A COMPARISON STUDY OF CHIROPRACTIC TECHNIQUES AS THEY RELATE TO THE LUMBAR INTERVERTEBRAL DISC SYNDROME

by James D. Edwards, D.C., David R. Ingram, D.C., Charles F. Loomis, D.C., & Terry L. Shull, D.C.
C/O Logan College of Chiropractic

While senior externs at the LOGAN COLLEGE CLINIC, the authors have noticed that many times a variety of techniques seem to get near the same results on many conditions. In an effort to examine this phenomenon, we will study the lumbar intervertebral disc syndrome and how the various techniques approach it. While doing this comparative study, we hope to gain an insight as to why they all seem to work even though they use completely different methods of treatment.

This study will evaluate the following techniques as they relate to the lumbar intervertebral disc: 1.) COX CHIRO-MANIS 2.) DEJARNETTE S.O.T. 3.) GONSTEAD 4.) REINERT. The above techniques were chosen for two primary reasons. First, they all have very specific but different treatments for lumbar IVD conditions and second, the four techniques have gained wide acceptance in the Chiropractic profession.

In evaluating each of these techniques, we will discuss the theory of technique as well as the Method of treatment. After covering these elements, the authors will present their conclusions as to the possible reasons they all have similar success with the lumbar I.V.D. Syndrome. It should be stressed that our evaluation will deal only with the techniques as they apply to the lumbar I.V.D. No attempt will be made to evaluate them as they relate to any other condition or disease.

It is not the purpose of this paper to present in detail the complete theory, or treatment of each technique, but only that part that relates to the lumbar intervertbral disc syndrome. For a complete understanding and knowledge of each technique it is advised that seminars be attended. The authors strongly oppose any use of these techniques based on the limited material we will be presenting.

COX CHIRO-MANIS TECHNIQUE

THEORY

The Chiro-Manis Technique was developed by James M. Cox, D.C. Cox of Ft. Wayne, Indiana, is a 1963 graduate of National College of Chiropractic and a 1970 Diplomate of the American Chiropractic Board of Roentgenologists. Dr. Cox is considered by many to be the most knowledgeable in the profession today on the lumbar I.V.D. and its treatment. He has gained this reputation from his detailed study of other authors, as well as his documented clinical research which has appeared in the **ACA Journal** and the **Chiro-Manis Treatment Manual.**

It is impossible to discuss the theory of the Chiro-Manis Technique without discussing the work of medical and osteopathic authors which Dr. Cox credits in his book.[1] Practically all the medical authors give detailed examination procedures but are lacking when it comes to conservative treatment. They all discuss rest, exercise, drugs, heat, bracing, and ultimately surgery. Of course this is not new to the chiropractic profession since many of our new patients have had all of these treatments without improvement.

Gertrude Lind is one credited by Dr. Cox as offering an alternate conservative approach. Lind describes 20 cases of confirmed disc lesions awaiting surgical repair who underwent her autotraction. All 20 had previous treatment including rest, analgesics physio-therapy, sacral injections, short wave, radiotherapy, and chiropractic (lumbar roll or torsion) adjustment. After one week, 16 of the 20 were rid of their back and leg pain. Myelograms both before, during, and after these cases demonstrated the reduction of the disc protrusion.[2]

Lind states that laterorhizal herniation is easier to help than mediorizal herniation. She further states that analgesics and long bed rest are not indicated since the traction method takes a shorter recovery time.[3]

Lind quotes authorities on the effects of plane traction stating that it temporarily separates the lumbar vertebra on the posterior side and the stretched ligaments help to squeeze the protrusion back into place. The enlargement of the intervertebral space enables the prolapsed material to resume its correct position.

Traction exerts suction on the disc herniation, (Schachsneider, 1936: Wyss and Ulrich, 1954). Repeated traction induces a push pull pumping effect on the tissues surrounding the disc and apophyseal joints.[2]

Cyriax in his textbok entitled **Soft Tissue Lesions** states that small and very recent nuclear herniations sometimes respond well, provided that the technique of manipulation is changed from the jerk to sustained pressure, (Cox and Lind use intermittent traction which got better results as will be shown later.) Cyriax states the effect of sustained traction and its attendent distraction has three effects:

1. Increase in the interval between the vertebral bodies thus enlarging the space into which the protrusion must recede.
2. Tautening of the joint capsule. This allows the ligaments joining the vertebral bodies to exert centripetal force all around the joint thus tending to squeeze the pulp back into place.
3. Suction.

