ment of such a case, a procedure which is little less than a crime. Such a sacrifice deprives the broken phalanx of an ideal splint and exposes a singularly tender area which will not permit of a return to work for some weeks. In order to save the nail and at the same time to relieve the tension and therefore the pain, it is a simple matter to trephine the nail: a little patience and a sharp operating knife are all that is required. The trephine opening need not be more than 2 mm. in diameter, and should be placed over the most prominent point of the haematoma. With this simple manoeuvre the relief is dramatic as soon as the free blood is released. Vaseline ribbon gauze 3/4 in. wide is applied to the toe, and when the fracture is confined to the distal phalanx a plaster-of-Paris thimble enclosing the whole toe provides adequate immobilization. When, however, the proximal phalanx is fractured a plaster toe-splint is fashioned to enclose the sides and plantar surface of the toe; this extends along the medial surface of the foot to about the tubercle of the navicular bone and across the sole of the foot for about half its breadth. The splint is either bandaged or strapped in place. The vaselined gauze lubricates the inside of the plaster and allows an easy and painless removal of the splint. Failure to do this can result in the most tedious and painful task, especially when the blood has leaked under the plaster.

It was always our custom to admit these cases to hospital for 48 hours, with immediate elevation of the limb, and we found that the comfort in each and every case was great. It may be argued that admission to hospital is quite unnecessary. This may be so providing the patient goes home by ambulance and assumes a recumbent attitude with elevation of the limb. Owing to the comfort induced by plaster immobilization and the trephining, these instructions are not always carried out, and treatment in hospital, when space permits, we found more desirable.

The patient is allowed up on the third day, when, by borrowing a boot about two sizes larger than his own, he can accommodate a thimble; the stout leather sole, being unyielding, prevents movement of the toe. The larger plaster sole-splint cannot be accommodated inside an ordinary boot, but it can almost invariably be abandoned for the plaster thimble. The patient is encouraged to use heavy working boots, and by the eighth to the tenth day he may return to work. This date is, of course, variable; sometimes a fracture causes so little incapacity that a return to work on the following day is possible. On the other hand, severely comminuted fractures or grossly lacerated soft tissues will demand a longer incapacity period. This short period of immobilization will not cause any stiffness of the metatarso-phalangeal joint, mobility of which is so essential for comfortable walking.

As with compound injuries of fingers and thumb, conservation of tissue is the great aim. Such aim is no less applicable in the case of the great toe. Excision and débridement are carried out in the same manner as in other compound fractures. When the great toe is severely mutilated and amputation is deemed advisable, preservation of the metatarso-phalangeal joint must always be the goal. The importance of this joint is not always realized, and the simple operation of disarticulation is too often undertaken. Following this procedure, the late result of pain while walking forward on the tread, which entails pressure on the antero-inferior aspect of the metatarsal head, causes many weeks of disability. Where possible a small portion of the proximal phalanx should be left to maintain the integrity of this very important joint. It is almost unnecessary to state that the head of the first metatarsal must be preserved at all costs, because it, together with the remaining metatarsals and the os calcis, forms the tripod on which the weight of the body is borne.

Conclusion

To summarize, the points I wish to make are: (1) trephine and save the nail; (2) plaster-splint, with elevation, for 48 hours; (3) encourage use of a heavy boot during convalescence; (4) condemn disarticulation at the metatarso-phalangeal joint.

Again my thanks are due to Mr. H. Ernest Griffiths for his guidance and encouragement in this and many other matters relating to traumatic surgery.

REFERENCE

Griffiths, H. Ernest (1935). *Injury and Incapacity*, London.

Medical Memoranda

Bilateral Fracture of the Patella

The following case of fracture of both patellae, treatment of which had an interesting sequel, may be thought worthy of record.

