighted are probably not confined to this particular institution. Even when allowing for limiting factors such as biased answers aiming to indicate best practice rather than actual practice, areas requiring nurse education have been identified to be addressed such as regular monitoring of tube position, aspirating and interpreting pH results. Reducing time delays from feeding where chest x-rays are indicated will require a multidisciplinary approach to discuss possible strategies in the efforts at optimising care delivery of nutritional support.

## REFERENCES

Available on request.



# Clinical Research

## Clinical Services - Nutrition and Dietetics

<b>TITLE</b>	<b>Audit of Annual Assessment Clinic of Paediatric Diabetic Patients</b>
<b>AUTHORS</b>	Boyle, C. <i>Department of Nutrition and Dietetics, Mid-Western Regional Hospital, Limerick</i>

### INTRODUCTION

With the increasing numbers of patients with diabetes (103 attending Consultant-led Diabetes Clinic and 15 attending other Paediatric Consultants, along with the increasing number of patients changing to multiple daily injections (MDI's), there was a considerable demand for the service provided by the Paediatric Dietitian (PD) and the Clinical Specialist Nurse for Paediatric Diabetes (CSN).

The Consultant-led Diabetes Clinic was held once a month with the PD in a position to review annually 3-4 patients/clinic (total 36-48 patients/year). Therefore, all patients were not being reviewed annually, as recommended for good clinical practice.<sup>1, 2, 3, 4, 5</sup>

### OBJECTIVE

An annual assessment clinic was set up for the PD and CSN to review patients.  
The aim of the audit was to determine:

1. The appropriateness of the clinic
2. If parents and their children gained a benefit

### METHODOLOGY

The sample group was all patients who had been offered an appointment at the annual assessment clinic between 14<sup>th</sup> July 2005 and 28<sup>th</sup> February 2006 inclusive. All of the sample were sent a postal questionnaire to complete. The sample was separated into two groups:

1. Attendees (32 or 68% of sample)
2. Non-Attendees (15 or 32% of sample)

Two similar questionnaires were developed, one for the attendees and one for the non-attendees.

### RESULTS

#### Attendees

Response rate = 75%

38% of the children were reviewed on an annual basis with a third being reviewed twice yearly. 54% felt that their child did not need to be reviewed more often than at present, and in this group of 54%, 46% of those were reviewed on an annual basis and 38% reviewed twice/year.

50% felt that their child should be reviewed twice/year and 30% requested annual reviews.



75% reported gaining a benefit from attending the annual assessment clinic. Reason given for not gaining any benefit from the annual assessment clinic was due to missing a lot of school with numerous appointments. 62% would prefer to be reviewed when attending the Consultant-led Diabetic Clinic.

### **Non-attendees**

Response rate = 27%

75% felt that their child should be reviewed more often than at present, as half of the children were reviewed only on an occasional basis.

50% felt that their child should be reviewed twice/year and 25% requested a review every 3 months. The remaining 25% felt reviews were required only as felt necessary by the patient.

75% of respondents would not attend the annual assessment clinic if offered a further appointment, with the reason being the distance to travel to the hospital and all respondents would prefer to be reviewed when attending the Consultant-led Diabetic Clinic.

## **CONCLUSION**

The results show a considerable variation in the frequency of reviews between all paediatric patients with Diabetes, however, the majority of those patients who attended did gain a benefit from the annual assessment clinic, and would prefer to be reviewed more often by the Dietitian.

The current numbers of paediatric patients with Diabetes shows that the time input provided by the Dietitian is insufficient to meet the recommendations for good clinical practice that all patients with Diabetes should receive an annual dietary review. Due to current staffing levels and the increasing number of paediatric patients with Diabetes, it is difficult to review all patients on an annual basis. It is therefore appropriate to provide an annual assessment clinic, however, the issue regarding the most suitable time for the clinic to be held needs to be reconsidered.

## **REFERENCES**

Available on request.

## **PRESENTED**

Won poster presentation at Irish Nutrition and Dietetic Institute Paediatric Interest Group Annual Study Day, Adelaide and Meath Hospital, Dublin, incorporating the National Children's Hospital on Friday, October 20<sup>th</sup> 2006.





# Clinical Research

## Clinical Services - Elderly Care

<b>TITLE</b>	<b>Healthcare Risk Management Steering Group, Clare PCCC</b> <b>"Falls in the Elderly" Audit 2005/2006</b>
<b>AUTHORS</b>	<i>McAtarsney, B., O'Connor, E., McNamara, A., Twohig, C.</i> <i>HSE West, Ennis, Co. Clare</i>

### INTRODUCTION

Falls in the elderly account for the highest number of reported incidents in the Clare PCCC Area. At the commencement of this audit there was no risk assessment tool or structured intervention strategies in use in any of the four elderly care residential units in Co. Clare.

### OBJECTIVES

A sub-group of the Clare PCCC Risk Management Steering Group was set up in April 2005 to look at 'Falls in the Elderly'.

The group decided on a three phased approach comprising of a three month retrospective audit, a three month prospective audit with the introduction of intervention strategies and a one year follow-up audit of slips/trips/falls in one clinical area in St Joseph's Hospital and also in Regina House, Kilrush.

### METHODOLOGY

After considering several nurse-led falls risk assessment tools the FRASE (Falls Risk Assessment Scale for the Elderly) Risk Assessment Tool was selected. Based on a review of the literature and on best practice, intervention strategies were developed for each at-risk group. These were fully implemented in Unit 7, St Joseph's Hospital, during the prospective audit period. However, due to lack of physiotherapy WTE and funding to increase same, the prospective audit was conducted in Regina House, Kilrush, excluding the physiotherapy element.

The FRASE risk assessment was applied retrospectively to all patients who fell during the first three months of 2005, grouping all patients into low, medium or high risk for falls. As there were no intervention strategies in use at the time of the retrospective audit, no further action was taken.

For the prospective audit, all new admissions to both areas and all patients who fell during the three month audit period were to have a FRASE Risk Assessment carried out and then to follow the intervention strategy relevant to the FRASE score received.

The physiotherapy element of the intervention strategies included a BERG Balance Assessment, followed by up to six sessions of balance and gait training with a repeat BERG Balance assessment at discharge.

A supply of hip protectors was purchased and both clinical areas had motion detectors on trial for the three months.

Copies of the "Live Life" booklet were made available in both clinical areas.



## RESULTS

The FRASE Risk Assessment tool was chosen for this project following a short listing and selection process which took into consideration the fact that there was no physiotherapy service to long stay patients and therefore it had to be nurse-led, easy to complete, timely to complete and recognised as a reliable falls predictor tool.

During the prospective audit period, staff from both areas gave very positive feedback on the use of the FRASE. The environmental checklist and the intervention strategies were used insofar as was possible and found to be very helpful in the management of falls prevention.

## CONCLUSIONS

The audit team collected sufficient information to demonstrate that elderly patients do benefit from physiotherapy intervention.

Physiotherapists found the BERG Balance Assessment a useful tool for assessing balance except perhaps in patients post recent orthopaedic surgery.

Nursing staff concluded that use of the Motion Alarm did reduce the number of falls.

The feedback about Hip Protectors was not very positive. Physiotherapists reported difficulties with sizing. Patients found them uncomfortable and bulky. Nursing staff reported that most patients needed assistance to put them on. The type used was an appropriate design for patients with incontinence issues.

The Falls Information Leaflet 'Live Life' was found to be useful and informative by patients, carers, relatives and nursing staff.

The group recommends the use of the FRASE Risk Assessment Tool and associated intervention strategies for all Elderly Care Residential facilities. It also urges review of the provision of therapy services including Physiotherapy, Occupational Therapy and Podiatry for all older people.



# Clinical Research

## Clinical Services - Physiotherapy

<b>TITLE</b>	<b>Barriers to Exercise in Rheumatoid Arthritis – A Focus Group Study</b>
<b>AUTHORS</b>	<i>Crowley, L., Kennedy, N. Department of Physiotherapy, University of Limerick</i>

### INTRODUCTION

Rheumatoid arthritis (RA) is an inflammatory polyarthritis, which affects one percent of the population. To date there is strong evidence to suggest that clients with RA will benefit from regular exercise.<sup>1</sup> Since RA is a progressive chronic disease there is a need for long-term adherence to treatments such as exercise to ensure efficacy. Compliance of patients with RA to physical exercise is generally suboptimal ranging from 43-65%.<sup>2</sup> Thus, understanding the factors that influence exercise behaviour can lead to the development of techniques to promote beneficial exercise habits.<sup>3</sup>

### RATIONALE

Little effort has been devoted to identifying characteristics related to adherence and very few methods for enhancing compliance have been developed. Thus, it was highlighted that a study investigating the barriers to exercise in patients with RA is necessary. This will help inform future research on community-based exercise programmes for people with RA.

### OBJECTIVE

The primary aim was to identify barriers to exercise in rheumatoid arthritis. Additional aims were to identify facilitators to exercise and methods to increase compliance.

### METHODOLOGY

A qualitative methodological approach was used. A focus group was conducted including six participants with RA recruited from Arthritis Ireland – Limerick Branch. The overall structure of the focus group followed the method outlined by Krueger.<sup>4</sup>

### RESULTS

The findings revealed that factors influencing people RA's exercise compliance included disease, environmental and personal characteristics. The major barriers identified included pain and fatigue, lack of professional input, potential embarrassment and fear of falling. Five main facilitators were also identified and included understanding professional input, group therapy, common ground, support and addressing psychological issues.

### CONCLUSION

This study identified factors that influence people with RA's compliance with exercise. These factors included disease, environmental and personal characteristics and several methods to increase exercise compliance have been revealed. Findings from this study can be useful in the development of exercise interventions for people with rheumatoid arthritis, which could increase exercise participation.



## **PRESENTED**

At the HRB Conference “Lets Talk Health Research” in Croke Park, Dublin on December 7<sup>th</sup>, 2006 as part of the Watts Medal Competition – HRB Summer Student Presentations by Ms. Louise Crowley, Undergraduate Physiotherapy Student, University of Limerick.

## **FUNDING**

This research has received funding from the Health Research Board (HRB)

## **REFERENCES**

Available on request.



# Clinical Research

## Clinical Services - Physiotherapy

### TITLE

**Barriers to Exercise Experienced by People with Multiple Sclerosis**

### AUTHORS

*Garrett, M., <sup>1</sup> Rice, K., <sup>2</sup> Coote, S.<sup>1</sup>*

*Department of Physiotherapy, University of Limerick<sup>1</sup>*

*Department of Physiotherapy, St. Vincent's Hospital, Mountmellick, Co. Laois <sup>2</sup>*

## INTRODUCTION

Multiple Sclerosis (MS) is a chronic progressive disease of the central nervous system that can lead to loss of strength, sensation, vision, co-ordination, balance, disturbances in speech and breathing. Evidence shows many therapeutic benefits of exercise in people with MS (Reitberg et al, 2004).<sup>1</sup>

## RATIONALE

It has been shown that people with MS exercise less than the general population and less than other studied chronic medical groups (Stuifbergen, 1997).<sup>2</sup> This research is required to determine what barriers to exercise participation exist in an Irish context for MS sufferers.

## METHODOLOGY

Focus group methodology was used. The questioning route used followed the method outlined by Krueger<sup>3</sup> (1998a, p 21). Data was collected using two tape recorders, two assistant moderators taking field notes and observing group dynamics. A flip chart was used to identify the key barriers and facilitators to exercise. Thematic content analysis was used to analyse the data.

Participants for the focus group interviews were identified using purposive sampling techniques from a list of 50 MS clients compiled by the Laois Physiotherapy Team. A total of seven participants with MS attended one focus group which was audio taped and transcribed verbatim.

Volunteers gave informed consent. The Health Service Executive - Dublin Mid-Leinster Area and The University of Limerick Research Ethics Committees provided ethical approval for the research protocol.

People were included if they had an Expanded Disability Severity Score <6.5. (This means that people can walk at least 20m without resting with bilateral assistance such as two walking sticks), aged between 18-65 years, a definite diagnosis of MS and both men and women will be included. This is because the evidence shows that it is in this sub population of people with MS that exercise is beneficial. Additionally people were excluded if they had other comorbidities (as diagnosed by their GP) that severely impact on the ability to participate in exercise such as Cardiovascular Disease, Rheumatoid Arthritis, uncontrolled hypertension, as evidence has not proven that exercise in people with MS with comorbidities is feasible. To reduce psychological risk factors of emotional distress associated with talking about a newly diagnosed chronic disease those who have been diagnosed for less than 3 years were excluded. People who cannot converse fluently in english were excluded due to the nature of a focus group.

The original analysis was sent to participants to confirm that the data written up is representative of what happened in the focus group. Finally, analysis was discussed with co-researchers, experts not present in the focus group and decision makers.

## RESULTS

The results revealed three themes - environmental, psychological and disease specific barriers to exercise. The concepts identified under these themes were: knowledge, time, access, temperature, concern about safety, motivation, embarrassment, fear of falling, incontinence and fatigue. The comments shown in Table 1 were expressed with either a great amount of frequency, intensity or extensiveness.

