

well vascularised skin and bone is particularly advantageous when the diseased region has been treated by extensive radiotherapy.

Vascularised bone grafts, with or without skin cover, have salvaged severely injured limbs which would otherwise have been amputated. The iliac crest, a rib, or the scapula may be used to reconstruct a bony defect of up to 10 centimetres. If a longer segment is required, a free vascularised fibula graft is suitable, in which it is possible in children to incorporate a growing epiphysis. Congenital pseudoarthrosis of the tibia or radius may be treated by the same method, which is also being studied in avascular necrosis of the femoral head. Composite tissue transfers have led to the concept of segmental limb resection for soft tissue sarcoma with immediate reconstruction of bone and soft tissues.

Reconstructive possibilities in the hand for traumatic, congenital, and malignant lesions have been greatly expanded by these techniques. Single or multiple digits may be constructed by transferring toes to the hand, leaving no functional disability in the foot and providing a mobile finger with tactile sensibility and an acceptable appearance. The results are particularly encouraging in children and young adults, when a good sensory recovery is to be expected. Free vascularised joint transfers from the metatarsophalangeal or proximal interphalangeal joints of the foot to the hand may restore function in patients with congenital deformities or those with traumatic defects. The place of vascularised tendon grafts is not yet clear, but they may be useful in severely scarred hands.

Effort is now being directed particularly towards functional reconstructions. Transfers of vascularised, innervated muscle are producing exciting results in restoring movement and power to injured limbs. Similar methods will surely provide the most logical treatment for unilateral facial palsy when combined with a crossed face nerve graft. "Neurotised" free flaps are especially useful in plantar injuries, a particularly difficult site for skin cover.

Microvascular free tissue transfers may be applied to many other body tissues. Segments of gut may be transferred and revascularised for oesophageal or pharyngeal reconstructions in adults and children. Omentum has been used in the repair of chest wall and cranial defects; its resistance to infection is a particular advantage. Microvascular transplantation of testes from abdomen to scrotum may benefit some carefully selected patients with cryptorchidism. Other applications in genitourinary surgery are currently under investigation.

Increasing experience has, then, made free tissue transfer a reliable procedure with reported success rates ranging from 71% to 92%.<sup>12-16</sup> It is a technique which offers much to many specialties, but the best results are obtained when specialists in reconstructive microsurgery work in conjunction with colleagues from other disciplines. The future holds many exciting possibilities, particularly with regard to functional reconstructions. With further progress in the suppression of tissue rejection the discipline may expand still more dramatically.

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## Double suicide

Suicide pacts—a decision of two people to die together—are rare. Cohen, whose study published in 1961 remains the best, found only 58 in the whole of England and Wales in the four years 1955-8.<sup>1</sup> The deaths were only 0.6% of the total number of suicides in the same period. Sainsbury, whose study of suicide in London was even earlier, found eight deaths from four pacts in the years 1936-8 out of a total of 390 suicides (2%).<sup>2</sup>

Most people entering a suicide pact die, making a study of motives difficult. Demographic details can be recorded, and suicide notes, if any, may give useful if not wholly reliable information, but it would be rash to assume that those few who have survived are typical of the whole. Moreover, as West has pointed out, death in a suicide pact may be difficult or even impossible to distinguish from murder followed by suicide or even from accident.<sup>3</sup>

In a recently published article Rosenbaum reworked material from West's book, together with studies of four survivors of a suicide pact and two more from the exiguous descriptions of pacts, in an attempt to define the importance of aggression.<sup>4</sup> He suggests that the initiator (or in his term the instigator) is usually a man, psychiatrically ill with psychotic depression, who dies. He has a history of mental illness. The survivor is likely to be a woman with no history of suicidal behaviour and who is not mentally ill. Rosenbaum claims that the initiator often exerts very considerable pressure on the other party. He notes the similarities between initiators of suicide pacts and those who murder and then commit suicide—a much commoner event than a pact. Again, there is male preponderance, a high proportion of mentally ill people, and a history of previous suicidal behaviour. He speculates on why the "co-operator" in a pact consents to the "instigator's" proposal and on the ambivalent attitude of them both. West long ago noted the close connection between murder and suicide: "one in three murders are followed by suicide."

Doctors, particularly psychiatrists, are rightly concerned about the risk of suicide in those who suffer from depressive illness. Family history, middle to old age, physical illness, previous suicidal attempts, and loss of a parent in childhood are well established pointers. Should pointers towards a suicide pact—an exclusively close relationship, for instance—also be assessed? Rosenbaum thinks that they should—and, furthermore, that the propensity of people with severe

depression to show homicidal behaviour towards close relatives, particularly in a suicide pact, has been underestimated—at least in the United States.

