

A METHOD OF DIAGNOSING AND TREATING ACUTE LOW BACK PAIN IN GENERAL PRACTICE

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THE purpose of this paper is to describe in detail a method of making an accurate anatomical diagnosis of the cause of pain in any patient who presents with acute incapacitating low backache and, having made a diagnosis, to relieve the pain.

Many papers have been written on this subject and some excellent advice given on history taking, examination, and general causes. Kottke (1961) and Cozen (1962) are good recent examples. The disappointing feature that recurs constantly is the lack of any new vigorous approach to the problem of treatment. The two outstanding techniques that, above all others, can produce a rapid and dramatic improvement or cure, receive either little mention or downright rejection. These are the local injection of hydrocortisone suspension and manipulation.

Cozen advocates the injection of local anaesthetic, and goes on to describe the usual list of aids in the treatment of backache: rest, bed-boards, traction, corsetting, analgesics, muscle relaxants, heat, short-wave diathermy, ultrasonic therapy and exercises. The very multiplicity of treatments emphasizes the unsatisfactory nature of the present state of affairs with regard to backache.

Bosworth, in a discussion on the management of low back pain, (Cleveland *et al.*, 1959), and Stanton (1963) are strongly opposed to manipulation, though Kestler (1960) advocates its use.

Stoddard (1960) goes fully into the technique of osteopathic manipulation of the spine for low backache. His paper describes beautifully the careful, precise adjustments that can be made to

selected spinal or pelvic joints—in strong contrast to the non-specific contortion of an anaesthetized patient performed in the orthopaedic operating theatre. Eastwood (1964) writes of six useful manipulations for general practitioners, but says nothing precise about the indications for their use.

In this paper I describe from beginning to end my approach to the patient who attends complaining of acute low back pain. By the use of this type of technique most patients can be relieved of their symptoms and returned to work in a far shorter time than if they had been treated by rest, analgesics, heat, and so on, and a considerable load can be removed from overworked physiotherapy departments.

A great responsibility rests with the practitioner of manipulative medicine. Manipulation has acquired a bad name in the medical profession, largely because of blunderbuss treatment by irresponsible manipulators who have not troubled to inquire into or examine for diseases the presence of which directly contraindicates its use. Lists of diseases causing backache are prominent in most papers on the subject, but a brief classification of the main causes will not come amiss here. They are as follows:

1. *Congenital*: Spondilolisthesis, with or without spina bifida occulta, short leg with pelvic tilt, sacralization of the fifth lumbar vertebra, and the presence of a joint between the first and second sacral segments.

2. *Traumatic*: Sacro-iliac joint shift with ligament strain, prolapsed lumbar disc nucleus, apophysial joint strain or jamming, iliolumbar ligament tears, sacrospinalis muscle tears and haematomata, subperiosteal haematoma, especially on the posterior surface of the ilium, and fractures of lumbar vertebrae.

3. *Inflammatory*: Tuberculosis of vertebrae or sacro-iliac joint, gumma, osteomyelitis, osteoarthritis, ankylosing spondylitis, and sacro-iliitis condensans. Pyrexia due to any illness can cause backache; meningitis severely so.

4. *Neoplastic*: Secondary disease is the most common, particularly from breast, lung, prostate, thyroid and kidneys. Primary lesions are uncommon, but include multiple myelomatosis, angioma, and meningeal or neural tumours.

5. *Others*: Paget's disease and osteoporosis; gynaecological disorders such as retroversion of the uterus, prolapsed ovaries and endometriosis may sometimes cause backache; mentally disturbed patients may carry a load of worries sufficiently heavy to cause backache.

Fractures, neoplasia and all the inflammatory diseases where further damage could be caused, directly contraindicate manipulation. Mentally disturbed patients may derive some initial benefit from having their backs clicked, but this is the wrong approach to their problems.

