
EXPERT OPINION ON PUBLISHED ARTICLES

Reviewer: Prof Johan Walters

Dept of Orthopaedics
University of Cape Town
Tel: (021) 404-5118

Casebook Vol 20 No 1 January 2012

An on-line publication of the Medical Protection Society at www.medicalprotection.org

Although this may not be seen as popular reading, these three cases from the MPS periodic publication *Casebook* highlight areas in our clinical practice where we may easily fall short of what can be considered acceptable practice.

'An unfortunate prescription' highlights the use of NSAIDs for chronic knee pain with other medication that may be associated with potentially adverse effects.

In the case reported, an obese female with chronic knee pain is treated by her practitioner, Dr A, with diclofenac. She then re-consults Dr A with dyspepsia which he attributes to the use of the NSAID and discontinues its use. A few years later she is seen and treated by Dr B for depression for which he prescribes Prozac, a SSRI (selective serotonin reuptake inhibitor). Shortly thereafter she is again seen by Dr B for back pain for which she was given a NSAID in addition to the Prozac. Within 10 days she presented with a major gastric bleed requiring prolonged hospitalisation and complicated recovery. The medical legal proceedings concluded that the 'large ulcer was attributable to NSAID use in a patient who had previously experienced dyspepsia while on NSAID, her risk being further increased by the concurrent use of an SSRI'.

The case could not be defended on the basis that the association between the use of the NSAID and the potentiation of an ulcer diathesis was not recognised and was settled for a moderate amount.

The 'learning points' from this case include:

1. The need to clearly record adverse reactions in clinical notes. This is more applicable to institutions such as public hospitals where patients are frequently seen by different practitioners on subsequent consultations.

2. The importance of taking a full history on every case when seeing a patient for the first time.
3. The need to communicate with other health professionals involved in the care of a patient.
4. The importance of the responsibility on the treating doctor for understanding the adverse effects and interactions of all medications prescribed.

This also has relevance with requests for 'repeat prescriptions' of medication for conditions beyond the scope of one's practice. Be careful.

'Symptoms don't add up' stresses the importance of ensuring that the signs and symptoms at presentation can be adequately explained.

In this case, a 30-year-old man develops chest tightness following a trip abroad. An initial diagnosis of UR infection was made, despite the absence of a cough or chest signs. After repeated visits with increasing shortness of breath and chest pain, but no other supporting symptoms or signs of infection and a normal CXR and ECG, Dr A continued to treat the condition as an URI, with the addition of dyspepsia and anxiety. Three weeks later the patient demised as a consequence of a PE.

This case could not be defended on the basis of a failure to consider the history of a recent flight, the lack of correlation of signs and symptoms with the initial diagnosis and the failure to review the diagnosis on subsequent visits. The case was settled for a large amount.

The main learning point in this case is, if you cannot explain the clinical findings fully, if 'things don't fit', don't ignore it. Dig deeper, and if you cannot reasonably explain the symptoms, seek another opinion. For patients who keep coming back with the initial symptoms, or if there is a failure to respond to treatment, revision of the initial diagnosis is wise. Guard against the tunnel vision to which we are all subject.

'Just a quick look can be costly' – the danger of the 'corridor consultation'

In this case a nursing sister twisted her ankle during the weekend and on return to work she asks one of the doctors in the ward to 'have a look'. Dr A examined her finding swelling and tenderness in the ankle region and diagnosed her to have sprained ankle ligaments. Two days later when the swelling had not improved and the patient requested that Dr A reassess the ankle. At this time he sent her for an X-ray which on his review did not demonstrate a fracture, and the 'sprain' diagnosis was re-affirmed. Following many subsequent consultations and a chronic course of swelling and 'cellulitis', five months after the injury a diagnosis of 'midtarsal and hind foot Charcot's collapse' was made. On retrospective evaluation the patient was a poorly controlled diabetic and the initial X-ray did reveal features of established neuropathic osteoarthropathy. The midfoot arthrosis had undergone significant further destruction and collapse.

