A Practical Guide to Management of

THE PAINFUL NECK AND BACK

Diagnosis, Manipulation, Exercises, Prevention

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In introducing the reader to the nonsurgical management of the painful neck and back, this book focuses on diagnostic methods, manipulative techniques, exercise programmes and prevention. Current and past research from many disciplines is correlated in order to give a rational approach to the understanding and treatment of this widespread problem. This will enable the practitioner to treat those suffering from spinal pain easily and effectively.

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FOREWORD

ANY PRACTITIONER ATTEMPTING the treatment of common musculoskeletal complaints soon becomes acquainted with the problems of localized and referred segmental pains, which may be relieved by spinal manipulation. Without the necessary expertise, he is painfully aware that he is missing one cylinder, and that others with only this one cylinder firing are quick to exploit his patients. Some patients experience dramatic relief with no harm done. Others are deprived of the opportunity for satisfactory investigation and treatment of nonmechanical aspects, and a few are positively harmed. A hospital department of rheumatology and rehabilitation medicine lacking the effective application of manipulative techniques in its physical medicine section fails to provide a comprehensive service.

Doctor James Fisk has faced these problems squarely, both in his own busy private practice and in our public base hospital service. Apart from his consultative role, he has consistently taught safe, basic first aid manipulative techniques to our interns and physiotherapists and to interested general practitioners. The Waikato community has been thrice blessed in having the direction of this service quite literally in the skilled and capable hands of a man who enthusiastically blends practice with research and teaching.

Nothing pleases Doctor Fisk more than the opportunity to discuss methods of assessment of patients, the measurement of results, or working hypotheses for proving in the testing ground of active practice.

This attitude is a welcome change from the cure-all attitude and theoretical mumbo jumbo which have hitherto bedevilled both discussion and practice in some quarters. Doctor Fisk gives to his tried-and-trusted spinal manipulative methods a rationally ordered place in the total scheme of management of backaches, stiff necks, and the uncountable referred musculoskeletal aches and pains to which we two-legged upright creatures are the unfortunate heirs.

Doctor Fisk's special contribution to the development of a comprehensive service for the needs of patients with backache and related musculoskeletal problems has been greatly appreciated by our general practitioners, many of whom are now practising these methods. His specialist colleagues in our department and in the departments of neurology and orthopedic surgery are also greatly indebted to him for help with selected headache and backache patients. Those patients might otherwise have been regarded as neurotic after failing to respond to other measures.

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We are reminded once again to diagnose neurotic aches and pains on positive rather than negative grounds. Doctor Fisk's contribution to this field is another matter, to which it would not be possible to give such full consideration in a work of this size.

Doctor Fisk has kept this book down to the required size for a practical handbook, with adequate explanatory text. As such, I am confident that it will become a vademecum for busy general practitioners, physiotherapists, and many physicians and orthopaedic surgeons frustrated by their own past inadequacies in dealing with common problems marginal to their own specialist interests.

B. S. Rose

INTRODUCTION

PAIN IN OR REFERRED from the spine makes up a considerable proportion of every general practitioner's work load. Few of us realize the magnitude of the sore back problem. It has been estimated that at any particular moment in time there are seven million Americans off work because of backache.

We are taught very little about sore backs and necks at medical school. What little exposure we do receive is usually provided by orthopaedic surgeons, who deal with the tip of the iceberg of spinal pain. It has been estimated that of every one hundred patients with backache seen by the general practitioner, ten will be referred to hospital; less than one will require surgery. Low-back pain totals only about 45 percent of the case load of spinal pain seen in general practice. When a doctor first enters general practice, the most he can usually offer patients with back and neck pain is referral elsewhere, rest, liniment, and pain killers.

The majority of patients complaining of neck and back pain recover, regardless of the prescribed treatment. It has been estimated that 70 percent to 80 percent will recover within one to two months. "Leave them alone and they will come home, wagging their tails behind them."

In spite of vast volumes of research, causation of pain has not been determined in the majority of patients with back- or neckache. This is partly due to the inaccessible nature of the deep structures of the spine and to patients' lack of cooperation in dying from backache. Therefore, any treatment we prescribe must be empirical and based on past experience. This is the art, rather than the science, of medicine.

