The use of a five-hole pin clamp for removal of Hoffmann II® external fixation system

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Effortless tension for Thomas splints

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External fixation is used as treatment for trauma. Missing the manufacturer's specific key makes removing the device difficult. Britnell *et al* reported the use of an oxygen cylinder key to remove an external fixator.¹

The five-hole pin clamp can be used for removal of an external fixator. This is an individual piece of non-sterile equipment that can be found in trauma theatres and fits on to the pin-to-rod coupling of the Hoffman II® external fixation system (Stryker, Kalamazoo, MI, US) (Fig 1). This will prevent unnecessary use of sterile equipment, saving time and money, and leaving valuable kit available. This technique has been used in our department without any complications.

Reference

1. Britnell WG, McDonnell SM, Handley R. The use of an oxygen cylinder key for removal of a Hoffmann II external fixator. *Ann R Coll Surg Engl* 2011; **93**: 417.

Figure 1 Five-hole pin clamp and pin-to-rod coupling on engagement. Once engaged it will enable the removal of the Hoffmann II® external fixation system.

BACKGROUND

The Thomas splint has stood the test of time immobilising femoral fractures, reducing haemorrhage, improving pain and facilitating transport. This is due to its simplicity, ease of application, few complications and non-invasive nature.¹

Traditionally, twisting the distal cord around a tongue depressor creates tension. It can be difficult to produce the desired amount of

Figure 1

Figure 2

Figure 3

Figure 5

Figure 4

tension, and twisting the tongue depressor between the bars of the splint can be slow and cause pain. We describe a simple system of knots and pulleys, allowing effortless controlled straight-line traction to be used on Thomas splints.

TECHNIQUE

Skin traction is applied to the leg in the normal fashion. Rotation of the fracture is controlled by bringing the inner cord under the inner bar and back to the midline while the outer cord is brought over the outer bar and back to the midline (Fig 1). Two reef knots are placed with a gap between them to create a loop for later (Fig 2). One of the cords is used for pre-tensioning by attaching it to the end of the splint (Fig 3). The other end of the cord is brought over the end of the splint and then back through the loop created between the two reef knots and then back over the end of the splint and through the loop for a second time (Fig 4). This creates a pulley system and, by

pulling, the free cord creates tension effortlessly before securing it to the end of the splint (Fig 5).

DISCUSSION

The technique described allows effortless and controlled traction to be created when using a Thomas splint.

Reference

1. Robinson PM, O'Meara MJ. The Thomas splint: its origins and use in trauma. *J Bone Joint Surg Br* 2009; **91**: 540–544.

A novel transcutaneous ultrasonography guided single port removal of a pelvic appendicolith

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BACKGROUND

A retained appendicolith is a recognised complication following appendectomy. Unlike spilled gallstones, retained appendicoliths act inevitably as a nidus for recurrent intra-abdominal collections. Current options for treatment include image guided percutaneous drainage followed by surgical retrieval, with most reported cases eventually requiring open surgical drainage.¹ We present an innovative, less invasive approach for appendicolith extraction using existing laparoscopic instruments and ultrasonography guidance.

TECHNIQUE

Under general anaesthesia, ultrasonography is used to identify the appendicolith. A needle and syringe are used to enter the cavity