



RISK ALERT



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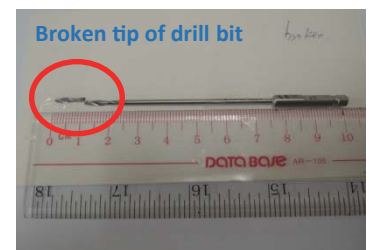
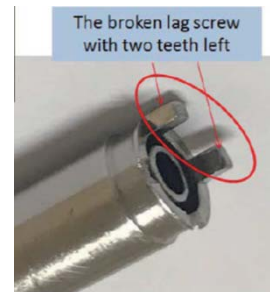
Opening Message

Hardware under Smart Software

Unintentional Retained Foreign Body is a sentinel event of significance in orthopaedic surgery. Throughout 2016 and 2017, such sentinel events involving foreign bodies are reported in every quarterly issue of HARA. The size of the retained foreign bodies is small (> 90% is <10mm) in the majority of cases and they induced minimal harm to the unfortunate patients. However, the resulting undue anxiety is not trivial. Case investigations and explanation to the patients and family drains a lot of time and effort from everyone involved.

From the root cause analysis reports, we learned that most foreign bodies came apart from instruments that were used frequently and repeatedly. After a period of intensive use, metal fatigue occurred. Broken tips or teeth were particularly prone to be left behind in patients operating under X-ray fluoroscopy or endoscopy. Minimal invasive percutaneous procedures under navigation and small wound incisions are also disaster fields.

Documenting the age and use record of surgical instruments and having high quality X-ray machines for foreign body detection are basic elements in the prevention of further sentinel events involving hardware. However, having reliable hardware alone is not sufficient to minimize risk. We must also have powerful software, which includes practicing strict "SIGN IN", "TIME OUT" and "SIGN OUT" protocols and having a professional and highly aware surgical team.



Awareness of the high incidence rate and vulnerability of foreign body sentinel events by the whole Orthopaedic Surgical team is crucial.

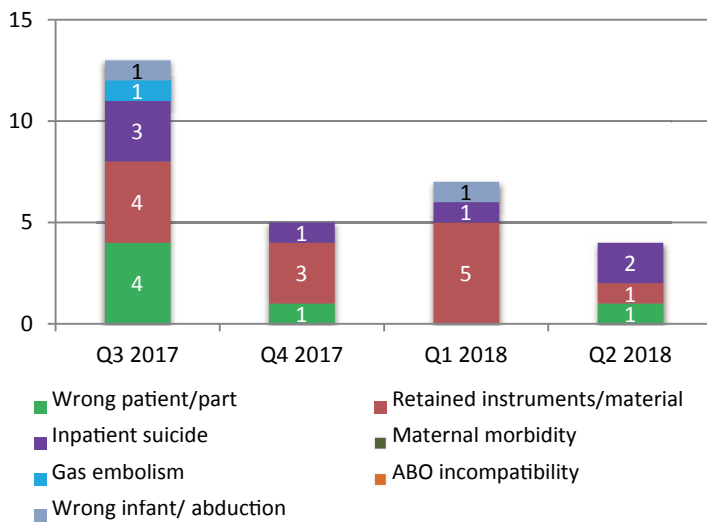
This awareness in combination with an intensive focus by the team will always stand as the final goalkeeper.

Dr Y L LEE

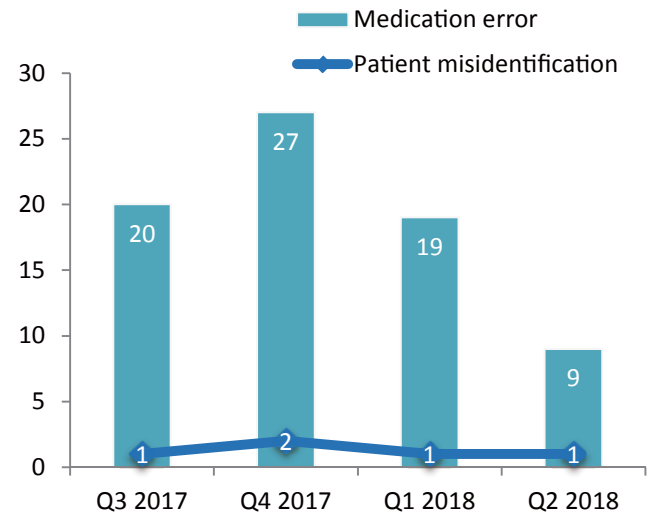
Chief Of Service (Orthopaedics & Traumatology)

