

# National Institute of Health Sciences Research Bulletin

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and Safety

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Nasendoscopy in Sleep  
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Long-Term Mobility  
Monitoring of Older  
Adults using  
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Clinical Environment

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# National Institute of Health Sciences (NIHS)

## ABOUT THE NIHS

The NIHS represents a strategic alliance between the Health Service Executive (HSE) and the University of Limerick (UL).

The primary goal of the NIHS is to advance and support high quality health related research and to promote evidence-based healthcare delivery. The approach to achieve this primary goal is through education, providing access to information, facilitating dissemination and fostering partnership between educational organisations, the healthcare service and the private sector where appropriate.

Membership of the NIHS e-library is open to all HSE Mid-Western Area employees and we encourage those with an interest in health research to access the NIHS research register at [www.nihs.ie](http://www.nihs.ie)



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# Clinical Research

## Medical



|         |   |
|---------|---|
| TITLE   | A Clustering Of Allergic Bronchopulmonary Aspergillosis in a Localised Cystic Fibrosis Paediatric Population  |
| AUTHORS | <i>Healy, F., Mahony, M.J., Coffey, H.<br/>Paediatric Department, Mid-Western Regional Hospital, Limerick</i> |

### INTRODUCTION

*Aspergillus fumigatus* has been identified as an important respiratory pathogen in patients with cystic fibrosis. Inhalation of spores can result in a type 1 hypersensitivity reaction termed allergic bronchopulmonary aspergillosis (ABPA).

### RATIONALE

Most cases of ABPA have been reported in young adults. However, we report a cluster of 3 acute cases over a 2 month period in a regional cystic fibrosis paediatric service. Notably all 3 cases were from a particular geographic region.

### METHODOLOGY

In September 2004 we reviewed all 73 paediatric cystic fibrosis cases attending the Mid-Western Regional Hospital in Limerick over the previous 3 years. All cases of ABPA were identified as well as any cases with positive *Aspergillus fumigatus* specific IgE or positive serum precipitins to *A fumigatus* or positive sputum culture for *A fumigatus*.

### RESULTS

On review of 73 paediatric cystic fibrosis cases there were no cases of ABPA from September 2001 to July 2004. However in August/September 2004 we identified 3 cases of ABPA requiring treatment.

The first case was a 6 year-old male with positive sputum for *A fumigatus*, positive serum precipitans for *A fumigatus*, elevated total IgE and *A fumigatus* specific IgE. In addition this patient had significant deterioration in respiratory status requiring treatment with prednisolone, itraconazole and nebulised amphotericin.

The second case was a 5-year old male presenting with reversible bronchoconstriction and elevated total and *A fumigatus* specific IgE, not elevated on previous assessments. Treatment was with prednisolone and itraconazole.

The third case was a 14-year old female presenting with deteriorating respiratory function unresponsive to bronchodilators and antibiotics, associated with elevated total and *A fumigatus* specific IgE. In addition chest x-ray changes were indicative of ABPA. Treatment was with prednisolone (azoles were avoided due to new onset liver disease).

All 3 patients have responded clinically to treatment. Although the paediatric cystic fibrosis service at the Mid-Western Regional Hospital in Limerick covers a large area including Limerick, Tipperary, Clare and parts of north Cork and Kerry, it was notable that all 3 cases presented from Co. Clare.

In addition, over this 3 year period 10 cases were noted to have elevated total and A fumigatus specific IgE. 2 cases were noted to have positive serum precipitants to A fumigatus with 1 of these also having positive sputum culture. All these 12 cases however remained asymptomatic with no clinical indication of ABPA. However it is also notable that 7 of these 12 cases are also from areas in Co. Clare.

## Discussion

Aspergillus is a genera of fungi widely distributed throughout nature but not considered a component of normal human flora. It is known that many patients with ABPA remain A fumigatus culture negative. In our 3 year review we found that a total of 15 paediatric cystic fibrosis patients were at some stage exposed/reacted to A fumigatus – either IgE, sputum or serum positive or clinical deterioration. Of these, 10 (66%) patients were from areas in Co. Clare. This is significant when overall only 28% of our total paediatric cystic fibrosis patients hail from Co. Clare.

## Conclusion

Estimates of A fumigatus prevalence in persons with cystic fibrosis range from 0.5% - 10%. However, this occurs primarily in young adults. We present a cluster of 3 acute cases of ABPA in a localised paediatric cystic fibrosis population over a 2 month period. Whether this may be attributed to increased spore density in the particular area has not been determined.

## Presented

1. At the Irish Cystic Fibrosis Meeting in Killarney on February 4th, 2005 by Dr. Fiona Healy.
2. As a poster presentation at the 26th European Cystic Fibrosis Meeting in Crete, 22nd-25th June, 2005.

# Clinical Research

## Medical



|         |   |
|---------|---|
| TITLE   | Co-Morbidity in a Cystic Fibrosis Population Attending a Regional Clinic  |
| AUTHORS | <i>Healy, F.,<sup>1</sup> Mahony, M.J.,<sup>1</sup> Coffey, H.,<sup>1</sup> Mulloy, E.,<sup>2</sup> Peirce, T.H.<sup>2</sup><br/>Paediatric Department, Mid-Western Regional Hospital, Limerick <sup>1</sup><br/>Adult Respiratory Department, Mid-Western Regional Hospital, Limerick <sup>2</sup></i> |

### INTRODUCTION

Cystic fibrosis (CF) is a chronic, progressive disease exhibiting multiple complications related to viscous mucus, malabsorption and infection.

### RATIONALE

We noted that a significant number of CF patients attending a regional clinic had additional co-morbid conditions, thus adding to their complex management.

### METHODOLOGY

In August 2004 there were 115 patients attending CF clinics at the Mid-Western Regional Hospital in Limerick – 42 adults and 73 attending paediatric services. We reviewed each case looking at the prevalence of additional medical diagnoses. As this is a study of co-morbidity, we excluded any recognised complication of CF including diabetes mellitus, CF liver disease, arthropathy and ENT disorders.

### RESULTS

We noted 16 cases (14%) with co-morbid conditions. Most notably, 3 had neoplasms, 4 had renal problems and 4 had neurological disorders. Other conditions included 1 each of developmental dysplasia of the hip, ASD, phimosis, hepatitis B and ADHD. Of the neoplasm group, one 19 year-old male was diagnosed with poorly differentiated adenocarcinoma of the ileocaecal valve grade T<sub>3</sub>N<sub>2</sub>Mx. He was homozygous  $\Delta$ F508. Management was with surgical resection and chemotherapy regimen over 6 courses – still in progress.

The second neoplasm was stage 2 testicular teratoma in a 24 year-old male. Treatment was with radical orchidectomy and chemotherapy without bleomycin and no radiation. This patient achieved full remission with < 1% risk relapse.

The final neoplasm was in a 4 year-old girl diagnosed with ovarian teratoma after routine ultrasound abdomen at annual assessment. Management was with left oophorectomy with histology showing mature cystic teratoma.

The 4 cases of renal co-morbidity included a female with PUJ obstruction diagnosed at 16 years. The second case was a 2 year-old male diagnosed with duplex left kidney with obstructed upper pole secondary to ureterocele. The third case was a 14 year-old girl with duplex right kidney. The fourth case was a 16 year-old male who presented with Henoch Schonlein Purpura at 13 years requiring dialysis for renal failure. He was subsequently diagnosed with IgA nephropathy after renal biopsy.

The 4 neurology cases included 3 female patients with epilepsy, one with partial seizures, the second with absence seizures and the third with juvenile myoclonic epilepsy.

The last case was a female with right middle cerebral artery infarct in the neonatal period resulting in left hemiplegia.

To date there have been few reports of malignant tumours in patients with CF, probably because the majority died at a young age as a result of chronic pulmonary infection with impaired growth and resistance to infection. Unfortunately, as in our case with adenocarcinoma, malignancy is beginning to impact on prognosis and life expectancy. In addition, in the case with testicular tumour, chemotherapy and resulting episodes of severe neutropenic sepsis required prolonged hospital admissions and courses of iv antibiotics. Fortunately, this patient achieved full remission and progressed to double lung transplant.

## Conclusion

CF, a complex autosomal recessive disorder, is the most common lethal genetic disorder affecting Caucasians (1:2,000). Pulmonary disease remains the major cause of morbidity in patients with CF. However of 115 patients attending a regional CF clinic, a significant number have co-morbid conditions including 3 with neoplasms. This has an additional impact on their complex management and physicians, patients and families must work together to maintain an optimistic, aggressive approach to life and treatment.

## Presented

1. At the Irish Paediatric Association Autumn Meeting in the Education Centre, at the Adelaide and Meath incorporating the National Children's Hospital in Tallaght on November 26th, 2004 by Dr. Fiona Healy.
2. As a poster presentation at the 26th European Cystic Fibrosis Meeting in Crete, 22nd-25th June, 2005.

# Clinical Research

## Medical



|         |   |
|---------|---|
| TITLE   | Relationship between Maternal Methadone Dosage and Neonatal Abstinence Syndrome   |
| AUTHORS | Akhter, P., <sup>1</sup> Lee, J., <sup>1</sup> Coulter Smith, S., <sup>1</sup> Brennan, M., <sup>1</sup> Clarke, T., <sup>2</sup> Geary, M. <sup>1</sup><br><i>Department of Obstetrics<sup>1</sup> and Department of Neonatology,<sup>2</sup><br/>Rotunda Hospital, Dublin 1</i> |

### INTRODUCTION

Methadone is the treatment of choice for opioid users. It is administered orally and decreases maternal risks associated with sharing needles. Methadone also improves general maternal health and improves perinatal outcome. Methadone use in pregnancy however is controversial due to its association with neonatal abstinence syndrome (NAS) occurring in 30–90% of babies, which can be fatal if untreated.

### RATIONALE

Studies on the relationship between maternal methadone dosage and NAS have had varied results. Some studies showed a significant relationship and suggested a lower intake of methadone even below 20mg/day others found no relationship. Lowering the maternal methadone dosage may promote maternal supplemental polydrug use and hence may increase maternal and foetal risks.

### OBJECTIVE

To determine the relationship between the dosage of methadone and NAS and also to establish whether other factors such as smoking, polydrug use, small for gestation and prematurity were implicated in the development of NAS or not.

### METHODOLOGY

This research is based on a retrospective study performed between January and December 2002 of pregnant women on methadone and their babies in the Rotunda Hospital. Statistical analysis was carried out using SPSS 11.0. A statistical significance was defined as a P value <0.05.

### RESULTS

83 women on methadone delivered during the study period, 82 charts were available to review. Prevalence of methadone use was 83/6,844 (1.2%). 11(13.4%) delivered prematurely ( $p=0.007$ ) and 70 (85.4%) babies were small for gestational age. 24 (29.3%) infants had NAS, 23 (28%) were admitted to the NICU with NAS and 13 (15.8%) of them required specific treatment.

The average methadone intake was 57.93 mg/day and 49 (59.8%) women used  $\geq 60$ mg of methadone. 21(42.9%) infants born to mothers who used  $\geq 60$ mg methadone developed NAS, compared to three (9.1%) infants of mothers using less than 60 mg methadone ( $p=0.001$ ).

In women who used both illicit and prescribed polydrugs, 70% of their babies had NAS compared to 29.3% who used both prescribed or illicit forms of polydrugs and 16.1% who used methadone alone.

Multiple logistic regression analysis showed that methadone intake of 60mg or more ( $p=0.007$ ) and prematurity ( $p=0.007$ ) were significant independent predictors of NAS when other variables were controlled for.

## CONCLUSIONS

This study showed a significant relationship between NAS and mother using  $\geq 60$  mg of methadone. Any form of polydrug use was also significantly associated with NAS ( $p=0.048$ ). We recommend patient motivation, medical and social support to keep methadone dose and supplemental drug use to a minimum to decrease the incidence of NAS.

## PRESENTED

At the Junior Obstetricians and Gynaecologists Society Meeting (JOGS) in the Burlington Hotel in Dublin on November 26th, 2004 by Dr. Parveen Akhter.

# Clinical Research

## Medical

|         |  |
|---------|--|
| TITLE   | Timing of Delivery in Placenta Praevia   |
| AUTHORS | Akhter, P., <sup>1</sup> Burke, G., <sup>2</sup> Fahy, U. <sup>3</sup><br><i>Department of Obstetrics, Rotunda Hospital, Dublin<sup>1</sup></i><br><i>Department of Neonatology, Mid-Western Regional Maternity Hospital, Limerick<sup>2</sup></i><br><i>Mid-Western Regional Maternity Hospital, Limerick<sup>3</sup></i> |

### INTRODUCTION

Placenta Praevia (PP) complicates approximately 1 in 200 pregnancies. It is a leading cause of maternal death. It is also associated with a high perinatal mortality and morbidity largely due to prematurity. With the increasing trend of Caesarean section, incidence of PP is rising.

### RATIONALE

It remains unclear from the published literature about the appropriate time of delivery for PP. Early intervention increases the risk of prematurity whereas delayed intervention may increase the maternal risk of bleeding.

### OBJECTIVES

This study was performed to determine the best time of delivery by evaluating the major maternal and neonatal complications.

### METHODOLOGY

A retrospective case note review from January 1998 to February 2001 on all cases of PP was performed in the Mid-Western Regional Maternity Hospital, Limerick.

### RESULTS

#### Main Outcome Measurement

- Maternal outcome - requirement of postpartum maternal High Dependency (HDU)/ICU care, Caesarean Hysterectomy, intraoperative and postpartum blood transfusion more than two units.
- Neonatal outcome- Respiratory Distress Syndrome, Intraventricular haemorrhage, Convulsion, ventilation requirement and neonatal jaundice requiring phototherapy or exchange transfusion.

12,637 pregnancies delivered during the study period, 53 cases were PP. Incidence of PP in our population was 0.42%. There were 37 minor PP, 16 major PP, 25 anterior PP, 27 posterior PP and one central PP. Mean maternal age was  $31.98 \pm 5.09$ SD and mean gestation at delivery was  $37.04 \pm 2.35$ SD weeks. Six (11.32%) women had a history of previous Caesarean section. Thirty two (60.38%) delivered by elective Caesarean. General anaesthesia rate was high fifty (94.3%). Overall seven (13.2%) women required blood transfusion; two (3.77%) needed Caesarean Hysterectomy, and five (9.43%) received high dependency care. The major neonatal complication rate was 9.43%.

Four women delivered before 34 weeks, of these three (75%) resulted in neonatal complication, one (25%) mother needed blood transfusion, one (25%) received HDU admission and no women required hysterectomy. Eleven (20.75%) delivered between 34 to 36 weeks, of these only one (9%) baby had neonatal complication and there was no maternal complication. 38 (71.7%) delivered after 36 weeks, of these one (2.6%) had neonatal complication, six (15.8%) needed blood transfusion, two (5.3%) had Hysterectomy and four (10.52%)



required HDU admission. Similar trend of maternal and neonatal complications observed in PP with a previous Caesarean.

## CONCLUSION

Our study documented that delivery of PP appears to be safer between 34 to 36 weeks and could be considered in high risk PP. This result emphasises the need of larger prospective randomized trial for optimising the timing of delivery in PP.

## PRESENTED

As a poster presentation at The Annual Scientific Meeting of Junior Obstetrics and Gynaecology (JOGS) in The Burlington Hotel in Dublin on November 26th, 2004 in Dublin. It won the second prize.

# Clinical Research

## Palliative Medicine



|         |  |
|---------|--|
| TITLE   | The Moment of Death: The Carers Experience at Home – A Qualitative Inquiry                                 |
| AUTHORS | <i>Michael, N., Donnelly, C., Donnelly, S.<br/>Milford Care Centre, Plassey Park, Castletroy, Limerick</i> |

### INTRODUCTION

Palliative care doctors, in dealing with the terminally ill, are continually close to death. The hospice model emphasises the need for enlightened care yet meanings associated with the final breath are seldom explored. The moment of death despite being an immediate reality through many cultures and generations is being increasingly marginalised into the endpoint of a biomedical sequence.

### OBJECTIVE

The aim of this study was to explore and describe using qualitative inquiry, the phenomenon of the moment of death through the experience of the closest carer, when death occurred at home.

### METHODOLOGY

A purposeful sampling strategy was used to identify families of patients with advanced cancer who were imminently dying where the patient or the families had expressed a desire for death to occur at home. A total of 22 subjects were recruited with 10 subsequently completing the interview.

With permission from the patient's general practitioner, the researchers conducted an initial visit to the family home to establish a rapport with the family and to record observations and impressions as field notes. The timing of the interviews with its proximity to death is a unique aspect of this study. Open semi-structured interviews were conducted between 2-21 days after death (average 10 days).

Interviews were recorded, transcribed and analysed. Grounded theory approach was used to explore the phenomenon in question. Interviews were then coded, grouped, compared and categorized using the constant comparative method.

The main themes were:-

1. The defining presence and accompaniment of family and community
2. The mutuality of the care giving process
3. The paradoxes of the experience of death
4. The role of ritual and tradition around the time of death
5. The significance of home as a place of care as a place to die.

### CONCLUSION

When caring for the terminally ill, it is important that we continue to reflect on issues that may otherwise go unattended. The experiences of those who are present at death may enhance our understanding of the above phenomenon. There is much yet to learn about the dynamics that contribute to the expectation and experience of death. As palliative care providers today, we need to continue to nurture, support and ascribe meaning to what will always be a critical moment.

## PRESENTED

As a poster presentation at the European Association of Palliative Care Meeting in Aachen, Germany, April 8th-10th, 2005.

## REFERENCES

Available on request.

# Clinical Research

## Surgical



|         |  |
|---------|--|
| TITLE   | Yield Rate of Colonoscopy in a County Hospital Surgical Unit   |
| AUTHORS | <i>Falebita, O.A., Uzomefuna, V., Salih, R., McMullin, L., Clinton, O.<br/>Department of Surgery, Roscommon County Hospital, Roscommon</i> |

### INTRODUCTION

Colonoscopy is the standard investigation for colonic disease.<sup>1</sup> However, the reported yield rate varies widely.<sup>2,3,4</sup>

### RATIONALE

The aim of this study was to determine the yield rate of colonoscopy in our unit and to evaluate the indications, dose of sedative, findings, histology of biopsy specimens and complications of the procedure.

### METHODOLOGY

Colonoscopy performed over a 6-month period was evaluated. Data collected were age, sex, indication for colonoscopy, type and dose of sedation given, findings, histology of biopsy specimen and complications.

103 patients were evaluated (39 male and 64 female). The mean age was 51 years (range 26-81 years).

A consultant, registrar, or a supervised senior house officer performed all procedures.

Intravenous midazolam was administered to all patients prior to the procedure. 87.5% of patients received intravenous pethidine. 6% and 4% of patients required propofol and fentanyl respectively.

### RESULTS

Abdominal pain accounted for the highest indication for colonoscopy in our study (28.2%) followed by rectal bleeding (26%). See Table 1.

*Table 1 - Indication for colonoscopy*

| INDICATION          | PERCENTAGE |
|---------------------|------------|
| Abdominal pain      | 28.2%      |
| Rectal bleeding     | 26%        |
| Diarrhoea           | 14.8%      |
| Constipation        | 11.3%      |
| Altered bowel habit | 9.2%       |
| Weight loss         | 7%         |
| Follow-up           | 1.4%       |
| Screening           | 1.4%       |
| Unexplained anaemia | 0.7%       |

The mean dose of midazolam and pethidine were 6.5mg (range 3-10mg) and 62.5mg (range 25-100mg) respectively. When required, the mean dose of propofol used was 86mg (range 30-140mg) and fentanyl 62.5mg (range 50-75mg).

In 45.3% of patients, no pathology was found at colonoscopy. Other findings were diverticular disease (23.5%), polyps (15%), inflammatory changes (11.3%), bleeding (1.8%) and tumour (1.8%) See Table 2.

*Table 2 - Findings at colonoscopy*

| FINDINGS             | PERCENTAGE |
|----------------------|------------|
| No pathology found   | 45.3%      |
| Diverticular disease | 23.5%      |
| Polyp                | 15%        |
| Inflammation         | 11.3%      |
| Bleeding             | 1.8%       |
| Tumour               | 1.8%       |

Histology of polyps were reported as tubulous adenoma (n=5), adenomatous (n=1), metaplastic (n=3), hyperplastic (n=1) and infiltrative adenocarcinoma (n=1). Sigmoid colon tumours were reported as moderately differentiated adenocarcinoma.

## CONCLUSION

We conclude that the yield rate of colonoscopy for tumours is low. A larger percentage of findings are reported as showing no pathology. We believe a strict implementation of guidelines on indication for colonoscopy may improve its overall yield rate.