The general practitioner should be able to make an accurate diagnosis of the cause of acute backache in nearly every case. To do so, time must be spent on the well-tried routine of taking a careful

history and proceeding to a detailed examination. The patient must be asked his age and precise occupation. The cause of his pain may be some routine daily activity in his job, and finding out what it is will be important in securing permanent relief from his symptoms. A brief statement of his complaint should be taken and then his previous medical history recorded. Patients often forget to mention such minor complaints as recurrent "conjunctivitis", or an episode of urethritis, and it is worth asking about lesser troubles as well as the major ones. His family history too is necessary. The health or causes of death of parents and siblings, and any familial disease may have a bearing on the present complaint. A personal history is taken and a note made of appetite, bowels, micturition, menstruation, sleep and general state of nerves, drinking and smoking habits, and any recent change in weight.

When all this information has been sought, the present illness can be gone into in the detail and perspective necessary to a complete understanding of the problem. The patient's main complaint is nearly always of pain, and careful inquiry into this alone will often give a strong indication of the diagnosis. A history of back trouble for 40 or more years may be obtained which quite often dates from a fall when the patient was a teenager or young adult. Important features of the pain are the exact site of its apparent origin and extent of radiation down the leg, its severity and what positions and activities aggravate or relieve it. Associated symptoms are very important pointers to causation: numbness, paraesthesiae, weakness causing uncertainty in walking and even foot-drop, and spasms of contraction in back and leg muscles. Patients will sometimes have noticed alterations in their own shape, such as a prominence of one hip, or a droop of a shoulder, as the pelvis tilts and the spine curves to compensate the causal lesion. These, and any other symptoms the patient produces will merit a few minutes study, and repay the time spent by enhancing the ease and accuracy of making the diagnosis.

Examination

Manipulation is an invaluable medical tool, but it must only be used where an accurate diagnosis of the lesion causing the backache has been made, and all contraindications to its use have been excluded. In every patient who presents with backache, a detailed clinical examination must be made. The patient's general appearance is noted, and then every system carefully assessed. The optic fundi and the genitalia must not be forgotten. Breasts, thyroid, lungs,

kidneys and prostate must all be given a clean bill of health. The temporomandibular joints and the arm joints should be checked. The hands particularly may show stigmata of, for instance, rheumatoid arthritis or gout.

When the general examination has been completed attention may be turned to those parts of the body which are influenced by disturbances in the lumbar spine. The legs yield a great deal of information about what is happening in the region where their nerve supply originates.

The patient lies comfortably on his back, and it is useful to get him to draw up his knees, lift his buttocks off the couch and then relax with the legs lying flat again. This helps to ensure that his pelvis is not twisted but that he is truly flat on his back. I usually hold the patient's ankles to guide him in this manoeuvre, and the apparent leg lengths can be accurately checked by pressing the thumbs against the inferior surface of each medial malleolus, and noting whether they are level. The legs are inspected for gross wasting, particularly of the quadriceps, and the position of the feet noted. The feet normally loll sideways at an angle of 20 to 40 degrees from the midline. Malposition of one sacro-iliac joint will often show itself by increasing or decreasing the amount of external rotation of the whole leg, and the foot acts as a sensitive pointer attached to the lower end of the limb.

Inspection is followed by palpation and the temperature and moistness of the limbs are noted. Interference with lumbar nerve roots can cause irritation of the vasoconstrictor fibres with consequent changes in the blood supply to the skin and sweat glands of the limb. The foot on the side to which pain is referred from a prolapsed lumbar disc is often colder and moister than its fellow. Areas of numbness are mapped out by light touch and pin-prick, and even if no complaint has been made, a hand should be run over the limb to check that tactile sensation is normal. Straight leg raising may be tried here and although not always of great diagnostic use, it has value as a means of assessing improvement after treatment. At this stage I look at the limb joints, checking first for concealed flexion deformity of the hip by flexing the one thigh up and pressing it on to the abdomen until any excessive lumbar lordosis is palpably cancelled. The rotation of the hips and the movements of knees, ankles and feet are then assessed. The muscle tone of the limbs is apparent as the joints are tested. I now lay the handle of my patella hammer across the thighs, about five inches proximal to the patellae, and

mark the skin with a pen. The thigh circumferences at this level are measured, and lesser degrees of wasting may be revealed. Power is tested and compared in each leg, beginning with quadriceps and passing to adductors, extensor hallucis longus and peronei. In this way the integrity of the nerve roots from the second lumbar to the first sacral is tested. Knee and ankle tendon reflexes are elicited and their vigour compared. Plantar responses are determined.

