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Continuing Professional Development
ABC of Urology, Third Edition

Editors: Chris Dawson and Janine Nethercliffe
Publisher: Wiley-Blackwell

This small and basic urology text is the third edition spanning over the last 15 years. A 75 page textbook which is similar in size and appearance to a standard journal, it endeavours to cover the basics of urology in a comprehensive and succinct manner. There are 16 separate chapters, with contributions from 25 consultants and specialist registrars from the United Kingdom, and all of these are laid out in a similar manner. There is an initial overview of the main points of the chapter in bullet point form and then a subsequent breakdown of the various relevant points in text format over the next 4 to 6 pages.

The text is liberally augmented with lists, tables, graphs, clinical photographs and radiological images leading to a very bright and visually appealing style. The content covers the most significant relevant points of various urological disease processes in a concise and logical manner, avoids over-elongation and minimises discussion of controversial areas to leave the reader with a very clear basic understanding of the principles of management in urology. The text in total attempts to provide an introduction to the field of Urology, and is undoubtedly a very valuable aid for informing and training those involved in surgery, nursing and staff in other disciplines in relation to urology. It is by no means a comprehensive text for those seeking a more specialised and expert urological view, but it has great value in providing a solid framework in terms of urological learning.

This would be a thoroughly appropriate text to have available on every urology ward and in every medical student and surgical house officer’s library, and is an excellent example of this type of short, comprehensive and informative text.

D Bouchier-Hayes
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In this Month’s IMJ

Concealed Pregnancy: prevalence, perinatal measures and socio-demographics: Thynne et al in a case control study describe the demographic differences between women who concealed their pregnancy, and an aged match control with a crisis pregnancy. Comparisons were made of the maternity hospital’s normal population. There were 43 mothers in the concealed group and 30 mothers in the control group. In the concealed group 65% were rural compared with 33% in the control group. In the concealed group 79% feared a negative parental reaction compared with 40% in the control group. The birth weight of the babies in the concealed group was 400g less than the normative population. The prevalence of concealed pregnancy was 1 in 148.

Weaning onto solid foods: Some of the challenges Bennett et al undertook a questionnaire about weaning practices among a group of 195 mothers with a child under 30 months of age. Twenty five per cent of the infants did not receive the recommended red meat before 12 months of age. Less than one third of mothers had an understanding of the importance of iron in the infant’s diet.

Successful introduction of ring-fenced inpatient surgical beds in a general hospital setting: Coyle et al outline the process of ring fencing surgical beds. The process has resulted in a 5-fold increase in day of surgery admissions (DOS) and a shorter length of stay. The DOS admissions increased from 38 to 190 during the 6 month study period.

Table 1 Demonstrates admission rates and duration of inpatient stay for reference and study periods during 2010

<table>
<thead>
<tr>
<th>Reference period</th>
<th>Study period</th>
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<tr>
<td>Total admissions</td>
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<td>Elective admissions</td>
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<tr>
<td>(All sources)</td>
<td>819</td>
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<td>Day case admissions</td>
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<td>Average duration of inpatient stay (days)</td>
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<tr>
<td>Emergency (days)</td>
<td>5.12</td>
<td>4.8</td>
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Geriatric medicine in the emergency department: Tan et al report on the role of an ED geriatric medicine (GM) liaison service. During this pilot service over 2 years there were 3 consultant led and 2 senior trainee led sessions weekly during daytime working hours. The authors found that 49% of the elderly patients presenting to the EM could be discharged after a GM review. The direct admission of the elderly directly reduced the length of stay.

Deep brain stimulation in Ireland for Parkinson’s disease and essential tremor: Mulroy et al describe the role of deep brain stimulation (DBS) in the management of Parkinson’s disease and essential tremor. DBS involves the stereotactic surgical implantation of a battery-operated stimulator into the deep brain. The authors report its application in 3 cases. It was a collaborative between the Mater and the Walton centre in Liverpool. The patients had a significant improvement in symptoms and quality of life. It is recommended that a DBS programme be set up in Ireland. It would be self-financing in 2 years through reduced medication costs.

Informal consent in refractive eye surgery: learning from patients and the courts: Guerin and O’Keefe describe the issue surrounding consent for refractive laser eye surgery. They analysed the attitudes of 102 patients undergoing the procedure. Only 2 patients remembered all 5 risks outlined and 11 patients didn’t remember any risks at all. The authors conclude that the consent process must be more comprehensive. It is also pointed that refractive surgery accounts for 34% of all ophthalmology claims.

<table>
<thead>
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<table>
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<table>
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<th>Type of Risk recalled</th>
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Pertussis Has Re-Emerged

In Ireland the increase in Pertussis cases notified in 2011 has continued into 2012. Up to 15th July '12 a total of 244 cases have been notified, 57% being laboratory confirmed. This represents a threefold increase compared with 2011. Prior to 2010 the rate had been running at 70-90 cases per year. Eighty five of the cases were in infants under 1 year. A second peak group was in children aged 10-14 years who accounted for almost 30 cases. The hospitalisation rate for Pertussis cases is 30%, Pertussis is highly contagious and can affect 12-17 individuals with each case. The susceptible are the non-immunised and those whose immunity has waned. Household members most often are the source of transmission of Pertussis to infants. Infants too young to be fully immunised against Pertussis remain at highest risk of severe disease and death. Sustained population immunity levels of 92% to 95% are necessary to prevent endemic transmission of Pertussis. The Health Protection Surveillance Centre (HPSC) advises that infants should be vaccinated promptly at 2, 4 and 6 months with a fourth dose at 4-5 years at school entry. A further booster dose was introduced in 2011/2012 for first year students on a phased basis. It is planned to extend this programme to all areas by September. Children who have never been immunised against Pertussis should attend their GP at this time. The HPSC has devised a Pertussis enhanced surveillance form that collects a wide spectrum of data from clinical features including complications through to laboratory findings and epidemiological information.

The US is experiencing the largest outbreak of Pertussis in 50 years. The incidence has increased from a low of 2 per 100,000 to a current high of 9 per 100,000 population. The natural history of Pertussis in the pre-vaccine era was a peak every 2-3 years. Pertussis immunisation reduced the rate from 157 per 100,000 in the 1940s to 1 per 100,000 in the early 1970s. Some of the increase has been put down to increased awareness about Pertussis as a cause of cough related illnesses. The incidence in studies ranges from 370 to 500 per 100,000 population. Interest in the condition has widened from paediatricians and public health to include adult physicians.

England and Wales have seen a steep rise in the incidence of Pertussis in 2012. Cases have doubled in the past year and there have been 3 deaths. Between 2010 and 2011 the number of cases increased from 400 to 1021. In the first 3 months of 2012 there have been 665 cases. The Health Protection Agency is uncertain why there has been an increase in cases in the last 2 years. The problem may be to increased numbers of adolescents and adults with Pertussis who then transmit to young infants.

The problem with Pertussis is that neither infection nor immunisation provides life-long immunity. As a result cycles of Pertussis occur even in today's vaccine era. Most recently epidemics occurred in 2005 and 2010 in the US. The 2010 was highest rate was encountered in California with over 9000 cases, 800 hospitalisations and 10 deaths. In that epidemic all the deaths and two thirds of the hospitalised cases were in infants under 3 months. During the outbreak there was increased use of PCR testing of respiratory samples. The proactive approach taken by the California Department of Public Health (CDPH) was noteworthy. The CDPH disseminated educational information, clinical guidance, and press releases to local agencies. Clinicians were provided with information on rapid diagnosis and treatment of Pertussis in young infants. It recommended vaccination of adults over 64 years with regular contact with infants. This is coined the ‘cocooning strategy’ in which adults in frequent contact of infants are immunised. It also proposed vaccination of under-immunised children aged 7-9 years and pregnant women. The strategy of providing the infant with passive transfer of Pertussis antibodies through maternal immunisation is based on the model to prevent influenza. However the efficacy of the measure in preventing infection in the young infant is not known.

Cherry has posed the question why cycles of Pertussis infection still occur in the present day. The obvious answer is low immunisation rates in the community with infection in older children and adults being transmitted to infants. There are other factors. The Acellular vaccine may not be as immuno-effective as the previous more reactogenic whole cell vaccines. There was possible over expectation of the efficacy of the vaccine. In the trials some cases of Pertussis may have been overlooked. In order to be deemed a Pertussis case there needed to be laboratory confirmation and greater than 20 days of paroxysmal cough. Milder cases escaped detection.

The role of Bordetella Parapertussis has been revised in the light of PCR findings. Nasopharyngeal specimens from patients respiratory illnesses sent for PCR testing over a 3 year period found that 14% of the positive specimens were positive for B Parapertussis. This finding is important epidemiologically because immunisation doesn’t protect against B Parapertussis.

Consistent high levels of immunisation are the best way to control and prevent outbreaks of Pertussis. Health education about immunisation must be constant in order to be effective. Without being alarmist, parents must be made aware of the risks that Pertussis poses for young infants. The message that the vaccine is safe must be conveyed repeatedly to parents. There needs to continued research to develop vaccines with more effective longterm immunity. Cherry has also proposed that infants could be immunised at a younger age. The schedule could be started at birth and be completed by 3 months. The efficacy of such early immunisation is not known and it is unlikely to be adopted in this country.

JFA Murphy
Editor

References
Medical Humanities – Serious Academic Pursuit or Doorway to Dilettantism?

Despite increasing interest in incorporating Medical Humanities in undergraduate medical education, the discipline often suffers from a lack of clear definition in terms of scope, purpose and clinician engagement\(^1\), and as yet rarely attracts the degree of postgraduate and research activity generally associated with substantive academic disciplines. This confusion is reflected by high degree of variability in the range of topics included under the rubric – one Irish university includes global health as a part of Medical Humanities, possibly to the detriment of the definition of each discipline – and there is tentative investment at best by Irish universities in the infrastructure of such courses.

Without a clearer focus, the project risks marginalization, as outlined by the critique of the American poet Raphael Campo: “no conception of ‘the medical humanities’ compels, caught somewhere between manifesto, mushiness, and marketing lingo\(^2\).” Advances in definition since then include a move beyond a mere list of relevant disciplines to consideration of issues such as how the medical humanities can act as a source of moral and aesthetic influence upon the daily praxis of organized clinical health care\(^3\), foster an understanding that medicine is a profoundly social enterprise and the practice of medicine a value-laden undertaking\(^4\), and provide an important personal support in the challenge of daily practice\(^5\). A helpful approach in understanding these aspects of medical training is Charon’s concept of the multiple dialogues inherent in the doctor-patient relationship\(^6\). That between the patient and the doctor, requiring empathic engagement, is obvious. Less apparent is that between the doctor and his peers – standards, audit, conscious and unconscious rationing – requiring the development of due professionalism. The third discourse is the doctor with him/her self – fears, prejudices, uncertainties, past experiences – mandating reflective practice. Finally, there is the dialogue with society – stigma, rationing, ethics, support/lack of support – an awareness of which is critical to the development of trust.

All of these aspects fall generally within the emerging rubric of teaching professionalism, within which is nested clinical ethics and the medical humanities\(^7\). Within this framework the medical humanities provide not only content but also helpful educational tools. Much of the practice of medicine is complicated and rich in ambiguity. Metaphors are a good medium for explaining complexity, and artists often provide the best metaphors: examples include illuminating professional etiquette\(^8-9\), dignity in disabling illness\(^10-11\), why doctors fail to treat pain\(^12\), and the challenges of ageism in health care\(^13\). Irish medical schools can also benefit from newly emerging research and academic activity on the Medical Humanities\(^14\), including reflection on its content\(^15\), who determines the curricula\(^16\), who teaches this curricula and to what ends\(^17\). This body of knowledge can facilitate curriculum design which incorporates medical student critiques of existing programmes, including content (perceived relevance and consistency), teaching (credibility of teaching staff and perceived personal intrusiveness) and positioning with related topics within the curriculum.

Careful linking with physicians in practice is absolutely critical to ensure relevance and avoid a disconnect between what is taught and what is practiced, lest students and staff become cynical about the process. A helpful model has been developed in Ireland for the teaching of medical ethics which could serve as a template\(^18\), and physician leadership is likely to be vital in the development of curricula for both professionalism and the medical humanities. A major challenge to developing a Medical Humanities programme is the persisting perception of a dichotomy between the practice of medicine and the humanities\(^1\). Although there are clearly strong elements of the basic sciences inherent in the practice of medicine, there is an increasing awareness that medical students and doctors are not an inarticulate group of aesthetic illiterates. A number of studies have shown that a high proportion of doctors are interested in the arts and humanities\(^19\), therefore the worst possible approach is to drop in dollops of high culture, rather than seeing them as collaborators in the educational process.

Our own approach has evolved from the perspective of an evolving combined Medical Humanities/Arts and Health programme with an active research, undergraduate and postgraduate teaching programme\(^20\). Critical success factors appear to include a clearly stated mission for academic outputs, engagement with peer-reviewed funding mechanisms, the pairing of interested clinicians and artists/humanities academics (a guard against dilettantism in both directions), delineation of theoretical frameworks, and an emphasis on basing the teaching on the arts, cultural and leisure activities of the students (rather than the faculty) to avoid the danger of losing touch with the personal relevance of the topic for the students.

This broader perspective on the humanities is important as much of the academic literature contains an over-emphasis on literature, poetry and the ‘high arts’: working with the students’ cultural and aesthetic preferences allows us to access film and television studies, popular music, photography and architecture to explore the medical humanities in a much more meaningful and personal way\(^21\). The development of medical humanities will also need investment of time and effort by those involved to ensure better integration between clinicians and academics in the humanities and arts practitioners: a successful programme requires true interdisciplinarity rather than vicarious multidisciplinarity. Unresolved issues include the organizational basis of the programme within the university, the engagement of full-time academic staff with part-time staff/adjunct lecturers, and a more consistent integration with other elements of the undergraduate curriculum.