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# Clinical Research

## Surgical



|         |  |
|---------|--|
| TITLE   | Early Postoperative Voiding Pattern after a Minimally Invasive Sling Surgery for Stress Urinary Incontinence   |
| AUTHORS | <i>Giri, S.K.,<sup>1</sup> Drumm, J.,<sup>1</sup> Saunders, J.A.,<sup>2</sup> Hickey, J.P.,<sup>1</sup> Flood, H.D.<sup>1</sup><br/>Department of Urology, Mid-Western Regional Hospital and National Institute of Health Sciences, University of Limerick<sup>1</sup><br/>Statistical Consulting Unit, University of Limerick<sup>2</sup></i> |

### INTRODUCTION AND RATIONALE

Pubovaginal sling procedure has become the first line surgical treatment for all types of stress urinary incontinence (SUI) in many institutions. Autologous rectus fascia remains the 'gold standard' sling material for the surgical treatment of SUI.<sup>1</sup> However, the Pfannensteil incision used for harvesting autologous fascia is the cause of considerable postoperative pain and morbidity and also prolongs hospital stay. Although there are reports on ambulatory sling procedure using synthetic material<sup>2</sup>, there are no data on postoperative pain, time interval to spontaneous voids and emptying efficiency (EE) after such a minimally invasive sling procedure.

### OBJECTIVE

To assess in a prospective fashion, bladder emptying pattern in the early postoperative period following porcine dermal pubovaginal sling procedure (PVS), to examine the factors affecting bladder emptying efficiency (EE) and to measure the short-term cure rate for SUI.

### METHODOLOGY

Between October 2003 and March 2004, 40 consecutive patients presenting with SUI with a plan for treatment using a porcine dermal sling (Pelvicol) PVS were enrolled in this prospective study. Patients were admitted with a planned overnight stay and returned to the ward without urinary catheter. Our outcome measures were EE at 10 hour postoperatively, time intervals to first three spontaneous voids, EE of the first three voids, time required to achieve an EE  $\geq 75\%$ , visual analogue scale (VAS) pain score, perioperative complications and short-term SUI cure rate. The EE was calculated as  $EE = \frac{VV}{VV + PVR} \times 100\%$ ; VV= voided volume, PVR= post void residual. Patients were considered suitable for discharge from hospital when EE was  $\geq 75\%$  or when self-catheterising confidently with adequate pain control in the absence of any significant complication. All patients were followed for 6 months.

### RESULTS

The median EE at 10 hours was 61% (IQR 40-80). Sixteen patients (40%) achieved efficient emptying and were suitable for discharge at 10 hours postoperatively. The median time intervals to the first three spontaneous voids were 7, 10 and 17 hours (interquartile range (IQR) 6 - 8, 9 -14, 14-21) respectively. Median EEs for the first three voids were 46%, 61% and 75% (IQR 30-60, 45-75, 55-85) respectively. Median VAS score was 3.5 (IQR 0-5). Patients with intrinsic sphincter deficiency (ISD) were significantly less likely to achieve efficient emptying at 10 hours (39% vs. 70%). Overall SUI was cured or improved in 90% of patients at six-months follow-up.

## CONCLUSION

In this study only 40% of patients emptied efficiently within 10 hour postoperatively. Exclusion of patients with ISD would improve emptying efficiency in the early postoperative period. Short-term results of the PVS are comparable to the autologous fascial sling.

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# Clinical Research

## Surgical

|         |  |
|---------|--|
| TITLE   | Prospective Study Comparing Magnetic Resonance Imaging-Detected Changes in Pelvic Anatomy after Xenograft Pubovaginal Sling and Tension-Free Vaginal Tape Procedure  |
| AUTHORS | <i>Giri, S.K.,<sup>1</sup> Wallis, F.,<sup>1</sup> Drumm, J.,<sup>1</sup> Skehan, M.,<sup>1</sup> Saunders, J.A.,<sup>2</sup> Egan, M.,<sup>1</sup> Flood, H.D.<sup>1</sup> Departments of Urology, Radiology and Gynaecology, Mid-Western Regional Hospital, Limerick and National Institute of Health Sciences, University of Limerick<sup>1</sup> Statistical Consulting Unit, University of Limerick<sup>2</sup></i> |

### INTRODUCTION AND RATIONALE

Modifications in sling techniques have resulted in broader indication, reduced morbidity and shorter hospital stay. By using a substitute for rectus fascia, one avoids a Pfannenstiel incision and eliminates the morbidity associated with harvesting of autologous fascia. We have found that a suprapubic 'needle down' technique and finger controlled tracking of the needle to the vaginal incision is a safe procedure during xenograft (porcine dermis) sling (XS) placement.<sup>1</sup> After paraurethral dissection the suprapubic needle can be guided digitally thereby minimising the risk of visceral injury. However this requires vaginal dissection and perforation of the endopelvic fascia to facilitate passage of the finger. This may result in a retropubic haematoma formation. Also there have been isolated case reports of large retropubic haematoma and major vascular injury after tension-free vaginal tape (TVT) procedure.<sup>2</sup> The true incidence of haematoma formation is unknown particularly in the setting of no or short-term vaginal packing.

Compared with other imaging modalities, the advantages of magnetic resonance imaging (MRI) include; a) relative operator-independence, b) direct multiplaner and multi-sequence image acquisition for better characterization of tissues, c) lack of ionizing radiation and, d) absence of bone artifact.

### OBJECTIVES

To compare and contrast early pelvic haematoma formation and anatomical changes detected by magnetic resonance imaging (MRI) in patients undergoing xenograft sling (XS) or the tension-free vaginal tape (TVT) procedure.

### METHODOLOGY

Between October 2003 and March 2004, 24 consecutive patients with stress urinary incontinence (SUI) were recruited prospectively. Of these, 12 had XS and 12 had TVT. A vaginal balloon pack was used for 3 hours after XS and not at all after TVT. All patients underwent pelvic MRI 6 to 8 hours postoperatively. Our primary outcome measures were characterization of retropubic haematoma and pelvic anatomical alterations.

### RESULTS

Overall, six (25%) patients (4 in the XS group and 2 in the TVT group) developed a retropubic haematoma. Patients with large haematomas and the entire XS group took longer to void (median 14.5 v. 6.0 hr,  $p = 0.048$  and median 7.5 v. 5.0 hr,  $p = 0.043$ , respectively). The mean distance between the bladder neck and the pubococcygeal line was significantly higher in the XS group (20.00 mm for XS vs. 15.83mm for TVT,  $p = 0.04$ ). Patients were more likely to have a closed bladder neck after XS (10/12) than after TVT (6/12). There was no difference in pain score in patients with or without haematoma. Overall SUI was cured or improved in 90% of patients at six-month follow-up.

## CONCLUSIONS

This study suggests that subclinical retropubic haematomas are surprisingly common after sling procedures. Also MRI can reliably detect anatomical soft tissue alterations consistent with the different anti-incontinent mechanisms of the standard sling and the TVT.

## REFERENCES

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## PRESENTED

At the American Urological Association SCS Annual Meeting in Dublin in September 2004 by Dr. Subhasis Giri.

# Clinical Research

## Surgical

|         |  |
|---------|--|
| TITLE   | The Role of Sleep Nasendoscopy in Sleep Disordered Breathing   |
| AUTHORS | <i>O'Connor, A., Skinner, L., Ahmed, I., Dillon, P., Fenton, J.E.<br/>Department of Otolaryngology, Mid-Western Regional Hospital, Limerick<br/>Department of Anaesthesia, Mid-Western Regional Hospital, Limerick</i> |

### INTRODUCTION

Sleep disordered breathing represents a spectrum of disorders ranging from mild habitual snoring to severe obstructive sleep apnoea. A well documented link exists between sleep apnoea and road traffic accidents as well as myocardial infarction, stroke and hypertension.

### RATIONALE

The aim of this study was to audit the use of sleep nasendoscopy in our Department from September 2002 to September 2004. Our current practice is to perform a daycase sleep nasendoscopy on patients selected through our outpatient clinic with a history of sleep disordered breathing. Patients who have a clinical history suggestive of sleep apnoea are simultaneously referred for a formal sleep study.

### METHODOLOGY

This research is based on a retrospective review of daycase sleep nasendoscopy from September 2002 to September 2004.

### RESULTS

In total 64 patients were included in the study, 47 male and 17 female and no adverse results were recorded. Sleep apnoea was confirmed by sleep study in 68% males and 32% females. We identified 4 levels of obstruction in patients with sleep disordered breathing, the nasal cavity, soft palate/uvula, tongue base and larynx. 22% of patients had obstruction at a single level, 54% had obstruction at two levels while 24% of patients had obstruction at 3 or more levels. The most common level of obstruction was the tongue base (78%), followed by soft palate/tonsils (47%), nasal cavity (20%) and larynx (13%). Patients were subsequently referred for appropriate treatment, CPAP (54%), surgical treatment (6%) or mandibular repositioning device (22%).

### CONCLUSIONS

Sleep disordered breathing is a common, treatable but potentially life threatening condition. It is recognised as a multilevel disorder. Sleep nasendoscopy is a safe effective daycase procedure for patients with snoring and obstructive sleep apnoea which allows treatment to be directed specifically at the site of obstruction.

### PRESENTED

At the Irish Otolaryngology, Head and Neck Surgery Society Annual Meeting in Templepatrick, Co. Antrim on October 22nd and 23rd 2004 by Dr. Tony O'Connor.

# Clinical Research

## Surgical



|         |   |
|---------|---|
| TITLE   | Compatibility of Nitinol Alloy Stents with KTP Laser  |
| AUTHORS | Young, O., Kirrane, F., Hughes, J., Fenton, J.E.<br>Mid-Western Regional Hospital, Limerick |

### INTRODUCTION

The KTP laser has widespread use in otolaryngology, head and neck surgery and plays an important role in the endoscopic treatment of endobronchial lesions and airway stenoses. Nitinol biocompatible metallic stents are the prostheses of choice in the treatment and palliation of many airway obstructions.

### RATIONALE

When tumour or granulation tissue develops around the stent, re-stenosis can occur. Thermal ablation with laser can be used in these instances to remove the obstructing tissue.

### OBJECTIVE

We sought to investigate the potential detrimental effects to the mechanical properties and structural integrity of the nitinol alloy stent when irradiated with KTP. Our aim was to identify the margins of safety within which KTP laser resection can be performed without damage to the stents.

### METHODOLOGY

Four centimetre uncovered nitinol alloy stents (*Boston Scientific*) were exposed to direct contact KTP laser irradiation under microscope guidance for one, two and three seconds each, with pulse duration and width of one second. Assessment was made of the degree of damage to the stent via the microscope. The effects of irradiation were observed in air and in varied concentrations of oxygen and nitrous oxide.

### RESULTS

Once the wattage was greater than 1.0, deleterious effects of laser on the stent can occur. Once 1.8 watts is exceeded, damage or destruction of the stent will ensue regardless of the gaseous environment. Increasing concentrations of oxygen in the environment enhances the damaging effects of laser on the stent.

### RECOMMENDATIONS

At the present time, a paucity of data exists concerning the compatibility of lasers with prosthetic stents. We feel there is scope for further study, including the development of an experimental model to objectively assess the damage to the physical/mechanical properties of the stent. Comparison of the safety profile between metallic stents in use with KTP, carbon dioxide and Nd-YAG lasers should also be the focus of further study.

## CONCLUSION

Given the low power levels at which damage occurred in our study, we suggest that KTP laser is unsafe to use in the presence of a Nitinol Accuflex stent.

## PRESENTED

At the Sylvester O'Halloran Surgical Scientific Meeting in the University of Limerick on March 5th, 2005 by Dr. Orla Young.

# Clinical Research

## Surgical



|         |   |
|---------|---|
| TITLE   | Road Traffic Accidents in Rural Ireland   |
| AUTHORS | <i>Durrani, S., Ahmed, S., Hooker, P., Mahmood, S., McAvinchey, D.<br/>Nenagh General Hospital, Nenagh, Co. Tipperary</i> |

### INTRODUCTION

Road traffic accidents (RTAs) are the leading cause of fatal trauma in Ireland. Despite international recommendations and government policy that dictates that all trauma patients should be taken directly to designated trauma centres, severely injured patients continue to present to rural hospitals.

### OBJECTIVES

The aim of this audit was to identify all RTA patients, whatever the severity of injury, who presented to Nenagh General Hospital over a 12-month period, to evaluate the service these patients received and to develop a strategy for providing an effective service to occasional major trauma outside trauma centres.

### METHODOLOGY

The case notes of all RTA patients presenting to Nenagh General Hospital between February 2003 and February 2004 were reviewed. Their injuries were rated using the Injury Severity Score (ISS) and their medical management was examined.

### RESULTS

240 patients were identified. 65% were male and the mean age was 28 years. Peak time of presentation was 23:00hrs. Initial examination was performed by an SHO in 85% and by a registrar in 15%. The mean ISS was 11, range 1-75.

### CONCLUSION

Patients with multiple injuries should be rapidly transferred to a designated trauma centre. However, such patients continue to present to the nearest hospital for initial resuscitation when it is judged that they would not survive the journey to a trauma centre. In recognition of this, rural hospitals must be capable of initial resuscitation, stabilization and efficient transfer of such patients to the designated trauma centre.

# Clinical Research

## Surgical



TITLE The Role of Hand Held Doppler in Acute Scrotal Pain

AUTHORS *Ahmad, K., Hickey, P., Ng, S.C., Cheema, S.T., Drumm, J., Naqvi, S.A.  
Department of Surgery, Mid-Western Regional Hospital, Limerick*

### INTRODUCTION

Testicular pain represents a troublesome clinical entity whose diagnostic evaluation and effective treatment is a challenge for the surgeon. Testicular torsion is a devastating acute condition due to strangulation of the arterial blood supply to the testis. Ultra-Sonography plays an important role in the assessment of the patient with acute scrotal pain but may delay the diagnosis for some time.

### METHODOLOGY

Twenty-two successive patients with scrotal pain who presented to the A/E department between October 2003 and June 2004, had hand held doppler (HHD) examination of their testicular arteries. Data about the pain, swelling, tenderness, HHD, ultrasound studies and exploratory findings were collected.

### RESULTS

All of the patients had HHD examination. 15 patients had positive testicular artery signals while 7 patients had no signals. All 7 were explored and confirmed the diagnosis of testicular torsion. Of the 15 cases with positive signals, 3 were explored, as these patients had a very strong clinical suspicion of testicular torsion but on exploration no torsion was found. The HHD and clinical examination was repeated at 4 hourly intervals for 12 hours. The remaining 12 cases with positive HHD signals had a planned testicular ultrasound which confirmed the diagnosis of inflammatory disease. All these patients were subsequently reviewed by the urologist.

*Table 1 - Results*

| Symptoms, duration, Doppler, u/s, exploration                  | Numbers | %     |
|--|---------|-------|
| Testicular Pain  | 22      | 100 % |
| Scrotal Swelling   | 19      | 86 %  |
| Tenderness   | 18      | 81 %  |
| Duration < 24hr  | 17      | 77%   |
| Hand held doppler done   | 22      | 100 % |
| Ultrasound scan done   | 12      | 54 %  |
| Doppler signal positive on testicular artery                   | 15      | 68 %  |
| No doppler signals on testicular artery with hand held doppler | 07      | 31 %  |
| Exploration done   | 10      | 45 %  |
| Torsion found  | 07      | 31 %  |



## CONCLUSION

Our study reveals that the HHD examination is an easy and reliable tool for assessing the testicular blood flow in the emergency department. Prompt surgical exploration is recommended if there is any uncertainty about the diagnosis. We recommend that a multi-centre study should be carried out to establish the role of HHD examination in acute scrotal pain.

## PRESENTED

As a poster presentation at the Sylvester O'Halloran Surgical Scientific Meeting at the University of Limerick on March 4th and 5th, 2005.

# Clinical Research

## Surgical

|         |  |
|---------|--|
| TITLE   | Evaluation of Referral Abnormal Papanicolaou Smears and Correlation with Histologic Findings at Colposcopic Examination        |
| AUTHORS | <i>Qureshi, L.J., Casey, C., Hickey, K.<br/>Colposcopy Unit, Mid-Western Regional Maternity Hospital, Ennis Road, Limerick</i> |

### INTRODUCTION

Papanicolaou smear is carried out as a screening test to detect precancerous changes on the cervix. It samples epithelial cells from the cervix which are then examined under the microscope. The aim is to prevent cervical cancer by detecting abnormalities i.e. precancerous changes, which if left undetected may develop into cancerous cells. If abnormalities are detected or, clinically, there is a suspicion of any abnormality, the patient is then referred to the colposcopy clinic for further investigations and management.

### OBJECTIVE

To evaluate correlation between referral smears and findings at initial smear taking and subsequent examination by colposcopic findings, cytology and histology.

### METHODOLOGY

A retrospective study of 50 new consecutive cases who attended the colposcopy clinic at the Mid-Western Regional Maternity Hospital, Limerick from 1st January 2004 to 31st July 2004 was carried out. Findings of their referral smears were noted along with other features that included risk factors, previous smear history and symptoms with other demographic features such as age and parity. Colposcopic findings were noted and cytology was repeated by smear. High vaginal swabs were taken if indicated i.e. vaginal discharge. Where indicated biopsies/large loop excisions of transformational zone were carried out and correlated with the referral smears.

### RESULTS

The referral base was mainly from Primary Care i.e. GPs (68%). Other consultant gynaecologists referred in 22% of cases. The remainder were from the genito-urinary medicine clinic (6%) and the family planning clinic (4%).

#### (a) Age:

As might be expected, the higher percentages of women were aged less than 40 years while 6% were between 50 and 60 years.

*Table 1 - Age of patients who attended the clinic*

| Less than 30 years | 30 - 40 years | 40 - 50 years | 50 - 60 years |
|--------------------|---------------|---------------|---------------|
| 40%                | 22%           | 32%           | 6%            |

#### (b) Parity:

The majority i.e. 64% of patients were parous and the remaining 36% were nulliparous.

- (c) Risk factors were:
- Smoking in 44%
  - History of genital warts in 14%
  - History of chlamydia infection in 4%
  - Other pelvic inflammatory diseases in 4%
- (d) Contraceptive use in the study population:
- Combined oral contraceptive pills 30%
  - Depoprovera injection 6%
  - Mirena coil 6%

Vaginal swabs were positive in 16% of cases including chlamydia in 2% of cases.

The correlation between the referral smears and histology at the colposcopic examination is shown in Table 2.

*Table 2 - Correlation between referral smears and histology*

| Referral smears / conditions | Histology at Colposcopy Clinic |       |       |       |           |
|------------------------------|--------------------------------|-------|-------|-------|-----------|
|                              | Normal                         | CIN 1 | CIN 2 | CIN 3 | Invasion  |
| Mild Dyskaryosis 26%         | 4%                             | 14%   | 4%    | 2%    | Nil       |
| Moderate Dyskaryosis 26%     | 4%                             | 12%   | 10%   | 2%    | Nil       |
| Severe Dyskaryosis 16%       | Nil                            | 2%    | 8%    | 6%    | Nil       |
| Unsatisfactory 8%            | 4%                             | 4%    | Nil   | Nil   | Nil       |
| Suspicious cervix 26%        | 12%                            | 6%    | 4%    | 2%    | 2% (1/50) |

## CONCLUSIONS

At present there is a low correlation between referral abnormal smears and colposcopic evaluation (30%). There is a similar poor correlation between a "suspicious" cervix and the findings at colposcopy. With the development/expansion of the cervical screening programme it is envisaged that this correlation will improve with time.

# Clinical Research

## Surgical



**TITLE** Day-case sling surgery for stress urinary incontinence: feasibility and safety

**AUTHORS** *Giri SK, Drumm J, Saunders JA, McDonald J, Flood HD.  
Department of Urology, Mid-Western Regional Hospital and National Institute of Health Sciences, University of Limerick, Ireland.*

### ABSTRACT

**Objective:** To prospectively assess the feasibility for discharge 10 h after a porcine dermal pubovaginal sling procedure (PVS), to examine the surgical factors (postoperative complications) affecting discharge, and to measure the short-term cure rate for stress urinary incontinence (SUI).

**Patients And Methods:** Between June 2003 and December 2003, 40 consecutive patients with SUI and scheduled for treatment using a porcine dermal sling were enrolled in this prospective study. Patients were admitted with a planned overnight stay and returned to the ward with no urinary catheter. Outcome measures were bladder emptying efficiency (EE) at 10 h after surgery, time intervals to the first three spontaneous voids, EE of the first three voids, time required to achieve an EE of  $\geq 75\%$ , a visual analogue scale pain score, perioperative complications, and short-term cure rate of SUI. Patients were considered suitable for discharge from hospital when the EE was  $\geq 75\%$  or when they were self-catheterizing confidently with adequate pain control and no significant complication. All patients were followed for 6 months.

**Results:** The median EE at 10 h was 61%; 16 patients (40%) achieved efficient emptying and were suitable for discharge 10 h after surgery. The median intervals to the first three spontaneous voids were 7, 10 and 17 h, and the median EEs for the first three voids 46%, 61% and 75%. The median visual analogue scale pain score was 3.5. Patients with intrinsic sphincter deficiency (ISD) were significantly less likely to achieve efficient emptying at 10 h (39% vs 70%). Overall SUI was cured or improved in 90% of patients at the 6-month follow-up.

**Conclusions:** In the present study only 40% of patients were suitable for day-case sling surgery. Early bladder emptying inefficiency was the main limiting factor. Exclusion of patients with ISD and possibly decreasing the EE threshold to 50% would improve the discharge rate. The short-term results of this PVS are similar to those obtained with the autologous fascial sling.

