coress

A confidential reporting system for surgery

2005 - 2015

CORESS

10th ANNIVERSARY SUPPLEMENT

CORESS IS TEN YEARS OLD!

On Monday 9th May 2005, in the Association's Moynihan Room, the inaugural meeting took place of a 'Steering Group' formed to consider whether surgery in the UK and Ireland could develop a confidential reporting system to mirror that of the Confidential Human Factors Incident Reporting Programme (CHIRP) for aviation and the Confidential Hazardous Incident Reporting Programme for the maritime industries.

A wide-ranging representative group from across all surgical disciplines had been brought together by the vision and enthusiasm of Denis Wilkins the, then, Vice President of ASGBI, who had already come up with a proposed name - '***Confidential Reporting System in Surgery (CORESS)***' - which was to stick.

The embryonic CORESS Steering Group noted that the CHIRP Programme had the following features:

- That CHIRP was complementary to other reporting systems within aviation.
- That it was successful.
- That one of its purposes was to facilitate the reporting of safety related information by individuals directly involved with operating the system.
- That it permitted errors/deficiencies/near misses to be recorded without attachment of blame, and that in turn this provided a mechanism for non-attributable safety information to be fed back to individuals and organisations.
- That the reporter's identity was totally confidential; only the information and subsequent learning was promulgated.
- That CHIRP had an Advisory Board, which reviewed reports, provided advice on action to be taken, reviewed final drafts, reviewed information disseminated to management groups and provided feedback to the Trustees on the effectiveness of the Programme.

It was agreed that such a process could be replicated within surgery, and that CORESS should be formed, by ASGBI, with the following purposes:

- To contribute to patient safety by the Education of Surgeons and their teams.
- To complement other safety systems in the health service.
- In due course, to construct a database that will help to inform quality, training, risk and human factors.

The Steering Group agreed that these were worthy aims, and that the power of any such confidential reporting system would be in its adoption by all associations and societies across all surgical specialties. Thus, CORESS was formed and, in 2015, is thus celebrating its tenth anniversary.

The last ten years have seen CORESS come of age. CORESS is now a recognised independent charity, introduced by NHS Medical Director, Sir Bruce Keogh, at its inauguration at the House of Lords in 2010. Since then, Mr Denis Wilkins has continued to contribute significantly to advancing the cause of surgical safety, and other key figures in CORESS's development include Mr Adam Lewis, the first Programme Director, who devised the original format of CORESS reports as bite-sized vignettes, edited into a readable and consistent style, and Mr Peter Tait, past-Chief Executive of CHIRP, who has been a source of invaluable advice on aspects of confidential reporting. Viscount (Robin) Bridgeman, the founding Chairman of the Board of Trustees, ensured that the fledgling programme had credibility and exposure from the start. Viscount Bridgeman also ensured that a new word, "disidentified", coined by CORESS to explain the process of editing out any information which could reveal the patient, clinician or Trust, was quoted in The House of Lords and recorded in ***Hansard***!

Also, our sincere thanks are due to the members of the Board of Trustees and Advisory Committee (listed below), who provide their time and expertise to ensure that reports are comprehensively reviewed and whose commentary ensures that the lessons to be learned from individual events are credible and authoritative. Nick Gair and the ASGBI office team continue to provide efficient administration support on a shoestring budget, and we are eternally grateful to the Association's President and Executive Board of Directors for their continued support.

Recognition of CORESS's significant role in contributing to surgical safety in the UK is evidenced by involvement of the organisation in safety initiatives such as NHS England's Surgical Patient Safety Expert Group; the Never Events Task Force Report 2014; NHS England National Safety Standards for Invasive Procedures (NatSSIPs); The Royal College of Surgeons of England Patient Safety Bulletin; and the written evidence submitted by ASGBI and CORESS, to the Parliamentary Public Administration Select Committee: NHS Complaints and Clinical Failure in Hospitals Inquiry, which is reproduced later in this edition of ***JASGBI***.

Trends in submitted reports reflect changes in surgical practice in the UK. Perennial concerns persist with respect, for instance, to checking drugs used in surgical

procedures, kit failures, situational awareness and diathermy problems. Evolution of surgical techniques has resulted in increasing numbers of reports reflecting problems in minimally invasive procedures.

Perhaps the most worrying emerging theme however, is adverse incidents arising out of communication failures, as shift systems, poor handovers in ever larger surgical units, and failure of individual surgeons to take responsibility for continuity of patients' care, take their toll. This aspect of patient safety requires constant vigilance and lessons learned from reported incidents need to be widely disseminated. However, as CORESS enters the next ten years, when we hope to see fewer reported adverse events, we anticipate that the importance of senior decision-making earlier in the patients care should become the norm.

Our final thanks go to the reporters, those clinicians who take time to send a report to CORESS, however brief, ensuring that their experience of a near miss or adverse incident may help another surgeon to avoid a similar situation in the future. Over 200 feedback reports have been published in the literature since 2005, and, in this respect, we are delighted that this '10th Anniversary Supplement' contains a bumper edition of reports!

Lord Ribeiro, CBE
Chairman
and
Professor Frank C T Smith
CORESS Programme Director

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In Attendance:
Professor Frank C T Smith
Programme Director, CORESS

ASGBI
Association of Surgeons of Great Britain and Ireland

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Confidential Reporting System in Surgery

Written evidence submitted, by the Association of Surgeons of Great Britain and Ireland (ASGBI) and the Confidential Reporting System for Surgery (CORESS), to the Public Administration Select Committee:

NHS COMPLAINTS AND CLINICAL FAILURE IN HOSPITALS INQUIRY

1. Executive Summary

The Association feels that:

- At present there is little in the way of an effective mechanism for systematic learning from serious medical accidents.
- There is a clear need for an effective system which will identify the learning contained in serious medical accidents and use this to bring about change.
- Practices in aviation are similar to those in medicine, and particularly within surgery, to the extent that many of the principles incorporated by aviation could be readily applied to medical practice and would bring about change in the long term.
- That the institution of an investigating body equivalent to the Air Accident Investigation Branch (AAIB) of the Department of Transport would be a major step forward in remedying this deficiency.
- That sporadic enquiries in response to major failures, such as Coroners' Courts, the Bristol Heart Unit and Mid Staffs, although valuable, are an inefficient and traumatic way of bringing about the steady incremental improvement in safety and quality that are the hallmark of properly functioning institutions.
- That the NHS should encourage and support the initiatives of professional independent bodies such as CORESS which have demonstrated their effectiveness in obtaining and disseminating significant learning from precursor events over and above that obtained by statutory bodies.

2. Introduction to ASGBI

2.1 The Association of Surgeons of Great Britain and Ireland is the Speciality Advisory Committee (SAC) defined specialty association for General Surgery, recognised as such by the GMC, the NHS and the Department of Health. ASGBI's umbrella status for the general surgical specialty associations and societies is reflected in the structure of its Council and Committees. The Presidents, or their designated representatives, of the following societies are full members of Council:

- Association of Breast Surgery
- Association of Coloproctology of Great Britain and Ireland
- Association of Laparoscopic Surgeons
- 8 of Upper Gastrointestinal Surgeons of Great Britain and Ireland
- British Association of Endocrine and Thyroid Surgeons
- British Transplantation Society
- Society of Academic and Research Surgery
- Association of Trauma & Military Surgery
- British Hernia Society
- British Association of Day Surgery
- Association of Surgeons in Primary Care

Additionally, Council includes representation from:

- Association of Surgeons in Training
- UEMS Monospecialist Committee in General Surgery

ASGBI is, therefore, the only organisation covering General Surgery and all the specialties throughout the UK and Ireland. We are best placed to reconcile the needs of the developing specialities with the requirement to provide an emergency surgical service.

2.2 At present ASGBI has 1,680 members, all practicing clinicians. We communicate regularly with our membership and produce publications including a quarterly journal (JASGBI) and booklets in our *Issues in Professional Practice* series. These publications are edited by our Chief Executive and Executive Board and recommend best practice relating to a defined surgical or governance issue.

