6TH NATIONAL IARNA CONFERENCE
ONE DAY SEMINAR

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21st October 2006 -
Rochestown Park Hotel, Douglas, Cork

Topics for Cork IARNA Conference 2006 will feature Irish and overseas speakers discussing issues relating to:

- Haemovigilance
- Transfusions of blood products
- National Perspectives
- Nursing Guidelines
- Airway
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- Blood Gas Analysis
- Tracheal Suctioning
- The Child
- Rescusitation of the NewBorn Infant
- The Child in Recovery
- Paediatric Pain Relief
- Key Note Address - Clinical Indemnity

Plus many other topics of interest to nurses and allied disciplines working in Anaesthesia, Recovery and Perioperative practice.

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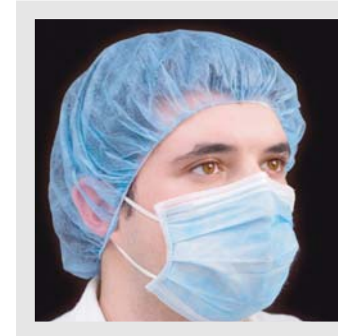

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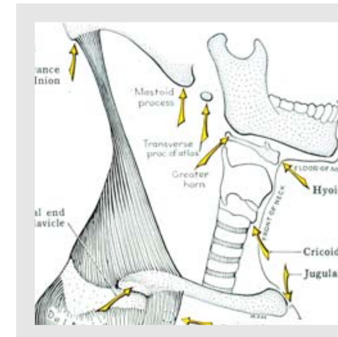

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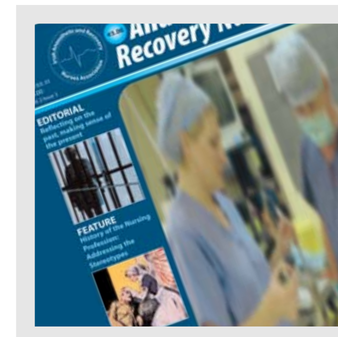

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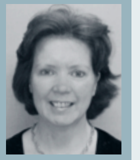
Josephine Hegarty
Editor



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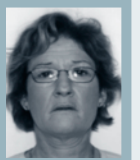

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President Mary McAleese opening the EORNA Congress in May 2006 at the Royal Dublin Society

Letter from the Chairperson of IARNA

Fionuala O'Gorman

Chairperson

We all have a moment either personally or professionally that is inspiring, uplifting and memorable. For me it was the opening address delivered by President Mary McAleese at the European Operating Room Nurses Association Congress held (EORNAC) in Dublin at the end of May.

The President, in her address acknowledged the invaluable role of peri-operative nurses and EORNAC stating that the "foremost quest of this organization is the provision of the very best care-environment for patients. This is your field of expertise, you are the day-to-day practitioners of the art of caring and we are the public who enter hospital for surgery rely totally on your dedication, your commitment and your skill". .The President's address was greatly appreciated by our European colleagues in particuliar Irini Antoniadou EORNAC President who said she "could not believe the President took the time to make the address and it truly reflected the status of Irish Nursing". The conference was a huge success and all the organizers in particular, the Irish Nurses Organization deserve huge credit for their contributions to that success.

Speaking of conferences The Irish Anaesthetic and Recovery Nurses Conference will be held in **Rochestown Park Hotel, Douglas, Cork on the 21st October 2006.** The conference will deal with the three core concepts of Haemovigilance, Ventilation and Paediatrics. The keynote address will be given by Dr. Ailis Quinlan on the subject of Clinical Indemnity. We look forward to seeing you all there.

I would like to take this opportunity to wish everyone a happy, sunny and fun filled summer.

Yours Sincerely,
Fionuala O' Gorman

About the Journal

Irish Journal of Anaesthetic & Recovery Nursing

JOURNAL DESCRIPTION

The Journal is published on a quarterly basis and provides articles, reviews, letters and discussion on key topics, which are pertinent to the perianaesthesia nurse. Topics include updates on clinical issues, perianaesthesia nursing care, research on perianaesthesia nursing care, legislation and the practice of the perianaesthesia nurse. Other features include updates on practical innovations, book reviews, conference reports and education supplements.

AUTHOR GUIDELINES

The Irish Journal of Anaesthetic & Recovery Nursing welcomes manuscripts pertaining to nursing practice in the areas of Anaesthesia and Recovery. The Journal endeavours to publish information on current trends in the provision of optimum health care. Manuscripts (which examine an area of clinical practice, details the author's research or discusses practical innovations), short-case studies, papers expressing professional opinions or letters are welcome from all members of the multidisciplinary team.

EDITORIAL AND PEER REVIEW POLICY

Manuscripts are evaluated by the Editor and two members of the IJARN Editorial Board while the Editor may modify the style of a contribution, major changes will be reviewed by the author prior to publication.

MANUSCRIPT PREPARATION

Submit three copies of the manuscript (on paper) and one copy on a disc (Microsoft Word document). Discs and paper copies of the manuscript will not be returned to the author. The manuscript must be double spaced, wide margin (3.17 cm left and right margins and 2.54 for top and bottom) and should be typed on one side of the paper only. The word count should be up to 2000 words (consult Sub Editor for specific advice). The top sheet should display: paper title, author's names, professional and academic qualifications, positions and place of work and address to which all correspondence should be sent. Figures, legends, tables, pictures (submitted on a separate page) should be referred to in the text and their appropriate position referred to in the margin. The main text should be preceded by a short summary (100-200 words).

In the case of research carried out by the authors, it is assumed that the authors have conformed to the normal ethical aspects of the investigation and appropriate copyright laws.

References in the text should cite the author's names followed by the date of publication, in date order e.g. (Murphy 1990, McCarthy 1998 and Lennox 1999). Where there are three or more authors, the first author's name is followed by et al (O'Sullivan et al 1999), all author's names are included in the reference list. Text taken directly from another article i.e. a direct quote should be referenced with the page number (Ryan 2001 p.29). Detailed list of references should be included as a separate page which include author's surnames and initials, year of publication, title of paper, name of journal, volume number (and issue number where relevant) and first and last page numbers.

