well proximally, as the extra length so obtained would facilitate suture with the thumb digital nerves. At six weeks the remaining volar attachment of the toe and the flexor tendon were divided. The toe stump was covered with a split-skin graft, and some split skin was also spread on the volar defect of the thumb at the level of the attachment. Healing of thumb and foot was complete two weeks later.

Discussion

There are good points and bad points about all current methods of thumb reconstruction or elongation—that is, about pollicization of index, abdominal tubed pedicle plus bone graft, phalangization, and the Gillies “chapeau flap” with bone graft.

A successfully pollicized index, having full mobility and sensation, gives much the best functional result, but the appearance is that of a lobster claw and can be grotesque. Furthermore, in our experience a pollicized index has tended with time to fall back into its original plane flush with the other three digits. For these reasons the method may not appeal for certain cases, particularly young female patients.

An opposition post made of a tube pedicle plus bone graft is rigid unless borne on a mobile metacarpal stump. Its sensation remains poor and is always lacking in stereognosis. It is often of very poor appearance, and increasing mobility of the abdominal skin on the bone graft interferes with its usefulness as a gripping mechanism. It is, nevertheless, the alternative method of choice for adult males when, owing to loss of other digits, pollicization cannot be done.

In partial losses the thumb may have its apparent length increased and its function improved by deepening the first web—that is, the operation called by Bunnell “phalangization.” The method is a useful one for cases with substantial remnants of the proximal phalanx.

The Gillies “chapeau flap,” by which an additional 1 in. (2.5 cm.) may be added to a thumb stump, is an alternative method for similar cases. The flap contains most of the skin of the thumb stump and is based distally on the lateral side of the first web—a precarious attachment and one best delayed. When the flap is elevated and displaced distally, a 1-in. bone graft is inserted under it into the phalangeal stump to elongate it. A free skin graft covers the proximal secondary defect. A considerable return of sensation occurs in these stumps, as the repair is by hand skin which has touch corpuscles. This repair is most suitable for adult males, but it makes no attempt at restoration of normal appearance or of interphalangeal movement in the thumb.

It is reasonable to suggest, in view of the limitations of other methods of thumb repair in spite of their value, that the advantages of a hallux-thumb transfer should be given more consideration. This holds particularly for the young, who stand the posture best and who suffer most psychologically from the appearance of a missing digit or an ugly repair. The

three cases (of which one is reported here) done in this country are known to have been successful. In the third case (Fig. 8), where all five toes have been transferred to the hand, all the transferred digits are viable (case under treatment at the moment). Previous experience (Gueullette) has probably exaggerated the hazards of the method.

Adactyly.—The method would seem to be of special value for trial in congenital absence of all digits. There are no greater surgical difficulties in transferring five toes than in transferring one—indeed, the dorsal flap for five toes is larger and therefore safer (Fig. 8). The toes with their nails provide the only repair which can give a reasonable match to normal fingers for these difficult and distressing cases.

It is a pleasure to acknowledge our thanks to Sir Harold Gillies, who referred this case to us both with the suggestion that we adopt this method and with much valuable advice on how it could best be done.

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Medical Memoranda

Prolapsed Intervertebral Disk After Lumbar Puncture

It would seem from the increasing number of cases of prolapse of the disk with a history of symptoms beginning after lumbar puncture that this hazard of the procedure is more common than is generally accepted. The case described below illustrates the normal sequence of events where damage has occurred to the disk. The condition was finally cured by operation, the laminectomy findings being in support of a possible rupture of the disk by a needle.

CASE REPORT

The patient, a young man aged 22, stated that he had had trouble with his back since November, 1945. At this time he was given spinal analgesia in a military hospital in order to carry out a radical cure of an inguinal hernia. Unfortunately this analgesia was unsuccessful, and, furthermore, while the needle was being inserted he felt a sudden sharp pain down the sides of both legs and they shot out into the extended position quite involuntarily. It is interesting to note that this was followed by a spinal headache for as long as 14 days after the operation. From that time he developed attacks of backache which could be brought on by such minor trauma as jumping down from a lorry.

When seen in the orthopaedic department of the Coventry and Warwickshire Hospital he was suffering from left-sided sciatic pain extending down the outer side of the thigh and into the ankle, which he had had for three months. This was the first attack of sciatica that he had experienced.

On examination he was found to have a slight degree of scoliosis convex to the left, which he stated had been much worse. Forward flexion of the spine was grossly diminished, but lateral flexion was fairly free. There was no evidence of disturbance of sensation or reflexes of the limbs. A radiograph of the lumbar spine showed a narrowing of the disk space between L4 and 5. It was decided to explore the above disk space, and the patient was admitted to hospital.

FIG. 8.—Diagram to show delayed dorsal flap used for transfer of five toes (in a case of congenital adactyly at present under treatment). The flap is elevated between two parallel incisions. After an interval of at least two weeks it is divided along the dotted line and elevated again up to the base of the toes. This large flap gives additional security to the pedo-carpal transfer.

Laminectomy was carried out by Mr. N. W. Nisbet. The laminae of L4 and 5 on the left side were exposed and the ligamentum subflavum was removed. The dura was found to be pulsating but bulging. On retraction of the dura and the fifth lumbar nerve root medially a very marked protrusion of the intervertebral disk could be seen. This had obviously been producing pressure on the fifth root. Almost immediately the protrusion had been displayed disk material began to exude into the space behind the dura in a manner similar to the exudation of sebaceous material from the minute aperture in a sebaceous cyst. The whole of the disk material was removed in the usual manner.