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Distribution of SE in the last four quarters



Distribution of SUE in the last four quarters



Sentinel Events

Retained Instruments / Material

Metallic fragments

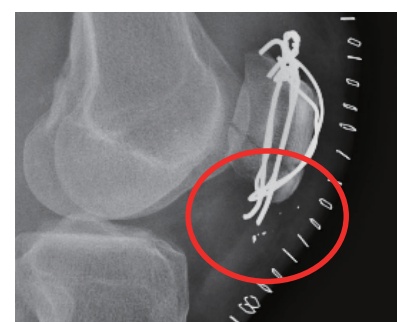
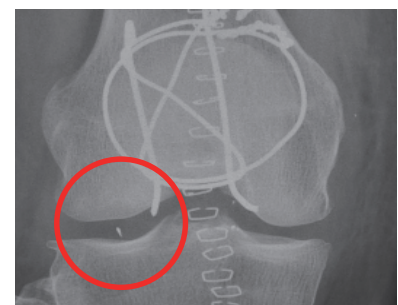
- A patient was admitted for slip and fall with closed fracture of right patella.
- Open reduction and internal fixation with K wires, cerclage and tension band wires was performed.
- The length of K wire was trimmed twice during the operation.
- Intraoperative X-ray screening was performed but the metallic fragments on the X-ray were not noticed.
- Post operative X-ray was taken on the next day and again, the metallic fragments shown on the X-ray were not noticed.
- The post operative X-ray was reviewed by another doctor on day six and metallic fragments inside the wound was noticed.

Key contributing factors

1. Required a second attempt to refine the length of fixed K-wire.
2. Limited resolution of intraoperative C-arm X-ray screening.

Recommendation

Enhance staff awareness to add applicable measures (e.g. gauze) in preventing the metal debris from being left in the operative site, especially where there is a potential risk of creating metal debris.



Wrong side diagnostic puncture for percutaneous nephrostomy (PCN) insertion

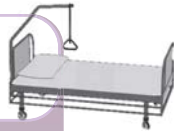
- A patient was admitted for acute kidney injury and anuria, computed tomography revealed bilateral ureteric stones and hydronephrosis.
- Scheduled bilateral double-J catheter insertion.

Operating Theatre



- RIGHT side: a double-J catheter was inserted into the ureter successfully.
- LEFT side: failure to insert, contacted Radiologist for urgent LEFT side PCN, consent obtained.

Ward



The ward nurse performed the checking process and completed the “pre-interventional / bedside procedures safety checklist”. NO side marking.

Department of Diagnostic & Imaging Radiology



- Ward nurse handed over the case to the Radiographer, including checking patient’s identity, procedure (**LEFT** side PCN) against the procedure request form & the consent form.
- Patient lied in a prone position and was covered with blankets and bed sheets.
- The Radiologist and the Radiographer conducted “TIME OUT” but did not countercheck the planned side against the request form.
- The Radiologist performed pre-procedure ultrasonography (USG) on the **RIGHT** flank region and made a mark (**RIGHT**) on the USG scan, using a needle cap to make 2 markings for locating the puncture site.
- After skin preparation, diagnostic punctured was performed on the **RIGHT** side.
- The Radiographer discovered the wrong-sided diagnostic puncture when recording the USG images.

Key contributing factors

1. Failure to counter-check the correct site / side against the procedure request form and the consent form amongst the operating team members.
2. Performed “SIGN IN” and “TIME OUT” procedures simultaneously.

