Poster presentations

1. Survey of enquiries concerning Vipera berus bites received by United Kingdom Poison Centres 1983-91

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A review has been undertaken of all enquiries received by the poison centres in Cardiff and London for the years 1983-91 regarding definite or suspected bites, to both humans and animals, by the European Adder (Vipera berus). The aim was to determine whether the observed increase in enquiries at both centres revealed any changes in incidence, morbidity and mortality. An attempt has also been made, for 1991, to ascertain how frequently the specific antivenom Zagreb was used in treatment by medical practitioners and veterinarians in the UK (to date 31.8.91). Detailed case data were collected at the time of each enquiry and all reports of definite bites were followed up using specific questionnaires. For the London centre a significant rise in the number of enquiries about adders and their proportion of total workload was observed. For the Cardiff centre these trends were not observed. There was no significant annual change in the percentage of symptomatic cases for the years surveyed. There were no documented human fatalities as compared to 4 animal fatalities (3 dogs, 1 cat) reported from a total of 26 veterinary enquiries. The returned follow up data for 1991 indicated that despite the widespread availability of Zagreb its use by medical practitioners is uncommon (4.2%) as compared to veterinarians (37.5% of cases).

2. A modified Paediatric Resuscitation Chart and improved method of drug administration

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The work of Oakley in highlighting the deficiencies in doctors' knowledge of paediatric resuscitation drugs and the introduction of the chart he devised have gone a long way to improve both the knowledge and confidence of junior doctors when faced with the uncommon and frightening need to resuscitate a child. There are, however, a number of improvements which could be made to the chart and ultimately to the administration of emergency drugs in general. This paper evaluates the original chart, some modifications to it and the proposed method of drug administration. The results of studies show that a significant increase in both the speed and accuracy of drug administration are possible with simple measures.
3. Decision making in resuscitation from out of hospital arrests

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Long term survival from unwitnessed out of hospital cardiac arrest is only 2-3%. Victims should receive prompt and vigorous treatment whilst any prospect of survival exists but distinguishing those who are unsalvageable from those in whom functional survival can be expected is difficult. Much time and effort are often spent on patients with a hopeless prognosis. Experience suggests that survival is most likely if the collapse is witnessed, the rhythm is ventricular fibrillation, there is prompt bystander life support and a short time to advanced cardiac life support. Currently, no specific guidelines exist regarding continuing resuscitation and junior doctors must rely on an approach from personal knowledge and experience. This study was designed to identify those factors which junior doctors believe are important in this decision making and to determine if these ideas change with experience and in-service education. A questionnaire designed to evaluate the relative importance of twenty factors was given to 130 SHOs at an induction course prior to the start of their A & E job. Identical follow up questionnaires were sent at one and five months and, in addition, 40 A & E consultants and a group of medical registrars were questioned. The results, including comparison between teaching and non-teaching hospitals, and the influence of experience on the replies are analysed.

4. Initial neutrophil elastase levels and subsequent oxygen and ventilatory requirements after trauma

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The Adult Respiratory Distress Syndrome (ARDS) develops from conditions such as sepsis, multiple trauma and pancreatitis, often after a latent period of 24-48 hours, during which inflammatory cells (particularly neutrophils) are thought to sequester abnormally within pulmonary microvessels where they release injurious products such as elastase. This study investigated the relationship between initial plasma elastase levels and subsequent pulmonary complications requiring oxygen therapy in moderate to severe trauma patients (Injury Severity Score (ISS) > 9). Blood was obtained for measurement by a radio-immuno-assay highly specific for neutrophil elastase (normal values 20+/-6 ng/ml). A simple patient "oxygen requirement score" was based on concentration and duration of oxygen administration during hospital stay. Twenty out of twenty one patients had initial elastase levels greater than two standard deviations above the normal range. Sixteen had levels greater than 100 ng/ml, with one patient achieving 417ng/ml. No correlation was found between the whole trauma group (n=21) and length of ventilation (r=.23, p=.31) or "02 score" (r=.26, p=.24). However, in those who subsequently required mechanical ventilation (n=11) there was a correlation between initial elastase level and "02 score" (r=.70, p=.02) and length of ventilatory support (r=.66, p=.03).
5.