The examination so far will usually have shown whether pressure is being exerted on lumbar and first sacral nerve roots. It is very uncommon for prolapse of a nucleus pulposus in this region to manifest itself as pain alone; definite neurological signs can nearly always be found if patience and care are exercised.

The patient is now asked to stand on the floor with his feet about a foot apart. This affords a good opportunity to look at his spine as a whole and to note kyphosis or scoliosis or spasm in one or both sacrospinalis muscles.

The finger-tips should be run lightly down the skin over each sacrospinalis from the level of the sixth thoracic vertebra. If a lesion causing nerve root pressure is present, once again skin changes may be found. A slight drag will be felt at the level of and on the same side as the lesion. This is caused by increased sweating. By kneeling behind the patient and placing one's extended index fingers on his iliac crests, any degree of pelvic tilt is demonstrated. Stoddard has shown that 60 per cent of people complaining of backache have one leg shorter than the other. The resulting pelvic tilt induces a compensatory lumbothoracic scoliosis, and throws strain on the sacro-iliac joints and ligaments, particularly on the side of the longer leg.

The patient is asked to bend slowly forwards from the waist and the spine observed. Minor degrees of scoliosis are thus made more obvious. The ability of the lumbar spine to flex is carefully watched, and if it seems reduced the spines of the first lumbar vertebra and first sacral segment may be marked with ink, and the change in the distance between them measured as the patient bends down to touch his toes. A normal lumbar spine will show an increase of from $1\frac{1}{4}$ to $2\frac{1}{4}$ inches from the vertical posture to full flexion. A marked decrease arouses suspicion of ankylosing spondylitis.

Finally, the position of the sacro-iliac joints is checked. Analysis of the cases of backache which I have seen in the last two years, where the diagnosis was either pure sacro-iliac joint disorder, or lumbar prolapsed nucleus pulposus, shows that they occur in a relative frequency of 3:1. Of the cases where the diagnosis was

prolapse of a nucleus pulposus, 60 per cent also had a sacro-iliac lesion on the same side as the referred pain from the disc.

The patient again bends slowly forward, but the palpating thumbs lie just medial to the posterior superior iliac spines, over the sacro-iliac joints. If one ilium has rotated forwards, or backwards, on its side of the sacrum, there is a difference in the feel of the bony parts on that side, as the sacrum makes its small movements on the ilia.

The patient is asked to lie face downwards on the couch, the pillow being removed. Spectacles should be taken off. He can then lie relaxed with his arms resting at his sides. Again, the back, buttocks and legs are inspected, and the power of the glutei and hamstrings compared.

As they are so commonly strained, I palpate the short posterior sacro-iliac ligaments next. These run from the posterior superior iliac spine medially and obliquely down to the upper two transverse tubercles of the sacrum. Sometimes there is obvious swelling of these ligaments, and pressure with the tip of the thumb may elicit great tenderness, with referred pain down the posterolateral aspect of the thigh to the knee. Similarly, palpation of the long fibres of this ligament, and of the iliolumbar and sacrotuberous ligaments may show them to be tense or tender. Inflammation of the sacro-iliac ligaments indicates disturbance of the underlying joint.

Attention can now be directed to the lumbar spine. The vertebral spines and their interspaces are palpated one by one. Spondylolisthesis can often be diagnosed clinically by the dip down of the spines, maximal at the level of the anteriorly displaced vertebra, and the apparent prominence of the spine of the normally placed one distal to it. Deep palpation over the apophysial joints will elicit quite marked tenderness where one or more is immobile. The patient is next laid curled up on his side facing the operator who reaches over the patient's legs and scoops up his knees on to his right forearm. By placing the finger-tips of the left hand in the lumbar interspinous spaces and rocking the patient's knees up towards his chin and back again repeatedly, the individual movements of each vertebra, as it flexes and extends on its neighbour, can accurately be assessed. Similarly by lifting the knees up in the air and down again, rotation can be felt. These assessments are important since a hypomobile joint needs freeing, and a hypermobile one must not be further aggravated by manipulation (see figure 1).