Recommendations

1. Perform the site / side marking for PCN procedure if laterality is involved.
2. Conduct “TIME OUT” for confirmation of correct site / side closely with the start of the procedure.
3. Revise the department’s “Interventional Radiology Procedure Safety Checklist”.



Inpatient Suicide

In Q2 2018, two patients (one male and one female, aged below 65) with history of psychiatric illness, committed suicide during home leave by jumping from height and hanging respectively.

Case 1

- A patient with a history of paranoid schizophrenia and multiple previous hospitalisations was admitted for psychosis.
- After symptoms improved, rehabilitation and occupational therapy training was arranged for him. No suicidal or violent ideas were noticed. At a multi-disciplinary recovery meeting two months prior to the incident, he was granted as-needed day leave with staff for rehabilitation activities and personal affairs.
- On the two days preceding the incident, the patient went on two separate day leaves with staff for rehabilitation activities.
- On the day of the event, patient went on day-leave with a family member in the morning for personal affairs after assessment of the patient was completed.
- Two hours later, the family member informed ward staff that the patient had jumped from height at home.

Case 2

- A patient with a history of psychotic depression with delusion was admitted for anxiety after discharge and for further rehab. She was found to be calm, settled and denied suicidal thoughts. Her suicidal risk assessment result was "low risk".
- Multiply home leaves were granted to facilitate patient's reintegration into the community.
- The patient took five home leaves accompanied by her husband and took one further home leave on her own.
- The patient was noted to have pleasant experiences and patient requested a further day of home leave by herself.
- During the second home leave, patient hung herself at home.

Both patients had completed suicidal risk assessment before going on leave. Prior to the event, both patients had taken home leave without any abnormal behavior reported.

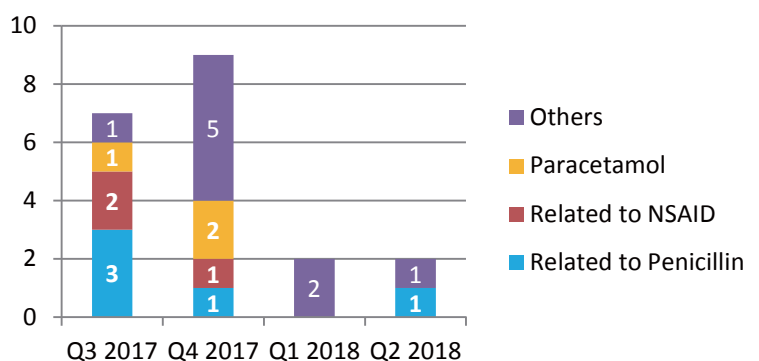


Serious Untoward Events

Of the 10 SUE cases reported in Q2 2018, 9 were due to medication errors and 1 was due to patient misidentification. The medication error cases involved giving known drug allergen (KDA) to patients (2), dangerous drugs (3), insulin (1), concentrated electrolytes (1 case); vasopressors & inotropes (1 case) and others (1). The 2 known drug allergen cases showed no sign of allergic reactions.

Known Allergy	Allergen prescribed
Penicillin	Augmentin
Omnipaque (Contrast medium)	Omnipaque (Contrast medium)

Number of KDA cases in the last four quarters



Medication Error

Ketamine 250mg instead of 25mg was given to an infant

- A 17 months old boy suffering from hydronephrosis and ureteropelvic junction obstruction, was admitted for renal scan.
- After ineffective sedation of the patient with Chloral Hydrate and Midazolam, Doctor B was informed and made a verbal order for the Ketamine injection.
- Doctor A had mistaken the concentration of Ketamine in 50mg/ml to be 50mg/10ml, and verbally informed nurse to prepare 5ml of Ketamine. As a result, 250mg instead of the intended 25mg (0.5ml) was prepared and administered to the patient. The syringe was labelled as 25mg of Ketamine.
- When the patient's oxygen levels decreased, oxygen was given to the patient.
- Upon reviewing the concentration of Ketamine, Doctor B found it to be 50mg/ml.
- The procedure was abandoned and patient was transferred to Paediatric Intensive Care Unit for monitoring. The patient regained consciousness gradually without any complication.