**Table 1 - Participants' Barriers**

<b>Environmental Barriers</b>	Knowledge	<i>"And an exercise bike, would that be good in terms of your muscles?"; "What's the best time for doing the exercises?" (R#2)</i>
	Time	<i>"It takes more time and energy, people don't understand...sometimes you just won't bother. It's not worth it. You really have to plan" (R#1).</i>
	Access	<i>"I used to like going swimming but unfortunately all the public pools...haven't got steps or kind of a ramp" (R#7)</i>
	Temperature	<i>"I like the level heat, not extremes" (R#5)</i>
	Concern about Safety	<i>"If you're hanging on to the countertop (doing the exercises) you can't get the same grip on it as you can with the bar (parallel bars/grab rails in bathroom)" (R#3);</i>
<b>Psychological Barriers</b>	Motivation	<i>"If the facilities are there you'll try and come up with an excuse not to use them even if they're there" (R#2).</i>
	Fear of Falling	<i>"When you're walking you kinda (sic) wobble and people nearly think you're drunk" (R#2).</i>
<b>Disease Specific Barriers</b>	Incontinence	<i>"Well you have to go the toilet before you go" (R#5); "You have to rationalise" (R#1).</i>
	Fatigue	<i>"I don't do very much exercise at all really because I'm so tired really" (R#2); "The thing is if I go so far, you know walking or whatever with the crutch, then I mightn't be able to get back" (R#7).</i>

R# = Respondent number





## CONCLUSIONS

This study provides preliminary data on the barriers that exist for people with MS in participating in and complying with exercise programmes.

This information should be considered when designing exercise programmes for community-dwelling people with MS. Further research is being done to confirm these findings and to explore the barriers for people in other parts of Ireland and needs to be done for people with greater and lesser disability levels.

## PRESENTED

As a Poster Presentation at the Health Research Board Annual Conference in Croke Park on December 7<sup>th</sup>, 2006.

## FUNDING

This research received funding under the Health Research Board Summer Studentship.

## REFERENCES

Available on request.



# Clinical Research

## Mental Health

<b>TITLE</b>	<b>A New Data-Based Motor Subtype Scheme for Delirium</b>
<b>AUTHORS</b>	Leonard, M., <sup>1</sup> Meagher, D., <sup>2</sup> Moran, M., <sup>2</sup> Raju, B., <sup>2</sup> Gibbons, D., <sup>2</sup> Donnelly, S., <sup>1</sup> Saunders, J., <sup>4</sup> Trzepacz, P.T. <sup>5</sup> Milford Hospice, Castletroy, Limerick <sup>1</sup> , St. Anne's Day Hospital, Limerick <sup>2</sup> Statistical Consultancy Unit, University of Limerick <sup>4</sup> Tuft's Medical School, Boston, USA <sup>5</sup>

<b>AUTHORS</b>	Leonard, M., <sup>1</sup> Meagher, D., <sup>2</sup> Moran, M., <sup>2</sup> Raju, B., <sup>2</sup> Gibbons, D., <sup>2</sup> Donnelly, S., <sup>1</sup> Saunders, J., <sup>4</sup> Trzepacz, P.T. <sup>5</sup> Milford Hospice, Castletroy, Limerick <sup>1</sup> , St. Anne's Day Hospital, Limerick <sup>2</sup> Statistical Consultancy Unit, University of Limerick <sup>4</sup> Tuft's Medical School, Boston, USA <sup>5</sup>
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<b>AUTHORS</b>	Leonard, M., <sup>1</sup> Meagher, D., <sup>2</sup> Moran, M., <sup>2</sup> Raju, B., <sup>2</sup> Gibbons, D., <sup>2</sup> Donnelly, S., <sup>1</sup> Saunders, J., <sup>4</sup> Trzepacz, P.T. <sup>5</sup> Milford Hospice, Castletroy, Limerick <sup>1</sup> , St. Anne's Day Hospital, Limerick <sup>2</sup> Statistical Consultancy Unit, University of Limerick <sup>4</sup> Tuft's Medical School, Boston, USA <sup>5</sup>
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### INTRODUCTION

Ascertaining clinically meaningful motor subtypes in delirium is hampered by inadequate standardization and validation of instruments, contributing to inconsistent reports of subtype frequencies and impact on outcomes.

### OBJECTIVE

We sought to validate a new approach to motor subtyping based on analysis of data from a controlled comparison of items from three existing psychomotor schema to identify a subgroup of items that correlated substantially with an independent severity rating of motor presentation and were relatively specific for delirium.

### METHODOLOGY

Consecutive cases (n=100) of DSM IV delirium identified in a palliative care setting were assessed by a research physician using the Delirium Rating Scale-Revised-98 (DRS-R98) and the Cognitive Test for Delirium (CTD). Motor symptoms were rated by nurses using the Delirium Motor Checklist (DMC). The DMC consists of 30 non-redundant items from among three previously published psychomotor subtyping schema. Nondelirious controls (n=52) in the same setting were compared on DMC ratings.

### RESULTS

Principal components analysis of the DMC identified nine factors. Only two factors correlated significantly with either the DRS-R98 motor agitation (#7) or retardation (#8) items. Symptoms loading at > 0.65 were extracted to form subtype criteria composed of 4 hyperactive items and 7 hypoactive items. Application of these criteria to the delirious population suggested a cut-off of 2 items for subtypes with 30 hypoactive, 28 hyperactive, 27 mixed and 15 no motor subtype patients. Patients who did not meet criteria for a motor subtype had less severe delirium as measured by the DRS-R98 and CTD.

### CONCLUSIONS

We validated a new scale for rating motor subtypes in delirium that, while derived from existing approaches, is more concise, focused on motor disturbances, and validated against nondelirious controls and an independent rating of pure motor disturbance. Future work will validate this scale against objective motor activity monitoring in delirious and control patients in the hopes of applying this more specific and validated tool to determine whether motor symptoms are indicative of clinically meaningful delirium subtypes.



# Clinical Research

## Mental Health

<b>TITLE</b>	<b>Phenomenology of 100 Consecutive Adult Cases of Delirium Using Standardized Measures</b>
<b>AUTHORS</b>	<i>Meagher, D.,<sup>1</sup> Moran, M.,<sup>1</sup> Raju, B.,<sup>1</sup> Gibbons, D.,<sup>1</sup> Donnelly, S.,<sup>2</sup> Saunders, J.,<sup>3</sup> Trzepacz, P.T.<sup>4</sup></i> <i>St. Anne's Day Hospital, Limerick<sup>1</sup>, Milford Care Centre, Castletroy, Limerick<sup>2</sup></i> <i>Statistical Consultancy Unit, University of Limerick<sup>3</sup></i> <i>Tufts's Medical School, Boston, USA<sup>4</sup></i>

### ABSTRACT

To investigate the relationship between cognitive and non-cognitive delirium symptoms in adults using validated, standardized tools and test the primacy of inattention in delirium.

Consecutive cases of DSM-IV delirium (n=100) were assessed using the Delirium Rating Scale-Revised-98 (DRS-R98) and Cognitive Test for Delirium (CTD).

DRS-R98 sleep-wake cycle abnormalities (97%) and inattention (97%) were most frequent. Disorientation (76%) was the least frequent cognitive deficit. Patients with psychotic symptoms (n=49) had either perceptual disturbances or delusions but not both. Thought process abnormality, but not delusions or hallucinations, was associated with cognitive impairments. Cognitive items measured on the CTD and DRS-R98 were closely correlated despite differing time frames. Inattention was associated with severity of other cognitive disturbances on both the DRS-R98 and CTD, but not with DRS-R98 non-cognitive items. CTD comprehension correlated most closely with non-cognitive features of delirium.

Delirium phenomenology is consistent with broad dysfunction of higher cortical centres, characterised in particular by inattention and sleep-wake cycle disturbance. Attention and comprehension together are the cognitive items that best account for the syndrome of delirium. Psychosis in delirium differs from that in functional psychoses.

### SOURCE

British Journal of Psychiatry. 2007 Feb;190:135-141.



# Clinical Research

## Biomedical Engineering

<b>TITLE</b>	<b>Endothelial Cell Growth under Cyclic Hydrostatic Pressure Cultured on an Acellular Scaffold in a Novel Bioreactor</b>
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<b>AUTHORS</b>	<i>Shaikh, F.M., <sup>1, 2</sup> O'Brien, T.P., <sup>2</sup> Callanan, A., <sup>2</sup> Kavanagh, E.G., <sup>1, 2</sup> Burke, P.E., <sup>1, 2</sup> Grace, P.A., <sup>1, 2</sup> McGloughlin, T.M. <sup>2</sup></i> <i>Department of Vascular Surgery, Mid-Western Regional Hospital, Limerick <sup>1</sup></i> <i>Centre for Applied Biomedical Engineering Research, University of Limerick <sup>2</sup></i>
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### INTRODUCTION

Mechanical forces (Pressure, Strain and Shear) in the circulatory system are important regulators of cell behaviour in the vessel wall. An understanding of this cell response on vascular cellular growth and extra cellular matrix proliferation would greatly benefit the development of tissue-engineered vascular grafts. In contrast to extensive work on shear stress and cyclical strain, to date there have been only limited studies on the role of pressure on the behaviour of endothelial cells. Furthermore the effects of pulsatile pressure on cells grown on a natural scaffold have not been examined. Our aim was to examine the effects of hydrostatic pressure on endothelial cell growth on an acellular natural scaffold.

### METHODOLOGY

Human Umbilical Vein Endothelial Cells (HUVEC) were grown on an acellular scaffold derived from porcine urinary bladder membrane (UBM) in a novel bioreactor. Seeded HUVEC UBM co-constructs were exposed to either atmospheric or pulsatile pressure (50/110 mmHg) inside the bioreactor for 24 hours. After the experiments cell and matrix morphology was examined using optical and scanning electron microscopy (SEM). Cell viability was assessed using live-dead immunofluorescence and mitochondrial activity was determined using the MTT assay.

### RESULTS

Excellent cell growth and maintenance of matrix integrity was demonstrated by means of light and scanning electron microscopy under pressure conditions. Furthermore endothelial cells showed uniform cellular alignment and forms a monolayer under physiological pressure conditions.

### CONCLUSION

The results showed that physiologically realistic environments do effect endothelial cell growth on acellular natural scaffold and UBM has a potential as a biocompatible natural acellular vascular scaffold capable of performing within physiologically realistic environments.



# Clinical Research

## Biomedical Engineering

TITLE	Impact of a New Endovascular Programme on the Early Outcome of Abdominal Aortic Aneurysm Repair in a Regional Vascular Centre
AUTHORS	Shaikh, F.M., <sup>1,2</sup> Omohwo, C.O., <sup>1</sup> Moloney, T., <sup>1</sup> McCormick, J., <sup>1</sup> Kavanagh, E.G., <sup>1,2</sup> Burke, P.E., <sup>1,2</sup> Grace, P.A. <sup>1,2</sup> Department of Vascular Surgery, Mid-Western Regional Hospital, Limerick <sup>1</sup> Centre for Applied Biomedical Engineering Research, University of Limerick <sup>2</sup>

### INTRODUCTION

Open surgical repair (OR) of Abdominal Aortic Aneurysms (AAA) is associated with significant peri-operative morbidity and mortality. Minimally invasive endovascular AAA repair (EVAR) is a rapidly evolving technique, and is fast becoming the treatment of choice in anatomically suitable patients. The outcome of patients undergoing EVAR during the learning curve in a regional vascular unit was compared with a cohort of patients who underwent open surgery (OR) immediately prior to the introduction of EVAR.

### METHODOLOGY

Between March and November 2006, 12 elective patients had endovascular repair of AAA. The indication was the presence of co-morbidities in 8 patients precluding safe open repair while 4 patients requested EVAR. These patients were compared to 12 consecutive AAA patients who had OR prior to the availability of EVAR in this hospital. A prospectively kept database and patients' records were examined. The main outcome measures were total hospital and ICU bed days, duration of surgery, blood loss and transfusion, secondary interventions and 30 day mortality.

### RESULTS

The results are presented in Table 1.

**Table 1 - Comparison of the Open and Endovascular Treatment of AAA**

Values are given as median (range) or number (n) unless specified.

	Open	EVAR
Number	12	12
Age (years)	71.5 (55-83)	79 (66-87)
ASA	2 (1-3)	2 (2-3)
Hospital Bed Days	10.5 (9-67)	8 (3-30)
ICU Bed Days	4 (2-15)	0
Size of Aneurysm (cm)	6 (5.5-10)	6 (5.5-9)
Duration of Surgery (minutes)	180 (140-220)	180 (120-240)
Endoleaks	0	3
Blood Loss (ml)	1,300 (600-2,870)	375 (100-2,000)
Blood Transfusion (units)	1 (0-10)	0 (0-2)
Major Complications	5	1
Secondary Interventions	2	2
30 Day Mortality	1	0
Follow-up in Months	6 (3-12)	3 (1-9)



## CONCLUSION

Despite an apparent increase in the age of patients offered elective AAA repair, the introduction of endovascular management had a significant beneficial impact on the utilisation of hospital resources while preserving low morbidity and mortality rates. Compared with the open surgery it offers faster recovery, shorter hospital stay and reduced blood loss and transfusion.





# Clinical Research

## Biomedical Engineering

<b>TITLE</b>	<b>Cell Seeding and Scaffold Optimization for Tissue Engineering Vascular Grafts</b>
<b>AUTHORS</b>	<i>Shaikh, F.M., <sup>1, 2</sup> Callanan, A., <sup>2</sup> Kavanagh, E.G., <sup>1, 2</sup> Burke, P.E., <sup>1, 2</sup> Grace, P.A., <sup>1, 2</sup> McGloughlin, T.M.<sup>2</sup> Department of Surgery, Mid-Western Regional Hospital, Limerick <sup>1</sup> Centre for Applied Biomedical Engineering Research, University of Limerick <sup>2</sup></i>

### INTRODUCTION

Vascular tissue engineering offers a possibility of small diameter blood vessel substitutes. Efficient seeding methods are a key requirement in tissue engineering. A major challenge is to find an optimum combination of biological and material properties to maintain structural viability.

