University Hospitals Bristol NHS Foundation Trust

PICU
Current Awareness Newsletter
July 2015
**Outreach**

Your Outreach Librarian can help facilitate evidence-based practise for all PICU staff, as well as assisting with academic study and research. We can help with **literature searching**, **obtaining journal articles and books**, and setting up individual **current awareness alerts**.

**Literature Searching**
We provide a literature searching service for any library member. For those embarking on their own research it is advisable to book some time with one of the librarians for a 1 to 1 session where we can guide you through the process of creating a well-focused literature research and introduce you to the health databases access via NHS Evidence.

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We also offer **one-to-one or small group training** in literature searching, accessing electronic journals, and critical appraisal/Statistics. These are essential courses that teach how to interpret clinical papers.

For more information, email: katie.barnard@uhbristol.nhs.uk

**Books**
Books can be searched for using SWIMS our online catalogue at [www.swims.nhs.uk](http://www.swims.nhs.uk). Books and journals that are not available on site or electronically may be requested from other locations. Please email requests to: library@uhbristol.nhs.uk
1: Tables of Contents from July’s Paediatric journals

2: New NICE Guidance

3: Latest relevant Systematic Reviews from the Cochrane Library.

4: NHS Behind the Headlines

5: New activity in Uptodate

6: Quick Exercise

7: Current Awareness database articles
Tables of Contents from Paediatric & Critical Care journals

If you require full articles please email: library@uhbristol.nhs.uk

**Pediatrics**

*July 2015, Volume 136, Issue 1*

Assessing the Dangers of “Dabbing”: Mere Marijuana or Harmful New Trend?  
[Full Text](#)

Crib of Horrors: One Hospital’s Approach to Promoting a Culture of Safety  
[Full Text](#)

Practical Framework for Fostering a Positive Learning Environment  
[Full Text](#)

Cognition and Brain Structure Following Early Childhood Surgery With Anesthesia  
[Full Text](#)

Risk Factors for Recurrent Urinary Tract Infection and Renal Scarring  
[Full Text](#)

Pneumococcal Conjugate Vaccine and Clinically Suspected Invasive Pneumococcal Disease  
[Full Text](#)

Immunogenicity and Safety of a 9-Valent HPV Vaccine  
[Full Text](#)

An Early Feeding Practices Intervention for Obesity Prevention  
[Full Text](#)

Global and Regional Burden of Isoniazid-Resistant Tuberculosis  
[Full Text](#)

Exclusive Breastfeeding and Risk of Dental Malocclusion  
[Full Text](#)

Unrecognized Celiac Disease in Children Presenting for Rheumatology Evaluation  
[Full Text](#)

Prenatal Hemoglobin Levels and Early Cognitive and Motor Functions of One-Year-Old Children  
[Full Text](#)

Weight Growth Velocity and Postnatal Growth Failure in Infants 501 to 1500 Grams: 2000–2013  
[Full Text](#)

Trainee Perspectives on Manikin Death During Mock Codes  
[Full Text](#)

Pediatric Liver Transplant Center Volume and the Likelihood of Transplantation  
[Full Text](#)

A Comparison of the Request Process and Outcomes in Adult and Pediatric Organ Donation  
[Full Text](#)

Recovery From Central Nervous System Acute Demyelination in Children  
[Full Text](#)

Automated Assessment of Children’s Postoperative Pain Using Computer Vision  
[Full Text](#)

Mycophenolate Mofetil Following Rituximab in Children With Steroid-Resistant Nephrotic Syndrome  
[Full Text](#)

Family Experiences With Feeding Tubes in Neurologic Impairment: A Systematic Review  
[Full Text](#)

Simulation in Pediatric Emergency Medicine Fellowships  
[Full Text](#)

Weapon Involvement in the Victimization of Children  
[Full Text](#)

Youth Drinking in the United States: Relationships With Alcohol Policies and Adult Drinking  
[Full Text](#)

Emergency Department Visits for Self-Inflicted Injuries in Adolescents  
[Full Text](#)
Full Text
Critical Elements in the Medical Evaluation of Suspected Child Physical Abuse

Full Text
Antibiotic Choice for Children Hospitalized With Pneumonia and Adherence to National Guidelines

Full Text
Association of National Guidelines With Tonsillectomy Perioperative Care and Outcomes

Full Text
Umbilical Cord Milking Versus Delayed Cord Clamping in Preterm Infants

Full Text
Physician Communication Training and Parental Vaccine Hesitancy: A Randomized Trial

Full Text
Personal Belief Exemptions to Vaccination in California: A Spatial Analysis

Full Text
Car Seat Screening for Low Birth Weight Term Neonates

Full Text
Medical-Legal Strategies to Improve Infant Health Care: A Randomized Trial

Full Text
Effects of Physician-Based Preventive Oral Health Services on Dental Caries

Full Text
Systematic Review on Intensive Interdisciplinary Pain Treatment of Children With Chronic Pain

Full Text
Adolescent Health and Adult Education and Employment: A Systematic Review

Full Text
Prenatal Risk Factors and Outcomes in Gastroschisis: A Meta-Analysis

Full Text
Screening for Celiac Disease in Type 1 Diabetes: A Systematic Review

Full Text
Maternal Sensitivity in Parenting Preterm Children: A Meta-analysis

Full Text
Asymmetric Hearing During Development: The Aural Preference Syndrome and Treatment Options

Full Text
De Novo Assessment of Pediatric Musculoskeletal Soft Tissue Tumors: Beyond Anatomic Imaging

Full Text
Diagnostic Dilemmas and Clinical Reasoning: Persistent Pneumonia in an Infant

Full Text
Blueprint for Action: Visioning Summit on the Future of the Workforce in Pediatrics

Full Text
Vascular Anomalies Classification: Recommendations From the International Society for the Study of Vascular Anomalies

Full Text
Comparative Effectiveness Research Through a Collaborative Electronic Reporting Consortium

Full Text
Should All Deaf Children Learn Sign Language?

Full Text
Optimizing Placental Transfusion for Preterm Infants

Full Text
Physician Communication With Vaccine-Hesitant Parents: The Start, Not the End, of the Story

Full Text
Car Seat–Associated Hypoxia: Low Birth Weight Term Newborns, Another Group at Risk

Full Text
Making Sense of “Red Birth Marks”

Full Text
Quality Improvement Effort to Reduce Cranial CTs for Children With Minor Blunt Head Trauma

Full Text
Improvement in Perinatal HIV Status Documentation in a Massachusetts Birth Hospital, 2009–2013

Full Text
A Case of Necrotizing Epiglottitis Due to Nontoxigenic Corynebacterium diphtheriae

Full Text
Unusually Prolonged Presentation of Designer Drug Encephalopathy Responsive to Steroids

Full Text
Eliminating Rumination in Developmentally Disabled Children: A Case Report
Current Opinion in Pediatrics
June 2015, Volume 27, Issue 3

Red cell physiology and signaling relevant to the critical care setting

The influence of the storage lesion(s) on pediatric red cell transfusion

Red blood cell transfusion decision making in critically ill children

Febrile seizures: emergency medicine perspective

Quality improvement in pediatric sepsis

Scratching the surface: a review of skin and soft tissue infections in children

Update on abusive head trauma

Progress in pediatric pulmonary medicine: incremental and exponential

Recent advances in cystic fibrosis

Sleep medicine: pediatric polysomnography revisited

Sleep medicine

Complementary and alternative medicine in pulmonology

Cellular mechanisms of alveolar pathology in childhood interstitial lung diseases: current insights from mouse genetics

The pediatric microbiome and the lung

Management of lymphatic malformations in children

Hirschsprung's associated enterocolitis

Update on bariatric surgery in adolescence
Gastroparesis in children

Current surgical management of intestinal rotational abnormalities

Current Opinion in Critical Care
June 2015, Volume 21, Issue 3

Cardiopulmonary resuscitation and postresuscitation care 2015: saving more than 200000 additional lives per year worldwide

Airway management during cardiopulmonary resuscitation

Mechanical devices for chest compression: to use or not to use?

