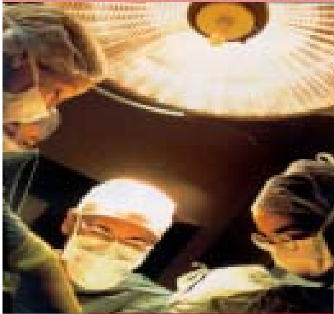
Volume 3 Issue 4

December 2006



OFFICE OF SAFETY AND QUALITY IN HEALTH CARE (OSQH)

SNIPtS Sharing News in Patient Safety

www.safetyandquality.health.wa.gov.au

Director General Launches Patient First Program

The dedicated workforce of WA Health is committed to providing high quality and safe care to patients. However, because we are all human, sometimes things go wrong. In some cases the outcome can be serious.

By educating health consumers in problems that occur in health care, they can be more active, involved and informed participants in their health care management.

In November 2005 the WA Department of Health's Office of Safety and Quality in Health Care commissioned the Health Consumers' Council of WA to work with the WA Council of Safety and Quality in Health Care to develop educational resource materials for patients admitted to the WA health system. This program became the "Patient First Program".

Patient First was officially launched on November 2 by the Director General Dr Neale Fong at WA Health's *Achieving Excellence* Conference.

The goal of the Patient First program is to increase the patient's understanding of their condition, and allow them better decision-making through informed consent. In addition, their increased awareness of the risks inherent in their health care will minimise the potential for adverse events. Finally, Patient First information will increase the patient's health literacy and give them the ability to self-manage their own health issues.

The Patient First Program will be implemented in all WA Area Health Services in January 2007.

Area Health Services across the state will receive a stock of Patient First booklets that will be distributed to inpatients as they enter the hospital system. The booklet contains 14 topics that will inform patients about how to look after their health condition and have safe and satisfying care during their stay in hospital. In addition, the information in the booklet will be available on the Department of Health website and as a half-hour DVD that will be played on hospital television systems.

The Patient First booklet and the individual chapters of the booklet will be available online in the new year at:

www.safetyandquality.health.wa.gov.au/programs/patientfirst

For more information contact Dr Brian Turner at (08) 9222-2307 or email brian.a.turner@health.wa.gov.au

Ms Maxine Drake (Health Consumers' Council), Professor Bryant Stokes (Chair, WACSQHC), and Director General Dr Neale Fong at the launch of Patient First on November 2, 2006.

Engineering Medication Safety: Name Stamp and Infusion Pump Innovations

Lesson 1

Medication management is a complex part of health service delivery for all patients. Incidents associated with medication management are the second most frequently reported type of incident in the WA clinical incident monitoring system (AIMS).

To improve medication safety, Sir Charles Gairdner Hospital has adopted a few simple strategies aimed at producing better and safer systems. With this in mind SCGH have implemented *Tools for Safety* and *Engineered for Safety* for our medical staff.

Tools for Safety

There is sometimes difficulty complying with rules that govern Schedule 8 drugs. The nurse administering the drug might have difficulty reading the prescriber's name, which requires cessation of the administration process and the time consuming task of determining the author of the signature before proceeding. Since the drug may be for analgesia the patient may be in pain while awaiting the medication. While all new medical staff are supplied with a name-stamp, often it is not carried by the person, and therefore not used. The solution at Sir Charles Gairdner Hospital is to provide stamps that are self-inking, and easily transportable with a ring for attachment to the ID badge. These stamps are given to all staff who are required to sign and print their names in patient notes.

Engineered for safety

There are many different types of medical equipment used to administer drugs. To remain familiar with these machines, regular use by medical staff is needed. Lack of familiarity or practice on medical equipment can often be a source of medical error. For example, there have been incidents where unfamiliarity with equipment has allowed for misinterpretation of the rate of infusion and therefore the dose delivered to the patient. The Graseby MS16A pump has the capacity to deliver medication at 99mm/hr, but in common practice is generally used at rates of 2mm/hr or 4mm/hr. At Sir Charles Gairdner Hospital the Grasby pumps have been engineered to only allow medications to be administered at these rates, thus avoiding the possibility of administering a serious overdose to the patient.