# Clinical Research

## General Practice



|         |  |
|---------|--|
| TITLE   | An Audit of In-Patient Discharge Communication and Discharge Summary Prescribing in a Limerick Teaching Hospital |
| AUTHORS | <i>Cahill, K.</i><br><i>Mid-West Specialist Training Programme in General Practice, University of Limerick</i>   |

### INTRODUCTION

In these days of shared care between Secondary and Primary Care, it is vital that there is adequate communication between both. My objectives were to assess the level of post-discharge communication from the Secondary to Primary Care setting and also the quality of prescribing contained in this communication.

### METHODOLOGY

This research was based on a retrospective audit of discharge summaries received by a rural GP Vocational Training Practice from a Teaching Hospital over an 18 month period. A review of hospital notes of those for whom post-discharge communication was not received was also undertaken.

The study population included all patients from one practice who were in-patients in a local teaching hospital over an 18 month period.

The main outcome measures were:-

- Number of post-discharge communications received by GP
- Number of discharge summaries completed in hospital which did not reach GP
- The level of generic prescribing in the discharge summaries
- Quality of prescribing on the discharge summary.

### RESULTS

- 73 Patients were included in the study, resulting in 42 discharge summaries on the day of discharge. The GP received some form of written post-discharge communication about 68 (93%) of the 73 inpatients. Pre-admission correspondence was received in the case of three others.
- 2 (4.5%) out of 44 discharge summaries completed in hospital on the day of discharge did not reach the GP.
- Only 40% of medications were generically prescribed, and 43% of medications were unnecessarily prescribed by brand name, the other 17% being prescribed by brand name for a medical reason.
- 22 (52%) out of the 42 discharge summaries were incomplete in some way from a prescribing viewpoint.

### CONCLUSION

Efforts should be made to ensure that there be some form of post-discharge communication between Secondary and Primary Care for every patient. In the case where something important needs to be passed on to the GP, it may be advisable to telephone the GP directly, rather than relying on the patient to pass on a letter. It may be worth considering the adoption of a hospital generic formulary. Suggestions to minimize the risk of prescribing error include the continuing education in prescribing for junior doctors, and the greater input of pharmacists, including a greater clinical involvement focusing on promoting optimal prescribing.

Overall, this study showed that the frequency of post-discharge communication between the Secondary and Primary Care settings was good, however the level of generic prescribing and the standard of discharge summary prescribing leave a lot of room for improvement.

## PRESENTED

At the Association of University Departments of General Practice in Ireland (AUDGPI), Eighth Annual Scientific Meeting in Dublin Castle on March 4th, 2005 by Dr. Kenneth Cahill.

# Clinical Research

## General Practice

|         |  |
|---------|--|
| TITLE   | A Survey of Patients' Responses and Attitudes to Delayed Antibiotic Prescribing in an Irish General Practice Setting             |
| AUTHORS | <i>Morrissey, B., Loughnane, J.</i><br><i>Mid-West Specialist Training Programme in General Practice, University of Limerick</i> |

### INTRODUCTION

In the light of emerging worldwide antibiotic resistance, are delayed scripts an effective way of decreasing the use of antibiotics in a general practice setting? The aim of the study was to look at delayed prescribing in one practice to see whether or not it was a useful way of decreasing the use of antibiotics (AB) or if patients were just taking the medications. This has not been done in an Irish setting before.

### OBJECTIVES

To establish the proportion of patients who received delayed prescriptions that filled and/or consumed their medications. To elicit if they were happy with this method of prescribing, its outcome, and if they would use it again.

### METHODOLOGY

This study was conducted by telephone questionnaire in a Rural GP Training Practice in West Limerick over a two and a half month period between October and December 2004. Patients who received a delayed prescription from the practice were telephoned 7-10 days after the consultation.

### RESULTS

32 patients were included. All were willing to answer the questions in the survey. All the patients were found to have acute upper respiratory tract infections.

44% (14/32) were found to have consumed their antibiotics, but only 21% (3/14) of these used it straight away, the majority (79%) were happy to wait a few days before using it. It was found that it was mainly females who presented (69% vs 31%).

Of the males who presented only 30% used their AB as opposed to 50% of females who presented. There was no major difference between GMS and Non-GMS patients who were issued prescriptions. 64% of GMS patients filled their prescriptions compared to 28% of Non-GMS. Age did not have a big influence on AB use.

72% were happy with making the decision to use the AB and 97% were happy with the outcome. The vast majority, 94%, would choose to receive a delayed prescription again.

### CONCLUSION

Delayed prescriptions are an acceptable method of prescribing in acute upper respiratory tract infections. They are a useful method of reducing the need for antibiotics and most patients are happy with the responsibility of making the decision. Better explanation and patient information may be of use in certain patient groups to help reduce the rates even further.



## PRESENTED

1. At the Association of University Departments of General Practice in Ireland (AUDGPI) Eighth Annual Scientific Meeting in Dublin Castle on March 4th, 2005.
2. Accepted for presentation at the Irish Council of General Practitioners (ICGP) Annual General Meeting on May 20th and 21st, 2005 in the Radisson Hotel in Galway.

# Clinical Research

## General Practice

|         |   |
|---------|---|
| TITLE   | An Audit of Reagent Strips in Detecting Urinary Tract Infections versus Laboratory Microscopy Results           |
| AUTHORS | <i>Brosnan, O.</i><br><i>Mid-West Specialist Training Programme in General Practice, University of Limerick</i> |

### INTRODUCTION

Urine test strips are used numerous times daily in general practice. This is an audit to assess their effectiveness and to compare their results with laboratory microscopy results.

### METHODOLOGY

This research was based on an audit in a single Training General Practice based in a rural setting. Computerized searches of electronic databases (BMJ, Medline, AAFP and ICGP) were carried out along with a manual search of Drugs and Therapeutics publications since 1990, using the keywords urine microscopy, urine analysis and urine test strips. Relevant full text journal articles were consulted. Discussions with the microbiology department prior to commencement and on conclusion of the audit were carried out.

The subjects were patients complaining of renal angle pain, dysuria, urinary frequency, lower abdominal pain or pregnant ladies who presented to the practice between August 1st and November 22nd 2004.

A midstream urine specimen was divided. Half was tested with a commercial reagent strip test (Quickvue Urincheck 10+SG by Quidel) for the presence of blood, protein, nitrite and leukocyte esterase. If positive, the other half was sent for microscopy and formal bacteriological culture.

The predictive values and cost of reagent strips used in diagnosing significant bacteriuria (defined as  $10^5$  colony forming units per ml) was calculated and the appropriateness of using urine test strips for the diagnosis of urinary tract infections was studied. Recommendations for future practice were suggested.

### RESULTS

In screening for urinary tract infection the leukocyte esterase test will detect almost all samples with significant bacteriuria but is relatively non-specific. The nitrite test is more specific but less sensitive. The combination of screening tests results in greater overall accuracy both in the diagnosis and exclusion of urinary tract infection.

### CONCLUSION

A positive nitrite test is a strong indication of infection, and infection is unusual with a negative leukocyte esterase test. Although not as reliable as microscopy, the combined tests do provide a useful aid to the rapid diagnosis of urinary tract infection. In addition the dipstick can be used by the bedside during a home visit.

Urinary culture is not necessarily required with nitrite and leukocyte tests being adequate in a woman with uncomplicated cystitis. Urine culture and sensitivity is however required in patients with suspected pyelonephritis, recurrent or complicated infections and in pregnancy. In this audit the positive predictive value of leukocyte esterase was 40.54%, nitrate 100%, blood 85.71% and protein 47.82%.

# Clinical Research

## General Practice

|         |   |
|---------|---|
| TITLE   | The Price You Pay   |
| AUTHORS | <i>O'Loughlin, A., Wallace, C.<br/>Mid-West Specialist Training Programme in General Practice, University of Limerick</i> |

### INTRODUCTION

As part of my final year GP project I opted to look at prescribing trends among GP's, specifically generic prescribing. This issue has become very topical recently in view of the rising health care costs and in particular prescribing costs.

### OBJECTIVES

To assess

1. The practice of generic prescribing (both pure generic and branded generic) among General Practitioners (GPs).
2. The potential cost of savings from generic prescribing by GPs.

### METHODOLOGY

The study encompassed both General Medical Services (GMS) and Private Scripts – including the Drug Payment Scheme (DPS). The names of GPs and Patients were deleted to maintain confidentiality. It was based on 100 consecutive scripts dispensed by one local pharmacy prescribed by GPs.

The main outcome measures were as follows: -

1. What proportion of drugs were prescribed?
  - Generic
  - Branded Generics
  - Proprietary Brands
2. Was there a cheaper alternative to the drug dispensed?
3. If an alternative was available was there a cost saving and how much was it?
4. By extrapolating the results to the potential savings in that pharmacy, over one year, what would be the projected approximate savings from prescribing cheaper alternative drugs where possible?

### RESULTS

1. 100 Prescriptions were studied. Of these 66% were GMS Scripts and 34% were Private Scripts of which 17% were part of the DPS.
2. GPs do not tend to prescribe generically.
3. 10 items (3.75%) were prescribed using their generic name. 8 of these had a branded generic version while 2 did not. The branded generic option was dispensed in all 8 cases.
4. 29 items (10.9%) were prescribed using their branded generic name.
5. 227 items (85.33%) were prescribed under their proprietary name. Of these, 73 (27.45%) had a branded generic version available. 154 (57.9%) had no generic version available.
5. In total 110 items of 266 dispensed had branded generic versions available. 37 branded generics (34%) were dispensed of a potential of 110.

7. 29 scripts (29%) included generic or branded generic items. 22 of these were GMS Scripts, 7 were Private Scripts of which 5 were in the DPS.

The total *actual cost* of the 100 prescriptions was €5,364.12. Thus the average cost per prescription is €53.64. Of this €1,385.96 related to private prescriptions (including DPS) and €3,978.16 related to GMS scripts. In all cases, where a generic version was available, it cost less than the proprietary version.

Proprietary brands with no branded generic alternative available amounted to €3,994.93 (75% of the actual total). 46/266 items had a branded generic available for another drug in the same class.

The total *potential cost* from using cheaper branded generic versions of the same drug was €5,148.62. The total *potential savings* from this was €215.50.

The pharmacy deals with an average of 150 prescriptions per day. Thus by extrapolating these savings, the potential savings for a day would be €323.25. For one year savings would be €117,986.

## CONCLUSIONS

1. Very few GPs are prescribing generically. Use of these branded generics in place of proprietary brands where possible is also very low.
2. Many proprietary brands do have branded generic versions available.
3. Generic prescribing between GMS and Private Prescriptions is similar, therefore it would appear cost to the patient is not taken into account when prescribing.
4. Drugs are expensive. While generic medications invariably cost less than proprietary brands, a significant proportion of prescribed medications have no cheaper alternative available. These drugs also account for a disproportionately large amount of the prescription costs. Could another drug of the same class but which has a generic equivalent be prescribed instead? Or could another cheaper drug of a different class have the same effect?
5. Significant savings are to be made from prescribing generic versions of medications; be it as pure generics or branded generics. Universal generic prescribing would, in general, be best practice.
6. Increased use of generic drugs would lead to significant savings for the patient, the GP, the taxpayer and the Department of Health.

## PRESENTED

At the European General Practice Research Network (EGPRN) Meeting in Gottingen, Germany on May 7th, 2005 by Dr. Anne O'Loughlin.

# Clinical Research

## General Practice



|         |  |
|---------|--|
| TITLE   | Evaluation of the Current Management of Sexually Transmitted Infections in General Practice by General Practitioners: A Questionnaire Survey |
| AUTHORS | <i>Tuohy, B., Kelly A.</i><br><i>Mid-West Specialist Training Programme in General Practice, University of Limerick</i>                      |

### INTRODUCTION

General Practice has three broad roles in Sexually Transmitted Infection (STI) management:-

- Initial recognition and diagnosis of an acute problem such as suspected gonorrhoea requiring fast tracking for diagnosis prior to treatment
- The detection and screening for asymptomatic disease such as chlamydia based on risk assessment
- The ongoing management of chronic genital conditions such as genital warts

The concept of sexual transmissibility shapes clinical and public-health interventions, including counselling, selective testing, sexual partner management, health promotion, and targeting vaccines. STI risk is poorly addressed in most healthcare settings, which dilutes the benefits. These management dilemmas have prompted us to look at current management practices in our local area.

### OBJECTIVE

To assess the current management of common STIs by General Practitioners in the Primary Care setting.

### METHODOLOGY

This was a questionnaire study amongst local General Practitioners. The participant GPs were sourced from the ICGP Faculty Listing, Irish Medical Directory and the Shannodoc co-op list of GPs for the Limerick area (City and County).

The main outcome measures were the current management of STIs in the context of the following:

- Investigations
- Treatment
- Referral
- Contact Tracing

### RESULTS

- 89.4 % of GPs surveyed do investigations for STIs. More males tended to investigate serologically based STIs whereas Female GPs did both i.e. serology and swabs.
- GPs under 45 years were more inclined to investigate STIs .There is no difference between vocationally trained or non-vocationally trained GPs or with practice location in relation to investigation.
- 82.4 % of GPs treated patients with STIs. Of these 73 % were females and 88% were males. There was no difference between vocationally trained and non-vocationally trained GPs. Age was also not relevant in the treatment of STIs.
- 18.6 % of GPs treat patients with STIs because they refuse Genitourinary Medicine (GUM) clinic referral.
- For most GPs there was a combination of reasons for treating patients.
- The majority of GPs treated listed STIs appropriately.
- 65.9 % of GPs did a test of cure.

- 54.1 % did not treat before referral to a GUM clinic.
- 89.4 % of GPs offered some form of contact tracing; the most common advice being for patients' contacts to attend their own GP.

## CONCLUSIONS

- Ideally patients with suspected STIs should be referred to a GUM clinic for appropriate investigations, treatment, follow up and contact tracing.
- Patients should not be treated before referral.
- Patients should be advised ideally to abstain from sexual intercourse or at least use barrier contraception.
- Patients should be advised that their partner(s) should also either attend their own GP(s) or the GUM clinic.
- For patients who refuse to attend the GUM clinic despite discussion the GP has a few options depending on the individual circumstances: -
  - Investigate with charcoal and chlamydia swabs and serology and treat accordingly
  - Treat empirically with
    - Azithromycin 1g PO stat
    - Ciprofloxacin 1g PO Stat
    - Metronidazole 400mg tds PO x 7 days

\*\*Empiric treatment may be a more appropriate option as even with investigation there is a possibility of false negative results.  
This option will treat Chlamydia/Gonorrhoea/Trichomonas.
- Contact tracing should be a routine recommendation in these circumstances also.
- Tests of cure should be done six weeks after initial treatment if investigations were positive.
- Patients should be advised ideally to abstain from sexual intercourse or at least use barrier contraception until their test of cure or six weeks after treatment.
- Genital Warts:
  - Podophyllotoxin 0.5% solution or gel self-applied to warts twice daily for 3 consecutive days each week
  - Or
  - Imiquimod 5% (aldara) cream self-applied to warts on alternate days three times a week for up to 16 weeks, washed off after 6-10 hours
  - Or
  - Cryotherapy applied fortnightly
- Genital Herpes:
  - First clinical episode (treat for 7-10 days): acyclovir 400mg orally three times daily or acyclovir 200mg orally five times daily or famciclovir 250mg orally three times daily or valaciclovir 1g orally twice a day.
  - Episodic therapy for recurrence (for 5 days): acyclovir 400mg orally three times daily or acyclovir 200mg orally five times daily or acyclovir 800mg orally twice daily or famciclovir 125mg orally twice daily or valaciclovir 500mg twice daily (3 days as effective as 5 days).
  - Suppressive therapy (continuous): acyclovir 400mg orally twice daily or famciclovir 250mg orally twice daily or valaciclovir 500mg orally once daily or valaciclovir 1g orally once daily.
- Patients with positive results for VDRL/HIV /HEP B tests should be referred for treatment.

## PRESENTED

At the Irish College of General Practitioners (ICGP), Lincon Place, Dublin on May 30th, 2004 by Dr. Blaithin Tuohy and Dr. Agnes Kelly as part of the Diploma in Women's Health Course.

# Clinical Research

## General Practice



|         |  |
|---------|--|
| TITLE   | Social Welfare Certification in General Practice...<br>The Real Story Sick Certs Tell!                         |
| AUTHORS | <i>Woulfe, M.</i><br><i>Mid-West Specialist Training Programme in General Practice, University of Limerick</i> |

### INTRODUCTION

A wide range of social, economic and environmental factors impact on the physical, mental and social wellbeing of Irish people. In practical terms, a population's health is determined by health indicators that are derived from morbidity and mortality statistics. Inequalities in health can be due to any of a wide variety of reasons including geographical location, gender, age, ethnicity, hereditary factors and socio-economic status.

Recent research highlights the strong link between infirmity and lower social class, and the clear occupational class gradients in mortality

### OBJECTIVES

To investigate the links between illness that required social welfare certification and factors such as age, gender and social class in a General Practice population.

### METHODOLOGY

A retrospective audit of the social welfare certificates issued in a single-handed Limerick City General Practice over a three month period from July to September 2003 inclusive was undertaken. The practice is located in a prosperous suburban area of the city, with a small inner-city sub-practice. A large number of the practice population would fall into the 20-65 year age group. Social Welfare Certificates issued were used as a marker of morbidity and the following noted in relation to each: gender, age, marital status, social class, category of illness (Medical, Surgical, Psychological, Injury) and the duration of certification. Social Class was determined according to The Registrar General's Scale. Certificate duration was subdivided into short term (up to 4 weeks), intermediate (4-8 weeks) and long term (8-12 weeks and ongoing) based on guidelines from The Department of Social Welfare.

### RESULTS

No certs were issued to patients of SC I. 71% of certs were issued of females. Of the men who received certs the majority were of SC IIIN, IV, and SC V. The certs issued fell fairly evenly across all age groups. 50% of all certs issued were for illness of long duration. Increasing age seemed to be associated with prolonged recuperation. More females overall were on long term certs (74%). SC IIIM had the highest percentage of long term certs (64%), followed by SC IIIN (52%) and SC II (50%). The majority of short term certs were issued to those in SC IV followed by SC II (50%).

Medical reasons were a significant cause for female certification. 78% of those on certs for psychological reasons were on long term certs; most of these were females and SC II, III and V. The majority (90%) of surgical certs extended no longer than 8 weeks and most were issued to women of the lower social classes. Injury affected all social classes except SC I, females more than males again, and 50% of injury certs were for 8-12 weeks duration.



## CONCLUSION

This study, while small and somewhat biased, highlights the fact that serious illness is prevalent in the community, despite the modernizations of the 21st century. Research from the Irish Institute of Public Health shows a 3.4 fold difference in mortality between men in the lowest and highest socio-economic groups during the period between 1989 and 1998. Furthermore, recent findings of the National Health and Lifestyle Study (SLAN) have shown that *lifestyle quality* has a major role to play in health and wellbeing.

Therefore as General Practitioners, our role in the promotion of *behavioural modification* in particular in areas such as diet, smoking, exercise, stress management, drug and alcohol use, together with opportunistic screening and constant re-enforcement with advice and encouragement is crucial to fulfilling our roles: *The task of medicine is to promote health, to prevent disease and to treat the sick.... these are highly social functions.*"  
*H.E. Sirgrist, Civilization and Disease 1943.*

## REFERENCES

Available on request.



# Clinical Research

## General Practice



|         |  |
|---------|--|
| TITLE   | Interruptions in General Practice  |
| AUTHORS | <i>Barry, N.,<sup>1</sup> O'Connor, R.<sup>2</sup><br/>University College, Cork <sup>1</sup><br/>Mid-West Specialist Training Programme in General Practice, University of Limerick <sup>2</sup></i> |

### INTRODUCTION

Balint<sup>1</sup> stressed the importance of the doctor-patient relationship in facilitating the healing process. The ideal consultation is one carried out in a secure environment where both the doctor and patient can address the problem at hand without interruption. In a busy modern day practice however this is simply not possible one hundred percent of the time.

### RATIONALE

Interruptions during many general practice consultations are almost inevitable. This important factor has been studied very little. For the purpose of this project interruptions are defined as anything that momentarily or otherwise diverts the doctor's attention away from the patient at hand.

### METHODOLOGY

Over the course of a four day period, 40 consultations with one General Practitioner were observed in a busy urban General Practice. This practice comprised of a Secretary, a Practice Nurse and two general practitioners. The number of times the doctor was interrupted during each consultation was recorded by an observer, as well as the nature of the interruption and how frequently interruptions occurred.

### RESULTS

Out of the 40 consultations observed, 14 (35%) were uninterrupted and the remaining 26 (65%) had at least one interruption.

Of the 26 consultations that were interrupted, 9 had one interruption only, a further 9 had two interruptions, 4 had three interruptions, 2 had four interruptions, 1 had five interruptions and the maximum number of interruptions recorded in a single consultation was six. This brings the total amount of interruptions to 58.

Of these 58 interruptions, 22 were via the door, 21 via the intercom, 14 via the telephone and 1 via a mobile phone.

Time-wise 5 consultations were interrupted after just a few seconds, whereas the maximum amount of time recorded before an interruption was twenty minutes. However, out of the 26 interrupted consultations the average amount of time before interruption was 5.6 minutes.