Haemodynamic and ventilator management in patients following cardiac arrest

Temperature management after cardiac arrest

Neurological prognostication after cardiac arrest

EuReCa and international resuscitation registries

‘Kids save lives’: why schoolchildren should train in cardiopulmonary resuscitation

Clinical assessment of peripheral circulation

The accuracy of noninvasive cardiac output and pressure measurements with finger cuff: a concise review

Can (and should) the venous tone be monitored at the bedside?

What is microcirculatory shock?

How to monitor a recruitment maneuver at the bedside

Lung volume assessment in acute respiratory distress syndrome

Continuous noninvasive hemoglobin monitoring: ready for prime time?

Paediatric Critical Care Medicine
June 2015, Volume 16, Issue 5

Safety and Efficacy of Sodium Nitroprusside During Prolonged Infusion in Pediatric Patients

A Survey Demonstrating Lack of Consensus on the Sequence of Medications for Treatment of Hyperkalemia Among Pediatric Critical Care Providers*

Timing of Death in Children Referred for Intensive Care With Severe Sepsis: Implications for Interventional Studies*

Evolution of Noninvasive Mechanical Ventilation Use: A Cohort Study Among Italian PICUs*
Pediatric Acute Respiratory Distress Syndrome: Consensus Recommendations From the Pediatric Acute Lung Injury Consensus Conference*

Intraoperative Dexmedetomidine Reduces Postoperative Mechanical Ventilation in Infants After Open Heart Surgery

Nutritional Status and Clinical Outcome in Postterm Neonates Undergoing Surgery for Congenital Heart Disease*

Bedside Burr Hole for Intracranial Pressure Monitoring Performed by Pediatric Intensivists in Children With CNS Infections in a Resource-Limited Setting: 10-Year Experience at a Single Center

Detection of Electrographic Seizures by Critical Care Providers Using Color Density Spectral Array After Cardiac Arrest Is Feasible*

Diagnostic Errors in a PICU: Insights From the Morbidity and Mortality Conference*

Evidence-Based Practice Guidelines in Pediatric Critical Care: Laying the Foundation for Moving Forward Pediatric Sepsis From Start to Finish*

Noninvasive Ventilation in Pediatric Intensive Care: From a Promising to an Established Therapy, but for Whom, When, Why, and How?*

Pediatric Acute Respiratory Distress Syndrome: Much More Than Little Acute Respiratory Distress Syndrome*

Improving Outcomes Following Neonatal Cardiac Surgery: Weight Can Be Taken None Too Lightly!*

Seizure Detection in the PICU: Can We “See” Seizures Better in Color?*

To Err One’s Dirty Laundry*

Another Step in Understanding Glucocorticoid Resistance in Critical Illness*

Neonatal Tracheal Intubation: Unsolved Issue

The authors reply

**Pediatric Anesthesia**

**July 2015, Volume 25, Issue 7**

News from the pediatric anesthesia societies (page 651)

How to best induce anesthesia in infants with pyloric stenosis? (pages 652–653)

Staying away from the edge – cerebral oximetry guiding blood pressure management (pages 654–655)

Survey research: it’s just a few questions, right? (pages 656–662)

Herbert Rackow and Ernest Salanitre: the emergence of pediatric anesthesia as a specialty in the United States (pages 663–667)

Does a prophylactic dose of propofol reduce emergence agitation in children receiving anesthesia? A systematic review and meta-analysis (pages 668–676)

Gas induction for pyloromyotomy (pages 677–680)
Intraoperative changes in blood pressure associated with cerebral desaturation in infants (pages 681–688)

The impact of obesity on pediatric procedural sedation-related outcomes: results from the Pediatric Sedation Research Consortium (pages 689–697)

Comparisons of recursive partitioning analysis and conventional methods for selection of uncuffed endotracheal tubes for pediatric patients (pages 698–704)

Changes in intracuff pressure of a cuffed endotracheal tube during surgery for congenital heart disease using cardiopulmonary bypass (pages 705–710)

Plasma concentrations of levobupivacaine associated with two different intermittent wound infusion regimens following surgical ductus ligation in preterm infants (pages 711–718)

Development of a nurse-assisted preanesthesia evaluation program for pediatric outpatient anesthesia (pages 719–726)

Primary osteolysis syndromes: beware of difficult airway (pages 727–737)

Revisiting a measure of child postoperative recovery: development of the Post Hospitalization Behavior Questionnaire for Ambulatory Surgery (pages 738–745)

Quality of handover in a pediatric postanesthesia care unit (pages 746–752)

Response to the letter of Dr. B Haydar (pages 753–754)

Craniosynostosis reconstruction in patients with cyanotic heart defects—risk factors for venous air embolism and overview of preventative strategies (pages 754–755)

Implementation of Google Glass technology in patient care: evaluating its potential benefits and pitfalls (pages 755–756)

Total intravenous anesthesia with dexmedetomidine and ketamine in children (pages 756–757)

Drowning eye sign—massive hydrocephalus (pages 757–758)

Inspired–expired oxygen gap: an alternative method for oxygen saturation monitoring in a patient with an undiagnosed hemoglobinopathy (pages 758–760)

New NICE Guidance

Suspected cancer: recognition and referral (NG12) June 2015
To access electronic resources you need an NHS Athens username and password

To register, click on the link: https://openathens.nice.org.uk/

You need to register using an NHS PC and an NHS email address.

Registration is a quick, simple process, and will give you access to a huge range of online subscription resources, including:

- UpToDate
- Dynamed
- NHS Evidence
- Anatomy.tv
- E-journals
- E-books

For more information or help with setting up your Athens account, email: katie.barnard@uhbristol.nhs.uk
Latest relevant Systematic Reviews from the Cochrane Library

**Needle size for vaccination procedures in children and adolescents**
Paul V Beirne, Sarah Hennessy, Sharon L Cadogan, Frances Shiely, Tony Fitzgerald, Fiona MacLeod

**Short-course versus long-course intravenous therapy with the same antibiotic for severe community-acquired pneumonia in children aged two months to 59 months**
Zohra S Lassi, Aamer Imdad, Zulfiqar A Bhutta

**Exercise rehabilitation following intensive care unit discharge for recovery from critical illness**
Bronwen Connolly, Lisa Salisbury, Brenda O’Neill, Louise Geneen, Abdel Douiri, Michael PW Grocott, Nicholas Hart, Timothy S Walsh, Bronagh Blackwood, for the ERACIP Group

**The effects of idarubicin versus other anthracyclines for induction therapy of patients with newly diagnosed leukaemia**
Xi Li, ShuangNian Xu, Ya Tan, JiePing Chen

**Negative pressure wound therapy for treating surgical wounds healing by secondary intention**
Jo C Dumville, Gemma L Owens, Emma J Crosbie, Frank Peinemann, Zhenmi Liu

**Paracetamol (acetaminophen) for prevention or treatment of pain in newborns**
Arne Ohlsson, Prakeshkumar S Shah

**Antibiotics for acute otitis media in children**
Roderick P Venekamp, Sharon L Sanders, Paul P Glasziou, Chris B Del Mar, Maroeska M Rovers

NHS Behind the Headlines

**Meningitis B vaccine 'available from September'**
Monday Jun 22 2015

"All newborn babies in England and Scotland are to be offered a vaccine to combat meningitis B from September," BBC News reports. This will be the world’s first publicly funded vaccination programme for the potentially fatal disease…

**Children with autism may be supersensitive to change**
Friday Jun 5 2015
"People with autism … are over-sensitive to the world," the Mail Online reports. It reports on an animal study involving a rat model of autism, where a chemical is used to mimic the development of autism in rats…

**Cats blamed for children’s poor reading skills**

Tuesday Jun 2 2015

"Parasite in cats linked to learning difficulties in children." The Daily Telegraph reports. A new study suggests that cat ownership increases the risk of Toxoplasma gondii parasite infection, which could affect cognitive functioning in children…

### New activity in Uptodate

**Effect of active resuscitation on survival at borderline viability (June 2015)**

A major issue regarding the ability to predict neonatal outcome at borderline viability is the impact of initial management. Interpretation of outcome data should always take into account whether neonatal resuscitation was offered at delivery, because neonatal outcome varies depending on the degree of assistance offered to the infant, particularly for those born at or below 23 weeks of gestation. This was illustrated in a recent National Institute of Child Health and Human Development (NICHHD) study that included data from 24 hospitals and nearly 5000 infants [6]. In a multivariable analysis, differences in practice regarding the initiation of active treatment for infants born below 24 weeks of gestation accounted for three-quarters of the between-hospital variation in neonatal survival and survival without impairment. These findings emphasize the difficulty in determining the optimal management for infants at the limit of viability. (See "Limit of viability", section on 'Impact of initial management'.)

