Outreach
Your Outreach Librarian can help facilitate evidence-based practise for all PICU members of 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.

Books
Books can be searched for using SWIMS our online catalogue at 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: thomas.osborne@uhbristol.nhs.uk
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Tables of Contents from Paediatric & Critical Care journals

If you require full articles please email me @ Thomas.Osborne@UHBristol.nhs.uk

**Pediatrics** Pediatrics Vol. 135 No. 2 February, 2015

- Arrived: The Crisis of Unaccompanied Children at Our Southern Border [Full Text]
- Research on Medical Practices and the Ethics of Disclosure [Full Text]
- Assessing Parenting Behaviors to Improve Child Outcomes [Full Text]
- Redefining Success in the PICU: New Patient Populations Shift Targets of Care [Full Text]
- Natural BMI Reductions and Overestimation of Obesity Trial Effectiveness [Full Text]
- A New Commitment to Newborn Survival [Full Text]
- Addressing Social Determinants of Health at Well Child Care Visits: A Cluster RCT [Full Text]
- Epidemiology of Infant Meningococcal Disease in the United States, 2006-2012 [Full Text]
- Development of Hospital-Based Guidelines for Skeletal Survey in Young Children With Bruises [Full Text]
- Safety of Measles-Containing Vaccines in 1-Year-Old Children [Full Text]
- Identifying Autism in a Brief Observation [Full Text]
- Paternal Depression in the Postnatal Period and Child Development: Mediators and Moderators [Full Text]
- Intranasal Triamcinolone and Growth Velocity [Full Text]
- Oropharyngeal Colostrum Administration in Extremely Premature Infants: An RCT [Full Text]
- Sleep Duration, Restfulness, and Screens in the Sleep Environment [Full Text]
- Potential Effect of Physical Activity Calorie Equivalent Labeling on Parent Fast Food Decisions [Full Text]
- Morphine Versus Clonidine for Neonatal Abstinence Syndrome [Full Text]
- Tapentadol Toxicity in Children [Full Text]
- Regional Variation in Antenatal Corticosteroid Use: A Network-Level Quality Improvement Study [Full Text]
- Cardiovascular Risk Factors in Children After Repeat Doses of Antenatal Glucocorticoids: An RCT [Full Text]
- Family Hardships and Serum Cotinine in Children With Asthma [Full Text]
- Cognitive-Behavioral Counseling for Exclusive Breastfeeding in Rural Pediatrics: A Cluster RCT [Full Text]
- Variation in Rotavirus Vaccine Coverage by Provider Location and Subsequent Disease Burden [Full Text]
HEMATOLOGY AND ONCOLOGY

Introduction and overview to issue on new developments in pediatric hematology/oncology

Local control of metastatic sarcoma

New developments in pediatric venous thromboembolism and anticoagulation, including the target-specific oral anticoagulants

Advances in unrelated and alternative donor hematopoietic cell transplantation for nonmalignant disorders

Translating genomic discoveries to the clinic in pediatric oncology

Neurofibromatosis-related tumors: emerging biology and therapies

Update on biology and treatment of T-cell acute lymphoblastic leukaemia

ORTHOPEDICS

The tibial eminence fracture in skeletally immature patients

Medial epicondyle fractures in children

Considerations and intervention in congenital muscular torticollis

INFECTIOUS DISEASES AND IMMUNIZATION

Pelvic inflammatory disease in the adolescent: a poignant, perplexing, potentially preventable problem for patients and physicians

Update on persistent symptoms associated with Lyme disease

Importance of viruses in acute otitis media

Controlling acute rheumatic fever and rheumatic heart disease in developing countries: are we getting closer?
The contribution of extended-spectrum β-lactamases to multidrug-resistant infections in children

**Current Opinion on Critical Care**  February 2015 - Volume 21 - Issue 1

RESPIRATORY SYSTEM

Noninvasive ventilation for acute respiratory failure
Hypercapnia: clinical relevance and mechanisms of action

Extracorporeal life support for severe acute respiratory distress syndrome
Novel approaches to minimize ventilator-induced lung injury
Balancing neuromuscular blockade versus preserved muscle activity
Monitoring and preventing diaphragm injury
Stem cells for respiratory failure
Selecting the ‘right’ positive end-expiratory pressure level
Neurally adjusted ventilatory assist
How to ventilate patients without acute respiratory distress syndrome?

Discontinuation of ventilatory support: new solutions to old dilemmas
Prevention of acute respiratory distress syndrome

**Paediatric Critical Care Medicine**  February Volume 16 Issue 2

Care of the Child With Ebola Virus Disease*

Bacteremia and Pneumonia in a Tertiary PICU: An 11-Year Study

Low Thiamine Levels in Children With Type 1 Diabetes and Diabetic Ketoacidosis: A Pilot Study

A Multicenter Outcomes Analysis of Children With Severe Rhino/Enteroviral Respiratory Infection*
Comparison Between Noninvasive Mechanical Ventilation and Standard Oxygen Therapy in Children Up to 3 Years Old With Respiratory Failure After Extubation: A Pilot Prospective...

Retention of Pediatric Resuscitation Performance After a Simulation-Based Mastery Learning Session: A Multicenter Randomized Trial

Cardiac Intensive Care

Evaluation of the Relationship Between Plasma Transfusion and Nosocomial Infection After Cardiac Surgery in Children Younger Than 1 Year*

Association of Left Ventricular Systolic Function and Vasopressor Support With Survival Following Pediatric Out-of-Hospital Cardiac Arrest*

Unplanned Admissions to a Pediatric Cardiac Critical Care Unit: A Review of 2 Years’ Experience

Extracorporeal Support

Hemofiltration Is Not Associated With Increased Mortality in Children Receiving Extracorporeal Membrane Oxygenation*

Association of Bleeding and Thrombosis With Outcome in Extracorporeal Life Support*

Risk Factors Associated With Iatrogenic Opioid and Benzodiazepine Withdrawal in Critically Ill Pediatric Patients: A Systematic Review and Conceptual Model*

A Place at the Table for Children in the Ebola Virus Disease Discussion*

Rhino/Enteroviral Infections in the PICU: The Uncertainty of Diagnosis and Interpretation of Clinical Significance*

Primum Non Nocere*

The Clinical Relevance of Pediatric Post–Cardiac Arrest Myocardial Dysfunction and Hemodynamic Instability*

Extracorporeal Membrane Oxygenation, Dialysis, and Mortality: Let’s Agree to Agree*

Complications During Extracorporeal Membrane Oxygenation: Why Collaboration Is Key*

Opioid and Benzodiazepine Withdrawal Syndrome: Can We Predict and Prevent It?*

Pediatric Burn Injury in Iraq and Afghanistan*

**Pediatric Anesthesia** Volume 25, Issue 2

Normothermic CPB for pediatric cardiac surgery, not ready for prime time (pages 111–112)

Cardiac output assessment in children: playing catch-up (pages 113–114)

Clinical utility of B-type natriuretic peptide (NP) in pediatric cardiac surgery – a systematic review (pages 115–126)

Anesthesia and the pediatric cardiac catheterization suite: a review (pages 127–134)

Systematic Review and Meta-Analysis of benefits and risks between normothermia and hypothermia during cardiopulmonary bypass in pediatric cardiac surgery (pages 135–142)

Pressure recording analytical method and bioreactance for stroke volume index monitoring during pediatric cardiac surgery (pages 143–149)
Continuous noninvasive cardiac output in children: is this the next generation of operating room monitors? Initial experience in 402 pediatric patients (pages 150–159)
Noninvasive cardiac output measurement using bioreactance in postoperative pediatric patients (pages 160–166)
Noninvasive cardiac output monitoring using bioreactance-based technique in pediatric patients with or without ventricular septal defect during anesthesia: in comparison with echocardiography (pages 167–173)
Comparison of actual oxygen delivery kinetics to those predicted by mathematical modeling following stage 1 palliation just prior to superior cavopulmonary anastomosis (pages 174–179)
Sevoflurane anesthesia and brain perfusion (pages 180–185)
Neurosurgical conditions and procedures in infancy are associated with mortality and academic performances in adolescence: a nationwide cohort study (pages 186–192)
Intraoperative apnea in children after buffered 5% povidone-iodine site sterilization for strabismus surgery (pages 193–195)
Blood transfusion in patients treated with surgery for necrotizing enterocolitis (pages 196–199)
Electroencephalography for children with autistic spectrum disorder: a sedation protocol (pages 200–205)
Lumbar punctures in thrombocytopenic children with cancer (pages 206–210)
Development of an optimal sampling schedule for children receiving ketamine for short-term procedure sedation and analgesia (pages 211–216)
Comparing intubation performance of Bonfils fiberscope and fiberoptic bronchoscope in difficult pediatric airways (page 217)
Response to Dr. Murphy and Dr. Ferguson regarding comment on our paper: retrospective evaluation of antimicrobial prophylaxis in prevention of surgical site infection in the pediatric population (page 218)
We can’t tell emergence agitation from pain, yet. Reply to: Stucke and Weisman ‘Can we tell emergence agitation from pain?’ (pages 218–220)
Double-lumen central venous catheter for pediatric airway management in laryngeal papillomatosis: an old technique reborn? (page 220)

