EMERGENCIES IN GENERAL PRACTICE**COMMON DISLOCATIONS**

BY

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The number of accidents of all kinds rises each year as traffic increases in amount and pace. The medical profession is becoming aware of the mounting importance of trauma, and the number of surgeons who specialize in this field is steadily increasing. In the past few years tremendous strides have been made in the treatment of both soft-tissue injuries and fractures. Improvements in the diagnosis and treatment of dislocations, on the other hand, have not been so noticeable. This is not because our knowledge is complete—far from it: there are many problems associated with dislocations of joints which have yet to be solved.

In this article the common joint dislocations due to trauma are discussed. No attempt is made to include descriptions of recurrent, congenital, or pathological dislocations, or of dislocations involving the spine, pelvis, or shoulder. Dislocation of the shoulder was discussed recently in this series.*

Dislocation of the Jaw

Dislocation at the temporo-mandibular joint is a distressing emergency that is readily diagnosed. If only one side is dislocated the jaw is held open and is deviated towards the opposite side. When both sides are dislocated the mouth is open and there is no deviation to one side. In either case the pain is severe and there is complete inability to close the mouth.

For reduction, stand in front of the patient and place both thumbs within the mouth on the mandible behind the last molar and press backwards and downwards. At the same time lift upwards on the chin with the fingers. General anaesthesia is not usually necessary. To minimize the risk of recurrence the patient should be warned not to open the jaw widely for several weeks.

Dislocations of the Clavicle

Dislocation at the sterno-clavicular joint is not common and may be overlooked because of the rapid swelling of the soft tissues and obliteration of the bony landmarks. It is reduced by pulling backwards on both shoulders as in the manœuvre for the reduction of a fractured clavicle, and is maintained in position by a figure-of-eight bandage. The bandage must be renewed every three or four days, and must be maintained for a period of six weeks, otherwise a recurrence is likely. This method, as in the treatment of a fractured clavicle, need not interfere with the performance of most forms of work. If heavy lifting or forceful movements of the shoulder are required it is better to arrange for some modification of the work for the whole of the six weeks.

In dislocation of the acromio-clavicular joint the outer end of the clavicle is much more prominent than usual (Fig. 1), and the normal contour of the shoulder can be re-established by lifting the arm upwards. Initial radiographs may be misleading, because if the picture is taken with the patient lying down the joint may appear normal. It is essential to take radiographs with the patient upright and with the shoulder hanging. Minor degrees of subluxation

of this joint, either initially or following treatment for dislocation, are compatible with full function, and elaborate surgical procedures to repair the torn ligaments are not necessary in most cases.

To maintain reduction of an acromio-clavicular dislocation, strapping is applied over the clavicle and around the elbow (Robert Jones method), with the elbow at right angles in a collar-and-cuff sling. The usual irritating skin condition, which occurs when adhesive strapping is applied to the chest, can often be prevented by painting the skin with compound tincture of benzoin before applying the strapping. Non-elastic strapping is necessary; it must be strengthened each week and worn for six weeks. During this six weeks' restriction of shoulder activity the hand and wrist are brought through the clothes in front and allowed maximum function. Such jobs as bench fitting, the assembly of small parts, etc., will make full use of the hand. (The fact that hand movements are accompanied by muscle action at the shoulder-girdle can be easily demonstrated.) In this way wasting of shoulder muscles is prevented, and when the restrictive bandage is removed the stiff shoulder is soon fully mobile.

FIG. 1.—Typical deformities of the shoulder. A, normal shoulder. B, acromio-clavicular dislocation. C, dislocated shoulder. D, fracture of surgical neck of humerus.

The Elbow

Reduction of a dislocation of the elbow demands skill on the part of the operator and good anaesthesia. The diagnosis is not difficult and may be established by comparing the positions of the three bony prominences (olecranon, medial epicondyle, and lateral epicondyle) on the two sides. It is important to test for involvement of the radial, ulnar, and median nerves, and to feel the radial pulse.

