Figure 5 Medially protruding straight edge of the ruler in the distal transverse osteotomy acting as a guide to orientate the saw before commencing the proximal osteotomy

Figure 6 Saw completing the proximal transverse osteotomy in a parallel fashion

edge of the ruler will act as a guide to confirm that the proposed proximal transverse osteotomy is parallel to the completed distal osteotomy. Place the micro-oscillating saw against the medial metatarsal cortex and orientate the blade so that it is parallel to that of the ruler edge (Fig 5). Perform the osteotomy, checking regularly that the blade is parallel to the ruler edge (Fig 6). Once complete, remove the ruler and displace the distal plantar fragment laterally as required for optimal correction. Stabilise with two K-wires. Complete the rest of the procedure as routine.

DISCUSSION

The scarf osteotomy is a technically demanding procedure with a steep learning curve.⁴ This technique will increase the surgeon's confidence and reliability of making parallel transverse cuts, particularly when at the bottom of the learning curve.

References

1. Barouk LS. Osteotomie Scarf du premier metatarsien. *Med Chir Pied* 1990; **10**: 111–120.
2. Barouk LS. Scarf osteotomy of the first metatarsal in the treatment of hallux valgus. *Foot Dis* 1995; **2**: 35–48.

3. Kristen KH, Berger C, Stelzig S *et al*. The SCARF osteotomy for the correction of hallux valgus deformities. *Foot Ankle Int* 2002; **23**: 221–229.
4. Weil LS. Scarf osteotomy for correction of hallux valgus. Historical perspective, surgical technique, and results. *Foot Ankle Clin* 2000; **5**: 559–580.

How to measure distal locking screws for intramedullary nails without a depth gauge

WD Harrison, KH Rourke, B Narayan

Royal Liverpool and Broadgreen University Hospitals
NHS Trust, UK

CORRESPONDENCE TO

William Harrison, E: will.d.harrison@gmail.com

Measuring length of distal locking screws is sometimes challenging owing to the gauge hook tethering soft tissues or failing to engage with the distal cortex. 'Hand-eye' memory is also lost when exchanging the drill for the depth gauge.

This method measures the screw length accurately prior to setting up for the lateral view. Screws can be opened pre-emptively and inserted immediately after drilling.

The majority of intramedullary nails are 10mm ±1.5mm in diameter. The known diameter of the nail (x) acts as a numerator (on an anteroposterior view) for the diameter of the bone (y). Using the fluoroscopic image and a ruler, measure the number of nail diameters that would be required to span the diameter of the bone.

$$\text{Screw length} = x \left(\frac{y}{x} \right) + 5\text{mm}$$

Figure 1 Annotated diagram of the distal locking screw length measurement technique