ASGBI runs one International Surgical Congress in the UK per year, as well as a number of Consensus Conferences relating to issues of current concern to

the surgical community.
Details about our work and organisation, including an archive of our publications, can be found at our website: www.asgbi.org.uk

3. Introduction to CORESS

3.1 The Confidential Reporting System for Surgery (CORESS) is an independent charity, founded by ASGBI, which aims to promote safety in surgical practice in the NHS and the private sector. The charity receives confidential incident reports from surgeons and theatre staff. These confidential reports are analysed by the CORESS Advisory Committee, who make comments and extract lessons from these events. CORESS then publishes these reports alongside the Advisory Committees' safety lessons in the surgical literature to educate fellow surgeons, and to reduce the chances of a similar incident re-occurring in another theatre. CORESS disseminates this information to all interested parties including, where relevant, administration staff, manufacturers, packaging companies, etc.

- CORESS aims to educate, rather than blame, and it serves all surgical disciplines. Some of its key features are:
- Analysing safety-related reports which would not otherwise be available.
- At all times keeping the identity of the reporter confidential.
- Publishing reports widely in surgical literature to educate surgeons and other theatre staff.
- Hosting training courses on safer surgical practice and human factors.

3.2 CORESS has been in existence for ten years and was developed by the then President of ASGBI Mr Denis Wilkins, along with other interested parties. ASGBI continues to be involved in the work of CORESS and the Chief Executive Professor Nicholas Gair sits on both the Board of Trustees and the Advisory Committee.

More information on our Trustees and Advisory Committee, including published 'CORESS Feedback' can be found on our website: www.coress.org.uk/index.htm

4. Reason for Submitting Evidence

4.1 ASGBI and CORESS feel that there is a lack of an adequate system for learning from medical mistakes and effecting change efficiently on a local and national level. We deal with events relating to surgery in a way which we feel would make sense on a larger scale for all medical practice.

5. Submission

5.1 Notification of the request for input was brought to our attention only on the 14th January 2015 i.e. 2 days before the deadline. This response should be seen in that context. If further detail is required we would be happy to provide it.

5.2 The Association is delighted that the Committee is taking the initiative in the matter of learning from error and medical failure and grateful for the opportunity to contribute to its deliberations. The ASGBI has been active in seeking ways to mitigate and learn from surgical error for many years. Its representatives have contributed to many of the professional and regulatory bodies that are focused upon safety and quality issues. These include the Clinical Human Factors Group, NCEPOD, NRLS, SASM and the Patient Safety Committees led by the Surgical Royal Colleges. It has also contributed to enquiries such as the House of Commons Health Committee investigation into Patient Safety 2008-09.

5.3 In 2005 it developed a successful independent reporting and learning system – the Confidential Reporting System for Surgery (CORESS), which now encompasses all the surgical specialties including Ophthalmology.

5.4 It is acknowledged that the NHS has made great strides in the way it collects evidence of medical failing. Trusts have developed well-established mechanisms that include mandatory incident reporting systems. The National Reporting and Learning System (NRLS) of the NPSA has provided a valuable portal through which much in the way of safety related data can be collected and analysed. It appears to CORESS and the Association that the big deficit is the lack of an effective mechanism through which the information gained from such reports can be used systematically to bring about change.

5.5 The Association feels that it is unlikely that a single overarching body can encompass all aspects of learning from medical mishap and failure. For sound reasons, parallels are often drawn between practices in aviation and surgery. The profiles of both – particularly when considering commercial aviation - are uncannily similar. Both require lengthy

and demanding training; the acquisition and maintenance of a complex knowledge base; high order psychomotor skills; a highly professional approach to the discharge of responsibilities; excellent interpersonal/leadership (team) skills and the ability to exercise sound judgement under pressure. Aviation has found it expedient to develop, under the auspices of a single overarching regulator, groups that provide focus on different areas of practice and safety issues. For example, the 'Air Prox' group that analyses collision incidents and risks.

5.6 Often in the face of competing pressures, the commercial pilot must, for example, give absolute priority to passenger safety; a surgeon or physician is required to do the same for his/her patients. Where the two disciplines differ is in the level of uncertainty as to how a patient will react in a given situation. Patients are far less predictable and the working parameters less well defined than for aviation. Nonetheless the similarities between the two professions and the demands placed upon their practitioners are remarkably similar.

5.7 If these similarities are accepted, the question arises as to why the lessons learned and applied in aviation have not been assimilated into medicine to a far greater degree than is presently the case? The answer is that almost from its birth the imperatives set by public outcry and commercial interests have obliged aviation to find and apply effective solutions to catastrophic failures. As a result, commercial flying has become one of the safest, most reliable and cost effective forms of transport across the Globe.

5.8 There are notable initiatives that have demonstrated how aviation practices can be successfully translated into surgical and other areas of clinical practice. The Advanced Trauma and Life Support course was designed by a pilot and has become a mandatory component of postgraduate training in the UK. The World Health Authority (WHO) surgical checklist is a direct copy of the routine flight preparation checklist. The recently introduced re-validation of competence required for continuing practice is also developed from the process of relicensing required for all pilots.

5.9 In retrospect it can be seen that the key organisational change in aviation over the past century has been the evolution of a culture that places passenger safety as the absolute consideration to be applied across all parts of the complex process that is required to deliver safe travel. These include training, engineering, regulation, systems design, air traffic control procedures and flight operations. Overall it is fair to say that having insights into both disciplines and the approaches to safety in each, the Association has been frustrated at the lack of progress being made in surgery – and other medical disciplines - towards identifying and applying the learning from error and its precursors.

5.10 The Association recognises the enormity of the task and respectfully suggests to the PHSO that, as for aviation it will take time, but that it will not be achieved without:

- An independent regulator of the NHS, equivalent to the Civil Aviation Authority (CAA) in the UK and similar bodies elsewhere. This ensures a clear separation of the regulator from the providers.
- A specific body residing within the regulator that is responsible for Patient Safety.
- The input of a number of authoritative, professionally independent bodies, which are competent to analyse error and its precursors; formulate appropriate recommendations and place these into the public domain where they can be used by all concerned and exert maximum influence in bringing about change. We agree absolutely with others, including MaCrae and Vincent in their article in the Journal of the RSM, that the institution of a medical equivalent to the Air Accident Investigation Branch (AAIB) of the Department of Transport, led by a Chief Inspector of Medical Accidents, would be the most important innovation. Others might include the equivalent of the 'Air Prox' Board of the CAA. At present, no such equivalent bodies exist in the NHS.

5.11 It is useful to illustrate the point by including the description provided by the Civil Aviation Authority of its role:

"The Civil Aviation Authority is a public corporation and independent regulator whose work is focused on:
Enhancing aviation safety performance by

pursuing targeted and continuous improvements in systems, culture, processes and capability.

- *Improving choice and value for aviation consumers now and in the future by promoting competitive markets, contributing to consumers' ability to make informed decisions and protecting them where appropriate.*
- *Improving environmental performance through more efficient use of airspace and make an efficient contribution to reducing the aviation industry's environmental impacts.*
- *Ensuring that the CAA is an efficient and effective organisation which meets Better Regulation principles."*

5.12 The Air Accident Investigation Branch (AAIB) of the Board of Transport: Arguably this body and its direct equivalents in Australia and in the USA have done more to enhance safety and bring about system change than any other innovation. It can trace its origins back to the appointment of a Captain Cockburn as the first Investigator of Accidents in the Royal Flying Corps (RFC) and since then it has evolved to its present format.

- There are a number of notable principles incorporated into the way in which the AAIB is set up and operates:
- Its location away from the regulator ensures a suitable degree of independence, which has proved important when it has been necessary to criticise aspects of regulation.
- Its investigators and leaders are current, practicing professionals within the industry, masters of their discipline and selected for their ability to bring a forensic discipline to the investigation of accidents.
- Its investigators have broad ranging powers of investigation that include having overall charge of the incident site and material.
- The continuity of its operation, its experience and the expertise it has built up over the years have proved an outstanding resource.
- Its reports provide the basis for interested parties such as the Regulator, Coroners, Police and others, thereby circumventing the need for separate enquiries by different bodies.