The medico-legal review found that the action of the practitioner could not be defended as level of care fell below the accepted standard, and was settled for a moderate amount.

In this instance it is interesting to note that the Dr A did what he thought was reasonable and probably thought that he was doing this co-worker a favour. The case highlights the seemingly helpful practice of giving opinions on injuries or conditions, usually to co-workers or colleagues, in an informal or unstructured fashion. When a full history and examination have not been part of the process of arriving at the diagnosis we are exposing ourselves to legal action

These three cases put a spotlight on errors in medical practice which at some time or other we may all unwittingly commit and which may result in an unexpected malpractice claim against you.

Be aware of the medico-legal implications of your actions and consider your decision regarding medical practice insurance if you do not have cover.

Reviewer: Dr F Birkholtz

Unitas Hospital
Lifestyle Management Park Suite 8C
Lyttleton
(012) 664-2641

The relationship between time to surgical debridement and incidence of infection in grade III open fractures

J Singh, R Rambani, Z Hashim, R Raman, HK Sharma

Strategies in Trauma and Limb Reconstruction – Prepublication, accepted 12 March 2012. Available online.

As orthopaedic surgeons we are taught about the importance of an emergency debridement in patients with open fractures in order to limit infection risk. Most standard protocols advocate early antibiotics, coupled with early surgical debridement within 6 hours. The theoretical background to this stems from early experimental and clinical work (in the pre-antibiotic era) that showed the significant increase in bacterial colonisation after 5–6 hours without debridement.

More recent multi-centre trials including the LEAP study have shown that early antibiotic dosage and the quality of the surgical debridement are more important in preventing infection than the exact timing of the debridement.

In this study from the Royal Infirmary in Hull, the authors have looked at their grade III open fractures and tried to correlate the timing to debridement with outcome. They have retrospectively looked at a group of 67 patients with grade III fractures, the majority in the distal tibia. They divided the group into two, depending on whether the debridement was performed within 6 hours of injury or not. All of the debridements were however performed within 12 hours. The outcome measures were osteomyelitis at 1 year and non-union. Remarkably, there was no statistical difference in infection rate between the two groups.

This study has limitations in that it is retrospective and that the over 6 hour group was still relatively short at less than 12 hours.

It does, however raise the important point that early antibiotic delivery coupled with an adequate good quality debridement will be the most important factors in reducing infection rates.

It is important not to use this as an excuse and become lazy or complacent about open fractures. In units where the situation allows, a patient can wait for a senior colleague to perform a debridement after 6 hours, provided it is done properly and still within a reasonable time. If leaving the patient to someone else will mean an undue delay, then maintaining the 6 hour rule is probably a good idea.

Learning points:

- Early appropriate antibiotics are imperative and make a major difference.
- The quality of the debridement is paramount.
- It may be reasonable to let a patient wait a bit longer than 6 hours to ensure a good quality debridement by the right person.
- This debridement still needs to be done within a reasonable time.

Reviewer: Dr PH Laubscher

Centre for Sports Medicine and Orthopaedics, Rosebank
Jakaranda Hospital, Pretoria
Email: phlaubscher@gmail.com

Superior labral tears: Repair versus biceps tenodesis

Joseph P Burns, Michael Bahk, Stephen J Snyder
J Shoulder Elbow Surg 2011;20:S2-S8 (Supplement)

The above supplement to the March 2011 *Journal of Shoulder and Elbow Surgery* has been published together with several excellent articles. These touch on some of the 'hottest' topics in shoulder surgery at present. The article reviewed covers the topic of SLAP (superior labral tear from anterior to posterior) lesions by the author, Stephen J Snyder, who originally classified these lesions in 1990, concisely and thoroughly.

The biomechanical function of the superior labral complex is to stabilise the shoulder partially in the abducted externally rotated position. No doubt diagnosing this lesion is difficult. The authors suggest that both clinical and diagnostic (arthroscopic) findings contribute to a diagnosis.