Finally, since the spine must always be considered as a whole, the thoracic and cervical vertebrae are examined for compensatory

lesions to the lumbar disorder, and indeed for greater ones which may in fact be the primary source of the patient's complaint.

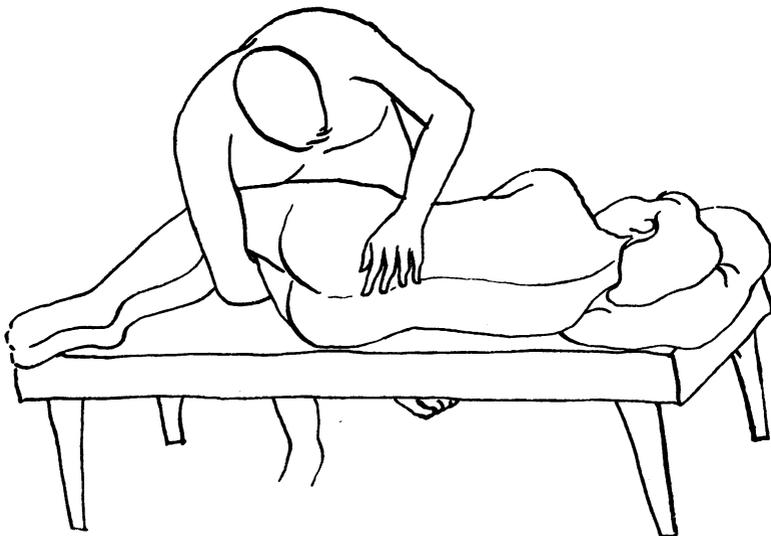


Figure 1
Examination of lumbar mobility

In many cases the history and examination as described, provide quite sufficient evidence for a firm clinical diagnosis to be made, and treatment to be started at once. This is invaluable to the general practitioner working against time, but where any doubt exists, recourse must be made to x-ray and laboratory studies.

Plain anterior and lateral studies of the lumbar spine and sacro-iliac joints will reveal many disorders, but oblique pictures of both these regions can give a much clearer picture. There are two very useful special methods of radiography which often give great extra help. The first is to take mobility studies of the lumbar spine. The patient is x-rayed lying on his side in full flexion, and then in full extension. Side-bending views are also useful. These show, as plain x-rays cannot show, the degree of mobility between each vertebra. The second is to x-ray the patient standing on a horizontal surface, as checked by spirit level, and in front of a wire plumb-line. The film cassette is behind the plumb-line so that the developed film shows a vertical line down its centre. Using a set square, the levels of the highest points of the iliac crests on each side can be compared, and a very accurate measurement of pelvic tilt made.

If the physical and radiological examination of the patient suggest their need, or in any case where the diagnosis is obscure, blood and urine tests should be done. The most revealing routine set are estimations of haemoglobin, w.b.c., E.S.R., serum uric acid, Rose-Waaler and latex fixation.

The results of these, when compared with the patient's physical

and radiological characteristics, should enable a working diagnosis to be made in even the most difficult case.

Techniques of treatment

To demonstrate the use to which an accurate diagnosis can be put, I shall now describe in detail the features and techniques of treating the three most common causes of acute severe low back pain.

Malposition of a sacro-iliac joint

The sacro-iliac joint is a synovial joint, but its range of movement is very limited. There are two main reasons for this. First, the opposing faces of the sacrum and ilium bear elevations and hollows which fit into each other. Secondly, the very strong posteriorly placed interosseous ligament holds the bones firmly in position. The anterior and posterior sacro-iliac ligaments supply a third stabilizing influence. Nonetheless, the sacro-iliac joint has sufficient play in it to enable it to rotate out of true and to become stuck there. This lesion is the commonest cause of incapacitating low backache seen in general practice, and one of the easiest to correct. If it is not corrected, the patient's symptoms will settle in two to six weeks, but he will probably have recurrent attacks of pain and disability during the following 30 to 40 years.

This lesion can present as an acute first-time disorder, or as an acute attack of pain caused by further trauma to a chronically malpositioned joint.