Telephone advice in the Accident & Emergency Department: a survey of current practice in Wales

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The aim of this study was to assess the standard of A & E Department advice following patients' enquiries by telephone. Simulated patient enquiries and a telephone questionnaire were made to 18 major and 16 minor A & E Departments in Wales. Overall correct telephone advice was given to a simulated patient on 72 out of 97 occasions (74%). 60 out of 97 (62%) of calls were dealt with by the nursing staff who gave correct advice on 41 out of 60 (68%) occasions. No Department had a formal policy or provided training for telephone response to patients' enquiries. It is concluded that A & E Departments should train designated members of staff, preferably the triage nurse, who should formally deal with telephone enquiries requiring medical advice. There should be departmental protocols which should include formal documentation of the enquiry and advice given.

7.

Topical 15% Ibuprofen in the treatment of soft tissue injuries

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Ibuprofen is a non-steroidal, anti-inflammatory compound with analgesic properties that is frequently prescribed in tablet form. However, there are occasional gastrointestinal side effects. A 15% ibuprofen preparation was formulated in a fatty alcohol propylene glycol base to help penetration of the skin. A study was set up at six centres in the U.K. to investigate the clinical efficacy and side effects of topical 15% ibuprofen on patients with minor soft tissue injuries. This study was multiple-dosed, double-blind, randomised and placebo-controlled. The patients recruited were 16-60 years old and within 15% of ideal body weight. Those patients excluded included those with an open wound, a history of peptic ulceration or renal disease and known sensitivity to ibuprofen. Patients were supplied with paracetamol tablets for additional pain relief as required. Physiotherapy was allowed but not ultrasound. Patients applied 1g of the topical preparation three times a day for 14 days. 205 patients were enrolled in the 15% ibuprofen group of whom 146 completed, 13 defaulted and 46 withdrew. 181 patients were enrolled in the placebo group of whom 137 completed, 11 defaulted and 33 withdrew. The main reason for withdrawal was that the injury had healed but 11 patients withdrew with adverse effects, most commonly peeling of the skin. 75% of patients started treatment within 48 hours of injury. Medical assessment was by the overall impression of the general severity of the injury. An improvement in this had occurred by the 14th day in 91.9% of patients receiving 15% ibuprofen but in only 82.7% of those receiving the placebo. This difference is statistically significant (P=0.018). There was better movement and less tenderness in the group treated with 15% ibuprofen but this was not statistically significant.

Swelling comparison, paracetamol medication and incidence of physiotherapy were similar between the two groups. Following this trial a product licence has been granted for 15% ibuprofen and it is to be marketed commercially called Ibuderm.
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8. **A one year experience of cardiac arrest in an A & E population**

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The aim of this study was to determine outcome following cardiac arrest in all patients presenting with this condition to an A & E Department. The study was undertaken in a busy teaching hospital A & E Department which sees more than 70,000 patients per year and which provides a flying squad service. A proforma was completed for all patients who were treated out of hospital for cardiac arrest or who presented with cardiac arrest or who had a cardiac arrest in the A & E Department. All patients were scored for outcome using the Glasgow Outcome Score. Over a one year period 281 patients were treated with or following cardiac arrest. The overall survival rate was 14.5%. Overall survival following ventricular fibrillation was 27%. No patient with an unwitnessed cardiac arrest survived. 85 patients (34%) with out of hospital cardiac arrest had bystander CPR and 22 (23%) of these survived. 166 patients (66%) had no bystander CPR and 13 (8%) of these survived. No survivor had a Glasgow Outcome Score (GOS) of less than 3. No patient receiving bystander CPR and surviving had a GOS of less than 4. There has been a large increase in the number of patients treated with or following cardiac arrest in this Department. Bystander CPR significantly contributes to survival. Survival rates following VF cardiac arrest compare favourably with other centres. Severe neurological impairment is not common amongst survivors and the vast majority return home.