For a book citation include the author's surnames and initials, year of publication, title of book, (edition of book if appropriate) followed by the publisher and town country/state of the publisher.

When referencing a chapter in a book, details of the author and editor are given as well

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Brookfield Health Sciences Complex
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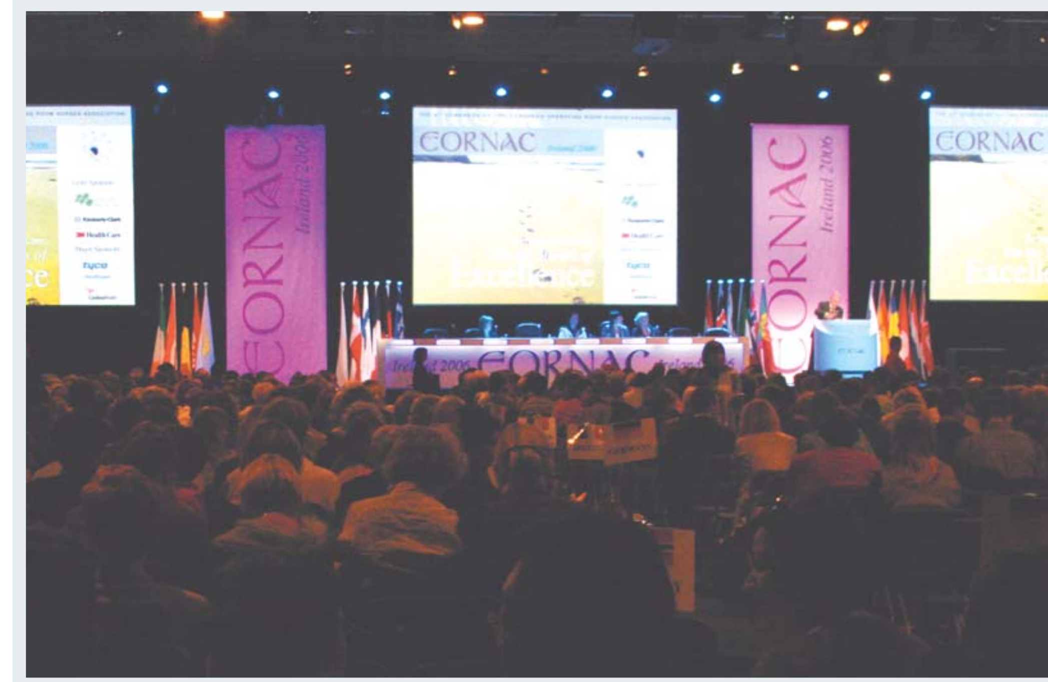

Editorial

The European Operating Room Nurses Congress, Dublin 2006

Josephine Hegarty

Editor

Dear Readers,

I had the pleasure of attending the 4th Congress of the European Operating Room Nurses Association in the RDS, Dublin on the 25th-28th May 2006. The conference reinvigorated me and confirmed for me that Theatre Nurses are continually striving to promote evidence-based practice. There were over eleven oral presentations and numerous poster presentations by Irish Nurses, each and every one of them were of a very high calibre and patient care was the central focus of many of the presentations. We must applaud this level of commitment to the future of perioperative nursing.

In this journal, we hope to enlighten you on two topic areas using a short and concise presentation style that can be used as a quick reference. The first looks at the promotion of information literacy. Advances in information technology have provided faster access to vast amounts of information; we the consumers need to be selective and control our search strategies when attempting to access the most recent information on health related issues. Information literacy focuses on the need to appraise the quality of information and the ability to choose the most appropriate technological tools for accessing that information. Within the journal, we hope to address the issue of information literacy in a number of journal issues. The second short piece looks at the area of cricoid pressure application and importance of this technique in the prevention of pulmonary aspiration.

If you would like to write a short piece, which focuses on a particular area of peri-operative nursing practice or a particular skill, please contact us and we would be delighted to facilitate you.

I would also like to encourage you to enter the Dräger Poster Competition at our forthcoming IARNA conference in Rochestown Park Hotel in Cork. A €2000 prize fund has been provided for the best poster presentations at the conference. This is a very substantial prize fund, thank you to Dräger Medical. A poster presentation can be on any topic pertaining to peri-operative practice, presentations in the area of recovery and anaesthesia practice are particularly encouraged. Closing date for application is the 6th October 2006.

Wishing you a pleasant summer.

Josephine Hegarty
Editor IJARN

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Searching the Internet - ***Search Engines***

There are a lot of search engines available these days to help provide access to the millions of websites on the Internet. These include Altavista, Lycos, Yahoo etc. If you go into any of the Search Engines and type in "search engines" you'll get links to them – they all have different strong points and weak points and by trying a few out you'll get to know which you find best or easiest to use.

Google

Google is one which is probably familiar to all and it is very user friendly so it is a good place to start looking at how to search the Internet in an efficient way.

www.google.ie

Here are a few tips for using Google.

Exact phrase (" ")

e.g. "pain assessment in children"

will look for those exact words to appear in that exact order. This increases your chances of getting more relevant results. At the bottom of the page there is the option to ***search within these results***, so you can narrow your search by adding in more words e.g. *research or Ireland*.

Finding Meanings

e.g. define:heart attack

Type the word define, followed by a colon, and then the word or phrase you wish to check. Google will give you any definitions it has. This can be useful if you need to know the exact meaning of a word or the different words or phrases that can be used for a concept.

Conversions and Calculations

e.g. €10 in sterling or 300 days in weeks
Type in what you want converted, like the examples above and Google's built in calculator will convert units of measurement whether you are looking for currency, speed, length etc.
e.g. 50% of 1000
Put in your maths query and it will calculate e.g. addition, division, percentage etc.
It comes with a disclaimer, which is probably very wise, but its fun to play around with!