New NICE Guidance

Gastro-oesophageal reflux disease: recognition, diagnosis and management in children and young people (NG1)
January 2015

Latest relevant Systematic Reviews from the Cochrane Library

If you require full articles, or a more enhanced search of any of the below topics please email me @ Thomas.Osborne@UHBristol.nhs.uk

Cooling for cerebral protection during brain surgery
Imelda M Galvin , Ron Levy , J. Gordon Boyd , Andrew G Day and Micheal C Wallace
January 2015

Tiotropium versus placebo for chronic obstructive pulmonary disease
Charlotta Karner, Jimmy Chong and Phillippa Poole
January 2015

Extracorporeal membrane oxygenation for critically ill adults
Ralph Tramm, Dragan Ilic, Andrew R Davies, Vincent A Pellegrino, Lorena Romero and Carol Hodgson
January 2015

Pressure-controlled versus volume-controlled ventilation for acute respiratory failure due to acute lung injury (ALI) or acute respiratory distress syndrome (ARDS)
Binila Chacko, John V Peter, Prathap Tharyan, George John and Lakshmanan Jeyaseelan
January 2015

Vitamin C for treating atrial fibrillation
Harri Hemil and Timo Suonsyrj
January 2015

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NHS Behind the Headlines

Sugary soft drinks linked to earlier periods in girls
Wednesday Jan 28 2015

"Sugary drinks may cause menstruation to start earlier, study suggests," The Guardian reports. A US study found that girls drinking more than one and a half drinks a day had their period around three months earlier than girls drinking two or less a week.

Napping 'key' to babies' memory and learning
Tuesday Jan 13 2015

"The key to learning and memory in early life is a lengthy nap, say scientists," BBC News reports. The scientists were interested in babies' abilities to remember activities and events. They carried out a study…

How 'baby talk' may give infants a cognitive boost
Friday Jan 9 2015

"Say 'mama'! Talking to babies boosts their ability to make friends and learn," the Mail Online reports. In a review, two American psychologists argue that even very young infants respond to speech, and that "baby talk" is essential for their development…
New activity in Uptodate/DynaMed

Recent PICU Lit Searches

Below is a sample of Literature Searches carried out by our librarians for members of staff in PICU. For further details please email Thomas.Osborne@UHBristol.nhs.uk

Mucusitis
Avascular Necrosis
Wong-Baker scale (children’s pain visual analogue scale)
Itchman scale (children’s itch/discomfort measuring scale)
Visual analogue scale (adult pain measuring scale)
Vancouver scar assessment
Patient and observer scar assessment scales
Infections in paediatric burns patients
COPD (chronic obstructive pulmonary disease/chronic obstructive airways disease)/respiratory disease combined with nutritional requirements/treatments could be as food/supplements/nasogastric tube feeding/enteral feeding, macro or micronutrients.
PDA aneurysm, neonate, and ACTA2
ACTA2 and cardiac surgery
ACTA2 mutation in neonates/infants
Quick Exercise

Is the P Value significant at the below cut off points?

<table>
<thead>
<tr>
<th>P value</th>
<th>P&lt;0.05</th>
<th>P&lt;0.01</th>
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<tr>
<td>P&lt;0.001</td>
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<tr>
<td>P=0.049</td>
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<tr>
<td>P&gt;0.051</td>
<td></td>
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</tbody>
</table>

Current Awareness Database Articles

If you require full articles, or a more enhanced search of any of the below topics please email me @ Thomas.Osborne@UHBristol.nhs.uk

Title: Evolution of inspiratory diaphragm activity in children over the course of the PICU stay

Citation: Intensive Care Medicine, October 2014, vol./is. 40/11(1718-1726), 0342-4642;1432-1238 (15 Oct 2014)


Abstract: Purpose: Diaphragm function should be monitored in critically ill patients, as full ventilatory support rapidly induces diaphragm atrophy. Monitoring the electrical activity of the diaphragm (EAdi) may help assess the level of diaphragm activity, but such monitoring results are difficult to interpret because reference values are lacking. The aim of this study was to describe EAdi values in critically ill children during a stay in the pediatric intensive care unit (PICU), from the acute to recovery phases, and to assess the impact of ventilatory support on
EAdi. Methods: This was a prospective longitudinal observational study of children requiring mechanical ventilation for >24 h. EAdi was recorded using a validated method in the acute phase, before extubation, and before PICU discharge. Results: Fifty-five critically ill children were enrolled in the study. Median maximum inspiratory EAdi (EAdi<sub>max</sub>) during mechanical ventilation was 3.6 [interquartile range (IQR) 1.2-7.6] μV in the acute phase and 4.8 (IQR 2.0-10.7) μV in the pre-extubation phase. Periods of diaphragm inactivity (with no detectable inspiratory EAdi) were frequent during conventional ventilation, even with a low level of support. EAdi<sub>max</sub> in spontaneous ventilation was 15.4 (IQR 7.4-20.7) μV shortly after extubation and 12.6 (IQR 8.1-21.3) μV before PICU discharge. The difference in EAdi<sub>max</sub> between mechanical ventilation and post-extubation periods was significant (p < 0.001). Patients intubated mainly because of a lung pathology exhibited higher EAdi (p < 0.01), with a similar temporal increase. Conclusions: This is the first systematic description of EAdi evolution in children during their stay in the PICU. In our patient cohort, diaphragm activity was frequently low in conventional ventilation, suggesting that overassistance or oversedation is common in clinical practice. EAdi monitoring appears to be a helpful tool to detect such situations.

Title: Head injury in children [French] Traumatisme cranien chez l’enfant

Citation: Reanimation, October 2014, vol./is. 23/5(507-516), 1624-0693;1951-6959 (07 Oct 2014)

Author(s): Patteau G., Cheron G.

Abstract: Head trauma in children is common and overwhelmingly benign. Severe forms, defined by a Glasgow Coma Scale (GCS) < 9, are the leading cause of death in children aged more than one year. Severity is related to the intracranial injuries identified by computed tomography (CT)-scan. Management of severe traumatic brain injuries (TBI) based on standardized critical care strategy in paediatric trauma centers aims to prevent secondary brain injuries. Early resuscitation starts on the scene and first need to stabilize main functions. Optimal management of the multitude of children with mild blunt head trauma (GCS: 13-15) remains to define. It relies on prognosis evaluation that determines the need for CT-scan. Emergency physicians must balance the possibility of missing a clinically significant TBI, especially those needing acute neurosurgery and the risks of future malignancies associated with ionizing radiation. The predictive values for TBI of skull fracture, scalp hematoma, loss of consciousness, amnesia, seizure, vomiting, rapid kinetics as well as age less than 2 years are controversial. Clinical decision rules identify TBI with an excellent sensitivity but with a high rate of obtaining normal CT-scans. The short observation of children for whom the benignity of head trauma cannot be definitively assessed based on the initial clinical evaluation seems to be beneficial.

Title: Transient occult cardiotoxicity in children receiving continuous beta-agonist therapy

Citation: World Journal of Pediatrics, December 2014, vol./is. 10/4(324-329), 1708-8569;1867-0687 (17 Dec 2014)

Author(s): Carroll C.L., Coro M., Cowl A., Sala K.A., Schramm C.M.

Abstract: Conclusions: In this small study, a significant proportion of children had elevated serum troponin-T and lactate levels while receiving inhaled continuous beta-agonist therapy, irrespective of intravenous therapy. However, these abnormal values all returned to normal within 48 hours of ICU admission and were not associated with increased duration of hospitalization. Results: Twenty of the 36 children treated with continuous albuterol had repeated serum troponin-T and lactate levels measured. Eleven patients (55%) were also treated with continuous intravenous terbutaline. Elevated levels of troponin-T levels were found in 25% of children, and elevated lactate levels were found in 60%. However, all returned to normal levels within 48 hours of ICU admission, despite continued beta-agonist therapy. No children experienced arrhythmias during therapy. There was no association between intravenous terbutaline use and elevated troponin-T [odds ratio (OR), 1.3; 95% CI, 0.2-10.3] or with elevated serum lactate (OR, 0.6; 95% CI, 0.1-3.7). There was also no association between elevated troponin-T or lactate and ICU or hospital length of stay.