Criteria for diagnosing a SLAP lesion include the following:

- History of acute trauma or repetitive overhead athletic use (insidious onset of pain is not typical)
- 'Suspicious' physical examination with one or more positive SLAP signs (O'Brien test, Speed test, Kim biceps load test or Mayo shear test, among others)
- MRI arthrogram positive for SLAP lesion and/or perilabral cyst
- Detached superior labrum on glenohumeral arthroscopy.

No validated outcome measures are available to assess the outcome of SLAP lesions. Results are accordingly difficult to interpret but all studies available show significant improvement in outcome after repair. Some research does, however, suggest that only 64% of overhead athletes are able to return to their

pre-injury level of play after repair. Biceps tenodesis is offered as an alternative; no research has, however, been done regarding this treatment option in this specific patient population.

The authors also share their treatment algorithm for SLAP tears. They will repair all SLAP type II lesions in patients younger than 40 years of age. Primary tenodesis (in any age group) is only considered in the following instances:

- Degenerative biceps tearing
- Type IV SLAP (>50% of tendon damaged)
- Significant biceps groove symptoms
- SLAP lesion in combination with any of the following:
 - Full thickness rotator cuff tear
 - Degenerative osteoarthritis
 - Significant degenerative labral changes

In athletes who are dependent on the overhead position the authors will repair a SLAP type II lesion using the above guidelines but will then warn the athlete that a revision tenodesis might be necessary if the primary repair fails.

Technical tips for a SLAP repair given by the authors include the following:

- one double loaded anchor placed at the 12 o' clock position
- avoiding anchors anterior to the biceps
- avoiding shortening of the biceps.

The guidelines offered in this article reflect the current standard practice when dealing with SLAP lesions.

Age at hip or knee joint replacement surgery predicts likelihood of revision surgery

C Wainwright, JC Theis, N Garneti, M Mellon
JBJS (Br), 2011;93-B:1411-15

In this large series of 4 668 patients undergoing total hip and total knee replacement the authors compared revision and mortality rates during an 18-year follow-up period from 1989 to 2007.

The mean age of the patients was 69 years (29 to 97). At a mean follow-up period of 10 years postoperatively 1 175 patients (25%) had died. The mean age of those who died within ten years of surgery was 74.4 years (29 to 97). No association of revision or death could be proven with higher comorbidity scoring, grade of surgeon or patient gender.

Their findings showed that patients younger than 50 years at the time of surgery have a greater chance of requiring a revision of their total hip or total knee replacement than dying; those around 58 years of age have a 50:50 chance of needing revision; and the

prosthesis will normally outlast the patient in those older than 62 years.

Patients over 77 years of age have a greater than 90% chance of dying than requiring a revision whereas those around 47 years are on average twice as likely to require a revision than to die. This information can be used to delay surgery in young patients requiring knee or hip replacement by prolonging conservative treatment until the age of around 62 years.

The information can also be very useful in discussing informed consent with the patient and in discussing the prognosis of the surgery depending on the age of the patient. It is then up to the patient and the surgeon as part of the informed consent process to decide on a relative probability of implant versus patient survival that is acceptable to both parties.

Reviewer: Dr S Sombili

Department of Orthopaedics
Steve Biko Academic Hospital
University of Pretoria
Tel: (012) 354-2851

Email: paulinah.mhlanga@up.ac.za

Reviewer: Dr RS Ngobeni

Department of Orthopaedic Surgery
Steve Biko Academic Hospital
Pretoria

Tel: (012) 354-5034/5032

Fax: (012) 354-2821

Email: shadi.ngobeni@up.ac.za OR shadim@telkosa.net

Contributing factors to surgical site infections

James S Harrop, MD, John C Styliaras, MD, Yinn Cher Ooi, Kristen E. Radcliff, MD, Alexander R Vaccaro, MD, Chengyuan Wu, MD
American Academy of Orthopaedic Surgeons February 2012;20(2):94-101

All surgeons need to know the current evidence based practice regarding the factors that have an impact on the surgical site infection; this will provide the highest level of patient care.