The figures below give the response to non-surgical treatment of disc protrusions.

LIND AUTO TRACTION

80% of 20 cases scheduled for surgery and 929 of 1023 ambulatory cases with low back and/or sciatica had satisfactory results.

CYRIAX SUSTAINED TRACTION

2/3 response

COX CLOSED REDUCTION

89 of 100 cases responded to treatment. 96.5% Lateral Disc. 79.5% Medial Disc.

Dr. Cox has very strong opinions regarding side posture lumbar adjustments. He states that many Doctors of Chiropractic have been found to be much wanting in the treatment of disc protrusion and its resultant sciatica. Side posture adjusting in a disc protrusion, for any doctor who has experienced it, can be a nightmare. As a

posteroantero thrust or side posture adjustment is attempted, it is as if a hard piece of rubber was being encountered with little flexability, but a lot of pain to the patient. After the adjustment, the patient often cannot get off the table and has great apprehension and perhaps disgust for the treatment. Dr. Cox also mentions that the annular fibers of the I.V.D. begin to tear upon 20 degrees of rotation. So not only does it destroy patient confidence it can also makes the condition worse. [4]

Dr. Cox's work deals mainly with disc protrusions which he defines as, "a broad based extension of nuclear material through the annulus into the spinal canal with no loss of continuity of extruded material. Protrusion and herniation are the same." These are not to be confused with the disc prolapse which Dr. Cox defines as, "The extruded material loses continuity with the existing nuclear material and forms a free fragment in the spinal canal."

A disc protrusion will occur just lateral to the nerve or just medial to the nerve root. Two factors are of primary importance when applying this work to a patient.

1. The side of sciatic pain distribution.
2. The side of antalgic inclination; that is, whether the patient leans toward or away from the side of pain in relation to the convexity of the sciatic scoliosis.

These two factors establish the location of the disc protrusion in relation to the compressed nerve root.

The disc protruding lateral to the nerve root results in the patient inclined toward the healthy side. A disc protruding medial to the nerve root results in the patient inclined towards the sciatica or the painful side. A central protrusion may result in no antalgic lean or one that changes from side to side.

LATERAL DISC PROTRUSION

1. Antalgic lean towards healthy side.
2. Nerve root compressed medially by disc.
3. Leaning away to avoid contact with nerve root.

MEDIAL DISC PROTRUSION

1. Antalgic lean towards painful side.
2. Nerve root compressed laterally by disc.
3. Leaning into side of pain to avoid contact with nerve root.

Cox Method of Treatment

In order to utilize the treatment, a table which will give both traction and flexion is necessary. The newer models are fashioned after the old Osteopathic McMannis tables which are no longer manufactured.

The patient is placed with the disc lesion over the opening between the front and rear sections, the ankles are strapped to the table in order to get traction. A bar at the head of the table will allow the patient to hold without slipping footward when the traction is applied. The first step is to apply traction to the lumbar by separating the two pieces of the table.

Next, flexion traction is applied while the spinous process directly superior to the disc protrusion is held with a calcaneal or metacarpal contact. By doing this, there is an opening of the disc space, allowing reduction of the protruded disc material, stimulation of circulation and decompression of the nerve roots. The traction is held for about 20 seconds depending upon the patient's tolerance. Release of the traction is slowly performed.

This traction is applied three times. A fine differential point here is that the patient with a protruding disc will usually state that he feels mild pain upon traction whereas the prolapsed disc will not.

Dr. Cox also uses left and right lateral flexion when the diagnosis indicates. In addition, he recommends positive galvanism, back support, ice, followed by hot moist heat, and manganese gluconate which we will not discuss here but are fully discussed in his book.

Dr. Cox usually treats the patient every day for the first week at which time there should be some relief. It will not be complete relief, but the patient will know he is improving. Medial disc protrusions usually take longer to improve, but regardless, great relief is usually obtained in two to three weeks. If no relief is obtained a disc prolapse can be suspected and a consultation with a neurosurgeon is indicated.