9. **An Emergency Department based Aeroretrieval Programme**

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52% of Queensland's population live outside Brisbane but only 9 of the 114 public hospitals outside Brisbane have an Intensive Therapy Unit (ITU). In 1990 Lifeflight, an aeromedical retrieval system, was established to provide specialist medical teams for prehospital and interhospital transfers throughout Southern Queensland. Lifeflight is based in the Royal Brisbane Hospital Emergency Department and is operated by Emergency Department staff. In its first 18 months Lifeflight performed 226 missions. Interventions were required prior to transport in 99% of patients retrieved from country hospitals, including endotracheal intubation in 64%. 53% of the retrievals and 47% of the medivacs were for trauma with a mean Injury Severity Score of 21. 74% of retrievals and 11% of medivacs required admission to an ITU. There were no deaths during transfer and 89% survived to discharge from hospital, with a mean hospital stay of 26 days. Seriously ill and injured patients may be safely transported by air over long distances by Emergency Department physicians and nursing staff.
10.

**Sternal fracture - a modern review**

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Sternal fractures have long been regarded as potentially serious injuries or at least a marker thereof. A retrospective review presented here challenges this premise and questions the current management. Sternal injuries have been assessed since the 1860's when they were recorded to be both rare and associated with severe trauma. Over the next hundred years the incidence increased and a strong association with road traffic accidents became apparent. Indeed, by the early 1970's such was the preponderance of patients whose fracture was caused by a restraint that the injury was included in the 'safety-belt syndrome'. From the mid-point of the century evidence demonstrated that patients ought to be admitted and closely observed - suggestions range from simple electrocardiogram to routine use of isotope scans and 2-D echocardiogram - in order that cardiac contusion and other complications should not be missed. This represents the core of the policy currently followed in the United Kingdom. The seat belt law has recently been extended and hence a further increase in the frequency of this injury could reasonably be expected. A review of cases was undertaken to see if these commonly held assumptions are true and whether a change in management is now required.

11.

**Economic evaluation of Primary Care consultations in an Accident & Emergency Department**

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The King’s A & E Primary Care Project has been studying the provision of primary care in A & E. At previous BAEM conferences the content and outcome of senior house officer, registrar and sessionally-employed general practitioner consultations have been compared. SHOs and registrars made more intensive use of investigations, referrals and prescribing than the general practitioners, but follow-up studies failed to demonstrate that this benefitted the patient. For example, 28% of SHO consultations and 27% of those of general practitioners included an x-ray investigation, compared to only 13% of those of general practitioners. We are now undertaking an economic evaluation of these findings to compare the costs per patient treated by an A & E doctor with the costs for those seen by a general practitioner. We have re-analysed the data on 5000 A & E primary care consultations to include financial costing information on investigations and referrals. In this paper the results of this study will be presented.
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12.

The role of the Royal Air Force helicopter Search and Rescue service in Britain during the last ten years

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The purpose of this study is to evaluate the current role of the Royal Air Force helicopter Search and Rescue service in Britain, with specific reference to the workload of RAF Valley situated in Anglesey, North Wales. RAF Valley is situated in an area which attracts many tourists on account of the close proximity of mountains, beaches and sea. Detailed information obtained reveals the extent of the Search and Rescue helicopters' workload and illustrates the crews' capabilities while working in various adverse environments. Epidemiological factors are identified from aircrew log books and Ministry of Defence records kept over the last decade. Patient survival and mortality rates are discussed, as are the shortcomings of the data analysed. Some of the limitation of rotary wing flight for this role are noted and compared with the findings of others. Evidence of the usefulness of this service to the civilian community is presented and the history and current use of helicopters for aeromedical evacuation is discussed, in the light of current interest and debate. The Royal Air Force is shown to provide a unique service for emergency prehospital care and patient transfer in Britain.