Further information can be obtained from Ms Marian Balm on (08) 9346-4785 or email marian.balm@health.wa.gov.au

A

B

Identification badge with Name Stamp attached (A) and Name Stamp unfolded to reveal self-inking stamp (B)

If you wish to subscribe to the SNIPtS newsletter, or if you wish to submit an article for publication, please contact Dr Brian Turner on 9222 2307 or email: brian.a.turner@health.wa.gov.au

Getting the Right Balance: Improving Fluid Management for Our Patients

Poor management of fluid balance in patients has been identified as a key issue in a number of quality improvement activities including AIMS reports. Poor fluid balance can result in clinical complications and increased length of stay for patients, and on occasion severe clinical outcomes.

Recently, the WA Audit of Surgical Mortality (WAASM) highlighted that management of fluid balance as an on-going issue for surgical patients. The 2006 WAASM report[1] highlighted that elderly patients over 80 years of age were commonly at risk particularly if they were underweight and had preexisting cardiovascular risk factors.

At-risk patients are generally of low body mass and noted to have been given significant volumes of fluid (normal saline) over the first 24-48 hours following surgery, in response to a poor urinary output (either urinary retention or low blood pressure). On average, these elderly patients received fluid volumes approximately 26% of their body weight resulting in complications such as pulmonary oedema and/or cardiac failure.

Enhanced Recovery After Surgery Protocols[2] being introduced in Europe now indicate that fluid overload, particularly sodium, should be avoided as it is detrimental to physiological function. This issue of fluid management demands attention by a range of health professionals involved in patient care.

WAASM, in association with the Department of Health, plans to hold a workshop/s to discuss ways to achieve better fluid management for high-risk patients. However, as an interim strategy, hospitals and health services should ensure that a fluid balance chart is completed appropriately and consider WAASM recommendations to address the problem.

WAASM recommends that hospitals:

1. **identify cases likely to have a post-operative fluid problem so a management strategy can be agreed in advance; and**
2. **limit volumes that can be administered by an intern without discussion with senior colleagues.**

This is a systems issue, one that requires each professional involved in the patient's care having a good awareness of the risks within their sphere of care.

Good communication, awareness, documentation and adherence to protocols will be essential to reduce mortality due to complication arising from poor fluid management.

NOTE: Individuals interested in participating in discussions & workshops should contact Jenny Mountain (WAASM) 6488-8691 or Anabelle May (Office of Safety and Quality) 9222 4107 to ensure that their names are added to the distribution list.

[1] *WA Audit of Surgical Mortality Annual report 2006* www.surgeons.org

[2] Fearon KC, Ljungqvist et al, Enhanced recovery after surgery: a consensus review of clinical patients undergoing colonic resection, Clin Nutr. 2005; June 24 (3): 466-77

Root Cause Analysis Training available in 2007

All workshops 8.30–4.00pm to be held at the Department of Health, 189 Royal St, East Perth

27 March
12 June
11 September
27 November

Contact: brian.a.turner@health.wa.gov.au or phone 9222-2307 to reserve your place now!

Merry Christmas

The staff of the Office of Safety and Quality would like to wish you a *quality* Christmas and a happy and *safe* new year.

Did you miss the last edition of SNIPtS? SNIPtS is now available on the OSQHC website. If you have missed an edition, you can download it from: www.safetyandquality.health.wa.gov.au

Acute Mesenteric Ischaemia: A Case for Early Surgical Review and Imaging in Non-Specific Abdominal Pain.

Lesson 2

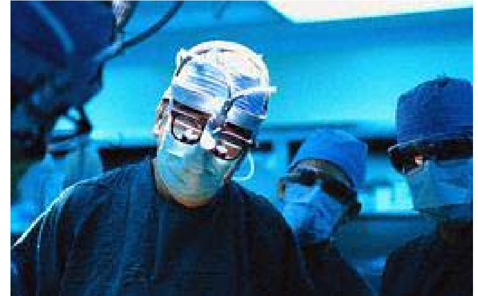
Mortality from acute mesenteric ischaemia and its result – ischaemic bowel – has been the subject of review in both the Coronial Inquiry and Quality Improvement environments. The common theme to these reviews is that the diagnosis is frequently delayed until the opportunity for a surgical cure is past. Unfortunately delays occur because the diagnosis is difficult as the presentation, clinical findings, and diagnostic tests are usually non-specific.