SACRO-OCCIPITAL TECHNIQUE

Theory

In the Sacro Occipital Technique, founded by Major Bertrand De Jarnette, D.C., when referring to the lumbar syndrome you are talking about a Catagory III problem. The patient usually presents himself with sciatica and a spinal incline or a rainbow type curve in the lumbar spine. When the problem first manifests itself all the pain may be localized to the lumbar spine area, but as the sciatica develops so does the spinal incline in an attempt to control the pain. According to Dr. De Jarnette, the following may be the reason for the development of the problem; First, lumbar vertebral subluxation with foraminal occlusion producing nerve root compression. Second, compression of the intervertebral contraction disc space. Third, rupture and herniation of the nucleus pulposus. Fourth, contraction of the psoas muscle, producing a lateral displacement of the lumbar disc. Fifth, elongation of the piriformis muscle,

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scissor trapping the sciatic nerve. Any one of these problems is enough to produce the lumbar pain with the spinal incline produced as a defense type mechanism. Category III is a many faceted problem, not being caused by only one problem. It may be in combination with disrelationships.

"The category three is a lumbar problem, and as such can be involved in a number of specific problems. The lumbar spine is not a weight lifting machine, therefore when subjected to weight lifting strains, in which the knees are not the levers, its material make up can suffer some very dramatic traumas. The vertebral subluxation of the lumbar spine is one of mechanics. The lumbar rotates and cannot recover, and in its defiance of Newton's law of motion, becomes set and produces a compression force onto contracted nerve roots. This then is the cause of such pain.

When the vertebra sinks into its lower facet, unilaterally, the facets on the opposite side open up and traction on the nerve roots. This then is the cause of such pain.

"When the vertebra sinks into its lower facet, unilaterally, the facets on the opposite side open up and traction on the nerve root. This then is a cause of nerve root pain. When the I.V.D. space narrows due to disc compression the nerve root can be trapped and this is another cause of pain."

S.O.T. Treatment

Treatment consists of placing the patient in the prone position, and using the S.O.T. blocks, Steffensmeier table board and sternal roll. The sternal roll is used if dorsal anteriority is present. Dr. De Jarnette states that the safest approach to a Category III problem is the block procedure. There is no risk involved as long as you accurately determine the side of the short leg. This determination is made with the patient in the prone position, pelvis supported by the table board.

The short leg is determined by placing the fingers around the ankles at the internal malleolus of each leg, and applying traction to the legs.

The blocks are then positioned accordingly, it should be remembered that the blocks are placed in a specific location and in a specific direction.

The psoas adjustment is considered important since it inserts into the lumbar discs. The psoas muscle is checked by stretching the arms over the head and checking to see if there is any difference in length. The psoas is adjusted on the short arm side. The patient is placed supine, the knee on the affected side is flexed and held. The other hand of the doctor is placed flat so that the fingers contact the line alba. The knee is brought up medially while the doctor slowly forces the psoas laterally towards the affected side.

The next adjustment is specific for the lumbar I.V.D. and is called the "Lumbar Disc Technique." Have the patient sit on a flat surface. Place the small end of the De Jarnette block between the fifth lumbar spinous process and the sacrum. The bottom of the block is then anchored to the flat surface and held in place. The patient is instructed to pull the chin tightly to the chest, hands on knees, and push the lower three dorsals and upper four lumbars posteriorly.

The next procedure can be used when the block procedure just described doesn't produce a favorable response. With the blocks in the short leg position either left or right depending on the patient, the thumb is used over the spinous process of L5. The patient is asked to cough, if the spinous process bounces straight up it is called SB+, (sacral base), if it bounces headward only it is called SB- (sacral base).

If it is SB+, both blocks are placed under the anterior iliac spines of the pelvis, if it is SB- they are placed under the acetabulum area. After the blocks are positioned the patient is instructed to grasp the head of the table. The assistant then applies traction to the leg on the side of sciatica. The doctor uses a thumb contact on the spinous process that is most painful (usually either L4 or L5). All three actions are done at the same time. According to Dr. De Jarnette, your objective here is to separate the spinous processes from each other, or separate L5 from the sacrum. Each traction requires about 5 seconds, with a rest of 2 seconds between them. The doctor holds a continuous pressure throughout the adjustment.[5]

Dr. De Jarnette has other Category III adjustments, but we have discussed only those applying specifically to the disc.