In the former, simple correction of the joint position will produce immediate and permanent relief of symptoms since the pain arises from the stretched joint ligaments and reactive spasm in the muscles over the joint. In the chronically malpositioned joint, the ligaments have become accustomed to their changed position, but as this position is not normal they are more liable to trauma. A fall, or a sudden twist will impose a further strain on the joint and ligaments and may even tear a few fibres. The result after a few days is a ligament that is swollen and tender. The posterior sacro-iliac ligament is most commonly affected, and both these features can easily be felt.

In both types the patient presents with a similar story. After lifting a heavy load from the ground, or moving heavy furniture in an awkward way, or slipping and twisting suddenly, a severe pain is felt over the sacro-iliac joint, and frequently down the outer side of the thigh to just above the knee. Pure sacro-iliac lesions do not usually cause pain below the knee. In recurrent cases, the trauma

may be very slight, and it may take a day or two before pain begins to appear. The pain can be very severe, particularly in a primary case, and cursory examination may easily lead to the sufferer being labelled as 'another disc'. However, he will have no pain below the knee, nor numbness or paraesthesiae. Examination will reveal no neurological abnormalities in the legs, but the foot on the affected side may loll outwards more than or less than its fellow, depending on whether the ilium has rotated forwards or backwards on the sacrum. When the patient stands, his pelvis will often be found to be tilted. This may be because he has a congenital short leg, or it may be due to reactive spasm in the muscles over the sacro-iliac joint. On bending forward, it may be possible to feel a difference in the movements of the normal and the abnormal joint. With the patient lying on his face, the tender and often swollen sacro-iliac ligaments can be felt.

In both acute and chronic cases, the cure lies in repositioning the joint. If the ligaments are inflamed, however, movement of the joint will cause more pain and protective muscle spasm, so they must be treated first. To numb them, and then reduce the inflammation in them, I inject them with a mixture containing xylocaine 1 per cent 8 ml., hydrocortisone acetate 25 mg./ml. 2 ml., and hyalase 1,500 units. This suspension is injected around the bundles and sheets of the posterior sacro-iliac ligaments, and the best way to decide exactly where to inject is to find the most tender area of the ligaments and start from there, fanning out to cover all the tender parts. The needle should be 2 to 2½ inches long and go superficially and then deeply, but no injection should be forced intra-ligamentously or severe after-pain may be caused. Five minutes is sufficient for the anaesthetic to have taken effect and the joint may then be manipulated.

There are several effective methods of manipulating the sacro-iliac joint. The one I shall describe has the virtues of being easy to perform, comfortable for the patient, and quite safe for any doctor to use, even when a prolapsed lumbar disc nucleus is also present.

Let us assume that it is the right sacro-iliac joint which requires repositioning. The patient lies on his back with his legs together, the right one being along the edge of the couch and nearest to the operator. The operator stands facing the patient, whose head is to the left, and whose feet are to the right. The operator slips his left hand, palm upwards, under the patient's right buttock and identifies the right posterior superior iliac spine and medial to it the sulcus overlying the right sacro-iliac joint. He leaves his hand in this position so that he can feel when any movement occurs in the joint.

With his right hand the operator now flexes the patient's right thigh up on to his abdomen, the knee joint being allowed to flex as well (see figure 2).

