**Current Practice**

Infections of the Hand—2

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An article in last week's Current Practice discussed the general principles of treatment of infection of the hand. This week's article deals with the management of special sites of infection.

Special Sites of Infection

**Paronychia**

This is an infection of the superficial layers of the skin around the finger-nail—what the manicurists call the cuticle—and is often the result of over-vigorous manicuring. The infection is usually localized to one side of the nail. There is redness of the skin along that side of the nail with a point of maximum tenderness about one-third of the way along the nail, where the pus is situated.

A small incision, under local anaesthesia and antibiotic cover, directly over this point (Fig. 2) will release the pus, and gentle squeezing around the incision will evacuate it. A simple dry dressing is bandaged on and the wound will be healed in four days.

![Fig. 2.—Paronychia—site of incision. The incision should be carefully placed in this manner to ensure complete evacuation of the pus.](http://www.bmj.com/)

The pus is situated in the layers of the epithelium. Delay in evacuating will allow the pus to spread into the layers of skin, either more proximally or to burst underneath the nail. When this latter spread occurs the pus can be seen under the nail, producing what has been called "a floater." A slight increase in the depth and length of the incision will allow all this pus under the nail to be evacuated by pressing on the nail. There is no need to remove a part or the whole of the finger-nail, as is often recommended.

**Apical Pulp Space Infection or Sub-ungual Abscess**

In this type of infection the pus lies beneath the nail, superficial to the dorsal side of the terminal phalanx. The redness from the inflammation often spreads all round the nail and to the casual observer may suggest that the condition is an acute paronychia. The symmetry of the redness around the nail, compared with the unilateral redness with a paronychia, should put the surgeon on his guard. Further examination will reveal a point of acute tenderness at the tip of the finger close to the nail. If untreated, the pus may come to the surface at this point, often producing an epithelial collar-stud abscess.

Occasionally the pus comes to the surface under the distal third of the nail.

An incision over the middle third of the very tip of the finger will open this small abscess cavity. If a collar-stud abscess is present, the superficial dead epithelium must be cut away and the deeper cavity then incised. The smallest curette should then be introduced and all pus evacuated. There is often a small slough present, and this must be completely removed by the curette. Even though pus has burst under the nail it can all be evacuated by this method. Again, there is no need to remove the nail.

**Pulp Space Infection**

Infection of the pulp of the terminal segment of the finger is very common—almost as common as the paronychia. It is also too often badly treated. The reasons for this poor treatment are (a) that the infection starts deep in the pulp and there are no signs of pus on the surface. Waiting for the infection to be "drawn" to the surface and be "ripe" or to "point," as it is sometimes called, is only too common. When pus is present deep in the pulp, swelling of the pulp is always present, and the pain is severe and interferes with sleep more than almost any other type of infection in the hand. (b) At operation not sufficient care is taken to remove all pus and all slough. An epithelial collar-stud abscess is often present and a "stab" incision over this may only evacuate the superficial loculus.

Operation is carried out under local anaesthesia and antibiotic cover. The incision should be made over the point of maximum tenderness, and this point should be identified before the local anaesthetic is injected. The incision should be large enough to allow the cavity to be inspected and for the nibbling forceps to be introduced if necessary. At the end of the operation all pus and slough should have been removed and the walls of the cavity seen to be oozing blood. If the cavity goes down to bone, the colour of the bone should be observed. The dead white colour of a sequestrum is quite typical. If in doubt, the bone should not be interfered with at this operation but an x-ray should be taken at a follow-up visit.

A plain dry dressing should be bandaged on. We usually give another dose of antibiotic on the second day and inspect the wound on the fourth day after operation. If the operation has been properly carried out, all surrounding signs of inflammation should have gone and there should be no discharge of pus. There should be no necessity for any more antibiotics. Persistence of pain and discharge usually means that a small loculus of pus or slough is still present. This is an indication for a second cleaning out of the cavity and not for a prolonged course of antibiotics. If necrosis of the bone does occur, the sequestrum should be removed when it is free.

**Infection of the Middle and Proximal Segments of the Finger**

These are less common than infection of terminal segments, but the same principles of early diagnosis and of operating...
apply. With a cavity at the side of the finger, however, the digital nerve can sometimes be seen running intact across the cavity. Inspection of the cavity is therefore necessary before the cavity is cleared out with a curette.

Web Space Infection

This infection starts at the base of a finger in the palm and spreads into the web between the fingers. There is often associated swelling and redness on the back of the hand. It should not be confused with a palmar space infection. These infections often start from an infected callusity on the palm at the base of the fingers.