Xenogeneic extracellular matrix materials (ECM) have been used in numerous tissue engineering applications, but remain limited for some by their inherent mechanical and biologic properties. Fibrin gels have been shown to support angiogenesis and tissue repair but are mechanically too weak. The search for optimal cell infiltration and remodelling of ECMs has lead the authors to examine the coating of xenogeneic matrix with fibrin gels.

### METHODOLOGY

ECM made from porcine Urinary Bladder Membrane (UBM) was cut in circular pieces (1.5 cm<sup>2</sup>). Three scaffold types (UBM, Fibrin Gel and a UBM-Fibrin Hybrid) were seeded with Human Umbilical Vein Endothelial Cells at seeding densities of 0.5, 1, and 2 x 10<sup>5</sup> in 24 well plates to mimic biological infiltration. The scaffolds were placed in static culture for 24, 48 and 72 hours respectively. Various aspects of cellular growth were analyzed using optical and scanning electron microscopy and immuno-fluorescence in order to establish the optimum combination of cell scaffold construct.

### RESULTS

Optical and scanning electron microscopy demonstrated good cell and matrix integrity on the UBM-Fibrin Hybrid Scaffold. Immuno-fluorescence confirmed viable cells on all the three types of scaffolds. Higher cell seeding density resulted in more rapid creation of a confluent monolayer in all cases. However a seeding density of 2 x 10<sup>5</sup> was found to be optimal and this was below the cellular saturation point of the scaffolds.

### CONCLUSION

The results suggest that UBM Fibrin Hybrid Scaffold has a potential as a biocompatible natural acellular scaffold. An optimized hybrid scaffold needs to be developed.



# Population Health

## Public Health

<b>TITLE</b>	<b>Cancer Incidence in the Mid-West 1994-2002</b>
<b>AUTHORS</b>	<i>Greally, T.,<sup>1</sup> Comber, H.<sup>2</sup> Department of Public Health, HSE West, Limerick <sup>1</sup> National Cancer Registry of Ireland, Boreenamanna Road, Cork <sup>2</sup></i>

### INTRODUCTION

Information has been collected by the National Cancer Registry of Ireland (NCRI) on new cancer registrations in Ireland since 1994; national and regional data are available through NCRI annual reports and on their website ([www.ncri.ie](http://www.ncri.ie)). Because of concerns arising from animal health in Askeaton and its environs during the 1990s a number of studies <sup>1,2,3</sup> in recent years have used NCRI data to examine cancer rates in this area. None of these earlier studies showed a significant excess of cancer incidence in the Askeaton area, although significantly elevated rates were noted in parts of Limerick City. This report extends the study of cancer registration in the Mid-West to cover the 1994-2002 period and describes cancer incidence levels across the whole Mid-West region.

### OBJECTIVE

Health information, including cancer incidence, is not routinely available in Ireland at this small area level due to the absence of a postcode system. The only alternative in Ireland for geographical comparison at a neighbourhood level is the use of electoral divisions (EDs); in this study the National Cancer Registry of Ireland (NCRI) with the HSE West Department of Public Health have analysed and mapped information at this level for the 409 EDs in the Mid-West area on new cases of invasive cancer (excluding non-melanoma skin cancer) up to 2002, the most recent year for which this data is available.

#### Objectives:

- To describe variation in cancer incidence across the Mid-West at a neighbourhood level.
- To monitor patterns of cancer incidence described by previous studies.

### METHODOLOGY

The National Cancer Registry of Ireland (NCRI) is the only source of national cancer incidence in Ireland. Nurses trained in cancer registration methods are employed as tumour registration officers (TROs) by the Cancer Registry and are based in 18 hospitals around the country. Each is responsible for gathering cancer data from a group of hospitals, and from other sources within a designated geographical area including hospital pathology and haematology laboratories, death certificates, special clinics, hospital administrators and medical records staff, Hospital Inpatient Enquiry (HIPE) and casemix staff, public health nurses, hospices, nursing homes and any other persons they consider to be a useful source of registration data. The Registry has carried out a number of checks on the completeness of registration of cancer, and all have confirmed that at least 96-97% of all new cancers are picked up by the NCRI; this compares well with international cancer registration standards.

Each cancer case resident in Clare, Limerick and North Tipperary (the former Mid-Western Health Board area) at time of diagnosis between 1994 and 2002 was assigned to an ED using software developed by the Registry to match addresses to two databases—the GeoDirectory, produced by An Post, and the Register of Electors provided by each local authority. Approximately 96% of cases were assigned to a unique ED. The remainder



had incomplete addresses, but could be assigned to one or two or three neighbouring EDs. The small number of cases (4%) which could not be allocated to a specific ED were distributed among all EDs according to population, so the number of cases recorded as “observed” in each ED is about 4% higher than the number actually found. This had no impact on the findings.

The results for each ED have been expressed as standardised incidence ratios (SIRs). This figure gives the ratio between the number of cancer cases that were found in an area and the number that would have been expected based on a reference incidence rate. If 5 cases were found and 4 were expected, the SIR was 5/4 or 1.2. An SIR less than 1 is an indication that the actual number of cancers registered was less than expected; an SIR greater than 1 indicates that the number was greater than expected.

The number of cancers expected was calculated from two pieces of information—the overall average cancer rate for the entire area (Ireland or the former MWHB area) and the population of the ED. This calculation was done separately for each age group, so the expected value allows for the fact that the average population age may be older for some EDs than for others. As cancer is mainly a disease of the over-65s, it is essential to make this adjustment for the age composition of the population.

## RESULTS

Just over 1,000 invasive cancers each year (9,505) were registered in residents of the Mid-West between 1994 and 2002; colorectal, lung, breast and prostate cancers were the most common types of invasive cancer registered which closely reflects national trends.

One in eight (51/409) 12% EDs had rates significantly lower than the national rate; of these 25 (6%) were also significantly below the overall Mid-West rate. In contrast less than 5% of EDs (18/409) in the Mid-West had cancer incidence rates between 1994-2002 which were significantly higher than the rate for the Mid-Western counties; only six of those were significantly higher than the national rate. Three were in Limerick City (Abbey B, Ballinacurra B and Ballynanty) and there was one each in Counties Tipperary (Cloughjordan), Limerick (Crecora) and Clare (Boherglass). None of the EDs with significantly higher rates was located in the area surrounding Askeaton.

In general, higher rates were found in urban areas and particularly in Limerick inner city. The entire population of approx 60,000 living within the current boundary of Limerick City had a cancer incidence significantly higher than the Mid-West rate for 1994-2002 while the 30,000 people living within the 6 EDS making up the Limerick city environs (Ballycummin, Ballysimon, Ballyglass, Limerick North Rural, Limerick South Rural and Roxborough) had a significantly lower rate. However, when these two areas (Limerick city and the city environs) are combined, the difference from the average is substantially reduced.

Approximately 16% more invasive cancers occurred in Limerick city over the 9 year period compared with the Mid-West rate but most of this excess occurred in a small number of EDs (namely Abbey B, Ballinacurra B,



Ballynanty, Glentworth A, Johns B and Prospect B). In contrast approximately 13% less invasive cancers than expected occurred in the 6 surrounding EDs which comprise the suburbs of Limerick City.

The incidence was significantly higher than average in Limerick city for colorectal, lung and bladder cancers, and for melanoma, while it was lower in the surrounding area for cancer of the lung, bladder and oesophagus.

## CONCLUSIONS

1. Cancer rates for all cancers combined and for all the major cancers other than leukaemia for the time period 1994-2002 were lower in the Mid-West than the national average.
2. There is no evidence of increased risk of cancer in those living in Askeaton and its surrounds over the years 1994-2002.
3. For some of the population of Limerick City there was an increased risk of cancer, especially those cancers related to smoking, compared to rural areas of the Mid-West.

## RECOMMENDATIONS

Ongoing monitoring of local cancer incidence data is important and will be extended across Ireland. The decision to introduce postcodes to Ireland will greatly facilitate this work and should be expedited.

## REFERENCES

Available on request.

## PRESENTED

At the Environmental Health CPD Seminar in the Lakeside Hotel, Killaloe, Co. Clare on December 7<sup>th</sup>, 2006 by Dr. T. Greally.



# Population Health

## Public Health

<b>TITLE</b>	<b>Factors Influencing Older Adults' Intentions to Vaccinate against Influenza</b>
<b>AUTHORS</b>	<i>Gallagher, S. School of Sport and Exercise Sciences, University of Birmingham, United Kingdom</i>

### INTRODUCTION

In the Republic of Ireland, uptake of the trivalent influenza vaccine in the older population remains suboptimal. Government initiatives for trying to maximise this uptake have not succeeded.

### OBJECTIVE

The present study sought to examine the relationship between the beliefs that older adults have towards the vaccine and their intentions to vaccinate for the next influenza season. Other factors (frequency of general practitioner (GP) visits, past vaccinating history and demographics) that may affect this association were also explored.

### METHODOLOGY

Pilot interviews (N=12) were conducted to elicit the most salient attitude beliefs older adults had towards the vaccine. These informed the development of a cross-sectional questionnaire which was completed by 192 older adults (>65). The main outcome of interest for this study was future intentions to vaccinate.

### RESULTS

Differences in beliefs were found between older adults who intend to vaccinate and those who do not; non-intending older adults were more likely to believe that the vaccine would not protect them ( $p < 0.001$ ), that it was not effective ( $p < 0.001$ ). Analyses also showed respondents' education ( $p = 0.003$ ), GP visits ( $p = 0.001$ ) and past vaccinating behaviour ( $p = 0.001$ ) to be significantly associated with older adults' intentions to vaccinate.

### CONCLUSION

Despite many government initiatives, uptake of the influenza vaccination in older adults is below expected targets. The data shows barriers to receiving this vaccine are; misinformed beliefs, education levels, past vaccination history and infrequent attendance at General Practitioners. Harnessing the role of the GP and health promoters to address the misconceptions held by non-vaccinating older adults and inviting them to attend surgeries may prove effective for maximizing uptake. In support of this suggestion, advice on perceived risk, illness prevention and treatments by a GP increases the likelihood of intervention acceptance by community based people (Slama et al., 1989).

### REFERENCE

Slama KJ, Redman S, Cockburn J, Sanson-Fisher RW. Community views about the role of general practitioners in disease prevention. *Family Practice*. 1989;63(3)203-09.





# Population Health

## Health Promotion

<b>TITLE</b>	<b>Evaluation of Clare Health Promotion's Community Smoking Cessation Service 2006</b>
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<b>AUTHORS</b>	<i>Mac Mahon, M. Clare Health Promotion Services, HSE West, Ennis, Co. Clare</i>
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### INTRODUCTION

The Clare Community Smoking Cessation Service aims to reduce smoking related morbidity and mortality in Clare. Established in June 2005, it is facilitated by a Public Health Nurse (PHN) trained in motivational interviewing techniques. The service offers a flexible package of information, bi-monthly smoking cessation clinics and telephone advice/support.

### RATIONALE

The evaluation was performed in June 2006 to ensure that the service was meeting its stated objectives, to identify areas for development and to inform service development.

### METHODOLOGY

The evaluation is based on database analysis using SPSS 13.0 software and postal survey.

Information regarding clients who accessed the service (n=51) in the first year was held on the smoking cessation database. Because the client base was quite small, all cases on the database were included in the analysis. A contact database was used for the postal survey. All clients (n=42) who had consented to follow-up post service contact were targeted.

### RESULTS

#### Database analysis - main findings

A quarter of clients were male and three-quarters were female. They largely belonged to the 35-44 and 55-64 age groups and tended to self-refer (80%). Based on self-report, 20% had a current or previous mental health history, 10% experienced respiratory problems, 10% had cardiovascular disease and 8% had a confirmed/suspected history of cancer.

Clients became aware of the service through the local print media (22%) Sláinte office (10%), GP surgeries (8%) and Credit Unions (4%). 56% of clinic attendees dropped out after the first session particularly those in the 18-25 and 55-64 year age groups. At final service contact, 33% had quit smoking/remained quit. This pertains to 4 clients who smoked at initial contact and became 'quitters' by the final service contact and 13 clients who initially presented as quitters and who remained as quitters at final service contact. Using the trans theoretical model of behaviour change, 12% of clients who smoked at final service contact had moved forward in their stages of readiness to quit compared to their initial stage of change.





### Postal survey

Postal survey (n=42) yielded a 52% response rate. More than half of the respondents held a medical card. The self-reported six month cessation rate was 12% and included medical card holders (2%). A further 33% of survey respondents planned to quit within three months. Clients' satisfaction levels were high, knowledge levels were improved and health literature was well received. Those who availed of extra support were more successful in quitting. Types of support included the Community Smoking Cessation Service, the National Quitline and Nicotine Replacement Therapy (NRT).

## CONCLUSIONS

The evaluation confirms the service is effective in assisting smokers to quit and to sustain the quit attempt for six months or longer. It also highlights areas for service development as outlined in the recommendations below.

