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Oral Presentations

OUTCOME PREDICTION IN CRITICALLY ILL OBSTETRIC AND GYNAECOLOGY PATIENTS: A SERIES OF 260 CASES

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Introduction
The ability to objectively predict patient outcome constitutes important adjunctive information for intensivists. In the context of obstetrics and gynaecology critical care there exists no outcome prediction model developed specifically for this unique subset of patients.

Objectives
In a cohort of critically ill obstetric and gynaecology patients to: (i). evaluate the APACHE II score, (ii) prospectively develop and validate an outcome prediction model, (iii) evaluate organ failure (OF) (Organ Failure score and SOFA score) and (iv) review SIRS (Systemic Inflammatory Response Syndrome)

Design
Prospective study conducted over a 2-year period in the Surgical ICU (intensive care unit) at King Edward VIII Hospital, Durban. Institutional ethics approval was obtained. Patients were allocated to 1 of the following categories:
Obstetric hypertensive group (G I), Obstetric non-hypertensive group (G II) and Gynaecology group (G III). Data captured included demographic details, clinical assessment, investigations, treatment, variables required for APACHE II score, organ failure assessment, SIRS and patient outcome. APACHE II, organ failure assessment and SIRS was evaluated in the entire patient subset. For the purpose of the outcome prediction model, the subset was divided into 2 groups: Group A-the *development* group and Group B-the *validation* group. STATA 7 software was utilised for data analysis.

Results
The dataset comprises of 260 admission cases. Obstetrics and gynaecology cases represented 18.5 %(n=260) of the total ICU population (n=1408). The majority of patients were young (mean age 27 years) and of low parity. The mean ICU stay was 5.5 days. The case mortality for Groups I, II and III was 23.4%, 43.2% and 42.9% respectively. The mean APACHE II score was significantly higher in non-survivors compared to survivors for all patient subgroups ($p< 0.0001$) however APACHE II performed variably in each of the groups. Age, mean arterial blood pressure, respiratory rate, GCS and pH were identified as significant outcome predictors. Using these parameters an obstetric and gynaecology outcome prediction (OGOP) model was developed for each group. The area under the curve for the ROC curves in each of the subgroups was >0.9. Three OF >72 hours, 3 OF >48 hours and 3 OF=48 hours was invariably fatal in groups I, II and III respectively. SOFA scores were significantly higher in non-survivors compared to survivors ($p<0.0001$). A day one SOFA score >19 (GI), 16 (G2) and 14(G3) was also invariably fatal. SIRS, severe SIRS and sterile shock occurred in 78 %(113) of GI (n=144) cases, with a collective mortality of 22%. Sepsis, severe sepsis and septic shock occurred in 68 %(50) and 60% (25) of GII and GIII cases respectively. In GII and GIII, the subset with sepsis, severe sepsis and septic shock demonstrated a collective mortality of 56%.

Comment
The OGOP model is easier to calculate and is superior to APACHE II. Organ failure assessment as well as the SIRS response adds additional outcome information. The OGOP model should constitute the gold standard in assessing outcome prediction for critically ill obstetric and gynaecology patients.

BODY WEIGHT AND TIDAL VOLUME ESTIMATION IN ACUTE RESPIRATORY DISTRESS SYNDROME (ARDS)

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Background
Lung protective ventilation improves the outcome in ARDS patients. Tidal volumes for protective ventilation must be chosen relative to ideal body weight. However, there is no widely accepted consensus as how to determine ideal body weight.

Methods
Tidal volumes calculated from body weight estimates were compared to tidal volumes calculated from a validated formula based on measured body height. Categories of tidal volumes were defined as: <6 ml/kg (too low, unsafe), 6-8 ml/kg (safe), 8.1-10 ml/kg (too high, probably unsafe) and 10 ml/kg (too high, unsafe).

Results
Thirty-six experienced staff performed 545 weight estimations in 40 patients. Thirty-six percent of the resulting tidal volumes were unsafe (139 = too low, 59 = too high). Female patients were at higher risk for unsafe tidal volumes in general, and male patients were at higher risk for receiving too low tidal volumes (both $p < 0.01$).

Conclusions
Bedside weight estimation is insufficient for determining tidal volumes of ARDS patients. For the implementation of lung protective ventilation, ideal weight must be calculated with a height-based formula.