APPENDIX 1

Letter published in the British Medical Journal, February 2011

UK Surgery is already applying aviation practice to improve patient safety

Denis C Wilkins
Trustee, Confidential reporting System in Surgery -CORESS

Dear Sir,

Your correspondents (BMJ Jan 22nd; 342 198-9) appear to be unaware of another example of a system developed by aviation and now adopted by the surgical community. This is the Confidential Reporting System in Surgery (CORESS); the surgical equivalent of the well-established Confidential Human Factors Incident Reporting Programme (CHIRP) in aviation.

Often the only person who recognises a near miss or minor mishap is the one involved. These no-harm incidents or precursors are the vital early warning signs of impending catastrophe (1). It is essential that they are reported and the lessons disseminated and used. If the process of reporting is difficult or there is any concern that confidentiality could be breached with adverse consequences for those concerned, the reporting rate will be low. This was well demonstrated in the US. In 1975 the Federal Aviation Administration introduced the first confidential reporting scheme for aviation; the scheme received very few reports in the first year and led to the management of the programme being transferred to NASA, which was demonstrably independent of the aviation regulator and perceived as an 'honest broker'.

CORESS is independent of the health services. It uses the CHIRP aviation system to operate a portal http://www.coress.org.uk/ through which colleagues and their teams can report secure in the knowledge that the material will be objectively analysed and the lessons disseminated to the surgical community without risk to the reporter or team. The discretion to feed through to the NPSA, information on trends, major hazards and alerts without compromising confidentiality and the trust of its reporters is retained.

We agree that the profession needs to be much more receptive to other areas of aviation practice which have provided answers to challenges not dissimilar to those faced by medicine. Perhaps there is a place for a similar system to CORESS in the medical specialties, for example to do with prescribing error. Outcomes based training has long been the norm in aviation but remains under developed

in medicine. The impact of Human Factors on most aspects of practice has long been recognised in aviation circles but is woefully under recognised by our Health Services, and in our view an independent Medical Accident Investigation Unit operating along the same lines as the superb Air Accident Investigation Agency, could do much to improve our learning from major medical accidents.

Yours faithfully,

Adam Lewis, CORESS Board Member

Frank Smith, CORESS Programme Director and Consultant Surgeon

Peter Tait, Chief Executive, CHIRP & CORESS Board Member

Denis Wilkins, CORESS Board Member

References

(1) Bird Frank E., Germain George L., Loss Control Management: Practical Loss Control Leadership, Revised Edition, Det Norske Veritas (U.S.A.), Inc, Figure 1-3, pp. 5, 1996

APPENDIX 2

Executive Summary of the CORESS *Issues in Professional Practice Publication* (2015) Surgical Quality Assurance (Morbidity and Mortality) Meetings

1. The Inquiry into the problems at the Mid-Staffordshire Hospital demonstrated how the disengagement of clinicians from matters of Clinical Governance and Quality of Care can lead to a catastrophic drop in standards.
2. The Association of Surgeons of Great Britain and Ireland (ASGBI) works with the Surgical Royal Colleges to advise on standards and is concerned to see that long-term solutions to these problems are developed.
3. The Confidential Reporting System in Surgery (CORESS) works independently with a number of specialties to collect cases of surgical mishap and near misses, analyse the causes, and publish regular feedback for the wider surgical community.
4. It became apparent to the two organisations that a better 'grip' by clinical teams on issues of Quality and Safety would be helpful. It had also become clear that the traditional Departmental Morbidity and Mortality Meeting (M & M) is ideally placed to facilitate any changes.
5. This Guide explains how Surgical Departments and their parent Trust hospitals can expand the purposes of the traditional surgical M & M Meeting, to provide a more systematic, timely and comprehensive evaluation of the quality of care being delivered.
6. The Guide makes the following recommendations:
   a. That the Meetings are a fixed commitment and include an expanded range of Quality Indicators relevant to the clinical care, which members deliver.
   b. A Chair is appointed for a fixed period of 1–3 years.
   c. The Role of the Chair includes:
      i. Oversight of preparations;
      ii. Leadership of the Meetings;
      iii. Framing appropriate outcomes and learning points and ensuring that they are disseminated appropriately.
   d. An Administrative Assistant is appointed to collect data and support the Chair and the Meetings.
   e. A comprehensive range of Quality Indicators, in addition to Mortality and Morbidity, are considered during each Meeting cycle. These include incidents, near misses, low harm events, 'Never Events', patient feedback, clinical audit figures for the surgical teams within the Department, etc.
   f. Case presentations should conform to a standard framework – SBAR is recommended.
   g. Learning, outcomes and recommendations from the Meetings should be used for Quality Improvement within the Department and, where appropriate, disseminated via Trust Patient Safety Committees within the Trust.
   h. Time is built into job descriptions by the Trust for the duties of Chair, Administrative Assistant and those required to attend the meetings.
   i. That the title of the Meetings should reflect the enhanced role of the process. 'Surgical Quality Assurance (SQA) Meetings' is suggested.
7. The Guide offers practical advice on how to approach the transition from M & M to Quality Assurance Meetings and also how practical problems during implementation may be addressed.
8. It is hoped that the adoption of these recommendations will help to provide significant improvements in surgical care during the long term. The development of an effective Departmental Quality Assurance and Improvement Platform is seen as an essential prerequisite for monitoring standards, distilling the learning from experience, and using such to bring about evidence-based change where necessary.

CORESS Feedback

The cases described in this issue of ***Feedback*** emphasise recurrent themes in confidential reporting. Attention is drawn again to the risks of inadvertent diathermy activation. Lack of communication underpins the adverse events recounted in three disparate cases. A case contributed by the ophthalmologists underlines the theme of prevention of retained foreign objects, common to all surgical specialties.

We are grateful to those who have provided the material for these reports. The on-line reporting form is on our website www.coress.org.uk which also includes previous ***Feedback Reports***. Published cases will be acknowledged by a "**Certificate of Contribution**", which may be included in the contributor's record of continuing professional development.

Frank C T Smith
Programme Director, on behalf of the CORESS Advisory Board

LAC OF 'VAC'

(Ref: 185)

A long-stay, complex patient, with a chronic perineal wound being treated with negative pressure dressings, was placed on the emergency list for dressing change, since the patient was unable to tolerate dressing changes on the ward. Higher priority emergencies and reluctance by staff (surgical as well as anaesthetic) to undertake "non-life or limb-saving surgery" in the middle of the night resulted in the patient being deferred for more than two days. It had not been appreciated by the teams involved that a sponge dressing was in-situ without negative pressure being applied, nor had the significance of this been realised. By the time the patient was brought to theatre, there had been deterioration with formation of a large amount of pus. The wound cavity was much more friable and haemorrhagic than previously (whereas it had been slowly improving). As such it was not safe to replace the dressing with negative pressure. This significantly set back the patient's progress.

Reporters Comments:
There was failure to recognise that a negative pressure dressing should not be left without suction for any significant time (let alone two days). Use of the emergency list for patients requiring regular dressing changes may not be appropriate, but is commonplace. There is a need for an alternative to the emergency list for complex patients requiring predictable, regular returns to theatre.

CORESS Comments:
Vacuum dressings are useful in management of open wounds producing large quantities of fluid, but may require specialised management and equipment. Some complex cases may need dressing changes in the theatre environment, particularly if debridement or sedation is necessary. When undertaken in theatre, these cases should be included in an elective schedule rather than on an ad hoc emergency list. Team working practices, in which space is left on a list for urgent ward-based cases, may facilitate this. Good communication at handover between shifts should ensure that a patient's clinical priorities are recognised by the incoming team.

INADVERTENT DIATHERMY ACTIVATION… AGAIN!! *(Ref: 176)*

During an emergency laparotomy, the finger-switch diathermy (which had previously been working normally) stopped working. We checked the lead, connection and machine, and I was told the equipment was functioning correctly. The Mayo operating table partially obscured my view of the diathermy machine. Whilst the circulating nurse fetched another lead, I picked up and used the foot pedal-operated diathermy forceps. It was immediately apparent, on tissue contact, that the forceps were active, even without the foot pedal being depressed. The yellow cutting diathermy pedal had been placed on the base of the operating table. Ten minutes earlier I had asked for the table to be lowered, and the yellow pedal had been compressed between two table components. The volume on the diathermy machine had been turned down to the lowest setting, so no warning signal was audible. Fortunately, the forceps had been in the sheath and not on the drapes or on the patient's skin, and the patient did not come to any harm.