Finally, due modesty about the outcomes of medical humanities programmes is also important. The development of professionalism is a life-course process, subtle in character but of huge importance to individual doctors and the profession. It is not surprising that enthusiasts would talk up the impact of medical humanities programmes, but as dryly observed, literature’s relevance to coping with people in the Monday morning surgery queue is nil – unless they happen to be very old Russians\(^22\). The medical humanities do not make you a better person and they will not immediately improve your communication skills. However, we can be heartened in our pursuit of critically informed and relevant medical humanities programmes by emerging research that doctors who pursue cultural pursuits are more likely to display vocational engagement\(^23\), a key indicator of durable professionalism.

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References
Reporting Biochemical Toxicology to the Coroner Must be Improved

Biochemical toxicology for the coroner should encompass a wide ranging analytical screen for drugs and toxic compounds. A multidisciplinary case conference in appropriate complex cases must become the norm to furnish the coroner with expert advice where toxicology is a factor in the cause of death. A networked Institute of Forensic Services in Ireland should be formed to integrate toxicology, chemical pathology and histopathology in the provision of best quality scientific reports for coroners.

In the Coroner’s Act 1962 in Ireland, Section 33 sets the statutory arrangements for post-mortem and special examinations. For toxicology, (a) a coroner may request the minister to arrange - (b) a special examination by way of analysis, test or otherwise by a person appointed by the minister of particular parts or contents of the body or any other relevant substances or things. In the Coroner’s Act (Northern Ireland) 1959, Section 30 reads a ‘coroner who considers an analysis of any matter or thing of or concerning any dead body to be necessary may direct that such analysis be made by or under the supervision of a registered medical practitioner on the list mentioned in section twenty-six or by or under the supervision of the Director of the Northern Ireland Forensic Science Laboratory and it shall be the duty of such registered medical practitioner or Director (as the case may be) to submit a report of such analysis to the coroner. In the Coroner’s Bill 2007 in Ireland, Part 10 concerns post-mortem and special examinations. Section 74, (3) states “Where a registered medical practitioner conducts a post-mortem examination or arranges for the conduct of a special examination, he or she shall do so under the direction of the coroner.”

The Review of the Coroners Service, Report of the Working Party, Department of Justice, Equality and Law Reform 2000, identified the long delays in biochemical toxicology analysis time and in the processing of tissue samples from autopsies as impeding the coronal process. The maintenance of a Centre of Excellence to serve the coronial system was recommended but no such centre exists currently. The problem with the State Laboratory service is its isolation from clinical practice and its role in proving services to many sectors including agriculture. University College Dublin houses the Medical Bureau of Road Safety which also provides analytical services in drug toxicology in relation to driving under the influence of intoxicants. Other than turn-around times for reports, nowhere in the Report are the substantive issues of delineating minimum standards of service provision, in the scale and breadth of toxicological screening, clinical governance involving toxicologists, chemical pathologists and biochemists and analytical best practice, mentioned for services in the Republic.

The Report of the Working Party recommended the establishment of a committee to devise coroners’ rules. The Rules Committee Report is inadequate in the biochemical toxicology sphere. Toxicology requires interpretative expertise with knowledge of toxicity, pharmacology and internal medicine. Factors which influence the biochemical result include the anatomical site of blood or other matrix sampling, the body storage temperature, the interval since death and movements and position of the body. There is in addition post-mortem redistribution of drugs and ante-mortem drug metabolism which must be considered to minimise interpretative errors. Utilisation of appropriate expertise should be included in any set of coroners’ rules to reduce the likelihood of misinterpretation. The degree of diversity of biochemical screening for toxins should be agreed nationally and remain constantly under review in response to local, national and international developments in substance abuse.

A multidisciplinary conference involving toxicology input in relevant cases should be a standard best-practice procedure to advise on the interpretation of the post-mortem findings in complex cases prior to the autopsy pathologist reporting the conclusions to the coroner. Meetings could be arranged both by video conference call and in person. Standard templates for reporting common analyses should be agreed to limit the number of case conferences. This is an important safeguard for the scientific integrity of the coronal process. Because the lawyer coroner is not in a position to specify the extent of analytical screening, the role of the toxicology interpretative and analytical service must be explicitly recognised. The Coroners and Justice Act 2009 in England and Wales specifies that there are training requirements for Medical Examiners in their new system both before and during their period in office. The Medical Council in...
Concealed Pregnancy: Prevalence, Perinatal Measures and Socio-Demographics

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2Psychology Department, HSE West, St Marys HQ, Castlebar, Co Mayo

Abstract
A target group of women who concealed their pregnancy (n=43) was compared to an aged-matched control group (n=30) that experienced a crisis pregnancy. Comparisons were also made with a larger dataset (n=6363) of births in University Hospital Galway (UHG) (normative group). Data was analysed using the Chi-square test and the Kolmogorov-Smirnoff two-sample test. The number of women from the target group that were from a rural background was 28 (65%), compared to 10 (33%) from the control group. The number of women from the target group that feared a negative parental reaction to the pregnancy was 34 (79%), compared to 12 (40%) from the control group. The birth weight in the target group was 400g lower than the normative birth weight. The average age of women who concealed was 8 years lower than the normative age. The prevalence of concealed pregnancy in UHG was one in every 148 births.

Introduction
In clinical practice, it is not uncommon that a pregnancy remains unrecognised up to the end of the first trimester, especially for primiparous women who are unfamiliar with the symptoms of pregnancy 1. However, from the point of view of obstetric practice, a pregnancy that remains un-booked in the second and third trimester is considered highly unusual and can pose a severe threat to the life and health of the child and mother involved 2. Reported risks to an infant who does not receive antenatal care are, prematurity, lower birth weight, an increased likelihood of being admitted to a neonatal unit and a higher peri-natal mortality rate than control groups 3,4. Obstetric literature in this area highlights that a better understanding as to why women postpone or desist antenatal care is important for the health and well being of the baby and mother involved 1. Concealment of pregnancy has been noted to be one of the reasons why a pregnancy remains un-booked 2. Antenatal care is often foregone or delayed in a concealed pregnancy and concealed pregnancy has been linked with infanticide 5,6 and thus the exploration of this phenomenon was considered to have clinical significance and relevance.

Methods
A retrospective case control study was carried out from January 1st 2003 to December 31st 2004. All participants to be included in the study had been referred to the social work department in University Hospital Galway (UHG). The criteria for inclusion in the target group defined a concealed pregnancy as a woman who presents for antenatal care past 20 weeks gestation not having disclosed her pregnancy to her social network 7. The control group (n=30) were selected based on age matching criteria, from all crisis pregnancies, which had been referred to the social worker department. The definition of a crisis pregnancy used is as defined by the Crisis Pregnancy Agency as “a pregnancy which is neither planned nor desired by the woman concerned and which presents a personal crisis for her” 7. Peri-natal measures included birth weight and admission rates to the neonatal intensive care unit (NICU). Socio-demographic data for both groups was collated from social work notes and included maternal age, marital status, level of education, employment status, disclosures post delivery, perceived parental reaction, decision post delivery regarding parenting and original family domain. A working definition of the terms rural and urban were agreed by the researcher and social work practitioners, with rural being a village or town with 3000 inhabitants or less. Normative data from booked deliveries was available from the Obstetrics and Gynaecology UHG Annual Clinical Report and where appropriate this data was compared to the data available from the target group. Due to the very large difference in sample size between the target group (n=43) and the larger normative group (n=6363) the larger sample was reduced to n=100 by using the percentages as numbers rather than the actual number.

References
Categorical data was analysed using Chi-square test. An alpha level of .05 was used for all statistical tests. For ordinal data, the Kolmogorov Smirnoff two-sample test was applied.

Results

Twenty-five (58%) of the women in the target group only disclosed to their family and social network post delivery while thirteen (30%) of the target group were also un-booked. None of the deliveries in the control group were un-booked and all had disclosed their pregnancies prior to 20 weeks gestation. A summary of the findings are given in table 1. The mean weight of infants in the target group was not found to be significantly lower than those in the normative group. Although the distributions were similar the target group had a higher proportion of birth weights of 2-3kg. However the birth weight of the target group was found to be significantly lower than the birth weight of the infants in the normative group, D = 0.19, P < 0.001 (Figure 1).

The mean age of the women in the target group was 22.9 years (SD = 4.8). The age range of women in the target group was similar to the age range in the normative group. However the modal age is lower in the target group than the normative group (Figure 2). A significant difference was found between the ages of the women in these two groups d = 0.58, P < 0.001. The number of teen pregnancies in the target group was low which highlights that concealed pregnancy is not a phenomenon exclusive to teenagers but women of all ages. There were 7 (16%) admissions to the neonatal unit in the target group compared to 1 (3%) in the control group. This difference was not significant. A chi-square test also yielded no significance difference between the target and control group in relation to the number of previous pregnancies. In the target group 9 (21%) women had given birth previously, which was similar to the proportion of women in the control group (7 women; 23%). However, an interesting finding was that 7 of these 9 women in the target group had also concealed their previous pregnancy. No significance difference was found between the target and control group in relation to relationship status. Over half of the target group and control group were not in a relationship at the time of pregnancy.

No significant difference was found between the groups in relation to education levels or employment status. The majority of the target group (n=37; 86%) and the control group (n=25; 83%) had attained secondary education. Thirty women (70%) who concealed their pregnancy were either employed or in full time education while 15 (50%) of the control group were in employment or education. Of the women who concealed their pregnancy, 28 (65%) were from a rural background, compared to 10 (33%) from the control group (Figure 3; p<0.007). From the target group 34 women (79%) feared a negative parental reaction to the pregnancy compared to 12 women from the control group (40%; p<0.001). On discharge from hospital, a larger proportion of women in the target group placed their children for pre-adoptive fostering (n=14; 33%) than those in the control group (n=4; 13%). However this difference is not significant.

Discussion

The prevalence rate of concealed pregnancies reported in this study was 1 in every 148 births. This rate is higher than that reported in a Dublin based study (1 in 768 births) carried out in the Rotunda maternity hospital and higher than a rate reported...
from an Irish study based in a rural maternity hospital\(^6\) (1 in 403 births). University Hospital Galway (UHG) serves both a city and rural population and this may explain some of the differences in prevalence rates reported in these three Irish hospital based studies. The risk to infants who receive inadequate antenatal care of low birth weight\(^7\,^8\) was also shown in this study. Some researchers argue that immaturity and ineptness explain a concealed pregnancy\(^9\) yet seven of the women had previously concealed a pregnancy. This finding points towards repetitive behaviour that may be better explained as an individuals coping style as opposed to naivety\(^10\). Qualitative data from this current study\(^11\) highlighted that unsupportive familial and societal systems influenced some women's decision to conceal a pregnancy. In some of the cases of reoccuring concealed pregnancies the same unsupportive systems may have contributed significantly to the second concealed pregnancy.

Teenagers were not overly represented in either the concealed pregnancy group or the crisis pregnancy group. This finding supports the contention that concealed pregnancy is not exclusively a teenage phenomenon. Therefore, the proposal from a New Zealand based study, which reported that teenaged girls comprised the majority of cases of concealed pregnancy\(^11\), was not supported in this Irish sample. The majority of women in the target group were either in third level education or employed at the time of their pregnancy. These finding are contrary to a previous study, which investigated an American sample\(^16\) in which the majority of women who concealed a pregnancy were unemployed and had low levels of education.

Fear of parental response has been cited as an explanation as to why women conceal a pregnancy\(^11,\,12\). In this study concealed pregnancy occurred in women aged from 17 to 35 years old and perceived family reaction emerged as one of the most significant reasons for concealing the pregnancy. This finding reveals that fear of family reaction to a pregnancy seems to be a reality for women of various ages and not just a fear that exists during the teenage years. Coupled with the fear of parental reaction a significantly larger number of women who concealed their pregnancy were from rural backgrounds. Rural origin has been reported in a Canadian study as a contributing factor in denial of pregnancy\(^15\), Previous studies have found that women concealed their pregnancy as they had planned to have their baby placed for adoption\(^5,\,\,14,\,\,16\). In this study the intention to place their child for adoption was given as one of the reasons why a pregnancy was concealed and several children from the concealed pregnancies were placed for pre-adoptive fostering post delivery.

This study found that the prevalence of concealed pregnancies was higher in UHG than in previous studies in Irish maternity hospitals, which highlights that concealed pregnancies are relatively common. Risks to the infant cited in cases of un-booked and denied pregnancy such as lower birth weight were also echoed. It was found that concealed pregnancy occurs across a wide age range but that it is most common in women in their early twenties. Women who concealed their pregnancy were predominately single and tended to be educated and in employment or an educational setting. Having a rural background was found to be a significant factor as to whether someone concealed their pregnancy and perceived family reaction was also found to be a significant factor contributing to the process of concealment. Additionally, the reoccurrence of concealment is also an important finding and suggests that if a woman conceals a pregnancy on one occasion she may be more at risk of concealing future pregnancies. These finding have clinical implications for the practitioners working with this population. Further international research may help clarify prevalence rates and which specifically cultural nuances play a part in explaining the occurrence of concealed pregnancy.

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References
Weaning onto Solid Foods: Some of the Challenges

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Abstract

Weaning - the transition from milk to solid food - influences life-long health. Dietary challenges during weaning include providing sufficient critical nutrients such as iron with minimal added sugar and fat and no added salt. This study assessed the inclusion of iron-containing red meat in infant diets before age one year, and the Irish commercial baby food environment. Of mothers with an infant under 30 months of age who were surveyed in shopping centres in Ireland (n=195), 82% (n=159) reported wanting more weaning information. A quarter (n=24) of infants over age 12 months (n=97) received no iron-containing red meat before age one year. A scan of commercial baby foods in Ireland identified 448 products. While all complied with baby food legislation, 15% (n=69) were intrinsically high in sugar and fat, or contained added salt. This study indicates the need for specific guidance on best infant feeding practice in Ireland.

