Spongostan® (Ethicon) to form a cement restrictor that can accommodate large canal diameters and provide excellent pressurisation.

TECHNIQUE

The technique involves the application of Spongostan® foam on to a Surgicel® mesh, which is rolled on to the Spongostan® foam, forming a uniform cylindrical structure. The diameter of the restrictor is adjusted to the desired femoral canal diameter by increasing the thickness of the Spongostan® foam. The restrictor is inserted into the medullary canal and guided to the appropriate position using a standard cement restrictor inserter, where it expands uniformly, creating an effective restrictor. Bone cement is applied and pressurisation commenced prior to implant insertion. The bespoke restrictor glides with minimal resistance and maintains its form during insertion.

DISCUSSION

Numerous plug designs and materials are available, ranging from non-resorbable to resorbable. All restrictors should avoid intramedullary cement leakage and plug migration during cement and stem insertion to ensure adequate intramedullary pressures.

The use of the Surgicel®–Spongostan® haemostatic restrictor overcomes some of the limitations of standard cement restrictors. These include the ability to bypass a narrow femoral isthmus, accommodate large femoral canals (particularly in revision procedures), and the flexibility of adjusting the restrictor to the desired diameter of the medullary canal, providing a bespoke cement restrictor.

Novel technique for tunnelling paediatric cuffed venous catheters

RA Benson, J Hawkins, AD Pherwani

University Hospitals of North Midlands NHS Trust, UK

CORRESPONDENCE TO

Ruth Benson, E: ruth.benson@gmail.com
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Line tunnellers provided in prepacked paediatric central venous catheter kits are often significantly larger than the small line being placed. This risks unnecessary tissue trauma and increases the chance of early

line slippage. Our department often inserts medium-term access in patients as young as two months old. One solution is to substitute the tunneller for a malleable 178mm probe (SC-G1/290; Surgical Holdings, Southend-on-Sea, UK) with an eye, through which the line is threaded. We have found it to be readily available, a better match for the extremely small paediatric lines we insert and easily shaped to a curve for tunnelling (Fig 1).

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Hybrid tracheostomy

N Mani, P Bijoor, G Cook, S Loughran

Central Manchester University Hospitals NHS Foundation Trust, UK

CORRESPONDENCE TO

Navin Mani, E: navmani@hotmail.com
doi 10.1308/rcsann.2016.0169

BACKGROUND

Tracheostomy is a common requirement in the intensive care unit (ICU) patient population.¹ Percutaneous tracheostomy performed in the ICU has gained popularity but is not suitable in all patients, with many still requiring surgical tracheostomy in the operating theatre because of difficult neck access.² We have developed a minimally invasive technique of hybrid tracheostomy for these patients, thereby avoiding delays on the emergency theatre list and potentially hazardous transfer from the ICU to the operating theatre.

TECHNIQUE

Position the patient with the neck extended. Make a horizontal 1.5–2cm skin incision midway between the cricoid and suprasternal notch. Bluntly retract the subcutaneous fat and strap muscles in the midline using small Langenbeck retractors. Bipolar diathermy should be used judiciously. If encountered, the thyroid isthmus is retracted superiorly. The trachea is directly exposed and visualised. Continue with the standard percutaneous technique of tracheostomy tube placement with needle insertion into the trachea under bronchoscopic guidance, followed by guidewire and serial dilation. A number of commercial kits are available for this final step.

DISCUSSION

Hybrid tracheostomy is a safe, effective technique. A smaller skin incision can be used than for a traditional surgical tracheostomy as removal of a tracheal cartilage window is not required. The open element of the

Figure 1 The standard 9.6Fr tunneller provided (A), the probe used at our centre (B) and a 3.3Fr paediatric tunnelled line (C)

procedure with direct visualisation of the strap muscles and trachea also means that bleeding can be effectively managed. We recommend other departments consider implementation of this technique.

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A tip for rotation of the limb during ankle fixation

R Shafafy, S Jordan

Royal Surrey County Hospital NHS Foundation Trust, UK

CORRESPONDENCE TO

Roозbeh Shafafy, E: roozbeh.shafafy@doctors.net.uk
doi 10.1308/rcsann.2016.0170

Operative fixation of the ankle requires an assistant to internally rotate the limb to visualise the lateral malleolus, even with a sandbag under the ipsilateral buttock. We describe a simple technique to internally rotate the limb when no assistant is available. Sterile crepe bandage is passed around the foot several times and secured to the contralateral side of the table by an unscrubbed theatre member (Fig 1). The degree

of internal rotation is varied by the tightness of the bandage. This frees the scrub nurse from assisting with rotation of the limb and may reduce operative time when no assistant is available.

Trethowan retractor technique to aid supination of the wrist during distal radius fracture fixation

R Shafafy, S Jordan, K Gill

Royal Surrey County Hospital NHS Foundation Trust, UK

CORRESPONDENCE TO

Roозbeh Shafafy, E: roozbeh.shafafy@doctors.net.uk
doi 10.1308/rcsann.2016.0171

An assistant is usually required to aid supination of the forearm during volar fixation of a distal radius fracture. We describe a simple technique to maintain supination when an assistant is unavailable. The thumb is passed through the ring of a Trethowan retractor with the spike passed beneath the hand at the level of the metacarpal bases (Fig 1). This maintains supination without obscuring intraoperative imaging, unlike a lead hand retractor. This may free the scrub nurse from having to aid with supination when an assistant is not available and can reduce operative time.

Figure 1 Lower leg before and after crepe bandage has been passed around the foot

Figure 1 Lower arm before and after thumb has been passed through the ring of a Trethowan retractor