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Safety Notice 014/09

9 July 2009

Retained or Broken Orthopaedic Surgical Equipment in Patients

Distributed to:

- Chief Executives
- Directors of Clinical Governance
- Directors of Clinical Operations

Action required by:

- Directors of Clinical Governance

We recommend you also inform:

- Directors of Surgery
- Directors of Orthopaedics
- Emergency Medicine physicians and nurses
- Managers of Operating Theatres
- All Operating Theatre Nursing staff
- All medical staff
- All nursing staff

Expert reference group

- Content reviewed by:
- Greater Metropolitan Clinical Taskforce
 - Surgical Services Taskforce
 - Health Services Improvement Branch
 - Clinical Excellence Commission

Quality and Safety Branch

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Background

NSW Health has been notified of a number of incidents where orthopaedic material has been retained, or surgical equipment has broken off during a surgical procedure. In NSW this is classified as a SAC 1 (serious) Reportable Incident. International studies on equipment breakage have not found any significant correlation between surgeon experience and the rate of these types of incidents.

General Advice

Surgical departments and operating theatres should adopt procedures to help reduce the risk of equipment breakage incidents including:

- All surgical instruments should be regularly inspected for signs of fatigue
- A surgical equipment register should be maintained reflecting the age and /or usage rate of the equipment
- Surgical equipment should only be used for their specified and designed purpose
- At the time of purchase, new equipment should be inspected for quality prior to use
- If there is a regular pattern of instrument breakage, the manufacturer should be advised.

Suggested Actions

Where a surgical team is involved in a case where equipment breakage occurs, the senior clinician should determine if removal of the broken equipment or retained material will cause more harm to the patient than leaving it in situ. Broken surgical equipment or retained material should be removed when it is:

- Loose
- Penetrates both cortices of the bone
- Lies near a vessel or a nerve
- Lies near or in a joint.

It is noted that Kirschner Wires are smooth and have a tendency to migrate.

Any surgical equipment breakage or retained material incident should be documented in the surgical record with an appropriate management plan.

Please note that any retained material or surgical equipment requiring re-operation continues to be classified as a SAC 1 National Sentinel Event, requiring RCA investigation.

References

- Pichler et al, 'Frequency of Instrument Breakage During Orthopaedic Procedures and Its Effects on Patients', *The Journal of Bone and Joint Surgery, Incorporated* 2008;90:2652-4
- Operating Suite & Other Procedural Areas - Handling of Accountable Items - Standard Procedures PD2005_571
http://www.health.nsw.gov.au/policies/pd/2005/pdf/PD2005_571.pdf

Suggested Actions by Area Health Services

1. Review the current management of surgical equipment to monitor equipment fatigue.
2. Ensure surgical equipment is used for its designed purpose.
3. Clearly record any instrument breakage on the surgical record.
4. Contact the manufacturer if a regular pattern of equipment breakage is identified.
5. Ensure staff are aware that further information is available via the CIAP website
At : <http://www.ciap.health.nsw.gov.au/> or <http://internal.health.nsw.gov.au:2001/>