Introduction

Weaning, defined as the transition from milk to solid food during the first year of life, is a process important for not only nutritional and developmental reasons1, but also for its potential influence on life-long feeding patterns and health12. It is currently recommended that the weaning process commence around six months of age4,4, when the volume of milk ingested by exclusively breastfed infants becomes insufficient to meet their nutritional requirements5. Studies suggest that flavour experiences and food preferences during infancy track into childhood and adolescence6. Since infants have an innate preference for sweet and salty tastes5, best practice in infant feeding5 advises non-bulky savoury and plain-tasting foods to help set the infant’s threshold for these tastes at lower levels later in life5. However, infants’ high nutritional requirements coupled with their capacity to consume relatively small amounts of food4 presents the challenge of providing sufficient nutrients with minimal added sugar and fat and no added salt8.

Recent Irish research has highlighted suboptimal feeding practices during this transition, to include weaning as early as six weeks of age7 and introducing foods at variance with best practice infant feeding guidelines, such as chocolates, biscuits, crisps and carbonated drinks7. Such weaning practices may increase the risk of childhood obesity2,8, the seriousness of which stems from its association with cardiovascular disease, type II diabetes mellitus, and cancer9. Ireland has high rates of childhood obesity, with a quarter of children aged four to sixteen years being overweight or obese9,10. Furthermore, children are not equipped to handle the prejudice and stereotyping associated with obesity11, resulting in adverse social and psychological functioning12. As such, this is a critical period for developing obesity, but equally an opportune time to intervene on, or preferably prevent, it.

The food environment must be considered when addressing the burden of obesity and associated chronic diseases13,14. An infant’s food environment is determined by direct (micro-level) and indirect (macro-level) influences15. A highly influential micro-level influence is the home feeding environment, which is in turn affected by macro-level factors such as food availability, price, marketing, and societal issues4. The increasing burden of childhood obesity19 makes it essential that parents have the correct knowledge to make positive food choices on behalf of their children15; ideally within an environment that promotes optimal food choices14. The introduction of dietary sources of haem iron from six months of age to coincide with the depletion of iron stores from birth3 is an important infant feeding issue. Iron deficiency anaemia has been reported as an issue of concern amongst infants in Ireland16. Evidence suggests that even mild anaemia in infancy can adversely affect long-term mental and psychomotor development17,18.

The primary aim of this study was to examine the introduction of haem iron-containing foods, particularly red meat, into infant diets during the first year of life. The secondary aim was to assess the range of commercial infant foods available in Ireland.

Methods

The study sample was obtained in three urban and two rural shopping centres across Dublin and Laois. Census data19 were used to categorise each shopping centre location according to relative deprivation in Ireland. The resulting categories were: Disadvantaged Inner City Area, Affluent City Area, and Socioeconomically Mixed Rural District19. Women passing the survey stand who appeared to be of child-bearing age were invited to participate if they had an infant less than 30 months of age. A standardised, pilot-tested questionnaire obtained information on the age of the youngest child, mother’s age group, and age of first non-milk food. The inclusion of 9 common dietary sources of iron, including foods recommended for infants (beef, lamb, pork, chicken, oily fish, white fish) and foods not recommended for infants (ham, sausages, liver) was assessed. Mothers’ awareness of the age at which iron is important in the infant diet and their use of commercial infant foods were also assessed.

A scan of commercial infant foods marketed by infant food companies in supermarket multiples in Ireland was conducted. Information such as the product name, meal category, age grouping, presence of gluten, and available nutritional information per 100 grams of product was tabulated. Information was gathered from products on supermarket shelves, and website, telephone, and email services offered by manufacturers. All products were compared with European Union legislation 2006/125/EC to ensure compliance with essential composition. Commercial infant desserts and snacks which were not fruit- or dairy-based and commercial infant foods containing cured meats were listed as being at variance with best practice infant feeding guidelines, which advise minimal added sugar and fat and no added salt.

SPSS Statistics version 18.0 was used. Statistical significance was p<0.05. Normally distributed categorical data were analysed using cross-tabulations and chi-squared statistical tests. Independent-samples t-tests assessed considerations mothers had on providing meat to an infant.

Results

Social and demographic characteristics

The demographic characteristics and weaning practices of study participants (n=195) are presented in Table 1. Twenty-three percent (n=44), 36% (n=71) and 41% (n=80) of mothers were surveyed in the Disadvantaged Inner City Area, an Affluent City Area, and a Socioeconomically Mixed Rural District respectively. Most infants
in this study (97%, n=190) were born in Ireland. Two percent (n=3) of infants were consuming a vegetarian diet. The public health nurse was regarded as the most useful source of infant feeding information, as reported by 29% (n=57) of mothers. Of the total group, 82% (n=159) of mothers felt that there should be more information available on weaning infants onto solid foods.

Introduction and consumption of iron-containing foods in the first year of life
Of the 97 infants aged over 12 months, 68% (n=66), 39% (n=38), and 52% (n=50) of infants received beef, pork and lamb respectively before 12 months. Half of these infants also received sausages (51%, n=49) and ham (53%, n=51) before 12 months of age. A quarter of infants (n=24) received none of the recommended red meats (beef, lamb and pork) before 12 months of age. Mothers of infants under 12 months (n=98) reported planning to introduce iron-containing foods at 8.1 ± 1.8 months. The majority of mothers (89%, n=86) with infants over 12 months of age (n=97) reported deliberately delaying feeding particular iron-containing foods to their infant during the first year of life (Table 2). Most mothers who delayed recommended red meats did so because they considered them to be inappropriate for infants (Beef: 75%, n=21; Lamb: 77%, n=13; Pork: 47%, n=7). “Inappropriate foods” encompassed mothers’ concerns regarding the infant’s dention, ability to swallow meat, and fragile digestive system.

Mothers’ knowledge influenced the introduction of iron-containing foods
Less than a third of mothers (31%, n=60) from the whole group reported the correct age at which iron is important in infant diets. These mothers (n=60) introduced recommended red meat significantly earlier (mean age of 7.1 ± 1.5 months) than mothers who were not aware of this age (n=135; mean age 8.4 ± 2.5 months, p=0.006).

Mothers’ considerations regarding red meat introduction may impact the timing of red meat introduction
The most common considerations mothers had about introducing red meat into their infant’s diet was the perceived ‘risk of choking’ (59%, n=115) and the belief that meat ‘textured too tough’ (47%; n=92). The mean age of red meat introduction was significantly different (p=0.03) between mothers who reported that the tougher texture of meat was a consideration (8.4 ± 2.3 months, n=70) and those who did not (7.5 ± 2.3 months, n=54).

Scan of commercially available infant foods
The scan of commercial infant foods identified 448 such foods available in Ireland. The nutritional composition provided on the label of each product complied with European Union Commission Directive 2006/125/EC. Some foods (15%, n=69) did not emulate best practice infant feeding guidelines (Table 3), as they were intrinsically high in sugar, fat or contained added salt. Over two-thirds (68%, n=113) of mothers surveyed used commercial baby foods, and 32% (n=62) of mothers used the names of commercial infant foods as ideas for homemade meals.

<table>
<thead>
<tr>
<th>Table 1 Socio-demographic characteristics and weaning practices of mothers with their youngest child under 30 months of age (n=195) who were surveyed in shopping centres.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1(a) Socio-demographic characteristics (n=195)</td>
</tr>
<tr>
<td>Age of youngest infant</td>
</tr>
<tr>
<td>Parity of mother</td>
</tr>
<tr>
<td>Age of the mother at the youngest infant’s birth</td>
</tr>
<tr>
<td>&gt;35 years</td>
</tr>
<tr>
<td>The number of infants</td>
</tr>
<tr>
<td>Not on solid food</td>
</tr>
<tr>
<td>1(b) Weaning practices for the youngest child under 30 months on solids at the time of survey (n=168)</td>
</tr>
<tr>
<td>Age solid food was introduced</td>
</tr>
<tr>
<td>Baby Rice</td>
</tr>
<tr>
<td>The first solid food given</td>
</tr>
<tr>
<td>Other food</td>
</tr>
<tr>
<td>1(c) Planned weaning practices by mothers yet to commence solid food (n=27)</td>
</tr>
<tr>
<td>Planned age of solid food introduction</td>
</tr>
<tr>
<td>Baby Rice</td>
</tr>
<tr>
<td>The planned first solid food</td>
</tr>
<tr>
<td>Don’t Know</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Table 2 Mothers who reported deliberately delaying the introduction of haem iron-containing foods into the diet of their youngest child, and the mean age at which these delayed foods were introduced (n=195).</th>
</tr>
</thead>
<tbody>
<tr>
<td>2(a) Delayed introduction of haem iron-containing foods that are recommended for infants</td>
</tr>
<tr>
<td>Haem iron-containing food</td>
</tr>
<tr>
<td>Beef</td>
</tr>
<tr>
<td>Pork</td>
</tr>
<tr>
<td>Lamb</td>
</tr>
<tr>
<td>Chicken</td>
</tr>
<tr>
<td>Oily Fish</td>
</tr>
<tr>
<td>White Fish</td>
</tr>
</tbody>
</table>

| 2(b) Delayed introduction of haem iron-containing foods that are not recommended for infants | Proportion of mothers delaying | Mean age and age range at first introduction |
| Haem iron-containing food | (% , n) | Mean ± SD (Range) |
| Sausage Meat | 31% , 27 | 11 ± 2 (8, 18) |
| Ham | 28% , 24 | 12 ± 3 (8, 18) |

<table>
<thead>
<tr>
<th>Table 3 Examples of baby foods (with the age groups they are deemed suitable for) that are not in line with best practice in infant feeding from a scan of commercial baby foods (n=448) marketed in Ireland.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baby Food (age deemed suitable for)</td>
</tr>
<tr>
<td>Chocolate Rice Pudding (from 4 months)</td>
</tr>
<tr>
<td>Banoffi Pudding (from 4 months)</td>
</tr>
<tr>
<td>Strawberry Cheesecake’ (from 4 months)</td>
</tr>
<tr>
<td>Malt Agar (from 6 months)</td>
</tr>
<tr>
<td>Organic Gingerbread (from 9 months)</td>
</tr>
<tr>
<td>Three Cheese Sauce (from 4 months)</td>
</tr>
<tr>
<td>Beef Gravy (from 4 months)</td>
</tr>
<tr>
<td>Diluted Orange and Apple Juice (from 4 months)</td>
</tr>
<tr>
<td>Pure Apple Juice (from 4 months)</td>
</tr>
<tr>
<td>Mixed Fruit with Mineral Water (from 4 months)</td>
</tr>
</tbody>
</table>

*Best practice infant feeding guidelines from the “Recommendations for a national infant feeding policy,” published by the Food Safety Authority of Ireland, 1999.*
Discussion
This study identified issues of concern relevant to infant feeding in Ireland. Most mothers surveyed wanted more information on weaning infants onto solid foods. A quarter of mothers did not introduce any recommended red meat in the first year of life and two-thirds of mothers did not know the age at which iron is important in the infant diet. The scan of commercial infant foods highlighted products at variance with best practice infant feeding. With respect to haem iron, the delayed provision, or absence altogether, of recommended red meat in infant diets increases the risk of iron deficiency and its associated adverse consequences. The reported lack of knowledge about the importance of iron in the infant diet and the perceived inability of the infant to safely digest recommended red meats indicates the need for parental education on infant feeding. Mothers aware of the age at which iron is important in the infant diet introduced red meats significantly earlier than those who were not aware of this, further indicating the role of education. Such education should encompass the timely introduction of haem iron-containing foods and dispel unfounded concerns regarding infants’ ability to consume red meat.

It is also important to recognise the role of non-haem iron food sources such as fortified cereals and follow-on formulas, especially in infant diets lacking haem iron sources. Regular consumption of these foods can help to prevent iron deficiency. However, due to the lower bioavailability of non-haem iron, recommended red meats should be encouraged to provide not only highly bioavailable haem iron, but also greater variety and texture in the diet. A number of commercial infant foods did not emulate best practice infant feeding as they were intrinsically high in sugar, fat, or contained added salt. The potentially negative influence of these foods on infant feeding practices should be recognised, since a third of mothers reported using such foods as ideas for homemade recipes.

This study highlights areas of concern regarding infant feeding in Ireland; however, a number of study limitations must be acknowledged. It was not possible to ask all women of child-bearing age passing the stand to participate in the study due to a limited number of researchers. As such, sampling bias must be considered. Additionally, mothers’ socioeconomic status was categorised according to the location of the shopping centre in which they were surveyed. No other measures of socioeconomic status were assessed since requesting this sensitive information in a shopping environment was deemed inappropriate. Finally, this study is not nationally representative, and its design does not permit inference about causality from the results obtained.

Parental education on best practice in infant feeding is needed to promote suitable food choices on behalf of children. However, nutrition education in isolation has minor and short-lived effects at best. Therefore, measures at the family level must be matched by changes in the larger environment, such as changes in industry and legislation, to help sustain positive health choices made by parents on behalf of their children. A gap in parents’ knowledge on infant feeding has been identified in this study. The possible influence of commercial baby foods which are at variance with best infant feeding practice is a concern in terms of obesity and chronic disease. Therefore, whilst education is essential to inform parents, the commercial baby food industry equally has a role to play in creating a more supportive environment for best practice in infant feeding.

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References
Successful Introduction of Ring-Fenced Inpatient Surgical Beds in a General Hospital Setting

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Abstract
This study aimed to assess the impact of ring-fenced inpatient general surgical beds on day of surgery (DOS) admission, duration of elective inpatient stay (DEIS), and cancellation rates over a 6 month period. In June 2010 17 of 60 surgical inpatient beds were decommissioned. The remainder (43) were ring-fenced for general surgery patients only. Comparative analysis examining admission rates, cancellation rates, and theatre activity was performed between a reference period (January-June 2010) and the study period (July-December 2010). Complexity of all operations was graded according to an index schedule of procedures. There was no difference between the reference and study periods in volumes of elective admissions (472 [53.03%] vs. 418 [47.97%]) and emergency admissions (928 [50.03%] vs. 927 [49.97%]). DOS admissions increased 5-fold during the study period (38 [8.1%] vs. 190 [45.5%], P<0.001). Average duration of elective inpatient stay reduced from 4.3 days to 3.06 days in the study period (P<0.001). No difference was observed in volume of operations performed at all levels of complexity. There were 78 (58.2%) cancellations during the reference period and 56 (41.8%) during the study period with patient non-attendance the most common cause for cancellation in both periods. Ring-fenced surgical beds facilitated higher DOS admission rates and shorter duration of elective inpatient stay, leading to more efficient use of hospital resources.