GONSTEAD TECHNIQUE

Dr. Gonstead's disc technique and theory of subluxation is widely accepted and used by field practitioners of chiropractic. His theory is based on finding the causative subluxation, accepting its existence, adjusting the subluxation and leaving it alone. His technique depends heavily on roentgenographic examination. Gonstead concurs that a subluxation occurs at the fibrocartilaginous joints of the spine and not at the apophyseal joints. His theories deal primarily with the spine as a whole. He does not distinguish between lumbar, thoracic, or cerevical osseous lesions from one another, other than the occiptal-atlanto-axial subluxations. Therefore, we will discuss his technique, as it relates to the lumbar intervertebral disc syndrome.[6]

Theory

In order to understand the theory of Dr. Gonstead's technique we must review the physiology of the intervertebral disc as related to his technique.

Of the 24 vertebral units, we have 23 pads of fibroelastic cartilage that separate all but the top two vertebrae. The main functions of the disc is for protection and support, it strongly

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adheres to the bodies of adjacent vertebrae. These symphysis articulations allow only slight amphiarthrodial movements. As a rule, when referring to a particular disc, we are referring to the disc upon which that particular vertebra sits.

The purpose of the disc is to provide flexibility of the spine while at the same time maintaining the adjacent vertebrae within normal limits of displacement. The integrity of the anatomical components of the disc plays an important role in normal functioning.

In the normal anterior motor units of the spine, the nucleus pulposus is in the center of the adjacent vertebral bodies. Encapsulating the nucleus are the strong elastic fibers of the annulus fibrosis. In the normal ranges of motion of the lumbar spine, i.e., flexion, extension, rotation, and lateral flexion, the vertebral body rocks back and forth and rotates upon the nucleus. Therefore Dr. Gonstead compares the nucleus to a pivited ball bearing.

As long as the annular fibers are intact maintaining the nucleus as a spheroid structure in the center of adjacent vertebral bodies, the mechanics of the lumbar spine will function normally.

In the static spine, the normal disc will allow the vertebral bodies to resume what Dr. Gonstead calls their optimal relationships. The optimal relationship of the lumbar spine is when the perimeters of the bodies are in line and the vertical distance between opposing surfaces of the vertebral bodies is the same at all points. With this relationship between the veretebrae there will be no wedging of the disc between the vertebrae. Dr. Gonstead states that no misalignments are evident if all the lumbar vertebrae are in their optimal positions and exhibiting parallel discs.

Gonstead states that trauma initiates subluxation, the trauma may be the accumulative effects of minor episodes or from a single incident. This damages the normal anatomical structure of the lumbar disc. Dr. Gonstead describes the process in the following steps:

1. Trauma misaligns the lumbar vertebrae, shifting them into a sustained position.

2. The shifting vertebral body compresses the disc and exerts a pressure on the nucleus. Since the nucleus has a high water content, and is non-compressible, it causes a pressure against the annulus fibrosis.

3. The annular fibers are stretched beyond their elastic limits by the bulging nucleus, resulting in damaged fibers.

4. Tissue damage induces an inflammatory reaction. Intracellular edematous fluid infuses the disc, causing it to expand and protrude.

5. Protrusion of the disc produces compression upon neural structures within the neural canal or in the intervertebral foramen.

6. This nerve pressure thereby produces nerve dysfunction.

From the foregoing description, Dr. Gonstead concludes that lumbar subluxation is a disorder of the disc.

When a lumbar vertebra misaligns on its disc, there is always posterior displacement of the vertebrae below. In chronic subluxations of the lumbar vertebrae, fissures form through consecutive layers of the annulus thereby allowing a shifting effect of the nucleus. Eventually, the nucleus will undergo

pressure atrophy and the entire thickness of the disc is diminished.

Lumbar subluxations will almost always show disc wedging. The protrusion of the disc is usually greatest on the open side of the wedge.

