important that the procedure should not keep the patient an unwarrantably long time in bed. Thus an arthroplasty should allow the patient to be up the next day. Prolonged bed rest after such operations can undo all the good in general that the operation has done locally.

The old patient is worried, not by the loss of a full range of movement, but by the loss of function commensurate with their general activity in their declining years. It is far better for the patient to achieve independence and a speedy return home than to have a prolonged course of treatment to obtain ranges of movement that they do not need in their normal life. Therefore if the patient can dress; do up shoe laces; walk up stairs; cook; sweep; and get on a bus with no pain or discomfort the operation is highly successful even if movement in the joint concerned is not full. Striving to regain this loss by physiotherapy is unnecessary.

Some General Considerations

The elderly respond well to operations, which should not be long deferred—though for fractures it is better to rest the patient a few hours (splinted if necessary to control pain) and to operate on the next appropriate list, which should be within twenty-four hours if possible. Whereas in the healthy adult conservative treatment is to be encouraged for such fractures in the femoral or tibial shaft, in the elderly proper and secure internal fixation is always indicated when it can be achieved. The ankle fracture should also be fixed to allow the patient to walk at once, even if in a walking plaster. Even the unstable fracture of the humeral shaft should be internally fixed to allow quick independence.

Fractures of the pelvis and vertebral bodies, both of which are almost always stable, should be treated by early walking. To tell the patient that the backbone has been broken fills them with alarm; instead a careful explanation that there will be some pain because of "heavy bruising of the bone" and advice that, despite this, the general condition will be better if the patient is up allays fear and gives confidence. Mild analgesics are given freely. Once the patient can sit up in bed—usually in a day or two—it is as comfortable to sit in a chair; the latter is no more painful than standing and the patient is quick to achieve walking.

PATHOLOGICAL FRACTURES AND AMPUTATIONS

Pathological fractures lend themselves to internal fixation. If metastatic deposits in a femur have so weakened the bone that a fracture is imminent, prophylactic intramedullary nailing relieves pain and prevents a catastrophe. Done through the knee joint the operation takes only a few minutes; the hole made between the femoral condyles through which the nail is passed up the shaft is plugged with cement. Other pathological fractures, whether imminent or present, should be dealt with by a similarly active approach, for thereafter radiotherapy is facilitated because there is no pain and no plaster cast. Because the patient may only have a short while to live it is most important that the quality of what little life remains should be satisfactory.

Amputations for vascular disease have a poor prognosis for longevity; the operation is mentally and surgically traumatic, and it may follow an attempt to preserve the limb by vascular surgery. Understandably the old person dreads the loss of a leg and its consequences which are an obvious loss of independence. The sooner therefore that the patient should walk again, the better. Not only this, if the patient can see the new limb—of whatever type—by the bedside at, or soon after, the time of amputation, many anxieties are allayed. At one or two weeks all geriatric amputees should have the means to walk, whether on a sophisticated artificial leg or a simple early walking aid.

Conclusions

In this short description of geriatric orthopaedics the minutiae of treatment have not been described; nor should they have been, for they are part of the proper practice of medicine. What has been emphasized are the intensive methods needed to give total care to the aged so that they may continue to enjoy an active and independent life. Geriatric patients are dignified in their acceptance of the inevitable end. They do not ask for longevity. They may at times seem anxious, frail, and disheartened; too often this is because they do not understand what is happening. To them it is not existence that matters, but its quality. The aim of all concerned in their treatment must, as in all medicine, be the return of function, but, in the elderly, this is return to independence.

Today's Treatment

Diseases of the Skin

Management of Varicose Ulcers and Eczema

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The lower leg is often a site of disease mainly because of man's upright stance and gravitational stasis. The effects of venous hypertension and stasis are partly related to age. When ulcers

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occur in the young adult the doctor must look for rarer underlying disorders of the blood or the connective tissue—for example, sickle cell anaemia, vasculitis, Marfan's syndrome, or congenital absence of valves, arteriovenous fistulae, or obliteration of the great veins.¹

Elevation and Exercise

At night the end of the bed should be raised. During the day the

patient should never stand immobile but should either raise the legs or keep them moving. Partial elevation is of little value.

Such manoeuvres will be of less value in persons with obliterated deep veins from a previous thrombosis or in those who have a long history of varicose eczema and ulceration—for in these people multiple small arteriovenous shunts contribute to the venous hypertension.