### Recommendations for improving service outcomes

- Increase clinic provision from bi-monthly to weekly. Forge definite referral pathways to and from the National Quitline service for consenting clients who cannot attend the local service.
- To improve access, intensify marketing strategies by advertising more regularly and identify new marketing routes to target males, 18-25 year olds and ethnic minority groups.
- Provide the PHN who facilitates smoking cessation with ongoing training and support in motivational interviewing skills, data management and research methods. There is a particular need for clinical supervision and support as motivational interviewing and the nature of the 'helping relationship' may lead to personal disclosures that require safe and appropriate handling. Regarding the database, the best means of recording co-morbidities must be identified and the types of data collected should be guided by public health specialists.
- Continue to integrate the Community Cessation Service with the Acute and Primary Health Care Sectors. As part of this, Health Professionals' capacity to give brief advice on smoking cessation should be built through brief intervention skills training.
- Support clients with mental health issues in partnership with the mental health services. Cessation may destabilise certain conditions with resulting drug toxicity.
- Continue to advise all suitable clients to use nicotine replacement therapy. Compile a reference guide and patient advice leaflet for NRT using the NICE guidelines.
- Lobby for useful resources. Current audio-visual resources are inadequate, outdated and sometimes culturally inappropriate. Translated health literature will be required in the future.
- Develop the evaluation tool for future use. Stratify questions according to clients' level and type of service use. Include specific questions relating to the ASH video and extent of NRT use.



# Population Health

## Health Promotion

<b>TITLE</b>	<b>Risk Taking Behaviour: Factors that Influence Decision Making</b>
<b>AUTHORS</b>	Healy, Y., <sup>1</sup> Kennedy, M. <sup>2</sup> Residential Child Care, HSE West, Limerick <sup>1</sup> Education Department, University of Limerick <sup>2</sup>

### INTRODUCTION

This research entailed an investigation into the factors that Transition Year students perceive as having an influence on their decision making in relation to risk taking behaviour. Transition Year students are most commonly aged between 15 and 17 years.

### OBJECTIVES

1. Discover the social issues that affect the personal health of Transition Year students today.
2. Explore the social determinants of health which influence the decision making abilities of Transition Year students.
3. Determine the supports available to Transition Year students so that they can be empowered to promote their own health.
4. Make recommendations for the health promotion of Transition Year students.

The purpose of this study was to investigate the factors that Transition Year students perceive as having an influence on their decision making in relation to risk taking behaviour in the context of Health Education and Promotion. Risk taking behaviour investigated in this study is considered under the following behaviours; smoking, alcohol consumption, substance use and sexual activity.

### METHODOLOGY

This study employed a mixed methodology. Phase one involved a survey completed by 76 Transition Year students attending five schools. The cohort was chosen using a purposeful stratified sampling method, commonly used in small scale research. Phase two involved semi structured interviews with ten self selecting participants, two from each school.

### RESULTS

The research findings indicate that parents are a significant protective influence against involvement in risk taking behaviour in this sample. This is evident regardless of the quality of the relationship between the parent and the Transition Year student. Other meaningful influences on decision making include peer groups, school (in the form of teacher's skills and health education programmes), the media (including television, sponsorship and internet), legislation and public policy. The Transition Year Programme itself is an effective response to health issues evident in young people's lives by developing skills and providing new experiences. All factors identified are further influenced by the self efficacy of the individual which also promotes informed decision making.

### CONCLUSIONS

Particular attention is required to address health promotion in the home, in order to provide parents with skills to address risk behaviours and in particular provision of sex education for their children. Closer attention to the formulation and implementation of public policy in society is recommended. Finally, young people's levels of self efficacy should be urgently addressed in various settings to support their decision making in risk taking behaviour.



# Population Health

## Health Promotion

<b>TITLE</b>	<b>The Need for Mens' Health Clinics in Ireland</b>
<b>AUTHORS</b>	<i>O'Connor, M.B., <sup>1</sup> O'Connor, C., <sup>2</sup> Saunders, J., <sup>3</sup> Myles, H., <sup>1</sup> O'Shea, S., <sup>1</sup> Byrne J., <sup>1</sup> O'Connor, S., <sup>1</sup> O'Leary, P. <sup>4</sup></i> <i>The School of Medicine, University College, Cork <sup>1</sup></i> <i>The Department of GU/STD Medicine, Mid-Western Regional Hospital, Limerick <sup>2</sup></i> <i>The Department of Mathematics and Statistics, University of Limerick <sup>3</sup></i> <i>The Department of Medicine, Cork University Hospital <sup>4</sup></i>

### ABSTRACT

Mens' health issues include the commonest cancer in young men (15-40 years), that being testicular cancer (TC). World figures show an increasing incidence. Incidence in Ireland has doubled in the last 20 years with mortality rates of 8%. This study investigates the Irish male's knowledge of TC and the need for mens' health services.

A cross-sectional self-administered anonymous questionnaire survey was conducted on 200 consecutive Irish men, ≥18 years, at two sites: Cork University Hospital outpatient clinics (CUH) and the University College Cork campus (UCC). Consent was obtained. A patient information sheet was given.

**Table 1 - Some Findings of Study**

	<b>CUH</b>	<b>UCC</b>	<b>Total</b>
<b>Response rate</b>	<b>161 (80%)</b>	<b>175 (88%)</b>	<b>336 (84%)</b>
<b>Mean age</b>	<b>48</b>	<b>22</b>	<b>34</b>
Aware of age category for TC	31%	49%	41%
Examined by a doctor for TC	19%	15%	17%
Knew someone with TC	23%	30%	28%
Who would they consult with testicular lump:			
GP	91%	89%	90%
STI clinic	6%	7%	6%
Previously attended a GUM/STD clinic	13%	7%	9%
Treated for an STI	8%	3%	5%
Men's Health Clinic wanted	84%	70%	76%

**TC = Testicular Cancer    GU = Genito-Urinary    GUM = Genito-Urinary Medicine**  
**STD = Sexually Transmitted Disease    STI = Sexually Transmitted Infection**

In this survey, the Irish male's knowledge of TC is poor.  
 Irish mortality rates from TC are higher than internationally (8% v 2%).  
 Outside of the GP setting, GU/STD clinics are the preferred site for testicular abnormality consultation. In view of STDs and HIV being postulated risk factors for TC and 76% of responders desiring a male specific health clinic, it seems appropriate that Sexual Health Clinics should add Mens' Health Clinics to their services.



## SOURCE

HIV Medicine 2005;6(51):17-18.

## PRESENTED

- As a poster presentation at the 11<sup>th</sup> Annual Conference of the British HIV Association, in conjunction with the British Association of Sexual Health and HIV in Dublin, April 20<sup>th</sup> - 23<sup>rd</sup>, 2005 by Dr. Catherine O'Connor.
- At the 1<sup>st</sup> Annual Interdisciplinary Research Conference of the College of Medicine and Health in University College Cork on November 25<sup>th</sup>, 2005 by Dr. Mortimer B. O'Connor.



# Population Health

## Health Promotion

<b>TITLE</b>	<b>Implementing a Whole School Approach to Physical Activity – Preliminary Findings in Three Pilot Schools in the Mid-West</b>
<b>AUTHORS</b>	<i>Sohun, R., MacDonncha, C., Department of Physical Education and Sport Sciences, University of Limerick</i>

### INTRODUCTION

Given the evidence that physical activity patterns are set in childhood, the development of early interventions are encouraged and have been requested and supported from both the school and medical professions.<sup>1, 2</sup> Physical activity education is a component of the health promotion schools model and is usually implemented under the Social Personal and Health Education (SPHE) curriculum.

### OBJECTIVE

In tying in with the health promotion schools model, a whole school approach to physical activity should address physical activity policy development, ethos, curriculum, out-of-hours physical activities, training and resourcing, links with the community and giving pupils a voice.<sup>3, 4</sup> Given that not all schools implement the health promotion schools model, the purpose of the research project was to develop and implement a 'whole school approach to physical activity' from an Irish perspective in three pilot schools in Co. Limerick with varying resources (facilities and equipment).

### METHODOLOGY

An assessment of each school's context and an audit of each schools facilities and resources was conducted. Each school formed their own school working group with representation from teachers, parent's council and board of management. A detailed assessment of each school's 'whole school physical activity indicators' was assessed using a tool developed for the project. Input and informed discussion with each school was sought at all times. A five-year physical activity development plan with reference to short term, medium term and long term goals was devised for each school. Five-year physical activity development plans were sub-divided into yearly plans and were implemented by each school with leadership and direction from each school working group. UL and HSE project members reviewed the implementation of physical activity plans at the end of each term and revised physical activity goals if needed in consultation with school working groups. Process evaluations involved focus group methodology and were conducted by an independent evaluator to gain an understanding of each schools experience of the project. Physical activity and physical fitness measurements were also assessed on 294 pupils.

### RESULTS

To date each school has been implementing the physical activity goals that were identified in each of the schools' physical activity development plans. Common physical activity goals that all three schools have implemented include: developing a PE curricular plan, addressing specific physical activity health and safety issues, increasing physical activity awareness and levels in the school (provision of physical activity posters, notice board/bulletin, provision of more opportunities for physical activity for younger pupils and through playground markings and provision of small items for physical activity at break times) and implementation of a healthy eating policy. Key findings from the process evaluations indicated that initially the school working groups were passively



participating in the project, and their expectations revolved around 'what the school would receive'. After the implementation of year 1 physical activity development plan, expectations had changed and there was a greater emphasis on active participation of the schools and school working groups in the project. Expectations were being met in terms of "access to physical activity guidance" "expertise" and "practical ways to improve physical" activity in the school. There was a consensus that 'ownership' of the project was with the school and all 3 working groups described themselves as 'partners' in the project.

## CONCLUSION

Each school is clearly implementing a specific physical activity plan and has indicated satisfaction at being able to follow a clear set of criteria. The research team are continually learning from the feedback generated from the schools and will begin the process of drafting a 'Primary School Physical Activity Policy and Plan Resource Pack' for health promotion school specialists which contains the necessary tools to assess the whole school indicators for physical activity in the school. With many primary schools implementing healthy eating policies it is vital that a complimentary physical activity policy and plan exist for schools.

Physical activity and physical fitness measures will be repeated in the coming year to enable the researchers to ascertain if the intervention is impacting on the physical activity levels and physical fitness of the pupils in the school. A qualitative assessment with pupils in the schools is also planned. These findings will be reported on at a later date.

## REFERENCES

Available on request.

## FUNDING

The study was part of a partnership between three Primary Schools in Co. Limerick, the Health Promotion Department, HSE West, Limerick and the Physical Education and Sport Sciences Department of the University of Limerick. The project is funded by HSE West.



# Population Health

## Health Promotion

### TITLE

**Primary Care Exercise Referral – Interim Findings**

### AUTHORS

*Reddan, S., Sohun, R., MacDonncha, C.  
Department of Physical Education and Sport Sciences, University of Limerick*

## INTRODUCTION

'GP Exercise Referral' or 'Primary Care Exercise Referral' schemes commonly involve a General Practitioner (GP) referring sedentary patients, or those with specific medical criteria or conditions to an exercise facility where the patient can engage in a controlled physical activity programme for a specified period of time. Exercise referral in Ireland emerged in a number of HSE regions (Mid-West, South and Midlands) in the late 1990's and has been increasing at different rates across the regions. A 'National Framework for Exercise Referral in Ireland' has since been published and indicates support from the Department of Health and Children regarding the establishment of nationwide exercise referral schemes.<sup>1</sup>

## RATIONALE

Exercise referral schemes have been shown to be effective in increasing physical activity in the short term but their effectiveness at maintaining changes over longer periods of time has been questioned.<sup>2</sup> The rationale of this study was to establish an exercise referral scheme to increase physical activity levels among obese and overweight adult patients identified in primary care practices and to support long-term physical activity adherence for these patients.

## METHODOLOGY

The study involved the development of an exercise referral scheme through which 79 patients with a BMI  $\geq 25$  were referred by a GP, practice nurse or community dietitian to one of two leisure centres in the Mid-West. Patients were prescribed an individualised exercise programme, participated in one-to-one consultations with the leisure centre local coordinator at set intervals (baseline, 3, 6 and 12 months), and attended 10 weekly physical activity educational classes during the first 12 weeks of the programme. Patient's physical activity prescription was reviewed at 6 weeks, and subsequent individualised programmes were prescribed at 3-months and 6-months. Ethical approval was granted by the Irish College of General Practitioners and the University of Limerick prior to the commencement of the scheme. For the purpose of this publication, the results refer to four cohorts in Limerick and one cohort in Ennis who were referred between September 2004 and January 2006 (baseline to 6-month data).

**Table 1** describes all the outcome measures that were assessed.

**Table 1 - Outcome Measures**

Physiological Measurements	Questionnaires
Height & Weight	Physical Activity Readiness Questionnaire (PAR-Q)
BMI	Physical Activity Questionnaire
Blood Pressure	Stage of Change
Waist Circumference	Processes of Change
Predicted VO <sub>2Max</sub> (Modified Ramped Bruce Protocol)	Self-Efficacy
	Decisional Balance

## RESULTS

On average 61% of patients attended the 3 months consultation and 50% attended the 6 months consultation. The decline in participation rates was anticipated and is comparable to other schemes.<sup>3</sup>

The intervention proved to be successful after 3 months (n=35). Significant improvements were found for all activity measures, body weight, BMI, waist circumference, total treadmill time, self-efficacy and 8 of the 10 processes of change ( $p \leq 0.01$  level). No significant improvements were found for blood pressure, resting heart rate, two remaining processes of change (dramatic relief and self re-evaluation) and decisional balance. The 'stage of change' model proposes 5 stages of readiness for adopting physical activity and the process of change are the cognitive and behavioural strategies that people use to progress through the stages of change. Descriptive statistics of the patients (n=28) who completed three consultations (initial consultation, 12-week consultation and 6-month consultation) indicated that waist circumference yielded significant effects at both 3 months and 6 months as did total treadmill time, stimulus control, and counter conditioning. See Table 2.

