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.

Critical Appraisal Training

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
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Tables of Contents from Paediatric & Critical Care journals

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

**Pediatrics**
*August 2015, Volume 136, Issue 2*

Pediatrics Digest

- Nixon or Obama: Who Is the Real Radical Liberal on Health Care?  
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- Addressing Vaccine Hesitancy With Values  
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- Children and Armed Conflict  
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- Understanding Outcomes in Adolescent Bariatric Surgery  
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- The Dying Child in Seventeenth-Century England  
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- Maternal Report of Advice Received for Infant Care  
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- Immunogenicity, Safety, and Tolerability of a Hexavalent Vaccine in Infants  
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- Antibiotic Exposure and Juvenile Idiopathic Arthritis: A Case–Control Study  
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- Identifying Priorities for Mental Health Interventions in War-Affected Youth: A Longitudinal Study  
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- Thrombocytopenia in Small-for-Gestational-Age Infants  
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- Use of Serum Bicarbonate to Substitute for Venous pH in New-Onset Diabetes  
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- Variation in Prenatal Diagnosis of Congenital Heart Disease in Infants  
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- Outbreak of *Mycoplasma pneumoniae*–Associated Stevens-Johnson Syndrome  
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- Predicting Discharge Dates From the NICU Using Progress Note Data  
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- Late Diagnosis of Coarctation Despite Prenatal Ultrasound and Postnatal Pulse Oximetry  
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- Public Perceptions of the Benefits and Risks of Newborn Screening  
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Full Text
Evaluation for Occult Fractures in Injured Children
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Trends in Hospitalization for Pediatric Pulmonary Hypertension
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Recognizing Differences in Hospital Quality Performance for Pediatric Inpatient Care
Full Text
Trends in Morbidity and Mortality of Extremely Preterm Multiple Gestation Newborns
Full Text
Integrating a Parenting Intervention With Routine Primary Health Care: A Cluster Randomized Trial
Full Text
A Tailored Family-Based Obesity Intervention: A Randomized Trial
Full Text
Validation of a Prediction Tool for Abusive Head Trauma
Full Text
Home Foreclosure and Child Protective Services Involvement
Full Text
Psychosocial Factors Associated With Adolescent Electronic Cigarette and Cigarette Use
Full Text
Positive Parenting Practices, Health Disparities, and Developmental Progress
Full Text
Use of Temporary Names for Newborns and Associated Risks
Full Text
Statewide Medicaid Enhanced Prenatal Care Programs and Infant Mortality
Full Text
Guidelines for the Management of Extremely Premature Deliveries: A Systematic Review
Full Text
Screening for Speech and Language Delay in Children 5 Years Old and Younger: A Systematic Review
Full Text
Pediatric Psychopharmacology for Treatment of ADHD, Depression, and Anxiety
Full Text
Neonatal Acute Kidney Injury
Full Text
The Development of a Pediatric Inpatient Experience of Care Measure: Child HCAHPS®
Full Text
A Longitudinal Study of Pediatricians Early in Their Careers: PLACES
Full Text
Screening for Speech and Language Delay and Disorders in Children Aged 5 Years or Younger: US Preventive Services Task Force Recommendation Statement
Full Text
Choosing Wisely in Newborn Medicine: Five Opportunities to Increase Value
Full Text
When a Family Requests a White Doctor
Full Text
Decision-Making and the Barriers to Judicious Antibiotic Use

Outcome Data Needed: Interpreting Variation in the Medical Evaluation of Child Physical Abuse

Hospitalizations of Children With Pulmonary Hypertension: Implications for Improving Care

Parental Advice: Given Perhaps, but Not Received

Tip of the Iceberg: Understanding the Unintended Consequences of Antibiotics

Formal Speech-Language Screening Not Shown to Help Children

Balancing the Tension Between Hyperoxia Prevention and Alarm Fatigue in the NICU

Implementation of Postoperative Respiratory Care for Pediatric Orthopedic Patients

Sirolimus for the Treatment of a Massive Capillary-Lymphatico-Venous Malformation: A Case Report

Multifocal Lymphangioendotheliomatosis With Thrombocytopenia: Clinical Features and Response to Sirolimus

Case Report: Neonate With Stridor and Subcutaneous Emphysema as the Only Signs of Physical Abuse

Accelerated Idioventricular Rhythm in a Child With Status Asthmaticus

An Adolescent Case of Citrin Deficiency With Severe Anorexia Mimicking Anorexia Nervosa

Recurrence of Neonatal Lupus Post-Cord Blood Transplant for Severe Congenital Neutropenia

Paradoxical Benzodiazepine Response: A Rationale for Bumetanide in Neurodevelopmental Disorders?

Mosaic Tetrasomy 9p: A Mendelian Condition Associated With Pediatric-Onset Overlap Myositis

Improvement Without Value

Author’s Response

Statement of Endorsement: Evaluation, Diagnosis, and Management of Congenital Muscular Dystrophy

**Current Opinion in Pediatrics**
August 2015, Volume 27, Issue 4

Editorial introductions
Conversations with teens: keeping it in the comfort zone

Transgender and gender nonconforming adolescent care: psychosocial and medical considerations

Commercial sexual exploitation and sex trafficking of adolescents

Managing adolescent obesity and the role of bariatric surgery

Pediatric Graves’ disease: decisions regarding therapy

An update on complex regional pain syndromes in children and adolescents

Paediatric dermatology highlights

Beta-blockers for childhood vascular tumors

What's new with common genetic skin disorders?

Current concepts in the management of hidradenitis suppurativa in children

Recent advances in congenital ichthyoses

Dermal melanocytosis and associated disorders

Hand-foot-and-mouth disease: a new look at a classic viral rash

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Influence of the human intestinal microbiome on obesity and metabolic dysfunction

Regulation of body growth

Update on primary ovarian insufficiency in adolescents

Evaluation and management of the infant with cryptorchidism

Advances in the detection and management of cystic fibrosis related diabetes

**Current Opinion in Critical Care**

*August 2015, Volume 21, Issue 4*

Editorial introductions

Microcirculatory disorders during septic shock

Fluid therapy and the hypovolemic microcirculation

Fluids and coagulation

Are all fluids bad for the kidney?

Albumin in critically ill patients: the ideal colloid?

What is the ideal crystalloid?
How to avoid fluid overload

Epidemiology of the high-risk population: perioperative risk and mortality after surgery

How can we identify the high-risk patient?

The perioperative immune response

Pathogenesis of infection in surgical patients

Mechanical ventilation strategies for the surgical patient

Which intravenous fluid for the surgical patient?