Reinforce to perform **INDEPENDENT** checking before drug administration, "Five Rights" checking principle: Right Drug, Right Dose, Right Patient, Right Route and Right Time.



Ketamine Two Different Concentrations

50 mg/ml



10 mg/ml





Tips for High-Quality Clinical Handovers

It is 7pm in the evening - time to hand over duties to the on-call doctor. Meanwhile, another patient needs to go into the operating theatre immediately. In both situations, you need to let the receiving teams know about the most essential information, in a timely fashion. How do you ensure a quality handover to another team of healthcare providers?



The Joint Commission recently published a page of rainbow-coloured tips for “high quality clinical hand-offs”. They are an independent, not-for-profit organization based in the USA, for the accreditation and certification of health care organizations and programs. Interestingly, what we call “handover”, they call it “hand-off”. The eight tips for “high-quality hand-offs” are summarised in the chart on the right:

Over the years, we have been paying close attention to the quality of clinical handovers and embarked on numerous Continuous Improvement (CQI) projects. We have also obtained useful advice from the accreditation teams. With further technological developments such as our electronic health platform, secure communication tools like HA Chat and concerted effort from everyone, quality and safety can be guaranteed.

Reference

www.jointcommission.org: 8 tips for high-quality hand-offs

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Intrauterine Balloon Tamponade (BT) for the Control and Reduction of Postpartum Haemorrhage (PPH)

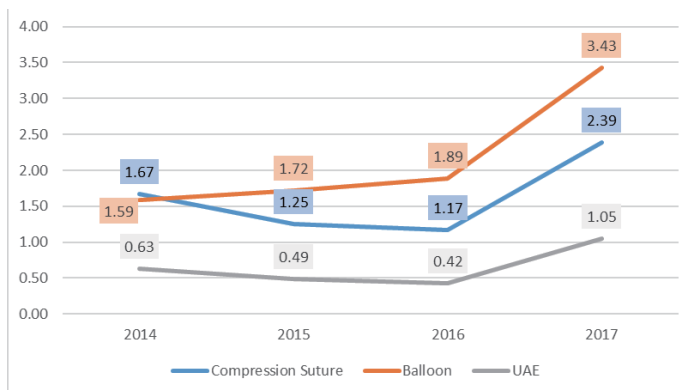


Fig.1 Incidence (% of total deliveries) of 2nd line treatments for PPH (UAE = uterine artery embolization)

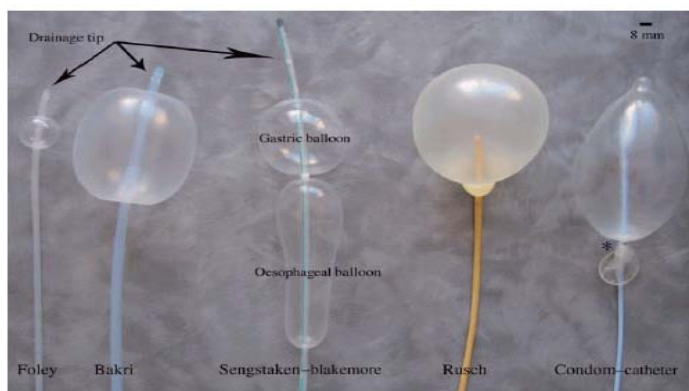


Fig.2 Different types of balloon tamponade (BT)