Dr. Gonstead emphasizes that it is not the displaced nucleus that protrudes the disc, but the efforts of edema resulting from the displaced nucleus.

When we have a lumbar subluxation, three factors are at work which reduce the motion of the vertebra on its disc. Every lumbar vertebra that is subluxated loses this normal motion. It is considered fixed, and the area of reduced mobility between the fixed vertebra and the subjacent vertebrae is regarded as a "fixation."

Since the nucleus is displaced toward the periphery, the pivotal action of the nucleus is lost. This greatly reduces the range of motion. Another reduction in the range of motion of a lumbar subluxation is infiltration of the disc by edematous fluid. This fluid is regarded as a stabilizing mechanism in an attempt to protect the injured joint from further misalignment. In addition, another immobilizing factor is the development of adhesions as the subluxation becomes more chronic.

When a fixation exists in the lumbars, the normal range of motion that is contributed to the spine by this fixated segment will be assumed by one or more other segments thus we get hypermobility. Hypermobility and fixation coexist with a lumbar subluxation.

Dr. Gonstead also states that every misaligned vertebra is not a subluxation. Misalignments are merely compensations from a subluxation lower in the spine.

Dr. Gonstead uses a system for diagnosing the amount of disc degeneration from radiographs. There are six stages to disc degeneration.

D1 — Swollen disc — The entire disc is swollen and thickened from an acute injury

D2 — Disc thin at posterior — The posterior disc space is diminished from a posterior subluxation. This is beyond the acute stage.

D3 — Disc very thin at posterior — The disc is extremly wedged. This is a chronic state.

D4 — Total disc is thin — The total disc space is thinned to about ⅔ its original height. May show arthritis or exostosis.

D5 — Total disc is very thin — The total disc is decreased to about ⅓ its original height. Will show arthritis or exostosis. Very difficult to correct.

D6 — Total disc extremely thin — Entire disc space is greatly diminished. This is most difficult to correct.

Gonstead Treatment

Dr. Gonstead method of treatment begins with listings. Listings are letter abbreviations which represents the position of the subluxated vertebra and the directions in which it has misaligned.

By accurate interpretation of the listing, correction of the subluxation may be made with the proper thrust.

Dr. Gonstead states that since a vertebra misaligns or its disc and the disc separates the two adjacent vertebral bodies, then misalignment is expressed in terms of changes in their relationship between two bodies.

A vertebra is unable to subluxate anteriorward because of the barrier provided by the superior processes of the vertebrae below. Thus the primary direction of misalignment of all vertebrae, excepting the atlas, is posteriorward. Therefore, the first letter in the listing is "P". This describes posteriority.

In addition to posteriority of the lumbar vertebrae, there is usually an accompanying rotation of the body. For this reason, the second letter of the listing designates the lateral position of the spinous process caused by this rotation. "L" meaning left, and "R" meaning right.

Lateral wedging of a lumbar vertebra may occur on the A-P roentgenogram caused by wedging of the disc. Therefore, Dr. Gonstead uses the third letter of the listing to designate the position of the body, inferior, or superior, on the side of spinous laterality. Superior is designated by the letter "S", and inferior by the letter "I".

In addition to the directions of misalignment, the lumbar listing also designates where the vertebra must be contacted for repositioning. We must at this point remember one of Dr. Gonstead's rules for adjusting lumbar vertebrae and that's never thrust into the concave side of a scoliosis. When the vertebral body has rotated the spinous process to the open side of the wedge,

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the contact point for correction is the spinous process. Conversely, when the vertebral body has rotated the spinous process to the closed side of the wedge, the mammillary process on the opposite side (open side of the wedge) is contacted. The letter "M" is added to the listing whenever a mammillary contact is indicated.

The familiar side posture lumbar roll is the patient's position.

There are other variations added too or taken away from the listing of lumbar subluxations but this is the basic Gonstead method of treatment for protruded and prolapsed discs.

REINERT TECHNIQUE

Theory

To accurately evaluate Dr. Otto Reinert's adjustive procedures for the lumbar disc, we must first understand his theory as to the functions and the reactions to stress of the intervertebral disc. The I.V.D. serves two main functions; to stabilize and bind, and to cushion.