### CONCLUSIONS

Interruptions are common in every day general practice despite one's best efforts to avoid them. This important aspect of modern day practice has received very little attention in the literature and deserves further study.

### REFERENCES

Balint M. *The Doctor, His Patient and The Illness*. London. Tavistock. 1957.

# Clinical Research

## Nursing



|         |   |
|---------|---|
| TITLE   | Evaluation of a New Service – A Community-based Nurse-led Leg Ulcer Clinic  |
| AUTHORS | <i>Mullins, B.<br/>Clare Community Care, Health Service Executive Mid-Western Area, Bindon Street,<br/>Ennis, Co. Clare</i> |

### INTRODUCTION

In 2003, as a result of a change management initiative, the Public Health Nurses (PHN) with their Registered Nurse (RGN) colleagues set up a community-based Nurse-led leg Ulcer Clinic. The Clinic is based at St. Joseph's Community Hospital and runs two half days per week. Patients are given a holistic assessment and Doppler studies to confirm ulcer aetiology. Treatment then commences which includes the application of four layer compression bandaging. Diet and Nutrition is also addressed. Patients attend the clinic for regular dressings and review. Referrals can also be made directly to the vascular surgeon if and when necessary. This study was completed to evaluate the new service.

### OBJECTIVES

- To identify the use and extent of evidence-based practice employed at the clinic.
- To determine if the clinic represents value for money.
- To determine efficiency of service.
- To identify patient satisfaction.
- To evaluate staff satisfaction and empowerment.
- To identify staff training needs.
- To inform future practice.

### METHODOLOGY

The approach used in the evaluation was that of multi-method, using qualitative and quantitative methods of research. Firstly a comprehensive literature review was carried out.

The qualitative aspect involved a focus group of the staff comprising the original start team, four of whom took part. Eight of the staff who run the clinic took part in unstructured interviews to elicit information concerning empowerment and increased job satisfaction obtained from their new expanded role. Training needs and competencies were also addressed.

The quantitative aspect of the evaluation consisted of analysing data from all the patients' charts, including age, gender, attendance rates, compliance rates, healing rates and suitability for compression.

Data about numbers of patients with leg ulcers that are currently being treated in the community was also obtained using the same survey that was used prior to setting up the clinic. Ten PHNs and RGNs completed the survey that recorded numbers of patients, the repetition of dressings and the time it took to complete each dressing to enable a comparison to be made before and after the clinic was established.

A patient satisfaction survey was sent out to thirty patients consisting of ten questions. A comments page was also enclosed.

## RESULTS

### Healing Rates

- Overall 66.6%
- In 12 weeks 50%
- In 24 weeks 63.3%

### Patient Satisfaction Survey

- Patient satisfaction survey – 82% response rate.
- Patients were very impressed with the service.
- Socialisation aspect important.
- Transport not an issue – ample parking facilities.

### Staff Focus Group and Unstructured Interview

- Teamwork and communication has improved.
- Staff are enthusiastic and empowered.
- Colleague support important, staff less isolated, the clinic presents an opportunity to keep up to date with research.
- Better environment – dressings to hand, couch, Health and Safety standards.
- Certification of Doppler studies has commenced.
- Direct referral to vascular surgeon an exciting development.

## CONCLUSIONS

- Clinic is now well established and is perceived as patient-centred and accessible.
- Evidence-based practice is used throughout which gives a more efficient service.
- Healing rates are similar to other recent audits and should improve as patients are referred earlier.
- Direct referral is an important development. However, the lack of a Tissue Viability Nurse Specialist is a limitation.
- Staff rotation needs to be kept to a minimum to ensure continuity of care.
- A co-ordinator is seen as essential.
- A database would be invaluable for continuous evaluation.

# Clinical Research

## Mental Health



|         |  |
|---------|--|
| TITLE   | Referrers Satisfaction with a Community Care Clinical Psychology Service   |
| AUTHORS | <i>Ward, M., Byrne, J., Fitzsimons, S., Behan, J., Wilson, A., Coleman, D. Clare Primary Continuing and Community Care (PCCC) Clinical Psychology Service, Health Service Executive Mid-Western Area, Ennis, Co. Clare</i> |

### INTRODUCTION

The Clare Primary Continuing and Community Care (PCCC) Clinical Psychology Service is based in Ennis and provides mental health services to children, adolescents and their families in County Clare.

Like many other Community Care Services, the Clare PCCC Clinical Psychology Service accepts referrals from certain named professionals only (self-referrals are not accepted). In essence, therefore, referrers are the “gatekeepers” to clinical psychology services. One of the stated aims of the service is to provide a ‘professional, accountable, useful and user-friendly service to...referrers’. In order to ensure that this aim is being met, a referrer satisfaction survey was developed (Wilson, 2002) and carried out by the Clare PCCC Clinical Psychology Services in both 2002 and 2004. This study will compare both sets of results.

### METHODOLOGY

A postal survey was sent to all those professionals who refer clients to the Clinical Psychology Service. A total of 47 (out of 65) referrers responded to the present survey, representing a 63% response rate and a total of 39 referrers (out of 88) responded in 2002 (44% response rate).

### RESULTS

The key findings of the survey are outlined below:

#### Referring clients:

In 2004, 57% of referrers indicated that they had referred all the clients they wished to - an increase from 2002, when 49% had referred all the clients they wished. The main reasons given for not referring clients included long waiting lists and confusion about the availability or appropriateness of alternative services.

#### Knowledge and satisfaction with the service:

In the present survey, 91% of referrers indicated that they were aware of the screening and prioritisation procedure operated by the Clinical Psychology Service, compared to 70% in 2002. Over half (57%) indicated that they were satisfied or very satisfied with this procedure in 2004. Over three-quarters (83%) of referrers were ‘satisfied’ or ‘very satisfied’ with written feedback in 2004, compared to only 47% of those who received written feedback in 2002. Regarding the service overall, 80% of referrers felt that they received a good or very good quality of service, which is an increase of 10% from 2002.

#### Focus of Future Service Delivery:

All referrers felt that the service focus on individual work with children and families was worthwhile and should continue. Three-quarters felt that the service should also focus on consultancy work with other key professionals as well as group therapy with children and families.

## CONCLUSION

Referrers are the “gatekeepers” to the PCCC Clinical Psychology Service. Consequently, routine assessment of the knowledge and satisfaction of referrers is crucial and can help inform future service delivery. The present study found an increase in both knowledge and satisfaction with the service from 2002 to 2004. This indicates that quality initiatives undertaken as a result of the 2002 survey led to greater satisfaction with the service in 2004. The results also point to the need to consider alternative models of service delivery. The implications of the findings will be incorporated as quality initiatives into ongoing service delivery.

# Clinical Research

## Mental Health



|         |   |
|---------|---|
| TITLE   | An Investigation of Teenagers' Sexual Knowledge, Attitudes, Experiences and Behaviour in the Mid-Western Health Board Region of the Country   |
| AUTHORS | <i>Dempsey, M.,<sup>1</sup> Bradley, C.,<sup>2</sup> Dromey, S.<sup>3</sup></i><br><i>Department of Applied Psychology, University College Cork<sup>1</sup></i><br><i>Department of General Practice, University College Cork<sup>2</sup></i><br><i>Department of Applied Psychology, University College Cork<sup>3</sup></i> |

### INTRODUCTION

Teenage sexual health is a public health issue that needs to be understood fully before appropriate responses can be made by public health service providers. Yet, there is a lack of published research on this area in Ireland. In particular, there is relatively little known regarding the attitudes, experiences and behaviours that form the basis of teenage sexual health in Ireland. There is also a dearth of research concerning parental views on teenage sexuality and sex education programmes. Towards this end, the Mid-Western Health Board funded University College Cork to carry out a study of teenage sexual health in the Mid-Western Region.

### METHODOLOGY

The study was conducted using a mixture of quantitative questionnaire surveys and qualitative focus groups. Second and fifth year students from a stratified random sample of 21 schools in the Mid-Western region were surveyed using a version of the A PAUSE questionnaire adapted for use in Ireland. Fourteen Early School Leaver programmes were also targeted. Total number of student participants was 1,069 i.e. f = 695, m = 374. Students and those of their parents willing to participate (N = 465) were surveyed using an amended version of the Parental Communication Scale that had been devised in the US. This scale looks at communication between teenagers and their parents from the perspective of both teenagers and their parents.

### RESULTS

Results from the quantitative and qualitative aspects of the study were considered under the following headings: teenagers' sexual health knowledge, attitudes, behaviour, education regarding relationships and sex and parental involvement. Gender and age differences were identified over a range of sexual health issues.

Overall, female participants scored higher and had more accurate knowledge than male participants in relation to general sexual health knowledge. Nearly all respondents reported some level of sexual activity ranging from 'kissing with tongues' to 'sexual intercourse'. Most respondents who were not sexually active reported themselves as intending to use an effective form of contraception at first intercourse with males preferring condoms and females preferring the pill or the pill plus condoms. It was also noted that parents and teenagers have mutual difficulties in communicating with each other about sexual health issues with fear of embarrassment being a primary concern. Teenagers were concerned about their ability to be honest in relation to their behaviours, while for parents, there was a concern that they, as parents would not have all the answers.

### CONCLUSION

Overall a more unified approach to education regarding relationships and sex may be beneficial. It would seem that current education might be lagging behind adolescents' information needs. There were gaps in knowledge that pose risks to teenagers' sexual health particularly in relation to sexually transmitted infections (STIs), using contraception, emergency contraception, the consequences of high-risk sexual activity, debunking sexual activity myths and exploration of communication and responsibility within relationships. Education concerning these issues needs to be practical, skills-based, enabling young people to clearly process information and make

informed choices. The fact that male and female sexual health information needs and preferred modes of accessing information differ among this age group needs to be recognised in information provision strategies.

## FUNDING

This research was funded by the Mid-Western Health Board.



# Clinical Research

## Biomedical Electronics



|         |   |
|---------|---|
| TITLE   | An investigation of the effect of electrode size and electrode location on comfort during stimulation of the gastrocnemius muscle   |
| AUTHORS | <i>Lyons, GM, Leane, GE, Clarke-Moloney, M, O'Brien, JV, Grace, PA.<br/>Clarke-Moloney, M, Grace, PA, Department of Vascular Surgery, Mid-Western Regional Hospital, Limerick<br/>Lyons, GM, Leane, GE, Biomedical Electronics Laboratory, Department of Electronic and Computer Engineering, University of Limerick<br/>O'Brien, JV, Department of Physical Education &amp; Sport Sciences, University of Limerick</i> |

### ABSTRACT

The use of surface neuromuscular electrical stimulation (SNMES) in medicine is well established. However, discomfort has been identified as limiting the use of SNMES in these applications. This pilot study investigated the influence of various electrode sizes and their positioning on perceived pain and discomfort during neuromuscular electrical stimulation (NMES) of the gastrocnemius muscle using surface electrodes. This study formed part of a research project to develop a therapeutic device for calf muscle blood flow assist applications. Twelve healthy subjects ( $n = 12$ ) participated in this pilot study. Each participant attended the trial centre for testing which consisted of SNMES to four different electrode stimulation sites using two electrode sizes (round with areas 19.63 and 38.48 cm<sup>2</sup>). Comfort was assessed by asking the subjects to indicate the stimulation amplitude corresponding to the onset of discomfort (pain threshold) and the amplitude at which the discomfort became unbearable (pain tolerance).

Of the four stimulation sites tested, two were deemed unsuccessful as it was very difficult to obtain a muscle contraction using these sites, while the remaining two sites elicited good muscle contraction. The most comfortable stimulation was achieved by placing the cathode electrode high on the calf, below the proximal end of the muscle heads and the anode electrode towards the end of the muscle belly and when the 19.63 cm<sup>2</sup> electrodes were used at these sites ( $p < 0.001$ ).

### SOURCE

Medical Engineering & Physics 2004;26(10):873-878.



# Clinical Research

## Biomedical Electronics



|         |  |
|---------|--|
| TITLE   | Validity of the prosthetic activity monitor to assess the duration and spatio-temporal characteristics of prosthetic walking   |
| AUTHORS | <i>Bussmann, JBJ, Culhane, KM, Horemans, HLD, Lyons, GM, Stam, HJ.<br/>Bussmann JBJ, Stam, HJ, Horemans, HLD, Department of Rehabilitation Medicine,<br/>Erasmus Medical Centre, Rotterdam, Netherlands<br/>Culhane, KM, Lyons GM, Biomedical Electronics Laboratory, Department of Electronic<br/>and Computer Engineering, University of Limerick, Limerick, Ireland</i> |

### ABSTRACT

The prosthetic activity monitor (PAM) is an instrument to assess over the long-term the duration and spatio-temporal characteristics of walking of amputees during normal daily life. In this study, the validity of PAM - derived measurements was investigated.

Twelve transtibial amputees performed an activity protocol, consisting of stationary and walking activities, and activities associated with nonlocomotor movements. The protocol also included potential sources of error and activities assumed to be prone to misdetection. Measurements consisted of the PAM and video recordings. Agreement between video analysis and PAM output was the main outcome measure.

The PAM generally correctly classified stationary activities (100% inactive, 0% active, 0% locomotion), nonlocomotor activities (45% inactive, 55% active, 0% locomotion) and walking activities (0% inactive, 1.8% active, 98.2% locomotion). When walking, the number of strides taken was slightly underestimated (-1.0%). The underestimation of distance travelled (-6.2%) and walking speed (-5.8%) was greater. The agreement with video output decreased when the PAM was misaligned, when persons walked at a speed below the defined minimum speed, and when persons walked with crutches.

The PAM provides valid data on activity classes and number of strides. Although the majority of the distance data was satisfactory, in some cases considerable differences were found between the PAM and the video data. The impact of alignment, walking speed, and use of assistive devices on the PAM's operation should be considered.

### SOURCE

IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2004;12(4):379-386.

# Clinical Research

## Biomedical Electronics



|         |  |
|---------|--|
| TITLE   | Long-term mobility monitoring of older adults using accelerometers in a clinical environment   |
| AUTHORS | <i>Culhane, KM, Lyons, GM, Hilton, D, Grace, PA, Lyons, D.<br/>Culhane KM, Lyons, GM, Biomedical Electronics Laboratory Department of Electronic and Computer Engineering, University of Limerick<br/>Hilton, D., Lyons, D., Rehabilitation Centre, St. Camillus Hospital, Limerick<br/>Grace, PA, Department of Vascular Surgery, Mid-Western Regional Hospital, Limerick</i> |

### ABSTRACT

**Objective** - To assess the accuracy of accelerometer-based mobility monitoring during extended measurements on older adults in a clinical setting and to evaluate two different approaches to thresholding.

**Design** - The monitoring device consisted of two Analog Devices ADXL202 accelerometers, an ambulatory data-logger and associated cabling. The monitoring system used custom-designed analysis software to detect activities of daily living, namely duration of sitting, standing, lying and moving during the period monitored. An investigator shadowed the subjects throughout the recording period.

**Subjects and setting** - This study monitored five older adults, with varying degrees of mobility, resident in a rehabilitation clinic, over four days.

**Interventions** - The accelerometer data were analysed using a MATLAB(R) program that allowed trunk and thigh threshold angles to be set to distinguish between sitting, standing, lying and moving. Two different approaches to setting these thresholds were investigated: (1) using a midpoint tolerance value of 458 and (2) using a 'best estimate' tolerance value. The analysis program generates a summary of activities, which is then compared line-by-line with the manual summary created by the observer. The result was a hit/miss ratio representative of the system's accuracy.

**Results** - The detection accuracies for sitting and lying using a mid-point tolerance value were poor, with an average detection accuracy of 75% obtained. The 'best estimate' approach improved the detection accuracies for sitting and lying by approximately 18% to an average value of 93%.

**Conclusion** - In a population of older adults, the static activities of sitting, standing and lying and dynamic activities can be distinguished using the technique and threshold values outlined here to a degree of accuracy of 92% and higher.

### SOURCE

Clinical Rehabilitation 2004;18(3):335-343.

# Clinical Research

## Biomedical Electronics



|         |   |
|---------|---|
| TITLE   | An investigation of the effect of modifying stimulation profile shape on the loading response phase of gait, during FES-corrected drop foot: Stimulation profile and loading response   |
| AUTHORS | <i>O'Halloran, T, Haugland, M, Lyons, GM, Sinkjaer, T.<br/>O'Halloran, T, Lyons, GM, Biomedical Electronics Laboratory, Department of Electronic and Computer Engineering, University of Limerick, Limerick, Ireland<br/>Haugland, M., Sinkjaer, T. Centre for Sensory Motor Interaction, Aalborg University, Denmark</i> |

### ABSTRACT

Drop foot stimulators today operate open loop with a trapezoidal stimulation profile. The traditionally applied profile originated as much from technological constraints as suitability for the physical pathology. It was proposed that by increasing the stimulation intensity during the loading response phase of gait, the ankle angle trajectory would become closer to that of normal gait and a more efficient heel rocker would be introduced. One patient, who used an implanted stimulator, was tested. Various profiles, which provided increased stimulation during loading response, were tried and joint angle trajectories, electromyograms, and footswitches were recorded. Statistical analysis was performed using a one way ANOVA and posthoc Tukey tests. The experiment showed that increasing stimulation intensity during loading response increased the duration of the heel rocker. Statistical analysis revealed that this was significant at  $p = 0.05$  level.

Increasing stimulation intensity during loading response prolongs the heel rocker. This is an essential mechanism for advancement over the stance limb and providing shock absorption during weight acceptance, thus, we conclude that this improves the gait pattern of the drop foot sufferer.

### SOURCE

Neuromodulation 2004;7(2):113-125.

# Clinical Research

## Biomedical Engineering



|         |  |
|---------|--|
| TITLE   | A mathematical model to predict the in vivo pulsatile drag forces acting on bifurcated stent grafts used in endovascular treatment of abdominal aortic aneurysms (AAA)   |
| AUTHORS | <i>Morris L, Delassus P, Walsh M, McGloughlin T.<br/>Morris L, Walsh M, McGloughlin T. Centre for Applied Biomedical Engineering Research (CABER), Department of Mechanical and Aeronautical Engineering, and Materials and Surface Science Institute (MSSI), University of Limerick<br/>Delassus P. Department of Mechanical Engineering, Galway Mayo Institute of Technology</i> |

### ABSTRACT

Endovascular treatment of abdominal aortic aneurysms (AAA) is a promising new alternative to the traditional surgical repair. However, the endovascular approach suffers problems such as stent graft migration, endoleaks and stent mechanism breakage. Fatigue failure is believed to be the major cause of stent graft migration and device breakage. Knowledge of the in vivo forces acting on such devices is a basic requirement for the design of a successful endovascular device. Using a Fourier series trigonometric fit of a typical pressure and flow relationship, a mathematical model, using the control volume method, was developed to predict the pulsatile drag forces acting on various bifurcated stent graft geometries. It was found that for an iliac angle of 30 degrees, a proximal diameter of 24 mm and an iliac diameter of 12 mm, the drag force varied, over the cardiac cycle, between 3.9 and 5.5 N in the axial direction. It was noted that for a specific iliac angle the drag force variation with proximal diameter approximates a quadratic fit, with an increase in proximal diameter producing an increase in drag force. The more compliant the aorta the higher the drag force. Previously published results demonstrated the axial loads (axial drag forces) required for stent graft migration for certain stents types are lower than the drag forces calculated in this study. It is believed that the results of this study can provide guidelines for the quantitative analyses of the in vivo drag forces experienced by stent grafts and could therefore be used as design criteria for such devices. © 2003 Elsevier Ltd. All rights reserved.

### AUTHOR KEYWORDS

Abdominal aortic aneurysms, drag force, migration, endoleaks, endovascular repair

### SOURCE

Journal of Biomechanics 2004 Jul;37(7):1087-1095.

# Clinical Research

## Biomedical Engineering



|         |   |
|---------|---|
| TITLE   | Prediction of Abdominal aortic aneurysm (AAA) rupture using numerical and experimental techniques   |
| AUTHORS | <i>Callanan A, Morris L, McGloughlin T.<br/>Centre for Applied Biomedical Engineering Research (CABER), Department of Mechanical and Aeronautical Engineering, and Materials and Surface Science Institute (MSSI), University of Limerick</i> |

### ABSTRACT

Current surgical treatments for AAA occur when the aneurysm diameter reaches 5cm. Clinically reported data has shown the occurrence of rupture in sac diameters of 5cm or less. Previous studies have suggested that there is a direct correlation, between aneurysm wall stress and rupture site. Also it has been suggested that maximum wall stress is not dependent on the maximum diameter of the vessel but on the morphology of the vessel.

Experimental and numerical techniques were carried out using the reflective photoelastic method and finite element analysis respectively. These techniques were used to examine the stress patterns in AAA bifurcated models. Computed tomography scans were used to generate idealised and realistic AAA models. Static pressures of 70 and 110mmHg were applied to these models. Maximum stress was found to occur at the proximal and distal locations. Maximum stress values of 150kPa were found. There was a 5% difference in the numerical and experimental prediction. The stress locations in the models show favourable prediction to rupture sites in vivo. Results suggest that maximum stress be used and not aneurysm diameter as the failure criteria for aneurysm rupture.