Protection from Environmental Injury

A feature of the dermis in varicose eczema and ulceration are the many dilated, tortuous, and coiled capillaries.²³ These are easily injured by minor knocks. The sluggish circulation in such vessels is slowed down even more when the leg is exposed to cold—hence protection from the environment is essential in prophylaxis. A thick layer of Lassar's paste is helpful when the skin is dry and intact. It protects the skin not only from minor knocks but from faulty bandaging. An additional covering with an elastic stocking is useful more for its protective effect than for its compressive action. Most patients will not wear heavy elastic bandages, though these may be valuable in treating legs that are large or whose circumference varies greatly during the day. However, a bandage which fits closely and compresses the leg evenly is valuable if correctly applied.

Elastic diacholan ventilated bandages, applied over Calaband, Uraband, or Viscopaste are ideal in most cases. Seton Products Limited provide booklets on their correct application. To avoid folding and kinks in bandages, paste bandages should be cut in front of the ankle and folded over the skin of the shin rather than wound around the legs. If these instructions are followed injury to the skin can be avoided, and the leg is protected from the rim of an ill-fitting shoe and minor knocks or from trauma during the removal of the bandage. Moreover, these bandages are cosmetically acceptable and can be worn for one to three weeks.

Various foam-rubber or water-filled pads are obtainable for compression of varicosities or of the ulcer edge or centre. They sometimes help, they occasionally cause ischaemia, they may cause an allergic reaction owing to their rubber content, and they are not essential. Around the ankle they can be used to fill up hollows and allow more even bandaging. Dalzofoam is a suitable polyurethane preparation.

Effect of Obesity

The overweight or pregnant patient is at a great disadvantage. The backwardly tilted pelvis contributes to obstruction of the iliac vein; the fat leg is more difficult to raise, the torso more difficult to lie down. Pads of fat in the lower leg contribute to stasis, and cellulitis and subcutaneous necrosis are more common. Treatment of obesity may therefore be a most important part of therapy.

Oedema

Oedema is chiefly an indication that venous hypertension and stasis are not controlled and that more elevation, diuretics, and compression bandaging are needed. Delayed healing of ulcers is a feature of the oedematous leg and all causes of oedema also delay healing. Intermittent positive pressure bags have a place in the management of the patient who cannot lie prone with the legs raised.⁴ Among other effects they increase fibrinolytic activity.⁵

Infection

It is not possible to keep leg ulcers sterile. From time to time attendants should take swabs for bacteriological culture and

sensitivity, in case cellulitis, lymphangitis, or septicaemia develops and needs urgent treatment. The staphylococcus is the commonest organism, but attempts to inhibit it usually result in even heavier infection with *Pseudomonas pyocyanea*, proteus, and coliform organisms. On the other hand, often no treatment is needed for a low-grade infection with a penicillin-sensitive staphylococcus. Gross necrosis of the tissues will kill any healing tissue at the edge of the ulcer. The messy ulcer may be cleaned with wet dressings such as eusol, acetic acid, 0.5% aqueous silver nitrate, or even saline soaks. Crusts, serous exudate, and dead tissue are softened and may then be removed.

The resistant organisms should not be transferred to other patients, and the greatest care should be taken to prevent the nurse and her equipment from becoming the source of such infection. In hospital practice everything that is in contact with leg ulcers should be disposable—and this includes the ointments.

The Ulcer Edge

The epidermis growing from the edge of the ulcer requires an adequate supporting blood supply. This is encouraged by the measures mentioned above. In addition, the surface of the ulcer should be relatively free of inhibitory material—for example, necrotic debris, gross infection, or medicaments such as steroids. The epidermis grows best on a moist surface, but grows just as well *deep* to a dry surface. In treating small ulcers a little powder may help this process. A rare cause of failure to heal is epitheliomatous change; since it is not always obvious and may occur in a particularly indolent ulcer, the doctor must be on the look out for it if it is to be detected early.

Contact Dermatitis and Eczema

Anything that persistently damages the epidermis contributes to the congestion in the small blood vessels supplying the surface of the skin. These vessels may be irreversibly blocked or may bleed, and either process may cause ischaemic necrosis and ulceration of the skin. In one hospital survey as many as 81% of the patients were sensitive to one of the agents previously applied to the leg,⁵ and multiple sensitivities are common. Delay in healing may be the only effect of such sensitivity but often give rise to acute eczema results. Neomycin and related compounds framycetin and vioform and related compounds—chinoxin and halquinol are common causes. Less common but more difficult to manage are sensitivity to bases such as lanolin or preservatives such as Parabens. Rubber additives in elastic bandages or in compression materials also occasionally produce severe sensitivities. Other sensitizing agents are local anaesthetic and antihistamine ointments, but these should have no place in the management of leg ulcers.

Contact dermatitis is one of the few instances in which the local application of a full-strength steroid is valuable and can be used for a short time—for instance, for 24 hours.