A NEW RAPID AND SIMPLE SYSTEM FOR PREDICTING SEVERITY OF ILLNESS AND OUTCOME

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Introduction
Multi-organ dysfunction and failure (MODS/F) represents the most common cause of death in ICU. Early prediction of progression to MOF and probable death has been the focus of much attention. This provides us with information relating to mechanisms of MOF, allows us to intervene early, and to withdraw from futile cases. We have previously identified two indices of

organ uncoupling- so called emergent properties, namely the CRSI and Lactate Index (LI) and have shown retrospectively that LI and CRSI have prognostic significance. We are now prospectively evaluating LI and present a combination of our retrospective and prospective evaluation. We compared LI with APACHE II and SOFA. Lactate production is thought to increase in response to B-adrenergic stimulation. An increased Lactate level in response to increased production (as with adrenalin infusion) implies intact metabolic coupling. We have therefore decided to assess change in lactate levels relative to adrenalin dose. The outcome chosen was mortality at discharge.

Methods

Ethical approval was obtained from the ethics committee of the University of Witwatersrand. Consent was obtained from the patient, next of kin or primary physician. APACHE II, SOFA and LI data were collected in the same 24hr period.

Patients receiving adrenalin infusions were included in the LI arm of the study.

Lactate Index (LI)-lactate levels were obtained before adrenalin was started or before an increase in adrenalin dose, and at intervals after it was started or during the infusion of a higher dose adrenalin.LI was calculated using the formula:

Lactate before adrenaline-maximum lactate in 1st 4 hours after adrenalin

Dose of adrenalin before-dose of adrenalin at time of max lactate

Lactate measured on arterial whole blood on the ABL700 blood gas analyzer.

Units in mmol/l and micrograms per kilogram per minute

Patients are followed to Day28 or hospital discharge. As the study is in its infancy our preliminary results are based on mortality at ICU discharge.

Results

38 new admissions were entered into the trial to date. 11 retrospective patients from a previous study are added. A total of 92 observations from these patients were recorded. Of these there were 92daily Apache scores, 63 SOFA scores and 53 LI's. Apache and SOFA score distributions were normal as per Shapiro Wilk test, while LI was non parametric. There were significant differences between survivors and non survivors for Apache ($p<0.00$) SOFA ($p<0.00$) and LI ($p=0.02$) scores. ApacheII scores correlated positively with SOFA($r=0.50$, $p<0.00$) and negatively with LI($r=-0.26$, $p=0.055$). Receiver Operator Curve (ROC) analysis revealed area under curves (AUC) for Apache, LI and SOFA of 0.75(0.32-1.18), 0.71(0.26-1.16) and 0.78(0.37-1.20) respectively. The AUC were not statistically different. Accuracy analysis of the above 3 scores were 0.65(Apache II), 0.62(LI) and 0.59(SOFA).

Discussion

These early results show that lactate index is as sensitive and specific as Apache II and SOFA in predicting outcome. It has the advantage of being calculated within 4 hours and requires no information about the patient's previous illness, age, medical condition or level of consciousness. It does not require multiple clinical measurements or costly blood investigations. We do need to complete the study and then validate the model with independent data and in a new setting.

ACCURACY OF WHOLE BLOOD ELECTROLYTES COLLECTED WITH PRE-HEPARINISED SYRINGES IN THE CRITICALLY ILL

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Introduction

The PICO 50 is the syringe supplied by the manufacturer of our blood gas machine currently in the unit.

We wanted to 1) Compare this standard syringe and its compatibility with two other dry heparin syringes currently on the market.

2) Assess ease of use of individual syringes
3) Assess specimen quality with each syringe
4) Assess accuracy of electrolyte values with standard plasma electrolytes measured on a commercial quality controlled instrument.

Methods

Study Design	Prospective study
Samples	Three syringe samples per patient on twenty consecutive patients
Consumables	60 dry heparin syringes from 3 different suppliers (20 each).
Equipment	Beckman CX3 Delta for plasma measure ments ABL 700 Radiometer Medical, Copenhagen for whole blood measurements.
Data Collection	Excel spreadsheet
Data Analysis	Statistica

Results

There were no significant differences between the three syringes when we compared the electrolytes Na, K and Cl, and blood gas analyses measured on whole blood. However whole blood Na and K were significantly lower than in plasma ($p = 0.08$ and 0.001)

We also found that whole blood glucose was 15 % lower (syringe 1) than plasma glucose. We did find differences between the three syringes when we looked at collection time and time of analysis. Syringe 3 had a significantly longer collection time with median time of collection being 22.5 s vs. 14 and 14.5 s for syringe 1 and 2 respectively. ($p = 0.00$).

Syringe 3 also had a longer analysis time ($p=0.048$).

Discussion

The decreased Na, K and glucose effects are in keeping with what is described in the literature and have important implications when treating patients using these results. Van den Berghe et al showed that tight glucose control 4.4 to 6.1(whole blood) had a 50% mortality reduction. This would correspond to a plasma glucose of 3.8 to 5.2 which tends towards hypoglycaemia rather than euglycaemia.