The use of experimental analysis to validate numerical work may allow more complex morphology to be studied using numerical methods. This may also lead to greater understanding of aneurysm behaviour.

### PRESENTED

At the Sylvester O'Halloran Surgical Scientific Meeting, University of Limerick in March 2005 by A. Callanan.

### SOURCE

Irish Journal of Medical Science 2005 March;134 Suppl 1:38.



# Clinical Research

## Biomedical Engineering



|       |  |
|-------|--|
| TITLE | Experimental assessment of stress patterns in abdominal aortic aneurysms using the photoelastic method |
|-------|--|

|         |  |
|---------|--|
| AUTHORS | <i>Morris L, O'Donnell P, Delassus P, McGloughlin T.<br/>Morris L, O'Donnell P, McGloughlin T. Centre for Applied Biomedical Engineering Research (CABER), Department of Mechanical and Aeronautical Engineering, and Materials and Surface Science Institute (MSSI), University of Limerick<br/>Delassus P. Department of Mechanical Engineering, Galway Mayo Institute of Technology</i> |
|---------|--|

### ABSTRACT

Abdominal aortic aneurysm (AAA) sac size is a major clinical problem. The maximum sac diameter is the major determining factor for treatment. There is a direct correlation between the wall stress and rupture sites for AAA with maximum wall stress not being dependent on the maximum diameter of the vessel but on the morphology of the vessel. The reflective photoelastic method was developed to experimentally evaluate the stresses and strains in a model AAA. The epoxy resin material was used as the self-supporting structure and had similar mechanical properties to the aneurysmal aorta. For both static and dynamic fluid testing the high-stressed regions were located proximally and distally to the aneurysm. This correlates to reported in vivo rupture sites. There was a low-stress region at the location of greatest diameter at the centre of the aneurysm. The direction of the maximum principal stress was found to be in the circumferential direction. The maximum stress for a high blood pressure of 22.7 kPa (170mmHg) was 35% greater than that for a normal blood pressure of 16.0 kPa (120 mmHg). The photoelastic method is a powerful and innovative method of analysing stresses in AAA models, producing results which are visual and easy to interpret.

### AUTHOR KEYWORDS

Abdominal aortic aneurysm, maximum sac diameter, reflective photoelastic method, rupture sites, self-supporting structure

### SOURCE

Strain 2004 Nov;40(4):165-172.

# Clinical Research

## Biomedical Engineering

|         |   |
|---------|---|
| TITLE   | On the existence of an optimum end-to-side junctional geometry in peripheral bypass surgery - A computer generated study  |
| AUTHORS | <i>Walsh MT, Kavanagh EG, O'Brien T, Grace PA, McGloughlin T.<br/>Walsh MT, O'Brien T, McGloughlin T. Centre for Applied Biomedical Engineering Research (CABER), Department of Mechanical and Aeronautical Engineering, and Materials and Surface Science Institute (MSSI), University of Limerick<br/>Kavanagh EG. St James Hospital, Dublin<br/>Grace, PA, Department of Vascular Surgery, Mid-Western Regional Hospital, Limerick</i> |

### ABSTRACT

**Background** - To investigate hemodynamic flow changes associated with vein cuffs and patches that may be responsible for improved patency of prosthetic infrainguinal grafts.

**Methods** - The role of the graft-artery junction angle was examined by computational fluid dynamics to assess the influence of anastomotic geometry on wall shear stress (WSS) distributions. Three geometrically different junction configurations were studied and the WSS and WSS gradient (WSSG) values were compared.

**Results** - The inclusion of a patch or a cuff moves the bed stagnation point (BSP) distally, increasing the area on the bed of the junction which experiences a BSP and reducing the strength of the recirculation region opposite the heel of the junction by 54.8 and 50.8%, respectively. The patched geometry promotes earlier recovery of the flow in the distal outflow segment (DOS) than for the unpatched model. Also, the helical flow patterns in the DOS associated with the cuffed geometry are stronger. The net effect of these changes are that peak WSSG values for the patched and cuffed geometries are three times lower than those for the uncuffed geometry.

**Conclusion** - This study provides some additional insights into the hemodynamics of graft-artery junction geometry which may influence future clinical practice.

### AUTHOR KEYWORDS

Anastomosis, wall shear stress, computational fluid dynamics, graft-artery junction

### SOURCE

European Journal of Vascular and Endovascular Surgery 2003 Dec;26(6):649-656.

# Clinical Research

## Biomedical Engineering



|         |   |
|---------|---|
| TITLE   | The University of Limerick Prolong™ Vascular Graft  |
| AUTHORS | <i>Walsh MT, McGloughlin T.<br/>Centre for Applied Biomedical Engineering Research (CABER), Department of<br/>Mechanical and Aeronautical Engineering, University of Limerick</i> |

### ABSTRACT

Vascular grafting is an important and necessary surgical procedure that restores hemodynamic flow to diseased limbs. The restoration of such flow provides the necessary blood supply to limb extremities to maintain normal limb function. Intimal hyperplasia causing stenosis at the distal anastomosis is a major cause of failure of infrainguinal vascular bypass grafts. It is characterised by the proliferation of ascular smooth muscle cells, under growth factor control, which migrate to cause hyperplasia in the subendothelial plane. Anastomotic restenoses occur predominantly at the heel and toe of the anastomosis and on the artery bed, opposite the anastomosis. Thus, hemodynamic flow patterns in distal end-to-side anastomoses are widely implicated in the initiation of the disease formation processes.

Intimal hyperplasia is known to be more evident with prosthetic grafts where it is concentrated at areas of flow disturbance around the distal anastomosis. Several factors have been implicated in the development of intimal hyperplasia including differences in the mechanical properties between prosthetic graft and native vessel and low flow states due to poor run-off. It is known that flow patterns created by end-to-side distal anastomoses exert abnormal wall shear stress distributions on the endothelial cells on the bed of the junction. The role of wall shear stress (WSS) in intimal thickening has been the subject of much debate. Several vascular surgeons have achieved improved patency rates for polytetrafluoroethylene (PTFE) bypasses by using an interposition vein cuff or patch. One theory of how vein cuffs or patches may improve anastomotic junctional hemodynamics is by decelerating the flow, thereby reducing peak WSS and relaxing WSS gradients. As a result it is commonly perceived that an optimum graft/artery junction geometry may exist. However, the patency rates associated with these procedures are moderate. Each technique is said to have an added advantage over conventional bypass grafting with synthetic grafts in that the use of autologous vein helps buffer compliance mismatch between the elastic host artery and the rigid graft when synthetic grafts are used. Each technique is also thought to improve the flow patterns in the junction area, and thus improve the patency rates of the bypass procedure. It is believed that an optimum graft/artery junction geometry to significantly improve peripheral bypass patency rates may not exist <sup>(1)</sup>.

A novel device the Prolong™ Graft is presented as one of the few methods of producing significantly improved patency rates for this procedure.

<sup>(1)</sup> Walsh M, McGloughlin T. Flow patterns in a novel end-to-side bypass graft. Proceedings of the Biomedical Engineering Society Annual Meeting; 2004 October 13-16; Philadelphia, U.S.A.

### PRESENTED

1. At the Biomedical Engineering Society Annual Meeting in Philadelphia, USA, October 13th-16th, 2004.
2. As a poster presentation at the Sylvester O'Halloran Surgical Scientific Meeting in the University of Limerick, on March 4th and 5th 2005.

### SOURCE

Irish Journal of Medical Science 2005 Mar;134 Suppl 1:61.



# Clinical Research

## Microbiology



|         |  |
|---------|--|
| TITLE   | <i>Ralstonia pickettii</i> : A Potential Nosocomial Infectious Pathogen  |
| AUTHORS | Adley, C.C., Saieb, F.<br>Microbiology Laboratory, Department of Chemical and Environmental Science,<br>University of Limerick |

### INTRODUCTION

Non-fermenting Gram-negative bacilli pose a significant problem in the clinical environment being the common cause of nosocomial infections. The major opportunistic pathogens from this group comprise; *Pseudomonas aeruginosa*, *Acinetobacter baumannii*, *Stenotrophomonas maltophilia* and *Burkholderia cepacia*.

*Ralstonia pickettii* is an aerobic, non-fermenting, gram-negative rod and is an organism isolated at infrequent times but which is of interest to our group. It has been identified as an opportunistic pathogen in nosocomial infections, especially among immunocompromised patients.<sup>1,2</sup> Nosocomial infection outbreaks in association with contamination of hospital supplies have also been reported.<sup>1,3,8</sup> It is capable of forming biofilm in water circulating systems and in plastic containers and this has posed potential problems for both the medical and biopharmaceutical industry. Its potential to form biofilm is putatively due to its ability to produce homoserine lactone<sup>9</sup> a known cell signalling molecule.

### RATIONALE

A study was undertaken to analyse the antibiotic resistance profiles of clinical and high purity water isolates of *R. pickettii* isolated from clinical and industrial US Pharmacopoeia (USP) grade water.

### METHODOLOGY

Seven clinical isolates were obtained from the collection of the microbiology laboratory of a local hospital, which originated from the cystic fibrosis bench. Thirty-one isolates were obtained from industrial USP grade water and eight culture collection strains were purchased from different suppliers (Table 1). The strains were identified as *Ralstonia pickettii* using the Biomérieux Vitek junior and the Remel IDS RapID NF plus system. Susceptibility to eight antimicrobial agents (Table 1) was carried out according to the NCCLS<sup>10, 11</sup> method for *Pseudomonas* and *Acinetobacter* spp., using Muller Hinton agar and incubation at 35°C for 16-18 hours. Control strain used was *Pseudomonas aeruginosa* ATCC 27853.

### RESULTS

The results are presented in Table 1. Non-fermentative Gram negative rods are intrinsically resistant to many antibiotics and our results show that all the purchased culture collection strains of *R. pickettii* were resistant to the Penicillin- ticarcillin, the Aminoglycoside- gentomycin and the Phenicol- chloramphenicol. Among the seven clinical isolated six were resistant to the same three antibiotics, however one had an additional resistance to the Cephem- cefotaxime. Similarly with the USP grade water isolates 12 (46%) were resistant to these three antibiotics. The remainder USP water isolates showed double (7 isolates) or single (12 isolates) resistance profiles to the antibiotics tested. However all isolates were sensitive to the folate pathway inhibitor Sulphamethoxazole/trimethoprim, and to the Fluoroquinolones- ciprofloxacin and ofloxacin, tested, this is encouraging in view of the ability of gram-negative bacilli to acquire resistance to many classes of antimicrobial agents.

## CONCLUSIONS

*R. pickettii* is not a prevalent pathogen in hospital environments but is isolated on occasion. We can conclude that the *R. pickettii* isolates in this study are multi-antibiotic resistant and there is a need to maintain active surveillance of resistance patterns among gram-negative bacilli.

*Table 1 - Antibiotic resistance profile of purchased culture collection, clinical and USP grade water isolates of R. pickettii.*

| Resistance profile | Culture collection purchased strains | Clinical isolates | USP grade water isolates | Total |
|--------------------|--------------------------------------|-------------------|--------------------------|-------|
| Tic, Cn, C         | 8                                    | 6                 | 12                       | 26    |
| Tic, Cn, C, Ctx    |                                      | 1                 |                          | 1     |
| Tic, Cn            |                                      |                   | 4                        | 4     |
| Tic, C             |                                      |                   | 1                        | 1     |
| Cn, C              |                                      |                   | 1                        | 1     |
| Cn, Ctx            |                                      |                   | 1                        | 1     |
| Tic                |                                      |                   | 5                        | 5     |
| Cn                 |                                      |                   | 4                        | 4     |
| Te                 |                                      |                   | 1                        | 1     |
| Ctx                |                                      |                   | 1                        | 1     |
| C                  |                                      |                   | 1                        | 1     |
| SxT                | 0                                    | 0                 | 0                        | 0     |
| Cip                | 0                                    | 0                 | 0                        | 0     |
| OfI                | 0                                    | 0                 | 0                        | 0     |
| Total              | 8                                    | 7                 | 31                       | 46    |

Tic- Ticarcillin 75µg/ml; Ctx-Cefotaxime 30µg/ml; Cn-Gentamicin 10µg/ml;  
 Te-Tetracycline 30µg/ml; Cip-Ciprofloxacin 5µg/ml; OfI-Ofloxacin 5µg/ml;  
 SxT-Sulphamethoxazole/trimethoprim 23.75/1.25µg/ml; C-Chloramphenicol 30µg/ml.  
 Control strain: *Pseudomonas aeruginosa* ATCC 27853

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## ACKNOWLEDGEMENTS

The authors would like to acknowledge the assistance afforded by the personnel of the Microbiology Laboratory at the Mid-Western Regional Hospital, Limerick for clinical *R. pickettii* isolates. This project has been funded by a research fellowship from The People's Bureau of The Great Socialist People Libyan Arab Jamahiriya to FS.

# Clinical Research

## Microbiology



|         |   |
|---------|---|
| TITLE   | Specific Identification of the <i>Bacillus cereus</i> Group   |
| AUTHORS | Adley, C.C., Molnar, C.<br>Microbiology Laboratory, Department of Chemical and Environmental Science,<br>University of Limerick |

### INTRODUCTION

Food poisoning caused by *Bacillus cereus* may occur when foods are prepared and held without adequate refrigeration for several hours before serving. Consumption of foods that contain  $>10^6$  *B. cereus*/g may result in food poisoning. The *Bacillus cereus* group includes: *B. cereus*, *B. thuringiensis*, *B. mycooides*, *B. anthracis* and *B. weihenstephanensis*. The differentiation between *B. cereus* and the other closely related species depends upon the absence of  $\delta$ -endotoxin crystals, (from *B. thuringiensis*), motility and haemolytic activity (from *B. anthracis*), non-rhizoid growth and motility (from *B. mycooides*) and growth at temperatures below 7° C (from *B. weihenstephanensis*). *B. pseudomycooides* is a genetically distinct group, also separable from *B. cereus* strains and *B. mycooides* by its fatty acid composition. The species within the *B. cereus* group share many phenotypic and genotypic properties but the status as separate species is still unclear.

### RATIONALE

To select specific PCR primers for the specific identification of the closely related *Bacillus cereus* group: *Bacillus thuringiensis*, *Bacillus anthracis*, *Bacillus weihenstephanensis* and *Bacillus pseudomycooides*.

### METHODOLOGY

Selective media PEMBA was used to isolate *Bacillus cereus* group from the original sources, soil and food and identified with commercial biochemical tests API CH50, and data were processed with APILAB Plus software V3.2.2 Version B 01.93 (BioMerieux, Marcy l'Etoile, France). Purchased type strains were checked for identification again with the API CH50. The Polymerase Chain Reaction (PCR) has been used to identify bacteria and this approach has been taken in this project. PCR primers for the specific amplification of different genes from *Bacillus cereus* including the gyrase gene (*gyrB*) and an outer membrane protein gene (*ompA*) were selected. They were designed on the basis of the completed sequences, obtained from GenBank database. The specificity of the primers was checked against all sequences in EMBL and GenBank using the BLAST algorithm. A selection of strains: clinical, food and environmental isolates were tested against each of the different primers.

### RESULTS

PEMBA is not wholly specific for the *Bacillus cereus* group. Other species including, *B. subtilis* can also grow. The API CH50 cannot distinguish between different species of *B. cereus* group, as all the *B. thuringiensis* and *B. mycooides* strains in this study were identified by API as *B. cereus*. The primers specific for gyrase gene distinguished between *B. cereus* and *B. thuringiensis* thus demonstrating that the *OmpA* primers were specific for *B. cereus* group. All the *B. cereus* group strains gave positive reactions. Negative reactions (not presented) were obtained with other species (*B. subtilis*, *Brevibacillus*, *B. circulans*, *B. licheniformis*, *B. pumilis*).

### CONCLUSION

PCR identification is not used to any great degree in the food microbiology laboratory for identification of food

borne pathogens. These results show that PCR primers used in this study can distinguish between the *B. cereus* group, *B. cereus* and *B. thuringiensis*. PCR will be used in the future as advanced food manufacturing technologies have allowed food preparation to become a worldwide process rather than a local home industry. Company validation and control will require immediate and rapid results if products are to be distributed in a timely manner.

**Table 1** - Comparison of the API CH50 results and PCR amplification results with various bacterial strains and three different primer pairs specific for *B. cereus* group: a- primers targeting the gyrase gene specific for *B. cereus*; b- primers targeting the gyrase gene specific for *B. thuringiensis*, \* primers targeting the OmpA gene specific for the whole *B. cereus* group. ND - not distinguished by the primers.

| Strain  | Source            | API CH50 Remark /identity (%)                                   | Gyrase         | OmpA* |
|---|-------------------|---|----------------|-------|
| <i>Bacillus cereus</i> NCTC7464                                 | Type strain       | Good identification/97.8  | + <sup>a</sup> | +     |
| <i>Bacillus cereus</i> 6A5                                      | Type strain       | Excellent identification to the genus/ 55.3                     | + <sup>a</sup> | +     |
| <i>Bacillus cereus</i> DSM31                                    | Type strain       | Excellent identification to the genus/ 55.3                     | + <sup>a</sup> | +     |
| <i>Bacillus cereus</i> 3926                                     | Food              | Very good identification of the genus/ 91.4                     | + <sup>a</sup> | +     |
| <i>Bacillus cereus</i> EF6748                                   | Food              | Very good identification of the genus/ 91.5                     | + <sup>a</sup> | +     |
| <i>Bacillus cereus</i> 4402                                     | Whipped cream     | Good identification/94.8  | + <sup>a</sup> | +     |
| <i>Bacillus cereus</i> 4545                                     | Food              | Good identification of the genus/61.6                           | + <sup>a</sup> | +     |
| <i>Bacillus cereus</i> 6748                                     | Food              | Low discrimination/ 85  | + <sup>a</sup> | +     |
| <i>Bacillus cereus</i> 5381                                     | Garlic mayonnaise | Good identification of the genus/80.5                           | + <sup>a</sup> | +     |
| <i>Bacillus thuringiensis</i> EF3926                            | Food              | Very good identification of the genus/ 91.4                     | + <sup>a</sup> | +     |
| <i>Bacillus cereus</i> 4490                                     | Boiled rice       | Good identification/95.8  | + <sup>a</sup> | +     |
| <i>Bacillus cereus</i> 4440                                     | Sea food powder   | Low discrimination/79.2   | + <sup>a</sup> | +     |
| <i>Bacillus cereus</i> A27                                      | Powder milk       | Good identification/94.8  | + <sup>a</sup> | +     |
| <i>Bacillus cereus</i> A35                                      | Powder milk       | Very good identification of the genus/ 91.5                     | + <sup>a</sup> | +     |
| <i>Bacillus cereus</i> BCF1                                     | Curry powder      | Good identification of the genus/80.5                           | + <sup>a</sup> | +     |
| <i>Bacillus mycoides</i> BMF1                                   | Raw milk          | Good identification of the genus/<br><i>B. cereus</i> 52.2      | ND             | +     |
| <i>Bacillus thuringiensis</i> var. <i>alesti</i> DSM6032        | Type strain       | Good identification of the genus/<br><i>B. cereus</i> 80.5      | + <sup>b</sup> | +     |
| <i>Bacillus thuringiensis</i> var. <i>thuringiensis</i> DSM6029 | Type strain       | Very good identification of the genus/<br><i>B. cereus</i> 91.7 | + <sup>b</sup> | +     |
| <i>Bacillus thuringiensis</i> var. <i>kurstaki</i>              | Soil              | Very good identification of the genus/<br><i>B. cereus</i> 91.7 | + <sup>b</sup> | +     |
| <i>Bacillus thuringiensis</i> var. <i>israelensis</i>           | Soil              | Very good identification of the genus/<br><i>B. cereus</i> 91.7 | + <sup>b</sup> | +     |
| <i>Bacillus thuringiensis</i> var. <i>morisoni</i>              | Soil              | Very good identification of the genus/<br><i>B. cereus</i> 91.4 | + <sup>b</sup> | +     |

## FUNDING

We thank Serosep Ltd., Ballysimon Road, Limerick for funding assistance.

# Population Health

## Public Health



|         |  |
|---------|--|
| TITLE   | Separated Young Peoples' Journeys through Asylum in the Mid-West   |
| AUTHORS | <i>Kearney, T.</i><br><i>Health Service Executive Mid-Western Area, River House, Gort Road, Ennis, Co. Clare</i> |

### INTRODUCTION

Young people under the age of 18 years arriving in Ireland without family and seeking asylum in this country are known as separated young people. They are in need of care and protection on account of being abandoned. Unlike an equivalent Irish national child there is no social history for these predominantly Nigerian young people. The onus is on them to satisfy the Refugee Applications Commissioner that they have been persecuted or fear persecution if they wish to gain refugee status and have the same rights and entitlements as Irish citizens. They are under the care of the Health Service Executive Mid-Western Area and receive legal advice from the Refugee Legal Service.

### RATIONALE

As a practitioner working with these young people it is clear that they are like any teenagers with good days and bad. A small-scale study of eight separated young people was conducted which enquired about their experiences of arrival, accommodation, school, social supports and racism in order to gauge whether they feel they are coping given their extraordinary circumstances. The objective was to establish whether they felt that there were gaps in the services available to them.