Yet the small numbers, the scanty information, and the fact that other motives operate in some pacts counsel caution before this view is adopted. Five of Cohen's examples had no aggressive element but were lovers' pacts (though in one of these the man did not want to die).<sup>5</sup> Elsewhere he states: "the decision as a rule is mutual." Stengel agrees: "the notes left behind nearly always state that the decision was evenly shared"; but he adds significantly: "the initiative usually comes from one of the two and sometimes a good deal of persuasion has to be used."<sup>6</sup> In the recent deaths of Arthur Koestler and his wife what must have seemed to be a pact turned out more probably to have been the result of two independent decisions.<sup>7</sup>

Even if he errs by underestimating the variety of suicide pacts, Rosenbaum's paper is welcome. He is justified in reminding doctors that in those who suffer from severe depression their aggressive as well as their suicidal potential needs assessing.

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## Referral of chronic arthritics

Chronic inflammatory arthritis affects 1-2% of the adult population and many of these patients become disabled. In childhood, however, arthritis is uncommon and most children with the disease will emerge into adult life relatively unscathed, able to hold down a useful job and to run a home. Such a favourable outcome is directly related to years of scrupulous work and careful observation by workers such as Professor Eric Bywaters and Dr Barbara Ansell at Taplow Hospital. They achieve their good results not only by medication but also by expert physiotherapy with daily exercise regimens over many years. Individual splints and supports are made by specialist occupational therapists and the child is kept under regular review by Dr Ansell or, increasingly, at regional centres with access to Taplow. These centres may also serve as a source of local skill and support. It is because the numbers of affected children are small that this pyramidal structure can work well.

But what of adult disease? Such a pyramidal organisation at national level is impracticable because of the large numbers of patients concerned. Theoretically, all patients should have ready access to a consultant rheumatologist at district level. There are enough senior registrars trained to provide such services but apparently there is insufficient money locally to fund the necessary posts. Inevitably, therefore, regional clinics are heavily overburdened. Indeed, some patients with chronic disease will never reach specialist care and most will have to wait many weeks before they are seen.

General practitioners, and their patients, may have a difficult decision to make: is referral worth while—and, if so, when? It is equally difficult to know when rereferral is necessary in a group of diseases notable for their chronicity, unpredictability, and ability to produce frustration and restrict lifestyle.

Perhaps the most important question is the first. Scott and his colleagues have assessed the long term effects of treating rheumatoid arthritis, describing the results of the Droitwich study (1964-76), in which patients were followed up for 10 years and given intensive treatment with non-steroidal anti-inflammatory drugs and second line drugs. These patients were, by definition, severely affected. They concluded that adequate treatment may influence progression of the disease and that these patients needed treatment with second line drugs, usually gold or penicillamine. Furthermore, "the importance of admission to specialised rheumatic units in hospitals which provide a wide range of supportive and physical treatments cannot be overemphasised. These units should be provided by the Health Service. Even if rheumatoid arthritis is not cured by treatment, its management requires long term commitment."<sup>1</sup>

Zinn has also discussed the provision of long term care for patients with arthritis and suggests that "the task of the responsible doctor is usually to organise home, community and hospital treatment and to provide the necessary measures for 'prophylactic' as well as 'curative' rehabilitation . . . it is difficult to achieve the best possible result without therefore having a full knowledge of the actual therapeutic and rehabilitative possibilities and their results."<sup>2</sup>

If we accept that referral to a specialist is worth while, the next question is when should referrals and rereferrals be made? Firstly, any patient with joint disease which has persisted over three to six months should be referred for investigation, as should any patient whose job or home life is jeopardised by the disability. At present, it is almost impossible to find a middle aged or elderly disabled person a new job. The patient is thus best advised to remain in his current job for as long as possible, and it is part of the specialist's brief to consider the impact of the disease on the patient's work. Second line drugs and surgery may modify the disability but additional measures should also be considered, such as obtaining a mobility allowance, taking advantage of the Fares to Work scheme, and arranging for special modifications to the workplace.

Joint deformities should be treated vigorously. It is unacceptable to watch with equanimity while a patient loses his grip, when arthrodesis of the wrist provides an excellent, pain free solution to the weak and unstable wrist. The physician should also be alert to the patient who spends so much of her day in an armchair that she takes up its shape, with knees and hips held in permanent flexion. If such deformities become established it may be impossible to reverse them. At best, it takes weeks of expensive inpatient treatment.

Extra-articular disease, such as neuritis or vasculitis, usually bodes ill for the patient and is certainly a sufficient reason for referral and for second line treatment.

Many rheumatologists believe that second line treatment should begin early, when patients fail to respond to simple measures, when they remain generally ill, or if there is radiological evidence of erosions or joint destruction. Such patients are usually given gold or penicillamine. Because of the pressures on rheumatology outpatient departments and the long distances that some patients have to travel, general practitioners may be asked to monitor their own patients. This will entail obtaining a full blood picture and testing the urine for protein