For all syringes collection times decreased over time as personal became more accustomed to the packaging. Analysis time independent of personal remained constant for syringe 1 and 2 however syringe 3 showed more episodes of random error, which indicates some incompatibility with the instrument.

THE RELEVANCE OF THROMBOCYTE COUNTS TO SURVIVAL IN BURNS

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Introduction

Many factors have been identified as predictors of outcome in burns. Extent and degree of burns, advance age, associated inhalation injury and medical conditions increase morbidity and mortality. The aims of this study were to determine the incidence of thrombocytopenia in severe burns admitted in ICU and examine the relevance of platelet counts as a predictor of outcome.

Method

A review of medical records of patients admitted in ICU with inhalation injury or more than 30% of TBSA. Patients must have survived at least 24 hours.

47 consecutives patients admitted in intensive care at Chris Hani Baragwanath burns centre with severe burns were studied (during 16-month period). First fourteen day's platelet counts were analyzed.

Results

Platelet counts fall soon after burning and remain depressed for 3 to 5 days. In 31 patients (66%) platelets rise with mortality rate of 23%, compared to 85% mortality in 16 patients (34%) in which thrombocytes continue to fall. Sepsis was the cause of thrombocytopenia and death in 6 patients of the last group. Mortality in 10 of thrombocytopenic patients was due to ARDS and others MODS.

Discussion
Early thrombocytopenia in severely burned patients is due to SIRS. Most of patients become septic in the second week post burns. A continue fall in thrombocyte counts may indicate severe SIRS due to primary injury or early sepsis. Various etiological factors leading to early thrombocytopenia are discussed.

Conclusion
Failure of platelet counts to rise in severe burns is associated with high and early mortality.

A SURVEY OF MEDICAL DOCTORS' VIEWS ON CADAVERIC ORGAN DONATION AND TRANSPLANTATION

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The views of medical doctors regarding organ donation and transplantation in the Durban Metropolitan Region were examined in an exploratory and explanatory study, which included a descriptive, convenience sampled study of 43 graduate and postgraduate professionals, practising in the private and provincial sectors. Characteristics were obtained from a 106-item questionnaire that were later divided into component contributions according to Fazio's attitude to behaviour process model (Fazio, 1989; Fazio & Roskos-Eewoldson, 1994). Variables that were analysed included personal demographics, personal views, knowledge and skills, practice-related issues, attitudes and perceptions as well as future recommendations.
Analysis of the information revealed that most medical doctors approved of organ donation practices and viewed transplantation as a significant role-player in both the community and medical sectors. However, a knowledge and skills deficit combined with religious presumptions and general uncertainty regarding issues surrounding the practical, legal and emotional concepts of brain death may be responsible for the relatively low personal dedication and practice participation rate among the sample. Medical doctors from the provincial sector appeared to have considerable concerns which included: time constraints; a perceived lack of support from colleagues, nurses and hospital administrators; a lack of medico-legal awareness relating to organ donation and brain death and a scarcity of experience and insight into the transplant process.
In order to address the paucity of awareness pertaining to brain death and organ donation activities, the findings indicate that formal and interactive education programs during the undergraduate, postgraduate and medical development phases are required in which issues surrounding death and dying can be explored by a multidisciplinary team. It appears that this team should comprise of doctors, lawyers, religious leaders, psychologists, administrators, nurses, donor families and transplant co-ordinators. This development may serve to emphasise the professional importance of holistic bereavement counselling, improve doctor and patient satisfaction, increase organ donation referrals and transplantation rates as well as diminish medico-legal concerns.

THE OUTCOME OF ACUTE ASTHMA IN AN ICU

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Background
Asthma requiring intubation and artificial ventilation is a dramatic complication of a common illness. Fortunately it affects relatively few patients. About 0,4% of asthmatics overall succumb to acute decompensation of the disease. Controversy still surrounds the management of these patients.

Objectives
The primary objective was to describe our experience with acute asthma exacerbations admitted to ICU.

Design
A prospective, observational study, over two years

Setting
Multi-disciplinary ICU of a teaching Hospital

Results
18 consecutive cases of life-threatening asthma were admitted to our ICU during the study period. 16 patients were admitted for steady deterioration whiles were 2 had had cardio-respiratory arrest .The mean age of the group was 40.22 ± 3.7. The mean APACHE II score was 10.9 ±3.7. Eighty three percent of the patients required endotracheal intubation and mechanical ventilation. 50% of the patients developed ICU related complications. One patient died from asphyxiating bronchospasm despite aggressive bronchodilator therapy. The majority of patients received standard therapy. Alternative therapies were only rarely used. There were no significant differences in the lengths of ICU stay between patients who had aminophylline, subcutaneous adrenaline or neuro-muscular blocking agents as additional therapy and those who didn't.