Post-operative progress was uneventful, the patient's sciatic symptoms being completely relieved, although he complained of some coldness of the left foot. There was no evidence of any sensory disturbance.

There seems to be little doubt that this disk lesion was the direct result of a puncture of the annulus fibrosus of the intervertebral disk. The exudation of nuclear contents through a small aperture supports this causation.

I am indebted to Mr. N. W. Nisbet for permission to publish this case.

J. N. WILSON, F.R.C.S.,
Orthopaedic Registrar, Coventry
and Warwickshire Hospital.

A Case of Human Myiasis

While acting as medical officer in charge of a German P.O.W. working camp in Buckinghamshire I saw a case of human myiasis. As this is unusual in England the case history seems to be worth recording.

CASE REPORT

The patient, a 27-year-old German P.O.W., had had a radical operation for left otitis media in 1940. He said there had always been a purulent discharge from the left ear since, combined with vertigo on thermic irritation. The patient was seen by British and German E.N.T. specialists, who recommended various kinds of treatment, but without any effect on the discharge. The ear was cleaned and iodine powder 1% insufflated regularly.

In the summer of 1947 he had an open-air job at a brick-works in a rural district. Late in September, 1947, he reported sick, complaining of intensified trouble with his left ear, a feeling of pressure, and some pain of two days' duration. There was also a slight discharge of pink-coloured matter.

Examination with the auriscope revealed the following picture. In the external meatus there were some larvae (obviously belonging to a kind of fly) moving in a lively manner. The interior parts—i.e., the former tympanic cavity—were filled completely by a moving mass. It was a solid block of larvae lying parallel and swimming in a pink serous fluid; the heads of the maggots were directed to the inner ear and only the bigger tails were visible.

As I knew the "normal" state of this ear very well and as a removal of all the larvae by means of forceps seemed to be impossible, I tried very cautious rinsing with normal saline. At first the larvae were removed quite easily and without any untoward effect; but it soon became clear that a number were still present in small sinuses stretching into the posterior wall of the tympanic cavity and of the external meatus. As they were very tightly packed and the entrances of the sinuses were rather narrow, the maggots had to be removed by forceps one by one. A final counting revealed that there had been 57 larvae within his ear.

Examination after complete clearance showed the ear to be quite clean, without any trace of pus. The sinuses into the posterior wall did not exist in the "normal" state; they were to be regarded as caused by the parasites. Close observation during the next few days showed that pus had formed again

and that the sinuses had closed quickly. The further course of the case was uneventful.

COMMENT

Unfortunately it was impossible to save the larvae for metamorphosis into flies, so it was rather difficult to decide on the species. Dr. J. S. K. Boyd, of the Wellcome Laboratories of Tropical Medicine, stated that they belonged to "one of the species of the genus *Lucilia*, probably *L. sericata* or *L. caesar*."

The genus *Lucilia* (blow-flies) is the one most often encountered in human myiasis in Europe; but cases are very rare there compared with tropical countries. Myiasis due to larvae of the blow-flies is always superficial only. Sometimes the larvae are primary parasites—i.e., they attack healthy tissues. Mostly, however, the eggs are deposited on necrotic and putrescent matter (secondary parasitism), as in this case. Commonly the fly deposits its eggs in some quantity and the larvae get rapidly to work. In hot climates (the summer of 1947 was very hot) it takes 16 to 24 hours for the eggs to hatch; after four to seven days the larvae are fully grown and proceed to form the chrysalis.

Of practical importance is the fact that some of these parasites live on necrotic tissues only, while others, after starting from necrotic matter, secondarily attack living healthy tissues as well. *L. caesar* belongs to the former group, whereas *L. sericata* attacks living surroundings (the sinuses in the present case): both are therefore apt to cause very serious complications, such as perforation of the epitympanic bone and secondary infection of the meningeal spaces.

Contrary to surgical experience, the cleansing effect of the allantoin formed by the larvae was not lasting: a few days after removal of the maggots pus was present as before.

I am obliged to Drs. Lucas and Sherris, of the Central Pathology Laboratory, E.M.S., Stoke Mandeville Hospital, Bucks, for their kind help. May this short note be a token of my gratitude to all British colleagues, who, through 16 months, gave me so much help and assistance and showed that medicine does not know national barriers.

Mayen, Germany.

HELLMUT W. F. BRAUNECK.

A pamphlet by Marion E. A. Williams entitled *Focus on the Disabled* has recently been published by Michael Works, Ltd. The founders of this company were "a small group of people convinced that disabled persons, previously regarded as unemployable, could be trained and employed in producing useful goods which could be offered in the open commercial markets at normal prices." Michael Works, Ltd., began work in 1946, small articles of woodware and simple occasional furniture being produced. The supervising staff consisted of managing director, secretary, medical officer, physiotherapist, industrial psychologist, and foreman. Close co-operation was maintained with the local resettlement officer of the Ministry of Labour. The disabilities of the workers employed in the factory varied from spastic conditions to neuroses. It was soon found that the workers could be trained to produce articles with a standard of quality as good as anything existing on the market, and the company has been successful in tendering for such work as the repair of school desks for the L.C.C. and for making new furniture for old people's homes. Any falling off in the working capacity of an employee is the signal for immediate consultation between the medical officer, managing director, and foreman. "In this way the medical knowledge available has been applied in practice at the earliest possible moment, with great saving in ill-health and absenteeism."