Google Scholar

Google Scholar appears under the ***more*** options on the main Google screen, and searches across academic disciplines for scholarly materials like peer-reviewed journal articles, theses, books and abstracts. Clicking on a "Cited by" link will display a list of the books and articles that have cited the original document. This allows you to find more information and decide how important the article is (if a lot of other authors are citing it, it should be an authoritative source, although bear in mind if it is very new people won't have had time to use it in their work).

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The Impact of Education on the Handwashing Behaviours of Student Nurses

Teresa Wills, MSc, BNS, RM, RGN,
College Lecturer, School of Nursing & Midwifery, University College Cork, Ireland.

INTRODUCTION

Handwashing is an infection control practice with a clearly demonstrated efficacy and remains the cornerstone of efforts to reduce the spread of infection (Kareby et al, 2002). Rates of handwashing compliance are far lower than desirable and rates of hospital-acquired infections reflect these failures (Harbeth et al, 2003). The issue is no longer whether handwashing is effective but how to produce a sustained improvement in health workers compliance (Pittet, 2000). **This quasi-experimental study investigated the effectiveness an educational programme had on the handwashing behaviours of student nurses.**

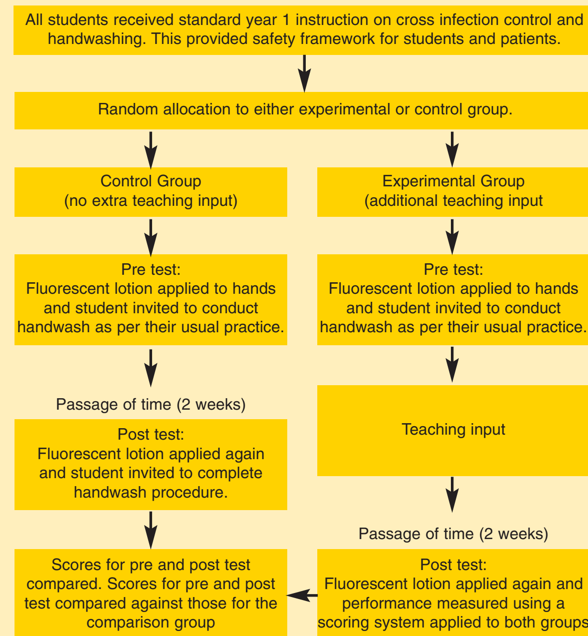
METHODOLOGY

Research Design: Quasi-experimental study

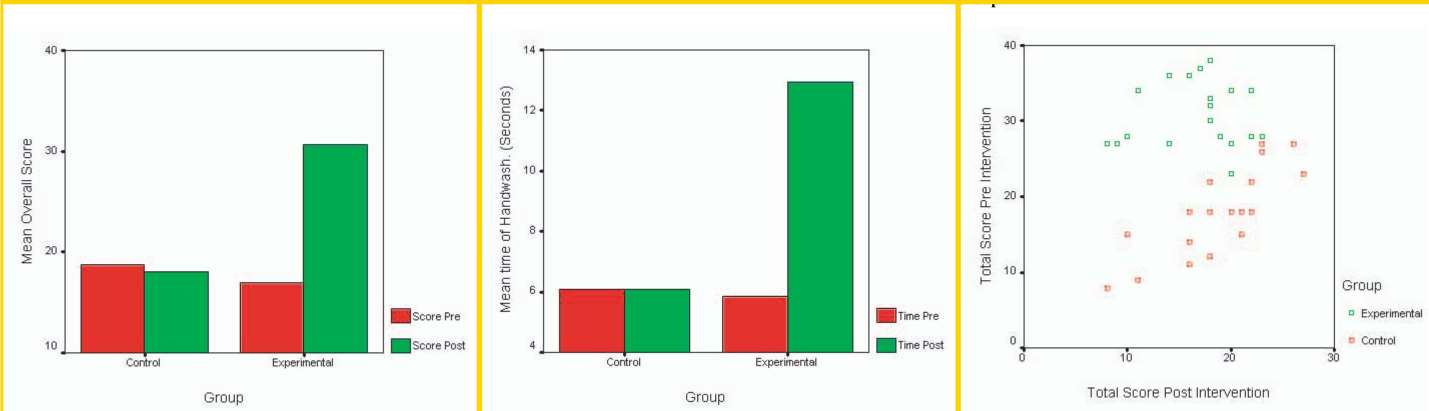
Sample: 40 (n=40) second year and third year student nurses working on medical and surgical wards in an acute general and maternity hospital
Control Group (n=20) Experimental Group=20)

Data Collection: Structured Observation

Data Analysis: Analysis of Covariance (ANCOVA) / Paired T Test



RESULTS



Mean Overall Score Pre & Post Intervention for Experimental and Control Group

Mean Time in Seconds of Handwash for Experimental and Control Group

Scatter Plot of Overall Score for Experimental and Control Group

SUMMARY

At pre-intervention there was no significant difference between the experimental and control groups. The intervention had an impact on the overall score (effectiveness and technique) for handwashing and duration of handwashing for the experimental group. In the control group there were no changes while there were significant increases in all aspects for the experimental group.

RECOMMENDATIONS

- Clinical workshops on handwashing and prevention of infection to be provided for all health care professionals in clinical areas
- Health care professionals to be aware of current research pertinent to handwashing
- To accord high priority to the time spent handwashing and to establish increased compliance with handwashing
- Nursing curriculum development with emphasis on microbiology and handwashing

Telephone: 021-4904809 or e-mail t.wills@ucc.ie for further information

But can you trust it?

With any search you do in a search engine you should look to see where the documents have come from. If they emanate from a university or government site they have a fair chance of being accurate. If they come from a commercial or individual's website they will not necessarily have been subjected to any sort of independent scrutiny. And of course, some sites get started with great enthusiasm and then don't get updated so check when the site was last updated to see if it is still current information.

