SURGICAL PROCEDURES IN GENERAL PRACTICE

This is one of a series of articles contributed by invitation

MANIPULATION OF DIFFICULT JOINTS

BY

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The Shoulder

Sir Herbert Barker claims that recurrent dislocation of the shoulder is curable by manipulation. It is difficult to believe this. One can conceive that after a dislocation the movements of the shoulder might be restricted by adhesions, which would cause a sudden twinge of pain, and that this might be mistaken by the patient for a re-dislocation. Manipulation would in such circumstances cure. But if there is an undoubted re-dislocation, evidenced by reduction of the dislocation by a doctor, only operation will cure. It must be remembered that the recurrence of the dislocation takes place at irregular intervals, and the patient, after several re-dislocations within a short time, may appear to have a normal shoulder for several years, so that it is difficult to assess the value of treatment, whether operative or manipulative.

There is a common syndrome that may be referred to as the *painful shoulder*. The patient complains of pain over the deltoid muscle, and the pain may travel down the arm, simulating a neuritis, which indeed it is often called by both the patient and the doctor. The pain is sometimes continuous, sometimes only on use of the arm. Some of these painful shoulders are helped, some cured, and some made worse by manipulation. Examination of the range of movement determines the type of painful shoulder with which the doctor has to deal. Care should be exercised to exclude scapular movement when estimating the range present at the shoulder-joint. If there is little or no movement—a condition called frozen shoulder—manipulation will aggravate the pain and will not increase movement. When there is a painful arc of abduction from 60 to 120 degrees, and yet full range is possible—a condition called tendinitis—manipulation as a rule neither harms nor helps. If movements are restricted to the inner half of the normal range manipulation is beneficial. The manipulation is done under anaesthesia and repeated at intervals of several weeks, as many times as necessary, until full movement has been restored. Nitrous oxide often gives sufficient anaesthesia. At each manipulation noises like the tearing of calico can be noted. Too much should not be attempted at one sitting; otherwise the shoulder afterwards is too painful to allow the patient, by exercises, to keep free the movement gained at the manipulation. When the range ceases to improve, the time is ripe for a further manipulation. If only one movement is limited a single manipulation cures. The shoulder is forcibly moved in the direction that causes the pain.

The Elbow

Tennis elbow, referred to in the previous article, is the only condition (except dislocation) that is helped by manipulation of the elbow. After a fracture about the elbow in a child it may be months before the elbow-joint regains full movement. Attempts to hasten matters by forced movements, by either a doctor or a masseuse, never increase but often diminish the range. It is wise to warn the parents early on during treatment that the elbow may

not regain full range for about a year and that attempts to force movement will be harmful.

Wrist and Carpus

There are a number of joints here, and movement is intricate. The area presents a fine opportunity for manipulative surgery. After a minor sprain or overuse of the wrist the patient complains of pain on using the hand. On casual examination no abnormality can be detected, although an experienced observer can usually localize a tender spot and find some movement that is painful. Two common examples may be quoted. In the first there is tenderness over the semilunar bone on the dorsum of the wrist, and extreme plantar flexion of the wrist is painful. In the second the tenderness is between the bases of the second and third metacarpals, and dorsiflexion of the second metacarpal at the carpo-metacarpal joint is painful. It is quite easy to overlook the physical signs in the second example: many doctors do not realize that this movement even exists. Forcing movements in the painful direction will cure both these types of painful wrist. These two examples illustrate the only difficulty of manipulative surgery—namely, that of discovering the painful movement.

The Fingers

The finger-joints are, or should be, notorious for the rapidity with which they become stiff if held immobile. Unfortunately, stiff fingers do not react well to manipulation, and are much more easily prevented than cured. A sprain of a finger is apt to be succeeded by a tender swollen joint which remains painful on movement for months. One should not be tempted to try manipulation: no good comes of it.

Hip-joint

Rider's strain was referred to in the previous article; and in the early stages of osteo-arthritis the movements of abduction and extension can often be restored by forcible stretching of the hip under complete anaesthesia. No other condition is benefited greatly by manipulation.

Knee-joint

There is a type of painful knee in the adult on which manipulation acts like a charm. The patient, a man or woman over 40, complains of pain after use and stiffness after rest. In bed the discomfort is accentuated. He may be conscious of having twisted or jarred the knee some time previous to the onset of his symptoms. The radiograph is normal or shows slight evidence of osteo-arthritis, but no more than in the other knee, which is free of pain. In spite of long-continued physiotherapy and local applications the knee gets no better. On examination there is a localized spot of tenderness over the joint line, far back, on the inner side; full flexion is restricted by pain; internal rotation of the tibia on the femur is painless, and external rotation causes severe pain, referred to the inner side of the knee. Extension is full but gives rise to a twinge of pain. There may be no other signs. The bone-setter, if consulted, says the cartilage is displaced and he puts it back by a manipulation. The grateful patient believes him, and well he might, for he is cured. If instead of resorting to a bone-setter the patient consults a surgeon he may be persuaded to undergo an operation for the removal of the cartilage. Again he is cured,

although the surgeon at the operation could demonstrate no tear or displacement of the cartilage. The bone-setter thinks he has replaced a cartilage; the surgeon thinks he has removed a normal cartilage. Yet both have cured their patient. What is the explanation? That both bone-setter and surgeon are wrong in their suppositions: the cartilage was not displaced, nor was it normal.