Reporters Comments:
The yellow cutting diathermy pedal is rarely used in my experience and is often placed out of the way to avoid accidental deployment. In this case it was inadvertently depressed and activated when the table was lowered. The diathermy warning volume had been turned down to zero. It was not noticed on the display that the cutting diathermy had been activated.

CORESS Comments:
This is a perennial problem (See CORESS cases 149 & 161, December 2013). Almost all surgeons on the CORESS Advisory Board, across the range of surgical specialties, had been involved in similar incidents. Education about the risks of diathermy is a fundamental component of surgical training and is taught in the Basic Surgical Skills Course and included in the ISCP curriculum.

When not in use, the diathermy pedals should be kept well out of the way of the operating surgeon and not placed above or below the foot of the operating table. The diathermy alarm is there for a purpose and any activation-warning alarm should not be turned off or set to an inaudible level. CORESS has queried the need for an "alarm-off mode". Never leave diathermy forceps lying on a patient, and always place in a protective sheath when not in use to avoid inadvertent harm to the patient.

MHRA have developed an educational module on electrosurgery, jointly with the Royal College of Surgeons of England. This useful tool can be found at:

http://www.mhra.gov.uk/ConferencesLearningCentre/LearningCentre/Deviceslearningmodules/Electrosurgery/index.htm

RETAINED FOREIGN OBJECTS IN OPHTHALMIC SURGERY *(Ref: 177)*

A 68 year-old patient underwent trabeculectomy, under local anaesthesia, undertaken by an experienced glaucoma surgeon. Sponges soaked in antimetabolite were placed under the conjunctival flap (into the space between Ténon's capsule and the sclera) for three minutes, as per standard practice. At the end of the three minutes, two of the five pieces of sponge could not be retrieved - it was assumed that they had migrated backwards between Ténon's capsule and the sclera. Repeated attempts at removal eventually resulted in significant orbital hemorrhage. The sponges were eventually removed by an orbital surgeon under general anaesthesia: one was found behind the macula, and the other had migrated to the tendon sheath of one of the rectus muscles. Thankfully, no harm came to the patient's vision.

Reporters & CORESS Comments:
The capsule of Ténon (bulbar sheath) is a thin membrane which envelops the eyeball from the optic nerve to the limbus, separating it from the orbital fat. Local anaesthetic may be instilled into the space between Tenon's capsule and the sclera to provide anaesthesia for eye surgery. A sponge or other item inserted into this space can potentially migrate within the space, to any location beneath the membrane. Standard practice was to insert sponges into the sub-Tenon's space, with no failsafe method of retrieving them. Attempted retrieval (e.g. with forceps) may inadvertently push the sponges deeper.

This problem can be prevented by threading sponges onto a suture (6/0 or 5/0 nylon) beforehand and tying it in a loop, analogous to a necklace. This makes surgery quicker as well as safer. Sponges can still potentially come off the necklace, so they must be counted in and out of the eye. Reconciliation of a swab count is essential in all surgical fields to reduce risk of patient harm.

COMMUNICATION FAILURE COMPOUNDING INAPPROPRIATE DEVICE USE

(Ref: 145)

A 77 year-old man underwent open repair of a 6.5cm infrarenal abdominal aortic aneurysm. Surgery was uneventful; the inferior mesenteric artery was oversewn at the aneurysm sac and a Dacron® bifurcated graft was inlaid to the iliac artery bifurcation on each side. On completion of surgery, the bowel appeared pink and the patient was transferred to the ITU. However, 72 hours after surgery the patient was unwell with elevated CRP and WCC. No other source of sepsis could be identified and a flexible sigmoidoscopy suggested distal colonic ischaemia. The patient returned to theatre for re-look laparotomy where it was found that the distal descending and sigmoid colon had infarcted. A Hartmann's procedure was undertaken, resecting ischaemic bowel, stapling the rectal stump and bringing out proximal descending colon as an end-colostomy in the left iliac fossa. The patient returned to the ITU.

Despite resuscitation, the patient continued to deteriorate and abdominal ultrasound suggested the presence of a pelvic abscess. 72 hours after the second laparotomy the patient returned to theatre for a third time where it was noted that ITU staff had inappropriately employed a faecal management system consisting of a large bore catheter with a sealing 45ml balloon, inserted into the rectal stump. No formal protocol for use of this device had been consulted, and product literature indicated that the device should only be used for bedridden or immobilized, incontinent patients with liquid or semi-liquid stool, to divert faecal matter, protecting wounds from faecal contamination and to reduce risk of skin breakdown and spread of infection.

At the second re-look laparotomy it was found the rectal stump had been disrupted and was communicating with the abscess, which was drained. Since small bowel was adherent to the abscess cavity, requiring extensive mobilisation, and there was now apparent ischaemia of the end-colostomy, the remaining colon was resected, an end-ileostomy fashioned and the rectal stump debrided and re-closed with sutures. The patient returned to the ITU where he made a prolonged and stormy recovery.

Reporters Comments:

Left colonic ischaemia is a recognised complication of aortic aneurysm repair in which the inferior mesenteric artery is usually oversewn. This may occur where the marginal communicating branch of the left colic artery "the wandering artery of Drummond", which forms an anastomosis between the superior and inferior mesenteric arteries is inadequate or diseased. If ischaemia of the left colon is recognised at the time of surgery, the inferior mesenteric artery origin may be inlaid into the aortic graft. Frequently, however, the colon appears normal on completion of surgery. Failure of a patient to thrive postoperatively should always give rise to concern over the possibility of colonic ischaemia.

Inappropriate use of the faecal management system and balloon promoted further ischaemia and disruption of the rectal stump. ITU staff did not liaise with the surgical team and appeared unaware of the nature of the second surgical procedure. No protocol or guidelines were in existence concerning use of the catheter-based system. Product guidelines specifically advise against use in cases of rectal injury. Excessive faeculent discharge would not be expected from a rectal stump. Use of similar systems should only take place in accordance with product instructions and with recognition of potential complications arising from use.

CORESS Comments:

The Advisory Committee agreed with the reporter's comments. The use of the balloon system was clearly

inappropriate in this case. The responsibility for who looks after the patient admitted to the ITU must be clearly established. No matter which clinician holds overriding responsibility, it is vital that adequate communication takes between all teams involved so that the implications of any management strategy are fully understood. Good communication might have prevented the secondary iatrogenic consequences of this known complication of aneurysm repair.

WATER UNDER THE BRIDGE: MISSED DETERIORATING RENAL FUNCTION

(Ref: 186)

An elderly lady with acute arm ischaemia was referred by the on-call surgical SpR in a peripheral hospital, to the Vascular Consultant in the hospital covering the region's vascular take. He informed the Consultant that the patient was in atrial fibrillation, had COPD and IHD. That she also had chronic renal disease was overlooked in the verbal referral. A contrast CT angiogram was undertaken confirming brachial artery occlusion and the patient was then transferred to the vascular centre, arriving late at night. On arrival, the arm was noted to be viable, blood tests were undertaken and a heparin infusion was commenced. A ward round was undertaken next morning before the blood test results were available. In view of the fact the patient had significant comorbidities but the arm was asymptomatic and viable (although with no radial pulse), it was decided to manage her conservatively. The Consultant then handed the patient over to the new Vascular Consultant on-call for that day by telephone, without information about renal function. It was not recognised until late morning that the patient had poor urine output overnight, becoming anuric after the morning ward round. When nursing staff pointed this out to the surgical SHO, it was recognised that the patient had high serum creatinine and urea, with increasing serum potassium. Attempts were made to manage the patient's acute renal failure, but she deteriorated rapidly and died within 24 hours from a cardiorespiratory arrest.

Reporters Comments:

A series of errors predisposed to an adverse outcome in this case. The salient fact, that the patient had severe kidney disease, was inadvertently neglected by the referring SpR. The consultant requested a contrast CT scan, which probably induced acute-on-chronic renal failure. The patient arrived in hospital late at night and the clinical focus was on the presenting complaint of arm ischaemia such that the patient's renal function was overlooked. On review of the patient the following morning blood tests were not yet available and the surgical team were falsely reassured by the relatively good condition of the arm, missing the poor urine output. In subsequent handover, again, the deteriorating renal function was missed.