The function of stabilization is performed by the annulus fibrosis. The second, by a semifluid, jelly-like mass centrally located within the annulus fibrosis called the nucleus pulposus. This non-compressible mass also aids as a fulcrum upon which the superior vertebrae is balanced. During motion of the spine the nucleus pulposus will change shape but retain its relative central position due to the annulus fibrosis. If there is a loss of integrity of these annular fibers due to laceration the nucleus pulposus will shift varying the fulcrum of balance for the vertebrae above, thus the major factor in the cause of vertebral subluxation.

Stresses to the I.V.D., especially in the lumbar spine, may cause posterior lateral lacerations of the annular fibers. This may be better understood when we comprehend body movements and spinal posture which increase the weight to the anterior part of the disc, as in forward bending or faulty sitting posture. These movements increase the stress upon the posterior annular fibers. It is into these lacerations that the nucleus pulposus shifts, causing a bulging and an eventual protrusion into the neural canal.

REINERT TREATMENT

Dr. Reinert gives special measures as to the handling of the acute lumbar disc condition as well as table preparation.

The acute patient may exhibit extreme pain and disability. Therefore, special measures should be taken to minimize this discomfort caused by the traumatized tissues and to prepare them for possible correction. There is usually marked edema, inflammation, and spasm of the local musculature which must be minimized if correction is to be attempted.

Cryotherapy has proved to be the most helpful with the acute stage. Ice pack application over the lesion site for 45 to 60 minutes, removing for a similar period and then repeating the alterations for 24 to 48 hours. This will reduce the edema and inflammation and enable the patient to tolerate manipulative procedures.

The use of Dr. Reinert's methods are most adaptable to the Zenith Chiropractic table.

It enables placement of the patient in vertical position with ease and allows for the necessary hyperextension. Before placing the acute patient on the table one must adjust the cushions to conform to the abnormal attitude of the lumbar spine. The thigh cushion should be elevated to support the pelvis and likewise the abdominal piece raised for support. Now place patient prone in relative comfort and massage gently the spastic lumbar muscles, seeking out motor points for special attention. Steady traction of the leg on the opposite of the disc bulge will not only help relieve spasms but will increase I.V.D. space on that side. With these measures relaxation should be adequate to proceed with table preparations. The abdominal piece is now released to patient tolerance and the foot piece raised. This gives the patient some hyperextension, further hyperextension is encouraged by having the patient performing heel to buttock maneuvers or elevating himself with straight arm lifts. When the patient is able to lie in hyperextension without muscle spasm, only then is the patient prepared and ready for the adjustive thrust.

Dr. Reinert acknowledges other techniques by saying, "There are other techniques, employed with the patient in side posture, in which less preparation of the patient is required. However, they are less specific and only partially corrective; total nuclear restoration is seldom achieved without prone techniques which include hyperextension."

The thumb pisiform move is the adjustive procedure used. This adjustment of the I.V.D. in which the thumb contact is directed toward the extruded disc material to force its return into the intervertebral space. This pisiform contact is directed superiorly against the sacrum on the side of the lesion to close the intervertebral space. This is effective in lesions of the L4-5 levels.

With the patient prone, the doctor stands on the side of nuclear shift, below the level of the lesion. The flat thumb contact of the superior hand is directed into the lateral aspect of the joint interval, the pisiform of the inferior hand is placed against the lower lateral aspect of the sacrum on the side of the lesion. With this, gradual pressure is directed toward the medial and anterior, then superior and anterior respectfully. Pressure is increased into the hyperextension until full body resistence is met, usually 50 to 60 pounds of pressure. With the patient consciously relaxing a sudden thrust is made of an additional 25 pounds. After the lunge type thrust is made, the pressure is maintained for a minimum of 5 seconds.

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This is released very slowly and gradually with patient relaxation.

Dr. Reinert puts major emphasis on post adjustive procedures which we will not elaborate on other than to say that they deal with hyperextension, exercise, and proper posture.

Great care and cooperation is of the utmost importance, as with all serious injuries to the spine, time is needed for healing to be completed.[7]

CONCLUSION

After evaluating these techniques, it becomes apparent that they all use very different approaches in the treatment of the lumbar disc lesion. The question then arises, how can they all work? The authors spent a great deal of time studying this question and finally arrived at only one probable answer. It is our conclusion that they all achieve success because they directly or indirectly cause an inward suction action on the disc.