13.

Plant and fungal enquiries to the Welsh National Poisons Unit: a five year review

A McCulloch, R Evans, M McCabe & P Routledge
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The aim of the study was to identify the number and type of poisoning episodes with plants and fungi reported to the Welsh National Poisons Unit at Cardiff in order to provide Accident & Emergency Departments with a booklet to enable visual identification and treatment of the commonly ingested plants and fungi. Details of enquiries concerning plant and fungal ingestions to the Welsh National Poisons Unit database were analysed from the beginning of 1986 to the end of 1990. 22,024 enquiries were received during the 5 year period of which 1262 (6%) related to plants and fungi. 1075 (85%) of these calls concerned children under the age of 15 years. Berries (436, 35%), then fungi (222, 18%), then stems/leaves (198, 16%) and finally seeds (189, 15%) were the most frequently specified parts of the plants or fungi ingested. Ingestion of plants and fungi is not uncommon and constitute 6% of calls to the Welsh National Poisons Unit. The 16 most frequently recorded enquiries concerning plants and fungi ingestions constituted 761 (60%) of the total. Details of the description, toxicity, symptoms and management of these 16 are incorporated in the booklet.
14. Activity holidays in Wales: a report from the Safety in Leisure Research Unit

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This study identified 1,178 centres offering Activity Holidays in Wales. 29% offered multiple activities ranging from craft to hang-gliding and parachuting. 74% of centres kept records of all accidents whereas the other 26% only kept records of those which required first aid treatment. There was no centre which only recorded serious accidents requiring hospital attention. Injuries to the limbs predominated but in the group requiring hospital treatment there was a 21% incidence of head injury. 29% of the most serious injuries were sustained in the guests' free time. The most hazardous physical activity was horse-riding which caused 18% of accidents. Some operators kept records of near-misses when golf, horse-riding and ball games were the main offenders, each causing 18% of the potential accidents. Only 36% of centres had first aid rooms but 45% did not require their staff to have any qualification in first aid. The most popular qualification cited was the St John's First Aid Certificate. 40% of centres were unaware of any infections or diseases which could be contracted through their activities. Only ten centres were aware of specific dangers such as tetanus, Weil's disease or water pollution. Better training of staff and more first aid equipment are needed. The Wales Tourist Board will refuse to promote centres which do not meet safety standards.

15. Comparison of patient acceptability of Fucidic Acid viscous eye drops and Chloramphenicol eye drops in acute conjunctivitis

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The aim of this study was to compare the acceptability of Fucidic Acid viscous eye drops and Chloramphenicol eye drops in acute conjunctivitis. 41 patients presenting to an A & E Department with acute conjunctivitis in a cross over trial whereby patients were prescribed 2 days of Fucidic Acid followed by 2 days of Chloramphenicol or 2 days of Chloramphenicol followed by 2 days of Fucidic Acid. All patients were assessed on the fifth day. 27 patients stated the Fucidic Acid was easier to apply and 29 patients stated that compliance was easier. One patient complained of pain on application of Fucidic Acid whilst five patients complained of pain on application of Chloramphenicol drops. 28 patients expressed a preference for the Fucidic Acid as opposed to the Chloramphenicol drops. It is concluded that Fucidic Acid was more acceptable to the patients and caused fewer adverse reactions when compared to Chloramphenicol eye drops with no difference in efficacy.
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16. **Implications of audit for clinical practice: adolescent self harm patients revisited**

