

Methods of Applying Manipulative Technic

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Osteopathic technic is, as every osteopathic physician knows, a matter of anatomy. In devising methods suitable for the correction of any given joint lesion in any certain patient, every step must be planned with relation to structural, anatomical, and engineering factors, such as the direction of the articular surfaces, the location of articular ligaments, the pull of the muscles which move the disordered joint, the accessible leverages, and application of force. This is the most important part of the therapy of osteopathy. The results of such treatment have placed osteopathy in a most enviable position in this country. It is the correction of structural disturbances which has led to the greatest number of recoveries possible in all kinds of diseases, and to recoveries which would have been impossible without such corrections. It is the actual structural change from incorrect to correct anatomical relations which makes recovery possible.

The manner in which the necessary manipulations are performed may delay or hasten recovery, however, and temporary symptoms may be exacerbated or eased by a "brisk and snappy" or a softly gentle, prolonged manner. The actual manipulations may be exactly alike in every essential factor so far as the corrections are concerned. Functional influences vary greatly according to the physiological condition of the patient, the threshold value of the neurons concerned and the manner in which treatment is given.

It is just as important to fit treatment to patient as it is to determine the technic to be employed. Even the best possible shoe, or hat, or in-between garb must be fitted to the person who is to wear it. Osteopathic manipulative treatment may make the difference between life and death; more important, it may make the difference between useful comfort and useless discomfort during life; and, although anatomy may be pretty much alike in humans, the differences necessitate careful fitting of treatment to patient if the speediest and most complete recovery is to be expected. This is true of technic, and it is still more true of the manner in which that technic is applied. Patients are not normal; else they would not be patients. Every one of them has variations in the circulation and the pressure of the blood, in the quality of the blood, in the irritability of nerve cells and in the activity of many secretions. Usually all of these disorders and many more are present in every patient; always many of them must be concerned. A manner which irritates unduly the nerve centers which already are hypersensitive may be associated with very accurate technic, but not to the best good of the patient. Dulled nerve centers, on the other hand, may need just the fillip which a brisk and snappy manner gives to them, as technic of unquestionable accuracy is being given.

A few illustrative case records may be given, very briefly. No doubt every osteopathic physician can remember no comparable histories.

An elderly woman, a patient in the clinic of The Pacific College of Osteopathy, did not make as good

recovery as was expected. She suffered from a definite lesion of the seventh thoracic vertebra, with the seventh ribs on both sides showing some slightly disturbed relations. The digestive symptoms usually associated with this lesion were present. Her blood pressure was low, her muscles generally weak; she was a frail little thing. The student who treated her was afraid he might hurt her; he was a large, strong fellow with a history of playing football in his college days. The technic employed was carefully followed, but the manipulations were gently and rather slowly given. The patient complained of great fatigue after each treatment, whereupon the student was more gentle than ever in his manipulations. The fatigue after treatment seemed even more pronounced. Clinicians consulted and agreed that the diagnosis of the lesion was correct, and that the advised manipulations were the best known for the correction of such lesions.

Study of the sphygmogram indicated some weakness of the myocardium. Another sphygmogram taken after a treatment showed even greater weakness of the heart muscle. Blood pressure taken before the treatment was low, but blood pressure after treatment was lower. The fatigue and weakness were actually present and evidently were due to the treatment. It was advised, therefore, that the same manipulations be employed, but that they should be given in a brief and snappy manner, but that care should be taken that not too much pressure be employed.

Results were immediate. The old lady felt better after each treatment; the fatigue did not appear. The blood pressure was higher after the treatment; the pulse and the heart sounds indicated increasing force of systole. The sphygmogram approached normal. The location of the lesion at the seventh thoracic segment probably was unfortunate since the splanchnic circulation was affected by manipulations in that region. It was equally unfortunate when the gentler manner of using technic had been employed. It must not be supposed that there was anything rough or strenuous at any time; she still was a very frail little old person. The lesions were corrected, the symptoms disappeared and she was as well as could be expected within a few weeks.

Another patient was an elderly and husky man, with loud-spoken and forceful admiration of "good rough stuff" as he called it. His muscles were strong and the eighth thoracic lesion evidently had been present for several years, with the symptoms usually to be expected from such a lesion. He was afraid of his high blood pressure, however, though no definite symptoms had resulted therefrom. The experience with the "frail little thing" just mentioned had led to the development of quite a "brisk and snappy" manner of using manipulations on the part of the student. The old man with the high blood pressure complained of being dizzy and ill after each treatment. His daughter complained that the treatments made him "so nervous there's no living with him any more."