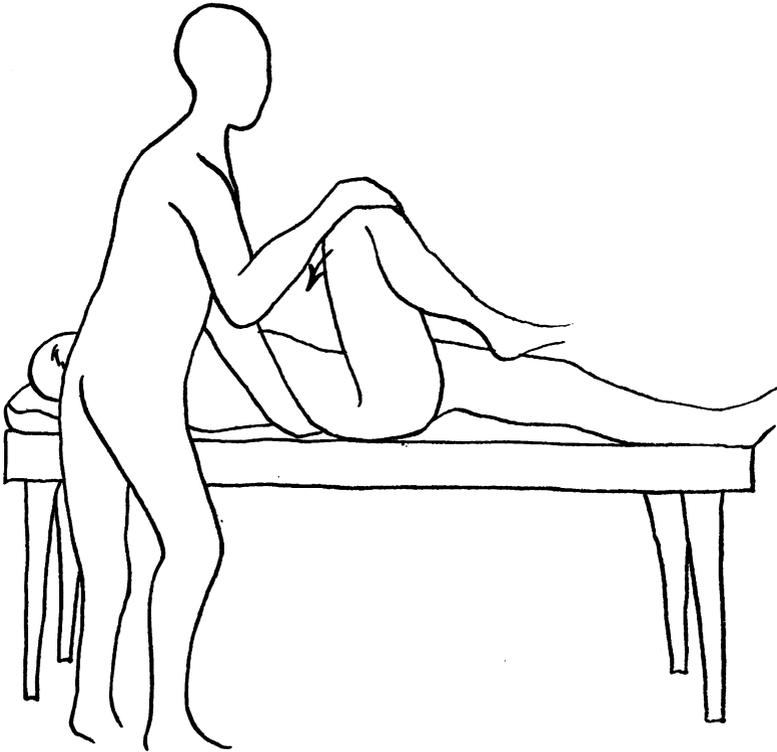


Figure 2
Manipulation of right sacro-iliac joint

The right femur is now used as a lever acting on the sacro-iliac joint. To do this the hip joint must be jammed, and this is attained by keeping the femur continually at the full limit of its arc. From its position of full flexion, the femur, guided by the operator's hand on the patient's knee is slowly abducted. Whilst doing so, the knee is kept as near the patient's chin as possible so that the femur-ilium lever does not become unstable at the hip joint. The patient is encouraged to relax and to allow his knee and foot to fall outwards and down towards the floor. Exerting gentle pressure all the time, the femur reaches full abduction, and, pushing the knee towards the floor, it now continues its semi-circle into a position of full extension. The leg will now be straight, and extended at the hip, and it but remains to lift it gently up on to the couch besides its fellow. If a

malposition of the right sacro-iliac joint was present, a grating 'clunk' will be felt and heard in the sacro-iliac joint during the passage of the femur from full abduction to extension. The patient will usually rise from the couch largely or entirely relieved of his pain and disability.

This manipulation gaps the sacro-iliac joint, releasing the pressures upon each other of its internal bony irregularities, and allowing the taut ligaments to snap the joint back into its correct position.

The prolapsed intervertebral disc

The soft nucleus pulposus of the lumbar intervertebral disc usually protrudes through its weakened annulus to one or other side, pressing on the nerve roots of that side and causing the patient to suffer pain, numbness, tingling, and muscle weakness in the leg.

A patient with a sudden nucleus prolapse often presents as a real emergency in general practice. The patient has, perhaps, bent down to pick up a heavy article, and as he begins to lift he is struck by a vicious pain in his back which stabs down his outer thigh and calf, and along the lateral side of his foot. He falls to the ground, and lies there, sweating and crying out with pain. A common treatment would be to give him an injection of pethidine and during the following six weeks to feed him with analgesics until at last he was able to stagger to his feet and begin a couple of weeks' convalescence. A total loss of working time of six to eight weeks would not be regarded as at all excessive for such a case. In this day of medical advance this does seem a long period of disability for a man who is not suffering from any disease. And so it is. Very, very few patients suffering from this condition, even when they begin with severe pain, need stay in bed for more than ten to 14 days when local injections and manipulation are employed to the full.

The patient is fully examined and neurological signs will be found in the affected leg. Weakness of extensor hallucis longus, diminished ankle jerk, and numbness of the lateral side of the calf are a common combination for a large lateral disc protrusion between the fourth and fifth lumbar vertebrae. The interspinous ligament over this interspace is very often tender, and there is marked spasm in the sacrospinalis muscles.

Once the diagnosis of a disc protrusion has been made, and its level judged from the innervation of the affected muscles and skin, attention must be focused on the sacro-iliac joints, particularly the one on the side to which the disc symptoms are referred. In at least

60 per cent of cases, a lesion of this joint will be present. Treatment of this in the manner already described will result in a marked diminution in the patient's pain, and it will then be much easier to treat the disc lesion itself.

In order to manipulate the lumbar spine of a patient suffering from acute back pain, some measure of muscle relaxation must first be attained. Quite often the patient can be talked into relaxing much of the voluntary muscle spasm, but further help will probably be needed. Injectable muscle relaxants are now available, and may come to have a valuable place in this field, but much can be done by blocking the posterior primary rami of the appropriate lumbar nerves with local anaesthetic. The object of this is to break the circle of pain and muscle spasm in the back at the level of the lesion. The technique is to inject xylocaine 1 per cent 2 ml., close to the tips of the transverse processes of the vertebrae above and below the disc lesion, on each side of the spinal column. After five minutes manipulation may be attempted.