**Endotracheal suctioning may not benefit nonvigorous neonates with meconium-stained amniotic fluid (May 2015)**

Current guidelines recommend intubation and tracheal suctioning (endotracheal suctioning) of residual meconium for nonvigorous (depressed) infants (ie, absent or depressed respirations, decreased muscle tone, or heart rate less than 100 beats/minute) with meconium-stained amniotic fluid (MSAF), although supportive data are limited. In a recent randomized clinical trial of 122 nonvigorous term infants with MSAF in India, there was no additional benefit to endotracheal suctioning compared with no intubation and suctioning [7]. Specifically, there were no differences between the two groups in the incidence of meconium aspiration syndrome (33 versus 31 percent), need for mechanical ventilation (23 versus 25 percent), survival at nine months of age (70 versus 72 percent), and mental and motor developmental status at nine months of age. Although these results suggest that endotracheal suctioning may not be needed in all infants with MSAF regardless of the level of activity, additional confirmatory evidence with larger clinical trials is needed before we recommend a change in practice for nonvigorous infants with MSAF. (See "Prevention and management of meconium aspiration syndrome", section on 'Neonatal care'.)
Low allergic cross-reactivity between penicillins and carbapenems (May 2015)

Carbapenems (eg, imipenem, meropenem) share a common beta-lactam ring with penicillins and hence the potential for allergic cross-reactivity, and some drug information systems list penicillin allergy as a contraindication to the use of carbapenems (figure 1). In the largest study to date, 212 patients with allergy to penicillins, confirmed by skin testing, were then tested with carbapenems [12]. All subjects were negative to carbapenem skin testing and tolerated graded challenges to three different carbapenems. Based on this and other series, the rate of reactivity to carbapenems in patients with confirmed penicillin allergy is estimated at <1 percent. This supports our current recommendations on administration of carbapenems to patients reporting immediate-type penicillin allergy: Perform penicillin skin testing when available. If negative, patients may safely receive penicillins and carbapenems. If penicillin skin testing is positive or not available, carbapenems may be administered via a graded challenge. (See "Penicillin-allergic patients: Use of cephalosporins, carbapenems, and monobactams", section on 'Carbapenems'.)

Oxyhemoglobin desaturation during rapid sequence intubation in children (June 2015)

Timing the laryngoscopy duration during a pediatric endotracheal intubation attempt and discontinuing it if intubation is unsuccessful within a specific time period (eg, 30 seconds) may prevent oxyhemoglobin desaturation. In an observational study that used video review of 114 children undergoing rapid sequence intubation in a pediatric emergency department, at least one episode of oxyhemoglobin desaturation (pulse oximetry <90 percent) occurred in 33 percent of patients [24]. Oxyhemoglobin desaturation was more common in children two years of age or younger compared with older children (59 versus 10 percent) and was strongly associated with the duration of laryngoscopy; 82 percent of patients experiencing desaturations had laryngoscopy durations of 30 seconds or longer. There was no association between the number of intubation attempts and episodes of desaturation. (See "Emergency endotracheal intubation in children", section on 'During laryngoscopy/intubation'.)

Post-resuscitation therapeutic hypothermia not better than targeted normothermia in children (May 2015)

Therapeutic hypothermia to maintain core body temperature below normal (typically 32 to 34°C) has been proposed after resuscitation from pediatric cardiac arrest based upon evidence for improved neurologic outcome in neonates and selected adults. In a multicenter trial involving children who were resuscitated from an out-of-hospital cardiac arrest, 260 patients (48 hours to 18 years of age) were randomized to either therapeutic hypothermia with a target core body temperature of 33°C or therapeutic normothermia to maintain a temperature of 36.8°C. One-year survival with good neurologic function was not significantly different in patients undergoing therapeutic hypothermia compared with therapeutic normothermia (20 versus 12 percent, respectively, relative likelihood 1.54, 95% CI 0.86-2.76) [25]. Of note, the number of patients randomized was insufficient to exclude an important benefit or harm from therapeutic hypothermia. Further study is needed to determine the role of therapeutic hypothermia after resuscitation from pediatric cardiac arrest; current practice is to provide targeted temperature management to prevent fever (core body temperature >38°C). (See "Guidelines for pediatric advanced life support", section on 'Early postresuscitation management'.)
US ACIP recommendations for serogroup B meningococcal vaccination (June 2015)

In late 2014 and early 2015, the US Food and Drug Administration approved two serogroup B meningococcal vaccines (Trumenba, MenB-FHbp and Bexsero, MenB-4C). In June 2015, the Advisory Committee on Immunization Practices (ACIP) issued recommendations for serogroup B meningococcal vaccine for high-risk individuals aged 10 years or older; these include individuals with persistent complement component deficiencies, individuals with anatomic or functional asplenia, microbiologists routinely exposed to *N. meningitidis* isolates, and individuals at increased risk because of a serogroup B meningococcal disease outbreak [50]. These indications overlap with those for the quadrivalent meningococcal conjugate vaccine and are summarized in the table (table 1). Among patients with none of the above risk factors, the ACIP advises discussion between doctors and patients regarding vaccination against serogroup B meningococcus; routine vaccination has not been recommended [51]. (See "Meningococcal vaccines", section on 'Use in United States'.)

Effectiveness of pertussis vaccine in infants (May 2015)

Infants younger than 12 months have the highest incidence of pertussis and pertussis-related complications, including death. In a large case-control study, having received ≥1 dose of pertussis vaccine was associated with a 72 percent reduction in the risk of death and a 31 percent reduction in the risk of hospitalization in infants ≥6 weeks of age (the minimum age for the first dose of pertussis vaccine) [56]. However, 64 percent of the deaths occurred in infants younger than six weeks. These findings highlight the importance of timely pertussis immunization for infants, as well as maternal immunization during pregnancy and immunization of the infant’s close contacts, as recommended by the Global Pertussis Initiative [57]. (See "Diphtheria, tetanus, and pertussis immunization in infants and children 0 through 6 years of age", section on 'Efficacy and effectiveness' and "Immunizations during pregnancy", section on 'Tetanus, diphtheria, and pertussis vaccination'; and "Bordetella pertussis infection in adolescents and adults: Treatment and prevention", section on 'Tdap booster'.)
UpToDate is the leading evidence-based clinical decision support system, designed for use at the point of care.

It contains more than 9,500 searchable topics across the following specialities:

- Adult and paediatric emergency medicine
- Allergy and immunology
- Cardiovascular medicine
- Dermatology
- Drug therapy
- Endocrinology and diabetes mellitus
- Family medicine
- Gastroenterology and hepatology
- General surgery
- Geriatrics
- Haematology
- Hospital Medicine
- Infectious diseases
- Nephrology and hypertension
- Neurology
- Obstetrics and gynaecology
- Oncology
- Paediatrics
- Primary care internal medicine
- Psychiatry
- Pulmonary, critical care and sleep medicine
- Rheumatology

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Quick Exercise

Confounding Bias in research methodology

A confounder is a factor that is:

- Linked to the outcome of interest, independent of the exposure
- Linked to the exposure but not the consequence of the exposure

What is the confounding factor in the following relationships:

- People who carry matches are more likely to develop lung cancer
- People who eat ice-cream are more likely to drown
- Training in anaesthesia is more likely to make doctors commit suicide

To find out more about bias in research methodology, sign up for one of our Critical Appraisal training sessions. For more details, email katie.barnard@uhbristol.nhs.uk.

Current Awareness Database Articles

If you require full articles please email: library@uhbristol.nhs.uk

Title: Implementation of a diuretic stewardship program in a pediatric cardiovascular intensive care unit to reduce medication expenditures.