Few articles were reviewed from the literature by the authors within the last 5 years. Forty per cent of the articles used were level 1 evidence; 24% level 2; 16% level 3; and lastly level 4 and 5 were 10% each. As a summary factors to look at are as follows:

A. Hand washing

1. **Scrub technique:** Dry scrub is better than traditional scrub. Follow protocol = non-sterile hand wash to remove debris, 5 ml aqueous alcohol rub, let hands dry completely
2. **Antiseptic agent:** Chlorhexidine in alcohol is the most effective antiseptic agent
3. **Scrub duration:** 3 min dry scrub decreases the colony forming units, not necessarily surgical site infection

B. Surgical site skin preparation: No benefit in pre-scrubbing, instead it irritates the skin and exposes resident microbes

1. **Antiseptic agent:** Chlorhexidine in alcohol takes precedence
2. **Incision drapes:** Adhesive and iodophor-impregnated drapes have no evidence of proven benefit
3. **Hair shaving:** Shaving increases the risk of surgical site infection; if it is unavoidable rather use an electric clipper, not a blade

C. Operating room behaviour: See Table I.

Table I: Surgical room control

Proper attire	Theatre only
Distance 50 cm maintained by non-sterile persons	limit
Exchange surgical team members	limit
Movement in the operating room	limit
Operating room noise	limit
Visitors	orientate
Intra-operative changing of patient's position	limit

D. Wound irrigation: No clear effectiveness or documented evidence exists

E. Surgical duration: 2 hrs and more for orthopaedic surgeons increase the risk of surgical site infection due to exposed sets, tissues and possible hypothermia

F. Patient-related risk factors: Diabetes can result in poor wound healing, and obesity has a higher risk for fat necrosis. MRSA colonisation increases the risk of infection to the patient, fellow patients and staff.

The article is worth reading especially to avoid getting stuck to old traditions which are not supported by evidence.

Treatment of clavicle fractures: current concepts review

Oliver A van der Meijden, MD, Trevor R Gaskill, MD,
Peter J Millett, MD, MSc

J Shoulder Elbow Surg 2012;21:423-29

Fractures of the clavicle are relatively common, accounting for approximately 2%-5% of fractures in adults and 10%-15% in children. Two-thirds involve the diaphysis with the lateral third comprising of 25% and the medial third the remaining 2-3%.

Historically, the vast majority of diaphyseal fractures have been treated nonoperatively except in cases where definite indications for surgical intervention existed such as open fractures. In the last decade however, there has been a plethora of publications highlighting a far greater level of complications (15%-18% non-unions), and patient dissatisfaction (symptomatic mal-union and loss of shoulder strength). This has subsequently led to a paradigm shift towards acute operative stabilisation of clavicle fractures with an expansion of indications to include amounts of displacement and comminution, and patient activity. Not a lot however is said about the complications of surgical intervention such as infection,

neurologic compromise, and refracture after hardware removal.

The value of this article is that it provides a concise yet comprehensive review of the current trends in the treatment of not only midshaft fractures but also, of those involving the medial and lateral ends of the clavicle.

Importantly, it emphasises the fact that treatment of clavicle fractures should not be broadly applied resulting in indiscriminate surgical intervention, but rather it be individualised based on fracture characteristics and patient expectations. This is particularly pertinent in the light that there is still no long term evidence showing superior outcome of surgically treated midshaft fractures.

It certainly has a place in the armamentarium of all orthopaedic registrars in training in grounding their approach and reasoning in the often challenging and sometimes controversial treatment of these fractures.

Reviewer: Dr H Sithebe

Department of Orthopaedic Surgery
Steve Biko Academic Hospital
University of Pretoria

Tel: (012) 354-2851

Reviewer: Prof EB Hoffman
 Department of Orthopaedic Surgery
 University of Cape Town
 Tel: (021) 674-2090

Combined procedure of open reduction and shortening of the femur in treatment of congenital dislocation of the hips in older children

Pedrag Klisic, Ljubisa Jankovic
Clin Orthop 1976;**119**:60-69

With this article Klisic, who was from Belgrade Yugoslavia, introduced the concept of femoral shortening in the management of older patients with DDH to the West. Since the use of femoral shortening the incidence of avascular necrosis has almost disappeared, a more concentric reduction is obtained with a better long-term outcome, and the need for pre-operative traction is eliminated.