Conclusion
A mortality rate of 0,06% implies that ventilatory support can be considered safe and should be employed when necessary in acute exacerbations of asthma. This is despite the fact that these patients tend to have an unusually high complication rate in ICU.

AUDIT OF EMERGENCY IN-HOSPITAL ADMISSIONS TO A PAEDIATRIC INTENSIVE CARE UNIT (PICU)

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Introduction
There are few data on in-hospital transport, particularly of adverse events prior to, or on arrival in PICU.

Aim
Audit emergency in-hospital referrals and examine pre-admission adverse events (AE) and outcome.

Research performed
Prospective audit of in-hospital emergency admissions (01/03/2003 – 31/07/2003). Age, weight, diagnosis, referring unit and time of day were collected. Technical AE were: monitoring failure, misplaced endotracheal tube (ETT), or lack of venous access. Clinical AE were shock, hypoglycaemia, or hypoxia. Critical AE were emergency intubation or cardio-respiratory arrest on admission. Parametric data were analysed by unpaired t-tests and Chi-Square tests. Data are median (interquartile range) or n (%). Two hundred and thirty patients were enrolled, median age 6.4months, median weight 6.1kg.

Table: Referring unit and Adverse Events.

AE (n=300)	Surgical (n=15)	Medical (n=108)	MEU (n=84)	Trauma (n=23)	p
Technical AE (n=142)	13 (87%)	76 (70%)	46 (55%)	7 (30%)	0.0003
Clinical AE (n=103)	10 (67%)	48 (44%)	43 (51%)	2 (9%)	0.0009
Critical AE (n=55)	5 (33%)	36 (33%)	12 (14%)	2 (9%)	0.0042

There were 191 (83%) survivors, and 39 (17%) non-survivors. Only clinical AE (p=0.0004) were associated with mortality. Outcome was not affected by referring ward (p=0.0666) or time of transfer (p=0.9620).

Conclusions
Clinical AE were associated with mortality. Incidence of technical, clinical, and critical AE were highest in children from surgical wards, and lowest in those from trauma unit.

Poster Presentations

SEPSIS IN AN IMMUNOCOMPROMISED HOST

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We present a case of sepsis in an immunocompromised host. The patient, a 31-year-old male, had received an orhtotopic liver transplantation 2 years prior and was on immunosuppressive therapy. He presented with respiratory failure following an acute diarrhoeal illness.
Initial management consisted of mechanical ventilation and inotropic support. Investigations included blood, urine, stool and respiratory samples for bacterial and viral cultures.
Due to his neutropaenic state, empiric broad-spectrum antimicrobial therapy, which consisted of antiviral and antibiotic therapy, was commenced. His response was satisfactory despites initial screening tests being negative. A subsequent blood culture was positive for Mycobacterium Tuberculosis. Anti-tuberculous therapy was commenced and the patient made a full recovery.
This case illustrates the importance of early empiric therapy in the management of sepsis in the immunocompromised host. Secondly, tuberculosis should be suspected with atypical presentations in these patients. Blood cultures for Mycobacterium Tuberculosis may be helpful even when respiratory samples are negative.
Key points;

1. The immunocompromised host is susceptible to a variety of organisms
2. One needs to consider the Immunologic defect to narrow down the differential diagnosis
3. Early empiric therapy should be started according to the probable diagnosis
4. Aggressive therapy and focussed therapy is necessary

SEPSIS RELATED ADRENAL DYSFUNCTION IN HIV POSITIVE AND NEGATIVE CRITICALLY ILL PATIENTS USING A 1µG SHORT SYNACTHEN TEST (SST)

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Introduction
Sepsis is a common problem in our Intensive Care Unit (ICU) often leading to hypotension requiring vasopressor support. Refractory hypotension which carries a high mortality remains a problem. Adrenal dysfunction is thought to be common (10 – 50% incidence) in septic patients. HIV related opportunistic infections are known to be the most common cause of adrenal dysfunction. The prevalence of HIV in the community we service is around 20 %(23.3 for males and 27.3 for females). Since most of our patients don't have overt opportunistic infections, HIV status alone may be responsible for a higher than expected incidence of adrenal dysfunction. We will present here the preliminary results from a prospective observational and experimental study on septic patients admitted to our intensive care unit (ICU). We have assessed HIV status and CD4 counts on consecutive ICU admissions over a 3month period (blinded to investigator and clinician). All patients requiring vasopressors have undergone a synacthen test.