Citation: American Journal of Health-System Pharmacy, 15 June 2015, vol./is. 72/12(1047-1051), 10792082

Author(s): THOMAS, CHRISTOPHER A., MORRIS, JENNIFER L., SINCLAIR, ELIZABETH A., SPEICHER, RICHARD H., AHMED, SHEIKH S., ROTTA, ALEXANDRE T.

Language: English

Publication Type: Journal Article
Plasma Transfusion in Critically Ill Children. A Magical Mystery Tour?

Citation: American Journal of Respiratory & Critical Care Medicine, 15 June 2015, vol./is. 191/12(1347-1349), 1073449X

Author(s): Lacroix, Jacques

Language: English

Publication Type: journal article

Abstract: RATIONALE: Plasma transfusions are frequently prescribed for critically ill children, although their indications lack a strong evidence base. Plasma transfusions are largely driven by physician conceptions of need, and these are poorly documented in pediatric intensive care patients. OBJECTIVES: To identify patient characteristics and to characterize indications leading to plasma transfusions in critically ill children, and to assess the effect of plasma transfusions on coagulation tests. METHODS: Point-prevalence study in 101 pediatric intensive care units in 21 countries, on 6 predefined weeks. All critically ill children admitted to a participating unit were included if they received at least one plasma transfusion. MEASUREMENTS AND MAIN RESULTS: During the 6 study weeks, 13,192 children were eligible. Among these, 443 (3.4%) received at least one plasma transfusion and were included. The primary indications for plasma transfusion were critical bleeding in 22.3%, minor bleeding in 21.2%, planned surgery or procedure in 11.7%, and high risk of postoperative bleeding in 10.6%. No bleeding or planned procedures were reported in 34.1%. Before plasma transfusion, the median international normalized ratio (INR) and activated partial thromboplastin time (aPTT) values were 1.5 and 48, respectively. After plasma transfusion, the median INR and aPTT changes were -0.2 and -5, respectively. Plasma transfusion significantly improved INR only in patients with a baseline INR greater than 2.5. CONCLUSIONS: One-third of transfused patients were not bleeding and had no planned procedure. In addition, in most patients, coagulation tests are not sensitive to increases in coagulation factors resulting from plasma transfusion. Studies assessing appropriate plasma transfusion strategies are urgently needed.

Publication Type: journal article

Source: CINAHL

Reducing the Unplanned Removal Rate of Endotracheal Tubes in the Pediatric Intensive Care Unit [Chinese].

Source: ProQuest in American Journal of Respiratory and Critical Care Medicine

Title: Indications and Effects of Plasma Transfusions in Critically Ill Children.

Citation: American Journal of Respiratory & Critical Care Medicine, 15 June 2015, vol./is. 191/12(1395-1402), 1073449X

Author(s): Karam, Oliver, Demaret, Pierre, Shefler, Alison, Leteurtre, Stéphane, Spinella, Philip C, Stanworth, Simon J, Tucci, Marisa

Language: English

Abstract: RATIONALE: Plasma transfusions are frequently prescribed for critically ill children, although their indications lack a strong evidence base. Plasma transfusions are largely driven by physician conceptions of need, and these are poorly documented in pediatric intensive care patients. OBJECTIVES: To identify patient characteristics and to characterize indications leading to plasma transfusions in critically ill children, and to assess the effect of plasma transfusions on coagulation tests. METHODS: Point-prevalence study in 101 pediatric intensive care units in 21 countries, on 6 predefined weeks. All critically ill children admitted to a participating unit were included if they received at least one plasma transfusion. MEASUREMENTS AND MAIN RESULTS: During the 6 study weeks, 13,192 children were eligible. Among these, 443 (3.4%) received at least one plasma transfusion and were included. The primary indications for plasma transfusion were critical bleeding in 22.3%, minor bleeding in 21.2%, planned surgery or procedure in 11.7%, and high risk of postoperative bleeding in 10.6%. No bleeding or planned procedures were reported in 34.1%. Before plasma transfusion, the median international normalized ratio (INR) and activated partial thromboplastin time (aPTT) values were 1.5 and 48, respectively. After plasma transfusion, the median INR and aPTT changes were -0.2 and -5, respectively. Plasma transfusion significantly improved INR only in patients with a baseline INR greater than 2.5. CONCLUSIONS: One-third of transfused patients were not bleeding and had no planned procedure. In addition, in most patients, coagulation tests are not sensitive to increases in coagulation factors resulting from plasma transfusion. Studies assessing appropriate plasma transfusion strategies are urgently needed.

Publication Type: journal article

Source: CINAHL

Reducing the Unplanned Removal Rate of Endotracheal Tubes in the Pediatric Intensive Care Unit [Chinese].

Source: ProQuest in American Journal of Respiratory and Critical Care Medicine

Title: Reducing the Unplanned Removal Rate of Endotracheal Tubes in the Pediatric Intensive Care Unit [Chinese].
**Citation:** Journal of Nursing, 02 June 2015, vol./is. 62/(39-48), 0047262X

**Author(s):** Muu-Dan Liang, Guei-Ling Fann

**Language:** English

**Abstract:** Background & Problems: In 2012, the rate of unexpected removal of endotracheal tubes in our pediatric intensive unit was above the maximum target level of 0.28%. We designed a survey to identify the relevant difficulties faced by nurses in order to formulate viable solutions and reduce the removal rate. After assessing the findings of this survey, we concluded that the following represented the primary difficulties: use of incorrect endotracheal tube care standards, the inadequate sedation of patients, the incorrect cognition of care of nurses, and lack of in-service education and securing techniques. Purposes: After implementing quality improvements to overcome these difficulties, the rate of unexpected removal dropped dramatically to 0.57%.

Resolution: Our quality improvement strategy included: designing a protocol and a checklist for securing endotracheal tubes, purchasing additional waterproof tape and restraint straps, establishing a standard protocol for sedation, producing an educational DVD, and continuing in-service education. Results: After implementation of the above measures, the rate of unexpected removal fell dramatically from 0.76% to 0.33%. Additionally, the completion-of-care rate for patients with endotracheal tubes rose significantly from 27.2% to 94.5%. Conclusion: This project established a standard procedure for caring for endotracheal tube patients; improved communication among staff members; and reduced unexpected removal events.

**Publication Type:** journal article

**Source:** CINAHL

**Full Text:** Available from EBSCOhost in Journal of Nursing
Available from ProQuest in Hu Li Za Zhi

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**Title:** Improving Use of Sterile Water for Oral Care and Tube Flushes in Pediatric Intensive Care Units.

**Citation:** American Journal of Infection Control, 02 June 2015, vol./is. 43/(0-0), 01966553

**Author(s):** Flaherty, Kathleen A., Brennan-Krohn, Thea, Kinlay, Joanne, Scanlon, Patricia, Potter-Bynoe, Gail, Sandora, Thomas

**Language:** English

**Publication Type:** journal article

**Source:** CINAHL

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**Title:** Timing of death in children referred for intensive care with severe sepsis: implications for interventional studies.

**Citation:** Pediatric critical care medicine : a journal of the Society of Critical Care Medicine and the World Federation of Pediatric Intensive and Critical Care Societies, Jun 2015, vol. 16, no. 5, p. 410-417, 1529-7535 (June 2015)

**Author(s):** Cvetkovic, Mirjana, Lutman, Daniel, Ramnarayan, Padmanabhan, Pathan, Nazima, Inwald, David P, Peters, Mark J

**Abstract:** Early deaths in pediatric sepsis may limit the impact of therapies that can only be provided on PICUs. By introducing selection and survivorship biases, these very early deaths may also undermine the results of trials that employ standard consent procedures. We hypothesized that: 1) the majority of deaths in children with severe sepsis occur very early, within 24 hours of referral to PICU; and 2) a significant proportion of deaths occur before PICU admission. We studied consecutive referrals of newborns through to 16 years of age, between 2005 and 2011 to the Children's Acute Transport Service, the North Thames regional pediatric intensive care transport service, with a working diagnosis of "sepsis," "severe sepsis," "meningococcal sepsis,"
or "septic shock." The primary outcome measure was the proportion of deaths within 24 hours of referral. Survival distributions of previously healthy children were compared with those with significant comorbidities. Thirteen thousand four hundred and nine referrals were made to Children's Acute Transport Service, of whom 703 (5%) met inclusion criteria. Data on survival to 1 year were available in 627 of 703 patients (89%). One hundred thirty children (130/627; 21%; 95% CI. 18-24%) died in the first year. A higher proportion of children with comorbidity cases (46/85; 54%, 44-64) died compared with previously healthy cases (84/542; 16%; 13-19; p < 0.00005, Fisher exact test). Seventy-one deaths occurred within 24 hours of PICU referral (71/130, 55%, 46-63). The timing of death differed with comorbidity. Similar proportions of children survived to 24 hours (previously healthy children 90% vs children with comorbidity 83%, p = 0.06). However, deaths after 24 hours were infrequent among previously healthy cases (28/84 deaths, 33%, 24-44%) compared with children with comorbidity cases (31/46 deaths, 66%, 53-79%) (p < 0.001, Fisher exact test). This majority of deaths among children referred for pediatric intensive care with for severe sepsis occur within 24 hours. This has important implications for future clinical trials and quality improvement initiatives aimed at improving sepsis outcomes.

