Technical Section [TECHNICAL NOTES AND TIPS

Intraoperative assessment of flexor hallucis longus tendon integrity following hallux valgus correction

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BACKGROUND

The proximity of the flexor hallucis longus (FHL) tendon to the plantar surface of the proximal phalanx renders it vulnerable to injury when performing corrective surgery of the first ray.^{1–3} This is an underrecognised surgical complication and results in avoidable morbidity to the patient. We present an intraoperative method of assessing the integrity of the tendon.

TECHNIQUE

The flat surface of a McDonald dissector is placed between the FHL tendon and the plantar aspect of the proximal phalanx of the great toe. The simple manoeuvre of turning the retractor clockwise through 90° places an intact tendon under tension with a resulting subtle flexion of the distal phalanx. An inadvertently tenotomised tendon produces no

such response, and requires exploration and repair. Figure 1 illustrates the technique.

DISCUSSION

We have presented a method for the intraoperative assessment of the FHL tendon following Akin osteotomy of the great toe. This method is quick, simple and easily reproduced. We have found it to be sensitive in the detection of this occult injury, resulting in improvement in patient outcome.

References

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Covering external fixator pins with plastic tubing to protect the neighbouring digit

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Following debridement and lavage for infected non-union in a digit, an external fixator is required to achieve skeletal stability. The external fixator pins are cut and covered with a piece of excess plastic tubing measured to fit the fixator. The tube is marked at intervals corresponding to the pins with a surgical marker and a K-wire of the same calibre is used to perforate the cylinder unilaterally. The opposite side is left intact, covering the pins and protecting the border of the neighbouring digit (Fig 1).

Any plastic tubing can be used for this purpose, including nasogastric tubes, urinary catheters and oxygen delivery tubes. This is a safe,

Figure 1 The McDonald dissector (solid black line) is placed perpendicular to the flexor hallucis longus tendon at the base of the proximal phalanx (A). The dissector is turned clockwise (B), placing an intact tendon under tension, eliciting subtle flexion at the interphalangeal joint. The dissector must be placed fully along the plantar surface of the proximal phalanx (C, coronal view). Note proximity of tendon to site of Akin osteotomy (dotted black line).

Figure 1 External fixator pins covered with plastic tubing