Methods
Prospective, observational, experimental study
Center: Academic multi-disciplinary ICU –CH Baragwanath hospital
Sample: A presenting sample over a 3 month period
Ethics approval obtained from the University Ethics Committee. Informed consent was obtained. Post study HIV testing opportunity will be given to each participant. Adult population (>18years old)
Testing: 1ug low dose short synacthen test.
Baseline bloods for renin and aldosterone levels (supine)
Additional laboratory investigations
Bloods for anonymous HIV (ELISA) (serum 2.5ml). All HIV + patients will have a CD4 count. Laboratory blinded to patient details and physician blinded to results
45 patients enrolled to date. 20 synacthen tests carried out.

Results and Discussion
Since the study is blinded results were not available at the time of submission of this abstract as some patients were still being followed up for 28day mortality. However the study is descriptive and results will give information on the prevalence of HIV in our ICU and the incidence of adrenal dysfunction in septic HIV positive and negative patients.

EXPERIENCES OF 4-YEAR DIPLOMA STUDENTS REGARDING THEIR POOR PERFORMANCE DURING OBJECTIVE STRUCTURED CLINICAL EVALUATION (OSCE

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Introduction
The study was done to investigate the cause/s of high failure rate of students in clinical evaluation. Third year students were identified as the group with most problems though at their level of training they are expected to display competency in nursing skills. OSCE is regarded as being the most comprehensive instrument to truly evaluate the competence of the students' clinical skills in a variety of areas of nursing practice because various methods of evaluation can be used within its framework. It is common knowledge that any evaluation strategy evokes stress/anxiety to students but at third year level one is expected to have developed defence mechanisms to deal with such stressors.

Research design
A qualitative, exploratory and descriptive study design was used to get a richer understanding of the phenomena and attempting to capture the aspects of their experiences within the context of those who are experiencing them, therefore.

Objectives of the study were
1. To identify the students' problems and
2. To formulate some guidelines for supporting the students during OSCE.

Data collection
The study was conducted in two phases. The first phase was concerned with the in-depth individual semi-structured interviews with 3rd year students who had written summative examinations and OSCE, whilst the 2nd phase entailed the formulation of guidelines to achieve a curriculum, which would enhance building support systems for students during OSCE. Ethical considerations such as anonymity, freedom to remove oneself from the study anytime, etc were observed.

Data analysis
Data analysis was done guided by Tesch's method of coding and content analysis.

Conclusion
The results indicated that the students needed assistance in the form of emotional support throughout their learning.

EXPERIENCES OF PARENTS OF CHILDREN WHO HAVE BEEN INCAPACITATED DUE TO PHYSICAL TRAUMA

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Background
When parents have children they create expectations around them, e.g. they imagine their children becoming high achievers

and excelling in everything they do. They also believe that they will die first and children will succeed them.
There are risks in most activities of daily living. Exposure to use of mechanical, electrical appliances and chemicals at work and home increase the risk of injury. Home and road accidents result in large numbers of injuries, disabilities and deaths. The risks are more increased for young people as they are adventurous in nature and can also engage in risky behaviour, which can result in injury and disability. It has become a norm to see more young patients than adults who are infirmed because of different injuries attending rehabilitation in health care centres. Thus Ga-Rankuwa orthopaedic/spinal units and physiotherapy department of Medunsa will be utilized for the purpose of study.

Purpose of the study
The purpose of the study is to explore the feelings of parents of children who are incapacitated due to physical trauma.

Objectives of the study are to:
1. Describe the coping mechanisms of the parents
2. Develop the guidelines on coping strategies

Methodology
The research methodology of choice will be a qualitative research because we want to explore feelings and experiences of relations.

Data collection
In-depth interview, open-ended questions will be used to collect data. Number of participants will depend on saturation of data collected.

Data analysis
Qualitative methodology of analysis shall proceed from open coding, building, saturating categories and finally identification of core categories.

SEVERITY SCORING IN THE ICU

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In South Africa and probably also worldwide, scores to determine outcome and severity of certain categories of patients in the Intensive Care Units are underutilized. Scoring systems should be objective and have easily obtainable physiological (inexpensive and non-invasive) variables which can be converted into a numerical probability estimate (Knaus, W.A., Zimmerman, J.E. and Seneff, M,: 1993). The numerical estimates are then allocated to certain categories and indicate percentages of outcome as well as predicted mortality rates.
One of the first scores, the APACHE 11 was designed in the mid-1980's by Knaus and colleagues. The score was designed for the main aim to prognostically stratify acutely ill patients. The APACHE 11 is still very popular today and also widely used. According to literature references in 2004 it is even more popular than before. The APACHE 11 is commonly combined with the SAPS 11. By implementing internationally scoring systems in your units, outcomes between different units as well as between different conditions may be compared with each other. The outcome indirectly gives an indication of the success of your unit. Even staff allocations may be done according to the scores and mortality ratios determined by the scores.
In 2004 a wide variety of scoring systems are available to be used as part of the evaluation of the critically ill. Some scores give a general prognostic stratification and some are more applicable on certain conditions.
The oral presentation supplies a summary of scores that can be used in different situations in the Intensive Care Unit in the critically ill patient. It also supplies some data that were drawn from some of the scoring systems.