They reviewed 60 hips in 47 children. The age at surgery ranged from 5 to 15 years. The average shortening was 2.5 cm (range 1–4.5 cm). The femur was derotated to 0°, and the valgus corrected to 115° neck shaft angle. The acetabular dysplasia was addressed with either a shelf or a Chiari osteotomy, and the iliopsoas was moved proximally on the femur. At a mean follow-up of 7 years (range 5–9 years) 63% had good results.

In a second study by Klisic,¹ they reviewed 144 hips (including the 60 hips in the first study) at a longer follow-up with a mean of 13 years (range 9–24 years). Although they felt that the combined procedure had stood the test of time with 62% good results, they showed that older patients had poorer results: <8 years of age had 74% good results, 9 to 10 years 59% and >10 years only 32% good results. This is similar to Salter's findings in his landmark publication:² 1.5–4 years of age had 93.6% good results, while 4–10 years had only 56.7% good results. But Salter did not do a femoral shortening as his article was published in 1974 and Klisic's in 1976! Currently the watershed for relocating congenital dislocation of the hip, because of poor congruity, is 8 years in unilateral and 6 years in bilateral dislocations.³

Subsequent refinements have made this procedure a sine qua non in the treatment of the child >2 years with DDH. Articles by Wenger *et al*^{4,5} describe the current status of the technique and is a must read by surgeons doing this procedure. The pelvic osteotomy can either be a Salter or Dega. They shorten the femur an average of 1.5 cm (0.5–3 cm). There is no valgus of the femoral neck, but increased anteversion and they derotate an average of 33°, but caution against too much derotation which can result in posterior hip dislocation if a Salter pelvic osteotomy is done. If I do a Salter osteotomy I try and avoid derotation.

Wenger *et al*⁶ has also successfully used derotational femoral shortening in children <2 years with teratological dislocation.

References

1. Klisic P, Jankovic L. Long-term results of combined operative reduction of the hip in children. *J Pediatr Orthop* 1988;8:532-34.
2. Salter RB, Dubos JP. The first 15 years' personal experience with innominate osteotomy in the treatment of congenital dislocation and subluxation of the hip. *Clin Orthop* 1974;98:73-103.
3. Crawford AH, Mehlman CT, Slovek RW. The fate of untreated developmental dislocation of the hip: long-term follow-up of eleven patients. *J Pediatr Orthop* 1999;19:641-44.
4. Galpin RD, Roach JW, Wenger DR, Herring JA, Birch JG. One-stage treatment of congenital dislocation of the hip in older children, including femoral shortening. *J Bone Joint Surg(Am)* 1989;71-A:734-41.
5. Weinstein SL, Mubarak SJ, Wenger DR. Developmental hip dysplasia and dislocation. Part II. *J Bone Joint Surg(Am)* 2003;85-A:2024-35.
6. Wenger DR, Lee CS, Kolman B. Derotational femoral shortening for developmental dislocation of the hip: special indications and results in the child younger than 2 years. *J Pediatr Orthop* 1995;15:768-79.

• SAOJ

GUIDELINES FOR PEER REVIEWERS

Please consider the following questions when reviewing articles:

1. Is the language acceptable?
2. Is the style of the article acceptable?
3. Do you have any suspicion of plagiarism?
4. Are the contents correct?
5. Do the facts come across in such a way that the reader will get the message?
6. Does the article really enlarge present knowledge on the subject?
7. Do the references reflect the Vancouver system?
8. Is the number of references acceptable?
9. Are the conclusions supported by the text?
10. At which level does this article focus?
 - a. A subspecialty of orthopaedic surgery
 - b. General orthopaedic surgery
 - c. Senior registrar level.