The web address itself will provide clues – for US websites the last three letters after the final dot tells you what kind of organization you are dealing with. There are six top level domains widely used in the U.S including **.com** (commercial), **.edu** (education), **.gov** (U.S. government) and **.org** (organization). Other, two-letter domains represent countries e.g.**.ac.uk** for academic sites in the United Kingdom , **.ie** for Irish sites and so on. You will often become familiar with names of people publishing in your specialist areas, or hospitals or universities doing a lot of research in a particular area.

> *"If they emanate from a university or government site they have a fair chance of being accurate. If they come from a commercial or individual's website they will not necessarily have been subjected to any sort of independent scrutiny. And of course, some sites get started with great enthusiasm and then don't get updated"*

Useful websites for Nursing

http://nmap.ac.uk/
NMAP (Nursing, Midwifery and Allied Health Professions) is a gateway to evaluated, quality Internet resources, coordinated by the University of Nottingham in the UK.

http://gateway.nlm.nih.gov/gw/Cmd
The US National Library of Medicine provides a single point to search for a range of valuable databases – you can put in your search term and get information on research and clinical trials, consumer information, toxicology along with medical news and Medline's Medical dictionary.

http://www.hselibrary.ie/
This new Irish gateway to health information is provided by the HSE Regional Library & Information Services. This site is for HSE employees to assist evidence-based practice and improve patient care – some databases are only searchable to HSE employees but others are government or open access sites which are available to all.

http://www.library.nhs.uk/
The National Library for Health is the UK's National Health Services website and again some databases are only available to NHS employees, but a lot of documentation such as clinical guidelines and UK policies is available to all.

http://www.dohc.ie/
The Department of Health and Children website includes links to publications and agencies such as An Bord Altranais and the Irish Medicines Board. It's a good starting place when tracking down Irish government policies and legislation.

http://www.nursing-standard.co.uk/links/index.asp
This index is on the Nursing Standard website, and although some websites are restricted to members only there are a lot of useful materials available e.g. the RCN website has Clinical Guidelines and the Clinical Governance Support team of the NHS is doing some interesting work on improving the patient's experience.

Evidence based practice

For those who are interested in exploring the evidence there are some quality sites to consult – here's a couple of the best:

http://www.jr2.ox.ac.uk/bandolier/
Bandolier searches for systematic reviews, randomised trials etc. and provides access to research findings. It has an alphabetical list of topics in the Knowledge Zone, a glossary to help with the jargon surrounding research and evidence based medicine and a learning zone.

http://www.cochrane.org/
Cochrane reviews bring you the combined results of the world's best medical research studies, and are recognised as the gold standard in evidence–based healthcare. ■

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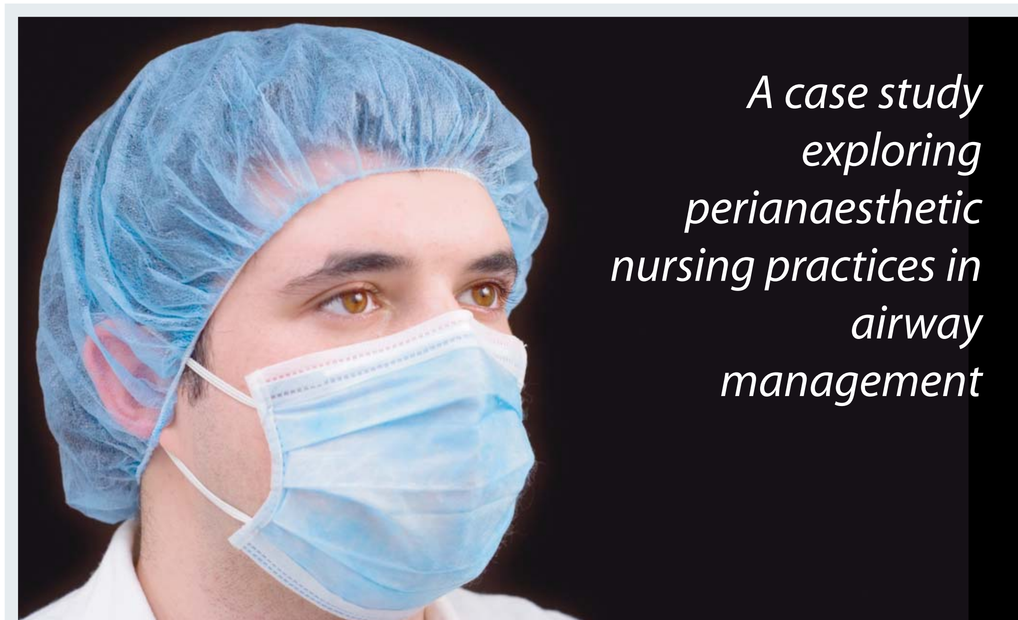

Quality Patient Care and the Perianaesthetic Nurse

This is Part I of a three part series that critically evaluates the role of the perianaesthetic nurse in the provision of quality care within the pre, intra, and post anaesthetic care environment. A case study approach is used to espouse a realistic illustration of contemporary perianaesthetic nursing practices. Particular emphasis is placed on airway management during induction, maintenance, and reversal of anaesthesia, and the management of the patient during the post anaesthetic phase of care.

The attributes of structure, process, and outcome are employed as a framework to guide quality measurement within the domain of anaesthetic and post anaesthetic nursing. The application of both referential and experiential knowledge to balance the art and science of perianaesthetic nursing care are considered, with particular emphasis on the unique set of clinical decision making and problem solving approaches typical of perianaesthetic nursing. The importance of competency, multidisciplinary working, patient advocacy, family centeredness, and anxiety management are discussed. Recommendations to enhance future perianaesthetic nursing in the provision of quality patient care are proposed.

