Figure 3 Intraoperative radiography showing maintenance of the reduction, with no distal displacement caused by the insertion (and lag effect) of the screw

the reduction maintained by passing two smooth K-wires across the fracture site: one anterior in the tibia and one posterior (Fig 2). A transepiphyseal guidewire can then be placed between these two wires. After position is confirmed on x-ray, a 4mm cannulated, partially threaded cancellous screw can be placed (Fig 3). Once some compression is achieved, the smooth K-wires can be removed.

DISCUSSION

Although the exact technique is not original, it highlights important considerations around fixation of paediatric fractures. This method has advantages over other potential fixation options; as the K-wires are removed afterwards, there is less risk of growth arrest compared with tension band wiring and an anatomic reduction is more easily achieved (and maintained) than with a buttress plate.

Botox in reverse: a useful adjunct for acromial fractures

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BACKGROUND

The incidence of postoperative acromial fractures has been reported to range from 1.4–4%.¹ These fractures can be difficult to manage as the reverse arthroplasty relies on the deltoid being placed under tension to achieve a mechanical advantage.² However, following a fracture, it actively mobilises the fracture site and any fixation needs to be able to overcome this distraction

force. The union rate for those fractures affecting the base of the acromion or scapular spine is around one-third.³ This demonstrates that the management of these fractures after reverse arthroplasty remains difficult.

TECHNIQUE

Patients with acromial fractures after a reverse arthroplasty are often self-referred back to the clinic with sudden onset pain with no preceding trauma typically between 6 and 12 weeks after surgery. Radiographs can reveal the fracture (Fig 1).

Figure 1 Axillary x-ray taken 9 weeks postoperatively, demonstrating the acromial base fracture.

Figure 2 Six-month postoperative axillary x-ray showing healing of the fracture.

Open reduction and internal fixation is usually performed with a locking pre-contoured acromial plate (Fig 2). The addition of perioperative botulinum toxin injections into the three parts of deltoid (400 units in total) can temporarily defunction the deltoid muscle.

DISCUSSION

Botulinum toxin works by inhibiting the release of acetylcholine, which is an essential neurotransmitter at the neuromuscular junction, thereby causing muscle paralysis.⁴ The use of botox for acromial fractures does temporary reduce the deltoid muscle tension. The effect of the botulinum toxin is known to last approximately 3–6 months and the injected muscle always recovers strength and function.⁵ Patients should be warned of this prolonged recovery, but its use should result in a pain-free and functioning reverse arthroplasty.

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Radiolucent triangle and U-bolster for lower leg positioning for circular frame application

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BACKGROUND

Application of a circular frame to the tibia is a procedure in common usage for both trauma management and elective deformity correction. The ring-first technique uses temporary reference wires to position the ring in the required orientation relative to the bone axis, prior to definitive fixation.^{1,2} Instability of the fractured limb can pose technical challenges for accurate ring positioning and fixation.

TECHNIQUE

We advocate positioning of the leg using the following technique. A radiolucent triangle and U-bolster are sterile wrapped in a Mayo cover and sealed with an adhesive plastic drape. After skin preparation and sterile draping, the supports are placed as demonstrated in Figures 1 and 2.

After appropriate positioning of the leg, the surgeon can then proceed to definitive fixation, as shown in Figure 3.

Figure 1 Nonsterile positioning of the leg.

Figure 2 Sterile positioning of the leg.

Figure 3 Circumference access for ring positioning.

DISCUSSION

The advantages of this technique are that it allows unencumbered circumferential access, minimises fracture movement and facilitates accurate positioning of the ring prior to definitive fixation.

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