Source: Medline

Title: The prevalence of and factors associated with intra-abdominal hypertension on admission Day in critically ill pediatric patients: A multicenter study.

Citation: Journal of Critical Care, 01 June 2015, vol./is. 30/3(584-588), 08839441

Author(s): Horoz, Ozden O., Yildizdas, Dincer, Asilioglu, Nazik, Kendirli, Tanil, Erkek, Nilgun, Anil, Ayse Berna, Bayrakci, Benan, Koroglu, Tolga, Akyildiz, Basak Nur, Arslankoylu, Ali Ertug, Dursun, Oguz, Kesici, Selman, Sevketoglu, Esra, Unal, Ilker

Language: English

Publication Type: journal article

Source: CINAHL

Title: A survey demonstrating lack of consensus on the sequence of medications for treatment of hyperkalemia among pediatric critical care providers.


Author(s): Chime, Nnenna O, Luo, Xun, McNamara, LeAnn, Nishisaki, Akira, Hunt, Elizabeth A

Abstract: Hyperkalemia is one of the reversible causes of cardiac arrest in children. The Advanced Cardiovascular Life Support guidelines have specific recommendations on the choice and sequence of medications for treatment of life-threatening hyperkalemia. However, the Pediatric Advanced Life Support guidelines have no specific treatment recommendations. The objective of this study was to measure the extent to which opinions diverge among pediatricians on the choice and sequence of medication administration in the management of hyperkalemia during cardiac arrest. Scenario-based survey. A hypothetical hospital area covered by the pediatric rapid response team. A hypothetical scenario of a 7-year old child receiving a blood transfusion who is suddenly unresponsive and found to be in pulseless ventricular tachycardia with stat labs revealing a potassium level of 8.3. A scenario-based survey of PICU fellows and attendings at a PICU Fellows Boot Camp. Eighty-four fellows and 24 attendings responded to the survey. The response rate was 89%. Calcium was chosen most frequently as the first drug to be administered (calcium chloride, 40/115 [34.8%]; calcium gluconate, 62/115 [53.9%]) while 38 of 115 respondents (33%) chose a drug other than calcium. Only 17 of 115 respondents (15%) would use calcium, sodium bicarbonate, insulin, and dextrose in the advanced cardiovascular life support-recommended sequence. PICU attendings were significantly more likely to administer the advanced cardiovascular life support-recommended sequence than fellows (attendings, 8/24 [33%] vs fellows, 9/84 [11%]; p = 0.007). This survey revealed notable variability in the choice and sequence of medications for treatment of life-threatening hyperkalemia with surprisingly few participants in compliance with the advanced cardiovascular
life support hyperkalemia guidelines. A standardized approach for pediatric life-threatening hyperkalemia is recommended to improve resuscitation quality.

Source: Medline

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**Title:** Challenges to nutrition therapy in the pediatric critically ill obese patient.

**Citation:** Nutrition in clinical practice : official publication of the American Society for Parenteral and Enteral Nutrition, Jun 2015, vol. 30, no. 3, p. 432-439 (June 2015)

**Author(s):** Martinez, Enid E, Ariagno, Katelyn, Arriola, Aldis, Lara, Kattina, Mehta, Nilesh M

**Abstract:** Obesity has been associated with poor clinical outcomes in critically ill children. The optimal approach to nutrition therapy in this vulnerable cohort is unclear. We report the nutrition management of 2 obese patients admitted to a pediatric intensive care unit (PICU). We focus on their nutrition assessment, energy requirements, and macronutrient delivery. Case 1 describes a 19-year-old male, body mass index (BMI) 52.4 kg/m(2), who was admitted after emergent orthopedic surgery. Case 2 describes a 13-year-old male, BMI 31.5 kg/m(2), who was admitted with respiratory distress. Average PICU length of stay was 2 months. Nutrition assessments, including weight and height, were obtained early and regularly. Skinfold measurements were challenging. Estimated energy expenditure by predictive equations was significantly higher compared with measured resting energy expenditure (MREE) by indirect calorimetry in both cases. The Mifflin St-Jeor equation (in case 1) overestimated MREE by 681 kcal/d; the Schofield equation (in case 2) overestimated MREE by 662 kcal/d. Both patients had barriers to enteral nutrition and prolonged periods of time when they received no enteral nutrition, requiring parenteral nutrition for 28% and 75% of their PICU stay, respectively. Average daily protein delivered was 0.8 g/kg and 1 g/kg, below adult recommended protein intake for obese patients and pediatric recommendations for age. These cases were notable for (1) challenges to anthropometric assessments, (2) inaccurate estimates of energy requirements, (3) suboptimal enteral nutrition delivery, (4) need for supplemental parenteral nutrition, and (5) suboptimal protein intake. Research is needed to determine the best approach to nutrition therapy in this cohort. © 2015 American Society for Parenteral and Enteral Nutrition.

Source: Medline

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**Title:** Cost of care in a paediatric intensive care unit of a tertiary-care university hospital of Pakistan.

**Citation:** JPMA. The Journal of the Pakistan Medical Association, Jun 2015, vol. 65, no. 6, p. 651-654, 0030-9982 (June 2015)

**Author(s):** Haque, Anwarul, Siddiqui, Naveed-Ur- Rehman, Kumar, Raman, Hoda, Mehar, Lakahni, Gulzar, Hooda, Khairunnisa

**Abstract:** To assess the cost of treatment for families of children hospitalised in paediatric intensive care unit of a tertiary care teaching hospital. The retrospective cohort study was conducted in Aga Khan University Hospital, Karachi, and comprised record of all children admitted to the paediatric intensive care unit from January 1 to June 30, 2013. Demographic data, diagnosis at the time of admission, co-morbidity, length of stay in intensive care and outcome were recorded. The record of all hospital charges for each day the patient was cared for were also recorded. The finance department itemised the cost into major categories like pharmacy, radiology, laboratory, etc. SPSS 19 was used for statistical analysis. Record of 148 patients represented the study sample. Of them, 98(66%) were males. Overall median age was 2.7 yrs (interquartile range: 1 month to 16 years) and 93(62.8%) were below 5 years of age. Median length of stay was 3.5 days (range: 2-5 days) and total patient days in intensive care were 622. The median cost per admission was PKR 217,238 (range: (114,550-368,808) and mean cost per day was PKR 57,535 (43,911-85,527). The major cost distributions were bed charges PKR 8,092,080 (18.02%), physician charges PKR 6,398653(14.25%), medical-surgical supplies PKR 8,000772(17.8%), laboratory charges PKR 8,403,615(18.9%) and pharmacy charges PKR 5,852,226(13.03%). The cost of paediatric intensive care unit was expensive. Cost distribution was almost evenly distributed. Hence, a better admission policy is needed for resource utilisation and cost-effectiveness.

Source: Medline
Title: Red blood cell transfusion decision making in critically ill children.