CORESS Comments:

When investigations are requested, these should always be followed up at the first opportunity. In a vascular patient for whom a contrast investigation is ordered, confirmation of normal renal function should always be checked prior to administration of contrast. With increasing specialisation within surgery, there is risk of the clinician becoming blinkered, concentrating solely on the specialist aspect of the clinical problem. This is poor medicine. A good doctor will always review the patient in context, remaining alert for likely comorbidities. There is evidence that missed deteriorating renal function in elderly patients is a significant problem within the NHS, particularly at night and during weekends. Surgical teams should remain alert to this possibility.

LATE DIAGNOSIS OF RUPTURED ECTOPIC PREGNANCY

(Ref: 153)

As the general surgery registrar, I was called to the Emergency Department by the on-call orthopaedic Senior House Officer (SHO) covering gynaecology and orthopaedics, to see a 38 year-old woman with a positive pregnancy test and lower abdominal pain. I was told that the patient was haemodynamically stable. The SHO had discussed the patient with the on-call gynaecology consultant who had requested surgical review to rule out appendicitis before seeing the patient.

When I saw the patient at 02.30hrs she was in a side room in the Minors section of the Emergency Department, with a blood pressure of 50/38. She had no IV access and was pale and dizzy, having been admitted at 21.00hrs. Since admission she had experienced lower abdominal pain, distention and a number of syncopal episodes. I immediately transferred her to the resuscitation bay, gained IV access, administered fluids, cross-matched 4 units of blood and inserted a catheter. Her blood pressure transiently recovered to a systolic pressure of 117mmHg before falling to around 70mmHg, with a tachycardia of 90-150 bpm. I contacted the gynaecology SHO and asked him to see the patient and to discuss her with his consultant. The gynaecology consultant eventually attended and obtained consent from the patient for emergency laparotomy, subsequently undertaking a right salpingectomy for ruptured ectopic pregnancy. The patient had 5 litres of blood in her pelvis. Postoperatively she made an uncomplicated recovery.

Reporters Comments:

The covering SHO had not been trained in cross-specialty cover and failed to recognise a critically unwell patient with clinical signs of a classical gynaecological emergency. ED staff also neglected to flag up grossly abnormal observations to other medical staff. Trainees covering specialties other than their own, in an on-call capacity should be given adequate training in advance.

CORESS Comments:

With the introduction of shift systems, inadequate exposure of trainees to emergency cases, and reduced staffing at nights, specialty cross-cover in hospitals may become dysfunctional. The patient in this case presented with classical progressive signs of hypovolaemic shock, and symptoms which should have alerted admitting clinicians to the possible diagnosis of ruptured ectopic pregnancy. A concomitant feature of this report is the element of patient "ping-pong", in which no senior clinician, including Emergency Department staff, appeared to take responsibility for the patient until she had significantly deteriorated. Adequate training and induction for trainees cross-covering other specialties should be provided by Trusts, together with clear mechanisms of expediting senior review for prioritised cases. The Association of Surgeons in Training (ASiT) has published ***Consensus Recommendations on Emergency Cross-Cover of Surgical Specialties*** [1], and reports significant demand for their recently convened courses on cross-cover emergencies, see; www.asit.org/events/courses/ECC

[1] Emergency cross-cover of surgical specialties: Consensus recommendations by the Association of Surgeons in Training

International Journal of Surgery (2013); 11: 584-588

"BEAR TRAP" BITES BACK

(Ref: 182)

A young woman was admitted electively for endoscopy and fitting of an 'over the scope' clip (OTSC) to manage a leaking percutaneous gastrostomy site, under the care of a gastroenterology team. An experienced registrar performed the procedure, and the clip was deployed under direct vision. However, upon trying to remove the endoscope it became stuck, seemingly at the upper oesophagus. The endoscope was advanced into the stomach again and it was noted that the clip had deployed onto the scope rather than in a forward

direction onto the PEG site as intended. A consultant took over the procedure, but was unable to dislodge the clip from the endoscope or to remove the endoscope. A second endoscope was passed and the complication was confirmed. The general surgeon on-call was summoned and performed an upper midline laparotomy to remove the clip. The endoscope could only be removed by cutting the end off with a hacksaw and cutters. The ENT surgeon on-call attended to assess the oesophagus and found a deep laceration in the cricopharyngeus muscle. The oesophageal laceration was managed conservatively and the patient recovered after an extended hospital stay.

Reporters Comments:
This was an equipment malfunction. None of the team had previously encountered this complication before. In using OTSCs for the management of enterocutaneous fistulae, the complication of deployment onto the endoscope can occur.

CORESS Comments:
The OTSC is a clip made of shape-memory nitinol alloy, used to close fistulae, perforations, anastomotic leaks, and to seal bleeding GI tract vessels [1, 2]. The clip is mounted onto a silicone cap (similar to a band ligation device), placed onto the tip of an endoscope, and applied by stretching a wire by means of a hand-wheel installed on the entrance of the endoscopic working channel. When the clip is released from the applicator, it closes because of the "shape-memory" effect and the high elasticity of the nitinol alloy, occluding the defect. This is similar to a "bear-trap" closure mechanism and applies a permanent force to the tissues. During introduction of the scope, migration (retraction) of the hood can occur [1]. The operator should ensure that appropriate deployment and visualisation of the clip has taken place before the endoscope is withdrawn.

[1] Diagnostic and Therapeutic Endoscopy Volume 2013 (2013), Article ID 381873

http://dx.doi.org/10.1155/2013/381873

[2] Gut 2013;62:A145 doi:10.1136/gutjnl-2013-304907.326

DELAYED MANAGEMENT OF ALKALI INGESTION

(Ref: 192)

As the on-call ENT SpR, I was referred a patient who had ingested a small volume of hydrogen peroxide, by the medical SHO on MAU. He rightly requested I perform a flexible nasendoscopy to assess for upper airway oedema or burns. The patient was stable with no voice change or stridor. Examination was reassuringly unremarkable.

On review of her notes, it became clear that she had been admitted to the hospital many hours previously. She drank the bleach at 3.00pm, attended A&E around 4.00pm, was triaged as urgent, but was seen hours later, in minors by an emergency nurse practitioner. Although it was recognised that she needed admitting, the potential seriousness of the situation was not noted. Information from Toxbase suggested Q-T monitoring, but no ECG was performed. The patient was referred to the medical team for admission, but no one attended A&E to review her. A doctor did not assess her until 2.30am, when she arrived on MAU, and underwent airway assessment and ECG.

Thankfully the patient remained stable, but ingestion of a toxic alkaline substance has potential to cause acute airway compromise and patients need urgent ENT examination in A&E, not 12 hours later. She had been allowed to eat and drink before medical review, despite risk of upper GI perforation. She was discharged the next day after an OGD had been performed. The A&E department was contacted to implement measures to prevent this incident recurring.

Reporters Comments:
Ingestion of alkali is a serious incident and should be treated as a priority. An appropriate member of staff should assess patients correctly triaged as urgent. Specialist review should be sought in department. Airway assessment and ECG is indicated.

CORESS Comments:
Button batteries are another potential cause of caustic injuries to the

oesophagus caused by sodium hydroxide, produced as a result of electrical discharge from the battery. Over the last few years a significant number of these cases have occurred, such that NHS England has issued a Patient Safety Alert (2014), see:

http://www.england.nhs.uk/wp-content/uploads/2014/12/psa-button-batteries.pdf

DAY-CASE HERNIA ANTIBIOTIC ANAPHYLAXIS

(Ref: 194)

A 72-year old patient was admitted for day case repair of a symptomatic right inguinal hernia, under local anaesthetic. Past medical history included total knee replacement for osteoarthritis, severe COPD and home oxygen therapy, with exercise tolerance limited to 15 yards. He had previously been advised not to have a general anaesthetic. In theatre, the patient was monitored and IV access was secured. The surgeon performed an initial ileo-inguinal block with 1% xylocaine with adrenaline, and requested that antibiotic prophylaxis be administered. Co-amoxiclav, (1.2g IV), was administered by the anaesthetist. Within 60 seconds, the patient developed a cough that progressed rapidly to wheeze and then severe shortness of breath with cyanosis. Initial treatment was undertaken with oxygen and salbutamol nebulisers, but the patient rapidly became unresponsive and required intubation and ventilation. He was treated for presumed anaphylactic shock with adrenaline, hydrocortisone, magnesium sulphate and chlorphrenamine. Arterial blood sampling confirmed respiratory failure with an acidosis (on 100% FiO2: pH 7.10; pCO2 11.1; pO2 7.1; O2 saturation 75%; lactate 7.0; bicarbonate 18.2). The operation was abandoned, and the patient was transferred to ITU, where he required an adrenalin infusion overnight. The patient was extubated at 24 hours, returned to the ward, and was discharged within 48 hours, making a full recovery.