Body weight and BMI almost reached significance at 3 months ( $p=0.06$ ). At 6 months, minutes of physical activity per session and social liberation were almost significant ( $p=0.06$ ).

At the 3 months consultation 72% of patients moved positively along the stage of change continuum by one or more stages. At 6 months 54% of patients had progressed along the stage of change continuum, with 8% of patients regressing from their initial stage of change.



**Table 2 - Descriptive Statistics (means  $\pm$ SD) of selected outcome measures (n=28)**

	Pre-intervention (Baseline) n=28	Post-intervention (12 Weeks) n=28	Six Months n=28
<b>Activity Measures</b>			
Days active per week	1.9 ( $\pm$ 2.28)	3.7 ( $\pm$ 1.9)**	2.96 ( $\pm$ 2.19)
Minutes active per session	25.13 ( $\pm$ 30.65)	56.09 ( $\pm$ 1.18)**	41.25 ( $\pm$ 31.49)
Minutes active last week	83.33 ( $\pm$ 142.36)	152.67 ( $\pm$ 126.72)	139.29 ( $\pm$ 136.03)
<b>Physical Measures</b>			
Waist Circumference (cm)	115.69 ( $\pm$ 13.3)	111.53 ( $\pm$ 12.9)**	113.07 ( $\pm$ 12.53)*
Bruce Modified Final Time (mins)	8.41 ( $\pm$ 2.41)	9.63 ( $\pm$ 2.42)**	10.15 ( $\pm$ 2.79)**
<b>Process of Change</b>			
Consciousness Raising	3.16 ( $\pm$ 1.13)	3.54 ( $\pm$ 0.95)**	3.29 ( $\pm$ 0.88)
Self Liberation	3.79 ( $\pm$ 0.8)	4.3 ( $\pm$ 0.51)**	4.1 ( $\pm$ 0.63)
Dramatic Relief	3.4 ( $\pm$ 1.02)	3.25 ( $\pm$ 1.01)	3.38 ( $\pm$ 0.97)
Environmental Re-evaluation	3.31 ( $\pm$ 0.97)	3.66 ( $\pm$ 0.86)**	3.54 ( $\pm$ 0.62)
Helping Relationships	2.92 ( $\pm$ 1.11)	3.41 ( $\pm$ 0.88)**	3.11 ( $\pm$ 0.91)
Stimulus Control	1.89 ( $\pm$ 0.75)	2.38 ( $\pm$ 0.77)**	2.48 ( $\pm$ 0.89)**
Counter Conditioning	2.86 ( $\pm$ 0.99)	3.94 ( $\pm$ 0.86)**	3.56 ( $\pm$ 0.8)**
Social Liberation	2.45 ( $\pm$ 0.93)	2.76 ( $\pm$ 0.97)	2.75 ( $\pm$ 0.82)
Self Re-evaluation	4.02 ( $\pm$ 0.73)	4.14 ( $\pm$ 0.63)	4.04 ( $\pm$ 0.74)
Reinforcement Management	2.61 ( $\pm$ 0.92)	3.45 ( $\pm$ 0.88)**	3 ( $\pm$ 0.94)

\*  $p < 0.05$  \*\* $p < 0.01$

## CONCLUSIONS

While the numbers partaking in the study were too small to derive significant effects at 6 months and 1 year it is clear from the statistical analysis that the intervention was effective. The programme should be expanded in order to establish beyond doubt that some or all of these changes are maintained at 6 and/or 12 months. The



literature indicates that only a small number of published exercise referral schemes have managed to maintain changes for 6 months or more.<sup>4, 5, 6</sup> The importance of the current scheme should not be underestimated in its potential to achieve results which few schemes have so far attained.

### **FUNDING**

The study was part of collaboration between the Health Promotion Department, HSE West, Limerick and the Physical Education and Sport Sciences Department of the University of Limerick. The study was completed as part of an MSc. Thesis and was funded by HSE West.

### **REFERENCES**

Available on request.



# Health Systems Research

## Health Systems Management

<b>TITLE</b>	<b>An Exploratory Study into the Empowerment Approaches used by a Sample of Public Health Nurses in the Child Health Screening and Surveillance Programme and a Snapshot of the Experience of these Approaches by a Sample of Parents</b>
<b>AUTHORS</b>	<i>Cawley, T. Child Health, HSE West, Letterkenny, Co. Donegal</i>

### INTRODUCTION

The study explored empowerment in relation to; Public Health Nurses' (PHN) understanding of and experience of empowerment in their work. The study also explored clients' experiences of the empowerment approach of PHNs in the context of the child health screening and surveillance programme in the HSE (Health Services Executive) West area of Donegal, Sligo, Leitrim and West Cavan.

An initial literature review indicated a paucity of research in relation to PHN perception and practice of self and client empowerment.

### OBJECTIVE

The research set out to examine if there was a relationship between the PHNs' sense of their own empowerment and their engagement in empowering activities. The study builds on research by DoHC (2003a) into the empowerment of nurses in Ireland and on international research specific to empowerment such as research by Jackson et al (1996) and Falk-Rafael (2001). To support the healthcare practitioner's role as health promoter, Lewin and Urmston (2000) suggest that the HSE needs to facilitate greater empowerment of nurses. Indeed, DoHC (2003a, p.8) argues that enabling nurses and midwives to achieve their full potential is a key requirement in the management of an effective health service for the Irish population. The ability to mobilize others is directly related to one's own level of empowerment (Kanter 1983). Therefore, the researcher argues that if PHNs are empowered in their work they are better placed to achieve their full potential and facilitate the empowerment of their clients.

### METHODOLOGY

A number of critical factors were used as the framework for the study. The autonomy of the healthcare professional/client was identified as the foundation to their achievement of potential, and empowerment was the fundamental methodological approach. The empowerment role of the PHN is to foster the autonomy of her clients, so that clients can self-care.

The study employed a triangulation approach in data collection methods, which combined qualitative and quantitative methodologies, and a constant comparison husserlian phenomenological approach. Phase 1 comprised of two focus groups with a purposive sample of nine PHNs. The focus groups explored the concept of PHN empowerment from the perspective of their experience and the possible strategies PHNs employ. Data generated by the focus groups was analysed by a model that integrated Brunard's (1991) method of analysing interview transcripts by thematic content analysis with the three-stage method outlined by Kumar (1999) and Skelton (1997) and supported by the authors own methodological questions.

Phase 2 consisted of the administration of questionnaires to a sample of 107 parents with a yield of 40.2%. The questionnaires examined the experience by parents of the empowerment approach by PHNs at the child health screening and surveillance clinics. SPSS (Statistical package for the social sciences) was used to analyse the data generated.



## RESULTS

Research findings indicate that PHNs did not perceive that they were empowered in their work. This was related mainly to their workloads and a lack of open access to structures of power and opportunities at work. The findings suggest that the current levels of empowerment of PHNs influence their engagement in empowering practices. The study evidenced PHNs' perception of a lack of support to PHNs, which negatively impacted on their sense of empowerment. The PHNs in the study indicated that they would prefer more support within the context of leadership rather than management.

## CONCLUSIONS

### **The study came to the following conclusions: -**

To support empowerment of PHNs a multifaceted approach is needed so that the challenges/barriers to PHNs engaging in health promotion can be addressed. The role and distribution of workload of PHNs needs to be reviewed. The study suggests that PHNs need open access to organisational structures of empowerment. The study also suggests clients need a Rogerian client centred partnership with PHNs. An empowerment approach has the potential to raise the empowerment of the PHN and their client. The relationship between the PHN and their client is fundamental. Possible ways forward in supporting empowerment for PHNs and clients would be to engage in a needs analysis incorporating backward mapping (Elmore 1989). This would require listening to the needs of those most affected by the PHN/ client relationship. This requires a critical social theory approach in the education of PHNs. This will need to be supported by ongoing efforts by management to raise the self-efficacy of PHNs and to advocate for the positive profiling of the PHN role. Despite the size of the study, it generated findings that confirm and add to previous research into empowerment. This study brought the experience of empowerment of the client to the examination.

The study recommends that PHNs need to be involved in a process to review their role and workloads. This review needs to identify their resource and support needs to enable them to work to promote health. The self-efficacy of PHNs needs to be fostered on an ongoing basis. Continuous professional development is needed for PHNs including the personal development of PHNs. This needs to be part of structured personal development plans that feed back into the HSE to ensure the HSE develops appropriate training to meet the needs for the health promotion approach. Critical social theory is advocated by the researcher as an effective means to foster empowerment of PHNs. This will facilitate PHNs by creating the conditions that make it possible for PHNs to reflect on power and its reality in their workplaces and for their clients.

A suggestion for further research arising from this research is that the HSE survey PHNs as to their access to empowering structures. The health promotion approach is predicated upon client centred relationships with clients. A National Study is needed in order to gain a coherent understanding of the role and workload of PHNs particularly as this currently varies from the perspective of geographical location and work distribution. A tool to measure the level of self-efficacy of PHNs is needed, as this influences their empowerment in their work and their ability to engage in empowering practices with their clients.



# Health Systems Research

## Health Systems Management

<b>TITLE</b>	<b>Improving Interpretation in Clinical Communication</b>
<b>AUTHORS</b>	Gibbons, M. HPH Coordinator, Regional Maternity Hospital, Limerick

### INTRODUCTION

The Intercultural Hospitals Initiative, developed by the Health Promoting Hospitals (HPH) Network aims to promote health and health literacy for migrant and ethnic minorities. There are three areas to consider for intervention (sub projects):

1. Improving interpretation in clinical communication.
2. Improving cultural competence through staff training
3. Provision of culturally and linguistically adequate information and education in mother and childcare.

The Regional Maternity Hospital, Limerick is currently developing sub project 1 with the aim of improving the quality of clinical interventions with non-English speaking clients.

### OBJECTIVE

- Explore staff experiences of current practices
- Standardise the procedure for accessing interpreter services
- Devise an operational guideline for accessing interpreter services
- Evaluate the intervention after a six month period

### METHODOLOGY

A multidisciplinary working group has been set up to complete a self-assessment of intercultural services currently available. A staff pre-intervention audit has been completed to assist evaluation after a six-month period. Current interpreter services are being revised through communication with staff in the clinical areas. An operational guideline has been developed and this guideline will greatly assist in standardising the procedure of accessing interpreter services and working effectively with interpreters. Through discussion with the working group other support resources will be put in place as deemed necessary and suitable to the clinical intervention.

**Pre-Intervention Results:** The initial survey of staff experiences of the interpreter services has clearly indicated that several staff members do not have a knowledge of the current services available, which is impacting on the usage of the service.

### CONCLUSIONS

Communication methods need to focus on reaching all staff with information on available services and how these services can be accessed.

It is anticipated that when the operational guidelines are in place, the number of interventions with the service will increase leading to more effective clinical communication.



Availability of multi-lingual information for patients/clients is required. A post-intervention staff survey will be conducted when the guideline has been in place for a six month period.

### **PRESENTED**

As a poster presentation at the Health Promoting Hospitals (HPH) Conference in the Ferrycarrig Hotel, Wexford on October 19<sup>th</sup> and 20<sup>th</sup>, 2006.

# Health Systems Research

## Health Systems Management

<b>TITLE</b>	<b>Quasi-Markets in the Irish Health System? A Review of the Literature</b>
<b>AUTHORS</b>	<i>Ní Luasa, S. Department of Economics, University of Limerick</i>

### INTRODUCTION

The role of the state is evolving in the Irish Health System. Traditionally, the state funded and delivered health services. In more recent times the governance structure of quasi-markets is emerging. This involves the state purchasing services from a variety of providers, including private and voluntary agencies, all in competition with each other. Therefore the Irish state is no longer both the funder and the sole provider of health services.

### RATIONALE

Economic models predict that great competition leads to performance closer to the perfectly competitive benchmark. It is this prediction that is widely regarded as providing a case for increased competition, and that forms the basis of much government reform programmes. More suppliers in the marketplace, all in competition with each other for state contracts should result in technical and allocative efficiencies, and equitable outcomes. Focusing on this research the purpose of this study is to evaluate whether the introduction of quasi-markets results in efficient outcomes in the Irish Health System.

### METHODOLOGY

A review of the domestic and international literature in the quasi-market arena was undertaken to determine the effects of this institutional structure on efficiency.

### CONCLUSION

This author found it difficult to conclude with certainty whether greater efficiencies were obtained as a result of the introduction of quasi-markets. Some journal articles indicated that positive outcomes were achieved as a result of the quasi-market model, however others did not ascertain this outcome. For example, Siverbo<sup>1</sup> (2004) concludes that the creation of quasi-markets did not generate the desired effect in the National Health Service (NHS) in the United Kingdom (UK), but it did not have any dramatically adverse effects either. However in Sweden, Gerdtham et al.<sup>2</sup> (1999) suggest that the introduction of quasi-markets led to improvements in health care efficiency. In relation to Ireland at this present time, no definite outcomes have been established as to the effectiveness of quasi-markets in the Irish Health System.

### REFERENCES

1. Siverbo S. The Purchaser-provider split in principle and practice: experiences from Sweden. *Financial Accountability and Management*. 2004;20(4):401-420.
2. Gerdtham UG, Lothgren M, Tambour M, Rehnberg C. Internal markets and health care efficiency: a multiple-output stochastic frontier analysis. *Health Economics*. 1999;8:151-164.