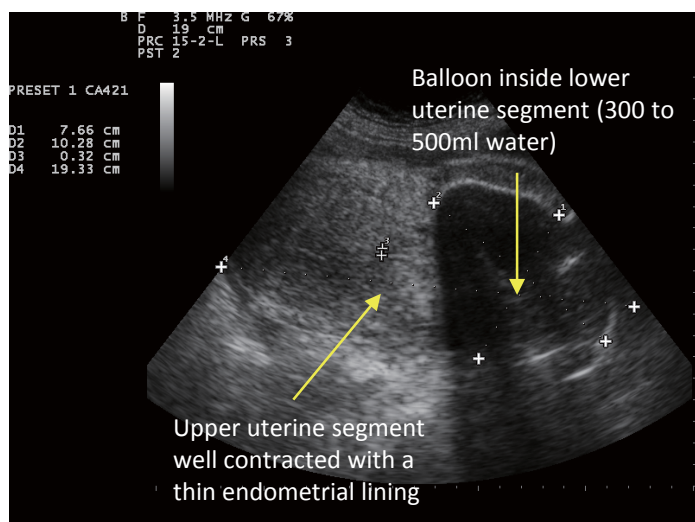


Fig.3 Ultrasound (transabdominal) assessment post-balloon tamponade showing the signs of success

Recommended reading:

[Intrauterine balloon tamponade for control of postpartum hemorrhage \(including insertion techniques\)](#)

[UpToDate through eKG]

Primary PPH is one of the leading causes of maternal mortality. The local incidence in HA Obstetrics Units in 2017 is 13% (blood loss \geq 500ml) and 0.9% (blood loss \geq 1,500ml or massive PPH). Increasing use of 2nd line treatments (after uterotonic drugs), especially BT is observed in recent years (Fig.1). BT can be used to control PPH (mainly due to uterine atony, some cases of placenta praevia / accreta) after vaginal delivery (more often) or Caesarean section. The success rate is more than 80%. However, it is important to watch out for failure and to avoid a false sense of security after inserting a balloon without close monitoring for continuous PPH, BP/P, urine output, marking uterine fundus & general condition. Otherwise BT might do more harm than good. The question on whether the increasing use of BT and other 2nd line treatments could reduce the overall incidence of massive PPH or emergency hysterectomy could only be answered by continuous clinical audits.

Practical Tips:

- Different types of balloons can be used with similar efficacy (Fig.2) e.g. Bakri is original, Sengstaken-Blakemore is less expensive (with potential dual function e.g. gastric balloon inside uterine cavity for uterine atony + oesophageal balloon inside vagina for multiple vaginal tears with slow oozing post-suturing);
- Exclude retained placental tissue clinically or by ultrasound before BT;
- Use BT early in PPH by residents after training;
- Pack long gauze in vagina to prevent slipping out of the balloon; use ring forceps to grasp the cervical lips together in desperate cases;
- Perform ultrasound during & after insertion of balloon to demonstrate signs of success (Fig.3);
- It is usually the lower segment uterine atony which does not respond to uterotonic drugs (Syntocinon, Carboprost, Misoprostol) but to BT;
- Uterotonic drugs are still necessary to ensure contraction of the upper uterine segment;
- BT can be used with other 2nd line treatments;
- Remove the balloon after 12 to 24 hrs (daytime with backup), usually deflated all at once;
- Consider antibiotics cover e.g. Augmentin;
- Give adequate analgesics.

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Look-alike sound-alike Drugs (LASAD)

Incidents involving LASAD can occur during the prescribing, dispensing and administration processes. Here are three examples of incidents involving LASAD pairs:



Quinine Sulphate tablet was prescribed and was dispensed by pharmacy. 6 days later, pharmacy was informed that the intended drug should be **Quinidine Sulphate** instead of **Quinine Sulphate**.



Rosuvastatin 10mg daily for 26 weeks was prescribed. 12's **atorvastatin** 10mg tablet was wrongly dispensed, together with the remaining 170's **rosuvastatin** 10mg tablets.



Oxycodone 20mg Q6h prn was prescribed. A dose of **oxycodone prolonged release** 20mg was given to patient.

To avoid errors, safety measures and tools should be in place to facilitate differentiation of LASAD, for example:



Safety Tips and Measures

Use Tall-man lettering in labelling of LASA drug names



Increase staff awareness for preparations in multiple forms and strengths (e.g. oxycodone)



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