This type of presentation was well described in a recent Coronial Inquest into the death of a man in his 70's two days after being admitted to hospital with undiagnosed abdominal pain (1). The early signs and symptoms were non-specific and the diagnosis of acute mesenteric ischaemia was not made until the onset of irreversible shock. The Coroner's Findings emphasised the importance of surgical review, regular review and observation, and imaging of patients with risk factors for vascular disease and undiagnosed abdominal pain.

Quality improvement processes such as audit of surgical mortality have also highlighted higher mortality in a series of patients with acute mesenteric ischaemia, noting difficulty in diagnosis, and the importance of early surgical review in cases of undiagnosed abdominal pain and undiagnosed shock.

Overall, the clinical presentation and outcome of this condition is well summarised by published case series (2,3):

- **Acute mesenteric ischaemia has a peak incidence in the 6th and 7th decades of life. Most studies report an equal sex distribution and increased risk associated with atherosclerotic vascular disease, atrial fibrillation and ischaemic heart disease.**
- **All patients have abdominal pain, which is typically central and colicky in nature at onset. Vomiting, with or without blood, is common as is diarrhoea, with or without blood. The pain can be severe and out of proportion to the clinical signs, and difficult to control with intravenous opiates but not in all cases.**
- **Clinical signs of peritonitis develop over time. Bowel sounds may be overactive, normal or reduced.**
- **Typical laboratory findings are non-specific early with a raised white cell count and mild renal failure. A lactic acidosis develops as the condition progresses and the patient becomes increasingly shocked.**
- **Mortality without surgery approaches 100%. Mortality with surgery has a range of 65% – 70% in most case series.**
- **Diagnosis within 12 hours of the onset of pain and early surgery are associated with a lower mortality reported between 30 – 45 %.**
- **Patients who survive to discharge from hospital generally return home to their previous lifestyle and level of function and do not have a recurrence of the condition.**



In 1999 observations of the poor outlook for this condition over several decades lead one author to conclude: " Mortality from acute mesenteric ischaemia has not changed during the past two decades and in the absence of an accurate diagnostic test is unlikely to do so" (4).

Since then, the development and increased availability of biphasic CT with mesenteric CT angiography may be altering the equation. A recent study demonstrated 96% sensitivity and 94% specificity for the diagnosis (5) in a clinically selected patient population with risks for the condition. This technology is now available in most tertiary hospitals and many non-tertiary metropolitan and regional health facilities.

The history of this condition is one of a difficult delayed diagnosis, lucky survival for a few, and a poor outcome for most. The evidence suggests that with an early diagnosis and surgical management survival can be improved. Today, earlier diagnosis aided by CT angiography is possible within the first 12 hours after the onset of pain. Ideally, patients with undiagnosed abdominal pain and risk factors for vascular disease or embolic illness should have surgical assessment and clinically directed imaging within 12 hours of the onset of pain.

For further information contact Dr Tom Hitchcock or Ms Anabelle May in the Office of Safety and Quality, 9222-4080

1. Bertoncini Inquest http://www.coronerscourt.wa.gov.au/

2. Deehan DJ, Heys SD, Brittenden J, Eremin O. Mesenteric ischaemia: prognostic factors and influence of delay on outcome. JR Coll. Surg. Edin. 1995; 40: 112-115

3. Gorey TF, O'Sullivan . Prognostic factors in extensive mesenteric ischaemia. Ann R. Coll. Surg Eng 1988; 70 (4): 191 –194

4. Mamode N, Pickford I, Leiberman P. Failure to improve outcome of acute mesenteric ischaemia: a seven-year review. European J Surg. 1999; 165(3): 203-208

5. Kirkpatrick ID, Kroeker MA, Greenberg HM. Biphasic CT with mesenteric CT angiography in the evaluation of acute mesenteric ischaemia: initial experience. Radiology 2003; 229: 91-98

Thankyou to everyone who has taken the time to write in and share their lessons. Sharing lessons is extremely valuable to everyone who works in clinical settings. If you have implemented anything in your workplace as a result of analysis of your own AIMS data, or if you have a lesson that you would like to share, please let us know and we will publish your lesson in the next edition of SNIPtS. Contact Dr Brian Turner to share your lessons: 9222 2307 or brian.a.turner@health.wa.gov.au

Communication interactions and their influence on the surgical count

A study conducted in 3 Victorian hospitals looked at the power relationships in the communication interactions between surgeons and nurses in the operating suite with relation to the surgical count.