# Health Systems Research

## Health Systems Management

<b>TITLE</b>	<b>An Analysis of High Performance Work Systems within Intellectual Disability Care Centres in Ireland: Operations and Outcomes</b>
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<b>AUTHORS</b>	<i>Berkery, E., <sup>1</sup> Tiernan, S., <sup>1</sup> Armstrong, C. <sup>2</sup> Department of Management and Marketing, Kemmy Business School, University of Limerick <sup>1</sup> Department of Personnel and Employment Relations, Kemmy Business School, University of Limerick <sup>2</sup></i>
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### INTRODUCTION

The key to the effectiveness of any organisation is its employees. This is particularly true in the case of the Intellectual Disability Care Sector in Ireland, where services are fundamentally reliant on the interaction between service users and service providers. The low level of technical intervention in Intellectual Disability Care (IDC) Centres contributes to the importance of the quality of service delivered by service providers.

Since the early 1990's the number of organisations implementing High Performance Work Systems (HPWS) has increased enormously, mainly in manufacturing and production industries. The benefits of implementing such practices (mainly increased performance, increased employee satisfaction, reduced employee turnover and increased employee commitment) have been documented in the literature mainly in the UK and the US.

Similar to other organisations, IDC Centres are concerned with maximising effectiveness through the adoption of appropriate management policies and practices. Preuss (2003)<sup>1</sup> argues that 'high performance' human resource systems can reduce costs as they promote effective information processing and decision-making in environments where this is critical. Preuss (2003)<sup>1</sup> also notes that HPWS have found favour among practitioners as a tool to improve organisational performance and employee outcomes, for example, greater job satisfaction and lower job stress.

West et al (2006)<sup>2</sup> highlight that unlike many other sectors; little research has examined and identified the management policies and practices that promote effectiveness in health sector settings. The vast majority of studies have been conducted in manufacturing settings, thus limiting the potential for generalised findings. Within the Irish context Ennis and Harrington (1999)<sup>3</sup> have also identified a lack of information concerning quality initiatives within Irish healthcare organisations.

### OBJECTIVES

The purpose of this research is to investigate the extent to which HPWS are implemented within IDC Centres in Ireland, and to assess the operational impacts of these systems. To date a number of benefits associated with HPWS have been documented in the UK and US literature, mainly at the organisational and employee level. This research proposes to examine the effects of implementing HPWS at four different levels (1) organisational level, (2) team level, (3) employee level and (4) service user level.

### METHODOLOGY

Assessing the effects of HPWS at the four different levels will allow for a more comprehensive insight into the effects of implementing HPWS, and ultimately the impact on the quality of care offered to patients within IDC Centres in Ireland.



Prior to compiling and administering surveys, focus groups and informal interviews will be held with employees from the Intellectual Disability Sector. The initial survey will help create an industry-wide snap shot, with the aim of identifying practices which are followed within each IDC centre. Each IDC centre will subsequently be ranked on a continuum from 0 (no HPWS) to 100 (all HPWS outlined in survey), identifying HPWS at organisation level. IDC centres categorised in the first quartile and the fourth quartile will become the focus for research at team, employee and service user level. Choosing the first quartile and the fourth quartile will allow for comparisons to be drawn between centres that adopt a high level of HPWS against organisations that adopt a low level of HPWS.

## RESULTS

Once completed surveys have been analysed a detailed report will be compiled outlining the following:

1. The extent to which HPWS are implemented within IDC Centres in Ireland
2. The correlation between the implementation of HPWS and the quality of care provided in IDC centres.
3. A detailed list of performance measures that can be used within IDC Centres.
4. The effects HPWS can have on individuals and teams within IDC Centres.
5. The overall effects of HPWS within IDC Centres.
6. Overall employee reactions to HPWS, for example effects on motivation, job satisfaction, employee commitment and employee involvement.

## FUNDING

Funded by the Mental Health Commission.

## REFERENCES

Available on request.

# Health Systems Research

## Health Systems Management

<b>TITLE</b>	<b>Community Mental Health Teams: Determinants of Effectiveness</b>
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<b>AUTHORS</b>	<i>de Burca, S.,<sup>1</sup> Armstrong, C.,<sup>2</sup> Flood, P.,<sup>3</sup> MacCurtain, S.<sup>4</sup> Health Systems Research and Development Centre, University of Limerick <sup>1</sup> Strategic Healthcare Management Research Group, University of Limerick <sup>2</sup> Department of Personnel and Employment Relations, University of Limerick <sup>3</sup> Kemmy Business School, University of Limerick <sup>4</sup></i>
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### INTRODUCTION

Community Mental Health Teams (CMHTs) have their Irish origins both in the deinstitutionalisation policy of the 1984 “Planning for the Future” framework<sup>1</sup> and the ongoing challenge of developing successful intervention and recovery strategies for acute episodic and enduring mental illness. Previous research,<sup>2</sup> as well as government policy documents<sup>3,4</sup> have highlighted the importance and benefits of multi-disciplinary teams (MDTs) in the Mental Health Services. Despite this recognition, even at the highest level, the reality of the performance of such an approach has not met stakeholder expectations. As recently as 2006, the Mental Health Commission’s discussion document on MDTs<sup>5</sup> states, that despite user access to such teams during the past 20 years, only a small number of well functioning MDTs are operating in the Adult Mental Health Services.

### OBJECTIVES

- To carry out a national survey to profile the functioning of CMHTs, as well as the factors that affect their performance.
- To explore the determinants of and barriers to team effectiveness.
- To suggest how to improve team working in Community Mental Health, by understanding how high-performing teams function.
- To devise translation and adoption strategies to ensure that the research findings influence practice.

### METHODOLOGY

While the contribution that team working makes to overall organisational effectiveness has been widely established in the literature, little research has been conducted on MDTs in the Irish Mental Healthcare Sector. Neither has there been a significant amount of international research on this topic that combines both qualitative and quantitative methodologies.

Our study combines both approaches, which will facilitate depth, generalisability and flexibility in the research enterprise. Our study adopts a pluralist strategy, the first stage of which includes a multi-site case study of designated teams. The findings from the first stage will feed into the second stage, which involves the design of a national survey, and will be augmented by secondary data and document analysis. In short, the research programme will comprise five main phases: -

**Phase 1:** Literature Review, document analysis and consultation

**Phase 2:** Multi-site case study

**Phase 3:** Quantitative national study

**Phase 4:** Triangulation of qualitative and quantitative data

**Phase 5:** Reporting and dissemination





## ANTICIPATED OUTCOMES AND CONCLUSIONS

Planning for the Future (1984)<sup>6</sup> envisaged alternative ways of working in the context of de-institutionalisation and the development of the alternative community-based service. These issues and opportunities around such ways of working are well rehearsed in the MDT discussion paper. We set out to establish the evidence of the Commission's discussion paper on MDTs<sup>7</sup> by focusing in-depth on specific fully functioning teams (high performing) and by surveying the general status of CMHTs in the national Mental Health Service.

The tangible outcomes resulting from this study are directly related to the key stakeholder outcomes. Firstly, patients benefit as recipients and/or active participants. Secondly, professional providers gain in terms of professional and social cohesion in a dynamic learning/reflexive environment. In this environment development is aimed at achieving performance requirements within evidence-based parameters.

The continuing development of the CMHTs must take into account the nature of change emerging in the domain and also the total system context, including the socio-economic system within which patient mental health originates. The study will therefore seek contextual sensitivity to identify and ascertain response to inhibitors as well as promoting enablers to facilitate high performance CMHTs.

## REFERENCES

Available on request.



# News

## GRADUATE ENTRY MEDICAL SCHOOL ANNOUNCEMENT

Against intense competition from existing medical schools the University of Limerick (UL) has been awarded Government approval and funding to establish a Medical School that will enrol 30 graduates in September 2007 and build up to intake levels of 120 students per year.

In making the announcement the Minister for Education, Mary Hanafin TD said,

"Today's announcement marks another significant milestone in the transformation of medical education in Ireland. It is also an historic day for the University of Limerick and I wholeheartedly congratulate the University on this achievement. I want to thank the independent international panel for the rigour that they applied to the evaluation process. The very eminent expertise of the international panel provides strong assurances of the high quality of the successful proposals.

The new graduate entry programmes are an enormously welcome development in medical education. This new second chance route of entry will alleviate the intense pressures that have come to be associated with the need for extremely high Leaving Certificate 'points' performance for entry to medicine over recent years."

We are delighted that the Government, the HEA and the HSE have recognised the pioneering nature of the proposal put forward by UL and have now endorsed the establishment of the Graduate Entry Medical School at UL. The UL programme will be highly innovative and will encompass all of the major international advances in medical education of the past 30 years. UL will attract medical students from diverse educational and personal backgrounds who will be well prepared to deliver the type of healthcare that Irish society now requires.

The UL medical initiative involves partnerships with a broad range of medical institutions and a wide spectrum of medical practitioners. The collaboration of doctors, specialists, medical educators and hospitals throughout the country is a fundamental element of UL's concept for a new form of medical education and I would like to express our appreciation for their creative participation in this exciting new initiative.

I would like to pay tribute to the team involved in developing the UL Graduate Entry Medical Programme, in particular the President-Designate, Professor Don Barry and Professor Paul Finucane, Director of the Graduate Medical Education initiative.

**John O'Connor**

President, University of Limerick

## ALL-IRELAND CHAIN

Do you want an easy, reliable and proven way to share in the expertise and experience of a network of colleagues in Ireland and around the world focused on using evidence to benefit care and service provision?

You can request to become a member of this network today, in just 10 minutes, using the internet and within two working days you will be able to use a simple on-line search to make contact with other members anywhere who have common interests and aspirations to your own. As well as this you can ask to have messages broadcast to targeted groups. Membership is entirely free – no cost to join, no cost to remain a member.



This network is part of a number of such networks provided on a not-for-profit basis by **CHAIN [Contact, Help Advice and Information Networks]**, sponsored by a range of agencies including The Cochrane Collaboration, the NHS National Institute for Health Research, the Health Foundation in the UK, the Institute of Public Health in Ireland, and the Health Intelligence function of the Health Service Executive. To join CHAIN today in 2 easy steps visit <http://chain.ulcc.ac.uk/chain/index.html>

The network is a multi-professional, mutual self-help group designed to break down barriers and facilitate sharing of knowledge and experience relevant to health care research and evidence-based practice. CHAIN now has more than 4,000 members worldwide. An independent evaluation has shown that the network is highly valued and effective. (*Soft Networks for bridging the gap between research and practice: illuminative evaluation of CHAIN*, Russell J. et al, BMJ 2004;328:1174-7).

Each CHAIN network offers a rich source of contacts, but the on-line directory ensures members only receive email messages relevant to their area of interest, avoiding a 'junk mail' scenario.

The networks are multi-professional, cross organisational and non-hierarchical. Enthusiasm for the subject, a role in an organisation involved in health and social care, and a willingness to share details of one's interests, experience and to respond to other members' questions are the only criteria for joining.

CHAIN services have been operating since 1997 and now have members from the UK, Canada, Australia, and across Ireland. An 'international' component of the network has also been set up, which currently includes members from more than 30 other countries across the world.

There are now 3 key CHAIN Networks.

**CHAIN 1** is for people focused on using evidence to benefit care and service provision, and is the longest established and biggest.

**CHAIN 2** is for people with a focus on workplace-based and e-learning.

**CHAIN 3** is for people who are interested in innovation and improvement in health care.

Recent developments include the establishment of facilitated sub-groups focusing on lean thinking in health, clinical micro-systems, quality improvement and health intelligence.

Join today and get the benefit of a Contact, Help, Advice and Information Network designed for you.

Once again, to join CHAIN in 2 easy steps visit <http://chain.ulcc.ac.uk/chain/index.html>

**Step 1** – fill in and submit short registration form on-screen (or send by post)

**Step 2** – within two days you will receive an email providing your username and password and asking you to verify your details as they will appear on the directory. You can then start using the service immediately to make contact with colleagues around the world.

To get more information contact [enquiries@chain-network.org.uk](mailto:enquiries@chain-network.org.uk)



## A PROGRAMME FOR EVIDENCE-BASED HEALTH CARE (EBHC) IN POPULATION HEALTH

In 2006 a team was established to develop a programme for EBHC for Population Health and this service will play an integral role in supporting the Health Intelligence function of Population Health which is to develop and use knowledge to improve health outcomes in the population. Evidence Based Healthcare is defined as the “conscientious explicit and judicious use of current best evidence in making decisions” (Sackett 1996) and evidence-based population health is “the process of integrating science-based interventions with community preferences to improve the health of the population” (Kohatsu 2004). Evidence encompasses both research evidence that is commonly found in the medical and scientific literature, and expert opinion. The evidence should be considered along with population values when making evidence-based healthcare decisions. Our mission is to enable health service personnel to deliver healthcare, make decisions and develop policies based on the best available evidence. In order to achieve this goal a set of services has been developed to facilitate the use of evidence in policy planning and decision making. These services are focused on;

- **Connecting people to information and knowledge**
- **Connecting people to people**
- **Training on EBHC-providing skills**



**The services involve the following:**

### **Connecting people to people**

Web based single-point access to information - [www.healthintelligence.ie](http://www.healthintelligence.ie) - with **direct** links to:

- Peer review articles on major topics of relevance to population health e.g. EAG topics
- Links to grey literature (reports and unpublished research from Ireland)
- Evidence-based guidelines and information on the EBHC skills.

### **Connecting people to people**

Connecting people to experts in their area of interest will be achieved through

- CHAIN (Contact, Help, Advice and Information Network) which is an internet and email based service that assists people working in the health area to connect to other people across a number of countries with specific expertise in their field of interest.
- Further development of knowledge networks for population health and of 'knowledge brokering' as a means of linking those who have information to those who need to know it.
- An 'In the room' facilitation for strategy and planning groups which enables the group establish a shared understanding of goals, an appraisal of barriers and challenges and agreement on the way forward.

