Audit activity of trainees in the West of Scotland

Audit is becoming an increasingly important tool for use in medical practice under the auspices of clinical governance, and the expectation for trainees to participate in audit is increasing. The Royal College of Paediatrics and Child Health recommends that specialist registrar trainees perform yearly audit during their training and audits performed during Higher Specialist Training form part of the competency framework for specialty training.

One of the required characteristics of applicants for specialist registrar positions in the West of Scotland is participation in audit, and one of the desirable characteristics is active involvement in audit. It is therefore important that trainees are aware of the requirements of audit and are given enough time and support in which to carry it out.

Questionnaires were sent to all experienced senior house officers and specialist registrars in the West of Scotland training programme to assess audit activity.

Response rate was 83% in the specialist registrar group and 59% in the experienced SHO group.

In the specialist registrar group, 93% of respondents had performed an audit during their training although only 48% had completed an audit in each year of their training. Fifty two per cent of audits led to a change in practice, with only 16% being re-audited and therefore completing the audit cycle. Fifty two per cent of respondents graded the level of support given by senior staff to be less than satisfactory.

In the experienced SHO group, 92% of respondents had completed an audit with 53% actively involved in audit at the time of questioning. Forty two per cent of audits undertaken had led to a change in practice, with only 17% being re-audited. The most common reasons cited for those who had not performed an audit were insufficient time (100%) and lack of knowledge of a topic to audit (83%). Seventy six per cent of respondents felt that being given an audit topic and brief outline of how to carry this out at the beginning of a post would increase likelihood of completing an audit. Thirty per cent graded the level of support given by senior staff to be less than satisfactory.

Although the incidence of performing audit was high in the population questioned (92%), the incidence of completing the audit cycle was low (16%). Factors identified which may increase audit activity include increased support from senior staff, more time available for audit, and being allocated an audit topic and outline of how to carry this out at the beginning of a post.

Hyperthermia following fever

A 15 month old child presented to A&E with a temperature of 39.2°C. On examination she was fully conscious, tachycardic, and tachypnoeic. Examination revealed crepitations at the left base. A chest x-ray confirmed the presence of a left lower lobe pneumonia. She was commenced on intravenous cefuroxime; initial results revealed white cell count 19.1 x 10^9/l (neutrophilia) and C reactive protein 126 mg/l.

On arrival to the ward she was found to be hyperthermic (35.6°C). She had received paracetamol (15 mg/kg) and ibuprofen (5 mg/kg) in A&E. She had not been unduly exposed. This was her first presentation to hospital. In view of hyperthermia with obvious sepsis a lumbar puncture was performed to rule out CNS involvement. This was entirely normal. Despite warming techniques she remained cool for the next 11 hours (fig 1).

Prolonged hyperthermia provoked investigation of central causation. Thyroid function tests, cortisol, and computed tomography were normal. She recovered from her pneumonia and has been entirely well since.

In view of the temporal link between the antipyretics and the fall in temperature, it seems appropriate to consider causation. Both paracetamol and ibuprofen have previously been linked individually to hyperthermia. Logically, giving both together may have a summative effect on decreasing temperature. Currently there seems to be a great hurry to “treat temperatures”, often using high doses of paracetamol combined with ibuprofen to reach the magic 37°C. However, the risks and benefits of fever should be weighed up. Fever induces host defence mechanisms preventing multiplication of organisms, but can also lead to febrile convulsions and increased cardiovascular demands.

Antipyretics are not without their problems and hyperthermia may be one of these. Is hyperthermia bad for you? Probably not in the short term, but generally we are not trying to induce it.

A recent case also describes hyperthermia following a single dose of ibuprofen. This had a duration of four days. Ibuprofen has a half life of 2 hours and is unlikely to have such a prolonged effect. Hyperthermic sepsis is uncommon in paediatrics but must also be considered in both cases. It is important to note that in neither case was a causal organism identified.
third was aged 54 years at diagnosis, presenting with short stature, mental retardation, and low white cell count with poor myeloid activity in the bone marrow, but with no dysmorphic features.

Our study concluded that the overall minimum prevalence is around 1 in 595 births. This is a slightly higher prevalence than previously documented, and may be a result of a higher incidence of mosaic cases, which are often without dysmorphic features and therefore more difficult to diagnose. Mosaic Down’s syndrome should always be considered in those who are educationally subnormal, without a specific diagnosis.