Patients with a history of prolonged treatment of eczema and ulcers should be patch-tested to a battery of agents to find out which applications must be avoided.

Eczema is sometimes the consequence of gravitational stasis itself, in which case it will respond to the above measures aimed at counteracting the stasis. Secondary haematogenous spread to the lower limb, forearms, and trunk is common and sometimes a short course of systemic steroids is justified for this intensely pruritic rash.

Ischaemia

The stasis syndrome primarily affects the veins, but when it is total and prolonged, it may result in necrosis of the arterial wall from ischaemia. The hypertrophied smooth muscle wall of the

small subcutaneous arteries is irreversibly damaged by a few hours' ischaemia, and the effect is a deep punched-out ulcer which heals very slowly. Capillary venous stasis is itself the commonest cause of failure of blood flow through the supplying vessel. Hypertension, anaemia, acidosis, acute hypotension, or the haematogenous and vascular results of collagen disease or systemic infection should all be treated to prevent such a complication.

Surgical Treatment

Opinion varies about the relative merits of injection and other surgical procedures. Patients who receive early effective management of thrombophlebitis, deep-vein thrombosis, varicose veins, and perforating veins rarely end up by consulting the dermatologist. Once the patient has actual skin disease he should be seen by both the dermatologist and surgeon. An effective policy is immediate assessment by a surgeon when eczema and ulceration have been controlled by appropriate skin care. Ulcers and eczema are more likely to recur if gross varicosities

and incompetent valves and perforating veins are left untreated.

Large ulcers with a clean granulating surface often take pinchgrafts very well. Even a failed graft may stimulate the growth of new blood vessels and epidermal migration from the ulcer edge. Split-thickness grafts have the advantage of providing a relatively normal papillary vasculature, far better than some of the distorted vessels that often supply the scarred skin of the lower leg. The plastic surgeon can reduce from several months to a few weeks the time spent in hospital by patients with large ulcers.

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Any Questions?

We publish below a selection of questions and answers of general interest

Disinfection of Room after Tuberculosis

What is the risk for a person occupying a room where a case of open pulmonary tuberculosis has been nursed for a prolonged period? How long may this risk persist, and how can it be reduced?

The risk for a person occupying a room where a patient with pulmonary tuberculosis has been nursed depends on the treatment the patient received. If effective chemotherapy was given infectiousness would be much reduced.¹ Hence there would be little risk to a subsequent occupant of the room. In sunny rooms tubercle bacilli survive only a few hours and in north-facing rooms up to five days, whereas in the dark bacilli may survive several months.² Hence exposure to sunlight and good ventilation for a few days should render a room safe. Terminal disinfection of rooms is not generally recommended in tuberculosis.

¹ Kamat, S. R., et al., *Bulletin of the World Health Organization*, 1966, 34, 517.

² Smith, C. R., *American Review of Tuberculosis*, 1942, 45, 334.

Measles Vaccination during an Epidemic

Should measles vaccination be carried out when measles is prevalent in a community?

There is no reason why measles vaccination should not be carried out when measles is prevalent in a community. Immunity to measles does not develop until 11 to 12 days after vaccination. If, therefore, a child recently exposed to measles was vaccinated he could still develop natural measles during the next few days. Under these circumstances, the natural measles is sometimes wrongly assumed to be an abnormally severe response to measles vaccination.

Risk of Malignancy in Cystic Mastitis

What is the risk, if any, of a woman of 40 with fibroadenosis (cystic mastitis) who becomes pregnant subsequently developing cancer of the breast?

Since cancer of the breast is the commonest killing tumour of women in this country, and since it may arise in adult women irrespective of age, parity, or pre-existing disease, there is always "a risk" of any woman developing a breast cancer. Most women of 40 have some degree of fibroadenosis of the breast, either on clinical examination, which reveals diffuse granularity of the tissues, or at least on microscopic examination, and there is no evidence that this is related to any increased chance of malignant change. However, gross cystic mastitis warranting, for example, biopsy of the breast is associated with a small but significant increase in the chance of subsequent malignancy. This was estimated by Davis *et al.* to be 1.7 times greater than in the general female population. Interestingly enough they found that nearly half the tumours occurred in the breast opposite to the biopsy. There is no evidence that pregnancy at this age, whether or not the breast is the site of fibroadenosis, makes the patient any more liable to breast cancer.

¹ Davis, H. H., Simons, M., and Davis, J. B., *Cancer*, 1964, 17, 957.

Duration of Oral Contraceptive Therapy

Should women taking oral contraceptives be advised to take a break from their therapy from time to time?

Women taking oral contraceptives and experiencing no adverse effects should not stop the therapy unless they wish to conceive or have reached an age at which the menopause might be expected to have occurred.