Title: Wernicke encephalopathy in children and adolescents

Citation: World Journal of Pediatrics, December 2014, vol./is. 10/4(293-298), 1708-8569;1867-0687 (17 Dec 2014)
Author(s): Lallas M., Desai J.

Abstract: Background: Wernicke encephalopathy is caused by thiamine (vitamin B1) deficiency. It is generally considered to be a disease of adult alcoholics. However, it is known to occur in the pediatric population and in non-alcoholic conditions. Data sources: We searched PubMed with the key words Wernicke, thiamine, pediatric, children and adolescents and selected publications that were deemed appropriate.

Title: Toxic epidermal necrolysis associated with deflazacort therapy with nephrotic syndrome

Citation: Kidney Research and Clinical Practice, December 2014, vol./is. 33/4(222-225), 2211-9132;2211-9140 (01 Dec 2014)

Author(s): Lee E.C., Kim G.A., Koo J.W.

Abstract: Toxic epidermal necrolysis (TEN) is a drug-related fatal disease. Extensive necrosis of the epidermis can lead to serious complications. This report describes two cases of TEN, associated with deflazacort (DFZ), in two boys, aged 4 years and 14 years, with nephrotic syndrome (NS). The 14-year-old male teenager received DFZ following NS relapse. After 17 days, pruritic papules appeared on the lower extremities. Another case involved a 4-year-old boy receiving DFZ and enalapril. After a 41-day DFZ treatment period, erythematous papules appeared on the palms and soles. Within 3 days, both boys developed widespread skin lesions (>50%) and were admitted to the intensive care unit for resuscitative and supportive treatment. The patients showed improvement after intravenous immunoglobulin-G therapy. Owing to the rapid, fatal course of TEN, clinicians need to be aware of the adverse effects of this drug when treating cases of NS.

Title: Health policy and children's health in Italy [Italian] Politiche sanitarie e salute infantile: La numerosita delle strutture di Pediatria e di Terapia Intensiva Neonatale

Citation: Medico e Bambino, December 2014, vol./is. 33/10(652-658), 1591-3090 (01 Dec 2014)

Author(s): Perletti L.

Abstract: In Italy the number of departments of Paediatrics and Neonatal Intensive Care Centres is still high. This study analyzes the causes of this phenomenon, which in many cases leads to low quality care and reduced levels of performance safety. This phenomenon occurs especially in smaller facilities that do not provide round the clock doctor-obstetrician and paediatricneonatal services in the delivery room, in the wards and in the emergency unit. This problem contributes to keep a high rate of hospitalization for the inpatient, at risk of inappropriateness, with an irrational use of available resources, even during the neonatal period. The study also reiterates that the mortality in infants weighing less than 1,500 g is higher in facilities with low volumes of activity. A rationalization of hospitalization in the paediatric area could improve the quality of performance and lead to a reduction in the sanitary expenses.

Title: Balance of academic responsibilities of clinical track pharmacy faculty in the United States: A survey of select American College of clinical pharmacy practice and research network members

Citation: Pharmacotherapy, December 2014, vol./is. 34/12(1239-1249), 0277-0008;1875-9114 (01 Dec 2014)


Abstract: Participants Clinical faculty members of the American College of Clinical Pharmacy Adult Medicine, Ambulatory Care, Cardiology, Critical Care, Gastrointestinal/Liver/Nutrition, Immunology/Transplantation, Infectious Disease, and Pediatrics Practice and Research Networks (PRNs) were invited to participate via the PRN electronic mailing list.

Title: Should early extubation be the goal for children after congenital cardiac surgery?
**Title:** Effect of an enhanced medical home on serious illness and cost of care among high-risk children with chronic illness: A randomized clinical trial

**Citation:** JAMA - Journal of the American Medical Association, December 2014, vol./is. 312/24(2640-2648), 0098-7484;1538-3598 (24 Dec 2014)


**Abstract:** IMPORTANCE: Patient-centered medical homes have not been shown to reduce adverse outcomes or costs in adults or children with chronic illness.OBJECTIVE: To assess whether an enhanced medical home providing comprehensive care prevents serious illness (death, intensive care unit [ICU] admission, or hospital stay >7 days) and/or reduces costs among children with chronic illness.

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**Title:** Impact of the insulin and glucose content of the postoperative fluid on the outcome after pediatric cardiac surgery

**Citation:** Interventional Medicine and Applied Science, December 2014, vol./is. 6/4(160-169), 2061-1617:2061-5094 (01 Dec 2014)

**Author(s):** Lex D., Szanto P., Breuer T., Toth R., Gergely M., Prodan Z., Sapi E., Szatmari A., Szanto T., Gal J., Szekely A.

**Abstract:** Introduction: The aim of this study was to investigate the role of the insulin and glucose content of the maintenance fluid in influencing the outcomes of pediatric patients undergoing heart surgery. Methods: A total of 2063 consecutive pediatric patients undergoing cardiac surgery were screened between 2003 and 2008. A dextrose and an insulin propensity-matched group were constructed. In the dextrose model, 5% and 10% dextrose maintenance infusions were compared below 20 kg of weight.

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**Title:** Effect of depth and duration of cooling on deaths in the NICU among neonates with hypoxic ischemic encephalopathy a randomized clinical trial

**Citation:** JAMA - Journal of the American Medical Association, December 2014, vol./is. 312/24(2629-2639), 0098-7484;1538-3598 (24 Dec 2014)

**Author(s):** Shankaran S., Laptook A.R., et al

**Abstract:** IMPORTANCE: Hypothermia at 33.5 degreeC for 72 hours for neonatal hypoxic ischemic encephalopathy reduces death or disability to 44%-to 55%; longer cooling and deeper cooling are neuroprotective in animal models.OBJECTIVE: To determine if longer duration cooling (120 hours), deeper cooling (32.0 degreeC), or both are superior to cooling at 33.5 degreeC for 72 hours in neonates who are full-term with moderate or severe hypoxic ischemic encephalopathy.
Title: Malignant pertussis and exchange transfusion [French] Coqueluche maligne et exsanguino-transfusion

Citation: Archives de Pediatrie, January 2015, vol./is. 22/1(84-87), 0929-693X;1769-664X (01 Jan 2015)

Author(s): Chantreuil J., Fakhri N., Labarthe F., Saliba E., Favrais G.

Abstract: Case report: Malignant pertussis is a critical clinical state associated with fatal outcome in 70% of cases. The severity criteria are a lung infection with pulmonary hypertension and hyperleukocytosis usually above 50 G/L. We report the case of a 2.5-month-old girl hospitalized with critical pertussis in a pediatric intensive care unit. She had acute respiratory distress syndrome with pulmonary hypertension complicated by a bacterial secondary infection with Enterobacter cloacae managed by high-frequency oscillatory ventilation associated with pulmonary vasodilatation therapy. In the absence of clinical improvement and before considering extracorporeal life support, exchange transfusion was performed at day 9 to reduce hyperleukocytosis at 70 G/L. Exchange transfusion was successfully performed with a reduction of leukocytes to under 40 G/L followed by steady improvement of pulmonary function. Weaning from mechanical ventilation and discharge took place at day 23 and 38, respectively.

Title: Etiologies of NICU deaths

Citation: Pediatrics, January 2015, vol./is. 135/1(e59-e65), 0031-4005;1098-4275 (01 Jan 2015)

Author(s): Jacob J., Kamitsuka M., Clark R.H., Kelleher A.S., Spitzer A.R.

Abstract: BACKGROUND AND OBJECTIVES: Infant mortality is an indicator of overall societal health, and abstract a significant proportion of infant deaths occur in NICUs. The objectives were to identify causes of death and to define potentially preventable factors associated with death as areas for quality improvement efforts in the NICU.

Title: Social representations of contention in children: Of the viewpoint of pediatric professionals [French] Representations sociales de la contention en pediatrie: Regards de professionnels

Citation: Archives de Pediatrie, January 2015, vol./is. 22/1(4-13), 0929-693X;1769-664X (01 Jan 2015)

Author(s): Oudjani C., Dany L., Derome M., Bataille J.

Abstract: Aims: This study is part of a current context raising questions on restraint practices in healthcare at the national and international level. It examines how social representations of restraint organize and shape the discourse of professionals within the context of healthcare and support for sick and/or disabled children. The main objective was to understand how these social representations were expressed in restraint practices. Population and methods: A qualitative method using semi-structured interviews was chosen to meet the goals set out. The research was conducted with 15 healthcare professionals in pediatrics, infant intensive care, and neurorespiratory rehabilitation at Raymond Poincare Hospital. The data were processed using a content analysis of the thematic type.