There are several theories as to how manipulation relieves nerve root pressure in these cases, but so far it is not certain as to what really happens. It is possible that by momentarily increasing the distance between two vertebrae a suction is produced between them sufficient to cause some of the prolapsed nuclear material to be drawn back inside the annulus. Equally, manipulation may cause a change in the relations of nerve and nucleus, such that the pressure on the nerve is diminished or removed. Again, in some patients with the neurological signs of a disc lesion, the root pressure may be resulting from the oedematous capsule of a locked or damaged apophysial joint. Manipulation will unlock the joint and allow the oedema to subside, thus curing the symptoms and signs.

Much work must be done to clarify these points, and let it suffice for the moment to say that, however it happens, manipulation does often dramatically improve not only the pain, but the neurological signs of nerve root pressure. Within five minutes of manipulation, muscle weakness can be unequivocally improved and the patient will volunteer that he can feel the life coming back into his numb area. Once a doctor has seen this happen, he will cease to doubt the efficacy of manipulative medicine.

And now as to the technique. This is more difficult to learn than the simple rotation method used for the sacro-iliac joint, and to use it safely and effectively a doctor must be taught by an experienced manipulator. However, any practitioner of these techniques will be

only too willing to demonstrate to an interested colleague.

The patient lies on his side facing the operator, with his affected side uppermost. The thigh of the lowermost leg is grasped by an assistant and drawn as far as possible into extension. This extends the lumbar spine and narrows the gap between the posterior edges of the vertebral bodies. Whilst allowing any sucking in, or other change in the position of the protruded nucleus, to take place, this helps to prevent any further protrusion towards the spinal cord. A protruded lumbar disc nucleus should never be manipulated in flexion. The operator now grasps the patient's lowermost arm and draws it firmly towards him. This tends to turn the patient on to his back, and thus rotates the thoracic and upper lumbar spine until full rotation is reached. This part of the spine is now rigid and may be handled as one unit.

Let us suppose that the patient is lying on his right side. The operator now leans over him and identifies the spines of the vertebrae between which he believes the disc lesion to be. It is between these two vertebrae that separation is to be attempted. Holding the tip of the spine of, say, the fourth lumbar vertebra between the thumb and index finger of his left hand, the operator presses his left forearm on to the patient's chest and pushes him gently further on to his back. Grasping the spine of the fifth lumbar vertebra with his right hand, the operator draws the patient's left ilium towards him with his right forearm. With practice the thoracic spine and upper four lumbar vertebrae can be rotated away from the operator and the fifth lumbar vertebra and pelvis rotated towards him. By suddenly and sharply increasing the pressures of his forearms, the operator causes the fourth and fifth lumbar vertebrae to rotate in opposite directions and to separate momentarily (see figure 3).

A few patients will now rise from the couch free of symptoms. Their neurological signs will be much diminished and will disappear during the following week. The majority of severe disc prolapses will not show quite so dramatic a cure, but they will be much eased so far as pain is concerned and will usually sleep well on a couple of soluble aspirin tablets. With one or two further manipulations during the following two to four days, nearly all are pain free in seven to ten days, though they may still feel stiff in the back, and a little numbness, tingling or weakness may still be present.

As soon as the patient is pain free he is encouraged to start getting up, but bending forwards and carrying heavy objects are forbidden. As the patient gets about more and more, so do his neurological

signs steadily disappear and when he returns to work two to four weeks after the acute prolapse, most or all of his numbness and muscle weakness will have disappeared. This convalescent period is often speeded by the use of skeletal muscle relaxants. Of course, a few cases do not respond as ideally as these but they can, in practically every case, be relieved of severe pain and got on their feet within one or two weeks. They then become candidates for lumbar traction or extradural corticosteroid injection.



