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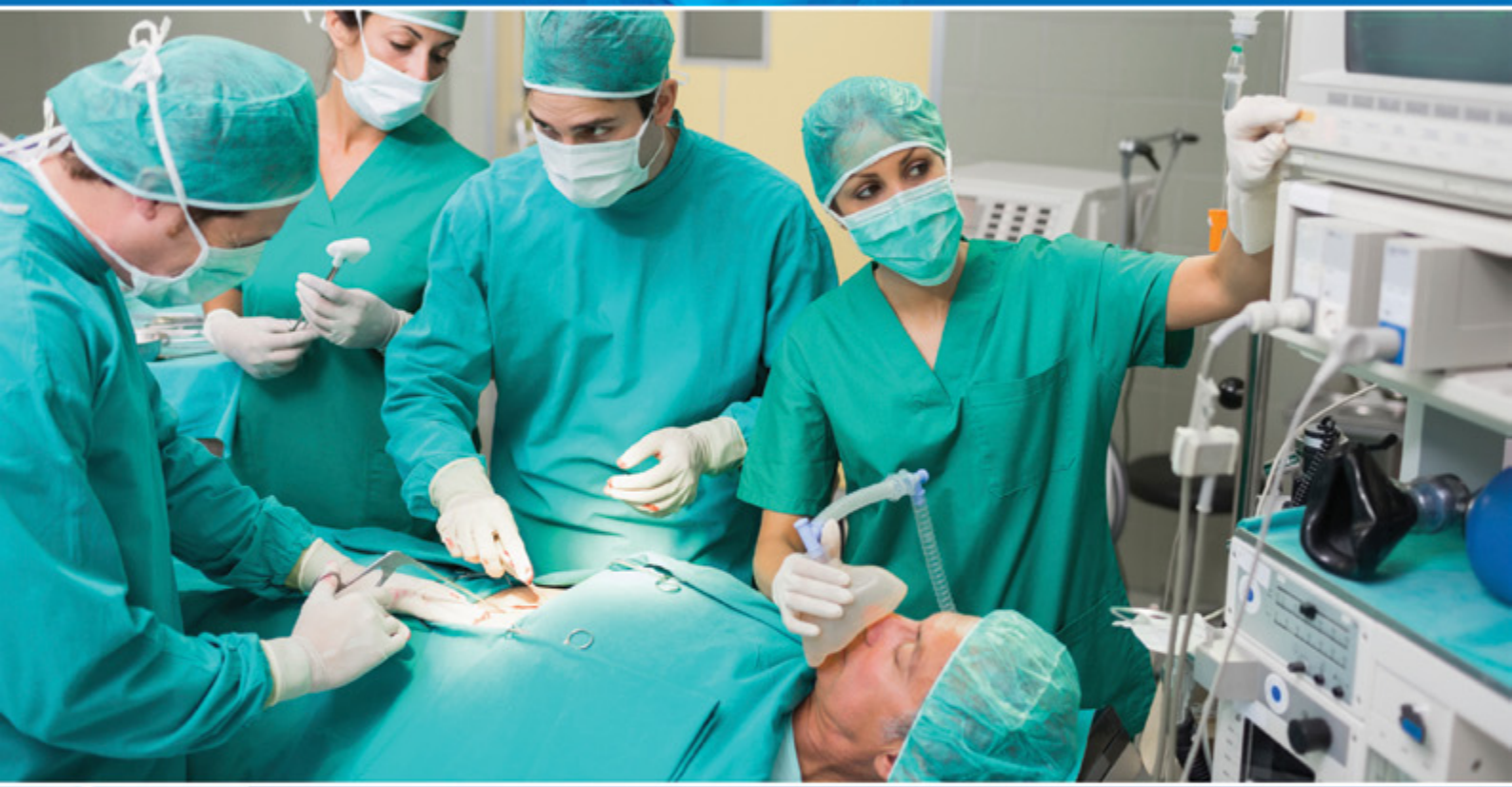

A Peer Reviewed International Journal for the Advancement of Clinical Skills

- 'docendo ac discendo' - 'by teaching and learning'

In this issue:

Foreword

Welcome to the latest edition of the International Journal of Clinical Skills (IJOCS), Volume 7, Issue 2, March 2013.

The majority of medical students will enter their first surgical session not having had contact with immediate pre- or post-operative patients, never having set foot in an operating theatre before and with an overwhelming fear of fainting, or doing something inexcusable. A study conducted in Leeds, England, describes the planning, implementation and reflection of pilot sessions which utilise innovative resources and subject specific material. Use this pilot study to help implement perioperative education for your students, thus reducing risks and ultimately improving patient outcomes.

Exposure to real patients with real problems is highly valued by medical students. With medical student numbers increasing globally and opportunities to access real patients in healthcare facilities declining, alternative arrangements have to be made to provide students with a 'real' patient experience, including the use of 'patient volunteers'. However, little is known in relation to patients' experiences of being examined by medial students for purely teaching purposes. An Australian research group present an interesting study which discusses patients' attitudes and experiences. Are volunteer patients a viable alternative to utilising patients in healthcare settings? Find out what the evidence shows.

The dynamic hip screw (DHS) is the most commonly used implant for hip fracture. One of its postoperative complications is infection, which can be associated with a high degree of morbidity and occasionally mortality. Our colleagues at the Trauma and Orthopaedic Department, Glan Clwyd Hospital, Wales, suggest a technical method for the management of deep-seated infection following DHS fixation. This novel technique has the potential to help manage early deep-seated would infection, without compromising stability of the fracture fixation or needing to perform excision arthroplasty. Utilise this technical tip to improve the quality of patient care and reduce morbidity.