My intention is to provide fellow general practitioners with an introduction to the nonsurgical care of patients with pain in or referred from the spine. The main emphasis will be on diagnosis, manipulation, exercise programs, and prevention. To achieve this aim within a reasonable space will require some oversimplification. It is felt that a comprehensive bibliography would be of little value to the intended reader. A list of books and papers is included for those who may be interested in further, relevant reading matter.

J.W.F.

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Acknowledgments for permission to copy diagrams from other publications are made under the appropriate figures. Every effort has been made to give due credit in every case, but if there have been omissions they are unintentional, and apologies are offered.

I am grateful to many more friends and colleagues who have directly or indirectly helped and encouraged me. I would like, in particular, to thank Dr. A.A. Buerger, University of California at Irvine, for providing the necessary initial stimulus, and to Charles C Thomas, Publisher, for having the temerity to print the efforts of a tyro in the field of medical literature.

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Chapter 1

MANIPULATION

ANYONE UNFORTUNATE ENOUGH to suffer an acute attack of backache will be subjected to advice from his friends and relations to visit a multiplicity of experts. These vary from orthopaedic surgeons, osteopaths, chiropractors, hypnotists, acupuncturists, to "a G.P. who tweaks." (Even color therapists get in on the act.) The cynics would be tempted to suggest that the multiplicity of offered cures proves their profitability to the individual therapist.

The history of medicine is littered with abandoned cures for various complaints. Doctors who have been in practice for many years may recall cures hailed at the time as the answer to the then current problem.

Manipulation is one cure that has not been abandoned and is probably one of the longest-lasting cures in the history of medicine. Hippocrates recommended it; it was used long before his time. With the onset of scientific medicine, the medical profession abandoned and condemned it. This is easy to understand. At that time, inflammatory bone and joint disease was common, and much harm would be done by indiscriminate manipulation. The art of manipulation was thus left in the hands of nonmedical practitioners. It has survived in spite of, rather than because of, the medical profession.

My own interest in manipulation began when I first moved to my present home thirteen years ago. I live in the center of a New Zealand farming area, and a high proportion of my patients are sheep and dairy farmers. On the whole, they are sensible and hard working folk. As they are single-handed and self-employed, they can ill afford the luxury of being off work.

It was soon brought to my notice that I was considered (like the rest of my fellow practitioners), to be "no good with backs." I found I was being bypassed in favor of the services of local chiropractors and other nonmedical manipulators.

I well remember a friend saying, "You doctors are no good with backs. I go to old so-and-so when I put my back out. He fixes it." This statement was the last straw and provoked a response. As the old saying goes, "If you cannot beat them, then join them."

It is well known that some patients will seek out the unorthodox cure. Knowing most of my patients are practical and sensible people well moti-

vated to recover quickly, I found it impossible to believe that they were being duped by quacks pandering to the whims of hysterics and neurotics. "One can fool some of the people some of the time, but not all of the people all of the time."

To gain a reasonable and rational understanding of spinal pain and manipulation has involved a widespread search for information. Because of the uncertainty of the underlying pathology, the literature is full of pseudoscientific jargon and of experts banging their own particular drum. There has been a recent upsurge of interest in the problem of backache and manipulation within the profession, largely due to pressure from laymen. Involvement in teaching groups of fellow practitioners about sore backs and manipulation has brought to my notice the need for a source of basic information on the subject, hence this book.

There are strongly opposed views within the medical profession regarding the "pros and cons" of manipulation. Those *against* mainly consist of orthopaedic surgeons, who see the failed manipulations; those *for* are a mixed group of enthusiasts who have found, by practical experience, that a considerable number of patients derive benefit from it. It is amazing how much heat with very little light may be generated by any discussion between the two groups. The degree of heat seems to be proportionate to the degree of ignorance on both sides.

After using manipulation a few thousand times, experience has taught me that a percentage of patients recover because of what I have done, a percentage would have recovered quickly anyway, and a percentage are not helped. What experience has not taught me is how to sort out, with any degree of certainty, to which group the patient belongs, prior to manipulation. Therefore, it can only be offered as a trial of treatment.

If one does not manipulate, a chance may be missed to give quick relief. If pain is eased, fine; if not, nothing has been lost. There is also a chance that the patient will seek help from one of the nonmedical manipulators if the doctor doesn't help.