Title: Neurodevelopmental impact of hydrocortisone exposure in extremely low birth weight infants: Outcomes at 1 and 2 years

Citation: Journal of Perinatology, January 2015, vol./is. 35/1(77-81), 0743-8346;1476-5543 (03 Jan 2015)

Author(s): Patra K., Greene M.M., Silvestri J.M.

Abstract: Objective: Postnatal steroids are used in neonatal intensive care units despite known side effects. Hydrocortisone (HC) use persists as it is believed to have less deleterious effects on neurodevelopmental (ND) outcome compared to other steroids. The literature is sparse with respect to the ND impact of HC use in recent years. Hence, we sought to examine the effect of HC use on ND outcome in a contemporary cohort of extremely low birth weight (ELBW) infants.
Title: Aetiology, Epidemiology and clinical characteristics of acute moderate-to-severe diarrhoea in children under 5 years of age hospitalized in a referral paediatric hospital in Rabat, Morocco

Citation: Journal of Medical Microbiology, January 2015, vol./is. 64/1(84-92), 0022-2615 (01 Jan 2015)


Abstract: The objective of the study was to describe the aetiology, epidemiology and clinical characteristics of the principal causes of acute infectious diarrhoea requiring hospitalization among children under 5 years of age in Rabat, Morocco. A prospective study was conducted from March 2011 to March 2012, designed to describe the main pathogens causing diarrhoea in hospitalized children 2 months and less than 5 years of age. Among the 122 children included in the study, enteroaggregative Escherichia coli (EAEC) and rotavirus were the main aetiological causes of diarrhoea detected. Twelve (9.8%) children were referred to an intensive care unit, while two, presenting infection by EAEC, and EAEC plus Shigella sonnei, developed a haemolytic uraemic syndrome. Additionally, six (4.9%) deaths occurred, with EAEC being isolated in four of these cases. Diarrhoeagenic E. coli and rotavirus play a significant role as the two main causes of severe diarrhoea, while other pathogens, such as norovirus and parasites, seem to have a minimal contribution. Surveillance and prevention programmes to facilitate early recognition and improved management of potentially life-threatening diarrhoea episodes are needed.

Title: Critical congenital heart disease screening by pulse oximetry in a neonatal intensive care unit

Citation: Journal of Perinatology, January 2015, vol./is. 35/1(67-71), 0743-8346;1476-5543 (03 Jan 2015)

Author(s): Manja V., Mathew B., Carrion V., Lakshminrusimha S.

Abstract: Objective: Critical congenital heart disease (CCHD) screening is effective in asymptomatic late preterm and term newborn infants with a low false-positive rate (0.035%). (1) To compare 2817 neonatal intensive care unit (NICU) discharges before and after implementation of CCHD screening; and (2) to evaluate CCHD screening at <35 weeks gestation. Study Design: Collection of results of CCHD screening including pre- and postductal pulse oximetry oxygen saturation (SpO2) values.

Title: Surfactant treatment for neonatal respiratory disorders other than respiratory distress syndrome

Citation: Journal of Maternal-Fetal and Neonatal Medicine, January 2015, vol./is. 28/2(131-133), 1476-7058;1476-4954 (01 Jan 2015)

Author(s): Alkan S., Ozer E.A., Ilhan O., Sutcuoglu S., Tatli M.

Abstract: Background: It is suggested that there may be expanded use of surfactant replacement for the neonatal diseases such as meconium aspiration syndrome (MAS), pneumonia and possibly bronchopulmonary dysplasia (BPD). Objective: To evaluate the characteristics and short-term outcome of the neonates given exogenous surfactant because of the diseases other than respiratory disease syndrome (RDS).

Title: Pandemic influenza A vs seasonal influenza A in hospitalized children in Athens

Citation: Paediatrics and International Child Health, 2015, vol./is. 35/1(61-64), 2046-9047;2046-9055 (2015)

Author(s): Stripeli F., Logotheti I., Vraila V.M., Balta C., Patsioura A., Papaevangelou V., Papadatos I., Baka A., Tsiodras S., Tsolia M.N.

Abstract: Background: Data on pandemic H1N1 influenza (pH1N1) virus infection in hospitalised children are limited. Aims and Objectives: To examine the epidemiological and clinical characteristics of children hospitalized with pH1N1 at a large tertiary-care centre in Athens and compare them with those of children hospitalized with seasonal influenza A in previous years.
**Title:** Measuring the quality of dying and death in the pediatric intensive care setting: The clinician PICU-QODD

**Citation:** Journal of Pain and Symptom Management, January 2015, vol./is. 49/1(66-78), 0885-3924;1873-6513 (01 Jan 2015)

**Author(s):** Sellers D.E., Dawson R., Cohen-Bearak A., Solomond M.Z., Truog R.D.

**Abstract:** Context. In the pediatric intensive care setting, an accurate measure of the dying and death experience holds promise for illuminating how critical care nurses, physicians, and allied psychosocial staff can better manage end-of-life care for the benefit of children and their families, as well as the caregivers. Objectives. The aim was to assess the reliability and validity of a clinician measure of the quality of dying and death (Pediatric Intensive Care Unit - Quality of Dying and Death 20 [PICU-QODD-20]) in the pediatric intensive care setting.

**Title:** Epilepsy after neonatal seizures: Literature review

**Citation:** European Journal of Paediatric Neurology, January 2015, vol./is. 19/1(6-14), 1090-3798;1532-2130

**Author(s):** Pisani F., Facini C., Pavlidis E., Spagnoli C., Boylan G.

**Abstract:** Introduction. Acute neonatal seizures are the most frequent neurological complication in the neonatal intensive care units and the seizing newborns have an increased risk of long-term morbidity. However, the relationship between neonatal seizures and the development of epilepsy later in life is still unclear.

**Title:** Severe blunt thoracic trauma: Differences between adults and children in a level I trauma centre

**Citation:** South African Medical Journal, 2015, vol./is. 105/1(47-51), 0256-9574 (2015)

**Author(s):** Skinner D.L., den Hollander D., Laing G.L., Rodseth R.N., Muckart D.J.

**Abstract:** Background. Trauma is a leading cause of death in the developing world. Blunt thoracic trauma represents a major burden of disease in both adults and children. Few studies have investigated the differences between these two patient groups. Objective. To compare mechanism of injury, presentation, management and outcome in children and adults with blunt thoracic trauma. Results. Of 415 patients admitted to the unit, 331 (79.7%) were adults and 84 (20.2%) children aged <18 years. The median injury severity score (ISS) was similar for both age groups (32 v. 34; p=0.812). Adults had a higher lactate level at presentation (3.94 v. 2.60 mmol/L; p=0.001). Of the children, 96.4% were injured in motor vehicle collisions, 75.0% as pedestrians. Compared with adults, children had significantly fewer rib fractures (20.2% v. 42.0%; p<0.001), flail chests (2.4% v. 26.3%; p=0.001) and blunt cardiac injuries (BCIs) (9.5% v. 23.6%; p=0.004), but sustained more lung contusions (79.8% v. 65.6%; p=0.013). Mortality in children was significantly lower than in adults (16.7% v. 27.8%; p=0.037).

**Title:** Strategic threat management: An exploration of nursing strategies in the pediatric intensive care unit

**Citation:** Applied Ergonomics, March 2015, vol./is. 47/(345-354), 0003-6870;1872-9126 (01 Mar 2015)

**Author(s):** Durso F.T., Ferguson A.N., Kazi S., Cunningham C., Ryan C.

**Abstract:** Part of the work of a critical care nurse is to manage the threats that arise that could impede efficient and effective job performance. Nurses manage threats by employing various strategies to keep performance high and workload manageable. We investigated strategic threat management by using the Threat-Strategy Interview. Threats frequently involved technology, staff, or organizational components. The threats were managed by a toolbox of multifaceted strategies, the most frequent of which involved staff-, treatment- (patient+technology), examination- (patient+clinician), and patient-oriented strategies. The profile of strategies for a particular threat often leveraged work facets similar to the work facet that characterized the threat. In such cases, the nurse's strategy was directed at eliminating the threat (not working around it). A description at both a domain invariant level - useful for understanding strategic threat management generally - and a description at an operational,
specific level - useful for guiding interventions-- are presented. A structural description of the relationship among threats, strategies, and the cues that trigger them is presented in the form of an evidence accumulation framework of strategic threat management.

Title: Array CGH as a first-tier test for neonates with congenital heart disease

Citation: Cardiology in the Young, November 2015, vol./is. 25/1(115-122), 1047-9511;1467-1107 (17 Nov

Author(s): Bachman K.K., De Ward S.J., Chrysostomou C., Munoz R., Madan-Khetarpal S.

