THE HERBERT SCREW FOR OSTEOCHONDRAL FRACTURES: BRIEF REPORT

P. B. MACNAMEE, T. D. BUNKER, T. D. SCOTT

We report the use of the Herbert bone screw (Herbert and Fisher 1984) in 45 cases of osteochondral fracture at various sites in the body.

**Case reports**

**Femoral head.** Three patients have been treated. A 22-year-old man sustained an osteochondral fracture of the femoral head. The grossly displaced fragment was reduced and held with four Herbert screws (Fig. 1). At one year hip flexion was 100°, there was no evidence of avascular necrosis or segmental collapse, and the patient had returned to work as a warehouseman. The second patient was a 42-year-old nurse who sustained a hip dislocation with fracture of the femoral head. The fracture was reduced and held by two Herbert screws. At one year hip flexion was 100° with no radiographic loss of joint space. The third case, a 33-year-old man, sustained a severe fracture-dislocation, involving both the femoral head and the femoral neck. Four Herbert screws were used to fix the osteochondral fracture of the head, and three AO cancellous screws to hold the subcapital fracture, but at one year there was early evidence of avascular necrosis.

**Knee.** We have treated six patients, all of whom had more severe articular damage than was initially apparent. In five cases screws were placed at open arthrotomy and in one this was performed arthroscopically. Radiological union occurred in all cases (Fig. 2), and there were no complications at an average follow-up of 12 months. **Talus.** Three cases have been treated, two involving the dome (Fig. 3) and one the neck of the talus. The results were good at seven months.

**Complex fractures.** In two cases with major bony injuries involving joints Herbert screws were used to supplement AO internal fixation.

**Head of the radius.** Of 25 patients reviewed at an average of 7.5 months 21 had good results with practically normal ranges of movement, confirming our earlier favourable report (Bunker and Newman 1985).

**Capitellum.** Three cases of capitellar fracture were reduced, temporarily held with Kirschner wires, then fixed with screws in anatomical position. All three had loss of 20° of extension but no pain and normal function.

![Fig. 1](image1)

![Fig. 2](image2)

**Wrist and hand.** In addition to 50 fractures of the carpal scaphoid, which have been reported previously (Bunker, MacNamee and Scott 1987) we have used Herbert screws in one case of Bennett’s fracture, one of condylar fracture at the proximal interphalangeal joint and one carpal fusion.

**Discussion.** The experimental findings of Mitchell and Shepard (1980) give a rational basis for the rigid fixation of displaced intra-articular fractures; this allows early movement. The Herbert screw can be inserted through the articular cartilage, without causing undue damage. It leaves no protruding head within the joint and provides the necessary fixation with compression of small osteochondral fragments. The articular cartilage damage seen at operation is often worse than appears on the radiographs, and even with the Herbert screw some fractures cannot be accurately reduced and held. In such

---

P. B. MacNamee, FRCSI, Orthopaedic Registrar
Bristol Royal Infirmary, Bristol BS2 8HW, England.

T. D. Bunker, BSc, FRCS, Orthopaedic Senior Registrar
University Hospital, Queen’s Medical Centre, Nottingham NG7 2UH, England.

T. D. Scott, FRCS, Orthopaedic Senior Registrar
Princess Elizabeth Orthopaedic Hospital, Wonford Road, Exeter EX2 4UE, Devon, England.

Correspondence to Mr T. D. Bunker.

© 1988 British Editorial Society of Bone and Joint Surgery
0301–620X/88/1R37 $2.00
cases the surgeon should have the wisdom not to attempt the impossible. The characteristics of the Herbert bone screw make it an attractive alternative to Kirschner wires, Smillie pins or small conventional screws for the fixation of osteochondral fractures.

We would like to thank the orthopaedic surgeons of Bristol, Exeter, Barnstaple, Torbay and Truro for permission to report on cases under their care.

SUTURING ARTHROSCOPY WOUNDS: BRIEF REPORT

D. M. WILLIAMSON, S. A. COPELAND

The number of arthroscopic procedures has increased dramatically during recent years. One of their advantages is that complications are rare; those that do occur (a stitch abscess or a haematoma) are usually related to the small puncture wounds. Since a 5 mm wound of the knee presenting as an injury would not be sutured, it was felt to be illogical to suture an arthroscopy incision; a sutureless technique was therefore tested.

Method and results. Over a one-year period, a sutureless technique was used in all 140 patients undergoing arthroscopic procedures of the knee under the care of one surgeon (SC). The vast majority were done through standard anteromedial and anterolateral portals, although occasionally a third (posteromedial or transpatellar ligament) was used. Gravity-feed irrigation only was employed. At the end of the arthroscopic procedure but before removing the tourniquet, a gauze dressing and wool-and-crepe pressure bandage were applied. Postoperatively the patients were taught exercises and were mobilised the same day. They were not given anti-inflammatory drugs and were subsequently reviewed at two weeks and at two months.

There were no complications related to the wounds and, in particular, no haematomas or infection. In a number of cases inspection of the gauze dressing at two weeks revealed a significant blood seepage which could well have resulted in the formation of a haematoma predisposing to subsequent wound infection had the wound been sutured. The cosmetic results were excellent; in a few patients one puncture wound was sutured and the other left open; the unsutured wound was definitely neater.

Discussion. Standard orthopaedic texts advocate the use of a single stitch to close an arthroscopy wound (Edmonson and Crenshaw 1980; Dandy 1981; Apley and Solomon 1982). Dandy (1981) states that “a stitch will close the deeper layers of the wound more effectively and reduce the risk of a haematoma developing”. It is our view that a large and deep stitch would be necessary to achieve this objective. Leaving the wound open allows any potential haematoma to evacuate into the dressings so that blood cannot accumulate and cannot be the potential site of infection. This is borne out by the results of our series. The possibility of stitch-abscess formation is also obviously averted if no stitch is used.

Arthroscopy wounds rarely cause a cosmetic problem, but they can be significant in an adolescent girl’s knee or in those prone to keloid formation. Often the ugliest part of the scar is the cross-hatching from the suture. With the sutureless technique the cosmetic appearance of the wounds was excellent; they closed in a linear fashion and were unobtrusive. Savings in the cost of suture materials are a bonus. Leaving arthroscopy wounds open is safe, cosmetic, effective and economical.

REFERENCES


COMPARTMENT SYNDROME COMPLICATING ARTHROSCOPIC SURGERY: BRIEF REPORT

SØREN FRUENSGAARD, AXEL HOLM

Compartment syndrome in the leg after arthroscopic surgery is rare, but has serious consequences if it is not recognised (Mattson, Winquist and Krugmire 1980).

Case report. A 43-year-old man with a six-month history suggestive of a lesion of the medial meniscus had an arthroscopy. The arthroscope was introduced