One of the fascinating aspects of sore backs and manipulation is the current lack of knowledge in many aspects of this field. There is a wide scope for further research in the clinical and basic sciences. Manipulation has been with us for a long time, yet very little attempt has been made to prove or disprove its value. This would seem to be amazing, but the difficulties of research into the treatment of backache are many. The main symptom is pain. This is subjective, ill understood, and affected by many unknown factors.

The following objective findings result from pain: muscle spasm, limited movement, tenderness, and hyperaesthesia, all of which are difficult to pinpoint and measure. We are thus often left at the mercy of the patient.

Does he feel better or not? Even his answer to this may not always be the whole truth.

It is acknowledged that in all forms of therapy, multiple influences may affect the result, regardless of the doctor's insistence that he is employing one technique. This is particularly so in the use of manipulation. There is the close body contact, which may have a therapeutic value; there is possible value in the therapist's enthusiasm; and the dramatic click may have suggestive value, "Oh! You have put something back into place, Doc."

The definitive test of the value of any treatment is the double-blind controlled trial. A trial of a physical treatment, such as manipulation, would be very difficult. The cynic could say that this inaccessibility to an objective trial accounts for its durability as a method of treatment.

I have found manipulation a useful therapeutic tool in general practice, but it has ill-defined limitations. It could be classified as a first aid treatment in back and neck problems, as sometimes it is all that is needed, and sometimes, it is not.

Laminectomy could also be described as a first aid treatment. A long-term follow-up of cases of sciatica (Hakelius, 1970) showed no difference in the incidence of further low-back problems between those that were initially treated conservatively and those that had surgery.

The only difference between the two groups was in the recovery rate from the initial attack; those treated surgically were relieved of their pain sooner. This would be the expected result, as surgery removes the immediate cause of the pain. It cannot alter the degenerative changes in the joint complex that have already taken place. The faulty joint mechanics will still be there.

CONTRAINDICATIONS TO MANIPULATION

The contraindications to manipulation are more clear-cut than the indications.

Absolute Contraindications

These are:

1. Primary and secondary tumours
2. Bone infections
3. Severe osteoporosis
4. Ankylosing spondylitis
5. Metabolic bone disease
6. Back pain referred from other structures
7. Disc protrusion with evidence of nerve root compression
8. Psychosis
9. Malingering
10. Martyr's syndrome

Primary and Secondary Spinal Tumours

It is the fear of those involved in the physical treatment of back problems that harm may be done to bone weakened by primary or secondary tumours. It should be realized that such tumours are very rare. Primary tumours usually occur below the age of thirty, whilst secondary tumours are more common after the age of fifty.

An extensive knowledge of the various bone tumours is necessary to the orthopaedic surgeon, radiologist, and pathologist; aside from an awareness of their possible existence, such knowledge is of little value to the general practitioner. The incidence of both primary and secondary tumours involving bone has been estimated as less than four per 100,000 of population per annum.

Of all bone tumours, less than one in twenty occurs in the spine, that is, one tumour of the spinal column per 500,000 people per annum. If the average G.P. looks after two thousand patients, he will see one such tumour every 250 years. The incidence of tumours in the contents of the spinal canal is about four per 100,000 people per annum. Thus, the average general practitioner will see one such case every twelve-and-one-half years.

The bone tumours most often diagnosed are secondaries. The common primary sites are in the prostate, breasts, lungs, thyroid gland, kidney, gastrointestinal tract, uterus, and bladder. An occasional multiple myeloma may be found.

The primary growth is usually detected before secondary spread has taken place; occasionally, the spinal secondaries are the first sign of trouble. Symptoms include (1) the patient who does not look well, (2) loss of weight, (3) the continuous, boring bone pain which is most noticeable at night, and (4) marked local tenderness on palpation of the affected region of the spine. Do not forget to do a rectal examination. Appropriate X rays and blood and urine tests should clarify the diagnosis, but these may be negative or inconclusive in the early stages. A bone-scan may be required. A malignant tumor is usually insidious in onset, but it may present itself after a minor back strain. It has a relentless progress, and one cannot escape its eventual recognition.