Abstract: Objective Efficient diagnosis of an underlying genetic aetiology in a patient with congenital heart disease is essential to optimising clinical care. Copy number variants are one aetiology of congenital heart disease; the majority are identifiable by targeted fluorescence in situ hybridisation or array comparative genomic hybridisation, not by classical cytogenetic analysis. This study assessed the utility of array comparative genomic hybridisation as a first-tier diagnostic test for neonates with congenital heart disease.

Title: Cardiac diagnoses, procedures, and healthcare utilisation in inpatients with Ellis-van Creveld syndrome

Citation: Cardiology in the Young, November 2015, vol./is. 25/1(95-101), 1047-9511;1467-1107 (17 Nov

Author(s): O'Connor M.J., Tang X., Collins R.T.

Abstract: Introduction Ellis-van Creveld syndrome is a rare condition associated with a very high incidence of congenital malformations of the heart. Prior reports have suggested increased morbidity and mortality following surgery for congenital malformations of the heart in patients with Ellis-van Creveld syndrome. Materials and methods The Pediatric Health Information System database, an administrative database containing data from 43 free-standing paediatric hospitals in North America, was queried to search for patients with the diagnostic code for Ellis-van Creveld syndrome between 2004 and 2011. Those patients who underwent cardiac procedures were compared with those who did not with respect to measures of healthcare utilisation. Results A total of 138 admissions occurred in 93 patients with Ellis-van Creveld syndrome during the study period. Of these, 74% had an underlying diagnosis of congenital malformations of the heart. Half of the patients in the sample underwent a cardiac surgical or interventional catheterisation procedure. Patients who underwent a cardiac procedure had a longer hospital length of stay, higher incidence of intensive care unit admission, and higher total and per day hospital charges than patients who did not undergo cardiac surgery during admission. Conclusions In a large group of inpatients with Ellis-van Creveld syndrome, the prevalence of congenital malformations of the heart was similar to that reported in prior studies. Cardiac surgical and interventional procedures appear to drive a substantial portion of healthcare utilisation in these patients.

Title: Involuntary euthanasia of severely ill newborns: Is the Groningen Protocol really dangerous?

Citation: Hippokratia, 2014, vol./is. 18/3(196-203), 1108-4189;1790-8010 (2014)

Author(s): Voultsos P., Chatzinikolaou F.

Language: English

Abstract: Advances in medicine can reduce active euthanasia of newborns with severe anomalies or unusual prematurity, but they cannot eliminate it. In the Netherlands, voluntary active euthanasia among adults and adolescents has been allowed since 2002, when the so-called Groningen Protocol (GP) was formulated as an extension of the law on extremely premature and severely ill newborns. It is maintained that, at bioethical level, it serves the principle of beneficence. Other European countries do not accept the GP, including Belgium. Admissibility of active euthanasia is a necessary, though inadequate, condition for acceptance of the GP. Greece generally prohibits euthanasia, although the legal doctrine considers some of the forms of euthanasia permissible, but not active or involuntary euthanasia. The wide acceptance of passive newborns euthanasia, especially when the gestational age of the newborns is 22-25 weeks ("grey zone"), admissibility of practices within the limits between active and passive euthanasia (e.g., withholding/withdrawing), of "indirect active euthanasia" and abortion of the late fetus, the tendency to accept after-birth-abortion (infanticide) in the
bioethical theory, the lower threshold for application of withdrawing in neonatal intensive care units compared with pediatric intensive care units, all the above advocate wider acceptance of the GP. However, the GP paves the way for a wide application of involuntary (or pseudo-voluntary) euthanasia (slippery slope) and contains some ambiguous concepts and requirements (e.g., "unbearable suffering"). It is suggested that the approach to the sensitive and controversial ethical dilemmas concerning the severely ill newborns is done not through the GP, but rather, through a combination of virtue bioethics (especially in the countries of the so-called "Mediterranean bioethical zone") and of the principles of principlism which is enriched, however, with the "principle of mutuality" (enhancement of all values and principles, especially with the principles of "beneficence" and "justice"), in order to achieve the "maximal" bioethical approach, along with the establishment of circumstances and alternatives that minimize or eliminate the relevant bioethical dilemmas and conflicts between the fundamental principles. Thus, the most appropriate/fairest choices are made (by trained parents and physicians), considering all interests involved as much as possible.

Title: High-flow nasal cannula: recommendations for daily practice in pediatrics.

Citation: Annals of Intensive Care, 2014, vol./is. 4/(29), 2110-5820;2110-5820 (2014)

Author(s): Milesi C, Boubal M, Jacquot A, Baleine J, Durand S, Odena MP, Cambonie G

Abstract: High-flow nasal cannula (HFNC) is a relatively new device for respiratory support. In pediatrics, HFNC use continues to increase as the system is easily set up and is well tolerated by patients. The use of nasal cannula adapted to the infant's nares size to deliver heated and humidified gas at high flow rates has been associated with improvements in washout of nasopharyngeal dead space, lung mucociliary clearance, and oxygen delivery compared with other oxygen delivery systems. HFNC may also create positive pharyngeal pressure to reduce the work of breathing, which positions the device midway between classical oxygen delivery systems, like the high-concentration face mask and continuous positive airway pressure (CPAP) generators. Currently, most of the studies in the pediatric literature suggest the benefits of HFNC therapy only for moderately severe acute viral bronchiolitis. But, the experience with this device in neonatology and adult intensive care may broaden the pediatric indications to include weaning from invasive ventilation and acute asthma. As for any form of respiratory support, HFNC initiation in patients requires close monitoring, whether it be for pre- or inter-hospital transport or in the emergency department or the pediatric intensive care unit.

Title: A vertebral artery dissection with basilar artery occlusion in a child.

Citation: Case Reports in Emergency Medicine Print, 2014, vol./is. 2014/(706147), 2090-648X;2090-6498

Author(s): Devue K, Van Ingelgem A, De Keukeleire K, De Leeuw M

Abstract: This paper presents the case report of an 11-year-old boy with an acute dissection with thrombosis of the left vertebral artery and thrombosis of the basilar artery. The patient was treated with acute systemic thrombolysis, followed by intra-arterial thrombolysis, without any clinical improvement, showing left hemiplegia, bilateral clonus, hyperreflexia, and impaired consciousness. MRI indicated persistent thrombosis of the arteria basilaris with edema and ischemia of the right brainstem. Heparinization for 72 hours, followed by a two-week LMWH treatment and subsequent oral warfarin therapy, resulted in a lasting improvement of the symptoms. Vertebral artery dissection after minor trauma is rare in children. While acute basilar artery occlusion as a complication is even more infrequent, it is potentially fatal, which means that prompt diagnosis and treatment are imperative. The lack of class I recommendation guidelines for children regarding treatment of vertebral artery dissection and basilar artery occlusion means that initial and follow-up management both require a multidisciplinary approach to coordinate emergency, critical care, interventional radiology, and child neurology services.

Title: The effect of massage therapy on autonomic activity in critically ill children.

Citation: Evidence-Based Complementary & Alternative Medicine: eCAM, 2014, vol./is. 2014/(656750), 1741-427X;1741-427X (2014)

Author(s): Guan L, Collet JP, Yuskiv N, Skippen P, Brant R, Kissoon N
**Abstract:** Objectives. Our main objective was to describe the effect of foot and hand (F&H) massage on the autonomic nervous system (ANS) activity in children hospitalized in a pediatric intensive care unit (PICU); the secondary objectives were to assess the relationship between ANS function and the clinical severity and to explore the effects of repeated massage sessions on the ANS. Methods. Design was a descriptive experimental study. Intervention was single or six session(s) of F&H massage. ANS function was assessed through the frequency-domain analysis of heart rate variability. Main metrics included high and low frequency power (HF and LF), HF + LF, and LF/HF ratio.

**Title:** Outcome of extremely low gestational age newborns (ELGANs) following a pro-active treatment approach: A Swiss single centre experience over 10 years

**Citation:** Swiss Medical Weekly, January 2014, vol./is. 144/, 1424-7860;1424-3997 (01 Jan 2015)

**Author(s):** Morgillo D., Morgillo-Mitchell J., Fontana M., Steurer M., Schmitt-Mechelke T., Bauder F., Berger T.M.

**Abstract:** QUESTIONS UNDER STUDY: To determine the impact of a pro-active treatment approach on outcome of extremely low gestational age neonates (ELGANs; gestational age [GA] <28 weeks) born at the perinatal centre of Lucerne, Switzerland. METHODS: We assessed rates of survival, severe neonatal morbidity and neuro-developmental impairment (NDI) of all ELGANs born alive and treated at our centre between 2000 and 2009. The results were compared with published data from contemporary national and international cohorts.