In the outpatient clinic, at pre-operative assessment and during the theatre WHO checklist, the patient denied any penicillin allergy. However, careful retrospective review of the patient notes and interviews with family members suggested an episode 12 months previously when the patient was admitted to A&E with a sudden onset of a generalised rash, facial swelling, wheeze and cough after their GP commenced them on amoxicillin for community acquired pneumonia. The symptoms at that time had started immediately after administration of a dose of amoxicillin, and improved with prednisolone and salbutamol. Despite these features, the patient was not warned about the possibility of allergy and did not have any allergy testing, resulting in the patient being ignorant of the condition. Subsequent blood test findings included positive mast cell tryptase and raised IgE post-event. The patient is now aware of his allergy status and wears an alert bracelet.

Reporters Comments:

Patients' knowledge of their medical history can be unreliable. It is advisable to be prepared: IV access is useful whenever a patient is undergoing a significant interventional procedure, even under local anaesthesia. Finally, our interventions are undertaken with good intentions, but as in this case can lead to harm. The current evidence base does not support antibiotic prophylaxis in groin hernia repairs.

CORESS Comments:

The problem here was that there is no clear evidence that it was recognised that the patient had a drug allergy. Phrasing an open question to a patient "have you ever had any adverse reaction to a drug you've been given?" may be more useful than a cursory query about drug allergies.

A recent Cochrane meta-analysis [1] showed that there is insufficient data overall to demonstrate a clear advantage of antibiotic prophylaxis in hernia repair, but illustrated a classic problem in evidence-based medicine where a lack of evidence in support of an intervention may be interpreted as a reason not to implement it.

[1] Sanchez-Manuel F J, Lozano-García J, Seco-Gil J L

Antibiotic prophylaxis for hernia repair. Cochrane Database Syst Rev. 2012 Feb 15;2:CD003769. doi: 10.1002/14651858.CD003769.pub4. Review.

SLIPPERY DEPARTURE

(Ref: 195)

During routine laparoscopic appendicectomy, during which the operating table was tilted, the patient, a 70kg man, slid to the floor. Laparoscopic instruments were pulled out as the patient fell, but ports remained in situ. The patient was transferred, with full spinal protection back to the operating table, and the procedure completed without further event. There was no intra-abdominal injury as a result of the fall. Postoperatively the patient was taken to the CT scanner for imaging of his head and spine. No injury was apparent. The patient made an uneventful recovery and was discharged two days later.

The incident was debriefed with the theatre team, incident forms were completed, and the matter has been raised at anaesthetic and surgical governance meetings.

Reporters Comments:

Some months before, low friction patient transfer (Slide) sheets had been introduced to move patients to and from the operating table. These sheets were routinely left under patients during surgery and contributed, in this case, to the patient's departure from the table.

After the incident occurred it became apparent that other theatres had had problems with patients moving (but falling short of slipping off the table completely) since introduction of these transfer sheets. We have now changed our operating procedure so that surgical patients are placed either skin-to-mattress (if narrow enough to roll onto and off a transfer sheet) or onto a vacuum bean-bag device (if too wide to be rolled). Slide sheets are removed once the patient is positioned.

CORESS Comments:

There is a team responsibility to ensure safe patient positioning, but the surgeon should include this in his personal safety checks for the patient, prior to commencing any procedure. If an operating table is tipped or inclined, adequate patient restraints in the form of straps or poles should be employed.

INADVERTENT ADMINISTRATION OF MUSCLE RELAXANT

(Ref: 196)

A 45 year-old woman underwent uneventful laparoscopic cholecystectomy for biliary colic. On transfer to the ward, she developed acute respiratory arrest, after her cannula (placed in theatre) was flushed prior to administration of cyclizine for postoperative nausea. She became visibly cyanotic and flaccid, and required emergency ventilation with a bag-valve mask and simple airway manoeuvres, for approximately one minute before regaining the ability to breathe. She subsequently had full recollection of the event, but reported that she was unable to move or breathe. On investigation it transpired that some residual atracurium muscle-relaxant had been present in the triple lumen iv line connector.

Reporters Comments:

The IV line connector was not thoroughly flushed with normal saline after use in theatre, by appropriately trained anaesthetic staff. This was discussed at surgical and anaesthetic governance meetings, which concluded that the use of multiple port connectors should be limited (employing single injection ports instead) and that cannulae and all ports of any intravenous device must be thoroughly flushed after use.

CORESS Comments:

The Advisory Board agreed with the reporter's comments. The NRLS has produced a Signal Alert concerning ***Residual Anaesthetic Drugs in Cannulae*** (2009), see:

http://www.nrls.npsa.nhs.uk/resources/?EntryId45=65333

A FATAL TWIST

(Ref: 187)

A normally fit and well patient presented with a relatively low rectal cancer. Staging scans showed no metastases and clear margins. Following MDT discussion, the patient was admitted for a laparoscopic low anterior resection.

Findings at operation revealed a floppy sigmoid colon. The cancer was below the peritoneal reflection. A standard medial to lateral approach was performed, with high ligation of IMA and IMV. There appeared to be adequate length for the anastomosis, so splenic flexure was not mobilised. The rectum was cross-stapled at the pelvic floor. The patient was then placed flat. A small midline extraction incision was then made at the umbilicus. A wound protector was placed in the incision, the specimen extracted, and excised. The anvil of a CDH circular stapler was secured with a prolene purse string suture and intra-corporeal anastomosis performed. Prior to firing the gun, a visual check of the orientation of the afferent limb of the anastomosis was performed, tracing the cut edge of the mesentery and also the colon itself, to exclude a twist. As the anastomosis was colo-anal, a loop ileostomy was formed in the right iliac fossa.

Post-operative recovery was initially slow with an ileus. CT excluded a leak, and the patient recovered and was discharged home. The patient was subsequently readmitted with renal impairment, due to a high output stoma, which responded quickly to IV fluids. Pathology confirmed a Dukes' A cancer. Given the problems with the stoma, it was decided to reverse this early. The patient was admitted for a routine ileostomy closure. The following day the patient looked well and plans made for fluid and diet, and discharge within a day or two.

Over the next few days the patient developed abdominal distention, pain, melaena and a fever. Bloods showed an elevated CRP and white cell count. The patient was found to be a Cl. Difficile carrier (but toxin negative), causing some confusion initially on the ward as to the significance of this finding. Antibiotics and IV fluids were started on the third post-operative day.

A CT was performed on the 4th post-operative day. Initially this was reported as showing large bowel obstruction but, when reviewed by the surgeon with the radiologists, a twist in the descending colon was identified with proximal obstruction. Following resuscitation the patient was taken to theatre where a necrotic colon was excised and an end-ileostomy formed. Post-operatively, the patient was nursed on the ITU, but unfortunately became more septic and unwell and died the following day.

A thorough review of the circumstances was undertaken. The surgeon routinely checked orientation of the colon prior to anastomosis, by identifying the cut edge of the mesentery and also by following the bowel up the left paracolic gutter. An orientating stitch is also used in the anvil of the gun. All of these were found to be satisfactory in this case. At the subsequent laparotomy, the twist was abrupt and occurred just below the splenic flexure, the view of which was likely to have been obscured by omentum and small bowel loops.