Using cardiac output monitoring to guide perioperative haemodynamic therapy

Paediatric Critical Care Medicine
June 2015, Volume 16, Issue 6

Factor VIII May Predict Catheter-Related Thrombosis in Critically Ill Children: A Preliminary Study*

Clinical Outcomes Associated With RBC Transfusions in Critically Ill Children: A 1-Year Prospective Study*

Tight Glycemic Control With Insulin Does Not Affect Skeletal Muscle Degradation During the Early Postoperative Period Following Pediatric Cardiac Surgery*

The Use of Pediatric Ventricular Assist Devices in Children’s Hospitals From 2000 to 2010: Morbidity, Mortality, and Hospital Charges*

Serial Measurement of Amino-Terminal Pro-B-Type Natriuretic Peptide Predicts Adverse Cardiovascular Outcome in Children With Primary Myocardial Dysfunction and Acute Decompensated Heart Failure

Acute Kidney Injury in Pediatric Acute Decompensated Heart Failure

Early Head CT Findings Are Associated With Outcomes After Pediatric Out-of-Hospital Cardiac Arrest*

Cerebrospinal Fluid Markers of Macrophage and Lymphocyte Activation After Traumatic Brain Injury in Children

Neuromonitoring During Extracorporeal Membrane Oxygenation: A Systematic Review of the Literature

A Case-Control Study on the Impact of Ventilator-Associated Tracheobronchitis in the PICU*

Unplanned Extubations in Children: Impact on Hospital Cost and Length of Stay*

Impact of Kidney Disease on Survival in Neonatal Extracorporeal Life Support

Catheter-Associated Thrombosis: A Journey of a Thousand Miles Starts With the First Step*

The Elephant of Red Cell Transfusion: Is It All Tusks?*

Tight Glucose Control With Insulin Following Pediatric Cardiac Surgery: Still "Muscling” on in Search of Answers!*

Innovation, Cost, and Sustainability of Pediatric Ventricular Assist Device Programs*
CT After Pediatric Out-of-Hospital Cardiac Arrest—Where To Go Next?

It Is Time to Care About Ventilator-Associated Tracheobronchitis

Unplanned Extubations: Where Is the Harm?

A Multidisciplinary Mobile Nutritional Assessment Model for Family-Supported Dietary Optimization in Home-Ventilated Children

**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 Salanitri: 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)

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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

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The **Library and Information Service** provides free specialist information skills training for all UH Bristol staff and students.

To book a place, email: **library@uhbristol.nhs.uk**

If you’re unable to attend we also provide **one-to-one** or **small group** sessions. Contact **library@** or **katie.barnard@** to arrange a session.

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**Literature Searching**

An in-depth guide on how to search the evidence base, including an introduction to UpToDate and Anatomy.tv.

Useful for anybody who wants to find the best and quickest way to source articles.

**How to understand an article**

How to assess the strengths and weaknesses of published articles.

Examining bias and validity.

**Medical Statistics**

A basic introduction to the key statistics in medical articles.

Giving an overview of statistics that compare risk, test confidence, analyse clinical investigations, and test difference.

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**August** (12pm)

- Fri 14th: Literature Searching
- Tues 18th: Understanding articles
- Weds 26th: Statistics

**September** (1pm)

- Thurs 3rd: Literature Searching
- Fri 11th: Understanding articles
- Mon 14th: Statistics
- Tues 22nd: Literature Searching
- Weds 30th: Understanding articles

**October** (12pm)

- Thurs 8th: Statistics
- Fri 16th: Literature Searching
- Mon 19th: Understanding articles
- Tues 27th: Statistics

**November** (1pm)

- Weds 4th: Literature Searching
- Thurs 12th: Understanding articles
- Fri 20th: Statistics
- Mon 23rd: Literature Searching

**December** (12pm)

- Tues 1st: Understanding articles
- Weds 9th: Statistics
- Thurs 17th: Literature Searching
Latest relevant Systematic Reviews from the Cochrane Library

New

Oral non-steroidal anti-inflammatory drugs versus other oral analgesic agents for acute soft tissue injury

Continuous intravenous perioperative lidocaine infusion for postoperative pain and recovery

Prothrombin complex concentrate for reversal of vitamin K antagonist treatment in bleeding and non-bleeding patients

Updated

Non-pharmacological interventions for assisting the induction of anaesthesia in children

NHS Behind the Headlines

Are teens confused about their size and weight?

Friday Jul 10 2015

"Third of overweight teenagers think they are right size, study shows," The Guardian says in one of many headlines on widely covered UK research...

'Sleeping on it' may not be best after traumatic event

Thursday Jul 2 2015

"Staying awake may be the best way to stop disturbing flashbacks," the Daily Mail reports. A psychological experiment carried out at Oxford University suggests that sleep may actually help embed traumatic events in the memory…

New activity in Uptodate

Ease of use of different epinephrine autoinjectors for anaphylaxis (July 2015)

Epinephrine autoinjectors can be life saving for patients with serious allergies, but even with specific training, many patients have trouble using the various devices properly. A new study suggests that
the Auvi-Q device, a rectangular cassette that has audible instructions to guide the user through the injection process, may be easier to use. The usability of various epinephrine autoinjectors was evaluated in a randomized trial of 158 mothers of food-allergic children [16]. Subjects were initially assigned to receive one of two non-audible pen-like devices and trained in proper use. They were then tested on their ability to administer epinephrine in a simulated anaphylaxis scenario six weeks and one year later. At both time points, only about 43 percent of mothers were able to administer epinephrine effectively with either device. Following the one-year testing, patients were assigned to a different device (one of four different non-audible pens or Auvi-Q), and assessed without additional training. Subjects assigned to Auvi-Q used the device successfully 93 percent of the time, compared with 49 percent with other devices. When prescribing an epinephrine autoinjector, ease of use, cost, the need for multiple injectors, and patient facility with self-injection should all be considered. (See "Prescribing epinephrine for anaphylaxis self-treatment", section on 'Ease of use'.)

Ivabradine for heart failure with reduced ejection fraction (July 2015)

Ivabradine slows the sinus rate through inhibition of the f-channels. For patients with chronic stable heart failure with left ventricular ejection fraction (LVEF) ≤35 percent, in sinus rhythm with a resting heart rate ≥70 beats per minute (bpm), and who are either on a maximum tolerated dose of a beta blocker or who have a contraindication to beta blocker use, we suggest treatment with ivabradine, as approved in the United States [18] and previously approved in Europe. In such patients, ivabradine has been shown to reduce the risk of hospitalization for worsening heart failure. (See "Use of beta blockers and ivabradine in heart failure with reduced ejection fraction", section on 'Our recommendations'.)
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Quick Exercise

Sensitivity and Specificity

Sensitivity:
If a person has a disease, how often will the test be positive (true positive rate)?