Citation: Current Opinion in Pediatrics, 01 June 2015, vol./is. 27/3(286-291), 10408703

Author(s): Lacroix, Jacques, Tucci, Marisa, Pont-Thibodeau, Geneviève Du

Language: English

Abstract: PURPOSE OF REVIEW: To discuss the tradeoff between permissive anemia and administering red blood cell transfusion to children in pediatric ICUs. RECENT FINDINGS: Postsurgical mortality in adults increases abruptly if their nadir hemoglobin level falls below 5 g/dl. Patients with sepsis, even those in septic shock, and patients with upper gastrointestinal bleeding do not require red blood cell (RBC) transfusion if their hemoglobin level is above 7 g/dl. SUMMARY: Anemia is common in critically ill children and is well tolerated most of the time. RBC transfusion is required in cases of hemorrhagic shock and in children with a hemoglobin level below 5 g/dl. Children with sepsis, including septic shock, those with a severe upper gastrointestinal bleeding and all stable critically ill children, including noncyanotic cardiac children older than 28 days, do not require an RBC transfusion if their hemoglobin level is above 7 g/dl. Transfusion threshold in children with univentricular physiology and in critically ill children with a hemoglobin level between 5 and 7 g/dl remains to be determined.

Publication Type: journal article

Source: CINAHL

Title: Education and Simulation Training of Pediatric Intensive Care Unit Nurses to Care for Open Heart Surgery Patients.

Citation: Critical Care Nurse, 01 June 2015, vol./is. 35/3(76-81), 02795442

Author(s): Campbell, Jacqueline M.

Language: English

Publication Type: journal article

Source: CINAHL

Full Text: Available from EBSCOhost in Critical Care Nurse

Title: Patient-centered interventions reduce Latino PICU deaths.

Citation: Contemporary Pediatrics, 01 June 2015, vol./is. 32/6(12-13), 87500507

Author(s): Freedman, Marian

Language: English

Publication Type: journal article

Source: CINAHL

Full Text: Available from ProQuest in Contemporary Pediatrics

Available from EBSCOhost in Contemporary Pediatrics

Title: How much does it cost to identify a critically ill child experiencing electrographic seizures?
OBJECTIVES: Electrographic seizures in critically ill children may be identified by continuous EEG monitoring. We evaluated the cost effectiveness of 4 electrographic seizure identification strategies (no EEG monitoring and EEG monitoring for 1 hour, 24 hours, or 48 hours). METHODS: We created a decision tree to model the relationships among variables from a societal perspective. To provide input for the model, we estimated variable costs directly related to EEG monitoring from their component parts, and we reviewed the literature to estimate the probabilities of outcomes. We calculated incremental cost-effectiveness ratios to identify the trade-off between cost and effectiveness at different willingness-to-pay values. RESULTS: Our analysis found that the preferred strategy was EEG monitoring for 1 hour, 24 hours, and 48 hours if the decision maker was willing to pay <$1,666, $1,666-$22,648, and >$22,648 per critically ill child identified with electrographic seizures, respectively. The 48-hour strategy only identified 4% more children with electrographic seizures at substantially higher cost. Sensitivity analyses found that all 3 strategies were acceptable at lower willingness-to-pay values when children with higher electrographic seizure risk were monitored. CONCLUSIONS: The results of this study support monitoring of critically ill children for 24 hours because the cost to identify a critically ill child with electrographic seizures is modest. Further study is needed to predict better which children may benefit from 48 hours of EEG monitoring because the costs are much higher.
Author(s): Liang, Muu-Dan, Fann, Guei-Ling

Abstract: In 2012, the rate of unexpected removal of endotracheal tubes in our pediatric intensive unit was above the maximum target level of 0.28%. We designed a survey to identify the relevant difficulties faced by nurses in order to formulate viable solutions and reduce the removal rate. After assessing the findings of this survey, we concluded that the following represented the primary difficulties: use of incorrect endotracheal tube care standards, the inadequate sedation of patients, the incorrect cognition of care of nurses, and lack of in-service education and securing techniques. After implementing quality improvements to overcome these difficulties, the rate of unexpected removal dropped dramatically to 0.57%. Our quality improvement strategy included: designing a protocol and a checklist for securing endotracheal tubes, purchasing additional waterproof tape and restraint straps, establishing a standard protocol for sedation, producing an educational DVD, and continuing in-service education. After implementation of the above measures, the rate of unexpected removal fell dramatically from 0.76% to 0.33%. Additionally, the completion-of-care rate for patients with endotracheal tubes rose significantly from 27.2% to 94.5%. This project established a standard procedure for caring for endotracheal tube patients; improved communication among staff members; and reduced unexpected removal events.

Source: Medline

Full Text: Available from EBSCOhost in Journal of Nursing
Available from ProQuest in Hu Li Za Zhi

Title: Collaborative quality improvement in the cardiac intensive care unit: development of the Paediatric Cardiac Critical Care Consortium (PC4).

Citation: Cardiology in the young, Jun 2015, vol. 25, no. 5, p. 951-957 (June 2015)


Abstract: Despite many advances in recent years for patients with critical paediatric and congenital cardiac disease, significant variation in outcomes remains across hospitals. Collaborative quality improvement has enhanced the quality and value of health care across specialties, partly by determining the reasons for variation and targeting strategies to reduce it. Developing an infrastructure for collaborative quality improvement in paediatric cardiac critical care holds promise for developing benchmarks of quality, to reduce preventable mortality and morbidity, optimise the long-term health of patients with critical congenital cardiovascular disease, and reduce unnecessary resource utilisation in the cardiac intensive care unit environment. The Pediatric Cardiac Critical Care Consortium (PC4) has been modelled after successful collaborative quality improvement initiatives, and is positioned to provide the data platform necessary to realise these objectives. We describe the development of PC4 including the philosophical, organisational, and infrastructural components that will facilitate collaborative quality improvement in paediatric cardiac critical care.

Source: Medline

Full Text: Available from EBSCOhost in Critical care nurse
Available from ProQuest in Hu Li Za Zhi

Title: Education and simulation training of pediatric intensive care unit nurses to care for open heart surgery patients.

Citation: Critical care nurse, Jun 2015, vol. 35, no. 3, p. 76-81 (June 2015)

Author(s): Campbell, Jacqueline M

Source: Medline
Title: The role of pediatric psychologists in facilitating medical decision making in the care of critically ill young children.

Citation: Clinical Practice in Pediatric Psychology, Jun 2015, vol. 3, no. 2, p. 120-130, 2169-4826 (Jun 2015)

Author(s): Ernst, Michelle M., Piazza-Waggoner, Carrie, Ciesielski, Heather

Abstract: The aim of the current article is to highlight the ways pediatric psychologists can support families and teams in medical decision making for critically ill young children. To address this, we review the challenges related to medical decision making and highlight both professional competencies and clinical considerations related to the role of the psychologist. Then, we present 2 cases that illustrate how psychologists can support parents and teams in navigating these factors during decision-making tasks. Finally, we highlight common intervention strategies using the cases as examples, and note the importance of adding this pediatric psychologist role to the repertoire of issues for which we can add value within the medical setting. (PsycINFO Database Record (c) 2015 APA, all rights reserved)(journal abstract)

Source: PsycInfo

Full Text: Available from ProQuest in Clinical Practice in Pediatric Psychology

Title: Information structure and organisation in change of shift reports: An observational study of nursing hand-offs in a Paediatric Intensive Care Unit.

Citation: Intensive & critical care nursing : the official journal of the British Association of Critical Care Nurses, Jun 2015, vol. 31, no. 3, p. 155-164 (June 2015)

Author(s): Foster-Hunt, Tara, Parush, Avi, Ellis, Jacqueline, Thomas, Margot, Rashotte, Judy

Abstract: Patient hand-offs involve the exchange of critical information. Ineffective hand-offs can result in reduced patient safety by leading to wrong treatment, delayed diagnoses or other outcomes that can negatively affect the healthcare system. The objectives of this study were to uncover the structure of the information conveyed during patient hand-offs and look for principles characterising the organisation of the information. With an observational study approach, data was gathered during the morning and evening nursing change of shift hand-offs in a Paediatric Intensive Care Unit. Content analysis identified a common meta-structure used for information transfer that contained categories with varying degrees of information integration and the repetition of high consequence information. Differences were found in the organisation of the hand-off structures, and these varied as a function of nursing experience. The findings are discussed in terms of the potential benefits of computerised tools which utilise standardised structure for information transfer and the implications for future education and critical care skill acquisition. Copyright © 2014 Elsevier Ltd. All rights reserved.