Review of the imaging showed the twist on the "ileus" CT, but it was not picked up at the time. Gastrografin enema was normal with no twist seen to the mid-descending colon. The final CT was not reported as showing the twist, until the swirl of the mesentery and vessels was noted by the operating surgeon and confirmed by the radiologists.

Reporters Comments:

Have a high index of suspicion when patients do not progress as you expect them to post-operatively. Do not withhold antibiotics if a patient

has a clinical picture that cannot be explained by abnormal stool results such as initial tests for Cl. difficile. The Trust is now changing to more reliable and rapid tests, which should eliminate this problem.

Imaging in such patients should be reviewed by both radiologists and surgeons, as there may be aspects of the surgery that the radiologist does not appreciate and pathology may be missed.

Be aware of the risk of rare complications, such as twisting of the afferent limb of the colonic anastomosis, and ensure clear and careful checks are carried out prior to firing the stapler. This surgeon now keeps the patients head down when performing the extraction and excision, and checks orientation immediately after extraction as well as after replacement of the conduit following excision and anvil placement.

CORESS Comments:
The Advisory Board agreed with the reporter's comments.

HANDOVER BLUES

(Ref: 188)

A patient was kept in hospital for pain control after a difficult elective laparoscopic cholecystectomy. On the following morning, a Friday, the patient had an unusual amount of pain, but with normal observations and a tender but non-peritonitic abdomen. Blood tests revealed an unusually high inflammatory response and supportive therapy was organised, with repeat assessment over the weekend. The patient was handed over to the night on-call team for review.

On Saturday morning, the night registrar noted the patient wasn't on the list for ward review (in our hospital, in-patients are placed on a different list from post-take patients and are reviewed by a separate surgical team). The FY1 was informed and asked to place the patient's name on the review list. For whatever reason, the patient's name was not included on this list, and subsequently the patient was not reviewed that day, by the locum registrar covering the wards. The ward nurses responsible for the patient did not alert the surgical team.

On Sunday morning, the night on-call registrar, who knew the patient, coincidentally reviewed the blood test results from Saturday and noted a soaring inflammatory response. The on-call team reviewed the patient and found him septic and with peritonitis. The patient underwent urgent laparotomy, and a sub-hepatic collection of old blood, bile and fibrin was washed out. The patient eventually made a satisfactory recovery.

Reporters Comments:
There was lack of a robust system of handover that could pick up missed referrals from individuals feeding information to the lists. No communication took place between senior doctors about a potentially sick patient. There was also lack of communication between nurses and doctors. The handover system relied exclusively on information manually typed by the most junior member of different teams, and there was no provision in place to cross check information on the handover list, with the electronic patient records our hospital uses.

CORESS Comments:
With the move towards increased teamwork and shifts systems, there is a real risk of loss of patient "ownership", and diminished individual clinician responsibility for patient care. Previous CORESS cases have already illustrated similar problems in communication, particularly during handovers from one shift to the next. Medical staff should review all ward-based surgical patients every day. A standardised early warning system or score, employed by the Trust, might have flagged up that this patient was at increased risk.

MISSED URETERIC OBSTRUCTION

(Ref: 155)

A 25 year-old man was admitted with right iliac fossa pain, associated fever and vomiting. He had a family history of renal calculi. On examination, he was tender in the right iliac fossa and right loin. Urinalysis was strongly positive for microscopic haematuria. CRP was normal, but there was a leucocytosis on full blood count and the serum creatinine was 111 μmol/L. No stones were visible on X-ray KUB. Ultrasound of abdomen and pelvis was performed on day three "to exclude appendicitis or renal pathology". Kidneys were of normal size and appearance bilaterally, with no comment about the ureters. Free fluid was seen in the pelvis. The patient was listed for an appendicectomy on day four, as his fever and pain persisted. Prior to surgery, however, the anaesthetist raised concerns that the creatinine was now 140 μmol/L, despite appropriate fluid administration, and that a CT KUB had not been performed. Surgery was postponed and a CT KUB was undertaken which showed a 5.5mm calculus in the proximal right ureter, causing obstruction and hydroureter. The patient was transferred urgently to the local urology services for stenting. He was discharged the following day with improved renal function.

Reporters Comments:

A strong history and findings suggestive of renal tract pathology were not acted upon, and timely appropriate investigations were not performed. The ultrasound report did not comment on the ureters, despite mention of haematuria on the request form.

CORESS Comments:

This case describes a failure to diagnose ureteric obstruction. The diagnosis of appendicitis was flawed. The patient exhibited a number of symptoms that should have prompted clinicians to carry out a CT KUB, the "gold standard" investigation for renal tract stones, within 24 hours of admission. Patients with haematuria and abdominal pain should be appropriately investigated for renal stones. Worsening renal function despite adequate fluid intake should increase suspicion of underlying renal tract pathology.

THINGS CAN GO WRONG WHEN A PATIENT SAYS 'YES'

(Ref: 172)

During an ophthalmology outpatient laser clinic, another patient came to my clinic room instead of the patient I had actually called. I think she must have misheard the name that I called out. We discussed the scheduled treatment (laser iridotomy), she signed a consent form with the other patient's sticker at the top, and I performed YAG laser iridotomies on her. Unfortunately, the patient I treated had been listed for selective laser trabeculoplasty, and so she ended up having the wrong laser procedure. I did not check her date of birth, and the patient had answered "Yes" when I asked her if she was Mrs X. Soon afterwards, I realised what I had done; I immediately told the patient what had happened and notified this event to my Trust as a Serious Untoward Incident. Thankfully, no harm was done.

CORESS Comments:

This case illustrates the dangers of 'passive' identification of patients. It is easy for a patient to mishear a question and then inadvertently agree with the clinician. This problem would not have occurred if the clinician had actively followed the principles of the WHO preoperative checklist. The patient should be asked 'please tell me your name', with similar open questions asking them to state their date of birth, address, planned procedure and side to be treated. This principle applies to many other situations in medicine and surgery. Positive identification of patient, procedure, and side to be operated on is also vital in many other situations, including ordering and interpretation of tests.

WRONG EYE DROPS ADMINISTERED

(Ref: 211)

Whilst on call, I was treating a patient who presented with angle closure glaucoma. I had to go to the ophthalmic ward to obtain some pilocarpine, and put the minim packet into my pocket. Earlier, I had also collected some atropine. When I came back to instil this medication to the patient, I administered atropine by mistake. I realised the mistake straight away. I washed the eye with saline and then administered pilocarpine. I explained to the patient what had happened and then, with senior support, peripheral iridotomies were performed on the patient. The patient did not come to any harm.

Reporters Comments:

I was distracted by having to leave the patient to go and get the pilocarpine. The packaging of the atropine and pilocarpine were similar, and I failed to check the medication before I administered it.

CORESS Comments:

This case illustrates a number of sources of potential risk. Systems errors occurred in that the drugs required to treat the patient were not available in the patient's location, and were contained in similar packaging. Moreover the reporter was carrying two different types of drug, increasing potential for confusion. CORESS has published details of a number of similar cases in different clinical situations. The bottom line, in all of these cases, is that it is always the duty of the treating clinician to ensure that they have physically checked the drug before administering it to the patient.

COMPLICATION OF GASTRIC BYPASS

(Ref: 210)

I undertook a gastric bypass on a 45 year-old Type II diabetic patient with morbid obesity and BMI of 45kg/m2. The patient had hypertension and was a smoker. During laparoscopic bypass, the patient was noted to have a paraumbilical hernia measuring approximately 5cm at the neck, and containing a plug of omentum. As part of the procedure, the omental plug was reduced to facilitate access to the duodeno-jejunal flexure. The gastric bypass was performed uneventfully. A decision was made not to repair the hernia at the time of surgery, because of the risks of recurrence, and because the open lumen bowel surgery would have increased risks of mesh infection. Four days postoperatively, the patient was admitted with bowel obstruction secondary to small bowel incarceration in the paraumbilical hernia. This had caused local bowel perforation and faecal peritonitis. Despite laparotomy and washout, the patient became critically ill and developed a cascade of complications requiring repeated bowel resections and laparostomy. The patient died two months later from multi-organ failure.