Introduction
Day-of-surgery (DOS) and day case (DC) surgical admissions have an important role in the efficient delivery of surgical services. They allow more effective use of limited hospital resources, hospital-acquired pathogens, and frequently are more accommodating of patient lifestyle. An ever-increasing combined burden of emergency surgical admissions and acute medical patients admitted to surgical inpatient beds leads to cancellation of elective cases. This in turn may lead to increased cost of hospitalisation due to unnecessary day prior to surgery elective admissions. Cancellation of elective surgery as a consequence of this competing environment is frequently at short notice, interrupting patient preparation and potentially leading to higher morbidity. In addition, the management of outlier medical patients on surgical wards may lead to prolonged duration of inpatient stay for these medical patients compared to those admitted to medical wards.

Ring-fenced surgical inpatient beds have a likely role in facilitating more effective use of surgical beds. This strategy is commonly implemented in orthopaedic units throughout Ireland and the UK, and has been shown to be beneficial in reducing cancellation rates, reducing nosocomial infection, and removing a barrier to DOS and DC admissions. Despite this, there is little published evidence supporting the use of ring-fenced beds in general surgical practice. It has been shown that ring-fenced beds may have positive effects on costs and technical efficiency given certain conditions of case-mix and demand for elective surgery. A national programme to promote ring-fencing of elective general surgical beds is due to commence in Ireland. Known as the “Model of care for elective surgery”, this initiative will be rolled out in a co-ordinated manner with a supervising team led by Professor Frank Keane, consultant surgeon. In anticipation of this project a policy of ring-fencing a significant percentage of inpatient surgical beds at Mayo General Hospital (MGH) was introduced during the summer of 2010. In this study we therefore examined the preliminary effects of ring-fenced inpatient surgical beds on elective and emergency general surgical services at MGH over a 6 month period.

The primary aim of this study was to assess the impact of ring-fenced inpatient surgical beds on the volume of elective surgical cases at each level of surgical complexity admitted to our institution over a 6 month period. Secondary aims included quantifying the effects of ring-fenced beds on patient attendance for elective procedures, cancellation rates, and the duration of elective inpatient stay (DEIS).

Methods
MGH is a general hospital with approximately 325 beds across all specialties including general surgery, medicine, paediatrics, obstetrics & gynaecology, intensive care and orthopaedics. It serves a catchment population of 125,000. Towards the end of June 2010 17 of the 60 existing inpatient surgical beds were decommissioned due to the ongoing need to achieve greater efficiency and hospital financial constraints. The remaining 43 beds were ring-fenced to general surgical patients only. During this period a pre-assessment clinic was instituted to facilitate outpatient pre-operative evaluation and admission of selected patients with medical co-morbidity, and to identify suitable patients for entry into an enhanced recovery programme for colorectal surgery.

The study period under examination is from July to December 2010, with the reference period designated January to June 2010, during which time beds were not ring-fenced. Prospectively collected data pertaining to all surgical admissions (source and nature of admission, duration of inpatient stay) and cancellations for the year 2010 was retrieved using patient administration system software (Powerterm® Pro, Ericom Software). Admissions were categorised as elective admissions, or emergency admissions which include all admissions through the emergency department, transfers from other healthcare institutions, and unexpected admissions through clinic and medical assessment units. Cancellations were defined as any unexpected rescheduling, cancellation or non-attendance for a booked surgical admission. A complete audit of general surgical theatre logbooks was performed. The level of surgical complexity of all procedures recorded was graded according to the British United Provident Association Schedule of Procedures (BUPA schedule of procedures v.2.2) as either minor, intermediate, major, major +. Descriptive and comparative statistical analyses of admission and cancellation data were carried out using standard statistical software packages (Microsoft® Office Excel 2007, SPSS Statistics v.170).

Results
Admission data
There were 3,449 inpatient surgical admissions in 2010 to our institution, of which 1,855 (53.78%) were emergency cases and 1,594 (46.22%) were elective cases (table 1). During the reference period there were 472 elective and 928 emergency admissions.
inpatient admissions, compared to the study period with 418 elective and 927 emergency admissions. There was no difference in the number of admissions between the study and reference periods for both elective and emergency cases (Pearson's $X^2$, $P=0.14$). DOS elective inpatient admissions increased during the study period compared with the reference period (190 (45.5%) vs. 38 (8.1%), $P<0.001$). Of note, this increase continued to be observed in the category of patients undergoing major or major+ elective procedures (48 (35.6%) vs. 11 (6.8%), $P<0.001$). The number of elective cases admitted on the day prior to surgery reduced from 434 (91.95%) during the reference period to 228 (54.55%) during the study period.

There were 134 cancellations during 2010, with 78 (58.2%) cancellations occurring during the reference period and 56 (41.8%) occurring during the study period. The most common cause of cancellation was patient non-attendance, accounting for 44% of all cancellations. During the reference period 38 cancellations (48%) were due to “Did not attend” episodes. The proportion of cancellations accounted for by such episodes during the study period was less at 21 (37.5%). The frequency of occurrence for all other causes of cancellation can be seen in table 2. No cases were cancelled due to non-availability of a hospital bed during either the reference or study periods. Cholecystectomy was the most commonly cancelled elective procedure during both periods, accounting for 32.1% of cancellations.

### Table 1

<table>
<thead>
<tr>
<th>Total admissions</th>
<th>Reference period</th>
<th>Study period</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elective admissions</td>
<td>1747</td>
<td>1702</td>
<td>3,449</td>
</tr>
<tr>
<td>(All sources)</td>
<td>819</td>
<td>775</td>
<td>1,594</td>
</tr>
<tr>
<td>Day of surgery admissions</td>
<td>38</td>
<td>190</td>
<td>228</td>
</tr>
<tr>
<td>Day case admissions</td>
<td>347</td>
<td>357</td>
<td>704</td>
</tr>
<tr>
<td>Day(s) prior to surgery admissions</td>
<td>434</td>
<td>228</td>
<td>662</td>
</tr>
<tr>
<td>Emergency admissions</td>
<td>928</td>
<td>927</td>
<td>1,855</td>
</tr>
<tr>
<td>Average duration of inpatient stay (days)</td>
<td>4.84</td>
<td>4.26</td>
<td></td>
</tr>
<tr>
<td>Elective (days)</td>
<td>4.3</td>
<td>3.06</td>
<td></td>
</tr>
<tr>
<td>Emergency (days)</td>
<td>5.12</td>
<td>4.8</td>
<td></td>
</tr>
</tbody>
</table>

* $P<0.001$

### Table 2

<table>
<thead>
<tr>
<th>Number of cancellations categorised by cause during both the reference and study periods</th>
<th>Reference period</th>
<th>Study period</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Did not attend</td>
<td>38</td>
<td>21</td>
<td>59</td>
</tr>
<tr>
<td>Patient/Guardian request</td>
<td>12</td>
<td>7</td>
<td>19</td>
</tr>
<tr>
<td>Cancelled by consultant</td>
<td>3</td>
<td>6</td>
<td>9</td>
</tr>
<tr>
<td>Operation no longer required</td>
<td>2</td>
<td>5</td>
<td>7</td>
</tr>
<tr>
<td>Consultant on leave</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Case completed as an emergency</td>
<td>2</td>
<td>7</td>
<td>9</td>
</tr>
<tr>
<td>Case completed in another institution</td>
<td>0</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Clerical error</td>
<td>11</td>
<td>2</td>
<td>13</td>
</tr>
<tr>
<td>No reason stated</td>
<td>9</td>
<td>5</td>
<td>14</td>
</tr>
<tr>
<td>Total</td>
<td>78</td>
<td>56</td>
<td>134</td>
</tr>
</tbody>
</table>

### Discussion

The national initiative for elective surgery in Ireland is directed towards one which facilitates day of surgery admission, shorter duration of inpatient stay, and more day case procedures. Protection of elective inpatient beds by means of ring-fencing is an important component of this initiative, which is aimed at improving access and quality while reducing costs associated with the elective surgery programme. We have demonstrated a reduction of one day in average duration of elective inpatient stay due primarily to our policy of DOS admission which increased five-fold following the introduction of a ring-fencing strategy. These findings are supported by studies postulating a role for ring-fenced inpatient beds in improving the cost efficiency of a surgical unit, in large part by their facilitation of increased day case and DOS admissions. Some authors have placed emphasis on coordinated bed management, integrating efforts from anaesthetic, surgical and medical departments, pre-assessment clinics, and nursing staff, giving rise to better use of surgical beds to the benefit of both elective and emergency patients. In the context of this study, all approaches have been employed successfully. During 2011 our DOS admission rate now approaches 70%.

Emergency admissions are a factor which negatively impinges on elective activity. Our study demonstrates that the volume of emergency admissions remains relatively constant across the year and that emergency admissions should therefore be accommodated in a bed management strategy accordingly. While the rate of elective case cancellation due to bed shortages has been low in our institution, the reduction in rates of non-attendance for elective procedures during the study period may be a reflection of patient preference for the improved convenience offered by DOS admission to hospital.

Our study differs from other studies looking at ring-fenced inpatient surgical beds in that numerous studies define ring-fencing as separation of elective and emergency surgical patients into parallel hospital production lines. Elective patients were not distinguished from those admitted emergently in our bed protection strategy, and progression to such an approach is
supported by the positive results we have obtained. A high level of co-operation between clinical teams is necessary on a daily basis in order to achieve the results seen in our study. The continued support of hospital management is also vital in order to facilitate such a streamlined programme. We stress the importance of co-ordination between surgical, nursing and anaesthetic teams, as well as utilisation of pre-assessment clinics, thereby promoting DOS admission as the admission type of choice for most elective surgery. Preservation of the overall volume of elective cases at all levels of complexity despite a 28% reduction in inpatient capacity using our ring-fencing strategy is highly encouraging. It is also crucial in maintaining adequate exposure of surgical trainees to a case-mix of varying complexity, which is an important consideration in a teaching hospital setting.

Further improvements in the efficiency with which elective surgical services are delivered may be achieved by progressing DOS admission rates in conjunction with an expanded role for pre-assessment clinics. Such clinics can be expected to identify increasing numbers of patients suitable for enhanced recovery programmes. Critically, expansion of day ward bed capacity will facilitate increasing numbers of day case procedures, something which cannot be achieved with the ring-fencing of inpatient surgical beds. It will be interesting to note if the overall pattern of results in our study can be extended elsewhere during the roll-out of the elective surgery programme. A simultaneous phased introduction of the acute medicine programme can be expected to gradually facilitate the healthcare needs of all patients in Ireland during these economically challenging times.

Geriatric Medicine in the Emergency Department

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Abstract
Studies suggest older adults attending emergency departments (ED) benefit from specialist geriatric medicine evaluation. Findings from a pilot ED Geriatric Medicine (GM) liaison service in our 480-bed university hospital are presented. This is not a randomized controlled trial. Service comprised consultant geriatrician and senior trainee-led sessions during daytime working hours. Senior ED personnel selected appropriate patients. GM service also took over ED medical admissions aged ≥80, 1 in 9 days from General Internal Medicine (GIM). 49% of 284 patients (83.5 ± 6.8 years) referred, were discharged from ED with appropriate follow-up. Inpatient analysis comprised 51% admitted to GIM, GM and specialist services as per on-call rota and 268 patients taken over from GIM. Patients under GM had shorter length of stay (p < 0.001). The findings suggest specially specific geriatric medicine management of the older adult presenting to ED can improve service and patient outcomes.

Introduction
The number of older adults attending the emergency department (ED) is rising with the ageing population.1,2 Many EDs are currently not well equipped for comprehensive assessment of the frail older adults.3,4 Frequently the patients’ social circumstances and supports have to be taken into consideration on presentation to ED together with their medical illness. Frail older adults with acute illness presenting to ED can pose challenges because of atypical, non-specific symptoms, with delayed evaluation due to lack of classical symptoms found in younger persons.5,6 There are proposals of geriatric medicine (GM) EDs3,4 designed with the older adult in mind with optimal surroundings, equipment and senior specialist personnel. Our 480-bed university hospital has an estimated catchment population of 350,000 with approximately 10,000 persons aged ≥80 years. In 2009, there were 38,164 attendances to our ED, 38% aged ≥65 years and 11% aged ≥80 years. In the same year, there were 9,278 admissions, 48% aged ≥65 years and 21% aged ≥80 years. Studies have suggested that frail older adults presenting to the ED may benefit from a specialist GM evaluation with a discharge and follow-up plan to reduce functional decline and ED repeat attendances.10,11 A pilot emergency department geriatric medicine (EDGM) liaison service was developed with existing resources in our hospital serving an urban and suburban area with the aim of optimising assessment, treatment and follow-up of older adults attending the ED. This paper presents the findings and data from the pilot service developed with existing resources in a descriptive manner. This is not a randomized controlled trial (RCT) or matched case-controlled series.

Methods
The EDGM liaison service commenced on a pilot basis in 2008 with two consultant geriatrician-led sessions per week, expanding to three consultant-led and two senior trainee-led sessions per week subsequently during normal daytime working hours. Data was collected from this pilot service over a period of 2 years and

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9 months. Appropriate referral of patients was by senior ED personnel if they were felt to benefit from GM input including patients with multiple medical diagnoses, frailty, dementia, delirium, falls, syncope and other common presentations in older adults. Patients were assessed in the ED. Physiotherapy, medical social work and occupational therapy input were available where required. The allied health professionals were from existing personnel with no new allocation of resources.

