factors such as pay leads, fringe benefits, or opportunities for private practice. Surely attracting plenty of high-quality staff to the care of mentally abnormal offenders is a critically important issue in the protracted debate about security units.

[1] Home Office, DHSS, *Committee on Mentally Abnormal Offenders, Interim Report*. London, HMSO, 1974.
[2] Higgins, J, *Bulletin of the Royal College of Psychiatrists*, March 1979, p 43.
[3] Faulk, M, *Bulletin of the Royal College of Psychiatrists*, March 1979, p 44.
[4] Bowden, P, *British Medical Journal*, 1975, **4**, 94.
[5] Knesper, D J, *Archives of General Psychiatry*, 1978, **35**, 19.

New knees now

When arthritis of the hip is bad enough to prevent a patient working or enjoying life replacement of the joint with a prosthesis offers reliable and reasonably durable relief. In arthritis of the knee the solution is not so clear, for the technical problems of knee replacement have proved more obstinate. The pain from an arthritic knee may often be less than that from disease of the hip, but instability, stiffness, and progressive deformity add extra and disabling problems. The arthritis often affects both knees, more than doubling the disability. If both knees are stiff, steps, stairs, and just getting in or out of chair or bed become very difficult.

When the symptoms have proved uncontrollable with drugs, dieting, or palliative physiotherapy the question of surgical treatment may properly be raised. Localised arthritis can still be managed very well by patellectomy or high tibial osteotomy, and arthrodesis is valuable when the problem is confined to one knee. There are, however, many patients (especially those with rheumatoid disease) in whom both knees are badly affected with severe disability. Provided foot and hip function are adequate, prosthetic knee replacement has much to offer these patients.

Despite the plethora of designs on the market, prostheses fall into three groups. Among the earliest were those designed as a long-stemmed hinge[1–3] in which movement occurs only in the sagittal plane and through about 90°, other stresses on the knee being resisted. This fully constrained pattern has given problems from loosening and fracture, but it has the merit of restoring alignment and stability to a severely damaged joint. In contrast, in the second group, the unconstrained prostheses, the condylar surfaces alone are replaced,[4–6] usually by curved metal implants in the femur with a high-density polyethylene plateau for the tibia. The stability of the knee then depends much on the preservation of the original ligaments. Some correction of deformity is possible, but the amount of bone resected is kept to a minimum. The third group, semi-constrained prostheses, includes designs[7 8] that, by ingenious interlocking, are fully constrained and stable in the extended weight-bearing position but, as the knee flexes, develop a capacity for rotation and sideways motion that protects against loosening.

In patients treated so far pain relief has been excellent early on in eight or nine out of every 10 patients, but improvement in the range of motion has been confined to knees that previously had been very stiff. Some patients have lost a little joint movement. Flexion contractures and varus or valgus deformities can be reliably corrected. Prolonged follow-up is restricted to the earlier designs, where problems that have been reported have included deformation or sinking of the tibial component, damage to the joint surfaces by cement fragments, and instability or subluxation of the refashioned joint through imprecise alignment of its components. Simultaneous resurfacing of the patellofemoral joint is now widely advocated for the control of retropatellar pain.

Major failure of a knee replacement (such as by infection) is best salvaged by arthrodesis—but this may prove difficult when use of one of the larger prostheses has led to removal of much of the cancellous bone of the condyles and shortening of the leg. Rarely, the price of a failed knee arthroplasty is amputation. Against this must be set the steadily increasing number of severely crippled patients whose mobility and independence have been restored by one (or often two) judiciously advised and well-executed knee arthroplasties. Though arthroplasty of the knee is still less certain and more hazardous than replacement of the hip, its risks will often be justified by the results.

[1] Shiers, L G P, *Journal of Bone and Joint Surgery*, 1960, **42B**, 31.
[2] Walldius, B, *Acta Orthopaedica Scandinavica*, 1960, **30**, 137.
[3] Lettin, A W F, *et al*, *Journal of Bone and Joint Surgery*, 1978, **60B**, 327.
[4] Gunston, F H, *Journal of Bone and Joint Surgery*, 1971, **53B**, 272.
[5] Freeman, M A R, *et al*, *Journal of Bone and Joint Surgery*, 1978, **60B**, 339.
[6] Shaw, N E, and Chatterjee, R K, *Journal of Bone and Joint Surgery*, 1978, **60B**, 310.
[7] Attenborough, C G, *Journal of Bone and Joint Surgery*, 1978, **60B**, 320.
[8] Sheehan, J M, *Journal of Bone and Joint Surgery*, 1978, **60B**, 333.

Managing coronaries at home

In the late 1960s and early 1970s the care of patients with acute myocardial infarction was seen in the context of management in hospital. With the advent of effective antiarrhythmic agents and the recognition that ventricular fibrillation is the main cause of sudden death, efforts were made to reduce the death rate through the development of coronary care units.[1] Though these have proved useful, however, they have not solved the problem; for patients tend to reach hospital too late for such units to be fully effective—perhaps because ventricular fibrillation tends to be an early complication. When coronary ambulance services are well organised and the community is strongly motivated an appreciable number of lives can be saved[2 3]; indeed, when such an effective unit is disrupted for administrative reasons, as has happened in Brighton over the last two years, the death rate increases sharply (D A Chamberlain, unpublished observation).

It is not, however, always possible (as has been suggested[4–6]) to identify patients at high risk and admit them to hospital for intensive care, the others being left at home. Bringing intensive coronary care to the patient's home can have only restricted application: in order to work it requires great dedication on the part of the practitioner and associated hospital-based services, unlimited time that can be protected from other demands, and good home circumstances. Regrettably, such a combination is rare. None the less, in a substantial proportion of patients the diagnosis of myocardial infarction may be established well after the usual danger period for the occurrence of ventricular fibrillation, so that we need a fresh appraisal of the treatment that can be offered in the patient's home.

Intravenous lignocaine has been found to protect against ventricular fibrillation,[7 8] but there is still debate about the reliability of this and other agents. No drug that can be taken by mouth has been shown to be effective: claims for