Metacarpal fractures are very common with frequent presentation to Accident and Emergency Departments. However, caution is required when assessing such injuries. This interesting paper illustrates how healthy individuals can simulate a rotational deformity in the little or ring fingers of a 'normal' hand and therefore the importance of accurate clinical examination.

As always, your feedback is invaluable for the continued development of the International Journal of Clinical Skills – the only peer reviewed international journal devoted to clinical skills (e-mail: feedback@ijocs.org).

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International Journal Of Clinical Skills
P O Box 56395
London
SE1 2UZ
United Kingdom

E-mail: info@ijocs.org
Web: www.ijocs.org
Tel: +44 (0) 845 0920 114
Fax: +44 (0) 845 0920 115

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Exchange plating in the management of infected dynamic hip screw fixation

Mr Mohamed El Sayad MB ChB MRCS
Senior House Officer [1]

Mr Rahul Kotwal MB ChB MRCS
Speciality Orthopaedic Registrar [1]

Mr Albert Chikate MB ChB MRCS
Senior House Officer [2]

Mr Ian Smith MB BCh FRCS (T+O)
Consultant Orthopaedic Surgeon [2]

[1] ABM University Hospital Trust, Swansea, United Kingdom

[2] Glan Clwyd Hospital, Rhyl, Wales, United Kingdom

Correspondence:
Mr Mohamed El Sayad
Senior House Officer
Trauma and Orthopaedic Department
Glan Clwyd Hospital
Rhuddlan Road
Rhyl
LL18 5UJ
Wales

E-mail: msayad1@hotmail.com
Tel: +44 (0) 8450920114
Fax: +44 (0) 8450920115

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Abstract

The dynamic hip screw (DHS) is the most commonly used implant for internal fixation of intertrochanteric femoral fractures and basicervical fractures of the neck of femur. One of its postoperative complications is infection, which is associated with a high degree of morbidity and occasionally mortality.

This paper presents a technical method for the management of deep-seated infection following a DHS fixation. Our tip has successfully helped manage a case of postoperative infection, following a DHS fixation, which was otherwise failing to resolve with the regular methods of wound washouts and intravenous antibiotics.

We believe that in these complex cases of deep-seated infection, we have provided a technical tip that will help the surgeon in subsequent management, as well as avoiding destabilizing the fracture and excision arthroplasty.

Introduction

The dynamic hip screw (DHS) is the most commonly used implant for internal fixation of intertrochanteric femoral fractures and basicervical fractures of the neck of femur. Although infection is uncommon (1.8%) [1] it can have a disastrous consequence, sometimes necessitating implant removal and excision arthroplasty. We describe a simple method that allows the surgeon to manage a deep-seated infection of a DHS more effectively and without compromising the stability of the fracture fixation.

Technical Method

The infected metalwork is exposed through the old scar and infected soft tissues are debrided. Excluding the lag screw, which holds the fracture reduction, all other infected metal work (i.e. the cortical screws and the DHS side plate) are removed. A glycocalyx membrane which harbours bacteria is usually present underneath the plate. This infective membrane is debrided and sent to microbiology for culture and sensitivity. The holes for the cortical screws are drilled again to debride any membrane that may be present in them. Lavage is then given with six litres of normal saline. A new plate is placed at the site of the original plate and fixed with new cortical screws using the same holes used previously. The wound is closed in a standard fashion.

Discussion

Infected metalwork occasionally needs removal in order to eradicate infection. When the metalwork is holding together a fracture, removing it risks fracture destabilisation. Our technique allows the surgeon to effectively exchange infected metalwork without compromising fracture stability, where a DHS has been used.

We have successfully used this technique in a patient who developed postoperative deep-seated wound infection one week following a DHS fixation that failed to resolve, despite debridement and wound wash out on two occasions, as well as intravenous antibiotics. Interestingly, wound swabs and tissue taken during the two initial wound wash out procedures did not grow any organisms; however, during the third procedure (where we performed the exchange plating and sent the membrane underneath the plate for wound culture) a growth of *Staphylococcus aureus* was reported. In accordance with the microbiological culture sensitivities, the patient was given intravenous antibiotics for 48 hours followed by oral antibiotics for twelve days. The infection was successfully treated and the patient was discharged from the hospital three weeks later.

Conclusion

Exchange of a component of infected metalwork has been described to be an effective method of treating early post-operative deep-seated infection, especially in total knee replacement where a polyethylene liner exchange at the time of the debridement may help to salvage the prosthesis [2]. Using the same analogy, we describe for the first time a technical method which may allow surgeons to manage early deep-seated wound infection in a DHS more effectively and without compromising stability of fracture fixation or needing to perform an excision arthroplasty.

Declarations

This technical note was carried out at Trauma and Orthopaedic Department, Glan Clwyd Hospital, Rhyl, Wales, United Kingdom. A full application was made to the local National Health Service (NHS) Trust Research Ethics Committee for approval, which judged that this was unnecessary as the project should be classified as service improvement. The authors have no financial or other interests to declare in relation to this paper.

References

1. Edwards C, Counsell A, Boulton C, Moran C G. (2008). Early infection after hip fracture surgery: risk factors, costs and outcome. The Journal of Bone and Joint Surgery (British Volume). **90**(6):770-777.
2. Kalore N V, Gioe T J, Singh J A. (2011). Diagnosis and management of infected total knee arthroplasty. The Open Orthopaedics Journal. **5**:86-91.

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