The inward suction of the nucleus is the basic premise of the Chiro-Manis technique and is achieved by traction and flexion. We feel Dr. De Jarnette is getting the same inward suction when the patient's blocked in the SB + position as well as when the "Lumbar disc technique" is used. Drs. Cox and De Jarnette use different methods, but we feel the effects are closely related. It is interesting to note that Drs. Cox and De Jarnette agree that a patient leaning into a sciatica will be harder to handle than a patient leaning away from the sciatica.

Dr. Gonstead and Dr. Reinert's theories on the disc differ from the work of Drs. Cox and De Jarnette. Since neither Drs. Gonstead or Reinert discuss inward suction of the disc our remarks will differ from their theories. We hope to do this in a constructive manner and at the same time offer a possible explanation why all four techniques get results.

As previously discussed, Dr. Gonstead's technique gives a specific manual adjustment based on the listing of the vertebrae. It appears to the authors that by doing so, the vertebrae many times will be affected in such a manner that the inward suction will occur. In any Gonstead adjustment of the lumbar spine where there is a superior line of drive on a vertebra superior to a disc protrusion, there will be an opening of the posterior disc space allowing the inward suction to occur. The same thing would happen if an inferior line of drive was applied to a vertebra inferior to a disc protrusion.

Dr. Reinert's treatment is the exact opposite of Drs. Cox and De Jarnette in that he hyperextends the patient (as opposed to flexion) with 85 pounds of pressure into the disc space. After applying the thrust, pressure is gradually released. We feel that the release of this is the point where the beneficial results occur. As the patient is returned to the pre-adjustment position from the hyperextended position, a relative flexion is obtained which probably is sufficient to cause the inward suction of the disc. When we speak of flexion we are referring to the movement obtained as the patient is brought from the hyperextended position to the normal position. This flexion type movement would open the posterior disc space and allow the disc to return to its normal position.

OPINIONS

It is our opinion that the Cox Chiro-Manis technique is the treatment of choice for the lumbar I.V.D. syndrome. To support our opinion, we quote Joseph Janse, D.C. from his new book

Principles and Practice of Chiropractic where in the chapter entitled "Chiropractic Management of the Lumbar Disc Syndrome", he states "As the result of personal experience, the writer has formed the opinion that adjustment of the spine while under traction often represents a superior method, especially when adjusting for disc herniations. With the spine under moderate traction, there is a definite separating effect produced upon the bodies of any two adjacent vertebrae and, because of the perpheral attachment of the intervertebral disc, this separation tends to augment its vertical thickness in practically the same way as the extension of an accordion. Thus by very careful movement, an inward suctioning effect is produced."[8]

We feel the DeJarnette method is best if the doctor does not have a traction-flexion table. The doctor will not be able to apply the same amount of flexion to the lumbar spine, but it is usually enough to obtain a closed reduction. The authors feel the De Jarnette SB + blocking position and the "lumbar disc technique" to be the best in obtaining the necessary suction.

The Gonstead method obtains the inward suction indirectly and is not attractive to the authors for this reason. Also, we doubt the wisdom of performing a manual adjustment on an acute disc patient since it would probably be extremely painful. There is also the possibility of tearing the remaining annular fibers which could turn a protrusion into a prolapse.

We feel the Reinert technique should be used only as a last resort. It is our opinion that the hyperextended position is not indicated in posterior disc protrusion. We doubt that a thrust can be applied to the disc without also contacting the inferior and superior vertebrae which will cause a narrowing of the posterior disc space. This narrowing could possibly cause damage to the disc if it become caught between the posterior bodies of the two vertebrae. Also, we doubt the wisdom of applying 85 pounds of pressure to any area of the body where there is tissue damage.

We want to emphasis again that our discussion dealt only with that part of the technique that was related to the care of the lumbar I.V.D. syndrome.

The authors welcome any comments you may have concerning our findings. Send them to James Boorsma, D.C., Director of Logan Clinics, Logan College of Chiropractic, 430 Schoettler Road, Chesterfield, Missouri, 63017.

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