The general internal medicine (GIM) service in our hospital consists of specialist physicians (gastroenterology, respiratory, nephrology, endocrinology, geriatric medicine and rheumatology) and a general internal physician partaking in the acute GIM on-call rota admitting patients via the ED. As part of the pilot programme, the GM service also took over care of medical admissions aged ≥80 years, every 1 of 9 days from one of the GIM services. Limited manpower did not allow take over care of all older patients by the GM department. This paper also compared the outcome of patients seen by the EDGM liaison team and subsequently admitted under GIM care versus patients who were admitted under the GM team. This compared GM input on a consultation basis at the point of admission versus GM care throughout the course of admission. Collection of data was prospective and descriptive statistics were used to present findings with statistical analysis with JMP v8 where appropriate.

Results

The ED referred 285 patients (mean age 83.5 ± 6.5 years) to the EDGM liaison service. Sixty-eight percent were female and 21% were nursing home (NH) residents. One hundred and thirty-nine (49%) patients were discharged from the ED with appropriate follow-up including day hospital, rapid access GM outpatients, general practitioner, community services including physiotherapy and occupational therapy or specialist follow-up. The one month representation rate to the ED after discharge was 22% with 8% admitted to hospital on subsequent presentation.

The remainder one hundred and forty-six (51%) patients were admitted under the GM team on call of the day (including the GM service which participates in the GIM on call rota) or other specialist services including cardiology, stroke, general surgery, orthopaedics and urology. Two hundred and sixty-eight patients ≥80 years, every 1 of 9 days from GIM team on-call were admitted under GIM care. When LOS analysis excluded patients discharged to a NH, mean LOS was 25.0±18.6 days for the GIM and 15.2±16.3 days (p<0.0001) for GM. Mean LOS of a patient admitted from home and discharged to a NH was 62.9±35.9 days. Twenty-three percent of patients admitted from home under GIM care were discharged to NH care in comparison to 14% of patients under GM care (p=0.11).

For 320 patients discharged alive from hospital with 1 month follow-up data, the one month ED repeat attendance rate was 14.7% (GM) vs. 19.4% for GIM (p=0.37). The readmission rate one month after discharge from hospital was 10.5% (GM) vs. 9.7% for GIM (p=not significant). Two patients had not reached the one month follow-up date at time of analysis. For 310 patients discharged alive from hospital with 3 month follow-up data, four patients had died and the 3 months readmission rate to hospital after discharge was 17.4% (GM) and 20.3% for GIM (p=0.59). Of the remaining 12 patients, 7 had not reached the 3 month follow-up point and 5 patients were recorded as dead on the hospital computer system, but the date of death was not recorded, whether it was before or after the 3 month follow-up point. These findings are summarised in Table 1.

Discussion

It is known that older adults presenting to the ED are more likely to be frail, with a higher level of urgency in their visits, more likely to be admitted or have repeat ED visits and have a higher rate of adverse outcomes than younger adults.4-15 Our results show that 49% of complex, frail elderly adults presenting to our ED could be discharged after a GM review and treatment with appropriate follow-up plan. Although there was a hospital admission rate of 8% of patients within one month of discharge from ED, this compared favourably to a 7.5% to 17.1% one month hospitalisation rate of older patients discharged from ED.4-15 Keeping in mind that there are differences in community follow-up services. No local data on ED repeat attendance is currently captured for comparison.
Our findings also showed positive outcomes in patients under GM, with shorter LOS (p<0.001). The shorter LOS in the GM group may be related to various factors including regular consultant or specialist GM input with a comprehensive geriatric assessment (CGA) with the multidisciplinary team (MDT) and weekly MDT meetings discussing the progress and discharge planning process of each patient. Previous reviews had shown that CGA and acute geriatric units can reduce functional decline and increase likelihood of living at home post hospital discharge. A previous RCT had also shown that specialist GM care can reduce hospital costs for older adults in terms of LOS, diagnostic tests and medication prescription. We are conscious of the large standard deviations of LOS in both groups indicative of varied case-mix. A shorter LOS with MDT input could reduce the number of potential inpatient complications including hospital associated infections, delirium, medication error etc. GM care is likely more effective than a consultation service to the GIM team, as the GM team had direct responsibility for the patient, ensuring compliance with and implementation of diagnostic, treatment, rehabilitation and discharge plan.

The findings also illustrate the frequency of adverse outcomes in this frail, vulnerable group. The overall higher inpatient mortality rate of patients admitted from a NH of 21%, was likely in keeping with the higher frailty profile of this patient group. However, it is known that severity of acute illness is more important than medical co-morbidities in predicting outcomes in older patients admitted with a medical emergency. The similar hospital readmission rates, regardless of whether the patient was under the care of the GM or GIM team, is likely indicative of an inherently frail and at risk cohort. The weaknesses of this paper include the fact that this was not a RCT with subjects comprising of a highly selected patient population, deemed in need of specialist GM input. However, the patients are representative of typical acutely unwell older adults presenting to the EDs and hospital admission systems across our country. The two groups of inpatients compared had reasonably well matched age profiles. LOS can be affected by services that are available in the community to support the discharge of the older adult. It is beyond the remit of this report to comment on the impact of service availability in the community.

The numbers analysed were small, leading to reduced statistical strength of analysis. The reasons for attendance to ED was also not recorded as we had decided to concentrate on collection of basic demographic data and readmissions rates and ED repeat attendances as outlined above. The future developments for the GM service in our department include formalisation of the EDGM liaison service with GM clinical nurse specialist support; an inpatient NH liaison service and an outreach NH liaison service where patients will be reviewed in their place of residence in the NH. The Identification of Seniors at Risk (ISAR) screening tool which has good predictive validity for clinical outcomes and health services utilisation in the older adult will be used to select patients suitable for assessment with the EDGM liaison team.

In summary, direct admission of the older, frail adult under the GM service has the potential to reduce LOS without adversely affecting other quality markers including the rate of ED repeat attendances and readmission to hospital. A substantial proportion of older adults could also be discharged from the ED with a tailored treatment and follow-up plan. The argument of the relevance and appropriateness of current quality or outcome markers remain to be debated. Finding the best quality markers of care for the frail, elderly adult admitted unwell to the acute hospital remains a challenge.

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A Pain in the Neck – Medical Student Attitudes to the Orthopaedic Spine

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Introduction
Orthopaedic and musculoskeletal (MSK) disorders account for more than half of all chronic conditions of the elderly and middle-aged in the developed world1,2. A third of all presenting complaints to general practitioners (GPs) are MSK in nature3,4. Over half of GPs perceive their training in Orthopaedics as inadequate5. Perceived difficulties with spinal surgery were compared to seven other Orthopaedic sub-specialties. Suggestions made on how to maximise teaching potential included 69 (29%) for more tutorials, 43 (18%) for more lectures, 26 (11%) suggested a more structured training programme and 17 (7%) for increased use of online resources. The spine is one of the least popular Orthopaedic sub-specialties and considerable deficiencies exist in its education.

Methods
A previously validated two-part questionnaires used for assessing attitudes to medical and Orthopaedic sub-specialities was adapted for use in this study6,7. Section one dealt with participant's self-perceived knowledge and what elements of their education were more helpful. Section two dealt exclusively with the sub-specialty of the spine. It asked participants to rate its teaching, level of difficulty and where improvements could be made. Between January and April 2010 questionnaires were administered to final year medical students in two medical schools in Ireland. Likert scales were used. A score of 1 was given for an answer of "very limited/difficult" and 5 for "very good/easy". Section 1 was analysed using mean values. The paired t-test to analyse the difference of the mean values in the spine compared to seven other Orthopaedic sub-specialties.

Results
238 completed questionnaires were received from final year medical students.

Section 1
When asked to rate their knowledge in eight of the orthopaedic sub-specialties, the participants felt their knowledge in the spine was the second worst, when compared to seven other specialties (P<0.05; when compared to sports, trauma, upper limb, lower limb and arthroplasty; Figure 1). Participants also perceived the spine to be the third most difficult subject and had the third least confidence in. Students felt that anatomy, physiology and pathology were the most relevant pre-clinical subjects to the spine, with microbiology the least relevant. Students learnt the most in the spine during lectures, tutorials, textbooks and time spent in theatre. Similarly to previous studies few respondents reported learning much from online resources.

Figure 1: Bar graph illustrating how participants rated the degree of knowledge of the eight Orthopaedic specialties, (whiskers show standard errors).

Discussion
Teaching of Orthopaedic surgery and MSK medicine is deficient. However, no study has ever determined if and why the spine sub-specialty is perceived as difficult. One recurrent problem with
undergraduate Orthopaedic education is the lack of a formal teaching programme. This is not helped by Ireland having the lowest ratio of Orthopaedic consultants per head of population in the EU. In Ireland, 54% of medical students and GP trainees underwent just one week of formal undergraduate education in MSK medicine, with many receiving no formal undergraduate training. This was also seen in Canada and the USA. With this neglect of undergraduate Orthopaedic education, it is hardly unexpected that the perceptions and popularity of some of the more complex orthopaedic sub-specialties should suffer. Participants in this study felt they learnt the most from lectures, tutorials and textbooks, however only 5 (2%) reported using online learning tools as an educational adjunct. Online teaching has been shown in previous medical studies to improve overall knowledge of the subject matter, when compared to just using textbooks alone.

The main explanations given for the perceived difficulty of the spine were complex anatomy and pathology, limited exposure and complex surgery. Perhaps a compulsory pre-clinical spinal module addressing its neuroanatomy and pathology would enhance students understanding of important clinical spine scenarios such as the "red flag" symptoms seen in cauda equina syndrome. In conclusion, the orthopaedic spine is 'a pain in the neck' and is feared by medical students in Ireland. This study has highlighted the need for improvements in education and training, which requires organisation and investment. These changes are necessary if we are to adequately deal with the ensuing epidemic in musculoskeletal pathologies.

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Significant respiratory pathogens were repeatedly isolated. AccuProbe M.tuberculosis complex and AccuProbe M.avium complex assays were both negative (TB AccuProbe; Gen-Probe® San Diego, California, USA) confirming that this isolate belonged to neither of these complexes. The isolates were identified as Mycobacterium szulgai by the Mycobacterium Reference Unit using the commercial reverse hybridisation assay (GenoType® Mycobacterium CM/AS), sensitive to rifampcin, clarithromycin and ethambutol, with which the patient was treated for a total of eighteen months. The repeated isolation and definitive identification confirmed suspicions that this was a significant pulmonary NTM pathogen. The patient satisfied both the clinical (pulmonary symptoms and cavitation on imaging) and microbiological (repeated isolation from sputa and bronchial washings) ATS criteria for significant NTM infection with appropriate exclusion of malignancy and other pathogens that could have also caused this clinical picture.

A follow up CT thorax one year later showed interval improvement in cavity wall thickening (Figure 2), sputa are negative for mycobacterial culture and the patient reports an improvement in symptoms.

**Discussion**

NTM are frequently regarded as being of low pathogenicity. The mean incidence of NTM infection in the southwest of Ireland was estimated by Kennedy et al to be 0.4/100,000 population, mirroring the global upward trend. In their study no isolates of M.szulgai were found and this organism has been estimated to account for less than 1% of all human isolates of NTM infection worldwide. The M. szulgai grows slowly and produces smooth or rough pigmented colonies after 2-4 weeks. The classic Runyon classification is now being superseded by a more comprehensive classification scheme using 16S ribosomal ribonucleic acid (16S rRNA) sequencing to divide the slow and rapidly growing mycobacteria into clades. Results of sequencing of isolates can be compared with those of publicly available databases for isolates that cannot be identified by commercial nucleic acid probes. Sequencing based methods use several target genes including 16S rRNA, heat shock protein and rpoB and novel techniques such as restriction fragment length polymorphism of the heat shock 65 protein or 16S-23S rDNA intergenic spacer region, pyrosequencing and microchip array are in development.

Pulmonary infections clinically similar to those caused by M. tuberculosis are the most common presentation, with cough, fever, night sweats and weight loss. A study by van Ingen et al on the clinical relevance of M. szulgai isolates found that isolation was clinically relevant in 76% of twenty-one patients studied. Thin walled cavities within apical infiltrates are considered to be common. The small number of previous case reports in the English language literature mainly describes pulmonary infection in middle-aged males with pre-existing lung disease. As far as we could ascertain, this is the first reported case of pulmonary M. szulgai infection in Ireland. Extra-pulmonary infection due to M. szulgai includes cases of tenosynovitis of the hand, olecranon bursitis, osteomyelitis, keratitis, cervical lymphadenitis, and renal or cutaneous infection. Disseminated infection has been reported in immuno-compromised patients. As with most NTM infections there is no evidence of human-to-human transmission of M.szulgai.

In summary, this case illustrates both the clinical importance of detection of more rarely isolated NTM and the importance of laboratory characterisation of NTM strains. With advances in molecular identification techniques, it is likely that more cases will be identified in the future in routine clinical laboratories. It is crucial that microbiology laboratories identify these isolates and that they are not dismissed as non-pathogenic mycobacteria without appropriate clinical correlation.

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Laparoscopic Nissen Fundoplication Post-Oesophageal Stenting: An Unusual Case
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Abstract
Laparoscopic Nissen fundoplication post-oesophageal stenting is uncommon and yet to be reported. We report the case of a 57-year-old palliative lady who underwent surgery for symptomatic relief of severe gastrooesophageal reflux post-oesophageal stenting. Surgery was carried out successfully with no complications. On the evening post-surgery she was able to lie supine for the first time in months without symptoms of reflux. In conclusion, surgery is still valuable and may play an important role, even in a palliative setting.

Introduction
Laparoscopic fundoplication is the gold standard surgical treatment for gastrooesophageal reflux disease. While few reported cases in the literature of oesophageal stenting post-intervention, the reverse has not been reported. We would therefore like to discuss a case of laparoscopic Nissen fundoplication post-oesophageal stenting.