During reduction under anaesthesia, with relaxation, the elbow should be kept flexed. Traction is applied to the forearm gently and steadily, and to this traction is added gentle forward pressure on the olecranon to complete the reduction. After reduction a collar-and-cuff sling should be applied; a few days later this should be replaced by a padded plaster extending from the axilla to the wrist to allow the patient a nearly normal range of activity. This plaster should be worn for three weeks, and full function of the shoulder and hand must be encouraged. The complica-

* "Femoral Neck Fractures and Shoulder Dislocations," by Mr. C. G. Attenborough and Mr. H. Osmond-Clarke (*British Medical Journal*, 1956, 1, 912).

tions of dislocation of the elbow are : fractures involving joint surfaces ; fracture of the medial epicondyle, which may be trapped in the joint ; ulnar, median, or radial palsy ; myositis ossificans ; and Volkmann's ischaemic contracture. The novice should ponder on this list of complications and seek skilled help in dealing with this injury.

"Pulled elbow" is a common injury in children under the age of 5 years. The story is characteristic. An adult is holding the child's hand, when the child stumbles and the adult pulls the youngster up sharply by the hand. There is immediate pain and the child refuses to use the arm any more. Physical examination is completely negative, except for copious tears and one characteristic and unmistakable feature—limitation of supination. Radiographs are normal. Once this limitation of supination has been detected, a sudden passive supination will produce a palpable click at the elbow and the condition will be relieved. The anatomical explanation is that the orbicular ligament is pulled slightly off the head of the radius on the lateral side if traction is applied to the hand when the elbow is fully extended and the forearm pronated. This injury has not received the attention that it merits. It is twice as common as supracondylar fractures of the lower end of the humerus in children of this age.

Wrist and Hand

The only dislocation of any frequency at the wrist is the perilunar dislocation. The diagnosis is difficult and not usually made until radiographs are taken. The median nerve is often involved. Prolonged traction with manipulation under anaesthesia and relaxation is nearly always successful. Post-operatively a plaster splint is necessary.

The problem of Bennett's fracture-dislocation of the base of the thumb metacarpal has only recently been solved. The dislocation is easily reduced by traction on the thumb and gentle pressure on the radial side of the proximal end of the first metacarpal. The maintenance of reduction, however, was often unsuccessful, until Bunnell described his wire-transfixion technique and Gissane advocated open reduction and repair of the capsule of the joint. By these modern methods good results should be the rule. The older methods of continuous traction through the thumb were often followed by long periods off work and a permanent disability. By either of these modern methods there can be a return to modified or selected work within several days of the injury taking place, and there should be no permanent disability.

Dislocation at the metacarpo-phalangeal joint is unmistakable clinically, and reduction by traction and reduction of the deformity is usually a simple affair. If reduction is difficult, the neck of the metacarpal is probably being so firmly held in the rent in the capsule that operative reduction will be necessary. After reduction the position is usually stable. An elastic-bandage spica is applied for about three weeks, which allows nearly normal activity.

A common condition, which is worthy of note because it finds its way to orthopaedic clinics with a diagnosis of dislocated thumb, is the "trigger thumb" in small children. The distal joint of the thumb is fixed in flexion. If attempts are made to passively extend the terminal phalanx, the sesamoids opposite the metacarpo-phalangeal joint become noticeably more prominent, because this is where the long flexor is stuck in its sheath.

Dislocations of the interphalangeal joints of the thumb and fingers are not uncommon and are easily reduced by traction. Elastic adhesive bandage is applied to the digit for three weeks afterwards. Persistent swelling of the proximal interphalangeal joints after injury is often a nuisance. Reassurance that "arthritis" has not set in is all that is required.

Dislocation of the Hip

This injury is becoming commoner because of the increase in speed of our motor traffic. Typically, the patient is sitting beside the driver at the time of a head-on collision

and the impact of the knee on the dashboard causes dislocation of the head of the femur backwards. There is a characteristic deformity of flexion, adduction, and internal rotation. Other serious injuries in the hip region—for example, fractured neck of femur, and pertrochanteric and subtrochanteric fractures—are accompanied by the deformity of external rotation (Fig. 2).

Dislocation of the hip may be complicated by sciatic palsy and fractures of the joint surfaces at the time of injury, and later by myositis ossificans or aseptic necrosis of the head of the femur. Separation of part of the acetabular rim may render the joint unstable after reduction and operative intervention may be required.

