Revision Surgery: The Technique

Introduction

Revision surgery can be looked upon as a philosophy, as a state of mind which demands a detailed, methodical approach to a mechanical problem. A cavalier attitude, exploration through a limited exposure or a "laparotomy-type" look, see and deal accordingly approach have nothing to commend them and will only lead to problems. Each case presents problems which can be unique. Knowledge of those problems and their sequential solution are the secret of success. At surgery, lack of progress for whatever reason has a peculiar, very frustrating and dangerous "knock-on effect" and must be avoided at all cost.

By the time the patient is on the operating table the diagnosis would have been established and the details of treatment decided upon. It is the author's practice to discuss briefly with the theatre sister and staff the various steps to be taken during the operation, any likely problems that may be encountered, special instruments or prostheses that may be needed, likely delays (i.e. with the femoral cement) or possible decisions (i.e. whether revision or pseudarthrosis should be performed). If the suspicion is of deep sepsis then obviously various antibiotics must be prepared and their sequential use noted. In such cases it is nice to clear all clean packs, trolleys etc. from the theatre area.

The theatre sister must be aware where the various items are stored and must instruct the circulating nurse accordingly. Delays here lead to frustration and loss of time and concentration during a procedure which at times is a "one-man show"; few people will have the opportunity to see or be actively involved in extraction of the femoral cement. In short, a brief discussion of the proposed operative procedure while viewing the radiographs (AP and lateral) will make everybody more at ease. The second assistant, the leg holder, must be made aware of any problems likely to be encountered at mobilization, dislocation or preparation of the femur.

Positioning the Patient

The patient's skin will already have been prepared on the ward and again in the anaesthetic room. Before this is done the opportunity should be taken to check the patient's notes and the relevant details which are of interest. These may include the patient's age, the assessment chart, erythrocyte sedimentation rate (ESR), the result of any special investigation or a clear statement of the patient's wishes, i.e. a one-stage revision at all cost, or only one more operative procedure, which may in fact tip the scale towards pseudarthrosis. A further personal contact with the patient, however brief, before the general anaesthesia, will go a long way to creating a relationship.

At this stage, the patient should be positioned, with help, the way you wish to have...
Fig. 21.1 a, b. Positioning of the patient on the Charnley operating table. The patient is positioned parallel to the edge of the table, without overhang of the buttoc or adduction of the hip.

Fig. 21.2. The skin incision. The skin has been prepared with Betadine antiseptic solution. The iliac crest, the anterior superior iliac spine, the greater trochanter and the vastus lateralis ridge have been marked for demonstration purposes only. The incision is from mid-thigh to some 4-5 cm proximal to the line of the anterior superior iliac spine.

them at surgery. Attempting to drag the anaesthetized patient across the table is not much good for the back, the patient’s or your own. A supine position and lateral approach are still the best. The patient lies parallel to the edge of the table, level with it and without an overhang of the flesh (Fig. 21.1). Adduction of the hip must be avoided as it will result in over-lengthening.

A special soft waterproof mattress is essential. Pressure points will be far less likely as a result of what after all is a longer procedure.

### The Incision

The patient should be covered by drapes from the rib cage to just above the knee, with the perineum carefully isolated. A transparent plastic drape over the incised stockinette will give a view of scars from previous surgery so that the incision can be planned accordingly. A plastic bag is attached with adhesive below the most dependent part of the hip. This will be used to collect all the washings from the operative site to avoid wetting the drapes and the surgeon’s gown. A waterproof plastic drape is fixed to the front of the surgeon’s gown to avoid it getting wet and thus contaminated. Suction is not used by the author. The suction tip is readily contaminated and it makes the wound act as a slit sampler by sucking air into it.

With the hip flexed, some 20° adducted and internally rotated by the second assistant (the leg holder) the fleshy thigh and the buttock will fall away posteriorly and allow easier access to the thigh.

The ideal incision gives the benefit of anterior, lateral transtrochanteric and posterior approaches. It is for that reason that the author favours a straight lateral incision, slightly in front of the line of the femur as far as the front of the greater trochanter then curving quite sharply (some 30°) posteriorly and extending some 4-5 cm past the vertical drawn down from the anterior superior iliac spine (Fig. 21.2). The skin incision usually measures about 30 cm.

Scars from previous surgery will have to be noted and the incision modified accordingly. Parts or all of the previous incision may be used, but the new incision should err on the more posterior aspect which will give better access to