Put another way, if the test is highly sensitive and the test result is negative you can be nearly certain that they don’t have disease.

Specificity:
If a person does not have the disease how often will the test be negative (true negative rate)?

In other terms, if the test result for a highly specific test is positive you can be nearly certain that they actually have the disease.

Quick Quiz:

1. A very sensitive test, when negative, helps you:
   a: Rule-in disease
   b: Rule-out disease
   c: Confuse medical students
   d: Save money

2. A test which is highly specific, when positive, helps you:
   a: Rule-in disease
   b: Rule-out disease
   c: Confuse medical students
   d: Save money

To find out more about statistics that analyse clinical investigations and screening, sign up for one of our Medical Statistics training sessions. For more details, email katie.barnard@uhbristol.nhs.uk.
Title: Intubation in Pediatric/Neonatal Critical Care Transport: National Performance.

Citation: Prehospital Emergency Care, 03 July 2015, vol./is. 19/3(351-357), 10903127

Author(s): Bigelow, Amee M., Gothard, M. David, Schwartz, Hamilton P., Bigham, Michael T.

Abstract: Background: There are nearly 200,000 US infants/children transported annually for specialty care and there are no published best practices in transport intubation. Objective: Respiratory interventions are a priority in pediatric and neonatal critical care transport (PNCCT). A recent Delphi study identified intubation performance as an important PNCCT quality metric, though data are insufficient. The objective of the study is to determine multi-center rates of first attempt intubation success in pediatric/neonatal transport and identify practice processes associated with higher performing centers. Methods: Retrospective chart review where data was collected from the 9 participating centers over a 6-month period from January-June 2013. Data describing intubation training and practices were gathered using SurveyMonkey® (Palo Alto, CA). Data were tabulated in Microsoft Excel (Redmond, WA) and analyzed using descriptive statistics. Through the determination of intubation success rate across multiple pediatric/neonatal critical care transport programs, we hypothesized that the features of higher and lower performing centers can be identified to inform practice. Results: 9 of 14 invited institutions participated. The median (IQR) 6-month transport volume for neonates (neo) was 289(35-646) and pediatric (ped) 510(122-831). On average, 7% (+/-3.0) of neo and 1.6% (+/-0.7) of ped transport patients required intubation. Individual centers had their initial success rate calculated and a 95% confidence interval was determined for those centers satisfying the np > 5 and n(1-p) > 5 sample size requirement for normality assumption of proportions. Since the overall success rate was 64%, it was determined that n = 14 initial intubation attempts would be the minimum number needed per center in order to fulfill the sample size requirement for normality assumption. Centers whose 95% confidence interval did not contain the initial overall success rate were identified. Conclusion: This represents the first multi-center neonped intubation dataset in PNCCT. First attempt intubation success lags behind reported anesthesia intubation rates but parallels pediatric emergency department intubation success rates. Training and operational processes are variable in PNCCT, though top performing teams require live-patient intubation success to achieve initial intubation competency.

Title: Can Teaching Programs Optimize Nutritional Evaluation and Improve Outcome in the PICU?


Author(s): Zamberlan, Patrícia, de Carvalho, Werther Brunow, Delgado, Artur Figueiredo

Title: A Case-Control Study on the Impact of Ventilator-Associated Tracheobronchitis in the PICU.


Author(s): Wheeler, Derek S, Whitt, John D, Lake, Michael, Butcher, John, Schulte, Marion, Stalets, Erika

Abstract: Hospital-acquired infections increase morbidity, mortality, and charges in the PICU. We implemented a quality improvement bundle directed at ventilator-associated pneumonia in our PICU in 2005. We observed an increase in ventilator-associated tracheobronchitis coincident with the near-elimination of ventilator-associated pneumonia. The impact of ventilator-associated tracheobronchitis on critically ill children
has not been previously described. Accordingly, we hypothesized that ventilator-associated tracheobronchitis associated with increased length of stay, mortality, and hospital charge. Retrospective case-control study.

Critically ill children admitted to a quaternary PICU at a free-standing academic children's hospital in the United States. None. We conducted a retrospective case control study, with institutional review board approval, of 77 consecutive cases of ventilator-associated tracheobronchitis admitted to our PICU from 2004-2010. We matched each case with a control based on the following criteria (in rank order): age range (< 30 d, 30 d to 24 mo, 24 mo to 12 yr, > 12 yr), admission Pediatric Risk of Mortality III score ± 10, number of ventilator days of control group (> 75% of days until development of ventilator-associated tracheobronchitis), primary diagnosis, underlying organ system dysfunction, surgical procedure, and gender. The primary outcome measured was PICU length of stay. Secondary outcomes included ventilator days, hospital length of stay, mortality, and PICU and hospital charges. Data was analyzed using chi square analysis and p less than 0.05 was considered significant. We successfully matched 45 of 77 ventilator-associated tracheobronchitis patients with controls. There were no significant differences in age, gender, diagnosis, or Pediatric Risk of Mortality III score between groups. Ventilator-associated tracheobronchitis patients had a longer PICU length of stay (median, 21.5 d, interquartile range, 24 d) compared to controls (median, 18 d; interquartile range, 17 d), although not statistically significant (p = 0.13). Ventilator days were also longer in the ventilator-associated tracheobronchitis patients (median, 17 d; IQR, 22 d) versus control (median, 10.5 d; interquartile range, 13 d) (p = 0.01). There was no significant difference in total hospital length of stay (54 d vs 36 d; p = 0.69). PICU mortality was higher in the ventilator-associated tracheobronchitis group (15% vs 5%; p = 0.14), although not statistically significant. There was an increase in both median PICU charges ($197,393 vs $172,344; p < 0.05) and hospital charges ($421,576 vs $350,649; p < 0.05) for ventilator-associated tracheobronchitis patients compared with controls. Ventilator-associated tracheobronchitis is a clinically significant hospital-acquired infection in the PICU and is associated with longer duration of mechanical ventilation and healthcare costs, possibly through causing a longer PICU length of stay. Quality improvement efforts should be directed at reducing the incidence of ventilator-associated tracheobronchitis in the PICU.

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## Title: Pediatric Critical Care Nursing Research Priorities-Initiating International Dialogue.