CASE HISTORY

Private A. was admitted to a general military hospital on Aug. 21, 1942, complaining of pain in both knees. At 2 a.m. he had been returning from a dance, travelling as a "passenger" on the crossbar of a bicycle. While descending a steep hill his "pilot" attempted to take a sharp right-hand bend at speed, but at the crucial moment the brakes failed and the bicycle crashed into a stone wall. Private A., by reason of his posture, took the brunt of the impact on his flexed knees.

I examined him at 9.30 a.m. I found a well-developed intelligent youth of some 18 years. He had several abrasions on the knees, both of which were much swollen. The legs were held in extension and any attempt at flexion of either caused severe pain. He volunteered the information that his legs "wouldn't hold him up" after the accident. Shock was entirely absent.

Operation.—Radiographs revealed fractures of both patellae; the right was grossly comminuted, and displacement was severe; the left was a "cruciate" fracture, and displacement was not marked. I decided to remove the right patella. Owing to the multiplicity of dirty abrasions great caution was exercised in preparing the skin, and operation was finally fixed for Aug. 27. Under general anaesthesia the fracture was approached through a midline vertical incision. On separating the fragments an enormous haematoma under pressure was evacuated. Loose fragments were removed and the upper and lower fragments dissected free from the quadriceps tendon. The free ends of the latter were then bunched together with mattress sutures of No. 3 catgut in the manner described by Watson-Jones (1941). The wound was closed and a compression bandage applied. Attention was then directed to the left knee, and it was found that the displacement was easily corrected by direct pressure against the femoral condyles. A mid-thigh plaster cast was applied.

Post-operative Measures.—During the immediate post-operative phase severe pain in the right knee required the frequent use of sedatives, and on the third day transient swelling of the right ankle necessitated slight relaxation of the compression bandage and elevation of the limb, with immediate benefit. The left limb was trouble-free. Stitches were removed on Sept. 5, the wound being soundly healed. Active exercises were begun cautiously on Sept. 7, and the following day the patient was allowed out of bed in a wheelchair. From this time onwards he showed excellent co-operation, and persisted tenaciously at his exercises. The plaster was removed from his left leg on Sept. 21 and he was allowed to bear weight. Radiographs taken on Sept. 28 showed firm union of the left patella in good position; the right knee was clear of fragments and there was no new bone formation. He was discharged on 14 days' convalescent leave.

End-result.—The patient was readmitted on Oct. 15 for a course of physiotherapy, and was finally discharged to duty on Dec. 2. I made a "follow-up" examination on March 19, 1943. He was then in excellent health and spirits. Examination of the right knee showed the wound firmly healed, with painless flexion up to 140 degrees. The left patella was firmly united; the articular surface was smooth, and flexion was possible up to 150 degrees. The patient then volunteered the interesting information that, although naturally left-footed, he now found the right knee not only stronger than the left but also stronger than it had ever been previously. He added that he had no trouble whatsoever with the right knee, but that he got occasional twinges of "rheumatism" in the left knee, especially in frosty weather or after prolonged marching. He referred this pain to the ligamentum patellae. Both quadriceps were equally re-developed, but tests revealed that the right was undeniably now the more powerful. The efficacy of the "bunching" method of suturing the quadriceps tendon was strikingly demonstrated by the fact that the contours of both knees were indistinguishable.

I have to thank the Director of Medical Services and the Command Medical Officer, Southern Command, for permission to publish this case.

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REFERENCE

Watson-Jones, R. (1941). *Fractures and Other Bone and Joint Injuries*, p. 547, Edinburgh.

Unusual Case of Obstruction by Worms

The following case may be considered interesting enough to merit publication.

CASE HISTORY

On March 4, about 1.30 a.m., I was called to a child aged 5 years who had become ill on the previous morning. She then complained of abdominal pain and vomiting. This got worse towards night, and she was sent to Nenagh General Hospital. Appendicitis was a suggested diagnosis. On examination the child was restless; her temperature was normal, pulse 100, and respirations 26. She had general abdominal discomfort, most marked about the umbilicus. There was no definite rigidity. Restlessness was the most pronounced feature.