AN EVALUATION OF NEONATAL NURSING CARE IN SELECTED HOSPITALS IN THE WESTERN CAPE

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Introduction
Sick newborn babies, whether term or preterm, need specialized nursing care. The 'hands on' care provided by nursing staff is widely considered as playing a vital role, affecting the survival and outcomes of these vulnerable patients. In order to ensure that a high standard of nursing care is achieved, protocols or standards should be available for nurses to refer to and to measure their work against.

Aims and Objectives
- Generate standards for structure, process and outcomes of Neonatal Care
- Validate these standards
- Evaluate the quality of care according to these standards
- Make recommendations based on the results of the evaluation

Research Performed
Using a non-experimental, exploratory descriptive design, the researcher set about measuring the quality of nursing care in the two Neonatal Intensive Care Units (NICUs) where data was collected. Evaluation of care was undertaken by discreet observation at different times of the day and night. The data yielded quantitative results, which were analysed using the Microsoft EXCEL program.

Results and Recommendations
The results showed that the standards were not met at an acceptable level in various areas. The performance of interventions such as passing an intra-gastric tube, routine care and physiotherapy and suctioning was not satisfactory. Outcome standards indicated serious shortages of staff in some cases and insufficient staff training.
Recommendations are that a Quality Assurance Program should be introduced with training and education of all categories of nurses working in the NICUs and the introduction of evidence-based practice. Further research in this field of nursing should be encouraged.

VALIDATION OF A ROUTINELY USED INSULIN INFUSION TREATMENT REGIMEN IN AN INTENSIVE CARE UNIT, JOHANNESBURG HOSPITAL

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Introduction
Stress hyperglycaemia is a common problem in patients admitted to our Multidisciplinary Intensive Care Unit (MICU) even when glucose haemostasis has previously been normal. Significant improvement in clinical outcome has been attained by improving glycaemic status in critically ill patients, as has been shown in several randomised controlled studies. The degree to which these data can be applied to patients in our MICU and the value of a standardized precise infusion treatment infusion protocol remain unresolved.

Methods
We performed a prospective observational study looking at blood sugar levels in patients admitted to our MICU to validate our own routinely used insulin infusion protocol and to assess whether the blood glucose levels remain within a range of 4.1mmol/l to 8.1mmol/l. On admission to the MICU a baseline blood glucose level was analysed in undiluted arterial blood with the use of glucose analyser and insulin infusion treatment protocol instituted on the second stay if the random blood glucose was >8mmol/l.
Using statistically designed chart the level of blood glucose was documented from MICU charts.

Results
At one month Mid Jan – Mid Feb 2004 a total of 30 were enrolled (excluded were patient who had a stay of < 24 hrs)

1. A total of 1784 glucose measurements were recorded compared to 1006 measurement in a previous retrospective study.
2. 63% of glucose measurements obtained were in a predetermined range of 4.1 to 6.1mmol/l compared to 21% in a previous study.
3. Among 1784 glucose measurement obtained 90% were in a range of 4.1-8.1mmol/l.
4. Of the 30 patients enrolled, 14 patients had no blood glucose measurement outside the range of 4.1 – 8.1mmol/l
5. Of measurements 4.5% were below the required range and only 5.5% were above 8.1mmol/l

Conclusion
Our insulin infusion treatment protocol is effective easy, reliable and useful instrument to achieve improved blood glucose control in Intensive Care Unit and we recommend its use not only to our MICU but also to all our Intensive Care and Coronary Care Units.

PERSONAL AND CLINICAL EXPERIENCES OF NURSES REGISTERED FOR AND THOSE WHO COMPLETED THE DIPLOMA IN MEDICAL AND SURGICAL NURSING (CRITICAL CARE NURSING)

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Introduction
Learning through service delivery is the art of nursing science. Clinical practice involves clinical learning opportunities in the health care setting under supervision of a registered nurse, mentor, accompanier or other knowledgeable or skilled personnel to allow for correlation of theory and practice (SANC Terminology List, 1994:5). During their training, critical care nurses are placed in the different hospitals to acquire clinical learning experiences. The nurses provide nursing care but also meet their learning objectives for the course. Very little has been documented in South Africa regarding the nature of post basic students' experiences during training in the clinical settings. The purpose of this study was to explore and describe the personal and clinical experiences of nurses registered for and those who completed the Diploma in Medical and Surgical Nursing (Critical Care Nursing). The study was significant in that it would provide a mechanism by which the nurse educators at the college and the nursing staff in the clinical setting can obtain feedback from the critical care students regarding their experiences during training. The issues they identified as hindering or enhancing progress in the course were identified.