Case Report
A 57-year-old lady with a background of severe chronic obstructive pulmonary disease and ischaemic heart disease presented to her GP complaining of general malaise.

Following discovery of a space occupying lesion on chest x-ray, she was referred for bronchoscopy. This revealed an obstructing lesion in the left lower lobe with a histopathological diagnosis of squamous cell carcinoma. Computerized tomography (CT) showed no evidence of mediastinal or distant metastases with the tumour being amenable to resection. A pneumonectomy and mediastinal lymphadenectomy were performed. Subsequent CT showed no mediastinal lesions. In view of her co-morbidities, it was decided that adjuvant radiotherapy be deferred unless she became symptomatic.

Ten months post-pneumonectomy, she presented with a five-week history of progressive dysphagia initially for solids but progressing to liquids, and associated with regurgitation, vomiting and weight loss. Barium swallow and oesophagogastroduodenoscopy (OGD) showed extrinsic mid-oesophagus compression with no mucosal irregularity. Biopsy revealed a solitary solid submucosal nodule which histopathology confirmed as recurrent extrinsic squamous cell carcinoma. The patient was reviewed by the oncology service and referred for radiotherapy. The patient obtained good symptomatic relief with radiotherapy but was admitted eight months later because of recurrent dysphagia. OGD again revealed significant extrinsic compression in the upper third of the oesophagus. A Choostent stent was inserted under direct vision. The patient was informed of the possibility of reflux symptoms post-stent insertion. These symptoms resulted in the first of many subsequent admissions just four days later. The stent was confirmed to be perfectly positioned and patent. Although a subsequent CT confirmed no progression of carcinoma, a right paraoesophageal collection was noted.

This was later drained when she re-presented a month later with a cough, fever, night sweats and worsening reflux symptoms. Severe reflux symptoms continued with the patient being unable to lie down, sleep or eat any food. The patient was re-admitted a few weeks later when a repeat OGD was performed which demonstrated perfect positioning and patency of the stent. It was not bridging the oesophageogastic junction. Barium swallow noted gastrooesophageal reflux with no tertiary contractions or dysmotility. PPIs were maximized. Management options given to the patient on discharge were medical, endoscopic or laparoscopic Nissen fundoplication in view of her symptom severity and relatively fit status. A month later she was re-admitted with symptoms associated with ongoing severe reflux.

A laparoscopic Nissen fundoplication was performed without complications. On the night of surgery, she was able to lie supine for the first time in months without any problems or reflux symptoms. She remained well and was discharged just two days later with a much improved quality of life, reflux-free until her death six weeks later of disease progression.

Discussion
Laparoscopic Nissen fundoplication post-oesophageal stenting even in patients with extensive co-morbidities may be indicated in certain clinical circumstances. Our case demonstrates this in the context of advanced metastatic disease, where a palliative stent was inserted to relieve tumour-associated dysphagia in a patient who then subsequently developed severe reflux, not allowing them to lie down, eat or sleep. In the hands of experienced laparoscopic surgeons, fundoplication is a safe and effective treatment with excellent subjective and objective long-term results with at least 90% patient satisfaction. Gastrooesophageal reflux which occurred in our case is much less common in proximal stents compared to stents lying over the gastro-oesophageal junction. Overall, ten to fifty percent of patients will need some form of re-intervention due to complications. However, these complications are primarily stent occlusion or migration, as opposed to severe reflux. In conclusion, surgery is still valuable and may play an important role in a palliative setting.

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Deep Brain Stimulation in Ireland for Parkinson’s Disease and Essential Tremor

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Abstract

Deep brain stimulation (DBS) is highly effective neurosurgery for idiopathic Parkinson’s disease (IPD), essential tremor (ET) and primary dystonia1-3. DBS involves stereotactic surgical implantation of a battery-operated stimulator into deep brain nuclei. Irish patients are referred abroad for DBS and have to travel repeatedly for pre and post-operative care resulting in stress, anxiety and hardship. Safe pre and post-operative care of these complex, ageing patients is compromised by the absence of a DBS service in Ireland. Moreover, both DBS surgery and the subsequent post-operative care abroad incur substantial cost to the state. The Dublin Neurological Institute at the Mater Misericordiae University Hospital (DMI) is a non-profit institute for the care of patients with neurological diseases. The DNI developed, in collaboration with the Mater Private Hospital (MPH) and the Walton Centre, Liverpool, a DBS programme in 2008/2009. We performed DBS at the Mater Campus on three carefully selected patients from a cohort of movement disorder patients attending the DNI and continue to provide pre-operative assessment and post operative care for patients following DBS in Ireland and abroad.

Methods

In 2004, we started a collaborative effort between the DNI, the MPH and the Walton Centre Liverpool to develop DBS in Ireland. A DNI multidisciplinary DBS clinic was set up for assessment of patient suitability for surgery. The multidisciplinary team (MDT) consisted of a consultant neurologist (TL), a DBS trained Irish consultant neurosurgeon (GQ) with support from the functional neurosurgery unit at the Walton Centre, a senior neuropsychologist (GF), the DBS clinical nurse specialist (DOB), a senior speech and language therapist (PJM), a specialist senior neuro-physiotherapist (EH), a consultant radiologist (EK), and a national expert in MRI imaging (PG). We were assisted by specialists in neural engineering and implanted devices (RR) and information technology (POS, SK).

Patients had Unified Parkinson’s Disease Rating scales4, ET tremor rating scales5, Hoehn & Yahr scales6 and standardised video recordings performed as baseline. Selected patients underwent MRI under general anaesthetic (CWB) to identify the target area. The long scan times (70-80 Minutes) necessitated patient sedation. Axial and coronal spin echo sequences were obtained for planning. CT images were also obtained. CT and MR images were used to guide DBS electrode placement. Patients underwent specialist neuropsychological assessment (GF) to assess cognitive, behavioural and emotional functioning to rule out contra-indications to surgery e.g. dementia or significant mood or behavioural disturbances. Three carefully selected patients (2 IPD, 1 ET) from those attending the Parkinson’s disease and

Other Movement Disorders clinic and the DBS clinic at the DNI were deemed suitable for DBS. Each patient was fitted with a Medtronic® deep brain stimulator at the MPH. More complex patients attending these clinics were referred abroad for DBS during this time period.

Patient 1

A 60-year-old man developed a coarse pill-rolling left hand tremor in 2004 followed by ipsilateral bradykinesia, hypomimia, cogwheel rigidity, slow gait and stooped posture. He was diagnosed with tremor-predominant IPD and started on biperiden and amantadine without benefit. Pramipexole resulted in minimal improvement in tremor but also leg swelling. He later developed a coarse resting tremor of his right hand, making it difficult to perform fine motor tasks. The tremor partially responded to levodopa (Sinemet Plus 25mg/100mg three times daily) and procyclidine 2.5mg three times daily. Following assessment at the DBS clinic, bilateral STN electrodes were inserted with no complications. He had a remarkable improvement in his right hand tremor and a definite, but less pronounced, improvement in his left arm and leg tremor. He was able to drink from a cup with improved quality of life. Slowness improved and he remains much improved 27 months post DBS surgery.

Patient 2

A former miner developed early-onset IPD at age 46. He initially responded to Levodopa therapy (500mg daily) but developed debilitating dyskinesia at higher doses (625mg daily). He could no
longer play golf. Following assessment, bilateral STN electrodes were inserted resulting in significant (50-60%) improvement in symptoms and quality of life. He could get out of a chair without difficulty, walking improved and he resumed golf. Medication requirements were substantially reduced, from 625mg Levodopa daily to 150mg daily. However, following DBS, he developed hypophonia (soft voice) and tachypnoea (rushed speech). Stimulator settings were altered without improvement in his hypophonia. At 24 months post DBS he still reports a 50-60% improvement in his motor symptoms.

**Patient 3**

A 66 year-old man presented in 2006 with slowly progressive alcohol-responsive postural and intention tremor over 20 years and was diagnosed with ET. By 2008, his tremor was severely disabling. He required a straw to drink and needed assistance for writing, hygiene, and dressing. He complained of social embarrassment. The tremor did not improve with mycroline 250mg twice daily, sinemet plus 25mg/100mg three times daily or propanolol 40mg twice daily. He was deemed suitable for DBS and bilateral thalamic electrodes were inserted. Before DBS his handwriting and spiral drawings were markedly abnormal (see Figure 1) and he was unable to pour water. DBS resulted in a marked improvement in his tremor (see Figure 1). On the first post-operative day he held and read a newspaper for the first time in years. He ate peas, buttoned his shirt and cut his meat. He splitt a small amount of water when pouring. One year post DBS placement, he re-presented with recurrence of tremor and a feeling like "electric shocks" down his left arm due to DBS lead breakage. The shocks stopped once the DBS was switched off but his tremor re-emerged. As the "Mater campus DBS service" was on hold due to budgetary constraints, the patient was referred to our patient’s lead because of funding issues for the Irish DBS service. Patient 2 developed hypophonia post DBS which occurs in approximately 4% of patients. Despite the potential side effects, there is no increased mortality in IPD patients who have undergone DBS compared to those on medication alone. Currently, patients who travel abroad for DBS surgery are funded by the HSE overseas treatment fund at a cost of approximately 40,000 per patient if DBS is performed. It is difficult to get exact figures but approximately 151 Irish patients were referred abroad for DBS surgery between 2003-2008. DBS, although necessitating a substantial initial investment, is self-financing within 2.2 years, through reduced medication costs and reduced healthcare utilisation.

There is a compelling argument for the development of a full DBS service in Ireland for patients with IPD, ET and dystonia. DBS is effective, relatively safe, cost-effective and there is an increasing demand from an ageing Irish population with complex pre and post-op issues. Our ageing population means that many future candidates for DBS may be physically unable to travel abroad for DBS. The pre and post-operative care of patients undergoing DBS is complex and requires a specialised multi-disciplinary team. Having the surgery and the postoperative care carried out in different countries poses multiple problems in terms of continuity of care and risk management. Finally, there now exists in Ireland a substantial resource in the form of a specialist multidisciplinary DBS team at the DNI which has proven expertise for the operation of a safe, efficient and successful DBS programme.

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**References**


**Discussion**

Safe and effective DBS can be performed in Ireland on carefully selected patients. All our patients had significant improvements in symptoms and quality of life with a decrease in medication requirements. In IPD the subthalamic nucleus (STN) and globus pallidus internus (GPI) are the main targets resulting in reduction of bradykinesia, rigidity and dyskinesias. STN stimulation results in improvement in UPDRS scores of 50% maintained for over 5 years and typically allows for a reduction in levodopa dose. Dyskinesias improve up to 94% after 12 months. In selected patients, there is now Class-I evidence that STN stimulation is more effective than best medical therapy for the treatment of IPD. ET responds well to DBS of the ventral intermediate nucleus of the thalamus (VIM). It is indicated for patients disabled despite best medical therapy. DBS results in an average improvement of 50-80% in tremor and considerable improvement in quality of life. GPI stimulation in dystonia leads to a progressive improvement in dystonic posturing over days to months. DBS surgical complications include seizures, post-operative confusion, battery failure, lead breakage, device infection and rarely, intracranial haematoma. Target specific complications depend on the target site. With STN stimulation, dysarthria, dizziness, depression and diplopia are the main complications.

In our series, patient 3’s DBS lead broke. This complication occurs in roughly 4% of cases. There was a prolonged delay in repairing our patient’s lead because of funding issues for the Irish DBS service. Patient 2 developed hypophonia post DBS which occurs in approximately 4% of patients. Despite the potential side effects, there is no increased mortality in IPD patients who have undergone DBS compared to those on medication alone. Currently, patients who travel abroad for DBS surgery are funded by the HSE overseas treatment fund at a cost of approximately 40,000 per patient if DBS is performed. It is difficult to get exact figures but approximately 151 Irish patients were referred abroad for DBS surgery between 2003-2008. DBS, although necessitating a substantial initial investment, is self-financing within 2.2 years, through reduced medication costs and reduced healthcare utilisation.

There is a compelling argument for the development of a full DBS service in Ireland for patients with IPD, ET and dystonia. DBS is effective, relatively safe, cost-effective and there is an increasing demand from an ageing Irish population with complex pre and post-op issues. Our ageing population means that many future candidates for DBS may be physically unable to travel abroad for DBS. The pre and post-operative care of patients undergoing DBS is complex and requires a specialised multi-disciplinary team. Having the surgery and the postoperative care carried out in different countries poses multiple problems in terms of continuity of care and risk management. Finally, there now exists in Ireland a substantial resource in the form of a specialist multidisciplinary DBS team at the DNI which has proven expertise for the operation of a safe, efficient and successful DBS programme.

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**References**

Immunisation is one of the most cost-effective measures for the prevention of infectious diseases\textsuperscript{1--3}. In the case of smallpox, it has led to complete disease eradication and similar efforts have led to the elimination of polio in most regions of the world, including Europe. Despite the continuing circulation of the wild polio virus in a small number of countries (Nigeria, India, Pakistan and Afghanistan), the incidence has fallen by 95% over the past 20 years\textsuperscript{4}. It is an extraordinary success story by any standard. However because of its success, the general public may not experience any of these illnesses first hand and thus it is increasingly difficult to convey the importance of high immunisation rates that promote herd immunity. Across Europe, there has been a recent focus on adverse events following immunisation and the perception of risk has shifted from the disease to the vaccine\textsuperscript{5}. In Europe, very often the biggest challenge is to provide effective communication to reassure the public about vaccine safety and effectiveness.