Bone Infection

Most patients with febrile illnesses complain of backache; this is of no concern. If the backache persists afterwards, the patient may have a back problem that may be helped by manipulation. Chronic infections of the spine, such as tuberculosis and osteomyelitis, occur in the young and are virtually unheard of in civilized societies. Patients with chronic infections are ill; the patient with a back strain is not.

Severe Osteoporosis

This is most common in elderly females and usually leads to pain in the mid-to-lower dorsal spine. This may be a diffuse, mild ache, but a pathological fracture may be heralded by a sudden, severe, sharp pain. There is usually a rigid dorsal kyphosis, and in the presence of a fracture, extreme local tenderness is found. The serum calcium and phosphorus ratios may be altered, and an X ray will reveal the bone density and possible compression fractures.

In the absence of marked local tenderness, severe pain, and advanced X-ray changes, gentle manipulation may be tried, but it must be gentle. Such patients often have minor backaches that respond very well to manipulation, but as a general rule, hands should be kept off frail, old women.

Ankylosing Spondylitis

This is four times more common in the male. The onset of symptoms usually occurs between the ages of fifteen to forty, and more commonly, in the twenties. It is relatively uncommon. There will be one or two patients amongst those in most general practices. Ankylosing spondylitis usually starts as an ache in the low back, with stiffness. The ache may spread down the back of both thighs. There may be a peripheral polyarthritis, which is present in 25 to 50 percent of cases and may be the presenting symptom. There is often a general malaise and loss of weight. On examination, there is paravertebral tenderness. Testing the passive movement of the sacroiliac joint usually brings to light painful restriction. The sedimentation rate is raised, and, in the early stages, the X ray shows the characteristic fuzziness of the sacroiliac joints.

Metabolic Bone Disease

Paget's disease does not usually involve the spine until the later stages, and presents itself as pain in many bones. It becomes worse at night, is rare, and nearly always affects males past the age of fifty. Diagnosis is confirmed by the characteristic X-ray changes and the raised serum alkaline phosphatase. Occasionally, an isolated lesion may be found in the body of one vertebra, it is thought that it is unlikely to produce symptoms.

Gout may be responsible for acute attacks of back and neck pain, though it nearly always attacks the smaller peripheral joints. Finding a raised serum uric acid corroborates the diagnosis.

Back Pain Referred from Other Structures

A by-no-means-exhaustive list of conditions that may give rise to back pain include the following:

1. An eroding posterior peptic ulcer
2. Renal causes; infection and calculi
3. Cholecystitis and gallstones
4. Pancreatitis
5. Dissecting aneurism and coronary occlusion
6. Atheroma of the common iliac artery
7. Pelvic inflammatory disease
8. Prostatitis

There may be a reflex tenderness in the spine, but a careful history and examination would make one aware of the possibility of these conditions.

A variety of gynaecological conditions have been accused of being responsible for low-back pain, but it is probably true to say that more backache is caused than relieved by gynaecological procedures. As a general rule, backache comes from the back.

Disc Protrusion with Evidence of Nerve Root Compression

The clinical findings are the result of nerve root paresis. These are absent, rather than altered, reflexes; loss of sensation, not altered sensation (so-called paraesthesia or hyperaesthesia); muscle weakness and wasting. The muscle wasting is not evident in the early stages, and testing for muscle weakness can be misleading. The patient in a lot of discomfort tends to hold back when asked to push or pull against resistance.

Emergency surgery is required if there is evidence of a large, central disc herniation threatening the lower sacral, preganglionic roots. This evidence is loss of bladder control, saddle anaesthesia, and any lower limb paresis. Radiating pain down the leg is not necessarily a contraindication to manipulation. Stimulation of the pain-producing nerve endings in the deeper structures of the back has been shown to be capable of producing referred pain as far down as the foot. Pain down the leg can also arise from distortion of an inflamed nerve root. It is important to appreciate that moderate pressure on a normal nerve does not cause pain.

It is also important to know that nerve root pain and referred pain have different qualities. Referred pain is deep, ill-defined, and patchy in its distribution down the leg. The patient localises it with his hand rather than his finger. Nerve root pain is sharper and more severe. It spreads in a continuous line down the leg, and the patient localises it with his fingers rather than his hand.

Psychosis

Back and neck pain are occasionally the presenting symptoms in hysteria. Such patients should be left well alone. They are usually not difficult to

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