**Title:** Population pharmacokinetic study of gentamicin in a large cohort of premature and term neonates

**Citation:** British Journal of Clinical Pharmacology, November 2014, vol./is. 78/5(1090-1101), 0306-5251;1365-2125 (November 2014)

**Author(s):** Fuchs A., Guidi M., Giannoni E., Werner D., Buclin T., Widmer N., Csajka C.

**Abstract:** AIM This study aims to investigate the clinical and demographic factors influencing gentamicin pharmacokinetics in a large cohort of unselected premature and term newborns and to evaluate optimal regimens in this population. METHODS All gentamicin concentration data, along with clinical and demographic characteristics, were retrieved from medical charts in a Neonatal Intensive Care Unit over 5 years within the frame of a routine therapeutic drug monitoring programme. Data were described using non-linear mixed-effects regression analysis (NONMEM).

**Title:** Toxic epidermal necrolysis associated with deflazacort therapy with nephrotic syndrome

**Citation:** Kidney Research and Clinical Practice, December 2014, vol./is. 33/4(222-225), 2211-9132;2211-9140 (01 Dec 2014)

**Author(s):** Lee E.C., Kim G.A., Koo J.W.

**Abstract:** Toxic epidermal necrolysis (TEN) is a drug-related fatal disease. Extensive necrosis of the epidermis can lead to serious complications. This report describes two cases of TEN, associated with deflazacort (DFZ), in two boys, aged 4 years and 14 years, with nephrotic syndrome (NS). The 14-year-old male teenager received DFZ following NS relapse. After 17 days, pruritic papules appeared on the lower extremities. Another case involved a 4-year-old boy receiving DFZ and enalapril. After a 41-day DFZ treatment period, erythematous papules appeared on the palms and soles. Within 3 days, both boys developed widespread skin lesions (>50%) and were admitted to the intensive care unit for resuscitative and supportive treatment. The patients showed improvement after intravenous immunoglobulin-G therapy. Owing to the rapid, fatal course of TEN, clinicians need to be aware of the adverse effects of this drug when treating cases of NS.

**Title:** Safety and Effectiveness of Palivizumab in Children at High Risk of Serious Disease Due to Respiratory Syncytial Virus Infection: A Systematic Review

**Citation:** Infectious Diseases and Therapy, December 2014, vol./is. 3/2(133-158), 2193-8229;2193-6382 (18
Author(s): Wegzyn C., Toh L.K., Notario G., Biguenet S., Park C., Makari D., Norton M.

Abstract: Introduction: Lower respiratory tract infection (LRTI) is the leading cause of infant mortality globally in post-neonatal infants (i.e., 28-364 days of age). Respiratory syncytial virus (RSV) is the most commonly identified pathogen for infant LRTI and is the second most important cause of death in post-neonatal infants. Despite 50 years of RSV vaccine research, there is still no approved vaccine. Therefore, passive immunity with the monoclonal antibody palivizumab is the sole regulatory-approved option for the prevention of serious LRTI caused by RSV in pediatric patients at high risk of RSV disease.

Title: Balance of academic responsibilities of clinical track pharmacy faculty in the United States: A survey of select American College of clinical pharmacy practice and research network members

Citation: Pharmacotherapy, December 2014, vol./is. 34/12(1239-1249), 0277-0008;1875-9114 (01 Dec 2014)


Abstract: Participants Clinical faculty members of the American College of Clinical Pharmacy Adult Medicine, Ambulatory Care, Cardiology, Critical Care, Gastrointestinal/Liver/Nutrition, Immunology/Transplantation, Infectious Disease, and Pediatrics Practice and Research Networks (PRNs) were invited to participate via the PRN electronic mailing list.Measurements and Main Results The survey comprised questions related to demographics, organizational structure, and balance of clinical and academic responsibilities. A total of 344 participants responded to some or all of the survey questions. The demographics were relatively equally balanced between faculty at state and private academic institutions, academic rank, and practice setting. Expected and actual effort allocations were similar for each of the clinical and academic responsibilities, with direct patient care and clinical teaching representing more than 50% effort allocation cumulatively. Clinical faculty at state institutions devoted a larger proportion of time to clinical service, whereas clinical faculty at private institutions devoted a greater proportion of time to didactic teaching. When asked about time constraints, 157 (69.8%) of the 225 survey participants responding to this question did not believe they had sufficient time to fulfill their nonclinical academic needs. Clinical faculty who were provided "protected time" away from clinical service had a significantly more favorable opinion of this question.

Title: Transient occult cardiotoxicity in children receiving continuous beta-agonist therapy

Citation: World Journal of Pediatrics, December 2014, vol./is. 10/4(324-329), 1708-8569;1867-0687 (17 Dec 2014)

Author(s): Carroll C.L., Coro M., Cowl A., Sala K.A., Schramm C.M.

Abstract: Conclusions: In this small study, a significant proportion of children had elevated serum troponin-T and lactate levels while receiving inhaled continuous beta-agonist therapy, irrespective of intravenous therapy. However, these abnormal values all returned to normal within 48 hours of ICU admission and were not associated with increased duration of hospitalization.

Title: Wernicke encephalopathy in children and adolescents

Citation: World Journal of Pediatrics, December 2014, vol./is. 10/4(293-298), 1708-8569;1867-0687 (17 Dec 2014)

Author(s): Lallas M., Desai J.

Abstract: Background: Wernicke encephalopathy is caused by thiamine (vitamin B1) deficiency. It is generally considered to be a disease of adult alcoholics. However, it is known to occur in the pediatric population and in non-alcoholic conditions.Data sources: We searched PubMed with the key words Wernicke, thiamine, pediatric, children and adolescents and selected publications that were deemed appropriate.

Title: Case series of Bifidobacterium longum bacteremia in three preterm infants on probiotic therapy

Citation: Neonatology, December 2014, vol./is. 107/1(56-59), 1661-7800;1661-7819 (17 Dec 2015)
**Author(s):** Zbinden A., Zbinden R., Berger C., Arlettaz R.

**Abstract:** Background: The use of probiotics as prophylaxis for necrotizing enterocolitis (NEC) in preterm infants is being increasingly practised. Objective: We report, for the first time, a case series of 3 preterm, very-low-birth-weight (VLBW) infants who developed bacteremia with Bifidobacterium longum on probiotic therapy with Infloran containing viable B. longum. Methods: We retrospectively reviewed data of 3 infants (of gestational age <30 weeks and birth weight <1,230 g). They were admitted to the neonatal intensive care unit. Clinical data were retrieved from their medical records.

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**Title:** Diagnosis of neonatal transient tachypnea and its differentiation from respiratory distress syndrome using lung ultrasound

**Citation:** Medicine (United States), December 2014, vol./is. 93/27, 0025-7974;1536-5964 (20 Dec 2014)

**Author(s):** Liu J., Wang Y., Fu W., Yang C.-S., Huang J.-J.

**Abstract:** Transient tachypnea of the newborn (TTN) is one of the most common causes of perinatal dyspnea and is traditionally diagnosed by chest x-ray. This study aimed to explore the diagnostic value of lung ultrasonography (LUS) for TTN as well as differentiate it from respiratory distress syndrome (RDS) by using LUS. From January 2013 to February 2014, 60 infants who were diagnosed with TTN based on medical history, clinical manifestations, arterial blood gas analysis, and chest radiography were recruited to the study group. During the same period, 40 hospitalized neonates with nonlung diseases and 20 patients with RDS were recruited to the control group. In a quiet state, infants were placed in the supine, lateral, or prone position for the examination. Each lung of every infant was divided into 3 regions: the anterior, lateral, and posterior regions as bordered by the anterior axillary and posterior axillary lines. The probe was placed perpendicular to the ribs. Each region of both the lungs was carefully scanned. The common ultrasonographic manifestations of TTN were double lung point (DLP), interstitial syndromes or white lungs, pleural line abnormalities, and A-line disappearance. A small number of infants (20%) with TTN exhibited pleural effusions, whereas the main ultrasonographic manifestation of RDS was lung consolidation with air bronchograms, which does not occur in TTN. The sensitivity and specificity of DLP for the diagnosis of TTN were 76.7% and 100%, respectively. LUS can accurately and reliably diagnose TTN. The DLP and lung consolidation possess great value in the diagnosis and differential diagnosis of TTN with RDS. Thus, we believe that LUS can be widely used in neonatal intensive care units.

