

was successfully revascularised after 15 hours. The technique of cooling is vitally important. Parts should be placed dry in a polyethylene bag which in turn should be immersed in ice. Suitable parts have been destroyed by maceration with various physiological fluids and direct contact with ice. Extreme cases of mishandling have even occurred where the part has been frozen in liquid carbon dioxide or immersed in formol saline. The safest advice is to do nothing with the detached part until the replantation surgeon has been contacted by telephone. He can give specific advice on how he would like the part to be handled. For short journeys, no specific cooling is necessary.

These operations are extremely long. The median time was eight hours and the maximum time 22 hours. The demand for such prolonged operative procedures on the resources of the Health Service must be seriously considered. It is not possible to undertake such surgery in a theatre used for general emergency surgery, as no other emergency surgery requires such prolonged use of operation facilities. It must be possible to monopolise the theatre for an indefinite time. Sufficient nursing staff must be provided to avoid exhaustion. In addition to the manpower and facility requirements, a suitable operating microscope and instruments are needed. Most operations are performed under regional nerve block anaesthesia, and where this is possible the anaesthetist need not be constantly present.

All these provisions are well justified if the functional outlook for the patient is improved. Certain types of replantations have an undisputed value, such as the scalp¹² and replantation of the thumb or the whole hand. The decision to replant individual fingers depends on a careful analysis of the patient's age, general health, the severity of the injury, the level of the injury, the presence or absence of other injured parts, the patient's own wishes, and the likely functional outcome. We are currently undertaking a functional analysis of the successful cases to help

in selecting patients for such surgery. This will form the basis of a further report.

Currently, the decision to replant the part or not must be taken by a surgeon experienced in microvascular replantation surgery and for this reason all patients coming to hospital with detached parts should have the benefit of being referred to a replantation centre.

References

- Buncke JH, Schulz WP. Experimental digital amputation and re-implantation. *Plast Reconstr Surg* 1965;**36**:62-70.
- Komatsu S, Tamai S. Successful replantation of a completely cut-off thumb. *Plast Reconstr Surg* 1968;**42**:374-7.
- Bowen JE, Poole MD. Multiple digital replantation. *Br J Plast Surg* 1975;**28**:8-9.
- Chen CW, Qian YQ, Yu ZJ. Extremity replantation. *World J Surg* 1978;**2**:513-24.
- Tamai S, Hori Y, Tatsumi Y, et al. Microvascular anastomosis and its application in the replantations of amputated digits and hands. *Clin Orthop* 1978;**133**:106-21.
- McLeod AM, O'Brien BM, Morrison WA. Digital replantation: clinical experiences. *Clin Orthop* 1978;**133**:26-34.
- Biemer E. *Digital replantation in recent advances in plastic surgery*. Edinburgh: Churchill Livingstone, 1981:45-66.
- McGrouther DA. The operating microscope: a necessity or a luxury? *Br J Plast Surg* 1980;**33**:453-60.
- Biemer E. Definition and classifications in replantation surgery. *Br J Plastic Surg* 1980;**33**:164-8.
- Biemer E. Vein grafts in microvascular surgery. *Br J Plast Surg* 1977;**30**:197-9.
- Piquet E. The boy with the miracle arm. *Reader's Digest* 1981;**119**:21-6.
- McGrouther DA, Chan TS, Downie PA, Sully L, Webster MHC. Reconstruction of scalp avulsion injury by replantation and a local skin flap. *Br J Plast Surg* 1981;**34**:44-6.

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Letters to a Young Doctor

Choosing to become a consultant

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For a doctor to have a career in hospital it is now essential to obtain a higher qualification of a royal college or faculty. The qualifying first degree from the university is now simply an "entry" qualification to read for a further diploma. A diploma is quite different from a doctorate of medicine, MD, or doctorate of philosophy, PhD, which is awarded by a university on the basis of research work and a written thesis. The Mastership in Surgery is usually similar.