### 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, Jul 2015, vol. 16, no. 6, p. e174., 1529-7535 (July 2015)


### Abstract: To identify and prioritize research questions of concern to the practice of pediatric critical care nursing practice. One-day consensus conference. By using a conceptual framework by Benner et al describing domains of practice in critical care nursing, nine international nurse researchers presented state-of-the-art lectures. Each identified knowledge gaps in their assigned practice domain and then poised three research questions to fill that gap. Then, meeting participants prioritized the proposed research questions using an interactive multivoting process. Seventh World Congress on Pediatric Intensive and Critical Care in Istanbul, Turkey. Pediatric critical care nurses and nurse scientists attending the open consensus meeting. Systematic review, gap analysis, and interactive multivoting. The participants prioritized 27 nursing research questions in nine content domains. The top four research questions were 1) identifying nursing interventions that directly impact the child and family's experience during the withdrawal of life support, 2) evaluating the long-term psychosocial impact of a child's critical illness on family outcomes, 3) articulating core nursing competencies that prevent unstable situations from deteriorating into crises, and 4) describing the level of nursing education and experience in pediatric critical care that has a protective effect on the mortality and morbidity of critically ill children. The consensus meeting was effective in organizing pediatric critical care nursing knowledge, identifying knowledge gaps and in prioritizing nursing research initiatives that could be used to advance nursing science across world regions.

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## Title: Death in Pediatric Intensive Care Unit: Not for Children With Acute Pancreatitis.

### Citation: Journal of pediatric gastroenterology and nutrition, Jul 2015, vol. 61, no. 1, p. 1-2 (July 2015)

### Author(s): Uc, Aliye
Title: Reduction of medication errors in a pediatric cardiothoracic intensive care unit.

Citation: Journal of nursing care quality, Jul 2015, vol. 30, no. 3, p. 212-219 (2015 Jul-Sep)

Author(s): Keiffer, Sheryl, Marcum, Gina, Harrison, Sheilah, Teske, Douglas W, Simsic, Janet M

Abstract: Medication errors resulting in patient harm were reduced from 33 in 2010 to 3 in 2011, 6 in 2012, and 4 in 2013 by initiating the following quality improvement interventions: multidisciplinary cardiothoracic intensive care unit quality committee, nursing education, shift change medication double check, medication error huddles, safety systems checklist, distraction-free zone to enter orders, and medication bar coding.

Title: Acute Pancreatitis in the Pediatric Intensive Care Unit.

Citation: Journal of pediatric gastroenterology and nutrition, Jul 2015, vol. 61, no. 1, p. 108-112 (July 2015)

Author(s): Goday, Praveen S, Wakeham, Martin, Kuhn, Evelyn M, Collins, Maureen M, Werlin, Steven L

Abstract: The aim of this study is to describe the demographics and outcomes of children with a discharge diagnosis of acute pancreatitis (AP) from the pediatric intensive care unit (PICU). Data for this retrospective cohort study were obtained from a multisite, clinical PICU database. PICU discharges with a primary or secondary diagnosis of AP (SAP) between 2009 and 2013 from 113 centers were reviewed. We also obtained the Pediatric Index of Mortality 2 Risk of Mortality (PIM2ROM), an indicator of the severity of illness. Of 360,162 PICU discharges, 2026 with a diagnosis of AP were analyzed further (0.56%–331 had a primary diagnosis of AP, whereas 1695 had a SAP. Among children with primary AP, median PIM2ROM was 1.0% (interquartile range [IQR] 0.8%–1.4%). Fifty-five children with primary AP (16.6%) required mechanical ventilation (MV) for a median of 3.8 days (IQR 1.0–9.3). The length of stay (LOS) in PICU was a median of 2.95 days (IQR 1.53–5.90). Only 1 patient died (mortality 0.3%). Among children with secondary AP, median PIM2ROM was 1.1% (IQR 0.8%–4.0%). A total of 711 children (42.0%) with secondary AP required MV for a median of 5.8 days (IQR 1.8–14.0). PICU LOS was a median of 4.43 days (IQR 1.84–11.22). There were 115 deaths in this group (mortality 6.8%). Median PIM2ROM, PICU LOS, mortality (all P < 0.001), and length of MV (P = 0.035) were significantly greater in children with secondary AP than with primary AP. Unlike in adult series, children with AP rarely die. Patients with secondary AP experience more morbidity and mortality than patients with primary AP.

Title: Factor VIII May Predict Catheter-Related Thrombosis in Critically Ill Children: A Preliminary Study.

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, Jul 2015, vol. 16, no. 6, p. 497-504, 1529-7535 (July 2015)

Author(s): Faustino, Edward Vincent S, Li, Simon, Silva, Cicero T, Pinto, Matthew G, Qin, Li, Tala, Joana A, Rinder, Henry M, Kupfer, Gary M, Shapiro, Eugene D, Northeast Pediatric Critical Care Research Consortium

Abstract: If we can identify critically ill children at high risk for central venous catheter-related thrombosis, then we could target them for pharmacologic thromboprophylaxis. We determined whether factor VIII activity or G value was associated with catheter-related thrombosis in critically ill children. Prospective cohort study. Two tertiary academic centers. We enrolled children younger than 18 years who were admitted to the PICU within 24 hours after insertion of a central venous catheter. We excluded children with a recently diagnosed thrombotic event or those anticipated to receive anticoagulation. Children with thrombosis diagnosed with surveillance ultrasonography on the day of enrollment were classified as having prevalent thrombosis. Those who developed catheter-related thrombosis thereafter were classified as having incident thrombosis. None. We enrolled 85 children in the study. Once enrolled, we measured factor VIII activity with one-stage clotting assay and determined G value with thromboelastography. Of those enrolled, 25 had incident and 12 had prevalent thromboses. The odds ratio for incident thrombosis per SD increase in factor VIII activity was 1.98 (95% CI, 1.10–3.55). The area under the receiver operating characteristic curve was 0.66 (95% CI, 0.52–0.79). At factor VIII activity more than 100 IU/dL, which was the optimal threshold identified using Youden index, sensitivity and specificity were 92.0% and 41.3%, respectively. The association between factor VIII activity and incident thrombosis remained significant after adjusting for important clinical predictors of thrombosis (odds ratio, 1.93;
95% CI, 1.10-3.39). G value was associated with prevalent but not with incident thrombosis. Factor VIII activity may be used to stratify critically ill children based on their risk for catheter-related thrombosis.