Source: Medline

Title: Depression, anxiety, and perinatal-specific posttraumatic distress in mothers of very low birth weight infants in the neonatal intensive care unit.

Citation: Journal of Developmental and Behavioral Pediatrics, Jun 2015, vol. 36, no. 5, p. 362-370, 0196-206X (Jun 2015)

Author(s): Greene, Michelle M., Rossman, Beverly, Patra, Kousiki, Kratovil, Amanda L., Janes, Judy E., Meier, Paula P.

Abstract: Objective: To compare the trajectories and determine the predictors of maternal distress defined as a continuous spectrum of symptomatology and elevated symptomatology, of depression, anxiety, and perinatal-specific posttraumatic stress (PPTS), in mothers of very low birth weight (VLBW) infants throughout the neonatal intensive care unit (NICU) hospitalization. Method: Sixty-nine mothers completed psychological questionnaires within the first month of their infant’s NICU hospitalization and again 2 weeks before NICU
discharge. Multiple regression models determined maternal psychological, reproductive, sociodemographic, and infant medical predictors of maternal distress. Results: Perinatal-specific posttraumatic stress remained stable throughout the NICU hospitalization, whereas other aspects of distress declined. Previous psychological history and infant medical variables predicted higher PPTS but no other aspects of distress. Reproductive variables predicted anxiety and PPTS; history of fetal loss initially predicted lower PPTS but throughout hospitalization primipara status emerged as a predictor of higher anxiety and PPTS. Sociodemographic variables predicted initial, but not later, depressive distress. Conclusions: Psychological screening is important in the NICU. The PPTS profile suggests it may require distinct treatment. Primiparas should be targeted for intervention.

Source: PsycInfo

Title: Acinetobacter baumannii infections in a South African paediatric intensive care unit.

Citation: Journal of tropical pediatrics, Jun 2015, vol. 61, no. 3, p. 182-187 (June 2015)

Author(s): Reddy, Deveshni, Morrow, Brenda M, Argent, Andrew C

Abstract: To describe and compare characteristics and outcomes of patients colonized or infected with Acinetobacter baumannii (cases) to a control group. A retrospective case-controlled study of patients admitted to a South African paediatric intensive care unit (PICU) between January and December 2010. Acinetobacter baumannii was isolated in 194 patients. Mortality was similar between cases (9.3%) and controls (9.8%). Median duration of PICU stay and mechanical ventilation in cases vs. controls was 10 vs. 2 (p < 0.0001) and 9 vs. 1 days (p < 0.0001), respectively. Admission diagnosis of traumatic brain injury [adjusted odds ratio (OR): 5.6, 95% CI: 1.2-27.0; p = 0.03] and duration of mechanical ventilation (adjusted OR: 1.4, 95% CI: 1.3-1.5; p < 0.0001) were independently associated with A. baumannii acquisition. Acinetobacter baumannii acquisition was common and associated with increased morbidity, but not increased mortality. © The Author [2015]. Published by Oxford University Press. All rights reserved. For Permissions, please email: journals.permissions@oup.com.

Source: Medline

Title: Pediatric surgical critical care fellowship experience and career paths: Results of a survey of program graduates.

Citation: Journal of pediatric surgery, Jun 2015, vol. 50, no. 6, p. 1046-1048 (June 2015)

Author(s): Rothstein, David H

Abstract: The purpose of this study was to examine motivations, fellowship experiences, and careers of graduates of the 10 accredited pediatric surgical critical care fellowships (PSCCF). Queries to PSCCF directors yielded a list of 86 graduates (2003-2013), each of whom received a 23-question survey. Of the 86 graduates contacted, 82 (95.3%) replied. Among graduates who applied, 62 of 74 (83.8%) matched into pediatric surgery (PS) fellowships. On average, the respondents were 33 years old and PGY6 when beginning PSCCF. Half had failed initial attempts to match into PS fellowship. Of the matched respondents, 39 are pediatric surgeons and 21 PS fellows or residents awaiting fellowship. Two additional respondents did not complete fellowship. Among the pediatric surgeons, 13 identified their positions as heavily involved with critical care. The critical care boards pass rate was 94.4% (67/71). Rotations during fellowships were varied, with 74 fellows (90.2%) rotating in the pediatric intensive care unit (ICU), 71 (86.6%) in the neonatal ICU, 54 (65.9%) in the adult surgical ICU, and 36 (43.9%) on the pediatric surgical ward service. Completion of a PSCCF is highly predictive of a successful PS match. Only a third of PSCCF graduates continue critical care work in a formal fashion after PS fellowship. Copyright © 2015 Elsevier Inc. All rights reserved.

Source: Medline

Title: How much does it cost to identify a critically ill child experiencing electrographic seizures?
Electrographic seizures in critically ill children may be identified by continuous EEG monitoring. We evaluated the cost effectiveness of 4 electrographic seizure identification strategies (no EEG monitoring and EEG monitoring for 1 hour, 24 hours, or 48 hours). We created a decision tree to model the relationships among variables from a societal perspective. To provide input for the model, we estimated variable costs directly related to EEG monitoring from their component parts, and we reviewed the literature to estimate the probabilities of outcomes. We calculated incremental cost-effectiveness ratios to identify the trade-off between cost and effectiveness at different willingness-to-pay values. Our analysis found that the preferred strategy was EEG monitoring for 1 hour, 24 hours, and 48 hours if the decision maker was willing to pay <$1,666, $1,666-$22,648, and >$22,648 per critically ill child identified with electrographic seizures, respectively. The 48-hour strategy only identified 4% more children with electrographic seizures at substantially higher cost. Sensitivity analyses found that all 3 strategies were acceptable at lower willingness-to-pay values when children with higher electrographic seizure risk were monitored. The results of this study support monitoring of critically ill children for 24 hours because the cost to identify a critically ill child with electrographic seizures is modest. Further study is needed to predict better which children may benefit from 48 hours of EEG monitoring because the costs are much higher.

Source: Medline

Title: Extreme hypernatremic dehydration due to potential sodium intoxication: Consequences and management for an infant with diarrhea at an urban intensive care unit in Bangladesh: A case report

Citation: Journal of Medical Case Reports, June 2015, vol./is. 9/1, 1752-1947 (02 Jun 2015)


Language: English

Abstract: Introduction: Hypernatremia (serum sodium =150mmol/L) is one of the most life-threatening complications of childhood diarrhea, and its management remains challenging, even in a highly advanced critical care setting. This case report describes the acute clinical course and 3-month neurological follow-up after discharge of an infant with extreme hypernatremia in an intensive care unit in Dhaka, Bangladesh. Case presentation: A 6-month-old Asian Bangladeshi girl of middle-class socioeconomic status was admitted to the intensive care unit of our institution in 2012 with acute watery diarrhea, lethargy and hypernatremia (208mmol/L serum sodium). She had a history of taking excess oral rehydration salt: five packets each, inappropriately prepared, rice-based, properly diluted, glucose-based oral rehydration salt. Her hypernatremia was treated exclusively with oral rehydration salt solution. She experienced seizures on the third day of her hospitalization and was treated with anticonvulsant drugs. Later in the course of her hospitalization, Enterobacter spp bacteraemia was detected and successfully treated with ciprofloxacin. Although magnetic resonance imaging of her brain at discharge showed cerebral edema, brain magnetic resonance imaging appeared normal at a follow-up examination 3 months after discharge. Electroencephalograms taken at discharge and at her 3-month follow-up examination also appeared normal. Conclusions: Successful management of extreme hypernatremia with only oral rehydration salt did not result in observable neurological consequences, which emphasizes the importance of the use of oral rehydration salt for the clinical management of childhood hypernatremia.
Title: Collaborative quality improvement in the cardiac intensive care unit: Development of the Paediatric Cardiac Critical Care Consortium

Citation: Cardiology in the Young, June 2015, vol./is. 25/5(951-957), 1047-9511;1467-1107 (10 Jun 2014)


Language: English

Abstract: Despite many advances in recent years for patients with critical paediatric and congenital cardiac disease, significant variation in outcomes remains across hospitals. Collaborative quality improvement has enhanced the quality and value of health care across specialties, partly by determining the reasons for variation and targeting strategies to reduce it. Developing an infrastructure for collaborative quality improvement in paediatric cardiac critical care holds promise for developing benchmarks of quality, to reduce preventable mortality and morbidity, optimise the long-term health of patients with critical congenital cardiovascular disease, and reduce unnecessary resource utilisation in the cardiac intensive care unit environment. The Pediatric Cardiac Critical Care Consortium (PC<sup>4</sup>) has been modelled after successful collaborative quality improvement initiatives, and is positioned to provide the data platform necessary to realise these objectives. We describe the development of PC<sup>4</sup> including the philosophical, organisational, and infrastructural components that will facilitate collaborative quality improvement in paediatric cardiac critical care.