### METHODOLOGY

This research on the experiences of the client group presented a unique opportunity to look objectively at their situation from their point of view. In-depth interviews were conducted to gain a rich store of descriptive and anecdotal data detailing how they live, the problems they encounter, their coping strategies and the shaping of their identities and attitudes in the host environment. Strict confidentiality was stressed at each stage of the process particularly where recording of interviews was concerned. Emphasis was placed on the fact that the interview would focus on their time in Ireland rather than before they came in order to put them at ease since their progress through the asylum process involves at least two interviews probing their reasons for leaving home and coming to this country.

### RESULTS

The main findings were that they are coping well. School provides routine, learning and opportunities to make friends mostly within their own nationality, but cross-culturally through sports and other leisure activities. Church communities are a source of support and advice as well as spiritual comfort for all of the young people.

Young people feel that the Health Service Executive Mid-Western Area should advocate on their behalf in the area of access to third level education and the right to take up part-time work. (At present they are statutorily prohibited from seeking part-time work).

Six separated young people have experienced one incident each of racist verbal abuse but "sticks and stones..." seems to characterise their attitude to this type of racist abuse.

### FUNDED

This research has been funded by the Health Service Executive Mid-Western Area.



# Population Health

## Public Health

|         |   |
|---------|---|
| TITLE   | The Theory of Planned Behaviour and Influenza Vaccination in Older Adults: A Pilot Study  |
| AUTHORS | <i>Gallagher, S., Povey, R.<br/>Centre for Health Psychology, Staffordshire University, Stoke-on-Trent, ST42DE,<br/>England</i> |

### INTRODUCTION

Influenza claims tens of thousands of lives each year and increases the demand for health services. Influenza vaccine is an effective intervention to prevent the disease and is recommended and encouraged by health agencies, for those most at risk namely the elderly and those suffering from chronic illnesses. Despite encouragement and recommendations from health agencies, vaccine uptake in the over 65's has remained below many government targets.

### RATIONALE

To utilise the theory of planned behaviour (TPB) to examine influenza vaccination decision-making processes in the over-65's in the Irish Republic.

### METHODOLOGY

A qualitative approach was employed and six vaccinators and six non-vaccinators, both male and female community living older adults with ages ranging from 65 to 74 participated. Informed consent was obtained prior to semi-structured interviews based on the three elements of the TPB:

1. Attitudes toward the influenza vaccination
2. Subjective norms i.e. who close to them would influence/encourage their decision-making
3. Perceived behavioural control (PBC) i.e. the presence of factors that may facilitate or impede performance of this behaviour

### RESULTS

Content analysis revealed that for vaccinators, the three elements of the TPB were effective at predicting vaccination intentions. The most salient attitudinal beliefs held by vaccinators were that it was beneficial "it keeps the flu away" and "keeps you healthy". Doctors appear to be the most influential, with spouse and family following. Factors identified as impeding the process were surgery distance and illness.

In non-vaccinators, the most significant attitudinal beliefs were the harmful risk of the vaccine "vaccinating causes the flu", with five of the six reporting these. Friends and acquaintances with apparently bad experiences appeared to be the most influential at discouraging their uptake. Although, some respondents reported that their doctor "could but didn't encourage them". In addition, low perceived risk "I never get the flu" acted as a barrier to the vaccination process in this group.

## CONCLUSION

The findings suggest barriers are negative attitudes and the TPB elements could be effective, as the basis of interventions that might encourage non-vaccinators to accept the vaccination as well as maintaining uptake among vaccinators.

## REFERENCES

Available on request



# Population Health

## General Practice



|         |  |
|---------|--|
| TITLE   | Little but Large: A Study of the Prevalence of Childhood Obesity within the Catchment Area of the Mid-Western Health Board and an Analysis of Potential Contributory Factors |
| AUTHORS | <i>O'Connell, A.<br/>Mid-West Specialist Training Programme in General Practice, University of Limerick</i>  |

### INTRODUCTION

In 1998, the WHO declared childhood obesity a "global epidemic". 10% of British children are clinically obese and 23% of 10 year-olds are overweight. Observation of Irish children would suggest that we are not far behind, but there is an absence of relevant local data.

### RATIONALE

The study set out to evaluate the prevalence of obesity among local children attending 5th class in national school. Dietary and lifestyle factors were also evaluated to attempt to identify causative agents. The factors examined included: daily intake of fruit and vegetables, daily intake of carbonated drinks, method of transport to school, whether or not the child played computer games, whether the child played sport, the frequency of fast food intake. Each of these factors was analysed to find whether or not there was a statistically significant association with level of obesity.

### METHODOLOGY

The study was based on an anonymous questionnaire and simultaneous weight and height measurements. It was set in two primary schools within the town of Ennis. The study population consisted of male and female students attending 5th class in state run national schools within the town of Ennis. 157 children were given permission by their parents to participate in the study.

An anonymous questionnaire was completed by each study participant. This analysed demographics, lifestyle and diet. Weight and height measures were obtained for each participant and BMI was calculated. ( $BMI = \text{weight in kg} \div \text{height in m}^2$ ). Paediatric BMI charts were used, taking age and sex into consideration, and participants were classified as underweight, healthy weight, overweight or obese. The data obtained was analysed using Microsoft Excel and Minitab.

### RESULTS

The sample yielded 58 girls and 87 boys. The results showed that 27.59% of boys aged 10-11 are clinically overweight and a further 8.05% are obese. 17.24% of girls in the same age group are overweight and 10.34% are obese. The 95% CI for the percentage of children in 5th class who are clinically overweight or obese was (24.88%, 40.67%). This means that from our sample data we are 95% certain that in the general population the percentage of children in 5th class who are clinically overweight or obese is between 24.88% and 40.67%. 74% of children surveyed played computer games. There was a statistically significant association found between level of obesity and playing computer games (p value 0.003). There was no statistically significant association found between weight and being driven to school, playing sport, eating fruit and vegetables, consuming carbonated drinks or eating fast food.

## CONCLUSION

Local levels of childhood obesity are mirroring the worrisome trends of Britain and the U.S.A. This study suggests that playing computer games is an important aetiological factor.

## PRESENTED

At the Christmas Faculty Meeting of The Irish College of General Practitioners (ICGP) in Ballingarry, Co. Limerick in December 2004 by Dr. Aoife O'Connell.

## FUNDING

This research was partially funded by Pfizer and Roche Pharmaceuticals.

# Population Health Health Promotion

|         |  |
|---------|--|
| TITLE   | The Effect of a Physical Activity Education Programme in the Hospital Workplace Setting  |
| AUTHORS | <i>Sohun, R.,<sup>1</sup> MacDonncha, C.,<sup>1</sup> Breen, A.,<sup>2</sup> Neeson, B.<sup>3</sup><br/>Department of Physical Education and Sport Sciences, University of Limerick<sup>1</sup><br/>Mid-Western Regional Hospital<sup>2</sup><br/>Health Promotion Department, Health Service Executive Mid-Western Area<sup>3</sup></i> |

## INTRODUCTION

Sedentary behaviour is a leading contributor to chronic health problems.<sup>1</sup> The World Health Organisation contends that access to education and information is essential to empower individuals and communities to be more physically active.<sup>2</sup>

## OBJECTIVE

The study examines the effectiveness of a ten-week educational physical activity intervention called 'Active Ways' on the physical activity behaviour of sedentary young female staff in a hospital setting.

## METHODOLOGY

The intervention group (n=23, mean age 32.9±5.4 years) were categorised as either stage 2 (contemplation) or stage 3 (preparation) and received 10 one-hour educational sessions during work time which was supported by hospital management. The stage of change model proposes five stages of readiness for adopting physical activity. Educational sessions addressed time management, activity types, barriers to physical activity, measuring progress, social support, goal setting and healthy eating. Participants received a pedometer as a motivational tool. Body mass index (BMI) and mediators of physical activity (stage of change, processes of change, self-efficacy, decisional balance, outcome expectations for exercise, and enjoyment) were assessed at pre, post, and 6-month post intervention. A control group (n=9, mean age 29.4±5.4 years) received no intervention.

## RESULTS

At post intervention, 78% of the intervention group increased physical activity participation by one or two stages of change. Attendance at 50% or more of the 'Active Ways' programme resulted in more movement along the stage of change continuum. In the control group 45% moved positively by one stage. Repeated measures analysis demonstrated an improvement ( $p \leq 0.05$ ) in the experimental group on 8 of the 10 processes of change, decisional balance, self-efficacy, outcome expectation for exercise and enjoyment for physical activity post intervention (Table 1). No significant differences were observed in the control group. At 6-months follow up, 14% of the intervention group moved positively by one or two stages, 29% remained unchanged, and 57% regressed by either one or two stages. Additionally, an improvement ( $p \leq 0.05$ ) occurred in exercise self-efficacy and on two processes of change. A regression ( $p \leq 0.05$ ) occurred in the intervention group scores on eight processes of change, decisional balance and enjoyment of physical activity. It should be noted that no significant regression from pre-intervention to 6 month follow-up occurred. Trends in the majority of variables from pre to 6 month follow up are positive.

## CONCLUSION

The intervention was successful at changing the physical activity behaviour of sedentary female hospital employees. To maintain change additional support may be required.

*Table 1 - Pre, post-intervention and 6 month follow-up means and standard deviations for outcome measures*

| Variable                         | Pre Intervention Means $\pm$ SD | Post Intervention Means $\pm$ SD | 6-month Follow Up Means $\pm$ SD |
|----------------------------------|---------------------------------|----------------------------------|----------------------------------|
| Weight                           | 72.7 $\pm$ 15.3                 | 71.8 $\pm$ 15.2                  | 71.9 $\pm$ 16.3                  |
| BMI                              | 27.2 $\pm$ 5.4                  | 26.9 $\pm$ 5.4                   | 26.9 $\pm$ 5.8                   |
| <b>Processes of Change</b>       |                                 |                                  |                                  |
| Increasing Knowledge             | 2.54 $\pm$ 1.03                 | 3.25 $\pm$ 1.09                  | 2.77 $\pm$ 0.92 <sup>c</sup>     |
| Risk Awareness                   | 2.43 $\pm$ .85                  | 2.82 $\pm$ 1.05                  | 3.11 $\pm$ 0.92 <sup>b</sup>     |
| Caring about Consequences        | 2.86 $\pm$ .98                  | 3.20 $\pm$ 0.84 <sup>a</sup>     | 2.59 $\pm$ 1.01 <sup>c</sup>     |
| Comprehending Benefits           | 3.75 $\pm$ .74                  | 4.13 $\pm$ 0.74 <sup>a</sup>     | 3.74 $\pm$ 1.11 <sup>c</sup>     |
| Increasing Healthy Opportunities | 2.48 $\pm$ .53                  | 3.01 $\pm$ 0.81 <sup>a</sup>     | 2.32 $\pm$ 0.78 <sup>c</sup>     |
| Substituting Alternatives        | 2.68 $\pm$ 0.97                 | 3.98 $\pm$ 0.76 <sup>a</sup>     | 2.82 $\pm$ 1.17 <sup>c</sup>     |
| Enlisting Social Support         | 2.48 $\pm$ 0.89                 | 3.18 $\pm$ 0.90 <sup>a</sup>     | 2.77 $\pm$ 1.10                  |
| Rewarding Oneself                | 2.54 $\pm$ 0.62                 | 3.54 $\pm$ 0.66 <sup>a</sup>     | 2.45 $\pm$ 1.12 <sup>c</sup>     |
| Committing Oneself               | 3.41 $\pm$ 0.69                 | 4.35 $\pm$ 0.49 <sup>a</sup>     | 3.75 $\pm$ 0.95 <sup>b,c</sup>   |
| Reminding Oneself                | 1.59 $\pm$ 0.49                 | 2.83 $\pm$ 0.80 <sup>a</sup>     | 2.00 $\pm$ 0.91 <sup>c</sup>     |
| Self Efficacy                    | 2.28 $\pm$ 0.87                 | 3.36 $\pm$ 0.64 <sup>a</sup>     | 2.97 $\pm$ 0.96 <sup>b</sup>     |
| Decisional Balance               | 1.31 $\pm$ 1.13                 | 2.18 $\pm$ 1.12 <sup>a</sup>     | 1.53 $\pm$ 1.08 <sup>c</sup>     |
| Outcome Expectation for Exercise | 4.16 $\pm$ 0.51                 | 4.44 $\pm$ 0.48 <sup>a</sup>     | 4.44 $\pm$ 0.48                  |
| Enjoyment of Exercise            | 88.16 $\pm$ 17.11               | 104.10 $\pm$ 17.08 <sup>a</sup>  | 96.24 $\pm$ 14.76 <sup>c</sup>   |

Note: significance  $p \leq 0.05$

<sup>a</sup> improvement from pre to post intervention

<sup>b</sup> improvement from pre to 6-month follow up

<sup>c</sup> regression from post intervention to 6-month follow up

## REFERENCES

1. European Heart Network. Physical Activity and Cardiovascular Disease Prevention in the European Union. December 1999.
2. WHO, Geneva. World Health Report 2003: Health and Development through Physical Activity and Sport. Available from: [www.who.int/hpr/physactiv/docs/health\\_and\\_development.pdf](http://www.who.int/hpr/physactiv/docs/health_and_development.pdf)

## PRESENTED

At the 13th International Health Promotion Conference in Dublin, May 18th-20th 2005 by Ms. Rhoda Sohun.

## FUNDING

This research has been funded by the Health Promotion Department, Health Service Executive Mid-Western Area.

# Health Systems Research

## Health Management

|         |  |
|---------|--|
| TITLE   | Motivating for Continuous Improvement  |
| AUTHORS | <i>Murphy, B., de Búrca, S., Reddy, W.<br/>Organisation Development Unit and Quality Partners, Health Service Executive Mid-Western Area, Limerick</i> |

### INTRODUCTION

The Mid-Western Health Board (MWHB) in partnership with the Irish Society for Quality and Safety in Healthcare (ISOH) convened a large gathering of people interested in Quality in Healthcare to explore its many dimensions and the different perspectives from which it can be viewed.

### OBJECTIVE

The objective was to create awareness of what quality in healthcare means, share best practice, acknowledge local examples of quality in action and provide a stimulus for staff and service providers within the Mid-West region to continue the quest for continuous improvement. The latter was particularly advocated by healthcare staff as feedback to a National Healthcare Reform Consultation Process.

### METHODOLOGY

A multidisciplinary and multi-agency project team was constituted to bring the event to life. The concept of a colloquium was embraced as it signified the bringing together of people with a common purpose. Three speakers were invited to present on the topic of the *Ethical Imperatives for Quality in Healthcare*, which was to be approached from different perspectives: – moral and theological (Senior Clergyman), Qualitative and Holistic (Palliative Care Consultant) and Research/Scientific (Professor of Medicine). Other presenters set the local experience within the context of national and international developments. These presentations paved the way and opened minds for participative afternoon workshops which further explored the different dimensions of Quality in Healthcare in the following areas:

- Partnerships
- Patient Safety
- Evidence Based Care
- Empowerment through knowledge transfer
- Quality Frameworks

A number of non-commercial statutory and voluntary agencies operating within the Quality in Healthcare arena were also invited to highlight their contribution through the manning of sponsored stands at the event. There were also a significant number of presentations (poster and story board) on Quality in Action throughout the MWHB. The audience included health board staff, service providers, political representatives and local patient advocacy groups.

### RESULTS

Formal evaluation of the event highlighted the positive impact it had on broadening staff and provider understanding of what quality in healthcare actually means. The networking opportunity, afforded by sharing and showcasing of quality in action was valued at a satisfaction level of over 90% by attendees. Satisfaction with the Colloquium structure, its content, duration and general facilities also recorded levels in the mid to high 90's.

The innovative format surprised many. The presentations from differing perspectives on the absolute ethical imperative for quality touched the audience and reconnected some with their reasons for entering into the caring professions. "It brought me back to the roots of the caring service". The lack of jargon was welcomed as was the honesty in the storytelling. The MWHB is incorporating feedback from the event into its ongoing organisational development programme set within an EFQM (Business Excellence) framework, which reinforces commitment to staff and societal values.

## CONCLUSIONS

There is a need to provide positive stimuli to capture and energise the hearts and minds of healthcare service providers towards the pursuit of improvement. The message needs to be communicated in a simple honest manner that is meaningful to the recipient and it needs to reach as many staff as possible. Positive reinforcement and recognition remain two powerful non-resource intensive means, which we can use to guide and energise. The quest for improvement is lost without the support and commitment of our greatest resource, the staff who deliver the service. The Colloquium's three main objectives of creating awareness of quality in healthcare, sharing best practice and acknowledging local examples of quality in action were all met. This is another stepping stone on a continuous journey of improvement.

## PRESENTED

1. At the Irish Society for Quality and Safety in Healthcare (ISQSH)/International Association of Medical Regulatory Agencies (IAMRA) Conference in the Burlington Hotel, Dublin on April 22nd, 2004 by Mr. Brendan Murphy.
2. At the International Society for Quality in Health Care (ISQua) International Conference in the National Conference Centre, Amsterdam, October 20th-22nd, 2004 by Mr. Brendan Murphy and Mr. William Reddy.
3. At the National Health Service Organisation Development Network Seminar in the Oak House Millennium Park in Naas on June 24th, 2004 by Mr. William Reddy and Mr. Pádraig (Barney) Callaghan.

# Health Systems Research

## Health Management

|         |  |
|---------|--|
| TITLE   | Barriers to Intranet Use   |
| AUTHORS | <i>Murphy, B.</i><br><i>Organisation Development Unit, Health Service Executive Mid-Western Area</i> |

### INTRODUCTION

The Mid-Western Health Board Intranet site was developed in 2001 and had two main objectives:

1. To distribute information.
2. To facilitate communications between Health Board staff.

This research set out to investigate the barriers to use of the Intranet and to try to identify the types of resource on the site which are found useful by staff.

### RATIONALE

Accurate, timely, relevant, communication and information flow is essential in today's world. Realising that technologies were available to enhance this process, the Mid-Western Health Board (MWHB) set out to develop an Internet website ([www.mwhb.ie](http://www.mwhb.ie)) in 1999. Having achieved this, it was time to then focus internally on the needs of staff. An intranet implementation team was established in 2001 to put in place approaches and technology which would assist staff in embracing the future. Many reasons were put forward for introducing this technology including:-

- "To promote rapid communication with staff."
- "To give immediate access to information."
- "To promote sharing of knowledge and a learning environment"
- "To bring the organisation closer together."

Three years on, it was time to see whether the intranet had delivered on its two main purposes of distributing information and facilitating communications. Is the Intranet intuitive for staff while providing benefits to the organisation? "Although corporate intranets are often noted in the literature there aren't many studies of intranet performance and few recommendations on how to manage and measure Intranet service quality" (Miller, 2004). It is time to add to these studies. This is the rationale for this piece of research.

### METHODOLOGY

A Literature Review was undertaken to explore any previously collected data to assess its value against the current project. This comprised departmental files, in-house libraries and the World Wide Web. In addition it was decided to employ both qualitative and quantitative methods to access a wide range of information. To this end questionnaires, a focus group, face to face interviews and statistical analysis were employed. A wide range of Health Board staff disciplines contributed to this process.

### RESULTS

While a significant number of staff are logging onto the site, there is a high degree of dissatisfaction with many aspects. The site had set out to enhance the distribution of information and facilitate communications. It would appear to be concentrating on the information distribution side to the detriment of the communications side. It is not in everyday use as an administrative tool and indeed almost 40% of staff felt that they had received



inadequate training. However over 90% felt that they were better informed as a result of its presence. A relatively small number rated the Intranet as a useful tool for doing their job. There is clear dissatisfaction about areas which are not kept up to date; it is not seen as a vehicle for improving customer service and almost 50% of the sample experienced difficulty in locating items on the site. Many suggestions were forthcoming with improvement ideas.

## CONCLUSIONS

A significant challenge now exists to revisit original objectives and deliver on them. The message is clear that the intranet must become a part of daily life. Availability should be expanded and assistance given via training to increase competency in getting the most from the site. Popular and unpopular sections should be reviewed and a marketing strategy developed. Regular usability testing should be put in place and the staff ownership aspects emphasised. The technology is good, the central maintenance is good, but the original aspirations and hopes for the Intranet as a medium for both distributing information and facilitating communications to a wide audience have not been met. While respondents did generally view the intranet as making a positive contribution, there is significant room for improvement.



# Health Systems Research

## Health Management

|         |   |
|---------|---|
| TITLE   | Quality of Life in Nursing Homes in the South of Ireland  |
| AUTHORS | O'Brien, B.<br>University College Cork and Continuing Care Unit, Health Service Executive Southern Area, Cork |

### INTRODUCTION

This research explores the quality of life for older people living in nursing homes in the south of Ireland. Difficulties arise in measuring an effective quality of life in nursing homes, therefore it is vital to understand what constitutes 'quality of life' from the residents' perspective.

### OBJECTIVE

The aim of the study was to explore participants' views on quality of life in nursing homes in the south of Ireland, and the fears and feelings they perceived prior to transition to long-stay care. The significance of the present study is that residents are rarely asked about life in the nursing homes. When older people are consulted regarding their quality of life and appropriate action taken, the results can be positive regardless of a person's frailty.