A recent survey of primary care paediatricians across Europe\textsuperscript{6} highlighted that the principal reason for refusal to vaccinate is parental fear of an adverse event and recommended the harmonisation of vaccination schedules across Europe. The Global Alliance for Vaccines and Immunisation (GAVI), UNICEF and the World Health Organization (WHO) stated their 2010 goals to be focussed on increasing immunisation uptake and reducing mortality due to measles across the world. Are these illnesses still a threat to the children of Europe? Recent data suggests the answer is yes\textsuperscript{7}. While poliomyelitis has been eliminated, tetanus and diphtheria are under control and the incidence of pertussis has dropped tenfold, however, the rate of notification of invasive Haemophilus influenzae type b (Hib) disease remains stable across Europe and is currently well below one per 100,000.\textsuperscript{8} The Hib vaccine thus continues to have a significant effect on the incidence of the disease in all countries where it has been introduced. The overall notification rate of invasive meningococcal disease is one per 100,000 with serogroup b (77%) and c (16%) remaining as the principal causes across Europe\textsuperscript{9}. The heptavalent pneumococcal vaccine (PCV 7) was licensed for use in Europe in 2001 but use of this vaccine varies across Europe. In those with high PCV 7 uptake, cases of pneumococcal disease has dropped sharply\textsuperscript{10}. Only four EU countries have been measles-free over the past year\textsuperscript{11}. Despite a drop in measles cases reported (2795 across the EU), one death and two cases of measles encephalitis have been reported. Mumps remains a vaccine-preventable illness with one of the highest notification rates in the EU but happily the trend re mumps notifications shows it to be at the lowest level since 1995\textsuperscript{12}.

Immunisation schedules vary considerably and are set exclusively at national level. Polio, DPT (diphtheria, tetanus and pertussis) and MMR (measles, mumps and rubella) are common to all schedules. Hib vaccine is offered in all countries with the exception of Bulgaria and Romania. Hepatitis B vaccination is offered in most EU countries with the exception of the Scandinavian countries where high-risk groups are immunised. Pneumococcal (PCV 13) and human papillomavirus (HPV) vaccines\textsuperscript{13} are now offered in 15 countries across Europe. Very few countries recommend universal rotavirus or varicella vaccination.

Regrettably there is no standardised system in the EU for collecting data on immunisation uptake with the World Health Organisation centralised system for infectious diseases (CSD) does not experience any of these illnesses first hand and thus it is

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**Table 1: Vaccination coverage in the EU and EEA/EFTA countries. Average of period 2003–07**

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<tr>
<th>Country</th>
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<th>Hib3</th>
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Source: WHO CSD.
the only available consolidated source of data. Immunisation uptake for the DTP, polio and Hib vaccines is high all over the EU. Sixteen countries report coverage of one-dose MMR at over 95% (this does not include Ireland or the UK) but only 10 have the same coverage for the second dose (see Table 1). The EU has been officially polio-free since 2002 with the last large polio outbreak in the Netherlands in 1992-3 where 59 had paralysis and 2 died from polio. Polio was imported from India and spread among a community that refused (and still refuses) vaccination for religious reasons.

Diphtheria is under control in Western Europe but there have been significant outbreaks in Russia and Latvia over the past 15 years with Latvia still observing a small number of cases. Up to 200 cases of tetanus occur each year in Europe, mainly in non-vaccinated adults and elderly people. The availability of the acellular pertussis vaccine across Europe has lead to a significant drop in reported cases to the current level of 4.4 per 100,000 but, as a result of waning immunity, a surge in cases in adolescence.

Measles is still endemic in many EU countries as a result of sub-optimal MMR uptake rates. In 2006, there were 6 measles-related deaths in one year with three in Romania, one in the United Kingdom and two in Germany. Likewise, in 2006, there were 50,000 mumps cases and 25,000 rubella cases reported. Only four countries (Finland, Iceland, Slovakia and Slovenia) have achieved zero –reporting status for measles. The highest rate of measles is in under 5 year olds who did not receive the vaccine and measles tends to spread in populations with sub-optimal immunisation coverage. Ten EU countries (including Ireland) report immunisation coverage less than 90%. Hepatitis B vaccination is very effective and most EU countries have either universal hepatitis B vaccination or vaccination of high –risk groups. Invasive Hib in children under 15 years old varies greatly across the EU with no cases in Hungary and relatively high rates in Ireland, the UK and the Czech Republic. A booster Hib dose added into the schedule leads to a reduced prevalence of invasive Hib.

Strategies to improve vaccination coverage

Immunisation has been compulsory in both Hungary and Italy apart from the Veneto region which recently decided to end compulsory immunisation. High uptake of vaccines can be achieved in many EU countries without compulsory vaccination. A number of countries (such as Germany and Australia) require that a child’s immunisation history be documented at school entry. In the UK, general practitioners who achieve uptake rates above 90% receive a significant financial incentive and, when studied, uptake rates over 90% rose sharply across different regions except in urban poor areas. In Australia, immunisation status is linked to the payment of a number of child care benefits. A parent who has a philosophical or religious objection may, in Australia, fill out a detailed conscientious objection form and still claim full child benefits. Similar schemes/incentives apply in France. There is considerable evidence that provider and parental reminder and recall systems will improve uptake of vaccines. A national immunisation register facilitates the provision of timely and accurate information to both parents and providers.

New vaccines

The number of diseases now prevented by vaccination has markedly increased over the past 5 years with the advent of human papillomavirus (HPV), rotavirus and varicella vaccines. During the coming 5 years, it might be expected that we will see a 4-valent conjugated meningococcal vaccine, intradermal inactivated trivalent influenza vaccine and many others. HPV types 16 and 18 are the most prevalent oncogenic strains of the virus with HPV 16 accounting for more than 60% of all cervical cancers and HPV 18 accounting for another 10%. These high risk types of HPV cause cervical cancer, cancer of the vulva or vagina and cancer of the penis or anus. Cervical cancer is the most important manifestation of genital HPV infection and is one of the leading causes of cancer mortality in women worldwide. The epidemiological link between HPV and cervical cancer is stronger than the link between cigarette smoking and lung cancer. Cervical cytology screening can reduce significantly the incidence of cervical cancer and its mortality but prevention of cervical cancer in particular is best done through vaccination. Condoms afford some protection against HPV transmission, although this protection is incomplete.

The rationale for vaccinating young adolescent girls is that this confers maximal population health benefit and this is a well-defined population with whom there is ready contact through schools. Routine vaccination with 3 doses of the HPV vaccine is recommended in girls 11-12 years of age. A programme of HPV 16 and HPV 18 vaccination at 11-12 years of age, coupled with triennial screening starting at 25 years of age, will decrease the lifetime risk of cervical cancer by 95% and, without question, is the most cost-effective strategy.

For the future, we need to continue to strive to maintain uptake rates of above 95% and the further harmonisation of immunisation schedules across Europe. We require an EU-wide data collection system re vaccine-preventable infections, a system for monitoring any adverse events post-vaccination and we need to target migrating populations, in particular asylum seekers with limited access to healthcare. We must continue to publish high-quality studies investigating concerns about vaccine safety, maintain and improve the Vaccine Adverse Events Monitoring system and, most importantly of all, educate health care professionals (especially family doctors) and parents re the enormous benefits of vaccination. Accurate information concerning vaccination needs to be accessible to the public through various media. We must counter misinformation issued by the anti-vaccination lobby groups in individual countries. The absolutely clear evidence of falsification of data should now finally close the door on the damaging vaccine scare pertaining to MMR. It took the diligent scepticism of a dedicated journalist to finally show that Wakefield’s paper was indeed an elaborate fraud. Vigilance is still required but it behoves all medical professionals to constantly stress to the public the overwhelming beneficial effects of immunisation.

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References

Informed Consent in Refractive Eye Surgery: Learning from Patients and the Courts

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Abstract
Refractive eye laser surgery involves ablation of the cornea using excimer laser to correct short or long sightedness and thus negate the need for glasses and/or contact lenses. With the doctrine of informed consent often central to claims of medical negligence in this area, we examine the attitudes, understanding and recall of patients to consent for refractive surgery and outline the relevant law. 102 patients undergoing first time refractive surgery were analysed to examine their understanding and recall of the consenting process. Only 2 patients remembered all 5 risks outlined preoperatively, while 11 remembered no risks at all. 65% of patients consulted the internet to learn more about the operation. Our study demonstrates that patient understanding and recall remains poor. A signed consent form is not, of itself a full defence to allegations of uninformed consent, and the consent process must be comprehensive.

Introduction
Refractive eye laser surgery involves altering the shape of the cornea to correct long or short sightedness. There are 2 main types of surgery; LASIK (laser-assisted in situ keratomileusis) which involves cutting a flap with a keratome or a femtosecond laser approximately 120 microns into the cornea, opening the flap, applying excimer laser to the stroma of the cornea and then closing the flap, and LASEK (laser assisted sub-epithelial keratectomy) comprising of debriding the corneal epithelium, applying excimer laser and allowing the epithelium to heal. These procedures are the most commonly performed surgeries in the world with approximately 1.4 million LASIK operations performed in 2006 in the United States (US) alone. Although usually successful, and with potentially remarkable visual outcomes, this surgery is not without complications.

It is incumbent upon the surgeon to advise and to seek to educate patients preoperatively about their treatment options, potential complications and to seek to identify, and where possible moderate, any unrealistic expectations. The National Institute for Health and Clinical Excellence (NICE) in the UK demands that surgeons ensure “that patients fully understand the benefits and potential risks of the procedure, and provide them with clear written information, such as that published by NICE.” The objective of our study was to assess patient understanding, recall, and satisfaction with the informed consent process in our refractive laser practice.

Methods
One hundred and two patients undergoing first time LASIK or laser sub epithelial keratomileusis (LASEK) surgery were randomly asked to complete an anonymous page questionnaire pertaining to their preoperative education and consenting process. This form was designed to examine patient understanding and recall of the operation and risks, and was divided into 3 parts assessing: patient satisfaction regarding their preoperative assessment; what was understood about the surgical procedure itself; and finally, their appreciation of post operative issues and potential complications/side effects. This form was filled in prior to surgery on the day of the procedure itself. All relevant patients had been preoperatively reviewed and assessed at least 1 week prior to surgery and at that stage were given an option of either treatment.

At the preoperative assessment, the factual details, benefits and risks of both procedures were explained in detail by 1 surgeon to all patients using diagrams and ocular models. This surgeon performed all 102 surgeries. Specifically patients were told that LASIK involved cutting a flap into the cornea, was more invasive than LASEK, possessed more risks intraoperatively, was associated with a greater risk dry eyes postoperatively, but would result in a quicker visual improvement and was less painful postoperatively. They were also informed that LASEK held less risks than LASIK intraoperatively, was a superficial surface treatment involving scraping of the epithelium (skin) and application of laser to the cornea. They were told their eyes would be sore for a few days, visual improvement would take days to weeks. All patients were specifically told of 5 possible complications (and rates of occurrence) that might occur postoperatively including corneal inflammation, infection, dry eyes, night vision problems (specifically including glare, haloes and starburst effect) and visual loss. All patients were additionally told that spectacles may be required postoperatively.

After this assessment patients were given a specific consent form to bring home and to return with it read. It was to be signed on the day of surgery. The education sessions and the consent forms are particular for either LASIK or LASEK. They require to be initialised at various points of significance throughout the form, and to be signed by both the doctor and patient. These forms outline the nature of the procedure, risks/complications and emphasise the lack of guaranteed outcomes. It was stressed that patients had to read and consider the form extremely carefully and to then decide if they wanted to return for surgery.
Of the 102 patients, 39 were male, 63 were female and the average age was 35.33 years. 64 and 34 patients knew they were undergoing LASIK and LASIK, respectively. Four patients were unsure for which procedure they were being consented. All patients reported that the procedure proposed was clearly outlined at the time of assessment and that they were encouraged to ask questions. No patient felt pressured by the bringing home the consent form was a good idea and that they time they spent reading the form was 7 minutes. The internet was additionally consulted by 65% of patients to learn more about the procedure. Only 23% of this group believed they learned anything extra from doing so. Overall 37% were “very satisfied” with the consenting procedure, 63% were “satisfied” and no patient was less than satisfied.

With regard to the surgery itself, only 2 patients recalled for what the abbreviations LASIK and LASIK stood. 41% recalled incorrectly that EK possessed more risks intraoperatively, 14% of patients recalled incorrectly that EK involved cutting a flap into the cornea whilst 30% incorrectly interpreted that IK involved removal of corneal epithelium. 28% of patients considered the surgery “not serious”, 18% thought that the actual surgery itself would be painful (with 4 patients *unsure*). With regard to the postoperative period, the average number of risks recalled was 2 (Figures 1 & 2). 11 patients (11%) remembered none, while only two (2%) remembered all 5 risks outlined. 18% of patients incorrectly thought that the vision would be perfect 1 day post LASEK. 12% incorrectly thought that LASIK would be more painful post operatively.

**Results**

Refractive surgery accounts for 34% of all ophthalmology claims on the files of the Medical Defence Union indemnity society in the UK. There was a 166% increase in negligence claims relating to laser surgery over a 6 year period up to 2003. In the US, a jury made an award for as much as up to $726 million for LASIK associated medical negligence. Our analysis appears to demonstrate that, despite a lengthy and detailed consent process, patient understanding and recall of the procedures and risks remained poor. This is similar to the findings of Cheung et al who noted that, despite repetitive explicit counselling, only 39% of patient undergoing cataract surgery knew what a cataract was, 28% knew what surgery entailed and 43% misunderstood that surgery was completely risk free. Informed consent is a process rather than simply signing a form, and should include a detailed outline by the doctor to the patient, settling out treatment options, risks involved and expected outcomes. Hickson et al suggested that the physician’s ability to establish rapport with, provide access to and communicate effectively with the patients is as important as technical competence in protecting against litigation.

As to what precisely needs to be disclosed in this preoperative consultation is jurisdiction dependent. In the Supreme Court case of Fitzpatrick v Whyte, the Irish judiciary favoured a test as to the patient’s knowledge, understanding and expectations, and Irish case law precedent appears to now impose a higher standard in consenting for elective procedures which would include laser eye surgery.