Methods
A quantitative explorative descriptive survey was used. The study explored the experiences of the critical care nurses through their detailed description and described the support guidelines to improve the positive experiences and remedy the negative experiences encountered. Purposive sampling was used. Data was collected using a self-report questionnaire. Data analysis was done with the use of statistical computer program called Statistica, organized using percentages and presented on graphs and tables.

Results
The results indicated that although they are registered nurses, the post basic critical care nurses need accompaniment and orientation in the clinical settings as they experience a variety of problems such as stress and reality shock during their placement in the clinical settings. The results though, also indicate that the critical care nurses encountered both negative and positive experiences. Factors enhancing progress in the course were identified which were related to the clinical settings, as well as factors hindering progress in the course, which were more personal.

Discussion
Guidelines were developed to promote the positive experiences and to remedy the negative experiences

DIAGNOSIS AND TREATMENT OF PERSISTENT INTRA-ABDOMINAL INFECTION

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Introduction
Despite extraordinary developments in life and organ support, Intra-abdominal infection is still a major cause of morbidity and mortality in Intensive Care Units around the world, mostly related to protracted sepsis and Multiple Organ Dysfunction (MODS).

Method
The retrospective analysis of our approach to the diagnosis and management of persistent intra-abdominal infection is presented. Our aim, demonstrate that a less complex clinically guided, bedside approach is effective in aiding diagnosis. Period of study: January 2000 to May 2004.

Results
212 patients were admitted to ICU Polokwane Mankweng Complex during the study period with diagnosis of peritonitis; 85 (40,09%) were diagnosed as having persistent intra-abdominal infection requiring more than one laparotomy to control it. Sixty percent of the patients were treated using laparotomy "on demand" and the rest by means of an open abdomen [laparostomy] with a temporary abdominal closing device (TACD). All patients had signs of Systemic Inflammatory Response Syndrome (SIRS), fifty-three patients developed Multiple Organ Dysfunction Syndrome (MODS); overall mortality was 42%.

Discussion
Morbidity and mortality related to persistent intra-abdominal sepsis is high; delays in initiating operative intervention is the main reason for development of MODS and death; we recommend the use of a diagnostic and treatment protocol based on clinical information rather than reliance on imaging techniques and chemical markers, which are expensive and not always available.

THE LIVED EXPERIENCES OF HEALTH PROFESSIONALS CONFRONTING THE SUDDEN DEATH OF CLIENTS IN KWAZULU-NATAL LEVEL I EMERGENCY DEPARTMENTS

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Introduction
Emergency health professionals are faced with the sudden death of their clients on a regular basis, and added to this is the fact that these are often young adults in the prime of their life (MRC, 2001; Meumann and Peden, 1997). As difficult as caring for the dying trauma client is, there are many health professionals who would rather care for the client than face the problems with the family (Solursh, 1990). The emergency staff who deal with relatives who have just lost a loved one to a sudden death face an extremely difficult and emotionally draining task (Payne, Dean and Kalus, 1998).

Methods
A qualitative phenomenological approach was chosen for this research study. This then allowed the researchers to explore the phenomenon, sudden death, as experienced by the health professionals

Discussion of the findings
The following themes were analysed from the individual interviews held with the health professionals.
It's a personal matter
The participants explained how they have to decide for themselves how they are going to deal with the situation and how best to approach the family. Much of this is based on trial and error, what you may have found in your previous nursing/medical

experience to have worked or what other staff members have done which you then watched and perceived to have "worked". JANE mentioned; ***"it is from live, learn, and experience. You know. Do one, see one, do one".***

What is caring?

A number of the participants discussed how caring they felt the staff in the ED were with the bereaved families – some of the participants went on to say this was the greatest strength of the department and that at times this was all that the family had! Some of the participants had very definite ideas about what was caring and what was not.

What is coping?

The health professional who copes is unemotional, does not show his/her emotions, and is seen as able to deal with the demands of the job and working in the ED.

Which group are you in?

There appeared to be a number of different groupings that is the doctors, management, nurses and families group, and each group tends to took at the situation from their perspective only.

OVERVIEW OF STATISTICS AND EXPERIENCES IN A DEDICATED PAEDIATRIC INTENSIVE CARE UNIT AT THE GARDEN CITY CLINIC (GAUTENG) WITHIN THE PRIVATE SECTOR

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Background

There is a worldwide trend of improved survival in a dedicated closed Paediatric Intensive Care Units. Long-term studies suggest increased survival from 20 -96% in the past two decades. This mainly due to such super specialised centres.