Title: Clinical Outcomes Associated With RBC Transfusions in Critically Ill Children: A 1-Year Prospective Study.

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, Jul 2015, vol. 16, no. 6, p. 505-514, 1529-7535 (July 2015)

Author(s): Demaret, Pierre, Tucci, Marisa, Karam, Oliver, Trottier, Helen, Ducruet, Thierry, Lacroix, Jacques

Abstract: To identify the potential complications associated with RBC transfusions. Prospective observational study. PICU in a tertiary children's hospital. All children consecutively admitted to our PICU during a 1-year period. None. Data were abstracted from medical charts prospectively. Outcomes possibly attributable to RBC transfusions were looked for daily. In transfused cases, it was considered that an outcome was associated with a transfusion only if it was observed after the first RBC transfusion. During the 1-year study period, 913 consecutive admissions were documented, 842 of which were included. Among them, 144 (17%) were transfused at least once. When comparing transfused cases with nontransfused cases, the odds ratio for new or progressive multiple organ dysfunction syndrome was 5.14 (95% CI, 3.28-8.06; p < 0.001). This association remained statistically significant in the multivariable analysis (odds ratio, 3.85; 95% CI, 2.38-6.24; p < 0.001). Transfused cases were ventilated longer than nontransfused cases (14.1 ± 32.6 vs 4.3 ± 9.6 d, p < 0.001), even after adjustment in a Cox model. The PICU length of stay was significantly increased for transfused cases (12.4 ± 26.2 vs 4.9 ± 10.2 d, p < 0.001), even after controlling for potential confounders. The paired analysis for comparison of pretransfusion and posttransfusion values showed that the arterial partial pressure in oxygen was significantly reduced within the 6 hours after the first RBC transfusion (mean difference, 25.6 torr, 95% CI, 5.7-45.4; p = 0.029). The paired analysis also showed an increased proportion of renal replacement therapy. RBC transfusions in critically ill children were associated with prolonged mechanical ventilation and prolonged PICU stay. The risk of new or progressive multiple organ dysfunction syndrome was also increased in some transfused children. Furthermore, our study questions the ability of stored RBCs to improve oxygenation in critically ill children. Practitioners should take into account these data when prescribing an RBC transfusion to PICU patients.
nursing workload. Methods An expert panel of pediatric critical care nurses used a modified Delphi method to identify 14 domains of nursing care with a number of corresponding care items in each domain. By consensus, they assigned each care item a cognitive complexity rating from 1 to 5. The panel next developed a classification system (classes I-V) to support interpretation of the patient's total score. The Complexity Assessment and Monitoring to Ensure Optimal Outcomes (CAMEO) tool was initiated with a cohort of 75 pediatric cardiac critical care patients to verify comprehensive capture of nursing care. Results of completed CAMEO tools were summarized by using descriptive statistics. Results The cognitive workload across 14 domains of care was described, and each care item in the domain was scored. The range of CAMEO total scores was 25 to 230 (median, 124). For the initial cohort of patients, the cognitive complexity of care classifications were 13% as class I or II, 80% as class III or IV, and 7% as class V. Conclusions The CAMEO tool was comprehensive in describing and quantifying the cognitive workload of pediatric critical care nurses. The CAMEO classification process informs staffing needs that support synergy between the needs of patients and their families and nurses' knowledge and skill. Articulation of nursing care focused on informed clinical decision making is needed to justify the value of skilled nurses.

Full Text:
Available from EBSCOhost in American Journal of Critical Care

Title: Adequate enteral protein intake is inversely associated with 60-d mortality in critically ill children: a multicenter, prospective, cohort study.

Citation: American Journal of Clinical Nutrition, 01 July 2015, vol./is. 102/1(199-206), 00029165

Author(s): Mehta, Nilesh M., Bechard, Lori J., Zurakowski, David, Duggan, Christopher P., Heyland, Daren K.

Abstract: Background: The impact of protein intake on outcomes in pediatric critical illness is unclear. Objective: We examined the association between protein intake and 60-d mortality in mechanically ventilated children. Design: In a prospective, multicenter, cohort study that included 59 pediatric intensive care units (PICUs) from 15 countries, we enrolled consecutive children (age: 1 mo to 18 y) who were mechanically ventilated for ≥48 h. We recorded the daily and cumulative mean adequacies of energy and protein delivery as a percentage of the prescribed daily goal during the PICU stay ≤10 d. We examined the association of the adequacy of protein delivery with 60-d mortality and determined variables that predicted protein intake adequacy. Results: We enrolled 1245 subjects (44% female) with a median age of 1.7 y (IQR: 0.4, 7.0 y). A total of 985 subjects received enteral nutrition, 354 (36%) of whom received enteral nutrition via the postpyloric route. Mean ± SD prescribed energy and protein goals were 69 ± 28 kcal/kg per day and 1.9 ± 0.7 g/kg per day, respectively. The mean delivery of enteral energy and protein was 36 ± 35% and 37 ± 38%, respectively, of the prescribed goal. The adequacy of enteral protein intake was significantly associated with 60-d mortality (P < 0.001) after adjustment for disease severity, site, PICU days, and energy intake. In relation to mean enteral protein intake <20%, intake ≥60% of the prescribed goal was associated with an OR of 0.14 (95% CI: 0.04, 0.52; P = 0.003) for 60-d mortality. Early initiation, postpyloric route, shorter interruptions, larger PICU size, and a dedicated dietitian in the PICU were associated with higher enteral protein delivery. Conclusions: Delivery of >60% of the prescribed protein intake is associated with lower odds of mortality in mechanically ventilated children. Optimal prescription and modifiable practices at the bedside might enhance enteral protein delivery in the PICU with a potential for improved outcomes. This trial was registered at clinicaltrials.gov as NCT02354521.

Title: Would the Use of Bedside Bladder Ultrasound Decrease the Necessity of Invasive Bladder Catheterization in the Pediatric Intensive Care Unit?

Citation: Clinical Pediatrics, 01 July 2015, vol./is. 54/8(800-802), 00099228

Author(s): Wheeler, Jenna, O’Riordan, MaryAnn, Allareddy, Veerajalandhar, Speicher, David

Title: Typical or atypical pneumonia and severe acute respiratory symptoms in PICU.

Citation: The clinical respiratory journal, Jul 2015, vol. 9, no. 3, p. 366-371 (July 2015)
Title: Admissions to pediatric intensive care units (PICU) with refractory convulsive status epilepticus (RCSE): A two-year multi-centre study.