### METHODOLOGY

The methodology used was qualitative research to provide a description of the views of the participants themselves on the quality of life in nursing homes in the south of Ireland. The study investigated participants' decisions to enter a nursing home and to present their fears, feelings and their perception of life in nursing homes. The sample consisted of 41 older adults (6 males, 35 females) who were residents in six of the 46 nursing homes in Co. Cork. The study utilised was a content analytic method by O'Leary and O'Sullivan (2003) based on Van Kaam (1959).

### RESULTS

The analysis of the results from the focus groups were presented and discussed under four sections:

- *Reasons for entering a nursing home:* The study identified three main reasons for entering a nursing home: ie. sickness, living alone and no help.
- *Description of fears:* No fears, no choice and anxiety at home were the three categories identified by the participants when asked to describe their fears.
- *Description of feelings:* The two categories arising from the question of feelings experienced by participants following their decision to enter a nursing home were sadness and lack of choice due to illness.
- *Description of what life is like now in the nursing home.* The four categories identified from the statements were content or happiness, activities, monotonous or boring and religiosity.

### CONCLUSIONS

The statements indicated that quality of life is good for the participants of the focus groups. As indicated from the study adaptation to life in a nursing home can be positive or negative, and most participants in this study had experienced positive adaptation. Most participants stated that they were admitted initially due to illness, but they did not have a choice. When exploring feelings residents indicated sadness and lack of choice due to illness following a decision to enter the nursing home. The final outcome was their description of life in the nursing home as content or happy, activities, monotonous or boring and the benefit of religiosity.

# Health Systems Research

## Health Management

|         |  |
|---------|--|
| TITLE   | Postgraduate Education Needs Analysis for Specialist Nursing and Midwifery Practice in the Health Service Executive Mid-Western Area           |
| AUTHORS | <i>Conteh, M., Lunn, C.</i><br><i>Nursing and Midwifery Planning and Development Unit, Health Service Executive Mid-Western Area, Limerick</i> |

### INTRODUCTION

The case for the development and implementation of postgraduate education programmes in specialist practice within the HSE Mid-Western Area, is strengthened by the significant changes in health policy direction which have occurred in the last number of years, the most significant report being the Commission on Nursing - a Blueprint for the Future (1998). The Commission recommended the introduction of Clinical Career Pathways and the development of recognised post-registration education programmes for nurses and midwives at postgraduate level.

### RATIONALE

A postgraduate education needs analysis was essential to ensure that the development and implementation of postgraduate education programmes for nurses and midwives within the HSE Mid-Western Area is based on actual need and takes into consideration those factors that influence programme appropriateness and uptake.

### OBJECTIVE

The objective of the study was to assess the current and future postgraduate education needs for specialist nursing and midwifery practice in the HSE Mid-Western Area, to inform the project's curriculum planning and development exercise.

### METHODOLOGY

A mixed methods approach to the needs analysis was adopted with both qualitative and quantitative methodologies employed.

In conducting the focus groups, it was decided that as many sites as possible would be covered. The groups were organised by division of practice and held with three categories of staff:

1. Staff nurses/midwives,
2. Clinical Nurse/Midwifery Managers, Directors and Assistant Directors of Nursing,
3. Clinical Nurse/Midwife specialists.

Participants were selected from employees of the HSE Mid-Western Area, the voluntary hospitals and GP services within the Mid-West Region. Participants either volunteered to attend or were nominated by the Directors of Nursing/Midwifery or their designated deputies.

Between Mid-December 2003 and March 2004, 24 focus groups were conducted with a total of 175 participants attending. These focus groups were attended by six to fifteen participants. Three groups had fewer numbers of participants. Each discussion lasted approximately one to one and half hours with a question guide used to focus the discussion around predetermined topics.

A semi-structured interview was conducted with 3 Directors of Care Services to capture the strategic view within the HSE Mid-Western Area on the postgraduate education needs of the nursing/midwifery workforce. The written questions were sent in advance to the Directors and hand written notes made as they were interviewed.

It was the researchers' intention to interview all eight directors; however, only three were available within the timeframe specified for this part of the data collection.

The themes generated in the focus groups and semi-structured interviews provided the basis for the seven questions asked in the postal survey.

The survey that was formulated consisted of a close-ended questionnaire and was distributed to a sample of 400 participants. This sample was randomly selected from the HSE Mid-Western Area Pay, Personnel, and Related Systems (PPARS) database containing 2,790 (at that time) nursing and midwifery staff names, after removing the names of staff who participated in the focus groups. 126 questionnaires were returned, resulting in a response rate of 31.5%.

## KEY FINDINGS

1. The literature review identified national and international drivers for the development of nursing/midwifery postgraduate education in specialist practice which were thematically grouped as:
  - health needs and outcomes
  - health policies and strategies
  - continuing professional development and education
  - patient care
  - the changing role of nursing and midwifery
  - professional bodies
2. There was an overwhelming support for the proposed Postgraduate Education Framework and continuum of awards, as they support flexibility, accessibility, user friendliness and continuing professional development. There was similar support also for the use of an AP(E)L system as an additional route to accessing the programmes.
3. A number of key themes emerged that staff considered important factors that would support or hinder the delivery/participation in postgraduate nurse/midwifery education in their clinical area. These are outlined in Table 1.

*Table 1 - Factors that support or hinder decision to undertake postgraduate education*

|                            | SUPPORT  | HINDER   |
|----------------------------|--|--|
| PROGRAMME DESIGN /DELIVERY | <ul style="list-style-type: none"> <li>• modularised course design</li> <li>• flexibility of programme</li> <li>• distance learning</li> <li>• video conferencing</li> <li>• time of delivery</li> <li>• appropriateness of course</li> <li>• AP(E)L Policy</li> </ul> | <ul style="list-style-type: none"> <li>• assessment mode</li> <li>• poor co-ordination of delivery time</li> <li>• location of programmes (long distance from place of work)</li> <li>• lack of tutorial support</li> </ul>  |
| PERSONAL AND PROFESSIONAL  | <ul style="list-style-type: none"> <li>• availability of time to take part in CPD</li> <li>• Job satisfaction</li> <li>• self motivation</li> <li>• career motivation</li> <li>• personal gain</li> <li>• availability of collegial support</li> </ul>                 | <ul style="list-style-type: none"> <li>• staff attitude/apathy</li> <li>• family commitments</li> <li>• lack of time</li> <li>• fear of failure</li> </ul>   |
| ORGANISATIONAL             | <ul style="list-style-type: none"> <li>• availability of funding</li> <li>• availability of study leave</li> <li>• support from management</li> <li>• collegiate support</li> <li>• gaining recognition</li> </ul>   | <ul style="list-style-type: none"> <li>• unfavourable management culture</li> <li>• lack of flexibility to release staff</li> <li>• not being able to practice in area of speciality</li> <li>• lack of flexible/job sharing opportunities</li> <li>• lack of financial compensation</li> <li>• lack of replacement costs</li> <li>• staff shortages</li> <li>• restrictive rosters</li> </ul> |

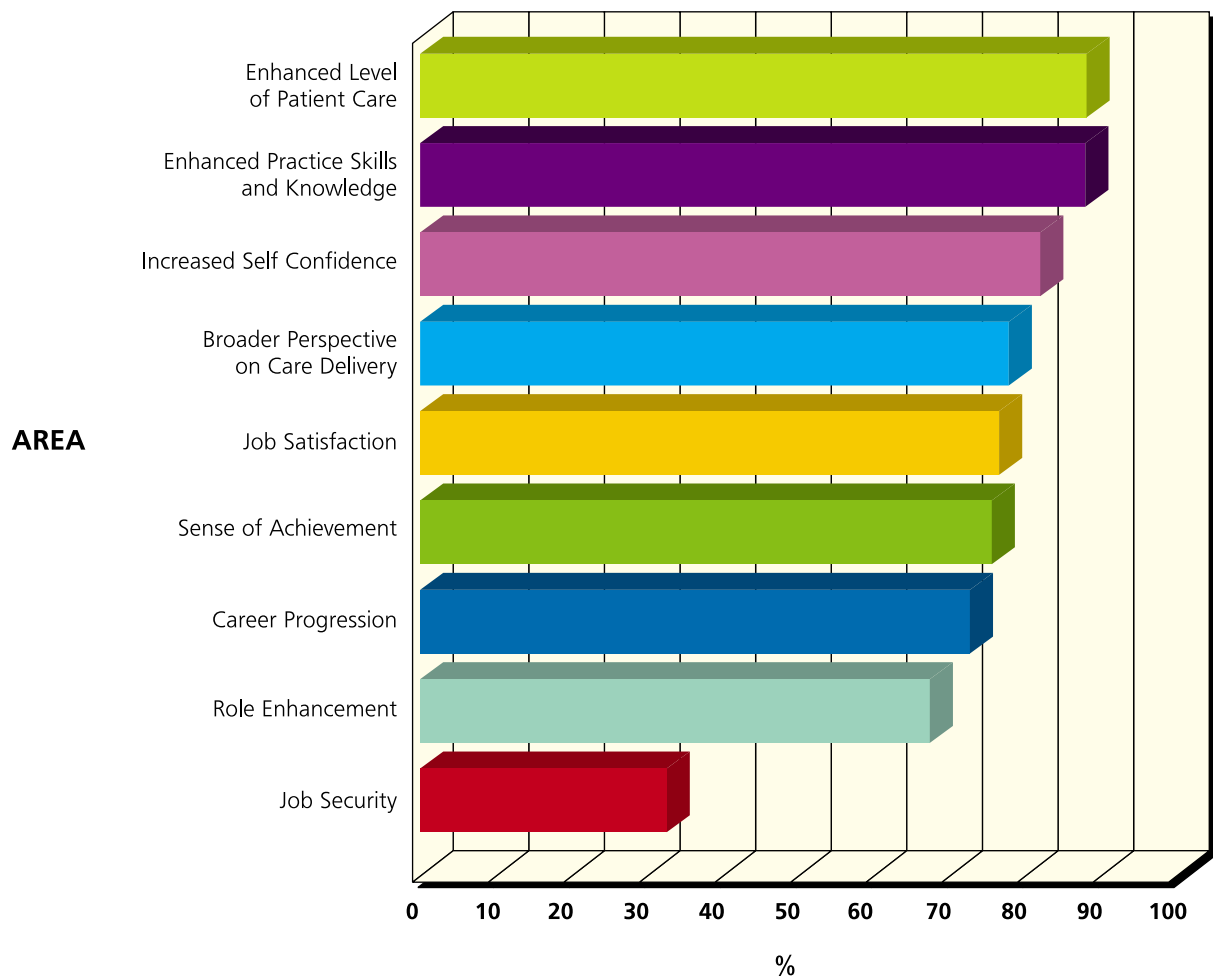
4. Factors influencing the respondents' decision to undertake Postgraduate Education were ranked in order of importance (1=most important) as follows:

*Table 2 - Ranking in order of importance of factors influencing decision to undertake postgraduate education*

| INFLUENCING FACTOR                                       | ORDER |
|--|-------|
| Relevance of Course to Practice                          | 1     |
| Guarantee to be Able to Return to Relevant Practice Area | 2     |
| Funding of Fees  | 3     |
| On-going Support from Management                         | 4     |
| Paid Study Leave   | 5     |
| Time of Delivery of Programme                            | 6     |
| Student Support Systems                                  | 7     |
| Flexibility of Access/Entry Requirements                 | 8     |
| Mode of Education Delivery                               | 9     |
| Distance to University                                   | 10    |

5. Selection of areas where respondents considered postgraduate education will make a significant contribution to their personal and professional development within the organization produced the following results:

*Table 3 - Contribution of PG education to Personal and Professional Development*



6. Summary of most selected courses
  - A. Eight Most Selected (Overall)
    1. Gerontology
    2. Wound Management and Tissue Viability
    3. Respiratory Care
    4. Diabetes
    5. Counselling
    6. Critical Care
    7. Palliative
    8. Oncology
  - B. Mental Health Specific Programmes
    1. Cognitive Behavioural Therapy
    2. Drug and Alcohol Therapy/Addiction Studies
    3. Forensic Mental Health
  - C. Intellectual Disability Specific Programmes
    1. Challenging Behaviours
  - D. Midwifery Specific Programmes
    1. MSc. Midwifery Studies
    2. Neonatology

Following further consultations, the following programmes were identified for development in the first stage:

- Mental Health: PG Cert/PG DIP/MSc in Psycho-social Interventions for People with Enduring Mental Illness
  - Intellectual Disability: PG Cert/PG DIP/MSc in Intellectual Disability Practice
  - Care of the Older Person: PG Cert/PG DIP/MSc in Rehabilitation of the Older Person
  - General Nursing PG Cert/PG DIP/MSc in Acute Adult Nursing
  - Midwifery: PG Cert/PG DIP/MSc in Midwifery Practice
7. The strategic developments that are taking place now and in the future require a workforce with a broadened and deepened understanding of the complex healthcare needs of the 21st century.
  8. Health education and promotion with a patient focused care delivery, which is based on current best practice, should form the basis of all postgraduate education programmes.

## RECOMMENDATIONS

We recommend that:

1. Curriculum design and development team takes cognizance of the findings of this study in undertaking its work, in order, to ensure programme appropriateness and uptake by nurses/midwives of the HSE Mid-Western Area.
2. Corporate management puts some mechanism in place to address the organisational issues that have been highlighted by this study as factors influencing the decision of staff to undertake postgraduate education.
3. The Department of Nursing and Midwifery Studies, University of Limerick in consultation with the Nursing and Midwifery Planning and Development Unit, HSE Mid-Western Area must develop and make recommendations regarding the use of an Accreditation of Prior Learning [AP(E)L] policy for nursing/midwifery programmes.
4. The Nursing and Midwifery Planning and Development Unit, HSE Mid-Western Area and the Department of Nursing and Midwifery Studies, University of Limerick in collaborative partnership will endeavour to respond to and implement the findings and recommendations of the needs analysis report.

## PRESENTED

At "Celebrating the Contribution of Nursing and Midwifery to Health Gain", in Bunratty Castle Hotel, Limerick on April 22nd 2004 by Mr. Magnus Conteh and Miss Cora Lunn.

## FUNDING

The project for the Development/Implementation of Postgraduate Education in Specialist Practice (of which this study is part) is funded by the National Council for the Professional Development of Nursing and Midwifery.

# Health Systems Research

## Health Management

|         |   |
|---------|---|
| TITLE   | Analysis of Issues Concerning Integrated Care/Support between Acute Services and Primary, Community & Continuing Care (PCCC) Services |
| AUTHORS | Mac Mathúna, L.<br>Disability Services Directorate, Health Service Executive Mid-Western Area, Limerick                               |

### INTRODUCTION

Three key values currently determine the focus and direction of national policy in modern democratic societies i.e. equity, individual freedom and efficiency. It can be argued that the role of leadership in a modern democratic society is to organize its resources in order to comply as consistently as possible with these values. However, the further a society achieves its aim with regard to respecting one of these values, the more difficult it becomes not to deviate from at least one of the other two. Integrated care/support offers the possibility of maintaining the three values in balance and consistent with each other.

### METHODOLOGY

A wide spectrum of national and international literature was collected and analysed to identify theoretical approaches and best practice with respect to healthcare integrated care, with specific reference to integration between the Acute and PCCC Services.

### RESULTS

There are two main directions of healthcare integration:

- *Horizontal Integration:* involves a process that enables organizational components to retain their independence and their status as autonomous entities.
- *Vertical Integration:* on the other hand, involves the combination or co-ordination of different levels of healthcare provision in a vertically ascending mode of co-operation.

Integration processes extend along a continuum and Kearns emphasizes that, *"Most organized delivery systems are, in fact, hybrid organizations, containing both owned and non-owned components."*

Five principal forms of integration in a healthcare setting can be identified:

- functional integration
- clinical team integration
- normative integration
- systemic integration
- integration of care/support.

International literature on best practice on integrated care/support can be grouped into three main categories:

1. Intermediate Care/Support Integrated Linkages with Acute Services:

The following are some examples of best practice initiatives in this area:

- 'Step-Up'/'Step-Down Residential Rehabilitation
- Supported Discharge Programmes
- Delivery of Aspects of Acute Care in the Community, with GP/Intervention Team Input
- Rapid Response Programmes
- 'Hospital in the Home'(HITH)
- Day Rehabilitation Programmes



## 2. Community – Continuing Care/Support Linkages with Acute Services:

'Community Teams', 'Outreach Teams' and 'Rehabilitation Teams', in conjunction with the utilization of community/continuing care facilities such as Community Hospitals and Community Nursing Units, have considerable potential to reduce inappropriate admissions to acute hospitals and reduce the incidence of delayed discharges from acute services.

Examples of Care Groups described by international best practice initiatives in this area include:

- Services for Older People
- Mental Health Services
- Services for People with Physical and Sensory Disabilities
- Services for Children and Families

## 3. Primary Care/Support Linkages with Acute Services:

The development of Primary Care Services is regarded as essential to the reduction of inappropriate demand on the Acute Care Services. Initiatives indicated by best practice in this area include:

- GP Access to Hospitals
- Discharge Planning
- Shared Care Arrangements
- Development of Information and Communication Technology
- Provision of Step Down Facilities
- Drug Formularies
- Chronic Disease Pathways Management Programmes

## CONCLUSIONS

The international literature indicates a number of potential pilot projects that could be developed in the area of integration between the Acute and PCCC Services.

## REFERENCES

Available on request.

# Health Systems Research

## Personal and Social Services



**TITLE** Evaluation of Paediatric Link Worker Role within the Regional Child Development Centre from a Parent's Perspective

**AUTHORS** McGuirk, T.,<sup>1</sup> Galvin, M.<sup>2</sup>  
*Disability Services Directorate, Health Service Executive Mid-Western Area, Limerick<sup>1</sup>  
Regional Child Development Centre, Health Service Executive Mid-Western Area, Limerick<sup>2</sup>*

### INTRODUCTION

The Paediatric Link Worker Service was established in April 2003 as an integral part of the Regional Child Development Centre (RCDC), which is a new and innovative approach to the delivery of services to children with developmental delay in the Mid-West region. There are currently three Paediatric Link Workers (PLW) in the Mid-West region. The PLW performs a non-medical role, based on the social model of care, and will very often be the first point of contact within the service for families of children identified with a developmental delay, low birth weight or at risk of developmental delay. The PLW provides support and co-ordination of services to families/carers and acts as a link person in representing to other professionals the families' specific needs, until they are confident to do so for themselves.

### RATIONALE

The rationale behind the survey was to elicit feedback on the role of the Paediatric Link Worker from families/carers of children with special developmental delay who had been in contact with the RCDC and had been assigned a PLW. The results of the evaluation would be used to inform the further development of the PLW role to meet the needs of families referred to the service in the future.

### METHODOLOGY

The evaluation survey took the form of a postal questionnaire sent to 150 parents/guardians in the Mid-West region who had had contact with a Paediatric Link Worker as part of their child's involvement with the Regional Child Development Centre. Recipients were asked to complete the questionnaire and return by post. A total of 60 completed questionnaires were received.

### RESULTS

Figure 1 - How did you find out about role of PLW?

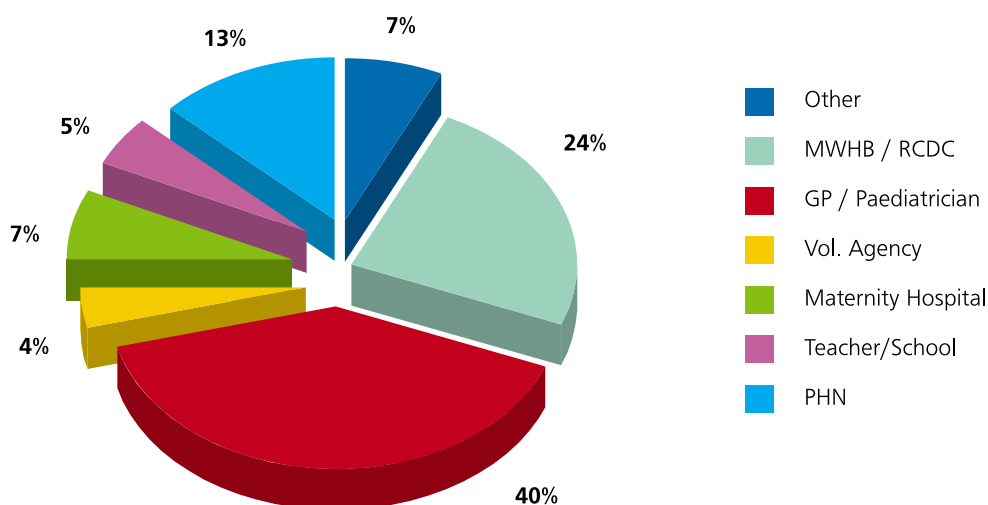


Figure 2 - Did you find home visits were of benefit?

