tions. This has been particularly important in recipients of bone marrow transplants.^{18 19}

Neonatal herpes simplex infection is very rare in Britain. Vidarabine has some effect,²⁰ and early reports of acyclovir treatment are encouraging. More data are necessary, but acyclovir, which is known to be well tolerated in babies, may prove to be the drug of choice.²¹

Varicella zoster virus is less sensitive to acyclovir than herpes simplex virus, but adequate therapeutic concentrations can be reached by intravenous treatment.

There is no question of the value of acyclovir in the treatment of herpes zoster in the immunocompromised.²² Some benefit has been seen in the treatment of zoster in normal people, but the expense of treatment and inconvenience of intravenous administration may limit its use.^{23 24} There may be a case for early treatment in severe trigeminal zoster if desquamation is likely to be extensive. McKendrick and colleagues have recently reported successful reductions in duration of vesicles and pain and accelerated healing in patients given oral acyclovir.²⁵ If these preliminary results are confirmed early treatment of zoster in general practice should be possible. None of the trials of acyclovir to date have shown a useful effect on postherpetic neuralgia.

In summary, acyclovir is sufficiently potent and non-toxic to use in any severe or life threatening condition caused by herpes simplex viruses I and II and varicella zoster virus. In less severe and recurrent disease it seems sensible to limit its use, as indiscriminate prescribing may lead to increasing resistance and loss of efficacy of a lifesaving drug.

DONALD J JEFFRIES

Head of Virology Division,
Department of Medical Microbiology,
St Mary's Hospital Medical School, London W2 1PG

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Care of the acutely injured hand

Hand injuries account for one third of all accidents at work.¹ Domestic hand injuries make up one third of the total (J Michon, data presented at the 10th International Meeting of Microsurgery, Strasburg, 1984). They are enormously costly, to both the individual and the economy because of time lost from work, financial compensation, and disability. Most are avoidable; much effort should be directed towards prevention through educational programmes in the factory and the home.²

Primary management has great influence on the extent of the eventual functional recovery.³ Above all the injury must not be exacerbated or complicated. Hand injuries are rarely, if ever, life threatening. Haemorrhage may be a problem, but it is usually transitory and controllable by raising the hand and applying a padded pressure dressing. A tourniquet should never be used. The possibility of concomitant serious injury must be excluded before detailed examination and treatment of the hand.

The history should contain personal details of the patient which will influence treatment, such as age, sex, right or left handedness, occupation, hobbies, general health, and ability to cooperate with rehabilitation. Detailed information about the precise mechanism of injury should be recorded. This will indicate whether the tissues have been cut, crushed, avulsed, degloved, or burnt. Common patterns of injury should be known—for example, extensive internal damage with only a small skin laceration in glass injuries and fractures associated with crushing; in such cases the surgeon will have some idea of the structures likely to be affected.

Examination should be expeditious and cause no additional discomfort. Five questions should be answered. Is the viability of the hand or digit in doubt? Although this may be difficult to assess before normal anatomical relations are restored, avascularity is suggested by pale, cold skin with slow or absent capillary refill, particularly noticeable at the nail bed. Is the skeleton stable? Instability may be obvious in severe injuries, but good quality radiographs in at least two planes should always be obtained.

Is there actual or impending skin loss? Appearances are deceptive: the nature of the accident is perhaps the most reliable guide. Shearing injuries always produce undermining and eventual tissue necrosis. Is there evidence of sensory or motor loss indicating nerve injury? The most reliable sign of sensory damage is loss of sweating in the nerve territory. This is immediately positive after division of the nerve and is easily shown by loss of tactile adherence when a plastic pen is lightly drawn over the affected area.⁴ Pinprick is a crude and unreliable test. Individual muscle testing will show evidence of motor paralysis. Is there evidence of tendon damage? This produces an imbalance in resting tone and so abnormal posture. It is further shown by a tenodesis test—that is, in the normal relaxed hand the fingers fall into an arcade of flexion when the wrist is passively extended and extend when the wrist is flexed. The relation of each finger to the next will be disturbed if tendons are divided.

Having attempted to answer these questions, it should be remembered that the true extent of damage may be much greater than that found by clinical examination; in penetrating injuries with sharp objects the definitive examination is surgical exploration. Indeed, repair necessitates thorough wound exploration by an experienced surgeon with fine

instruments and magnification, and tourniquet control under regional or general anaesthesia. Wound extensions should be designed so as not to impair viability or cause joint contracture while providing adequate exposure. Obviously devitalised skin should be excised, but if there is doubt the hand should be dressed with antiseptic soaks, and raised and then reviewed 48 hours later. Bursting injuries are best managed by a similar "delayed primary" method with suture after four or five days of raising when oedema has settled. Skin grafts may be applied to most soft tissue defects, but flaps are essential when the bed contains bare bone, cartilage, or tendon. Flaps may be preferred in many instances where later reconstructive procedures on the deep structures are planned, or to provide sensation at key points in the hand. Selection of the most appropriate flap for a particular defect may be difficult.