Citation: Seizure, Jul 2015, vol. 29, p. 153-161 (July 2015)

Author(s): Tully, I, Draper, E S, Lamming, C R, Mattison, D, Thomas, C, Martland, T, Appleton, R

Abstract: To obtain optimal outcomes, management of refractory convulsive status epilepticus (RCSE) in children. Data on children admitted with RCSE between 01.01.2008 and 31.12.2009, to eight pediatric intensive care units (PICUs) were retrospectively collected using a standard proforma designed with and coordinated by PICANet. Data were collected on 245 (male, 179) patients aged between <1 month and 16.5 years (median 2.8 years, IQR 1-7.17 years) met the study criteria for a diagnosis of RCSE. Causes included acute symptomatic (15.2%), remote symptomatic (29.0%), epilepsy-related (10.6%), progressive encephalopathy (10.6%) febrile seizures (18.2%); no cause was identified in 16.4%. First line treatments included lorazepam (118 patients, 78.1%), diazepam (72, 47.7%) and midazolam (37, 24.5%). Second-line treatments included phenytoin (125 patients, 82.8%) and phenobarbital (seven patients, 4.6%). Third-line treatments included a thiopentone bolus (99 patients, 65.6%), thiopentone infusion (20, 13.2%) midazolam infusion (56, 37.1%) phenobarbital (18, 11.9%), propofol (6, 4.0%) and clonazepam (2, 1.3%). Deviation from the national advanced paediatric life support (APLS) protocol was noted in approximately one quarter of all patients. Six patients died (4.0%). Seventeen patients (11.3%) developed a new neurological deficit on discharge from PICU, of which eight (5.3%) continued to show this deficit at a 30-day follow-up and 12 patients (7.9%) developed de novo epilepsy. Thiopentone was the most commonly used anticonvulsant to treat RCSE on admission to PICU. Mortality was low and approximately 1 in 25 showed a new neurological deficit at the 30-day follow-up. Copyright © 2015 British Epilepsy Association. Published by Elsevier Ltd. All rights reserved.
Rapid Whole-Genome Sequencing In Critically Ill Infants.

Underuse of guideline-recommended long-term asthma management in children hospitalized to the intensive care unit: A multicenter observational study

Complexity Assessment and Monitoring to Ensure Optimal Outcomes Tool for Measuring Pediatric Critical Care Nursing.
support interpretation of the patient’s total score. The Complexity Assessment and Monitoring to Ensure Optimal Outcomes (CAMEO) tool was initiated with a cohort of 75 pediatric cardiac critical care patients to verify comprehensive capture of nursing care. Results of completed CAMEO tools were summarized by using descriptive statistics. The cognitive workload across 14 domains of care was described, and each care item in the domain was scored. The range of CAMEO total scores was 25 to 230 (median, 124). For the initial cohort of patients, the cognitive complexity of care classifications were 13% as class I or II, 80% as class III or IV, and 7% as class V. The CAMEO tool was comprehensive in describing and quantifying the cognitive workload of pediatric critical care nurses. The CAMEO classification process informs staffing needs that support synergy between the needs of patients and their families and nurses’ knowledge and skill. Articulation of nursing care focused on informed clinical decision making is needed to justify the value of skilled nurses. ©2015 American Association of Critical-Care Nurses.

Title: Professionalism and Communication Education in Pediatric Critical Care Medicine: The Learner Perspective.

Citation: Academic pediatrics, Jul 2015, vol. 15, no. 4, p. 380-385 (2015 Jul-Aug)

Author(s): Turner, David A, Fleming, Geoffrey M, Winkler, Margaret, Lee, K Jane, Hamilton, Melinda F, Hornik, Christoph P, Petrillo-Albarano, Toni, Mason, Katherine, Mink, Richard, Education in Pediatric Intensive Care Investigators

Abstract: Communication and professionalism are often challenging to teach, and the impact of the use of a given approach is not known. We undertook this investigation to establish pediatric critical care medicine (PCCM) trainee perception of education in professionalism and communication and to compare their responses from those obtained from PCCM fellowship program directors. The Education in Pediatric Intensive Care (E.P.I.C.) Investigators used the modified Delphi technique to develop a survey examining teaching of professionalism and communication. After piloting, the survey was sent to all 283 PCCM fellows in training in the United States. Survey response rate was 47% (133 of 283). Despite high rates of teaching overall, deficiencies were noted in all areas of communication and professionalism assessed. The largest areas of deficiency included not being specifically taught how to communicate: as a member of a nonclinical group (reported in 24%), across a broad range of socioeconomic and cultural backgrounds (19%) or how to provide consultation outside of the intensive care unit (17%). Only 50% of fellows rated education in communication as "very good/excellent." However, most felt confident in their communication abilities. For professionalism, fellows reported not being taught accountability (12%), how to conduct a peer review (12%), and how to handle potential conflict between personal beliefs, circumstances, and professional values (10%). Fifty-seven percent of fellows felt that their professionalism education was "very good/excellent," but nearly all expressed confidence in these skills. Compared with program directors, fellows reported more deficiencies in both communication and professionalism. There are numerous components of communication and professionalism that PCCM fellows perceive as not being specifically taught. Despite these deficiencies, fellow confidence remains high. Substantial opportunities exist to improve teaching in these areas. Copyright © 2015 Academic Pediatric Association. Published by Elsevier Inc. All rights reserved.

Title: Unplanned extubation in a paediatric intensive care unit: prospective cohort study

Citation: Intensive Care Medicine, July 2015, vol./is. 41/7(1299-1306), 0342-4642;1432-1238 (30 Jul 2015)

Author(s): Kanthimathinathan H.K., Durward A., Nyman A., Murdoch I.A., Tibby S.M.

Abstract: Purpose: Unplanned extubation (UE) is an important paediatric intensive care unit (PICU) quality indicator. Studies on UE have been modest in size, with accurate UE rate calculation potentially hampered by ventilation episodes recorded in calendar days. We wished to document UE rates, outcomes, associated factors and quantify error when calendar days rather than exact timings are used. Methods: We recorded prospectively all UE episodes and potential associated factors in our 20-bed PICU for 12,533 admissions (2000-2013). Ventilation episodes were recorded to the minute, with non-invasive and tracheostomy ventilation excluded. Analysis utilised multilevel mixed-effects Poisson regression, adjusting for multiple ventilation episodes in the same patient. Results: Overall, 243 UEs occurred within 14,141 ventilation episodes (31,564 intubated days), giving a UE rate of 0.77 (95 % CI 0.67-0.87) episodes per 100 intubated days. If calendar ventilation days were used, the yearly UE rate was underestimated by 27-35 %. UE rates decreased with time, by approximately
0.05/100 intubated days each year. Associations with UE incidence rate included patient age, source of admission, disease severity and diagnostic category, with nasal tubes decreasing the risk. Although UE versus planned extubation was associated with a higher re-intubation rate (43 versus 8 %) and longer median PICU stay (4.6 versus 2.6 days, p < 0.001), mortality between the two groups did not differ (3.0 versus 5.1 %, p = 0.18).