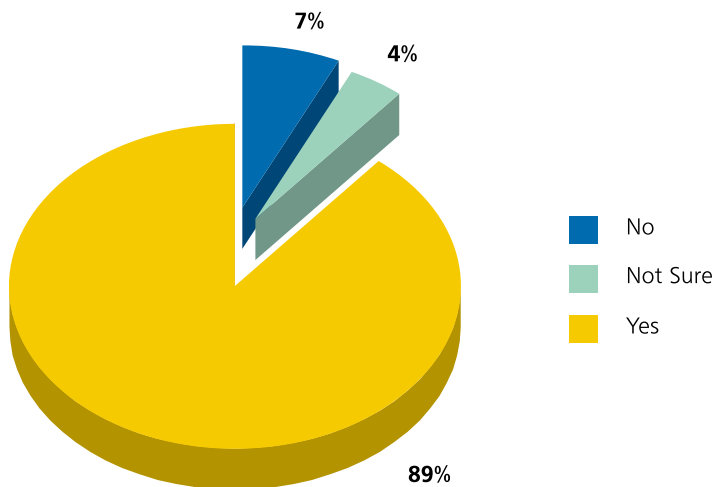


Figure 3 - Were you satisfied with number of visits from PLW?

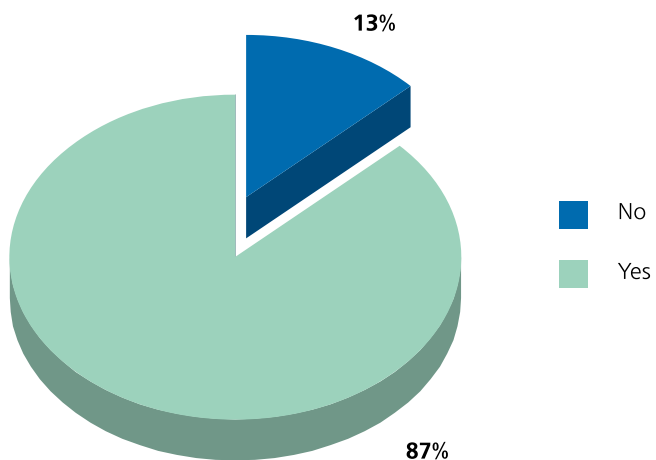


Figure 4 - How long do you feel contact with PLW should continue?

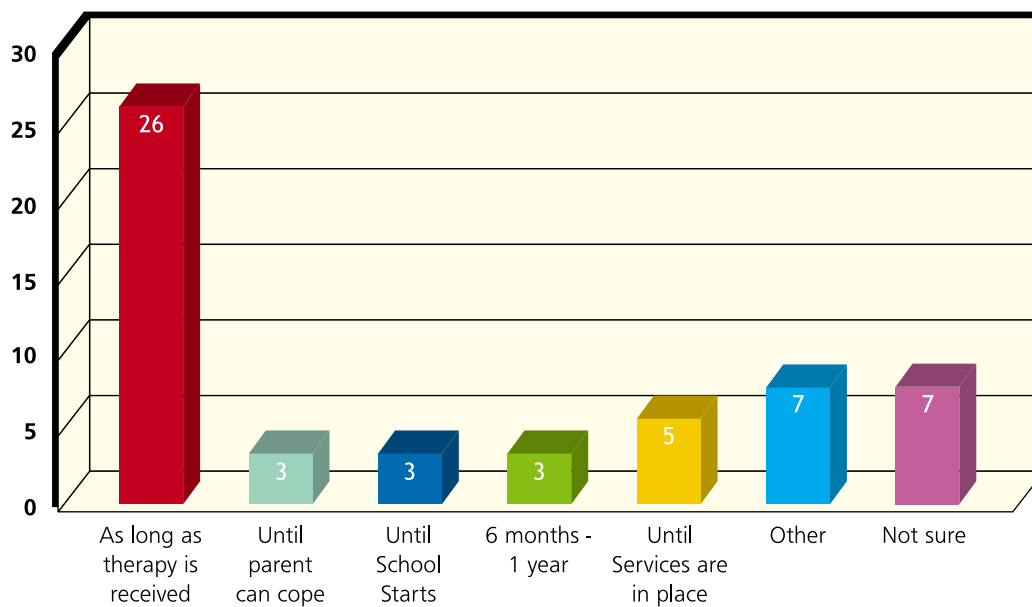
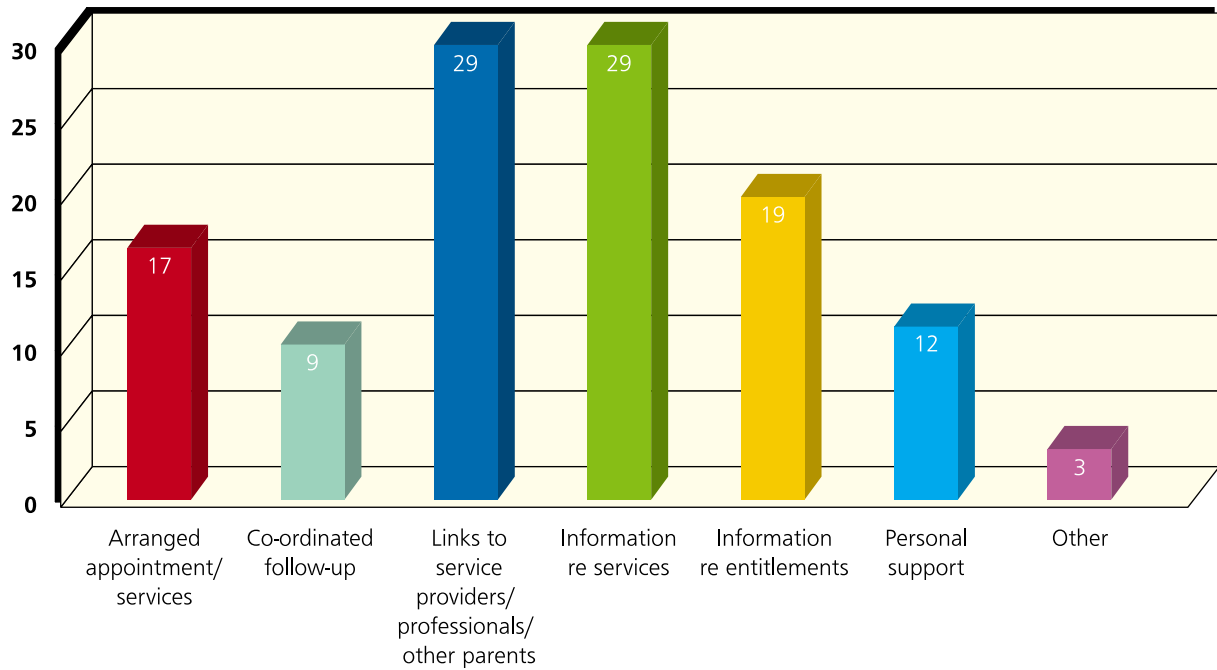


Figure 5 - What help was provided by PLW?



## RECOMMENDATIONS/CONCLUSIONS

It is clear from the evaluation that the vast majority of families/carers are satisfied with the PLW service as it currently exists. Many respondents used the evaluation to express their gratitude for the service they had received and were currently receiving.

However, the survey raises a number of issues regarding the scope of the service and provides a range of suggestions as to how the role of the PLW might be developed in the future.

- A number of respondents suggested that the PLW service should be better publicised. We know from the survey that the majority of respondents found out about the PLW service from their GP, Paediatrician or Public Health Nurse. This would indicate that more use could be made of health care professionals in promoting the service.
- Although in general respondents were extremely satisfied with the amount of contact they had with the PLW, a significant number (13%) were unhappy with the number of visits they received. This would indicate that the PLW should be making more home visits. It also has implications for the running of the service, as home visits are often more time-consuming and costly than telephone contact.
- Half of respondents indicated that contact with the PLW should continue for as long as the child is receiving therapeutic intervention. This would indicate the high level of satisfaction families/carers have with the service, but also has cost implications for the running of the service.
- We know from the survey that the role of the PLW is a very broad and proactive one, incorporating everything from information provision, arranging appointments, links with service providers, to offering personal and emotional support to parents and carers. This has enormous implications for the training of PLWs and also raises a number of questions in relation to the role of the PLW. Can the service be all things to all people? Are expectations for the service too high among parents/carers? Indeed, this high level of expectation was partly responsible for the few negative comments expressed about the service.
- Almost half of the respondents indicated that the PLW had facilitated links with service providers, health care professionals or parents. Some respondents also commented on the need for the PLW to be present when mother and baby leave hospital. This highlights the importance of fostering linkages between the PLW service and the maternity hospitals in the region.
- Many of the comments and suggestions to improve the role of the PLW centred on publicising the service and maintaining regular contact with the same PLW, which also came up in other parts of the survey. However, a number of suggestions for improving the service covered the skills and knowledge base of the PLW. This would have implications for staff training programmes.



## APPOINTMENT OF PROFESSOR GILBERT MACKENZIE TO THE DEPARTMENT OF MATHEMATICS AND STATISTICS AT THE UNIVERSITY OF LIMERICK.

Gilbert MacKenzie recently joined the Department of Mathematics and Statistics at the University of Limerick. The appointment at the university is of significant interest to all involved in health science research both in the Mid-West region and nationally.

Gilbert's early career began in Queen's University of Belfast (QUB), UK. Firstly, in 1967, in the Department of Social & Preventive Medicine, this subsequently became the Department of Epidemiology & Public Health, until 1997. In July 1997 Gilbert took the Chair of Medical Statistics in the Department of Mathematics & Statistics in Keele University, Staffordshire, UK, and to direct the newly formed Centre for Medical Statistics. In December 2004 Gilbert moved from Keele to take up a Visiting Professorship in the Department of Mathematics & Statistics in the University of Limerick, Ireland. He is currently President of the Irish Statistical Association.

Areas of key interest to Gilbert and his team include epidemiology (spatial epidemiology, public health and comparative study design in epidemiology), Health Services Research (patient flow, interventions, and trauma systems) and randomized controlled trials. His methodological work on developing new statistical models for survival analysis and for the analysis of longitudinal randomized controlled trials is then applied in medical and health related research. He aims to establish a new Centre for Biostatistics at the University of Limerick, which will underpin other strategic investments being made in Medicine and Health.

For further information see: [www.staff.ul.ie/mackenzieg](http://www.staff.ul.ie/mackenzieg)

## MSC STUDENTS OF OCCUPATIONAL THERAPY AND SPEECH AND LANGUAGE THERAPY PROGRAMMES GRADUATE.

This June will see the first students from the MSc programmes of Occupational Therapy and Speech and Language Therapy graduate from the University of Limerick. The two Masters programmes are the first of their type in Ireland offering a pre-registration qualification for students with relevant degrees. The students commenced studies in June 2003 and have completed a range of clinical placements throughout the programme in Ireland and internationally. The students will be presenting their final year research projects over the coming weeks.

This is an exciting time as these new graduates enter practice at a period of change in health and social care and with the new State Registration for Health Professionals soon to be enacted.

We wish all the graduates best wishes in their future careers and would like to take this opportunity to thank all those who have supported the courses in whatever capacity. It is a time for us all to celebrate.

(Dr Beth McKay, Head of Department of Occupational Therapy and Professor Sue Franklin, Head of Department of Speech & Language University of Limerick)

## POSTGRADUATE COURSES IN NURSING AND MIDWIFERY

The Nursing and Midwifery Planning and Development Unit HSE Mid-Western Area in collaboration with the Department of Nursing and Midwifery, University of Limerick are pleased to announce the successful development of the following programmes which will now be available from the September 2005/6 academic year:

- Grad.Dip/MSc Nursing (Intellectual Disability Studies)
- Grad.Dip/MSc Midwifery Studies
- Grad.Dip/MSc Nursing (Psychosocial Interventions in Mental Health Care)
- Grad.Dip/MSc Nursing (Rehabilitation of the Older Person)

Validation is currently being sought for a Grad.Dip/MSc Nursing (Adult Respiratory Care) programme which could also be available in September 2005/6.

These programmes have being specifically developed with the preparation of Clinical Nurse/Midwife Specialists and Advanced Nurse/Midwife Specialist in mind. An integral part of these programmes is significant clinical practice/reflective practice placements, which make provision for the development of relevant competencies for clinical practice.

Advertisements are now appearing in local and national papers.



# Funding Update

## FUNDING UPDATE

### 1. Health Research Board (HRB)

Upcoming calls for proposals from the HRB:

- Clinical Research Training Fellowship – Late Summer 2005
- Strategic Health Research & Development Awards - Spring/Summer 2005
- Calls for proposals issued by the HRB:
- Joint Research Fellowships in Cancer- Closing date Friday July 22nd, 2005

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

### 2. Science Foundation Ireland (SFI)

Calls for proposals issued by SFI

- Women in Science and Engineering Research:
  - SFI Principal Investigator Career Advancement Award – Closing date, 12 noon on Wednesday, July 27th, 2005
  - SFI Institute Development Award – Closing date, 12 noon on Thursday September 29th, 2005
- SFI Fellow Awards – no deadline for application submission
- SFI Investigator Programme Grants – no deadline for application submission

For further information visit [www.sfi.ie](http://www.sfi.ie)

### 3. Wellcome Trust

Funding opportunities are frequently available in the areas of Biomedical Science and Medical Humanities 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)

Websites of other funding bodies:

- Enterprise Ireland; [www.enterprise-ireland.com](http://www.enterprise-ireland.com)
- Irish Research Council for Science, Engineering & Technology; [www.ircset.ie](http://www.ircset.ie)
- Irish Cancer Society; [www.cancer.ie](http://www.cancer.ie)
- Irish Heart Foundation; [www.irishheart.ie](http://www.irishheart.ie)
- European Union Framework 6; [www.europa.eu.int/comm/research/fp6/index\\_en.html](http://www.europa.eu.int/comm/research/fp6/index_en.html)





# Events

## SYLVESTER O'HALLORAN SURGICAL SCIENTIFIC MEETING

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 18th century. He and others founded the Limerick County Infirmary in the 1760s and he was influential in establishing the Royal College of Surgeons in Ireland in 1784. Mr. Peter Delaney started the Sylvester O'Halloran Meeting in 1992. The meeting runs over two days and includes four sessions of oral presentations (surgical science, prize session, surgery and surgical practice), poster presentations and two eponymous lectures (The Sylvester O'Halloran Lecture and the Sir Thomas Myles Lecture). A prize of €3,000 is awarded for the best oral presentation (O'Halloran Prize) and a prize of €1,000 for the best poster.

This meeting is open to anyone who wishes to present original work on a scientific or surgical topic. The closing date for receipt of applications is the second Friday of December of the preceding year. Submission of abstracts is through the NIHS website ([www.nihs.ie](http://www.nihs.ie)) only. Further information regarding the meeting can also be had via the website.

This years' meeting took place on the 4th and 5th of March at the University of Limerick. The prizes were awarded as follows:

O' Halloran Prize:  
Dr. Ruth S. Prichard  
Department of Surgery  
St. Vincents Hospital  
Dublin

Poster Prize:  
Dr. J. Larkin  
Cancer Research Centre  
Mercy Hospital  
Cork

A prize was also awarded by Wyeth Laboratories in the Head and Neck Session to Dr. D. O. Kavanagh, St. Vincents Hospital, Dublin.

## RESEARCH IN HEALTH SCIENCE SEMINARS APRIL/MAY 2005

This event first took place in June 2003 and is designed to assist healthcare professionals with an interest in, or currently undertaking health related research. The seminar covers a wide range of research topics integral to conducting and disseminating good quality health research.

On this occasion the seminar was conducted over two days to facilitate greater discussion and interaction between speakers and attendees. The seminar was delivered primarily by consultants and academics based in the Mid-Western Area. The first day took place on Friday April 8th, 2005 in the South Court Hotel Limerick. A keynote address "Getting on: as seen by someone who is getting on" was presented by Mr Richard Costello, Consultant Chest Physician and Senior Lecturer at the Royal College of Surgeons in Ireland. Other topics covered include Ethics in Research, Evidence-Based Practice, Design & Methodology, Concept, MD/MCH Process and Qualitative Research. In addition Dr. Teresa Maguire Head of Research & Development for Health



National Institute of Health Sciences Research in Health Sciences Seminar, April 8th, 2005, South Court Hotel, Limerick.

(l to r) Ms. Teresa Maguire, Head of Research and Development for Health, Health Research Board, Mr. Aidan Hickey, Director, National Institute of Health Sciences, Mr. Richard Costello, Consultant Chest Physician and Senior Lecturer at the Royal College of Surgeons in Ireland, Ms. Susan O'Reilly, Research and Development Officer, National Institute of Health Sciences.

at the Health Research Board (HRB) delivered an informative session on Funding Opportunities and the Application Process within the HRB.

The second day on May 27th addressed the following areas; Research Integrity, Publications, Multidisciplinary Research, Qualitative Methodologies, Biostatistics and Presentation Skills. The keynote address "How to spoil a research career in 10 easy steps" was delivered by Prof. Paul Finucane, Director of Graduate Medical School Development at the University of Limerick.

We wish to extend our sincere thanks and appreciation to all those who took part in the delivery of the seminar programme and to Mr John Fenton, ENT Consultant at the Mid-Western Regional Hospital Dooradoyle, Limerick for his assistance and advice.



# Call for Abstracts

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

Subject area: please tick the appropriate box

|                            |                          |                            |                          |
|----------------------------|--------------------------|----------------------------|--------------------------|
| Medical                    | <input type="checkbox"/> | Personal & Social Services | <input type="checkbox"/> |
| Surgical                   | <input type="checkbox"/> | Nursing and Midwifery      | <input type="checkbox"/> |
| Clinical Services          | <input type="checkbox"/> | Research in Progress       | <input type="checkbox"/> |
| Mental Health Services     | <input type="checkbox"/> | Other *                    | <input type="checkbox"/> |
| Health Services Management | <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

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

Has this abstract been presented at conferences or seminars? Yes  No

If "Yes", please supply conference name, venue, date, and name of speaker: \_\_\_\_\_  
\_\_\_\_\_

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

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

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

Please send your abstract (abstract submission guidelines overleaf) and this completed form to:  
Ms. Catherine Kennedy, National Institute of Health Sciences  
St. Camillus' Hospital, Shelbourne Road, Limerick  
t. 061-483975 m. 086-3812926 f. 061-326670 e: ckennedy@nihs.ie

We particularly welcome submissions by e-mail on the online version of this form which may be accessed by e-mailing ckennedy@nihs.ie or on our website at www.nihs.ie



# Abstract Submission Guidelines

## ABSTRACT STRUCTURE

Abstracts should be structured to include the following parts:

- Title
- Author(s)
- Location of Author(s) when research was carried out
- Introduction  
*Providing the background for the study, informative and brief*
- Rationale  
*Defining why the study was conducted*
- Methodology  
*Indicating 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*
- Conclusion(s)  
*Stating the major new findings of the study and specifying what these findings add to what is known already*
- Published (if appropriate)  
*Including author(s), publication name, volume, year, page range*
- Presented (if appropriate)  
*Listing meeting name, location, date, and speaker*
- Funding (if appropriate)  
*Indicating any funding resource(s)*

## ABSTRACT FORMAT

1. Type all text 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. Type the title in bold-face.
4. List all authors (last name, first name initial), indicating main author by superscript<sup>1</sup> placed after the first name initial, the second author by superscript<sup>2</sup>, etc. Place superscript<sup>1</sup> after the affiliation of the main author and number other affiliations according to the order of the authors in the list. Use italics for both authors and affiliations.
5. Keep the body of the abstract to an overall word limit of 400 words.
6. Use the following headings to structure your abstract: Introduction, Rationale, Methodology, Results, Conclusion(s).
7. Paragraphs or headings should not be indented.
8. Figures and tables may be included. They should be labelled Table 1 - / Figure 1 - as appropriate and provided with a clear title which should be inserted above the graphic.
9. Use standard abbreviations and symbols and define each abbreviation when it is used for the first time.

## SUBMISSION PROCEDURE

Abstracts can be submitted via the Online NIHS Research Abstract Submission Form available in the Research Bulletin section of our website at [www.nihs.ie](http://www.nihs.ie). Alternatively, both the abstract and the submission form can be e-mailed to [ckennedy@nihs.ie](mailto:ckennedy@nihs.ie), or posted to the address below.

*Please note: Abstracts cannot be accepted without the accompanying abstract submission form.*

For any queries you may have regarding abstract submission, please contact:

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f. 061-326670

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



# Abstract Submission Guidelines

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

## ABSTRACT CONTENT

Abstracts should be structured to include the following parts:

- Title
- Author(s)
- Work Location of each Author
- 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.*
- Source  
*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. Begin a new line under the title for authors and affiliations and use italics to list both.
6. List all authors (last name, first name initial), indicating main author by superscript 1 placed after the first name initial, the second author by superscript 2 etc. Place superscript 1 after the affiliation of the main author and number other affiliations according to the order of the authors in the list.
7. Use standard abbreviations and symbols and define each abbreviation when it is used for the first time.

## SUBMISSION PROCEDURE

Two options for submission are offered:

1. Online Submission  
Abstracts can be submitted via the Online Research Submission Form available in the Research Bulletin Section of our website at [www.nihs.ie](http://www.nihs.ie).
2. E-Mail  
Alternatively, both the abstract and the submission form can be e-mailed to [ckennedy@nihs.ie](mailto:ckennedy@nihs.ie).

*Please note: Abstracts cannot be accepted without the accompanying abstract submission form.*

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

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