Vascular impairment which does not immediately respond to skeletal stabilisation requires urgent exploration. Microvascular reconstruction may be necessary to salvage an otherwise normal digit. If the part has been severed the decision to replant or amputate should be made after detailed examination of the amputated part under the microscope. In general, injuries which always warrant replantation include any digit in children and the thumb and multiple digits in adults. At the time of injury the amputated part should be placed in a clean, dry plastic bag inside a second bag containing ice before the patient is transferred to a replantation centre.

Though many fractures in the hand may be treated conservatively, internal fixation may be indicated when the fracture is unstable, when a joint surface is damaged, and when there are vascular injuries. These techniques should offer the advantages of accurate reduction and rigid fixation allowing immediate postoperative mobilisation. In the past primary tendon repair gave poor results in the area known as "no man's land," where both finger flexors run in a fibro-osseous tunnel. Delayed tendon grafting was preferred. Refined surgical technique based on more detailed anatomical knowledge, combined with dynamic traction⁵ or controlled passive mobilisation during the postoperative phase maintaining tendon gliding, has so improved the functional outcome of primary repair that it is now the treatment of choice. The deformities caused by damage to the extensor tendons in the finger (mallet and boutonnière) may be avoided by immediate static splintage. If exploration is undertaken soon after injury it is usually possible to approximate divided nerves without tension. An attempt should be made to match the fascicular pattern visible at each end. The exact method of repair may be by coapting individual fascicles (single fascicular), groups of fascicles (group fascicular), or the whole nerve (epineural). There is much debate about which technique is preferable. If there is any tension, a primary or secondary nerve graft is indicated. Immediate postoperative splintage is designed to protect the healing nerve, but splinting may also be needed later to prevent any paralytic deformity becoming structural.

In young children, injuries of the fingertip may be managed conservatively, but in adults a detailed knowledge of reconstructive techniques is necessary. Length should be maintained by judicious use of local innervated flaps, advancement flaps,⁶ and cross finger flaps. Reconstruction or ablation of the nail bed may be needed depending on the level of injury. Skin grafts are best avoided except to cover very small defects, which will subsequently contract. Skin grafts, however, do have an important part to play in treating burns. The most important factor influencing the

outcome of a burnt hand is the depth of the injury. This is difficult to assess even for those with experience. The history provides more helpful information than examination. A superficial burn heals spontaneously, deep dermal burns may need grafting, and a full thickness burn always requires at least a skin graft but often a flap cover. In such instances early surgery (within the first three to five days) may be advisable to cover exposed tendons or joints and limit wound contraction. Whatever the depth mobility must be encouraged. Plastic bags containing antiseptic liquid furnish a good occlusive dressing, which permits movement, but splinting in a protective or functional position is important at night. As with any other hand injury, raising to limit oedema is vital.

Hand surgery is a complex specialty, which requires specific training in many aspects of surgical technique. An adequate service requires a comprehensive, enthusiastic back up team of trained anaesthetists, nurses, physiotherapists, occupational therapists, splint makers, and prosthetists. Those working in accident and emergency departments must have sufficient knowledge and facilities to provide correct primary care, but undoubtedly optimal long term results will be achieved at centres specialising in and equipped for all aspects of care for the injured hand.⁷

PAUL J SMITH

Consultant Plastic and Hand Surgeon,
Hand Clinic,
Luton and Dunstable Hospital,
Luton

BARRY M JONES

Senior Registrar in Plastic Surgery,
Regional Centre for Reconstructive Surgery,
Mount Vernon Hospital,
Northwood,
Middlesex

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Ruptured aortic aneurysm: an avoidable disaster

Aneurysm of the abdominal aorta is relatively common: in a Scandinavian series in 1964 it was found in 2% of consecutive routine postmortem examinations.¹ The increasing frequency with which it is being seen by vascular surgeons reflects greater longevity, better diagnosis, wider recognition of the role of surgery, and possibly a real increase in prevalence. Operations for aneurysm have become dramatically more frequent in recent years. In Scotland, for example, they rose from 63 in 1972 to 262 in 1982.² An operation is the appropriate treatment unless the patient has a very limited life expectancy (on account of age or illness) or the risk of operation is judged to outweigh the risk of rupture. What are these relative risks?

Untreated, an aneurysm is likely to cause early death. The