Introduction

Current market forces, litigation challenges, regulatory directives and a revolutionised professional focus have augmented the onus on healthcare organisations and practitioners to continuously monitor and evaluate their contributions to the provision of quality patient care (Parker, 1999). Many pioneering theorists have developed quality measurement tools, strategies, and frameworks to assist examination and evaluation of the quality process (Koch, 1992). Perhaps these ideologies combined with the principles of a healthcare service which endeavours to address consumer needs have provided the impetus for both specialist and generic nurses to adapt, adjust, and replace many of their habitual practices and rituals with evidenced based standards of care.

Advanced monitoring technology and refined anaesthetic pharmacology have been credited with lower mortality and morbidity rates, and an increased delivery of quality care in anaesthetised patients (Stein, 1995). The skills, knowledge, and expertise of perianaesthetic nurses have also unquestionably contributed to this improvement. Ultimately the salient beneficiaries of quality patient care are the patients. Nevertheless, the provision of quality perianaesthetic patient care has ramifications for the organisation, the profession and the individual providers of care.

This three part series explores perianaesthetic nursing practices in airway management during the pre, intra, and postoperative phases of perianaesthetic care. Part I provides an overview of the relationship between the quality measurement process and the perianaesthetic nurse. It also examines central role of adequate perianaesthetic preparation to receive a patient. Part II analyses the role of the perianaesthetic nurse during induction, maintenance and reversal of anaesthesia and the transfer to the Post Anaesthetic Care Unit (PACU). Part III concludes the series discussing perianaesthetic care in the PACU and also synopsises the tentative recommendations made throughout the series which may influence the strategic direction of perianaesthetic nursing practices.

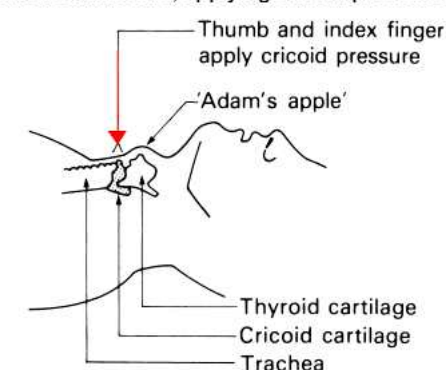

Image by kind courtesy of www.4um.com

Who needs Cricoid Pressure?

- Those individuals who have difficulty in communicating when food or fluid was last taken. Examples include: those with a vocal or learning impairment.
- Foreign nationals presenting for emergency surgery and anaesthesia in a host country. They are at risk of acid aspiration syndrome when they may have difficulty in communicating essential medical details during their pre-operative preparation.
- In regard to the patient with an acute intestinal obstruction, gastric emptying is absent or slowed down due to a paralytic ileus.
- Cricoid pressure is an essential adjunct of anaesthesia for the obese patient requiring surgical intervention. It is also a necessary technique for the patient with abdominal distention caused by ascites.
- Those compromised physiologically through stroke or head injury may require cricoid pressure due to impaired laryngeal – pharyngeal function

Essentials needed for cricoid pressure induction of anaesethesia

- Fully trained personnel in the application of cricoid pressure
- Careful explanation of the procedure to the patient prior to induction of Anaesthesia
- Full working suction at the head of the patient before induction of anaesthesia
- Fully functioning trolley tilt mechanism in the event of sudden reflux
- Facility for an awake intubation – endoscopic intubation
- Stylets and guides for easy intubation
- Intubating equipment

Who applies cricoid pressure?

The responsibility for this manoeuvre in the peri-operative setting most often lies with the circulating nurse. Consequently, peri-operative nurses must be knowledgeable and proficient in generating appropriate and consistent amounts of cricoid force (Koziol et al 2002)

When is cricoid pressure applied?

Cricoid pressure is applied as the patient is being induced into the state of anaesthesia, it also plays an essential part in the process of rapid sequence induction or crash induction

Cricoid pressure is applied **after** pre-oxygenation and **during** the rapid sequence induction process of a fast acting muscle relaxant and **before** intubation of the patient.

How is effective Cricoid Pressure measured?

Koziol et al (2002) state in a paper entitled: 'Assessing the Force generated with application of Cricoid pressure' that 'research recommends that 3 to 4 kg of cricoid force be applied to achieve effective oesophageal occlusion which effectively prevents regurgitation of gastro-oesophageal contents into the pharynx of the unconscious patient'

The authors justify that the force exerted on the cricoid cartilage is quantified as a Newton (N) by rationalising that the application of cricoid pressure generates a force.

Sellick (1961) recommended the quantity of 20-40 (N) to be the optimal force that should be exerted on the cricoid cartilage in order to achieve optimal effect.

Advantages of Cricoid Pressure

- Prevention of Acid Aspiration / Mendleson's Syndrome
- Protection of the patient's upper respiratory tract from aspiration pneumonitis
- Enhanced laryngoscopic visualisation of the vocal cords by the anaesthetist
- Additional skilled peri-operative nurse support for the anaesthetist in expediting safe and rapid sequence induction of anaesthesia.

Disadvantages of Cricoid Pressure

- Poor technique including different application pressures and even incorrect identification of the cricoid cartilage (Gardiner & Grindrod 2004)
- Inadequate force being applied to the cricoid cartilage; insufficient force may allow gastric contents to be aspirated into the upper airway.
- Excessive force may be counterproductive, putting the delicate structures of the glottic area under stress causing airway obstruction or serious injury to the larynx and oesophagus.

When is cricoid pressure discontinued?

The decision to discontinue cricoid pressure is made by the anaesthetist subject to the following conditions:

- The endotracheal tube is in the larynx and not the oesophagus
- Air entry is equal in apices and bases of lungs
- The ETT cuff is inflated with recommended amount of air.
- The ETT is safely secured to the patient and all connections are secure
- There is no evidence of aspiration
- Satisfactory oxygenation of the patient.