In Ireland, the courts distinguish between elective and emergency procedures, in that for elective procedures “there is an obligation wherever there is a risk- however exceptional or remote- of gross consequences must first be ascertained”. In conclusion, our study indicates that patients understanding and recall of the consent process is poor. Those it is imperative for the surgeon to outline laboriously and in detail the procedure and all potential risks.

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**Discussion**

Refractive surgery accounts for 34% of all ophthalmology claims on the files of the Medical Defence Union indemnity society in the UK. There was a 166% increase in negligence claims relating to laser surgery over a 6 year period up to 2003. In the US, a jury made an award for as much as up to $726 million for LASIK associated medical negligence. Our analysis appears to demonstrate that, despite a lengthy and detailed consent process, patient understanding and recall of the procedures and risks remained poor. This is similar to the findings of Cheung et al who noted that, despite repetitive explicit counselling, only 39% of patient undergoing cataract surgery knew what a cataract was, 28% knew what surgery entailed and 43% misunderstood that surgery was completely risk free. Informed consent is a process rather than simply signing a form, and should include a detailed outline by the doctor to the patient, settling out treatment options, risks involved and expected outcomes. Hickson et al suggested that the physician’s ability to establish rapport with, provide access to and communicate effectively with the patients is as important as technical competence in protecting against litigation. In Ireland, the courts distinguish between elective and emergency procedures, in that for elective procedures “there is an obligation wherever there is a risk- however exceptional or remote- of gross consequences must first be ascertained”. In conclusion, our study indicates that patients understanding and recall of the consent process is poor. Those it is imperative for the surgeon to outline laboriously and in detail the procedure and all potential risks.

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Neonatal Meningitis: a Diagnostic Dilemma

Sir

Meningitis causes substantial morbidity and mortality in neonates. However, diagnosis is often difficult as maternal or neonatal antibiotic therapy may have preceded the lumbar puncture (LP). Therefore cerebrospinal fluid (CSF) culture alone may exclude infants with meningitis resulting in partial treatment. In addition there is controversy about the CSF parameters indicating meningitis in neonates. Neonatal meningitis can occur in the presence of normal CSF white cell count, glucose, and protein levels. The CSF culture is critical to establishing the diagnosis of neonatal meningitis but may not be available due to the large number of samples unsuitable for analysis. CSF cultures can become negative after hours of antibiotic cover. Lumbar puncture can be difficult in neonates and may not be diagnostic so we aimed to study the number of CSF samples suitable for analysis.

We evaluated 500 lumbar puncture results from neonates admitted to the Neonatal intensive care unit of a referral maternity and neonatal centre between January 2001 and March 2008. Twenty samples (5.3%) had a positive CSF culture and three culture positive samples were considered contaminants with skin flora. 143 (28.6%) lumbar punctures were bloodstained and had at least one sample unsuitable for cell count and 131 CSF samples (24.2%) could not be analysed at all due to bloodstaining or clots. Only 2 of these lumbar punctures were repeated within the following 24 hours to establish a diagnosis. However, there were three positive CSF cultures in the samples that were unsuitable for white cell counts. Due the retrospective nature of this study we were not able to evaluate the number of failed lumbar puncture attempts or the number of infants already on antibiotics at the time of LP.

Traumatic LPs are common in paediatric practice, occurring in 15% to 20% of LP attempts which is comparable with our findings. Although culture-negative neonatal sepsis is recognised there is no definition of culture negative meningitis. In infants with neutropenia there is a theoretical risk that meningitis will be missed if the sample is unsuitable for culture or antibiotics have already been initiated as their CSF may also be leukopenic. Even in a traumatic LP the chance of meningitis can be calculated using several different scoring systems using RCC and WCC ratios in the CSF in older patients and future study of these predictors in neonates warrants further study. In addition LP technique may require formal certification and re-education to optimise the number of suitable CSF samples. Newer PCR techniques and inflammatory markers such as C-reactive protein, Interleukin-6 and 8 in the CSF may aid diagnosis in the future.

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References

VACTERL Association or VATER Syndrome

Sir

This image depicts a patient with VACTERL association or VATER syndrome which is a non-random association of birth defects in structures derived from the embryonic mesoderm. It results in vertebral defects, Anal atresia, Cardiac defects, Tracheo-Esophageal fistula, Renal malformations, and Limb defects.

The association was first proposed by Quan and Smith in 1972initially as the acronym VATER, where the letter “R” stood for “radial dysplasia”. Subsequently, the acronym was expanded to include cardiac and renal defects. The reason it is called an association, rather than a syndrome is that while all of the birth defects are linked, it is still unknown which genes or sets of genes cause these birth defects to occur however, is most likely caused by multiple factors. Each child with this condition can be truly unique, with defects being different from any other child. The diagnosis is made if at least three of the seven defects are present in an infant and, at present, this condition is treated after birth with issues being approached one at a time. Individuals with the VACTERL association do not typically have facial dysmorphic features, learning disability, or abnormalities of growth, including head circumference. For these individuals, sibling and offspring recurrence risks are low, and are usually quoted as being around 1%. The VACTERL association has an estimated incidence of 16 cases per 100,000 live births.

Vertebral anomalies, or defects of the spinal column, usually consist of hypoplastic vertebrae or hemivertebrae where only one half of the bone is formed. About 70 percent of patients with
VACTERL association will have vertebral anomalies. In early life these rarely cause any difficulties, although the presence of these defects on a chest x-ray may alert the physician to other defects associated with VACTERL. Later in life these spinal column abnormalities may put the child at risk for developing scoliosis, or curvature of the spine.

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Risk of Rehospitalisation from an ‘Off-Site’ Rehabilitation Unit for Older Adults

Sir

We report an audit of unplanned acute transfers from a 25-bed rehabilitation unit (RU) for older people over one year. There were a total of 130 admissions with an average age of 80.7 ± 8.1 years. There were a total of 29 acute transfers to the associated tertiary hospital. In total 25 patients (19.2%) had an acute transfer and 3 patients (2.3%) required more than one acute transfer. These figures highlight the frequency and need for optimisation of care transitions.

Introduction
The reconfiguration of the Irish hospital system envisages more use of rehabilitation in “off-site” healthcare settings. We report an audit of unplanned acute transfers from a 25-bed geriatric medicine rehabilitation unit (RU) located 9 km from its associated tertiary hospital. Medical management in the RU is supervised by a consultant geriatrician with 24 hour resident medical cover. Care transitions are defined as a set of actions designed to ensure the coordination and continuity of healthcare as patients transfer between different locations or different levels of care within the same location1. Development and optimisation of care transitions is challenging and difficult for healthcare practitioners and often traumatic and distressing to patients leading to suboptimal clinical outcomes2,3.

Methods
All 2010 admissions were reviewed via the RU medical records. The tertiary hospital records of patients requiring acute transfer were all also reviewed.

Results
There were a total of 130 admissions to the RU during the year (69 women) with an average age of 80.7 ± 8.1 (SD) years. There were a total of 29 acute transfer episodes to the tertiary hospital; one patient had 3 episodes, and two further patients accounted for two episodes each. In total 25 patients (19.2%) had an acute transfer and 3 patients (2.3%) required more than one acute transfer. The majority of unplanned acute transfers were for sepsis with lower respiratory tract infection (LRTI), acute fracture and pulmonary embolus (PE). The breakdown of diagnoses on transfer is demonstrated in Table 1.

Discussion
The patient cohort managed in this setting often have complex medical co-morbidities and can unpredictably deteriorate necessitating urgent medical review and transfer to the acute hospital setting. The involvement of specialist physicians in the care of these patients is very important as on average one patient every two weeks required acute transfer to the tertiary hospital. The HSE is planning for the differentiation of hospitals into 4 levels with regionally based navigation hubs coordinating medical services within the context of an integrated service area (ISA) where case managers are able to stream patients to most appropriate pathways of care. The concept of guaranteed streaming and reverse streaming of patients to appropriate sites of care across the ISA by the case managers is fundamental to these plans. To facilitate this further the optimisation of retrieval services and associated transfer protocols have been recommended4. With regard to these plans the above audit results highlight the frequency and need for optimisation of care transitions.

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Email: ronanot@gmail.com

References

Table 1 Breakdown of diagnoses on acute unplanned transfer from Rehab Unit to associated Tertiary Hospital.

<table>
<thead>
<tr>
<th>Transfer Diagnoses</th>
<th>Number of cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sepsis/Severe Lower Respiratory Tract Infection</td>
<td>10</td>
</tr>
<tr>
<td>Acute fracture</td>
<td>3</td>
</tr>
<tr>
<td>Pulmonary embolus</td>
<td>3</td>
</tr>
<tr>
<td>Neurological Condition (acute seizure / sensation Loss)</td>
<td>2</td>
</tr>
<tr>
<td>Gastrointestinal Bleed</td>
<td>1</td>
</tr>
<tr>
<td>Colitis</td>
<td>1</td>
</tr>
<tr>
<td>Stroke (new/extension of old stroke)</td>
<td>1</td>
</tr>
<tr>
<td>Surgical Complication (Wound haematoma)</td>
<td>1</td>
</tr>
<tr>
<td>Non- specific deterioration (Generality Unwell)</td>
<td>1</td>
</tr>
<tr>
<td>Acute Abdomen</td>
<td>1</td>
</tr>
<tr>
<td>Septic Arthritis</td>
<td>1</td>
</tr>
<tr>
<td>Gallstone Pancreatitis</td>
<td>1</td>
</tr>
<tr>
<td>Renal Function Complication/Deteriorisation</td>
<td>1</td>
</tr>
<tr>
<td>Disc Prolapse</td>
<td>1</td>
</tr>
<tr>
<td>Cardiovascular condition/ Chest pain / Acute Coronary</td>
<td>1</td>
</tr>
<tr>
<td>Syndrome</td>
<td>1</td>
</tr>
<tr>
<td>Unknown</td>
<td>1</td>
</tr>
</tbody>
</table>

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**In my pigeonhole**

come bills,  
ads for feather-down quilts on special offer,  
web addresses scribbled on backs of envelopes;  
things like,  
Dear Noel  
please ring me on  
084 8484848;  

the tagged feet  
of the work  
of an office worker.

* N King  
20 Park Lane Mews, Denny St,  
Tralee, Co Kerry
To receive CPD credits, you must complete the question online at www.imj.ie.

**Concealed Pregnancy: Prevalence, Peri-Natal Measures and Socio-Demographics**


**Question 1**
A concealed pregnancy is when an expectant mother presents for antenatal care not having told her social network until
a) 12 weeks gestation  
b) 14 weeks gestation  
c) 16 weeks gestation  
d) 18 weeks gestation  
e) 20 weeks gestation

**Question 2**
The proportion of women in the concealed group who only disclosed the pregnancy to their family after the delivery was
a) 10%-20%  
b) 21%-30%  
c) 31%-40%  
d) 41%-50%  
e) 51%-60%

**Question 3**
The mean birth weight difference between babies in the concealed group and the normative population was
a) 200g  
b) 400g  
c) 600g  
d) 800g  
e) 900g

**Question 4**
The median age that the mothers introduced their infants to solids was
a) 3 months  
b) 4 months  
c) 5 months  
d) 6 months  
e) 7 months

**Question 5**
The proportion of mothers who used commercial infant foods was
a) 30-40%  
b) 41-50%  
c) 51-60%  
d) 61-70%  
e) 71-80%

**Weaning onto Solid Foods: Some of the Challenges**


**Question 1**
The median age that the mothers introduced their infants to solids was
a) 3 months  
b) 4 months  
c) 5 months  
d) 6 months  
e) 7 months

**Question 2**
The reported most useful source of feeding information was
a) The doctor  
b) Books and magazines  
c) A family member  
d) The public health nurse  
e) The radio and TV

**Question 3**
The proportion of mothers who used commercial infant foods was
a) 30-40%  
b) 41-50%  
c) 51-60%  
d) 61-70%  
e) 71-80%

**Question 4**
The proportion of mothers who gave baby rice as the first solid was
a) 30%  
b) 40%  
c) 50%  
d) 60%  
e) 70%

**Question 5**
Among the commercially available infant foods available in Ireland the proportion containing excess sugar, fat or added salt was
a) 5%  
b) 10%  
c) 15%  
d) 20%  
e) 25%

**Geriatric Medicine in the Emergency Department**


**Question 1**
The proportion of patients aged 80 years attending the ED is
a) 1-5%  
b) 6-10%  
c) 11-15%  
d) 16-20%  
e) 21-25%

**Question 2**
The number of elderly referred by the ED during the pilot study was
a) 1-75  
b) 76-150  
c) 151-200  
d) 201-250  
e) 251-300

**Question 3**
The proportion of the elderly discharged from the ED was
a) 10-20%  
b) 21-30%  
c) 31-40%  
d) 41-50%  
e) 51-60%

**Question 4**
The mean inpatient death rate of all geriatric patients was
a) 1-3%  
b) 4-7%  
c) 8-11%  
d) 12-15%  
e) 16-19%

**Question 5**
The mean length of stay of all geriatric patients discharged from hospital was
a) 1-5 days  
b) 6-10 days  
c) 11-15 days  
d) 16-19 days  
e) 20-25 days
IMO Members Group PHI & Life Cover

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Permanent Health Insurance (PHI) Cover

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PHI Benefits and Costs

<table>
<thead>
<tr>
<th>Age Last Birthday</th>
<th>Benefit</th>
<th>Monthly Before Tax Relief</th>
<th>Monthly After Tax Relief</th>
<th>Free PHI Cover savings over first 6 months</th>
</tr>
</thead>
<tbody>
<tr>
<td>To 26</td>
<td>€30,000#</td>
<td>€27.90</td>
<td>€16.48*</td>
<td>€98.76</td>
</tr>
<tr>
<td>27 – 29</td>
<td>€50,000#</td>
<td>€40.50</td>
<td>€23.90*</td>
<td>€143.40</td>
</tr>
</tbody>
</table>

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* Based on tax relief of 41%.
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