Publication Type: Journal: Article

Source: EMBASE

Title: Evidence-based practice guidelines in pediatric critical care: laying the foundation for moving forward.


Author(s): Blackford, Martha G, Reed, Michael D

Source: Medline

Title: Diagnostic Errors in a PICU: Insights From the Morbidity and Mortality Conference.


Author(s): Cifra, Christina L, Jones, Karen L, Ascenzi, Judith A, Bhalala, Utpal S, Bembea, Melania M, Newman-Toker, David E, Fackler, James C, Miller, Marlene R

Abstract: To describe diagnostic errors identified among patients discussed at a PICU morbidity and mortality conference in terms of Goldman classification, medical category, severity, preventability, contributing factors, and occurrence in the diagnostic process. Retrospective record review of morbidity and mortality conference agendas, patient charts, and autopsy reports. Single tertiary referral PICU in Baltimore, MD. Ninety-six patients discussed at the PICU morbidity and mortality conference from November 2011 to December 2012. None. Eighty-nine of 96 patients (93%) discussed at the PICU morbidity and mortality conference had at least one identified safety event. A total of 377 safety events were identified. Twenty patients (21%) had identified misdiagnoses, comprising 5.3% of all safety events. Out of 20 total diagnostic errors identified, 35% were discovered at autopsy while 55% were reported primarily through the morbidity and mortality conference. Almost all diagnostic errors (95%) could have had an impact on patient survival or safety. Forty percent of
errors did not cause actual patient harm, but 25% were severe enough to have potentially contributed to death (40% no harm vs 35% some harm vs 25% possibly contributed to death). Half of the diagnostic errors (50%) were rated as preventable. There were slightly more system-related factors (40%) solely contributing to diagnostic errors compared with cognitive factors (20%); however, 35% had both system and cognitive factors playing a role. Most errors involved vascular (35%) followed by neurologic (30%) events. Diagnostic errors in the PICU are not uncommon and potentially cause patient harm. Most appear to be preventable by targeting both cognitive- and system-related contributing factors. Prospective studies are needed to further determine how and why diagnostic errors occur in the PICU and what interventions would likely be effective for prevention.

Source: Medline

Title: Seizure Detection in the PICU: Can We "See" Seizures Better in Color?


Author(s): Lai, Yi-Chen

Source: Medline

Title: Noninvasive ventilation in pediatric intensive care: from a promising to an established therapy, but for whom, when, why, and how?


Author(s): Ducharme-Crevier, Laurence, Essouri, Sandrine, Emeriaud, Guillaume

Source: Medline

Title: Using a modified Seldinger technique is an effective way of placing femoral venous catheters in critically ill infants

Citation: Acta Paediatrica, International Journal of Paediatrics, June 2015, vol./is. 104/6(e241-e246), 0803-5253;1651-2227 (01 Jun 2015)

Author(s): Athikarisamy S.E., Veldman A., Malhotra A., Wong F.

Language: English

Abstract: Aim Femoral venous catheters (FVCs) provide multilumen access in critically ill infants with difficult venous access. This study reports our experiences of using a modified Seldinger technique to insert FVCs in our neonatal unit. Methods This was a retrospective case series of 34 infants who had FVCs inserted using the modified Seldinger technique during a 4-year period. Results The median (range) post-natal age and weight at the time of insertion were 66 days (1-314) and 3080 g (865-8000). The FVC remained in situ for a median duration of 21 days (1-63). There were nine infants who died while the FVC remained in situ. The FVCs were removed from four infants due to complications. In three cases, they became dislodged, and in one case, the line became blocked. In 16 infants, the FVC was removed when it was no longer required and one infant was transferred out of the unit with the FVC in situ. Transient venous congestion of the distal limb occurred in four infants. In one infant, the FVC was accidently placed in the femoral artery and removed without complications. Conclusions Femoral venous catheter insertion using a modified Seldinger technique appeared to provide alternate and immediate central venous access in critically ill infants.

Publication Type: Journal: Article
Title: Impact of System Factors and Modifiable ICU Interventions on the Outcome of Cardio-pulmonary Resuscitation in PICU.

Citation: Indian pediatrics, Jun 2015, vol. 52, no. 6, p. 485-488 (June 8, 2015)

Author(s): Tang, W, Huang, H M, Liang, Y J, Huang, X Q, Xu, L L, Zhang, L D

Abstract: To assess the impact of system factors and modifiable interventions on outcome of cardiac arrest in a pediatric intensive care unit. Retrospective medical record review. Pediatric intensive care unit of a hospital in China. Children (age<14 yrs) who had cardiac arrest within our PICU over a period of two years. Sixty-one of the 94 cardiac arrest events were successfully resuscitated. There was no significant association between personal and unit factors with immediate outcomes in our unit. The rate of unsuccessful resuscitation in sedated patients and those without sedation was 26% and 50%, respectively. Unsuccessful resuscitation occurred in 19% of patients who were on positive pressure ventilation as compared with 74% for those without positive pressure ventilation. Arrests which had resuscitation attempts that lasted more than 30 min had 135-fold higher odds of unsuccessful outcome. 78% of patients who received base supplement at the time of arrest had unsuccessful resuscitation compared with 21% for those without base supplement. Our data shows no impact of system factors on the outcome of cardio-pulmonary resuscitation in our PICU. Pre-arrest sedation in pediatric critical ill patients might be beneficial to the outcome of cardiac arrests.

Source: Medline
Author(s): Thomas, Christopher A, Morris, Jennifer L, Sinclair, Elizabeth A, Speicher, Richard H, Ahmed, Sheikh S, Rotta, Alexandre T

Abstract: The implementation of a diuretic stewardship program in a pediatric cardiovascular intensive care unit (ICU) is described. This retrospective study compared the use of i.v. chlorothiazide and i.v. ethacrynic acid in pediatric cardiovascular surgery patients before and after implementation of a diuretic stewardship program. All pediatric patients admitted to the pediatric cardiovascular service were included. The cardiovascular surgery service was educated on formal indications for specific diuretic agents, and the diuretic stewardship program was implemented on January 1, 2013. Under the stewardship program, i.v. ethacrynic acid was indicated in patients with a sulfonamide allergy, and i.v. chlorothiazide was considered appropriate in patients receiving maximized i.v. loop diuretic doses. A detailed review of the pharmacy database and medical records was performed for each patient to determine i.v. chlorothiazide and i.v. ethacrynic acid use and expenditures, appropriateness of use, days using a ventilator, and cardiovascular ICU length of stay. After implementation of diuretic stewardship, the use of i.v. chlorothiazide decreased by 74% (531 fewer doses) while i.v. ethacrynic acid use decreased by 92% (47 fewer doses), resulting in a total reduction of $91,398 in expenditures on these diuretics over the six-month study period and an estimated annual saving of over $182,000. The median number of days using a ventilator and the length of ICU stay did not differ significantly during the study period. Implementation of a diuretic stewardship program reduced the use of i.v. chlorothiazide and i.v. ethacrynic acid without adversely affecting clinical outcomes such as ventilator days and length of stay in a pediatric cardiovascular ICU. Copyright © 2015 by the American Society of Health-System Pharmacists, Inc. All rights reserved.

Source: Medline
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Swipe Access 7.00 am—23.00pm
7 days a week

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