NOTE:
Cricoid pressure must be immediately discontinued if the patient vomits as it can lead to oesophageal perforation. ■

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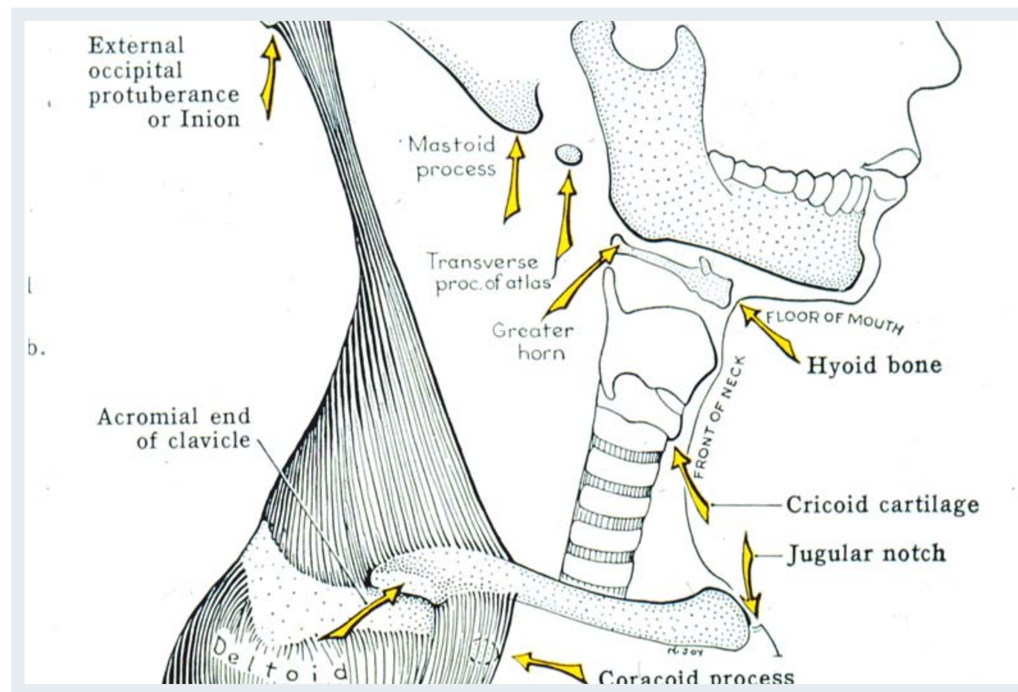

Illustration by kind courtesy of Dr. Sardar Ullah Khan

Cricoid Pressure

Rapid Sequence Induction (RSI), Crash Induction, Cricoid Pressure and Sellick's Manoeuvre are terms used to describe a specific technique that is employed by the anaesthetic nurse to protect the patient from acid aspiration syndrome or Mendelsons Syndrome; a situation that can occur at induction and emergence of anaesthesia. Thus, according to Farman,(2004), without laryngeal reflexes during a general anaesthetic, the stomach contents can travel up the oesophagus and back down the trachea without reaching the oral cavity and without the anaesthetist or nurse noticing.

Historical Context

The technique of cricoid pressure was first developed by Dr Brian Sellick, (1961) a British anaesthetist in a ground breaking paper published the same year in The Lancet described 'a simple procedure to control regurgitation of stomach contents during induction of anaesthesia.

Mendelson Syndrome

Earlier in 1946, C.L. Mendelson, a New York Obstetrician described Acid Aspiration Syndrome that tended to occur in the third trimester of pregnancy. As foetal growth progressed to term, the fundus of the stomach is pushed upward by the gravid uterus. The risk of gastric reflux and regurgitation of stomach contents is increased significantly when a general anaesthetic is required. Further consideration must be given to the pressure placed on the stomach, the diaphragm and, consequently, the airway (Smith et al 2005)

Mendelson deduced the following points that best describe Acid Aspiration Syndrome:

(1) 'laryngeal reflexes are abolished during general anaesthesia'
(2) 'liquid material is more frequently aspirated than solid' and
(3) 'Aspiration of stomach contents into the lungs is preventable'(Farman 2004)

Anatomy & Physiology *(see Fig.1)*

The cricoid is located at the level of C6.This manouvre (The Cricoid Pressure) was introduced by the UK Anaesthetist Brian A Sellick. It involves digital pressure against the cricoid cartilage of the larynx pushing it backwards. The oesophagus is thus compressed between the posterior aspect of cricoid and the vertebral bodies, preventing stomach contents regurgitating into respiratory tract during intubation, extubation, recovery and in unconscious patients. The cricoid is used for this purpose because it forms the only complete ring of the upper respiratory tract and is easily palpable just beneath the thyroid cartilage in the mid line of the neck as shown in picture.

Indication for Cricoid Pressure

Delayed Gastric Emptying

- Patients with a full stomach and who **are not fasted** prior to anaesthesia are at grave risk of aspiration.
- Those individuals who have undergone **a traumatic event** will suffer from delayed gastric emptying. They are at risk of aspirating their stomach contents and developing aspiration pneumonitis.

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The perianaesthetic nursing contributions which contribute to effective airway management are identified and analysed through a case study approach. Schlenker and Kerber (2006) contend that case study approaches espouse critical thinking and support the application of theory into practice. This case study attempts to create a milieu of familiarity. This may engender perianaesthetic nurses to explore their own practices, to identify their invaluable contributions to quality patient care, and to realise methods of enhancing their current practices.

The role of the perianaesthetic nurses in evaluating the quality of patient care

In recent years a consumer responsive society has altered the focus of healthcare services. This is reflected in government publications that endeavour to provide a quality service and encompass the attributes of quality, equity, economy, efficiency and a patient centred approach to the delivery of care (Department of Health, 1994; Department of Health and Children 2001). Hence many organisations' clinical governance frameworks have ensconced Total Quality Improvement (TQI) schemes, as part of their continuous quality improvement strategy (Leahy, 1998). The current economic climate has augmented the necessity for healthcare administrators to possess comprehensive data that indicates how nursing services are best being utilised (Milne and McWilliam, 1996). The Department of Health and Children (2001) have outlined that in the future, healthcare practitioners will be obligated to evaluate both their clinical competencies and individual contributions to the provision of quality care. Thus perianaesthetic nurses who engage in clinical evaluation processes may demonstrate the productivity of their nursing services. In anticipation of mandatory productivity and quality measurement, perhaps analyses of current perianaesthetic nursing processes could be considered a necessary preliminary to prepare for this process.