Conclusions: This study provides contemporaneous UE rates for benchmarking. Recording ventilation in calendar days underestimates UE rate. Several factors associated with UE may serve as a focus of quality improvement.

Title: The use of dexmedetomidine in paediatric intensive care

Citation: Anaesthesiology Intensive Therapy, July 2015, vol./is. 47/3(263-264), 1642-5758;1731-2531 (10 Jul 2015)

Author(s): Piotrowski A., Gach M., Wiszniewski D.

Publication Type: Journal: Letter

Title: Sedation and Analgesia for Critically Ill Pediatric Burn Patients: The Current State of Practice

Citation: Journal of Burn Care and Research, July 2015, vol./is. 36/3(440-445), 1559-047X;1559-0488 (20 Jul 2015)

Author(s): Singleton A., Preston R.J., Cochran A.

Abstract: The objective of this study was to assess current practice patterns and attitudes toward pediatric sedation and analgesia in United States (US) burn centers for critically ill patients. Survey-based questionnaire was sent to 119 Directors at US burn centers that care for pediatric patients. Forty-one surveys (34%) were analyzed. 48.8% of responding centers mandate pediatric consultation for pediatric burn patients based on factors such as age and burn size. The most common sedation and analgesic agents used were midazolam, fentanyl, morphine, ketamine, and diphenhydramine. Written sedation policies exist at 63.4% of centers. 90.2% of centers employ scoring systems to guide agent titration. 60.9% of respondents practice sedation holidays “always” or “usually.” 90.2% of centers perceive the medications they routinely use are “always” or “often” efficacious in pediatric sedation and analgesia. 53.7% of respondents reported the presence of withdrawal signs and symptoms in their patient population. The lack of consensus guidelines for sedation and analgesia delivery to pediatric intensive care unit patients results in practice variation. The majority of centers perceive their sedation and analgesia strategies to be efficacious despite the heavy reliance on propofol and midazolam, both of which have questionable safety profiles in critically ill children.

Title: Clinical features and outcomes of invasive pneumococcal disease in a pediatric intensive care unit

Citation: BMC Pediatrics, July 2015, vol./is. 15/1, 1471-2431 (July 17, 2015)


Abstract: Background: Invasive pneumococcal disease (IPD) results in high morbidity and mortality globally each year, although it is a vaccine-preventable disease. This study aimed to characterize the clinical features of IPD in a pediatric intensive care unit (PICU) in Taiwan. The seven-valent pneumococcal conjugate vaccine (PCV7) was introduced in the private sector in October 2005. The estimated coverage rate of PCV7 vaccination in 2010 was 45.5 % among children <5 years of age. Methods: We conducted a retrospective study at a single center in northern Taiwan for invasive pneumococcal disease in a PICU from 2009 to 2013. Demographic characteristics, clinical courses, serotype, antibiotic susceptibility, and outcomes were analyzed. Results: Over the 5-year study period, 2167 patients were admitted to the PICU; 48 (2.2 %) had IPD. There were 29 female and 19 male patients. Their mean age was 3.7 years (range 0.7-12.5 years, with the peak age at 2-5 years; n = 30, 63 %). Pneumonia was the most frequent type (n = 38, 79 %), followed by meningitis (n = 10, 21 %). In total, three patients died, all within 72 h after admission; the final diagnoses were all meningitis. Thirty-four children with pneumonia received chest tube insertion for pleural effusion drainage. Of them, 22 (65 %) finally...
still underwent video-assisted thoracoscopic surgery. Eight (17 %) children had hemolytic uremic syndrome, and seven of them underwent hemodialysis. In total, 37 serotypes were detected; 95 % were covered by PCV13. Serotype 19A was most common (54 %) overall; however, in those with meningitis, serotype 19F was most common. Conclusions: Meningitis is the most severe type of invasive pneumococcal disease in our pediatric intensive care unit. It may progress rapidly even when subjects are given antibiotics promptly. The most common serotype in meningitis is 19F, which is vaccine preventable. Thus, universal mass pneumococcal vaccination is still needed.

Full Text:
Available from ProQuest in BMC Pediatrics
Available from BioMed Central in BMC Pediatrics
Available from National Library of Medicine in BMC Pediatrics

Title: Typical or atypical pneumonia and severe acute respiratory symptoms in PICU
Citation: Clinical Respiratory Journal, July 2015, vol./is. 9/3(366-371), 1752-6981;1752-699X (01 Jul 2015)


Abstract: Background and Aims: Mycoplasma pneumoniae (MP) is a common childhood pathogen associated with atypical pneumonia (AP). It is often a mild disease and seldom results in paediatric intensive care (PICU) admission. In 2003, World Health Organization (WHO) coined the word SARS (severe acute respiratory syndrome) in patients with severe acute respiratory symptoms (SARS) for an outbreak of AP in Hong Kong due to a novel coronavirus. In 2012, another outbreak of coronavirus AP occurred in the Middle East. Confusing case definitions such as MERS (Middle East respiratory syndrome) and SARI (severe acute respiratory infections) were coined. This paper aims to present a case of MP with SARS, acute respiratory distress syndrome (ARDS), pneumonia and pleural effusion during the MERS epidemics, and review the incidence and mortality of severe AP with MP. Methods: We presented a case of MP with SARS, acute respiratory distress syndrome (ARDS), pneumonia and pleural effusion during the MERS epidemics, and performed a literature review on the incidence and mortality of severe AP with MP. Results: In early 2013, an 11-year-old girl presented with SARS, ARDS (acute respiratory distress syndrome), right-sided pneumonia and pleural effusion. She was treated with multiple antibiotics. Streptococcus pneumoniae was not isolated in this girl with ‘typical’ pneumonia by symptomatology and chest radiography, but tracheal aspirate identified MP instead. The respiratory equations are computed with PaO₂/FiO₂ consistent with severe lung injury. Literature on the incidence and mortality of severe AP with MP requiring PICU care is reviewed. Six, 165 and 293 articles were found when PubMed (a service of the U.S. National Library of Medicine) was searched for the terms ‘mycoplasma’ and ‘ICU’, ‘mycoplasma’ and ‘mortality’, and ‘mycoplasma’ and ‘severe’. Mortality and PICU admission associated with MP is general low and rarely reported. Experimental and clinical studies have suggested that the pathogenesis of lung injuries in MP infection is associated with a cell-mediated immune reaction, and high responsiveness to corticosteroid therapy has been reported especially for severe disease. Management of severe mycoplasma infection in the PICU includes general cardiopulmonary support and specific antimicrobial treatment. Macrolide resistance genotypes have been detected. Conclusion: We urge health organizations to refrain from the temptation of coining unnecessary new terminology to describe essentially the same conditions each and every time when outbreaks of AP occur.