Since shock is always present, the medical practitioner rendering first aid should administer his pain-relieving drug intravenously. Bandages should then be applied to fix the affected leg in its deformed position to the other leg for transport. Reduction should always be carried out with the help of relaxation anaesthesia, and should be followed by a plaster hip-spica for six weeks. It is wise to re-examine these cases radiologically at three-monthly intervals for the first year because of the possibility of the late onset of aseptic necrosis of the head of the femur.

FIG. 2.—A, typical deformity of dislocated hip. B, typical deformity of fracture of upper end of femur (through the neck or trochanters)

Patella and Knee

Lateral dislocation of the patella often occurs in an abnormal leg. Usually there is some degree of knock-knee, but other predisposing factors include infantile paralysis (affecting the quadriceps) and abnormal shapes of the femoral condyles. Reduction under general anaesthesia may be easy by simple extension of the knee, but it sometimes proves difficult. After reduction the knee must be kept in full extension for six weeks to allow the tear in the capsule and quadriceps expansion to heal soundly. A plaster cylinder extending from groin to ankle will do this and yet allow the patient to perform most of his ordinary activities. After removal of the plaster, quadriceps power must be developed to its full capacity, particular attention being paid to the vastus internus.

Dislocation of the knee is always a serious injury because of the damage to soft tissues. Ruptured ligaments not only may prevent reduction and necessitate open reduction, but present major difficulties in attempts at repair. It is doubtful if repair of the cruciate ligaments is ever successful, although repair of the lateral and medial ligaments is usually satisfactory. There may be extensive damage to vessels and nerves in the popliteal space, and tests for their involvement should always be carried out before and after reduction.

Ankle and Foot

Dislocations of the ankle, subastragaloid, and tarsal joints do occur, but they are not common and each case is likely to have its own individual problems. Fracture-dislocations are much more frequent and require considerable experience and skill in their management.

Dislocations at the toe-joints are relatively infrequent, and occur when the bare forefoot is stubbed against a piece of furniture. The deformity is similar to the deformity seen in the small joints of the hand—that is, the more distal phalanx is displaced dorsally. Reduction is accomplished by traction and manipulation, and is followed by a collodion splint for three weeks.

Next article on Emergencies in General Practice.—
“Accidents with Injections,” by Dr. C. F. Scurr.

Refresher Course Book.—Copies of the second volume of collected articles from the Refresher Course for General Practitioners are still available at 25s. (postage—inland 1s. 6d., overseas 1s.) each from the Publishing Manager, B.M.A. House, Tavistock Square, London, W.C.1, or through any bookseller. The first volume is now sold out.

SOCIETY OF MEDICAL OFFICERS OF HEALTH

THE CENTENARY CELEBRATIONS

The outstanding events of the Society's centenary celebrations were Lord ADRIAN'S oration in the Great Hall of B.M.A. House, which appears in our opening pages this week, and the banquet at the Mansion House given by the Lord Mayor and Corporation of London. The remainder of the proceedings, which extended over three days, May 15–17, were pleasantly varied: they included a reception by the Council of the B.M.A., at which Sir John McNee, past-president of the Association, presented a commemoration scroll to the Society; a series of open forums on medical topics of the day (two of which are reported below); special exhibitions at the Wellcome Building and the London School of Hygiene and Tropical Medicine; visits to places of interest; and a reception by the London County Council.

The scroll presented by the B.M.A. to the Society bore these words:

“The British Medical Association has great pleasure in offering cordial congratulations to the Society of Medical Officers of Health on the Hundredth Anniversary of its foundation.

“The Society may look back with justifiable pride on a century of vigorous existence and notable achievement, during which it has continually made highly important contributions to the advancement of the preventive medical services.

“The Association has greatly valued the close and friendly co-operation of the Society and is confident that community of ideals will ever continue to promote harmonious and happy relations between the Association and the Society.

“It is the earnest hope of the Association that in the years to come increasing prosperity may attend the Society of Medical Officers of Health in its beneficent activities in the services of the community.”

In reply, Dr. C. F. White, president of the Society, thanked Sir John McNee and the Association, and expressed on behalf of the Society the gratitude they felt for the help that the Association had often given them.