Nurses are encouraged to commit themselves to lifelong learning processes which promotes personal and professional development (An Bord Altranais 2000a). Evaluating one's own unique contribution to quality patient care can motivate, enthuse, and encourage the reflective process, which is part of an experiential learning cycle (Prowse and Lyne, 2000). Furthermore participation in quality monitoring and evaluation processes could assist novice perianaesthetic nurses in their pursuit towards excellence (Benner, 1994). Without a personal commitment to providing quality patient care, no amount of organisational, regulatory, or legislative strategies can protect quality (Donabedian 1980).

There has been a discernible deviation from a provider/professional focus to a consumer needs focus. As consumer expectations continue to transform, so also does their perception of quality (Murphy, 2005). Thus to satisfy consumer requirements, perianaesthetic nurses must constantly evaluate their practices to ensure that improvements and developments correlate with consumer expectations. Nurses are also legally obligated to ensure that their duty of care is supported by evidence based standards of care (Dimond 1994). Standard setting and subsequent standards of care are founded on areas of interest and sources of concern (Lane, 2002). An evaluation of anaesthetic nursing processes may indicate if current standards of care are evidence based and correlate with the principles of risk management and quality measurement.

The Freedom of Information Act (1997) has enabled individuals to access any personal or public information held by any public body. This may have contributed to the significant increase in the medico legal challenges in recent years, which are inclusive of anaesthetic related problems (Cusack, 1998). Since risk management is inherently linked with quality measurement (Cusack, 1998), many organisations have introduced risk management frameworks to concurrently militate litigation challenges and direct quality measurement. The evaluation of current perianaesthetic nursing practices could identify clinical indicators which espouse both of these principles.

The nature of the perioperative environment demands that perianaesthetic nurses arrive at prompt decisions that ultimately consider positive patient outcomes (Cowling and Haas, 2002). Perianaesthetic nurses provide patient care during rapidly changing situations in highly technical environments. Complex nursing decisions and actions are continuously necessitated (Parker, 1999). There is a dearth of research exploring perianaesthetic nurses' decision making processes. Also there is a paucity of evidence to support the valuable contribution anaesthetic nurses make to the provision of quality perianaesthetic nursing care. This strengthens the impetus to introduce infrastructures to assist the evaluation of current perianaesthetic nursing practices.
The effective employment of quality measurement tools may be instrumental in evaluating the quality of perianaesthetic care, which is an end product of several intricate processes. Quality analysts and nurse theorists suggest diverse frameworks to guide the quality measurement process, and concur that the attributes of structure, process and outcome are pivotal to this process (Koch, 1992). These attributes are interdependent and quality cannot exist if one element is lacking. Donabedian's (1980) and Attree's (1996) frameworks are combined to analyse and evaluate the quality perianaesthetic nursing care in this case study. The adapted framework is illustrated in **Figure 1**.

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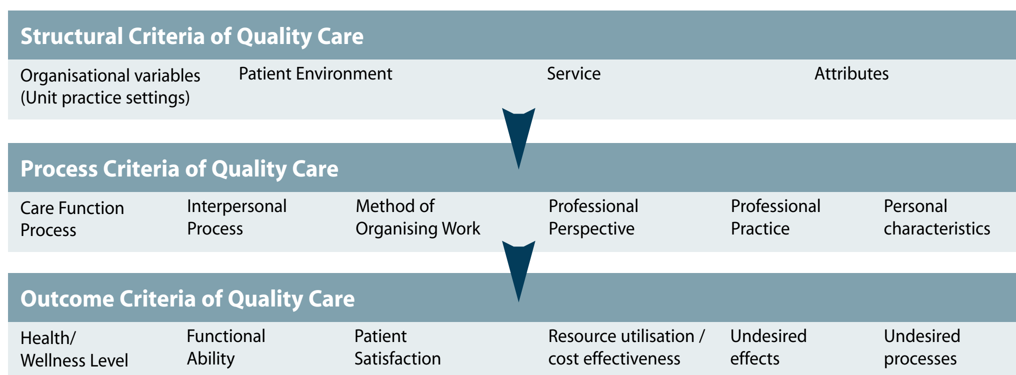

Figure 1: The quality measurement attributes; structure, process and outcome.
Adapted from (Attree, 1996)

Meet Anna

An elective cystoscopy was performed on Anna, a thirty year old married lady who presented with recurrent cystitis. To protect her anonymity and confidentiality, Anna is a pseudonym. Permission was also sought from and granted by Anna prior to commencing this case study.

Preanaesthetic equipment checks

Action

Anna was admitted to the day case unit the morning of her surgery. Anna's anticipated arrival ensured that the perianaesthetic nurse had prepared and checked the environment and equipment prior to Anna's admission to the theatre department. The Association of Anaesthetists of Great Britain and Ireland (1993) summarised a checklist to assist anaesthetic personnel in the equipment checking process. These standards are employed locally as best practice protocols and are organisational structures intended to direct and guide the checking process.

Rationale

These and similar nursing tasks have been criticised as being essentially task orientated and ritualistic (Webb, 1995; Carter and Evans, 1996; White and Coleman, 2000). Conversely these processes facilitated the identification and isolation of potentially malfunctioning equipment which could have compromised Anna's physiological safety during anaesthesia. Physiological safety is paramount as potential anaesthetic complications can influence postoperative morbidity and mortality (Gillette, 1996). Positive patient outcomes are determined by safe practices, since safety encompasses freedom from danger, risk or injury (Aker, 2001). The only target criticism emerging from this perianaesthetic nursing process was the lack of documentation. Should any adverse complications have occurred at any stage during the perianaesthetic period, there is no tangible evidence to indicate the perianaesthetic nurse's pre-anaesthetic management of the equipment and environment.