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**Title:** Kangaroo care: Cardio-respiratory relationships between the infant and caregiver

**Citation:** Early Human Development, December 2014, vol./is. 90/12(843-850), 0378-3782;1872-6232 (01 Dec 2014)

**Author(s):** Bloch-Salisbury E., Zuzarte I., Indic P., Bednarek F., Paydarfar D.

**Language:** English

**Abstract:** Background: Kangaroo care, i.e., skin-to-skin cohabitation (SSC) between an infant and caregiver, is often used in neonatal intensive care units to promote bonding, breastfeeding and infant growth. The direct salutary effects of SSC on cardio-respiratory control in preterm infants remain equivocal; some reports suggest improved breathing stability, others indicate worsening of apnea, bradycardia and hypoxemia. Aim: The purpose of this study was to investigate physiological relationships between the infant and caregiver during SSC. We hypothesized that respiratory stability of the premature infant is influenced by the caregiver's heartbeat.

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**Title:** Adolescent parenting in the neonatal intensive care unit

**Citation:** Journal of Adolescent Health, December 2014, vol./is. 55/6(723-729), 1054-139X;1879-1972 (01 Dec 2014)

**Author(s):** Rosenstock A., Van Manen M.

**Abstract:** This review presents data from studies that report on adolescent parents as part of larger neonatal intensive care unit (NICU) parent populations, as well as studies where adolescent parents are given central
consideration. A systematic search for English publications from 1990 onward relevant to adolescent parenting in the NICU was conducted. Most studies reporting on adolescent parents focus on parental stress or parenting practices in the NICU. A few studies examine parent–staff communication, parental needs, and parent intervention programs. One study presents a qualitative examination of teenage mothers’ experiences in the NICU. Areas for further research include experiences of younger adolescent parents, adolescent fathers, and same-sex partners; issues unique to adolescent parents; and support programs for adolescent parents in the NICU.

Title: The incidence rate, high-risk factors, and short- and long-term adverse outcomes of fetal growth restriction

Citation: Medicine (United States), December 2014, vol./is. 93/27, 0025-7974;1536-5964 (20 Dec 2014)


Abstract: To investigate the incidence and high-risk factors of fetal growth restriction (FGR) in Mainland China and determine the adverse effects of this condition on fetal-neonatal health. This study was a retrospective chart review. We investigated the incidence rate of FGR using a retrospective analysis of clinical data obtained from mothers and newborns from 7 hospitals in Mainland China from January 1 to December 31, 2011. The short-term outcomes of FGR were analyzed based on data obtained from the neonatal intensive-care unit (NICU) of Bayi Children's Hospital. The long-term outcomes of FGR were determined after a follow-up study of 125 cases of FGR in children at 18 months. The physical development index, mental development index (MDI), and psychomotor development index (PDI) were compared between FGR patients and controls. The incidence of FGR was 8.77%. The incidence of FGR was significantly higher in females than in males (9.80% vs 7.84%, P<0.05). The incidence of FGR in preterm infants was higher than that in full-term infants (16.43% vs 7.87%, P<0.01). Chronic hypertension, abnormal amniotic fluid, and umbilical cord abnormalities were independent factors of FGR. A significantly higher incidence of complications, including hypoglycemia, asphyxia, hypoxic-ischemic encephalopathy, gastrointestinal bleeding, congenital malformations, polycythemia, lung hemorrhage, apnea, congenital heart disease, and disseminated intravascular coagulation, was observed in FGR patients than in controls. The FGR prolonged the duration of the hospital stay and markedly increased hospitalization expenses (P<0.05). Children with FGR showed catch-up growth, which reached the level of the control group after 1.5 years, but these individuals still had lower MDI and PDI scores. The incidence rate of FGR in Mainland China was 8.77%. It has a significantly adverse effect on fetal-neonatal health and cognitive development.

Title: Single and multiple respiratory virus infections and severity of respiratory disease: A systematic review

Citation: Paediatric Respiratory Reviews, December 2014, vol./is. 15/4(363-370), 1526-0542;1526-0550 (01 2014)

Author(s): Goka E.A., Vallely P.J., Mutton K.J., Klapper P.E.

Abstract: Introduction: There are suggestions that virus co-infections may influence the clinical outcome of respiratory virus illness. We performed a systematic review of the literature to summarise the evidence. Methods: MEDLINE, EMBASE, Ovid and WEB of Science databases, major organisation websites and reference lists of published studies were searched. The quality of studies was assessed using the STROBE tool (von Elm et al., 1) Individual study data was analyzed using odds ratios and 95% confidence intervals as a measure of association between exposure (co-infection), patient outcome and results summarised using forest plots and tables.

Title: Influence of gestational age on dead space and alveolar ventilation in preterm infants ventilated with volume guarantee

Citation: Neonatology, December 2014, vol./is. 107/1(43-49), 1661-7800;1661-7819 (17 Dec 2015)

Author(s): Neumann R.P., Pillow J.J., Thamrin C., Larcombe A.N., Hall G.L., Schulzke S.M.

Abstract: Background: Ventilated preterm infant lungs are vulnerable to overdistension and underinflation. The optimal ventilator-delivered tidal volume (V<sub>T</sub>) in these infants is unknown and may depend on the extent of alveolarisation at birth.Objectives: We aimed to calculate respiratory dead space (V D ) from the molar mass (MM) signal of an ultrasonic flowmeter (V<sub>D,MM</sub>) in very preterm infants on volume-
targeted ventilation (\(V_{T}\) target, 4-5 ml/kg) and to study the association between gestational age (GA) and \(V_{D,MM}/V_{T}\) ratio (\(V_{D,MM}/V_{T}\)), alveolar tidal volume (\(V_A\)) and alveolar minute volume (AMV).

**Title:** Clinical outcomes in very low birth weight infants with major congenital heart defects

**Citation:** Early Human Development, December 2014, vol./is. 90/12(791-795), 0378-3782;1872-6232 (01 Dec

**Author(s):** Anderson A.W., Smith P.B., Corey K.M., Hill K.D., Zimmerman K.O., Clark R.H., Hornik C.P.

**Abstract:** Background: The combination of major congenital heart disease (CHD) and prematurity is associated with poor prognosis, but previous studies have not fully characterized morbidity and mortality in this population. We conducted a retrospective cohort study of very low birth weight (VLBW) infants with major CHD to describe outcomes, including mortality, over time.

**Title:** Epilepsy after neonatal seizures: Literature review

**Citation:** European Journal of Paediatric Neurology, January 2015, vol./is. 19/1(6-14), 1090-3798;1532-2130 (01 Jan 2015)

**Author(s):** Pisani F., Facini C., Pavlidis E., Spagnoli C., Boylan G.

**Abstract:** Introduction Acute neonatal seizures are the most frequent neurological complication in the neonatal intensive care units and the seizing newborns have an increased risk of long-term morbidity. However, the relationship between neonatal seizures and the development of epilepsy later in life is still unclear. Methods We performed a literature review using the search terms “neonatal seizures AND outcome”, “neonatal seizures AND epilepsy”, “neonatal seizures AND post-neonatal epilepsy”, including secondary sources of data such as reference lists of articles reviewed. From the studies in which data were available, the incidence of epilepsy was calculated by dividing the number of all subjects who developed epilepsy in the different studies considered with the number of all newborns enrolled to the studies less the number of patients lost at follow-up.

**Title:** Measuring the quality of dying and death in the pediatric intensive care setting: The clinician PICU-QODD

**Citation:** Journal of Pain and Symptom Management, January 2015, vol./is. 49/1(66-78), 0885-3924;1873-6513

**Author(s):** Sellers D.E., Dawson R., Cohen-Bearak A., Solomond M.Z., Truog R.D.

**Abstract:** Context. In the pediatric intensive care setting, an accurate measure of the dying and death experience holds promise for illuminating how critical care nurses, physicians, and allied psychosocial staff can better manage end-of-life care for the benefit of children and their families, as well as the caregivers. Objectives. The aim was to assess the reliability and validity of a clinician measure of the quality of dying and death (Pediatric Intensive Care Unit - Quality of Dying and Death 20 [PICU-QODD-20]) in the pediatric intensive care setting.

**Title:** Cardiac intensive care for the neonate and child after cardiac surgery

**Citation:** Current Opinion in Cardiology, January 2015, vol./is. 30/1(81-88), 0268-4705;1531-7080 (12 Jan

**Author(s):** DeSena H.C., Nelson D.P., Cooper D.S.

**Abstract:** Purpose of review The focus of postoperative care in the pediatric patient with congenital heart disease has become a reduction in length of stay and morbidity. This review will discuss strategies to achieve this goal and recent studies to support current practices. Recent findings Most agree that prolongation of the length of stay following a cardiac surgery contributes to morbidity. Postoperative feeding difficulty, hyperglycemia, acute kidney injury, fluid overload, and prolonged intubation contribute significantly to length of stay. Summary Postoperative care of the neonate and child following a cardiac surgery remains challenging with limited data to drive our practices. Patients remain at risk for significant morbidity, and future studies should focus on recognizing predictors of morbidity, prevention, and treatment.

