Highlights from this issue

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TACHYPNOEA IN A WELL BABY: WHAT TO DO NEXT

In an excellent leading article Ian Balfour Lyn and Michael Rigby outline the management of the 'well' term infant who presents with tachypnoea, ie not acutely unwell. There are many useful points made including the fact that the normal respiratory rate has a wide normal range (figure two in the paper), decreases during infancy, is higher when the infant is awake and higher during fever. There are a series of useful headers—what is tachypnoea, is the baby tachypnoeic, is the baby unwell, is the examination normal, immediate and further investigations and less common diagnoses. There is an excellent algorithm (figure one in the paper). Red flag symptoms include—persistent cough, apnoeic episodes, noisy breathing, poor feeding, vomiting, choking when drinking. Red flag signs include respiratory distress, cyanosis, cardiac murmur, abnormal femoral pulses, hepatomegaly, hypotonia. The most important initial investigations are to measure the oxygen saturation – should be 97–98% and a chest X-ray. If the saturation is low then a hyperoxia test should be considered. Potential causes of tachypnoea when the diagnosis is not immediately obvious are discussed in detail. ***See page 722***.

DEFINING NORMAL HEART RATE

The heart rate and respiratory rate are key components in the assessment of a child who presents acutely unwell. In order to interpret these signs clinicians need to know what is normal at particular ages (including the 'range' of normal) and if abnormal, how abnormal. O'Leary and colleagues report data on 'real life' patients presenting to their emergency department (111,606 records, 1995–2011 afebrile, triage category 5—low priority). This dataset is compare with previous published data and Advanced Paediatric Life Support (APLS) guidance. The comparable datasets and ranges are illustrated in the various figures in the paper. There is good agreement of the 50th centile for heart rate; however respiratory rate was lower in infancy and higher with increasing age crossing the lower APLS range in infants and upper range in teenagers. There is significant centile variance between different datasets. The authors suggest that their derived centiles should be incorporated into APLS, Paediatric Early Warning Systems (PEWS) and other guidance. There is a very powerful accompanying editorial from Roger Parslow. ***See pages 733 and 719***.

CONFLICT ESCALATION IN PAEDIATRIC SERVICES

Conflict between healthcare staff (horizontal) and healthcare staff and patients (vertical) presents a significant burden to individuals and health care systems as a major cause of burnout, absenteeism and high staff turnover. Fobel and colleagues explore clinician and family experiences in order to map out the trajectory of conflict escalation. 38 health professionals and eight parents were interviewed. All had had direct experiences of conflict. Three phases were described – mild, moderate and severe. Mild describes features like the insensitive use of language and a history of unresolved conflict. Moderate involves a deterioration of trust, and a breakdown of communication and relationships. Severe marks disintegration of working relationships, characterised by behavioural changes including aggression, and a shift in focus from the child's best interests to the conflict itself. Conflicts which escalate tend to move sequentially from one level to the next. This is a very interesting paper to work through. The framework will help us start to consider how conflict can be recognised and interventions put in place to try to help impact at each level. The area is challenging and stressful. The potential of conflict to change the focus from the management of the child reflects the need for us explore and try and develop strategies to better deal with it. ***See page 769***.

RECENT ADVANCES IN INTERVENTIONAL CARDIOLOGY

There have been major advances in the management of congenital heart disease, particularly with the increase in frequency and complexity of transcatheter interventional procedures. Bentham and colleagues update us on recent and potential future developments—to close or not to close the patient ductus arteriosus (closure of silent ducts remains controversial); management of coarctation of the aorta which is usually in the catheter lab from mid childhood; the potential for ductal and right ventricular outflow tract stenting as an alternative to surgical systemic to pulmonary shunting; the increasing use of percutaneously implanted bioprosthetic valves; the potential for transcatheter ventricular septal defect closure; the potential for hybrid management of difficult hypoplastic left heart syndrome. Each section highlights key messages. The progress in this field has been impressive and is highlighted by the timeline in figure one. This is a very worthwhile read and a great update for clinicians who will regularly see children with cardiac conditions in their daily practice. ***See page 787***.

OUTCOME OF HEREDITARY TYROSIMAEMIA FOLLOWING NEWBORN SCREENING

Tyrosinaema type 1 (1 in 100,000) is an autosomal recessive disorder of Tyrosine metabolism caused by the deficiency of fumarylaceto-acetate hydrolase. Manifestations include early onset liver and renal dysfunction, neurological crises and a high lifetime risk of hepatocellular carcinoma (HCC). Nitisinone, which blocks an enzyme earlier in the tyrosine catabolic pathway preventing the build-up of toxic metabolites, has transformed the management, although the risk of HCC persists. McKiernan and colleagues report the outcome of 12 children picked up by 'opportunistic' screening. Follow up was to median age 8.5 years (3–12.5). All were clinically well at maximal follow up with normal liver function and imaging although 4 had learning difficulties. The outcome was less good in five index sibling—4 of whom presented with acute liver failure, 1 with chronic liver disease. One died before treatment, three out of four responded to treatment—one then died from unrelated problems and 2 have compensated liver disease. The authors conclude that newborn screening should be introduced. This is supported in the accompanying editorial—Neonatal screening for hereditary tyrosinaemia: are we there yet? ***See pages 738 and 720***.