Pre-anaesthetic checklist

Action

The anaesthetic nurse first met Anna in the reception area of the theatre suite. A comprehensive checklist, incorporated into the nursing care plan, was completed to ensure the safe delivery of patient care during anaesthesia (King, 1998). The preoperative checklist encompassed many elements of significance pertaining to effective airway management. These essentials are summarised in **Table 1**.

Check	Significance
Medical and Nursing Records	May establish medical or anaesthetic related problems which could necessitate particular pre, intra or postoperative considerations.
Blood Results	To highlight values outside the normal ranges as this could precipitate anaesthetic complications.
Chest X-ray and electrocardiograph	To establish cardiac and respiratory status
Prescription chart	-To Indicate the dose, frequency, and administration of drugs. -Some medications have adverse effects if combined with anaesthetic properties. -Alerts to drug allergies.
Physical Checks	-Time of last oral intake -Presence of make up or nail polish which can mask the signs of cyanosis. - Presence of dental crowns, caps, and loose teeth that could be dislodged during intubation.
Informed Consent	-Verification that a patient has been provided with appropriate information and has had an opportunity to discuss implications with a suitably qualified practitioner -Confirmation that a patient understands and agrees to anaesthesia and surgery. -Legal requirement *(Dawson, 2000)*

Table 1: Preoperative checklist to assist the planning of effective airway management
Adapted from (King, 1998)

Quality Patient Care and the Periananaesthetic Nurse

The anaesthetic nurse examined a ward report indicating the preoperative management of Anna. This indicated that Anna took Losec 20mgs a day for a hiatus hernia. The possibility of pulmonary aspiration of gastric contents required an experienced anaesthetic nurse to maintain and adhere to the principles of cricoid pressure during a rapid sequence induction (Greundemann and Fernsebner, 1995). The perianaesthetic nurse informed the anaesthetist of Anna's pre-existing medical condition prior to her transfer to the anaesthetic room. The anaesthetic nurse also requested the assistance of a second nurse during induction, since once having applied cricoid pressure, she could not offer any further manual assistance until a definitive airway was secured.

Rationale

In the current era of cost containment, an ideal ambulatory anaesthetic is one that can be safely administered without sacrificing quality, but which also minimises a patient's or a third party's expense (Nagelhout and Boytim, 2001). Anna required a rapid sequence induction and endotracheal tube (ETT) intubation. This included the administration of thiopentone and the depolarising muscle relaxant (suxamethothium) (Hoffer, 1999). Since these drugs are less conducive to rapid predictable elimination, Anna's post anaesthetic recovery time was inadvertently delayed. However in contemporary medical and nursing practice, the cost-benefit ratio of using the safest pharmacological preparations must constantly outweigh the costs of adverse patient outcomes (Nagelhout and Boytim, 2001).

The checklist system was perhaps the most important structure which predicted the nursing processes. Following assessment, the perianaesthetic nurse identified a potential risk and developed a plan to direct the implementation of strategies and further processes to meet the desired postoperative outcome for Anna (Krenzischek, 2002). Although Anna's medical condition may have been realised in the anaesthetic room immediately prior to induction, frequently patients' anxiety levels are heightened at this stage (Welsh, 2000). The multidisciplinary communication process prior to transfer decreased the potential of increasing Anna's anxiety. Documentation of the perianaesthetic nurse's role throughout these processes demonstrated her sphere of responsibility and accountability in providing Anna with quality care.

Pre-assessment clinics

If Anna had attended a pre-assessment clinic her potential anaesthetic complication presented by possible gastric reflux would have been identified. This would have resulted in preventing the unnecessary delay and the recruitment of additional personnel to assist during induction (Knowles, 1997). Involvement of the anaesthetist at a pre-assessment clinic could also have promoted the concept of individualised anaesthetic pathways (Nagelhout and Boytim, 2001). Although every anaesthetic is tailored to individual requirements, a preoperative meeting with Anna would have facilitated imparting sensory, behavioural, and cognitive information pertaining to cricoid pressure.

The perianaesthetic nurse informed Anna in the PACU that she may experience muscle rigidity the first day postoperatively as a side-effect of suxamethothium administration. It is unknown if Anna retained this information as her conscious mechanisms were still impaired following anaesthesia. Receiving this information at a pre-assessment clinic could have afforded increased opportunities to assimilate this information (Beddows, 1997). Furthermore, the provision of preoperative information can significantly reduce preoperative anxieties and apprehensions (Wallace, 1986; Mitchell, 1997; Miro and Raich, 1999). The perianaesthetic assessment and subsequent provision of information was provided within a limited timeframe. A perianaesthetic nursing presence at a pre-assessment clinic would have presented an opportunity to prepare an individualised perianaesthetic pathway for Anna.

Conclusion

Part I of this three part series paper focussed particularly on the quality dimensions inherent in the individualised preparation of the anaesthetic environment and equipment to receive a patient. Quality measurement strategies were instrumental in guiding the evaluation process (Donabedian, 1980; Attree, 1996). This evaluation illustrated that structure, process, and outcome are co-dependent attributes. Despite the perianaesthetic nurse's referential and experiential knowledge, an absence or incompleteness of structures inhibited subsequent nursing processes that could have impinged upon Anna's perianaesthetic experience. It would be a futile exercise to engage in quality measurement and evaluations without considering the clinical indicators, which emerge as essential catalysts to improve the quality of patient care. Consequently developing current documentation practices and the introduction of a perianaesthetic nursing presence at pre-assessment clinics were suggested as potential structures to enhance the quality of a patient's perianaesthetic journey. ■