Co-operation with General Practitioners

There were six open forums at which expert panels discussed topics such as smoke abatement, cerebral palsy, preventive dentistry, and health education. Here we report two: those on co-operation with general practitioners and on poliomyelitis. Despite the other attractions it was standing-room only at the forum on how best general practitioners and the public health service could work together for the benefit of the patient and the community. Dr. JEAN MACKINTOSH presided, and had with her on the platform a team consisting of Drs. J. T. BALDWIN, H. D. CHALKE, M. FISHER, W. S. MACDONALD, and H. E. SEILER. Time allowed for an exchange of views on four main questions: Should health visitors be attached to a general practice? What should be the relationship between local authority clinic medical officers and general practitioners? What was the best way of in-

teresting general practitioners in community health and gaining their help in health education schemes? Would the patient benefit if the M.O.H.'s responsibilities started while the patient was in hospital rather than after he left hospital? Dr. Fisher reported on the excellent results that had come from an experimental scheme in which for two years his group practice of four had had the permanent part-time help of a health visitor. He could not imagine how they had managed without one before. Speakers from the public health side saw administrative and geographical difficulties, quite apart from the shortage of health visitors, in the way of applying generally what was obviously the ideal in Dr. Fisher's practice. However, the consensus was that better co-operation was already taking place and would become better still as each side got to understand the other's function and point of view. But it would not grow out of “tea parties”; some active steps must be taken. In spite of Dr. Fisher's bold assertion that there was nothing that the clinic medical officer did that the general practitioner could not do—given the time and the facilities—the meeting kept to the facts as they existed at present and eschewed consideration of the misty future. Dr. Chalke summed the matter up by saying that if G.P.s and clinic M.O.s both remembered that they were fellow doctors, then their relationship would not be strained.

A London general practitioner's assertion that clinics referred cases to consultants without notifying the patient's family doctor was strongly denied by Dr. Chalke, Dr. Seiler, and other M.O.H.s. The general view was that the agreement between the Society of Medical Officers of Health and the B.M.A.—that these referrals should not be made without the family doctor's knowledge—was being adhered to. If no profound conclusions came out of the discussion it certainly revealed a will towards co-operation which was most warming.

Poliomyelitis

Dr. G. SELBY WILSON, director of the Public Health Laboratory Service, led the forum which discussed the epidemiology and prevention of poliomyelitis, including, of course, poliomyelitis vaccines. His expert panel consisted of Professor A. BRADFORD HILL, F.R.S., and Drs. W. H. BRADLEY (Ministry of Health), DAVID EVANS (Biological Standards Division, National Institute for Medical Research), F. O. MACCALLUM (Virus Reference Laboratory, Colindale), and J. S. LOGAN (M.O.H., Southend-on-Sea), who is studying antibody levels in his area. Dr. Bradley began by stressing the remarkable change in poliomyelitis in Britain since 1947, when notifications had reached nearly 8,000. Since then its incidence had continued at a high level, with large peaks in 1950 and 1955, contrasting most unfavourably with the experience of the 35 years from 1912, when poliomyelitis notification had been first introduced. Little was known for certain about the incubation period and the period of infectivity, but the panel agreed quite well on what were reasonable figures for practical purposes: Dr. Logan approved of the usually accepted 12 days as an average for the incubation period, but thought it could vary from a very few days up to 40; Dr. MacCallum, who, like other speakers, was disinclined to equate infectivity with the period of faecal excretion of the virus (he had recovered virus from the faeces from 12 days before the onset of symptoms until three months after), thought cases were most infective for a few days before and a few days after the onset of symptoms. No one disagreed with this. He had succeeded in isolating virus regularly from the nasopharynx only in the first few days about the onset of the disease, a remark which provoked the question from the chair, “Is poliomyelitis spread by droplet infection or by the faeces?” Dr. Logan thought the weight of evidence favoured the former, but why, he asked, should the seasonal incidence be that of an enteric disease? Dr. Bradley knew of no convincing evidence of the disease ever having been traced to the ingestion of a particular aliment; close contact seemed necessary. Dr. MacCallum said little was known about the factors governing survival of the virus outside the body. The disease was quite common in the Tropics, and, after all, infective hepa-