Figure 3
Manipulation of lumbar spine

Apophysial joint lesions

A lesion of one or more lumbar apophysial joints is the cause of many cases of acute low back pain. The exact nature of this common lesion is as yet unproved but two hypotheses deserve particular notice. The first is the theory of 'nipped synovial fringe'. Chrisp describes this and suggests that it usually occurs at the lumbosacral level. Flexion and rotation of the spine allow an apophysial joint to gape and its synovial membrane to prolapse between the facets, and become nipped when they close again. The inflammatory reaction consequent on such trauma causes pain and muscle spasm around the joint.

The second theory is that in a manner not yet understood, one or more apophysial joints may become jammed in one fixed position and remain jammed until specific opposite forces are applied to the two vertebrae so that the joint is remobilized. I have been unable

to find any actual proof that such jamming does occur, but several diagnostic points support this hypothesis. The patient will often complain of aching lateral to the lumbar spine for one or more weeks, months or years. He may have had episodes of acute spasm of the sacrospinalis muscle and have been diagnosed as suffering from fibrositis. Examination reveals no abnormal neurological signs in the legs and plain x-rays are normal. However, mobility testing of the lumbar spine will reveal limitation of movement between two or more vertebrae; direct pressure over an immobile apophysial joint will cause quite marked pain and with practice the fingers can feel a deep hard 'nodule' at the site of the joint. This nodular feeling is not present over a normally mobile joint.

It is possible that the capsule of a jammed apophysial joint reacts by inflammation to the abnormal tensions in the spinal ligaments produced by the local immobility. Such a capsule would be thickened and tender and the overlying muscles would be liable to react with spasm, as does the muscle over any inflamed joint.

Further support is supplied by the good response to treatment applied logically on the basis of such a pathology. A patient with a mild to moderate degree of pain can simply be manipulated. The technique is as already described for treating a prolapsed disc nucleus, but no assistant is needed. If the patient has severe pain, the sacrospinalis spasm may need to be broken by blocking the posterior primary rami of the nerves which emerge around the affected lumbar joints. I add 1 ml. of hydrocortisone suspension to 5 ml. of xylocaine and hyalase and try to inject 2 ml. around the apophysial joint itself. Any capsular inflammation will thus be relieved more rapidly.

These simple procedures produce very good results. The patient is immediately relieved of most or all of his pain and after successful manipulation, examination will show that the previously jammed joint or joints are now mobile. The same treatment would release a nipped synovial fringe.

Summary

In this paper I have tried to show how an interested general practitioner can solve the problem of the patient suffering from acute low back pain. Time, careful examination and clear thinking will enable a correct diagnosis to be made in nearly every case. Logical application of modern medical techniques combined with accurate manipulation of specific joints will produce dramatic improvement in the majority of patients. The diagnosis and treatment of the three

commonest causes of acute low back pain are described in detail.

Acknowledgement

I would like to acknowledge my gratitude to Dr Robert Danbury whose enthusiastic demonstration of his skill in this field inspired me to study a new and fascinating branch of medicine which is of very great value in general practice. My thanks are also due to Mrs Joan Cooper who very kindly drew the figures for me.

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AS OTHERS SEE US

The twelfth annual report of the College of General Practitioners . . . is a record of steady progress. Within a relatively short space of time the College has established itself as an integral part of the medical life of the nation and it is deploying its interests in ever-widening spheres. It is drawing an increasing number of general practitioners within its fold. It is being consulted by an increasing number of bodies concerned with the organization of the medical services of the country.

This is all highly commendable and indicates clearly that the College has a useful, indeed an essential, function to subserve. Some of its well-wishers, however, must occasionally wonder whether, like so many enthusiastic youngsters, it is not attempting to run before it can walk. Is it spreading its ramifications before it has established a firm foundation? Is it falling into the trap of setting up so many committees that it is making undue calls upon the time and energy of some of its members? Committees are the bane of modern life and there are few family doctors who have much time to spend on them. This is the trap into which the British Medical Association has fallen. It would be a tragedy if the College were to make the same mistake. All of the College's numerous committees undoubtedly subserve a theoretically useful function, but has anyone in authority ever asked: 'Is this committee really necessary for the fundamental aim of the College—the betterment of general practice?' If the College becomes too intent upon its own organization it runs the risk of neglecting its primary function.

From an editorial in *The Practitioner* (1964). **193**, p. 724.