University higher degrees are important later, but your first task after full registration is to start working for the fellowship of a royal college of surgeons, or for membership of the Royal Colleges of Physicians of the United Kingdom; the Royal College

of Obstetricians and Gynaecologists; the Royal College of Pathologists; the Royal College of Psychiatrists; or the Royal College of Radiologists; or for the fellowship of the Faculty of Anaesthetists of the Royal College of Surgeons, or membership of the Faculty of Community Medicine of the Royal College of Physicians.

Knowing that you must obtain one of these diplomas and that there is absolutely no escape from this requirement, any more than there is from passing the qualifying examinations, you must find out—preferably during your second preregistration house officer post—the regulations for your chosen higher diploma. If you have not made a choice find out about all of the examinations by writing to the secretary of the appropriate college or faculty. There is no substitute for doing this because the regulations often change and you must know the most recent ones. You must not guess or accept anyone's beliefs about them, however eminent the person may be. Your circumstances might fit some aspect of the regulations and not another, and no one can know about this but you.

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The general pattern of medical education, which you will have experienced as a medical student, is to work through a prescribed curriculum in a prescribed place of work and then have your progress assessed, usually by written, oral, and practical examinations. This pattern continues in the education of graduates. In very broad outline the colleges and faculties lay down the content of the curriculum for their fellowships and memberships. They also inspect and approve hospital posts which they believe give the holders of the posts adequate experience for entry to their examinations. In other words, the colleges and faculties require supervised experience for the junior doctor for a certain time, as well as evidence of theoretical knowledge in written, oral, and practical examinations.

The examinations are most often in two parts, the first being mainly concerned with the basic medical sciences, such as anatomy, physiology, biochemistry, psychology, sociology, genetics, pathology, and pharmacology. The first part may sometimes be taken without much experience beyond full registration; but sometimes further clinical experience is required, depending on the diploma and the regulations, which change from time to time. So it is essential to find out the latest regulations, since if you do not your career may follow a wrong course. The second part of the examination is usually taken some time after the first part and after obtaining further clinical experience in approved posts. It is usually much more clinical in orientation than the first part.

Changes in the system

A change in the two parts of the examinations seems to be discernible. They tended to be rigidly separated into basic medical science and clinical, but the object always was that the basic sciences should be seen to illuminate and be applied to clinical work. It was left to the doctor to relate the one to the other. Now there may be clinical content in part I and some basic science in part II. There is probably good educational value in this change, which avoids concentrating first on basic science and then on clinical knowledge. Thus, you must keep both going in parallel or intertwine them.

The other change seems to be to delay too early specialisation. In subjects where competition for consultant posts is not great you can enter specialty training immediately after full registration. Many people do this—for instance, in psychiatry, anaesthesia, pathology, or community medicine. You can progress swiftly from senior house officer to registrar to senior registrar, and perhaps obtain a consultant post at an early age—maybe six or seven years after full registration. This relatively easy option should, however, be looked at with some caution, beguiling though it may appear at the start of a career.

Appointments committees for senior registrar and consultant posts often look askance at candidates who have no general experience and seem too narrowly specialised. They may definitely favour a candidate with a broad education over one who has never moved out of his specialist groove. There may be something of the tortoise and the hare in this. So, even if you are sure that you want to be an anaesthetist, say, you will probably be wise to spend a year after full registration in general medicine or general surgery before moving permanently into the specialty. You constantly have to keep in mind what your application for a consultant post will look like a few years ahead, and how it might appear to an appointing committee. In some subjects there will be dozens of applications. Yours must stand out so that your name will get on to the shortlist. Having had a narrow career in one specialty is unlikely to commend itself as much as a more general one, with perhaps slightly less specialisation.

