minimal blood contamination and reduced intramedullary bleeding pressure² optimise the bone–cement interface. Cement pressurisation and suction techniques are employed to ensure penetration and interdigitation with bone. Pressurisation can be achieved by forcing the knee into extension after insertion of implants;³ however, this has the potential disadvantage of tipping components out of position and does not guarantee penetration. Cement impactors⁴ ensure superficial cement penetration but are expensive and potentially increase the risk of fat embolism. The suction techniques, *e.g.* via a Wolf needle,⁵ reduce both the fat embolism risk and bleeding pressure; however, they can lead to excessive local cement penetration. The method described has the advantages of both techniques and costs a fraction of the amount of the commercially available cement guns.

TECHNIQUE

The tibial, femoral and patella surfaces are prepared using standard techniques. A Wolf needle is inserted in the proximal tibia, below the prepared surface and in a position which will not interfere with tibial component insertion (Fig. 1a). Two 20-ml syringes have their plungers removed, their distal ends cut off, and the plungers re-inserted the wrong way around. The cement is drawn up into the syringes. One syringe is used for the tibial surface and one for the femoral and patella surfaces. The collar of the syringe acts as a seal to prevent cement extrusion so that when the plunger is depressed pressure forces cement into the prepared cancellous surface (Fig. 1b). This focal pressurisation process is then repeated over the entire surface of the tibia. Finally, a mantle of cement is applied on the top of the pressurised cement (Fig. 1c) and the prosthesis is inserted. Excessive cement penetration can be avoided by turning off the suction intermittently on the Wolf needle. The process is repeated on the patella and femoral surfaces, with the Wolf needle positioned in either of the femoral condyles.

This technique can also be utilised when performing unicompartmental knee replacements; however, one needs to trim the tibial syringe differently to allow for the femoral condyle presence (Fig. 2a). Excellent penetration can still be achieved on both surfaces (Fig. 2b,c).

DISCUSSION

We believe this is a valuable technique which fulfils all the requirements of a third generation cement insertion method but with negligible cost implications.

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Temporary abdominal wall closure using a sterile drape technique

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BACKGROUND

Various methods of temporary abdominal wall closure have been described for use in patients with abdominal compartment syndrome, utilising different materials from meshes to irrigation bags. We describe a simplified technique of vacuum closure using a sterile drape that is easy to perform and has various advantages.

TECHNIQUE

A small drape is folded to approximate to the size of the laparotomy wound. Two Opsite (Smith & Nephew Medical, Hull, UK) sheets are then used to sandwich the drape, thus making its surface non-adherent. The drape is positioned on the viscera and its edges tucked underneath the anterior abdominal wall. Two drains are positioned on the drape to run along the edges of the open wound, crossing inferiorly and tunnelled subcutaneously to exit on each side of the abdomen. A useful tip is to ensure the drains are tunnelled at least 10 cm away from the skin edge to achieve an air-tight seal. The surrounding skin is dried and a large

Figure 1 The sterile drape technique for temporary abdominal wall closure.

Opsite applied over the entire wound. Suction is applied to the drains and the vacuum seal is thus complete.

DISCUSSION

This technique is simple, inexpensive and rapid to perform. The drape prepared as described is effective in containing the abdominal viscera and no suturing is required. The rectus sheath is thus not weakened by the application of sutures prior to definitive closure. The dressing is dry, air-tight and facilitates postoperative nursing care.

An inexpensive 3-D model for teaching local flap design on the face and head

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BACKGROUND

Due to the complex three-dimensional structure of the human face, teaching trainees the design of local flaps in the head and neck region can be difficult by using the traditional 'pen-and-paper' approach. A number of alternative teaching methods have been described in the literature.¹⁻³

TECHNIQUE

Drawing pins of different sizes are inserted onto a styrene mannequin head (male or female) to simulate raised lesions (e.g. basal cell carcinomas, BCCs). Cling film is then used to cover the whole head and carefully folded to match the contours of the face (a thin layer of paper stick glue can help secure the cling film onto the styrene, especially around the facial contours). Trainees are now taught how to design a local flap, such as a rhomboid or bilobed flap, by drawing around the simulated lesion with a marker pen (Fig. 1). The importance of vascular and aesthetic considerations is stressed during the exercise and the model can further be used to illustrate the correction of simulated scars with z-plasty. At the end of the exercise, the plastic wrap is easily removed and replaced. In addition to teaching, this model can also act as an assessment tool.

DISCUSSION

Our experience has shown that this three-dimensional model is an excellent teaching and assessment tool for the design of local

Figure 1 The mannequin model used to teach the design of a rhomboid and a bilobed flap. Note the drawing pins simulating BCCs.

facial flaps on the face and head because it is realistic, re-usable and inexpensive.

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A technique to remove cannulated screws

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BACKGROUND

Cannulated screws are used in procedures such as fixation of hip fractures, slipped upper femoral epiphysis and anterior cruciate ligament (ACL) reconstruction. Removing these screws in the