Reporters Comments:

The patient's risks of complications arising from paraumbilical hernia repair were increased because of obesity and comorbid conditions. Hernia repair was therefore deferred. In the event, the patient developed incarceration, leading to bowel perforation and peritonitis. In future, I would be more likely to perform sleeve gastrectomy than gastric bypass, in a patient with a controlled ventral wall hernia, since the latter procedure does not require mobilisation and dissection of the omentum.

CORESS Comments:

The Advisory Board accepted the reporter's decision not to fix the hernia and also noted that it might have been difficult to detect the hernia on examination pre-operatively because of the patient's obesity. An option, however, was to obliterate the potential space laparoscopically, with an omental plug. Use of biological meshes may reduce the risk implications of mesh infection.

TOUGH NUT TO CRACK

(Ref: 197)

An 82 year-old diabetic lady, with non-salvageable leg ischaemia, was admitted to the hub hospital of a vascular network. She was admitted under the on-call consultant, her angiograms reviewed, and care was handed over to the consultant in charge of ward care for the week. The latter consultant arranged for her to be placed in an available slot on an elective operating list, undertaken by a third consultant vascular surgeon.

At surgery, above knee amputation was somewhat protracted by the discovery of the long stem of a hip prosthesis, when dividing the femur. Diamond-tipped power tools eventually enabled division of the femur and prosthesis, and the patient made a satisfactory recovery.

Reporters Comments:

The presence of the hip prosthesis, although noted, was not commented on by the on-call consultant, on handover to the ward consultant, who did not review the angiograms personally and failed to notice the operative scar over the hip. The operating consultant, having had the patient place on his list by his ward-based colleague, also failed to review the films and missed the old hip operation scar.

CORESS Comments:

With modern consultant-delivered team working, shift systems and multiple handovers, there is a risk of important clinical information not being communicated. The responsibility for ensuring patient safety lies with each clinician in the chain and, despite the advent of specialisation, basic surgical tenets of adequate history taking and clinical examination must not be ignored. Although a WHO check was undertaken, the operating surgeon had not personally reviewed the films, which would have indicated the presence of the hip prosthesis. Moreover, a check for metalwork should be undertaken before applying a diathermy plate.

INADVERTENT INJECTION OF CHLORHEXIDINE DURING ANGIOGRAPH

(Ref: 204)

A serious untoward incident, involving inadvertent injection of an alcoholic solution of 2% Chlorhexidine, occurred during a lower limb angiogram. The fluid was drawn up from an unlabelled gallipot, adjacent to the intended X-ray contrast media for injection. The procedure was performed under low lighting. Tissue necrosis developed and amputation of the leg was eventually necessary.

Search of the NRLS database revealed 4 incidents during the last 3 years involving inadvertent IV injection of Chlorhexidine instead of X-ray contrast media. Two caused severe harm, another causing cardiac arrest during a pacemaker insertion. One near miss occurred where there was potential for the syringe intended for IV contrast media to have been refilled from an unlabelled open container filled with Chlorhexidine. In another incident, a patient's arterial line was flushed with Chlorhexidine from a gallipot instead of the intended saline solution.

NPSA has previously drawn attention to similar problems in the Signal: ***Injectable medicines in theatres*** see:

http://www.nrls.npsa.nhs.uk/signals/?entryid45=66753

CORESS / SSPSEG Comments:

This incident was discussed in detail at the Surgical Services Patient Safety Expert Group, who concluded that all skin cleansing agents should be removed from the interventional field prior to commencement of the intended procedure. As a corollary, agents to be injected should be drawn up from labelled sterile containers and must be checked prior to administration.

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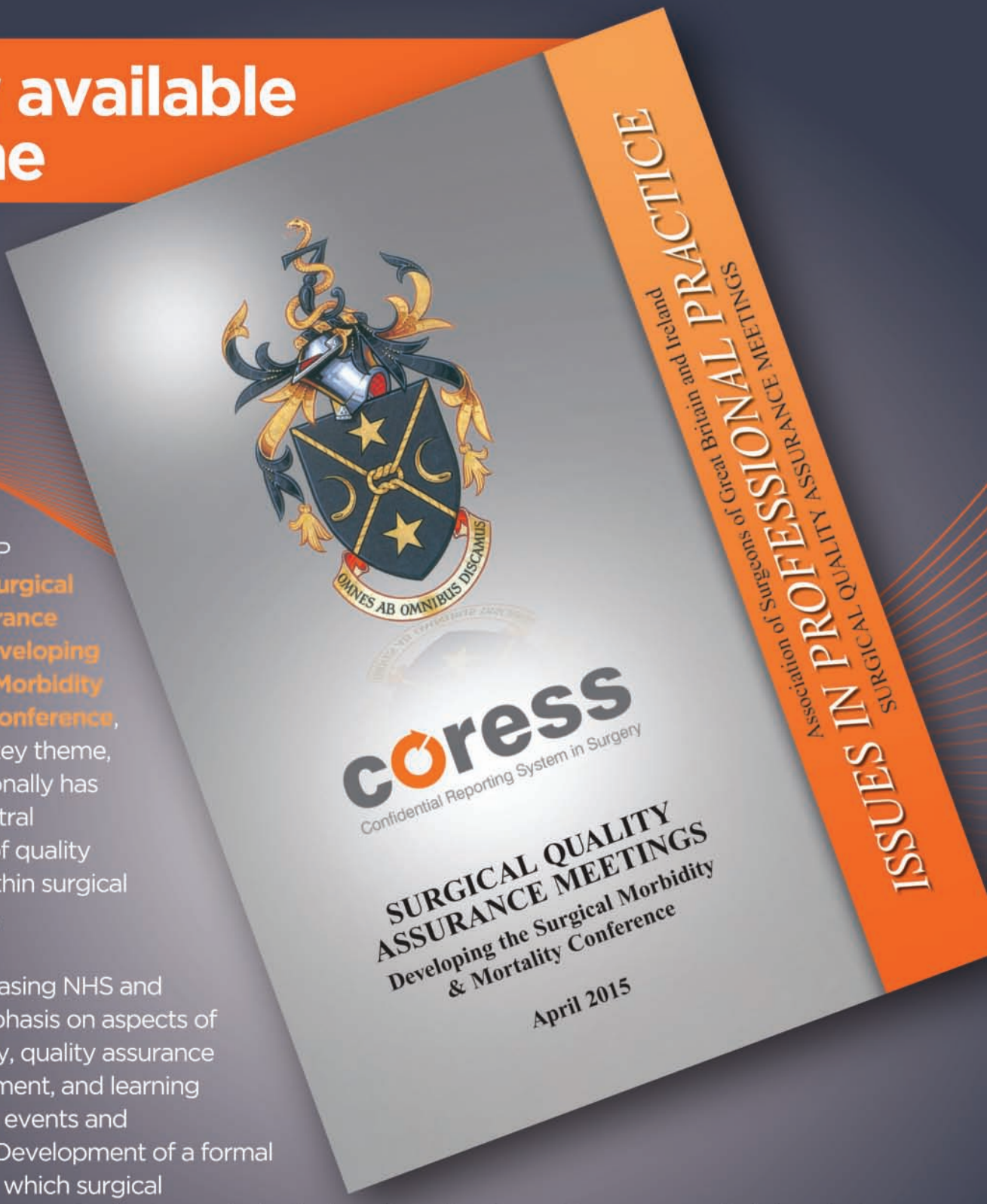

This latest IIPP booklet, on **Surgical Quality Assurance Meetings: Developing the Surgical Morbidity & Mortality Conference**, addresses a key theme, which traditionally has formed a central component of quality assurance within surgical departments.

There is increasing NHS and specialty emphasis on aspects of surgical safety, quality assurance and improvement, and learning from adverse events and near-misses. Development of a formal framework in which surgical departments can actively demonstrate their participation in quality assurance, to interested bodies, and can influence standards of care for surgical patients, has attained increasing importance.

This joint publication between ASGBI and the Confidential Reporting System for Surgery (CORESS) offers a template for refinement of the traditional Morbidity & Mortality Meeting into a more encompassing forum, the Surgical Quality Assurance Meeting, through which surgical departments in NHS Trusts can embrace and develop aspects of safety and quality of care for all surgical patients. The template has pan-specialty relevance and can be employed in all surgical arenas.

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