The semilunar cartilage intervenes between the tibia and femur; it allows the femur to roll and to rotate on its upper surface, while its lower surface is gliding backwards and forwards on the tibia. Excessive mobility of the semilunar cartilage on the tibia is checked by the attachment of the outer rim of the cartilage to the capsule of the joint, but the binding material is lax enough to allow the semilunar cartilage to glide freely on the upper surface of the tibia. If the trunk is twisted while the foot is in contact with the ground the femur may be forcibly rotated in on the tibia, and this rotation force will tear the binding material connecting the rim of the cartilage to the capsule—a condition we may term rotation sprain of the knee. When the torn connecting fibres have healed, the mobility of the semilunar cartilage may be impaired, and during normal movements the capsule is pulled upon, giving rise to pain. The condition is curable by stretching the scarred connecting fibres by moving the knee forcibly in every direction under anaesthesia. Surgical removal of the cartilage also cures the pain, but the less drastic treatment by manipulation is preferable. The majority of surgeons do not operate on a semilunar cartilage without evidence that the cartilage has been torn and displaced. Positive evidence is afforded by a history of locking of the joint succeeded by unlocking. If this evidence is not forthcoming it is wise to try first the effect of manipulation, and only to operate if manipulation fails to cure. In the young adult a torn cartilage is more frequent than a rotation sprain, and vice versa in patients over 40.

The Ankle

The injury that is commonly called a sprained ankle is truly a sprain of the subastragaloid joint caused by excessive inversion of the foot. It is unfortunately still the custom to treat sprains by rest, and as a consequence of this treatment many patients develop adhesions. The usual story is that ever since a sprain of the ankle some weeks or months previously the patient has had slight puffiness on the outer side of the ankle below the external malleolus, and gets pain after using the foot. Examination reveals tenderness above the front and tip of the external malleolus, and pain on inversion of the foot in plantar flexion; these two movements are also less in extent than on the uninjured side. Often the foot has been immobilized in plaster by the harassed doctor in his search for something with which to pacify the patient; pain, however, returns when the foot is used actively again after removal of the plaster. The condition can be cured by manipulation. Under anaesthesia (nitrous oxide is often sufficient) the foot is forcibly plantar-flexed and inverted in one movement. As soon as the patient recovers consciousness he is encouraged to exercise the foot in the direction that previously was painful. Skipping and hopping on tiptoe are excellent. A week's supervision by a masseuse completes the cure.

The Foot

Much misunderstanding about painful feet comes from the obsession—shared by patient and doctor—about the arches of the feet. The patient, believing that a fallen arch is the sole reason for pain in the foot, demands either from the doctor or from the instrument-maker a support

to restore his arch; and often the doctor weakly accedes to the request. It would be so much better if we all thought in terms of joint movement instead of arches. When confronted with a patient who complains of painful feet our line of reasoning should be, I think, as follows: Is the cause of the pain purely mechanical, due to the stress of weight-bearing or of walking? If so, can we do anything to diminish the stress? If one movement is painful manipulation will often cure. If the patient, when standing or walking, is using the extreme range of movement of any joint and so putting tension on ligaments we can often increase the range of movement by manipulation.

Foot supports have only three useful functions. They can, by making the bearing surface of the shoe fit the under surface of the foot, increase the weight-bearing area; and they can take pressure off any portion of the foot that is tender. Lastly, they can restrict the movement of a joint to its painless arc; rather than do this, however, it is often better to attempt by manipulation to restore a painless range of movement.

The supreme importance of the toes in walking is not sufficiently appreciated. Many cases of metatarsalgia—thought by the patient to be caused by a dropped anterior arch—arise because the toes are clawed—that is, flexed at the interphalangeal and extended at the metatarsophalangeal joints. These toes can often be straightened either gradually by the repeated manipulation of a masseuse, or rapidly by manipulation under anaesthesia.

The Neck

Pain referred to the suprascapular region and down the arm is frequently cured by a manipulation of the neck. Headache and earache may also be relieved if associated with painful movements of the neck. As with every other joint, an x-ray film should be taken before manipulation is decided upon; but osteo-arthritic lipping, particularly of the bodies of the fourth and fifth cervical vertebrae, is not a contraindication. Faradism and exercises should follow the manipulation.

Upper Part of Back

Many an obscure thoracic or abdominal pain disappears after manipulation of this region of the spine. Interthoracic and interabdominal lesions must first be eliminated.

Lower Part of Back

Sacro-iliac subluxation is a diagnosis often made to account for low backache. Whether the sacro-iliac joint ever does subluxate is doubtful; but there is no doubt that many patients labelled with this diagnosis are cured by manipulation. It seems probable that the clinical term "low backache" comprises several pathological entities. Unless there are definite contraindications manipulation should always be tried. It can do no harm, and even if it does no good it is of value in elucidating the diagnosis and as a guide to further treatment. The contraindications are: (1) X-ray evidence of bone disease; simple anomalies of structure are, however, of no importance. (2) Neuritis, evidenced by muscle wasting, nerve tenderness, and loss of ankle-jerk. (3) Total rigidity of the lumbar spine from spasm of the erector spinae muscles.

Causes of pain other than of skeletal origin should first be excluded before resorting to manipulation. Complete muscle relaxation is needed; intravenous pentothal gives this for certain, but evipan is often insufficient. The use of an anaesthetic of short duration and with no after-effects has the advantage that active exercises can be started early.