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Randomised trial comparing prototype structures for clinical letters

A seven and a half minute consultation leaves a GP little time to extract the salient points from walling clinical correspondence. Consultants’ letters to GPs often contain minimal structure, yet GPs prefer letters containing lists of key points and management issues.1,2 We examined whether highly structured letters, using headings and bullet points, were preferred over problem-management list structure or unstructured prose.

A total of 210 GPs were each randomly allocated two of four prototype letters, and asked to rate each letter on readability, structure, content, and overall feel. The GPs, and 76 consultants, were asked to rate the most important roles of letters from consultants to GPs.

Highly structured letters were significantly preferred in all aspects over letters with problem-management lists (p = 0.001-0.05) and these were preferred over prose letters (p = 0.05). There was no significant preference expressed about whether structured letters could contain a short prose summary. Consultants and GPs agreed that providing specialist advice and a management plan were vital aspects of consultants’ letters. Consultants also felt the letter was vital to document information given to the patient and to form part of the hospital records. This dichotomy may explain why consultants’ letters often do not meet GPs’ expectations. Clear concise communication is central to patient care. Structured letters are easier to extract information from, quicker to read,1 and much preferred by GPs. Our low response rates (42% of GPs and 41% of consultants) leave open the possibility of response bias. However, our results showed high levels of significance and were in keeping with previous studies.1,3,4

Currently, discharge letters may be so poor that they can hinder continuity of care.1 Letters can be improved with training and prompt sheets,1 but these are expensive options. Fully structured letters provide an easy way to improve communication and reduce the likelihood of serious omission.

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Aspirin, Reye syndrome, Kawasaki disease, and allergies; a reconsideration of the links

Reye syndrome is very uncommon in Kawasaki disease patients despite the widespread use of aspirin. It is time to rethink the link between aspirin and Reye syndrome in the light of the rising prevalence of allergies for which the declining use of aspirin may be contributory.

The use of aspirin (ASA) has declined dramatically since the 1980s following reports linking its use to Reye syndrome. Since then, paracetamol has become the drug of choice for the treatment of fever or pain in children, and even in adults.1 Concurrently there has been an increase in the worldwide prevalence of the various allergic diseases, especially in industrialised countries.1,2,6 It may not be too bold a postulate that this increase in allergic diseases might be due (at least in part) to the decreased use of ASA, ASA, which has an anti-inflammatory action, suppresses subclinical or clinical inflammation. Paracetamol in contrast, has no such anti-inflammatory effects.

The current recommendations for the management of children with Kawasaki disease include treatment with high dose aspirin in the acute phase, and low dose aspirin during the period of thrombocytopaenia.2 For those with residual coronary problems, low dose aspirin is often given over an even longer term. In Japan alone, up to 200 000 children have received ASA for Kawasaki disease. Interestingly, only one case of Reye syndrome associated with Kawasaki disease has ever been reported, and only in the Japanese literature, giving an incidence of <0.005%.7

It is perhaps time to rethink whether there is any causal link between ASA and Reye syndrome. The relation between declining ASA use and increasing prevalence of allergies should also be more extensively evaluated. Paediatricians may want to consider ASA in place of paracetamol as their first choice antipyretic/analgesic in children, especially for those with a significant family and background history of atopy. If our prescribing habits change, we might yet see a decline in the prevalence of allergic diseases.

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current deaneries, you eventually manage to transfer the NTN. The apparent lack of communication between the deaneries, the uncertainty over the NTN transfer, and personal “turmoil” over moving residence and starting in the vastly different world of laboratory science, cause intense personal anxiety. Despite the introduction “Calman” scheme in Paediatrics in 1996 and the potential for a one-deanery transfer, it appears easier to move for personal reasons, such as a partner moving, than for obvious academic reasons.

During the latter stages of your research time, you begin to think about specialising in paediatric intensive care medicine (PICM). The recent introduction of “grid numbers” within paediatric specialties has enabled trainees to receive regional subspecialty training, but at the cost of potentially alienating SpRs that joined the Calman scheme prior to its inception, who have already undertaken a substantial proportion of their paediatric training. During this “transition” phase, some SpRs wishing to specialise in PICM post, you fully understand and appreciate that trainees with real academic promise will be discouraged even before they start. If deaneries are to continue to manage SpRs with subspecialty and/or academic interests, there needs to be closer links with the RCPCH and in particular the relevant College specialty advisory committees. In addition, at a local level, a “mentoring” system for future academic trainees needs to be established, primarily to encourage research ideas and methodology, but also to provide a support network. If training issues are not addressed, the future of subspecialty and academic paediatrics in this country appears bleak.