This view of general experience seems to be gaining ground. The Short Committee report of 1982 recommended at least a year of general experience, mentioning particularly work with children and old people and in psychiatry. The Todd Royal Commission of 1968 suggested three years of general pro-

fessional training leading to a higher diploma, to be followed by four years of vocational training as a specialist. The diploma was in effect to mark the transition from registrar to senior registrar. The recommendation was probably unrealistic, but it enshrines a view of the value of general plus specialist training over that of a purely specialist training. The person who wishes to get on quickly in a specialty should bear this in mind in the early years of his career. He may disagree with it, but he may do so at his peril and find that it prevails against him at a later stage when he cannot retrace his steps or go in a different direction.

In the next article I shall discuss how to avoid getting locked into a specialty.

What is the importance of the appearance of irregular white flecks in the nails of both hands of a 15-year-old boy who appears to be in good health?

I think that what is being described here is punctate leukonychia. Although this has been described in connection with many diseases, most cases are entirely independent of other disease and quite harmless. The condition is very common. Mitchell studied the appearance of white spots on his own nails for a year,¹ showing that some appeared near the cuticle but some on other parts of the nails. Some disappeared before they reached the free edge of the nail and some increased in size after they had been formed.—P D SAMMAN, honorary consultant dermatologist, Westminster Hospital and St John's Hospital for Diseases of the Skin, London.

Mitchell JC. A clinical study of leukonychia. *Br J Dermatol* 1953;65:121-30.

Is cholestasis that occurs in hepatitis A and B related to anatomical blockage of the bile ducts caused by liver tissue swelling or does it have a physiological causation—defects of transport etc?

The erroneous notion that swelling of the ostium of the common bile duct was the cause of epidemic jaundice was suggested by Bamberger in 1855 and perpetuated by Virchow in 1865. After necropsies on four patients whose livers he did not examine, Virchow concluded that the mucus plugs that he found in all four common bile ducts were the prime cause of the jaundice. This concept of "catarrhal jaundice" persisted, especially in English publications, until the 1930s, when Rössle highlighted the controversy that had then arisen between the pupils of Aschoff, who favoured a mechanism entailing obstruction or damage to intrahepatic bile channels, and those who believed diminished bile secretion from hepatocellular damage was the primary event. This difference of views on the pathogenesis of cholestasis has persisted. Support for the mechanical element rests on the earlier observations referred to above, and on the centrilobular bile plugs noted on light microscopy. Electron microscopy has shown the earliest morphological changes to be swelling and sloughing of the canalicular microvilli. There is, however, an excellent anastomotic canalicular network so that biliary excretion should still be maintained. In considering a failure of bile secretion as the primary event, it is known that bile salt dependent flow, the most important component of bile, is a function of absorption of bile salts by the hepatocyte, their transport across the cell, and their excretion into bile canaliculi. These processes depend on hepatic blood flow and bile salt concentrations in that blood, on carrier mechanisms and cell membrane $\text{Na}^+ \text{K}^+$ ATPase, and are influenced by hepatocyte membrane fluidity and ill-understood functions of the hepatic cytoskeleton—that is, macromolecules, microfilaments, and microtubules as well as the canalicular paracellular pathways. Bile salt independent flow mainly depends on $\text{Na}^+ \text{K}^+$ ATPase, again partly a function of membrane fluidity, which is reduced by many drugs which cause cholestasis, including oestrogens. Bearing in mind the pan-lobular inflammation found in viral hepatitis and the likely interference with many of these hepatocyte functions, cholestasis is not a surprising accompaniment.—ROGER WILLIAMS, consultant physician and director of liver unit, London.

Cockayne E. Catarrhal jaundice, sporadic and epidemic and its relation to acute yellow atrophy of the liver. *Q J Med* 1912;6:1.
 Popper H, Schaffner F. In: Wright R, Alberti KGM, Karran S, Millward-Sadler GM, eds. *Liver and biliary disease*. London: W B Saunders, 1979:296-323.
 Dubin IN, Sullivan BH Jr, Le Golvan PC, et al. The cholestatic form of viral hepatitis at Brooke Army Hospital during the years 1951 to 1953. *Am J Med* 1960;29:55-71.