Data were collected by a number of 'key informants', who by using an ethnographic approach collected over 120 hours of observational data. These informants participated in semi-structured interviews that were audio-taped. Verbatim scripts were analysed and the data deconstructed, looking for the power relationships and the taken for granted assumptions that influenced the surgical count.

The post-modern approach used in the analysis looked at how power relationships influenced and governed the conduct of the surgical count.

They were able to observe that, although the count was a highly disciplined and controlled practice, as detailed in hospital and professional policy, forms of power became evident when observing and talking with the nurses which shaped and controlled the practice.

became evident when observing and talking with the nurses which shaped and controlled the practice.

Nurses were found to use their professional judgement whether to perform an instrument count in various procedures and in some instances would test each other's willingness to comply with policy. The practice of inexperienced nurses was scrutinised more closely than that of experienced nurses.

Nurses who did not regularly work in specialty areas would create tension and conflict when trying to strictly enforce the count policy, resulting in less experienced nurses not challenging more experienced colleagues for fear of being labelled as inefficient.

Another area of conflict occurred where the scrub nurse also undertook the role of surgical assistant. The count was considered to take secondary importance.

The authors conclude that dynamic social relationships surrounded the surgical count and affected how it was performed. Not only did these include the traditional doctor-nurse relationship, but experienced-inexperienced nurse relationships. Both doctors and nurses value speed and efficiency in the operating room and it was seen to not be uncommon for a patient to leave the operating the room before the count was finished. The authors suggest that to avoid conflict in the use of time and to increase surgeon accountability, not passing the skin closure or sutures until the count is complete could be encouraged as a routine patient safety practice, however this would mean other patient safety activities would not be prioritised.

So, rather than a straightforward task, the authors suggest the surgical count is a task involving complex power relationships and competing priorities.

R. Riley, E. Manias, and A Polglase (2006). Governing the surgical count through communication interactions: implications for patient safety. *Qual. Saf. Health Care, 15*, 369-274

Adult Heparin Inadvertently Administered to Neonates

Lesson 3

At Methodist Hospital in the U.S.A. heparin was routinely administered from a computerised drug cabinet. Unfortunately, on one reported occasion the technician in charge of the cabinet loaded an incorrect (adult) concentration of heparin for neonatal administration. A nurse, requiring neonatal strength heparin, obtained the drug from the cabinet (after using the correct neonatal code) and unknowingly gave six neonates 1000x concentration of heparin, two of whom later died.

To prevent such incidents occurring again the hospital no longer stocks adult heparin in vials similar to neonatal heparin, pharmacists check all drugs taken from the storeroom to the wards, at least two nurses validate drug doses before administration to neonates, and a staff education program was initiated on safe drug administration.

While the potential for a similar error exists in hospitals there are four opportunities in WA for this type of error to be identified:

four opportunities in WA for this type of error to be identified:

1. External packaging of adult and neonatal heparin looks different so technician should be alerted when stocking the fridge.
2. External packaging of adult and neonatal heparin looks different so nurse should be alerted when taking the drug from the fridge.
3. A double-check with two nurses should identify incorrect strength when reading ampoule strength aloud.
4. The volumes in adult and neonatal vials is different which should alert an experienced nurse.

Despite these protections, the experience at Methodist Hospital should remind us to check our own defences to protect against this type of adverse event occurring.

SAFETY MANAGEMENTS SYSTEMS IN WA:

The Third Incident Reporting and Management Seminar

UWA Club, Friday March 2, 2007

Come hear a fantastic set of speakers.

Book now by contacting Dr Brian Turner at 9222-2307 or email brian.a.turner@health.wa.gov.au

Keynote Speaker: Professor John Ovretveit, Karolinska Institute

Did you know?
The following policies have recently been released by the Office of Safety and Quality. More information can be accessed at www.safetyandquality.health.wa.gov.au/publications

Informed consent **(NEW)** - Operational Directive OD0005/06

West Australian Review of Mortality (WARM) **(NEW)** - Operational Directive OD0012/06

Clinical Incident Management **(Revised)** - Operational Directive OD 0003/06

Correct Patient **(Revised)** - Operational Directive OD0004/06

Sentinel Event Policy **(Revised)** - Operational Directive OD0002/06