Further study was made. The quality of the pulse indicated a higher blood pressure after the treatment than before. Further study of the lesion and of the technic showed no recognizable error in the diagnosis nor in the plan of the technic. It was advised that the brisk and snappy manner be superseded by very gentle and slower manipulations. This change was good. The old man felt better after treatment. The quality of the pulse indicated a lower blood pressure after the treatment—a very good thing in this case.

Frequent use of the sphygmomanometer is not necessary in these cases. Too much time and trouble is called for in taking the blood pressure accurately before, during, and after treatment, and the physiological results are not good. Anyone who is skillful and experienced can determine quite small changes in the blood pressure by the quality of the pulse. A preliminary and an occasional later accurate determination of the blood pressure is essential to good understanding of the patient's condition and of his progress, but the touch of the pulse is enough to tell whether good results are being secured by the manner in which the manipulations are being employed.

In another case, the patient, a girl of the type usually called "nervous" complained of being hurt by the manipulative treatment. Efforts to avoid even the slightest cause of complaint were unavailing; it seemed impossible to secure any effects without her moaning. It is true, too, that irritable tissue sometimes is irritated further by gentle manipulations, while firm and definite manipulations do not so irritate. Possibly this is partly because deep and forceful manipulations affect chiefly the deeper nerve endings in joints and muscles, while extremely gentle manipulations, usually more superficial, affect the superficial nerve endings. The person called "nervous" is very often almost insensitive to discomfort in deeper areas of the body, while the superficial nerve endings are hypersensitive in marked degree. It is not at all correct, in these cases, to dismiss the matter of undue complainings as being negligible. Even in the few cases in which such complainings are of emotional origin, they are part of the clinical picture and must receive exactly the same consideration which is given other major symptoms.

In the case at hand, these and other considerations led to a difference in applying the same technic. The hands of the student giving the treatment were to be placed, firm and steady, in the first position necessary for the manipulations. Very firm pressure was made immediately, and the position of the hands was not varied except as the technic enforced some new position. Again, the hands were placed exactly in the correct position, with firm and steady pressure from the instant of contact. The movements were made in a very firm and steady manner, with an air of inevitability, smoothly, in a manner which would suggest the word "streamlined" nowadays, though the word was not known at that time.

In another case, the superficial nerve endings were, for some reason never determined, extremely irritable. The "firm and steady" manner exacerbated the symptoms. It was a puzzle; corrections were necessary, and yet the reflexes were really serious. This young woman was poised, sensible, with no evidence

of what is usually called "nervousness" and no recognizable reason for the condition. She had a history of fairly recent but not especially serious spinal meningitis, epidemic at the time, but her recovery from that disease appeared to be complete. She had not been aware of the extreme sensitiveness of the superficial tissues; had just supposed everybody else was like herself, if, indeed she thought of the matter at all.

Tests were made to determine whether applications of heat or cold might affect the discomfort and the reflex muscular spasms, but neither seemed to affect the condition. Fatigue and the resting condition were compared; during marked fatigue (caused by a long walk) manipulative treatment aroused somewhat less marked reflexes. She herself reported that she had been taking long breaths, then holding the breath during a shower, since in this way she could endure temperature changes otherwise unendurable.

This principle was employed in treating her; she would take several long breaths, then hold the breath while the short manipulations were being given. The manner of giving the treatment seemed unimportant; the brisk and snappy, the slow and easy, the firm and steady, all secured the necessary correction of the lesions without trouble. The lesion involved the occiput, atlas, axis and third cervical vertebra as a group with a sharp curve toward the left; the greatest recognizable change was in the relation of the occiput to the atlas.

As soon as the structural relations approached normal, the hypersensitiveness diminished, reflexes returned to normal, and soon she recovered completely. A report received from her about five years later gave a history of practically perfect health during that time. In reviewing the case now, there is the possibility that some alkalosis may have been present and that this increased the muscular spasms; it is true that the patient was on a highly alkaline diet, which, at that time, was being prescribed for almost anybody, ill or well. Nowadays, of course, disturbances in vitamin intake would be the immediate thought; a year or two ago it would have been fashionable to think of the internal secretions in that connection. However, the structural corrections were the essential need, and any harmless thing which permitted such treatment was indicated.

Her most serious symptom was dimness of vision, not corrected by glasses. It had been found impossible to fit her eyes with glasses and this led to her examination in the clinic. With correction of the lesions mentioned, satisfactory examination of the eyes became possible. Glasses were not recommended, since she had regained excellent vision soon after the osteopathic manipulative treatment was completed.