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In a previous audit it was found that many adolescent self harm patients attending the A & E Department were discharged following inadequate assessment by the A & E doctor. Efforts were made to increase awareness in the A & E Department about the existing policy regarding these patients. Discussion between the A & E doctors and the Child Psychiatry service was encouraged and access to the Child Psychiatrist was improved. There was teaching input from the Child Psychiatry Department into the SHO teaching programme. Finally, a checklist which predicts risk of repetition was used as a complement to clinical assessment. A & E doctors were encouraged to use this as a basis for discussion with the Child Psychiatrist. Over a one year period, patients aged between 9 and 19 years were identified who had attended the A & E Department following an episode of deliberate self harm. The sex ratio was 4:1 female:male. Disposal pattern had altered since the original survey with nearly a three fold increase in the number offered follow up or further assessment. Communication with the Child Psychiatric service had increased with telephone consultation in 111 cases and 43 patients seen in the A & E Department. A change is shown in the referral pattern following assessment by the A & E doctor for adolescent self harm patients who attend the department. Quality of assessment in general had improved, reflecting an increase in the referral pattern. This increased the workload of the Child Psychiatric service, particularly telephone discussion with urgent out-patient consultations within 24 hours. Finally, the Child Psychiatrists found the checklist a useful focus for discussion and have requested its continued use in the A & E Department.

17. **Accidents and the Wheeled Bin Refuse Collection System (or more rubbish from Derby)**

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The wheeled bin refuse system was introduced in Derby in 1988. This refuse bin is two and a half times the size of a normal bin. The householder wheels the bin to the edge of the property and the refuse collector wheels the bin to the dust cart. The bin is clipped onto a hydraulic hoist and emptied mechanically. 29 patients attended the A & E Department of the Derbyshire Royal Infirmary with injuries suffered whilst using wheeled bins. 9 refuse collectors attributed their injuries to the refuse bin being too heavy. Another 8 injuries to refuse collectors happened when the heavy refuse bin fell from the dust cart. 9 of the 12 householders injured were female. 8 householders were injured moving a bin and 6 of the 8 were female. 7 of these 8 injuries happened whilst the patient was walking backwards pulling a bin behind them. Usually either the bin ran over a foot or the arm was crushed against a wall or the bin fell back onto them. The two most severe injuries were four fractured transverse lumbar vertebrae and a Colles' fracture. The height and weight were recorded of all the 8 householders injured whilst moving a bin. All but one were of small stature. 100 wheeled bins were weighed just prior to the arrival of the refuse collectors. The lightest bin weighed just under 25 kilograms and the heaviest was over 115 kilograms. During an eight month period 11 householders and only 5 refuse collectors were seen, suggesting that the injuries to householders were more frequent. This poster makes recommendations for reducing the number of injuries resulting from the wheeled bin refuse collection system.
18. The epidemiology of urban accidental injury: do adults and children differ?

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A study was undertaken in the A & E Department of the Royal Victoria Hospital, Newcastle upon Tyne, to identify similarities and differences in the injury profile between children (0-15 years) and adults (16-75 years). The subjects were 300 children and 300 adults randomly selected from patients attending the A & E Department between the 1 January and the 31 March 1990. Information was collected relating to demographic features, attendance factors and clinical details. Each patient was assigned an Injury Severity Score using the AIS (1985) dictionary to enable objective assessment of injury severity. The range of ISS was similar between the two age groups. A greater proportion of children underwent x-rays and were admitted to hospital. It is concluded that the spectra of injury severity are similar in the two age groups as measured by ISS. Higher admission and investigation rates were not a reflection of injury severity but more of “selection factors” such as the examining doctor and the age of the child.

19. Local anaesthetic is contra-indicated for the application of staples to uncomplicated scalp wounds

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In a prospective study, patients attending the Accident & Emergency Department of the Meath Hospital with scalp wounds considered suitable for stapling were randomly allocated to one of two groups. Group I were those stapled with local anaesthetic and Group II those stapled without local anaesthetic. There were twenty patients in each group. The groups were similar for aetiology and age. Any patient with analgesia and alcohol ingestion or open skull fracture was excluded. All wounds were closed using an automatic skin stapler. Patients were reviewed at approximately one week for removal of their staples. There were no complications in either group. The results showed that the mean pain response in Group I was consistently greater than that for Group II. It is concluded that local anaesthetic for the application of staples to uncomplicated scalp wounds is unnecessary and is in fact contra-indicated.