Operative treatment is best carried out under general anaesthesia. The patient’s hand should be firmly relaxed on to the “lead” hand already described. An incision is made in the crease at the base of the finger—the incision should not extend into or be made in the web, because these incisions are very slow to heal. The incision should be made with care so that it does not go too deep and damage the underlying tendon sheath. The pus is then evacuated with a curette and the cavity finally cleaned with gauze. If there is an obviously infected callusity, this should be cut away.

A dry dressing is bandaged over the incision. On recovery from the general anaesthetic the fingers will resume their semiflexed position, closing the lips of the wound in the crease. Unless the infection has destroyed skin the wound will then be firmly healed in four days.

Infection of the Palm

Infections of the superficial tissues of the palm do occur, but are much less common than any of the preceding types. A true palmar space infection is so rare that it is scarcely worth attention. Incision into the abscess through a palmar crease is all that is required, and all pus is evacuated.

Carbuncles of the Fingers or Hand

These occur in association with the hair follicles on the back of the fingers and sometimes the hand. If they are very small a dressing of magnesium sulphate paste may evacuate the small slough. If this slough is not evacuated in one day, then it is best to incise the infected area, curetting or nibbling away all the slough. The operation can be carried out under local or general anaesthesia, according to the site of the infection. If all dead tissue is thus carefully removed, the lesion should be healed in a week.

Infections of the Hand not requiring Operation

Herpetic Whitlow

This is an infection with the herpes simplex virus. It is an occupational hazard of nurses looking after tracheostomized patients. The virus is excreted in the tracheal secretions and may contaminate the fingers of the nurse; if there is also a scratch, the virus can enter and cause infection. This whitlow can be prevented by wearing gloves. There are now cheap disposable plastic gloves available for a nurse to wear while handling the tracheostomy wound and tube.

The condition manifests itself by a crop of vesicles, surrounded by inflammation at the finger ends. The condition is painful. The virus can be recovered from the fluid in the vesicles, but evacuation of this fluid does not expel the cure, or relieve the pain. There is no specific treatment and the condition takes about three weeks to clear up. It may recur following any trivial wound of the finger. The best treatment, therefore, is prophylaxis by wearing gloves.

Rosenbach’s Erysipeloid

This is an infection by the bacillus of swine-fever, which seems to be a saprophyte of dead meat and fish. Fishmongers and butchers are particularly at risk, but housewives and chefs may also be affected.

The infection is characterized by heat, redness, and swelling of the fingers or hand, but pain, the fourth sign of inflammation, is usually minimal or absent. The boundary of the swelling is irregular, but the raised edge in the epithelium where the redness terminates is typical—hence erysipeloid. Once seen, this condition can always again be recognized.

Treatment is simple. Daily injections of full doses of penicillin will cure within a week.

ANY QUESTIONS?

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

Depression with Oral Contraceptives

Q.—Depression seems sometimes to be a side-effect of the newer oral contraceptives (Lyndon, Orthovacnu, Norlestrin, Gyntolor). Is it also a side-effect with the older oral contraceptives (Anovlar, Conovud, Conovud E, and Volodan)?

A.—Depression is occasionally a side-effect with any of the present oral contraceptives, occurring in some 2% to 5% of patients in trials on any one of the combined progesterone/oestrogen products. On the other hand some women who previously complained of premenstrual depression are relieved of this when on oral-contraceptive therapy, and a considerable number of patients have an increased sense of well-being, which may be due to the freedom from anxiety over unwanted pregnancy, but may also be due to the altered hormonal status. It is extraordinarily difficult to know exactly what the effect of this therapy, if any, is on psychiatric disorders. There are undoubtedly patients with marital difficulties who relate these to their contraceptive method, and whose expectations from the taking of oral contraceptives are quite unrealistic—so that they withdraw from the method when they find that it does not solve their problems—or they may have a depression when they face up to the fact that the problem is within themselves.

Where depression or other psychiatric difficulties are apparently precipitated by oral contraception it might be worth changing to another with a different progesterone and perhaps a higher oestrogen content to see if this helps.

A.—Hygienic surfaces tend to be hard and smooth and therefore reflect sound waves easily, while sound-absorbent materials are usually difficult to keep clean. It is, however, possible to reduce the amount of sound in a theatre suite to some extent by using anti-static polyvinyl-chloride floors such as Mipolam (German), Conductile and Amtico (American), Marley and Polyflor M.H. (British). These are fairly quiet so far as the movement of theatre staff is concerned, and are certainly better than terrazzo or tiling with regard to the so-called “dropped instrument” problem.

Walls and ceilings can be covered with a continuous matt coating of spray-applied plastic such as Plasterpak or Tretoplast. Both of these are easily washed and are flexible. They will accommodate any normal