This is the only case of the kind in my records. The other cases mentioned could be repeated almost indefinitely. All such conditions indicate one thing, that the manner in which manipulations are applied is no less important than the science, which is the planning of suitable technic based on the anatomical relations of the patient and his abnormal condition.

Each patient is different. Occasionally blood pressure already too low is lowered still further by the "brisk and snappy" style. Nervous irritability in one patient may be increased by slow manipulations of soft tissues; another patient cannot endure any

corrective manipulations until preliminary relaxing manipulations of soft tissues of the segments affected by the lesions are given. These relations are not psychical in any considerable number of cases, because careful examination usually shows actual changes in the force of the heart beat, in systolic or diastolic blood pressure, in visual acuity, in the knee jerk or in such nerve reflexes as are accessible to testing.

Functional disturbances of any kind may be affected for good or for evil by correct or by careless manipulations. Even when the diagnosis of the lesion is correct, even when no causative factors other than the lesion are concerned, even when the manipulations themselves have been accurately planned for the patient and the lesion, the manner in which the manipulations are administered may make the difference between speedy, complete recovery, and delayed, unsatisfactory, incomplete recovery. This statement is abecedary to early osteopathic physicians; it is neglected by a considerable number of younger graduates.

The principles are applicable to the manner in which lesions are produced as well as to corrective technic. A lesion produced by sudden shock may differ considerably in symptoms and history from the same lesion produced by prolonged pressure or strain. Experimental lesions produced in animals by prolonged, gentle pressure, by repeated pressures mild in degree, and by sudden forceful manipulations produce quite different immediate reactions, though the tissues affected are identical and the ultimate results exactly the same in all three cases. Only the fact of structural maladjustment is important in the long run, both in producing and in correcting the lesions, in experimental and in accidental cases, and in human or animal subjects.

Nearly all those who treat sick people take into some account the physiological condition of the patient. But "some account" is not enough. The neuron threshold is generally lower in the morning hours than during the afternoon and evening. Blood pressure varies during the day. The blood cell count and the hemoglobin are highest at about two o'clock, morning or afternoon, but especially in the afternoon. Treatments which are bad during early stages of digestion may be very good after the stomach is fairly well emptied. Other examples are familiar.

The facts are generally recognized, and they are based upon physiological findings as well as upon clinical experience. At one time, at Sunny Slope, we began some experiments to determine, if possible, whether the amount of influence exerted by the time of the day should be emphasized or forgotten, for the best good of the patient.

It had been noted that the reflex effects of producing lesions in laboratory animals were much less marked during the afternoon hours than in the morning, but we had attributed the fact to the weariness of the operators. As a matter of convenience, animal experiments usually occupied the morning hours; the afternoons were devoted to blood counts, urinalyses, making of slides and tracings, and such activities. Afternoon work with the animals, then, usually followed morning work with animals, a very fatiguing thing to experience. Upon deciding to experiment along this line, alternate days were differently divided; the animals were used for morning work one day, and for afternoon work the next. Operator fatigue was thus eliminated from the results. Records were kept. Events beyond our control terminated the tests at too early a date, but enough work was done to show us, quite definitely, that a lesion produced during morning hours was associated with more pronounced reflexes and more marked immediate effects. Lesions produced during afternoon hours, especially in the late afternoon, were associated with much less marked reflexes and much less marked immediate effects. The permanence of the lesion and the final condition were identical, so far as we could determine, in both time groups.

Many osteopathic physicians have the habit of making calls during morning hours, leaving afternoons for office practice. This is a very good habit. Calls usually are made upon the acutely ill, for whom some immediate results are desirable. Manipulations given for the relief of symptoms as well as those which are definitely corrective in nature tend to show more immediate effects in the morning.

Chronic cases, or at least those less acutely ill, receive office treatment. For these, immediate reactions are not necessary, and they may be undesirable. Corrective treatment then can be given with less danger of arousing undesirable reflexes. In both chronic and acute cases, there are many exceptions; sometimes the immediate results are desirable in a chronic case. Such patients should receive morning treatment, if practicable. Acute cases may, on the other hand, require treatment which does not arouse reflex action in any considerable degree. For them the afternoon call should be arranged, even though the time must be quite late. The differences seem to be negligible in nearly all cases; treatments may be given in a different manner to obviate such differences as may exist in some cases. In a few cases the differences in the reactions vary considerably according to the time of day, and for these the matter may be really important. It is a part of the art of osteopathy to consider these things.