On a closing note, although I know I am not unique in this situation, I really question whether I would have made the same choices, if I knew the obvious limitations of the current training scheme!

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Clinical improvement in cystic fibrosis following anti-tumourous chemotherapy

Clinical improvement in respiratory function in patients with cystic fibrosis (CF) has been reported following treatment with anti-tumourous chemotherapy. It has been suggested that long term upregulation of genes encoding proteins promoting multidrug resistance (MDR), including MDR P glycoprotein, may contribute to the failure of the CFTR protein which is deficient in CF and may be the mechanism by which macrolides exert their effect in CF. Previous reports suggested an increase in MDR following chemotherapy in CF patients and called for more reporting of cases of CF patients undergoing chemotherapy.

We report a case of a male CF patient (homozygous ΔF508), aged 7 years, who underwent chemotherapy for acute myeloid leukaemia. He remained well during the six months of treatment, with no chest exacerbations. After cessation of treatment, nasal potential difference measurements showed a 6 mV response with a low chloride perfusion, unusual in CF, with typical CF baseline and A amiloride readings (~49 mV and 39 mV respectively). No increase in MDR P glycoprotein mRNA was detected from nasal brushings, compared to control CF subjects. Since initiating chemotherapy, he remained clinically well, with good lung function (FEV1, FEV1% and FVC (110%); pretreatment FEV1 and FVC both 60%). Interpretation of these data is clearly limited by a lack of pre-chemotherapy data. In order that the potential effect of these drugs can be understood, we suggest a formal protocol for collection of quantitative data from cases of CF patients presenting with malignancies, both before and after the initiation of chemotherapy. In addition to records of clinical status, as performed by previous groups, we recommend: (a) pre- and post-treatment sweat tests (chloride and sodium values); (b) collection of nasal or (opportunistically) bronchial brushings for quantification of MDR P glycoprotein mRNA, by real time RT-PCR; and (c) nasal potential difference measurements. If the role of MDR proteins in mediating this effect is further substantiated in future CF patients receiving chemotherapy, there may be a role for the development of novel drugs which modulate MDR proteins.

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transporting fatty acids across the mitochondrial cell membrane. Dietary supplementation is indicated in primary carnitine deficiency disorders, haemodialysis patients, and in inherited metabolic conditions with secondary carnitine deficiency such as organic acidemias and fatty acid oxidation defects. The success of L-carnitine prophylaxis in reducing the frequency of attacks in cyclical vomiting was first reported in 2002 by Calcar et al in a series of six patients."

The trial of carnitine proved to be extremely effective in the management of this child’s condition. Although his blood levels were normal, carnitine dependency may be an important metabolic requirement in cyclical vomiting syndrome patients because of a high metabolic turnover. As far as we are aware, this is the most striking improvement by L-carnitine ever reported in the literature. L-carnitine responsive cyclical vomiting syndrome is a possible subgroup or phenotype in the diagnostic workup of children with this syndrome, and should be considered an early treatment option in children suffering from intractable cyclic vomiting.

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Table 1  Number and duration of hospitalisations

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<td>No. of hospital admissions</td>
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<td>9</td>
<td>15</td>
<td>14</td>
<td>1</td>
<td>0</td>
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<tr>
<td>Average length of stay (days)</td>
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<td>2.75</td>
<td>5.78</td>
<td>4.20</td>
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Table 2  Pre- and post-treatment serum carnitine levels

<table>
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<th>Serum carnitine</th>
<th>Before treatment</th>
<th>After treatment</th>
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<tbody>
<tr>
<td>Total carnitine</td>
<td>Normal range 23–60 μmol/L</td>
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<tr>
<td>Free carnitine</td>
<td>Normal range 15–53 μmol/L</td>
<td>6</td>
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</tbody>
</table>
importantly, the authors reflect on the lack of evidence there is for appropriate systems of follow up and the need to explore novel strategies such as distance networking through internet and telecommunications. The use of primary nurse-led care or care co-ordinators, from a variety of healthcare backgrounds is discussed. The challenge of crossing different sectors (medical, social care, education) to inform carers of the needs of this group of patients, optimise their care, and share responsibility for the needs of this patient group is also recognised.

One area of particular relevance not only to survivors of childhood cancer but also for other children with chronic diseases and indeed adults who have survived cancer, is the potential difficulties with future employment and life or health insurance. Although indeed adults who have survived cancer, is other children with chronic diseases and survivors of childhood cancer but also for...