### **Training on EBHC – providing skills**

A teaching intervention on EBHC has been developed piloted and evaluated. It encompasses

- The Five Steps of EBHC.
- It focuses on how to ask an answerable question, acquiring the evidence and appraising the evidence.
- It results in an increased knowledge in EBHC.

This programme plays an important role in the Health Intelligence function of Population Health whose goal is “to prevent and protect the health of the entire population with particular emphasis on reducing health inequalities”. The new developments on the Health Intelligence website will be live during the summer of 2007.

# Events

## **SYLVESTER O'HALLORAN SURGICAL SCIENTIFIC MEETING, MARCH 2<sup>ND</sup> AND 3<sup>RD</sup> 2007, UNIVERSITY OF LIMERICK**

The Sylvester O'Halloran meeting is held annually on the first weekend in March at the University of Limerick. The meeting is named after Sylvester O'Halloran, who was a renowned Limerick surgeon of the 18<sup>th</sup> century. He and others founded the Limerick County Infirmary in the 1760's and he was influential in establishing the Royal College of Surgeons in Ireland in 1784.

The two day conference comprises of oral presentations, poster sessions and two keynote lectures. The Sylvester O'Halloran Lecture was presented by Professor Lars Pahlman; "Quality Assurance in Rectal Cancer – The Swedish Experience" and the Sir Thomas Myles Lecture was presented by Professor Declan Lyons, "The Vascular Basis for Falls and Fractures."

The prizes were awarded as follows:

### **O'Halloran Prize €3000 (Sponsored by LEO Pharma)**



Dr. T. Ni Dhonnchu is presented with Sylvester O' Halloran Prize by Pierce Grace, Professor of Surgical Science, University of Limerick.

Dr. T. Ni Dhonnchu, UCD School of Medicine & Medical Sciences, Mater Misericordiae Hospital Dublin and Conway Institute, University College Dublin.

"Statins Modulate neutrophil function by modulating cellular migration."

### **Orthopaedic Session €750 (Sponsored by Tyco Healthcare)**



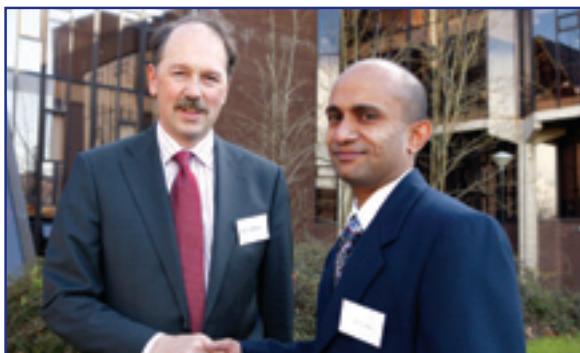
Dr. P.B. McKenna is presented with the Orthopaedic Session Prize by Pierce Grace, Professor of Surgical Science, University of Limerick.

Dr. P.B. McKenna; Centre for Applied Biomedical Engineering Research, University of Limerick, Dept. of Orthopaedic Surgery, Mid-Western Regional Orthopaedic Hospital, Croom, Co. Limerick.

"Optimising the fat and water content of impaction bone graft."



### Head & Neck Session €500 (Sponsored by Wyeth)



Mr Dias (right) winner of the Head & Neck Session Prize pictured with Mr Tadhg O' Dwyer, Consultant in Otolaryngology Head & Neck Surgery, Mater Hospital Dublin.

Dr. A. Dias; Dept of Otolaryngology/Head & Neck Surgery, Mid-Western Regional Hospital, Limerick.

"Can we defend the case report?" Valuable Learning Experience for ENT Specialists from rare harm case reports."

### Poster Prize €1000 (Sponsored by Astra Zeneca)



T. Corbett is presented with the Poster Session Prize by Pierce Grace, Professor of Surgical Science, University of Limerick.

T. Corbett; Centre for Applied Biomedical Engineering Research, University of Limerick, Dept. of Industrial Engineering, Galway & Mayo Institute of Technology, Galway; Dept of Vascular Surgery, Mid-Western Regional Hospital, Limerick.

"Conventional methods overestimate the efficacy of proximal fixation in abdominal aortic aneurysm stent grafts."

## THE NURSING AND MIDWIFERY PLANNING AND DEVELOPMENT UNIT, (NMPDU) HSE WEST (LIMERICK, CLARE, NORTH TIPPERARY) 4<sup>TH</sup> ANNUAL CONFERENCE

The NMPDU's 4<sup>th</sup> annual conference, *Leadership for Everyday Leaders*, took place on the 25<sup>th</sup> April, 2007 in Fitzpatrick's, Shannon Shamrock Hotel, Bunratty.

The aim of the NMPDU is to support nursing and midwifery, at both clinical and managerial level, to deliver a quality patient service. The intention is to work actively with all people who participate in and benefit from the NMPDU, in line with national and corporate health strategies.

This year the title of the conference reflected changes and developments occurring within the service. Leadership creates a framework for delivering high standards of quality patient care in this current climate of an evolving healthcare system and the conference fulfilled this aim.





Speakers at the conference included international, national and local speakers discussing leadership within the nursing profession.

The keynote speaker Marie Manthey, founder of Creative Health Care Management and of the “Leading an Empowered Organisation” (LEO) Programme, addressed *Leadership for Relationship-Based Care*, inspiring nurses to improve patient care, strengthen leadership, build winning teams and design effective systems of care. Dr. Angie Titchen, Senior Research and Practice Development Fellow, Royal College of Nursing Institute, London whose presentation title was *Leadership on the Run* discussed the concept of facilitating nursing on the run, which is clinically effective and meets patients’ needs.



**Back Row - L to R:** Valerie Ryan, Yvonne Moore, Fiona Collins, Jean Gubbins, Breda Fallon, Cora Lunn, Mairead Cowan, Andy Small, Gillian Conway **Front Row - L to R:** Ina Crowley, Michelle Frawley, Katie Tierney, Nora Irwin, Lorna Peelo-Kilroe, Marie Casey, Ann Knowles, PJ. Cleary, Cathy Quinn



**L to R:** Kathleen MacLellan, Cathy Quinn, Marie Mathey, Nora Irwin, PJ Cleary

We had four local speakers presenting this year. Cora Lunn, Clinical Leadership Facilitator, did a presentation on the current Clinical Leadership Programme being facilitated in the region for 24 Clinical Nurse Managers. Cathy Quinn, who is a Clinical Midwife Specialist in Bereavement Counselling, spoke with passion on her vision for the care of bereaved couples within the maternity services. Michelle Hardiman who works in Clare Mental Health Services as an Assistant Director of Nursing, presented on the key developments within the Mental Health Services that are patient driven and led by staff at all levels and Patrick J. Cleary, Director Mid-West Regional Hospital, Nenagh eloquently presented on 'Quo Vadis - Where are we going?' within the transformational period in the current Health Services.

Closing the conference, Mr. Francis Rodgers, Assistant National Director of HR, aptly quoted Bill Gates ‘as we look ahead to the next century, leaders will be those who empower others’.

Further to the presenters on the day, 27 posters were displayed showcasing the work of nurses within HSE West and their innovation and patient focus was commended by all who attended.

Two master classes were held over the course of the conference facilitated by Dr Angie Titchen and Marie Manthey. Dr Titchen’s master class was titled ‘Sounds of Silence’. The focus was on Critical Creativity as a new framework for transformational practice development and on Critical Companionship - facilitating experiential learning and reflection. Participants had an opportunity to explore new approaches that included the use of nature, art and pictures to stimulate innovative thinking in practice development.



Marie Manthey based her master class on the principles of the Leading an Empowered Organisation (LEO) leadership programme which has been available to HSE West employees over the last number of years. The master class was attended by many participants who had undertaken the LEO programme in both in this area and other areas nationally. As author of the LEO programme Ms Manthey facilitated a question and answer discussion exploring issues such as the necessity of person-centred care, interpersonal relationships in the health service and the management of available resources.

The Nursing and Midwifery Planning and Development Unit would like to take this opportunity to thank all our speakers and presenters for their participation.

#### **Nora Irwin**

Director, Nursing and Midwifery Planning and Development Unit

### **ORAL & MAXILLOFACIAL SURGERY ANNUAL MEETING**

The Oral & Maxillofacial Surgery Department was established in 1997 and since that time an Annual Meeting has been part of the Postgraduate Educational Calendar in the Department. We have been delighted to welcome local Medical and Dental Practitioners both within the hospital and also in the Community to the Annual Meeting.

The Meeting this year was held at the Clarion Hotel Limerick on 26<sup>th</sup> January 2007. The topic for the Meeting was "Trigeminal Neuralgia Diagnosis, Pharmacological and Surgical Management". The speakers were Dr. Steve Scrivani, Consultant Oral & Maxillofacial Surgeon and Facial Pain Specialist, Tufts University Hospital and Medical Centre, Boston, USA and Mr. Charles Marks, Consultant Neurosurgeon, Cork University Hospital.

The speakers reviewed in detail the condition of trigeminal neuralgia with special reference to the complex aetiology and management of this condition. We were delighted to welcome a large number of colleagues to the Meeting and it was particularly good to welcome the Staff of the newly established Acute Pain Service at the Mid-Western Regional Hospital, Limerick.

We look forward to inviting all of our colleagues to the future Oral & Maxillofacial Surgery Meetings. Notices will be sent out in due course.

### **INTERNATIONAL PALLIATIVE CARE CONFERENCE: RETAINING NÁDÚR- CREATING MEITHEAL:**

**Milford Care Centre /HSE West, April 19<sup>th</sup> and 20<sup>th</sup>, 2007.**

Nádúr literally means Nature, but it also means the nature or essence of the person. Meitheal is the Irish word for a group of neighbours who come together to help with a task. It reflects the Multidisciplinary approach to the patient in palliative care.

#### **Day 1**

This International conference was held in the Castletroy Park Hotel and attracted a large attendance over the two days of its duration. Dr Tony O'Brien chaired the first day of this conference which started with Dr Sinéad Donnelly delivering accounts of her experiences visiting patients in New Zealand, and observing how Philosophy, Culture, and language are all very influential in Palliative care, and how the centrality of the individual and the sense of community are integral parts to its delivery.



Dr Frank Brennan from Australia discussed Nature and community from an Australian perspective. Through recounting stories from his own experience, he conveyed a deep understanding of love within the family and community, and the preciousness of time and preparation in a palliative care setting. He dedicated his talk to a lady from Meath whose husband he cared for, and who had a profound effect on him to this day. He also gave an insightful account of how he felt community had changed over time in pre and post war Australia and in South Africa.

Barbara Munroe, a social worker from, and now chief executive of St Christopher's Hospice in London, discussed dying in the city, and a vision for the development of palliative care. This talk highlighted the difficulty of resources in palliative care, and challenged the look at the role of palliative care on a large scale, and the dangers of resource dilution in relation to large numbers of patients.

President Mary McAleese and Dr McAleese were warmly welcomed to the conference. President McAleese addressed the delegates showing a deep understanding of palliative care and medicine and what its goals are. She described how important it is to study the areas of death and dying, areas most people fear the most. She described how the process of dying can be lost as people endlessly look for answers, and how palliative care can ease the burden of this 'narrow time' in a person's life. She gave an insightful account of how important a collaborative approach is within the speciality, and indeed, within all specialties in healthcare.

Nuala Ní Dhomhnaill discussed Nádúr and Meitheal from a poet's perspective. She recited her poem about her depression (her 'dark master') both in English and as Gaeilge and also described how important the last things we do in life are in a holistic sense.

Dr Michael Kearney delivered his talk 'from fear to remembering', in which he discussed the philosophy of what healing really is. His deep understanding of the ego, the personal and the collective and indeed the ego-self axis captivated the attending delegates. He described through ancient literature, Greek mythology, and contemporary psychology how important it is that palliative care professionals facilitate the ego-self reconnection in our patients so as they can heal. This was a fascinating talk.

Fr Eddie Condra closed the first day with his paper 'its all about me anyway'. He discussed the idea of self, and how events affect people in different ways depending on how they perceive them. He also discussed the idea of presence from a Maori perspective, and how in their philosophy, the mountain, the river, and the tribe describe you. His use of scenes from Hollywood movies was enjoyed by all!

## Day 2

The second day of the conference was chaired by Professor David Clarke.

Dr John Hayes presented a philosophical reflection on Nádúr and Meitheal. He discussed a Greek history of philosophy and journeyed back through the origins historically of the terms and associated meanings of Nádúr and Meitheal.

Marion Hughes, the mother of a child who died from cancer five years ago this week, was hugely courageous when she addressed the conference before showing her documentary 'We knew a boy called Oscar.' She described how the death of her child signalled the beginning of a profound search for meaning for her, and how the expression of self through art has in some way aided her journey. The echoing of her father-in-law's words at the time of Oscar's death, 'An rud a fheiceann tu, ní leatsa é' (that which you see, it is not yours) became a theme running throughout the whole second day of the conference.



Maria Bailey and Sue Moran delivered their paper 'Creating a Spiritual Picture' in which they aimed through their research to describe how Irish palliative care nurses describe the spiritual component of their care. They discussed spirituality and its functions, and how patients individually express their spiritual distress.