Method

A 3-year prospective study of patients admitted to a dedicated Paediatric Intensive Care Unit. The data discussed will include the results of such a centre in Johannesburg. The scoring model used was PIM from September 2001 up to November 2002. Number of admissions 235. PRISM III was employed from December 2002 up to December 2003. Number of patients admitted 296.

	Sep 01- Nov 03	Dec 02-Dec03
	PIM	PRISM III
Admissions	235	296
Mortality	8,47%	9,68%
Standard Mortality Rate	1.04	1.07

Results

Discussion

The models were used as a quality control tool to assess the performance of the Paediatric Intensive care unit. The predicted mortality and severity of illness was compared to the actual outcome in the Paediatric Intensive Care Unit. An observation made was that the mortality of children transferred from out lying hospitals was higher than children in house.

LIFESTYLE ADAPTATION OF THE PATIENT POST CORONARY ARTERY BYPASS SURGERY (CABG)

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Background

Many patients have an unrealistic gloomy perception of their prognosis. Despite realistic appraisals, together with an understandable explanation of the pertinent clinical features of the disease. It has been established that the incidence of psychological complications and post-operative psychosis is higher in cardiac surgery.

Long –term cognitive changes post CABG has received less attention and as up to 42% patients perform below baseline level, it is understandable that doubt and uncertainty becomes part of their lives. Patient-perceived quality of life after CABG proved about one quarter of the interviewed expressed dissatisfaction concerning their present quality of life. The aim is to determine whether an effective lifestyle adaptation program post CABG could enhance the quality of life of the CABG patient.

Methods

A qualitative study in which the experiences as lived of the patient and his /her family post-operatively was described in naïve sketches. The approach was phenomenological This was completed in a period two weeks to two years post CABG .In the naïve sketch the patients were asked to summarize their anxieties, uncertainties and new demands after the CABG.

Results

Among the patients studied, the context a cardio thoracic unit where the patients received assistance in the recuperative phase, 57 percent summarized anxieties, 37 percent summarized uncertainties and 60 percent summarized new demands post CABG.

Conclusion

The major surgical intervention, the coronary artery bypass surgery, the operation procedure itself, engrosses the patients psyche in such a manner that limitation of space is left for the thought of lifestyle adaptation thereafter. If intensive care is truly to develop as a speciality it has to understand the complete path of the illness process. The critical care nurses are the lifelines in these criteria. More time should be spent and more support should be provided in the recuperative phase post CABG.A rehabilitation program is warranted.

CATHETER RELATED SEPSIS

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Introduction

Record is kept of all central line cultures sent since October 2001. Records were sent to all the doctors in the Clinic in November 2003 with recommendations based on research below. In-service and audits were done (nursing staff only).

Aim

1. To keep a record of all central line tips sent for culture.
2. Compare on a month-to-month basis the central line colonization rate.
3. To introduce a Standard regarding the insertion and care of Central lines aiming to reduce infection and colonization.

Intervention

A Standard was introduced for both medical and nursing staff regarding the insertion and care of CVC lines. In-service was conducted by Clinical staff and Infection control. Audits were conducted with nursing staff regarding care of lines.

Conclusion

During months the staff were being audited the results were better than when they were not (graphs available). During busy months infection/colonization rates rose. The greatest percentage of colonizations remains a skin contaminant with only a slight improvement shown since intervention. This could still point to poor insertion technique or post insertion care. The need for ongoing in-service and audits is thus proved to be a necessity.

ISSUES ON EQUIPMENT MANAGEMENT, MAINTENANCE AND LEGISLATION

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Management of equipment needs to be coordinated throughout the institution bearing in mind the legislation to be complied with so as to prevent irregular expenditure, fruitless and wasteful expenditure and this presentation will try and attempt means of achieving that purpose.

The presentation will touch on the legislation e.g. occupational Health and Safety, the engineering professions of SA Act, the procurement policy and procedure, the PMF Act. Also identification of Health care technology and management advisory committees will be discussed and technology plan dealt with in detail.

Background and short briefing on the acts will be discussed.

Hospital equipment procurement policy/procedure will be discussed. Management and how coding and data should be kept. Also the fact that this data could be a good budgeting tool will be discussed. The impact of having data used by central authority in deployment and redeployment of equipment, and how central database will enable the province to establish proper maintenance of contracts.

The need for the health care technologist will be emphasised for proper control and the administration of the asset register from procurement to final disposal. The need to involve local South Africans will be emphasised.

Uniform treasury norms and standards and the objective of the act will be touched in this presentation, the PFM act 217 on procurement will be explained.

Problems of not having a proper control and administration of equipment will be discussed. Problems of not having a dedicated specialist controlling the asset register will be highlighted.