Title: Strategies to reduce curative antibiotic therapy in intensive care units (adult and paediatric).
Citation: Intensive care medicine, Jul 2015, vol. 41, no. 7, p. 1181-1196 (July 2015)

Author(s): Bretonnière, Cédric, Leone, Marc, Milési, Christophe, Allaouchiche, Bernard, Armand-Lefevre, Laurence, Baldesi, Olivier, Bouadma, Lila, Decré, Dominique, Figueiredo, Samy, Gauzit, Rémy, Guery, Benoît, Joram, Nicolas, Jung, Boris, Lasocki, Sigismond, Lepape, Alain, Lesage, Fabrice, Pajot, Olivier, Philippart, François, Souweine, Bertrand, Tattevin, Pierre, Timsit, Jean-François, Viala, Renaud, Zahar, Jean Ralph, Misset, Benoît, Bedos, Jean-Pierre

Abstract: Emerging resistance to antibiotics shows no signs of decline. At the same time, few new antibacterials are being discovered. There is a worldwide recognition regarding the danger of this situation. The urgency of the situation and the conviction that practices should change led the Société de Réanimation de Langue Française (SRLF) and the Société Française d’Anesthésie et de Réanimation (SFAR) to set up a panel of
experts from various disciplines. These experts met for the first time at the end of 2012 and have since met regularly to issue the following 67 recommendations, according to the rigorous GRADE methodology. Five fields were explored: i) the link between the resistance of bacteria and the use of antibiotics in intensive care; ii) which microbiological data and how to use them to reduce antibiotic consumption; iii) how should antibiotic therapy be chosen to limit consumption of antibiotics; iv) how can antibiotic administration be optimized; v) review and duration of antibiotic treatments. In each institution, the appropriation of these recommendations should arouse multidisciplinary discussions resulting in better knowledge of local epidemiology, rate of antibiotic use, and finally protocols for improving the stewardship of antibiotics. These efforts should contribute to limit the emergence of resistant bacteria.

Title: Comparison of Two New Generation Pulse Oximeters with Arterial Oxygen Saturation in Critically Ill Children: Correspondence.
Citation: Indian journal of pediatrics, Jul 2015, vol. 82, no. 7, p. 665-666 (July 2015)
Author(s): Chhapola, Viswas, Kanwal, Sandeep Kumar

Title: Tools for revealing uncomfortable truths? Measuring child-centred health-related quality of life after paediatric intensive care.
Citation: Intensive care medicine, Jul 2015, vol. 41, no. 7, p. 1330-1332 (July 2015)
Author(s): Agbeko, Rachel S, Burns, Jeffrey P, Peters, Mark J

Title: Ventilator-Associated Pneumonia in Pediatric Intensive Care Unit: Authors' Reply.
Citation: Indian journal of pediatrics, Jul 2015, vol. 82, no. 7, p. 664. (July 2015)
Author(s): Kabra, Sushil K, Lodha, Rakesh

Title: Hospital costs associated with nosocomial infections in a pediatric intensive care unit.
Citation: Gaceta sanitaria / S.E.S.P.A.S, Jul 2015, vol. 29, no. 4, p. 282-287 (2015 Jul-Aug)

Abstract: To estimate the additional cost attributable to nosocomial infection (NI) in a pediatric intensive care unit (PICU) and related factors. A prospective cohort study was conducted in all children admitted to the PICU of a tertiary-care pediatric hospital between 2008 and 2009. Descriptive and bivariate analyses were conducted of total direct costs due to PICU stay and medical procedures in patients with and without NI. A log-linear regression model was performed to determine the factors associated with higher total cost. A total of 443 patients were studied and the prevalence of NI was 11.3%. The difference in the median total cost was €30,791.4 per patient between groups with and without NI. The median cost of PICU length of stay in patients with NI was almost eight times higher than the median cost of patients without NI. In patients with NI, the highest costs related to medical procedures were associated with antibiotics, enteral and parenteral feeding, and imaging tests. In the multivariate model, the factors associated with higher cost were infection, the performance of cardiovascular surgery, urgent admission, a higher pediatric risk mortality score, and the presence of immunosuppression. By contrast, older children and those with surgical admission generated lower cost. NI was associated with an increase in total cost, which implies that the prevention of these infections through specific interventions could be cost-effective and would help to increase the safety of healthcare systems. Copyright © 2014 SESPAS. Published by Elsevier Espana. All rights reserved.

Title: Impact of Malnutrition on the Outcome of Critically Ill Children.
Abstract: To assess the impact of nutritional status on outcomes like mortality rate, length of mechanical ventilation and length of Pediatric Intensive Care Unit (PICU) stay, in critically ill children. In this retrospective study conducted at a tertiary care center, records of 332 critically ill children between 1 mo to 15 y of age for whom anthropometric parameters were available were included. Anthropometric parameters for the study subjects were used to assess the nutritional status using the WHO growth charts as the reference. The study subjects were categorized as non-malnourished, moderately, and severely malnourished, defined by Body mass index (BMI) for age 0 to -2 SD, -2 to -3 SD and less than -3 SD of WHO growth charts, respectively. Various outcomes like mortality, duration of PICU stay and duration of mechanical ventilation were assessed in the 3 groups based on the nutritional status. The prevalence of malnutrition in the index study was 51.2 % with an overall mortality of 38.8 %. No difference was found between mortality rates and proportion of ventilated children in the three study groups. However, more children who were severely malnourished had significantly prolonged ICU stay (>7 d) as well as duration of mechanical ventilation (>7 d). When the outcome variables were compared after adjusting for PIM2 scores, there were increasing odds of mortality, ventilation, prolonged PICU stay and duration of mechanical ventilation with increasing severity of malnutrition. After stabilization of the initial critical phase, PICU outcome is influenced by the nutritional status of the children.
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