Agnes Higgins, from the school of Nursing and Midwifery in Trinity College Dublin, described the nature of meitheal in education, and the creation of a learning community in palliative care. Through the use of educational models, she described the characteristics of a learning community, joint enterprise, mutual engagement, and shared responsibility. She also highlighted the need to be aware of the human cost of caring within the community.

Dr Doiminic O Brannagáin discussed the challenge of delivering and developing palliative care within the acute hospital setting. He addressed the different perspectives of doctors and patients with respect to their disease and illness and how knowledge of the patient as a person and the awareness of the therapeutic use of self when delivering care are of paramount importance if our care is to be effective.

Finishing the two day conference, Dr Philipa Leonard discussed the reciprocity of Meitheal. Her song 'I am Australian' highlighted what it was to be a member of the Australian community (the collective Meitheal), and her account of her own journey through depression were hugely insightful.

Throughout the conference the 'Arts for Life' group from Milford care centre gave short video presentations on the staff and patients of Milford Care Centre. These conveyed the constant theme of the patient focussed care that is of such importance in Milford, and the courage the patients have when facing their illness. These also showed the importance of the multidisciplinary approach to care in Milford, the 'Meitheal' of the palliative care community that works there.



# Funding

## RESEARCH FUNDING UPDATE

### 1. Health Research Board (HRB)

Upcoming calls from the HRB:

- Information Systems to Support R&D for Health – TBC
- NCI Joint Research Fellowships in Cancer – TBC
- NCI Cancer Prevention Programme – TBC
- Research Fellowships in Rare Diseases – TBC
- Research Fellowships for the Therapy Professions - TBC

For regular updates and further information visit [www.hrb.ie](http://www.hrb.ie)

### 2. Science Foundation Ireland (SFI)

For further information on current and rolling calls visit [www.sfi.ie](http://www.sfi.ie)

### 3. Wellcome Trust

Funding opportunities are frequently available in the areas of Biomedical Science, Medical Humanities and Technology Transfer in terms of research project support, studentships and fellowships.

In addition grants are also available under Public Engagement that provides funding to support activities such as events, debates, exhibitions and for projects that consider the issues raised by biomedicine and increase public awareness of its impact on society.

For further information visit [www.wellcome.ac.uk](http://www.wellcome.ac.uk)

### 4. EU Funding

Information is currently available on [www.welcomeeurope.com](http://www.welcomeeurope.com)

### 5. Enterprise Ireland

For detailed information on:

- Innovation Partnership Initiative between Industry and Colleges
- Research Technology and Innovation Scheme
- Research Commercialisation Fund.

Visit [www.enterprise-ireland.com](http://www.enterprise-ireland.com)

### 6. Irish Research Council for Science, Engineering & Technology

Postdoctoral Fellowship Schemes, Basic Research Grants Scheme and Postgraduate Research Scholarships available visit [www.ircset.ie](http://www.ircset.ie)



# Education, Training and Continuing Professional Development

## STATISTICAL CONSULTING UNIT

A **Statistical Consulting Unit (SCU)** was established at the University of Limerick in 1999 to provide a professional statistical consulting service. The Unit is based within the Department of Mathematics and Statistics at the University.

A collaborator with the Centre of Biostatistics (formed within the Dept.) we also run a consultancy service outside of UL predominantly for HSE personnel and Industry and we have also been called in to act as expert witnesses in court cases. These services are available (without cost) to clinicians and other personnel working for the HSE Mid-Western Area under a special arrangement set up between the SCU and the Health Service Executive.

Directed and managed by Professor Don Barry (Professor of Statistics and Vice-President Academic & Registrar) and Dr Jean Saunders (Executive Director SCU) the services offered by the **SCU** include:

- (a) One-to-one consultations offering statistical help and advice e.g. advice on designing experiments and questionnaires, clinical trials, sampling procedures, data entry, application and explanation of statistical methods, summarising data and interpretation of results.
- (b) Actual data analyses together with statistical reports that can be used as part of subsequent more detailed summary reports and/or journal papers.
- (c) The provision of short courses in statistical methodology and the use of particular statistical packages.

The SCU offers drop-in sessions at UL from 11-1 on Tuesdays and Thursdays in Room no D2029 in the main building at UL (for queries of up to 30 mins duration) and longer hour-long sessions that can be booked with the unit at any time. We can be called in at any point in a study from the planning stage (preferable) right through to the final analyses. We also offer consultation sessions at hospitals within the Region – appointments for these can be set up at any time.

In January/February and June/July each year we offer courses in surveys and questionnaire design, use of SPSS and Basic Statistical Methods as well as Experimental Design and (in the future) Structural Equation Modelling. As well as these regular twice yearly courses on University premises (that HSE personnel are welcome to attend) other **courses** can be arranged at any time during the year and all courses are subject to a charge.

All enquiries about these courses or requests for consultations should be directed to Dr Jean Saunders (contact details below):

Dr Jean Saunders  
Executive Director  
Statistical Consulting Unit  
Dept. of Mathematics and Statistics  
University of Limerick  
Limerick

t. 061 - 213471  
m. 086 - 3866353  
f. 061 - 334927

e: [jean.saunders@ul.ie](mailto:jean.saunders@ul.ie)





## REGIONAL MEDICAL LIBRARY

### Information Sessions:

The Regional Medical Library, Dooradoyle, has recently launched a series of information sessions about the library service and electronic information.

If you would like to know more about your library service and what electronic information is available to you as a HSE West employee (Limerick, Clare & North Tipperary) to assist you in your work, then this is the session for you.

The sessions include an introduction to:

Regional Medical Library page on HSE Libraries Online - [www.hselibrary.ie](http://www.hselibrary.ie) / Directory of Libraries  
Searching on the A to Z of electronic resources  
Athens registration and resources  
HSE Libraries Online  
NIHS E-Library

**When:** every second Friday morning at 9.30am & 11.30am.

**Where:** Library Training Room - Postgraduate Medical Centre.

Book your place now by emailing: [postgrad.library@mailh.hse.ie](mailto:postgrad.library@mailh.hse.ie) or phone 482414.

Liz Dore  
Assistant Librarian  
Regional Medical Library  
Mid-Western Regional Hospital  
Dooradoyle  
Limerick



# Call for Abstracts

## Call for Abstracts for Next Issue of the NIHS Research Bulletin

*Subject area: please tick the appropriate box*

<b>Medical</b>	<input type="checkbox"/>	<b>Personal &amp; Social Services</b>	<input type="checkbox"/>
<b>Surgical</b>	<input type="checkbox"/>	<b>Nursing</b>	<input type="checkbox"/>
<b>Clinical Services</b>	<input type="checkbox"/>	<b>Mental Health Services</b>	<input type="checkbox"/>
<b>Health Related Professions</b>	<input type="checkbox"/>	<b>Other *</b>	<input type="checkbox"/>

\* If 'Other', please specify \_\_\_\_\_

Is the research Completed? ☐ Ongoing? ☐ Date Started \_\_\_\_\_ Date Completed \_\_\_\_\_

Title of Research \_\_\_\_\_

\_\_\_\_\_

Author(s) \_\_\_\_\_

### Your abstract should reflect the following suggested headings:

***Introduction, Rationale, Methodology, Results, Conclusion(s)***

Has this research led to further research activity? If yes, please give details \_\_\_\_\_

\_\_\_\_\_

Has this abstract been previously published? Yes ☐ No ☐ (please tick one box)

If "Yes", please state where and when: \_\_\_\_\_

Has this abstract been presented at Conferences or Seminars? Yes ☐ No ☐ (please tick one box)

If "Yes", please state when, where and by whom (please provide title Mr, Ms, Dr. etc.): \_\_\_\_\_

\_\_\_\_\_

Please indicate any funding the research has received which you would like to have acknowledged.

\_\_\_\_\_

Your contact details (including e-mail if possible). Name: \_\_\_\_\_

Postal address: \_\_\_\_\_

\_\_\_\_\_

Tel: \_\_\_\_\_ E-mail: \_\_\_\_\_

**Please e-mail your abstract and this completed form to:** [ckennedy@nihs.ie](mailto:ckennedy@nihs.ie)

**For Further information please contact:**

Catherine Kennedy, Information Scientist, National Institute of Health Sciences, Health Service Executive, Mid-Western Area, St. Camillus' Hospital, Shelbourne Road, Limerick t. 061-483975 f. 061-326670

*We particularly welcome submissions on the online version of this form which may be accessed in the Research Bulletin Section of our website at [www.nihs.ie](http://www.nihs.ie). Alternatively, please e-mail your abstract and this completed form to **ckennedy@nihs.ie** This would help greatly to make processing of the information as straightforward as possible for the June 2007 Research Bulletin.*





# Guidelines for Previously Unpublished Material

## PLEASE USE THESE GUIDELINES TO WHEN PREPARING ABSTRACT FOR SUBMISSION TO THE NIHS

The abstract should be structured as follows:

- **Title**
- **Author(s)**
- **Work Location of each author when involved in doing this research**  
*Specify Department, Institution, Town/City*

### Abstract

Abstracts should be structured to include as many of the following parts as appropriate:

- **Introduction**  
*Providing the background for the study, this section should be informative and brief*
- **Rationale**  
*Defining why the study was conducted*
- **Methodology**  
*Indicate the context, number and type of subjects or materials being studied, the principal procedures, tests or treatments performed*
- **Results**  
*Confirming or refuting the hypothesis, supported by statistics if appropriate*
- **Conclusions**  
*Stating the major new findings of the study and specifying what these findings add to what is known already*
- **Presented** (if appropriate)  
*Listing meeting name, location, date(s), name and title of speaker*
- **Funding** (if appropriate)  
*Indicating any sources of funding/sponsorship received which author(s) wish to have acknowledged*

### ABSTRACT FORMAT

1. All text should be typed in 12 point font size Times New Roman.
2. The abstract should be typed single-spaced with one line of space between paragraphs and under headings.
3. Paragraphs or headings should not be indented.
4. Type the title in **bold-face**.
5. List all authors (last name, first name initial) under Title, indicating main author by superscript <sup>1</sup> placed after the first name initial, the second author by superscript <sup>2</sup> etc.
6. In the Location Section, list the place where each author was based when they carried out the research. Place superscript <sup>1</sup> after the location of the main author and number other locations according to the order of the authors in the previous list.
7. Keep the body of the Abstract to an overall word limit of 600 words.
8. Use the following headings to structure your abstract: Introduction, Rationale, Methodology, Results, Conclusions, Presented\*, Funding\* (if appropriate)



9. Figures and Tables may be included. They should be labelled Table 1-/ Figure 1 and provided with a title which should be inserted above the graphic.
10. In the text of the abstract use standard abbreviations and symbols and define each abbreviation when it is used for the first time.
11. References may be included at the end of the abstract using the Vancouver Style. It is **essential** that all references are numbered in the text with superscript and listed at the end in the following format:

**Author's surname, Author's initial(s). Title of Article. Title of Journal. Year of Publication; Volume Number (Issue Number): Page Numbers of Article.**

**For Example:**

Withrow R, Roberts L. The videodisc: Putting education on a silver platter. Electron Learn 1987;1(5):43-4.

## SUBMISSION PROCEDURE

1. Online Submission via **[www.nihs.ie](http://www.nihs.ie)**
2. Abstracts may only be submitted on the Abstract Submission Form available at **<http://www.nihs.ie/ResearchBulletin/index.cfm>**

**For any queries you may have with regard to responding to the Call for Abstracts, please contact**

Ms. Catherine Kennedy,  
Information Scientist,  
National Institute of Health Sciences,  
Health Service Executive, Mid-Western Area,  
St. Camillus Hospital,  
Limerick.

t. 061-483975  
m. 086-3812926  
f. 061-326670

e: [ckennedy@nihs.ie](mailto:ckennedy@nihs.ie)



# Abstract Submission Guidelines for Previously Published Material

## PLEASE USE THESE GUIDELINES WHEN PREPARING ABSTRACT FOR SUBMISSION TO NIHS

The piece of research should have been published in the 6-8 month period prior to December or June for inclusion in this section of the National Institute of Health Sciences Research Bulletin.

Please structure the abstract using the following subheadings:

- **Title**
- **Author(s)**
- **Work Location of each author when involved in doing this research**  
*Specify Department, Institution, Town/City*
- **Abstract**  
*A summary of the piece of research providing brief descriptions of the background, rationale, methodology, results and conclusion. This can all be included in one segment of text without the use of any subheadings.*
- **Source of the Abstract**  
*Full Details of the name of publication, volume, issues, year, page range*
- **Keywords**  
*Main terms covered by the research*
- **Presented (if appropriate)**  
*Listing meeting name, location, date, name and title of speaker*
- **Funding (if desired)**  
*Indicating any sources of funding / sponsorship received which author(s) wish to have acknowledged*

## ABSTRACT FORMAT

1. All text should be typed in 12 point font size Times New Roman.
2. The abstract should be typed single-spaced with one line of space between paragraphs and under headings.
3. Paragraphs or headings should not be indented.
4. Type the title in **bold-face**.
5. List all authors (last name, first name initial) under Title, indicating main author by superscript <sup>1</sup> placed after the first name initial, the second author by superscript <sup>2</sup> etc.
6. In the Location Section, list the place where each author was based when they carried out the research. Place superscript <sup>1</sup> after the location of the main author and number other locations according to the order of the authors in the previous list.
7. In the text of the abstract use standard abbreviations and symbols and define each abbreviation when it is used for the first time.





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Shelbourne Road  
Limerick, Ireland

T: 061 483975  
F: 061 326670  
E: [info@nihs.ie](mailto:info@nihs.ie)  
W: [www.nihs.ie](http://www.nihs.ie)