**Title:** Severe blunt thoracic trauma: Differences between adults and children in a level I trauma centre
**Citation:** South African Medical Journal, 2015, vol./is. 105/1(47-51), 0256-9574 (2015)

**Author(s):** Skinner D.L., den Hollander D., Laing G.L., Rodseth R.N., Muckart D.J.

**Abstract:** Background. Trauma is a leading cause of death in the developing world. Blunt thoracic trauma represents a major burden of disease in both adults and children. Few studies have investigated the differences between these two patient groups. Objective. To compare mechanism of injury, presentation, management and outcome in children and adults with blunt thoracic trauma.

**Title:** Risk of bloodstream infection in children admitted to paediatric intensive care units in England and Wales following emergency inter-hospital transfer

**Citation:** Intensive Care Medicine, November 2014, vol./is. 40/12(1916-1923), 0342-4642;1432-1238 (21 Nov 2014)

**Author(s):** Harron K., Mok Q., Parslow R., Muller-Pebody B., Gilbert R., Ramnarayan P.

**Abstract:** Purpose: Adherence to full sterile procedures may be compromised when central venous catheters are inserted as part of emergency resuscitation and stabilisation, particularly outside the intensive care unit. Half of emergency admissions to paediatric intensive care units (PICU) in the UK occur after stabilisation at other hospitals. We determined whether bloodstream infection (BSI) occurred more frequently in children admitted to PICU after inter-hospital transfer compared to within-hospital admissions.

**Title:** Parental cannabis abuse and accidental intoxications in children: Prevention by detecting neglectful situations and at-risk families

**Citation:** Pediatric Emergency Care, December 2014, vol./is. 30/12(862-866), 0749-5161;1535-1815 (12 Dec 2014)

**Author(s):** Pelissier F., Claudet I., Pelissier-Alicot A.-L., Franchitto N.

**Abstract:** Objectives: Cannabis intoxication in toddlers is rare and mostly accidental. Our objectives were to focus on the characteristics and management of children under the age of 6 years who were admitted to our emergency department with cannabis poisoning reported as accidental by parents, and to point out the need to consider accidental cannabis ingestions as an indicator of neglect.

**Title:** Human milk and breastfeeding in surgical infants

**Citation:** Breastfeeding Medicine, December 2014, vol./is. 9/10(491-493), 1556-8253;1556-8342 (01 Dec 2014)

**Author(s):** Salvatori G., Foligno S., Occasi F., Pannone V., Valentini G.B., Dall'oglio I., Bagolan P., Dotta A.

**Abstract:** Human milk and breastfeeding represent the nutritional normative standards for term and preterm newborns. With the term “surgical infants” we refer to all newborns who undergo surgery during the first days of life and who are assisted in the neonatal intensive care unit during the postoperative period and then in the neonatal surgery unit. There are many obstacles to breastfeeding these newborns. The “barriers” include the unstable clinical conditions before and after surgery, the period of separation between the mother and child, and often the lack of attention to breastfeeding. Few studies have assessed if newborns with surgical diseases are breastfeed and if human milk is beneficial for their outcome. We believe that the best option is to offer them their own mother's milk through the promotion and support of breastfeeding. A specific program focused on the needs of these vulnerable children should be created. Furthermore the surgical and pediatric staff of the neonatal surgery unit should be informed and trained to increase such a program's feasibility.

**Title:** Pulse oximetry vs. PaO2 metrics in mechanically ventilated children: Berlin definition of ARDS and mortality risk

**Citation:** Intensive Care Medicine, December 2014, vol./is. 41/1(94-102), 0342-4642;1432-1238 (13 Dec 2014)

**Author(s):** Khemani R.G., Rubin S., Belani S., Leung D., Erickson S., Smith L.S., Zimmerman J.J., Newth
**Abstract:** Methods: Single center retrospective review (3/2009-4/2013) of mechanically ventilated (MV) children. Initial values for PF, SF, oxygenation index (OI), and oxygen saturation index (OSI) after intubation and average values on day 1 of MV were analyzed against ICU mortality, subgrouped by Berlin severity categories.

**Title:** Single, dual and multiple respiratory virus infections and risk of hospitalization and mortality

**Citation:** Epidemiology and Infection, January 2015, vol./is. 143/1(37-47), 0950-2688;1469-4409 (16 Jan 2015)

**Author(s):** Goka E.A., Vallely P.J., Mutton K.J., Klapper P.E.

**Abstract:** Respiratory virus infections cause a significant number of hospitalization and deaths globally. This study investigated the association between single and multiple respiratory virus infections and risk of admission to a general ward, intensive care unit or death in patients aged 0-105 years (mean +/- s.d. = 244 +/- 241 years), from North West England, that were tested for respiratory virus infections between January 2007 and June 2012. The majority of infections were in children aged <5 years. Dual or multiple infections occurred in 104% (1214/11 715) of patients, whereas single infection occurred in 896% (10 501/11 715). Rhinovirus was the most common co-infecting virus (occurring in 695%; 844/1214 of co-infections). In a multivariate logistic regression model, multiple infections were associated with an increased risk of admission to a general ward [odds ratio (OR) 143, 95% confidence interval (CI) 12-17, P < 00001]. On the other hand, patients with respiratory syncytial virus (RSV) and human parainfluenza virus types 1-3 (hPIV1-3), as a single infection, had a higher risk of being admitted to a general ward (OR 149, 95% CI 128-173, P < 00001 and OR 134, 95% CI 1003-18, P = 005, respectively); admitted to an intensive-care unit or dying (OR 15, 95% CI 120-20, P = 0001 and OR 160, 95% CI 102-240, P = 004, respectively). This result emphasizes the importance of RSV, hPIV and mixed infections and calls for research on vaccines, drugs and diagnostic tests targeting these respiratory viruses.

**Title:** Mortality related to invasive infections, sepsis, and septic shock in critically ill children in Australia and New Zealand, 2002-13: A multicentre retrospective cohort study

**Citation:** The Lancet Infectious Diseases, January 2015, vol./is. 15/1(46-54), 1473-3099;1474-4457 (01 Jan 2015)

**Author(s):** Schlapbach L.J., Straney L., Alexander J., MacLaren G., Festa M., Schibler A., Slater A.

**Abstract:** Background: Severe infections kill more than 45 million children every year. Population-based data for severe infections in children requiring admission to intensive care units (ICUs) are scarce. We assessed changes in incidence and mortality of severe infections in critically ill children in Australia and New Zealand. Methods: We did a retrospective multicentre cohort study of children requiring intensive care in Australia and New Zealand between 2002 and 2013, with data from the Australian and New Zealand Paediatric Intensive Care Registry. We included children younger than 16 years with invasive infection, sepsis, or septic shock. We assessed incidence and mortality in the ICU for 2002-07 versus 2008-13.

**Title:** Trends in pulmonary valve replacement in children and adults with tetralogy of Fallot

**Citation:** American Journal of Cardiology, January 2015, vol./is. 115/1(118-124), 0002-9149;1879-1913 (01 Jan 2015)

**Author(s):** O'Byrne M.L., Glatz A.C., Mercer-Rosa L., Gillespie M.J., Dori Y., Goldmuntz E., Kawut S., Rome J.J.

**Abstract:** Operative correction of tetralogy of Fallot frequently results in pulmonary insufficiency and chronic volume overload, which have been linked to increased risk for adverse outcomes. No consensus recommendations for the timing of pulmonary valve replacement (PVR) exist. The aim of this study was to examine the pattern of PVR in the United States from 2004 to 2012. The Pediatric Health Information Systems database was used to perform an observational study of children and adults >10 years of age with diagnoses of tetralogy of Fallot who underwent PVR at 35 centers in the United States from 2004 and 2012, to assess the rate of PVR and the age at which is performed. Mixed-effects multivariate regression was used to account for patient-level covariates and center-level covariance. Additional analyses assessed for trends in cost, hospital length of stay (LOS), intensive care unit LOS, and in-hospital mortality over the study period. In total, 799
subjects at 35 centers underwent PVR over the study period. The number of PVRs performed per year increased significantly over the study period. There was significant between-center heterogeneity in age at PVR (p <0.001). Age at PVR, intensive care unit LOS, hospital LOS, and cost did not change over the study period. In conclusion, PVR in patients with tetralogy of Fallot is being performed more frequently, without an accompanying change in the age at PVR or other measurable outcomes. There is significant variability in the age at which PVR is performed among centers across the United States. This highlights the need for additional research guiding the optimal timing of PVR.
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