



## Technic for Sclerotherapy In the Management of Hypermobile Sacroiliac

. . . by Earl H. Gedney, D.O.

**S**ACROILIAC hypermobility and its successful treatment with sclerosing solutions was first propounded to this profession in 1937 along with similar treatment of the knee joint. The proper application of sclerosing solutions has found national acceptance in the control of these conditions.

While the sacroiliac is heir to any disease or pathologic process that may involve any joint, it becomes increasingly evident in the daily practice of every osteopathic physician that his is most often the care of a functional rather than a strictly organic process. Seldom is seen a tubercular or any pyogenic involvement of this articulation. Occasionally we see inflammations of the joint of non-pyogenic or of idiopathic origin. Mostly in the sacroiliac joint *per se* we see painful syndromes due to instability of the joint—whatever the total mechanisms. Malignancy also must ever be kept in mind.

In the presence of elevated temperature, fixed deformity and related pathology, proper diagnostic facilities will assist the practicing physician in ruling in or out the

organic pathologies mentioned. Routine laboratory procedures, however, may have not too much to offer in the detection of a sacroiliac joint whose iliac elements have moved posteriorly and become fixed in that position, or whose structure is such that it moves freely in the direction of normal, but beyond those limits—whatever they may be.

Detection of these conditions is further complicated by abnormalities in the osseous structures themselves and in the joint proper. It has been shown that the sacroiliac joint may include cartilage and synovial components not unlike that of other joints and that they are not necessarily bilaterally symmetrical. Their principle ligaments are the anterior and posterior sacroiliacs and are sufficient in the normal state. Here, as well as elsewhere, the practitioner is compelled to draw upon his training and judgment for analysis of the conditions in this, one of the elemental supporting structures in the upright animal. It must be remembered, also, that this joint receives much of its innervation from fourth and fifth lumbar which again complicates the diagnosis, at times to be clarified only by a test of therapy.

The symptoms of the fixed subluxation of the joint and those of the hypermobile one are not unlike, since much of the pain is generated by altered physiology in the lumbar region. The painful syndromes will depend on the amount of concomitant involvement of all the related musculature but principally of the psoas major. Unilateral involvement usually exaggerates the symptoms on the affected side, as would be expected, while bilateral may involve the whole low back or

alternate sides depending upon the mechanics at the time of the accident. For example, if the patient's attitude is such that the apex of the lumbar curve is at the third segment when the support of the unstable sacroiliac, unilaterally or bilaterally, through subluxation is suddenly moved out from under the load, this segment may sprain and complicate the picture by adding its radicular symptoms to those already relaying through the fourth and fifth lumbar nerves supplying the joint. The degree of sprain will depend additionally upon added physical factors, such as the amount of load and kinetics and the physiological health of the component segments.

Similarly the sacroiliac has been blamed and is blamed many times for intrinsic pathology within the fourth and fifth lumbar segments. The pain is felt by the patient to be in the sacroiliac since it is a part of the general innervation from these segments. The old fashioned lumbar roll, used by so many technicians for posterior sacroiliac lesions, also mobilizes the lower vertebral segments and often through the latter relieves the painful syndrome, although with more study it might have been seen that the sacroiliac was not at fault.

In differentiating these conditions and possibilities, we have added recourse to such diagnostic aids as the elicitation of local point tenderness in the vicinity of the involved vertebrae, of paresthesias involving related dermatomes, and of deep tendon reflex responses.

Uncompensated disk degeneration with resultant instability must also be kept constantly before the examiner since this, in my experience,

is the most common cause of pain of spinal origin. Here we have the added advantage of Dandy's sign of vertebral hypermobility described elsewhere.

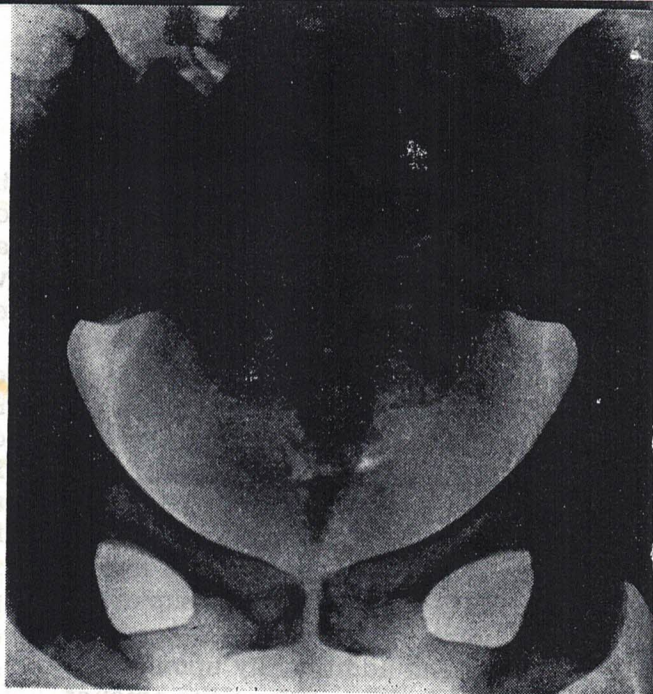
An analysis of almost five hundred consecutive cases of my own in 1939 revealed an approximate incidence of only four per cent of sacroiliac instability in low back pain. This approximate percentage still obtains in all my studies.

The sensory dermatomes seem to be somewhat variable and it becomes the examiner's problem to develop reliable and usable indicators. In the presence of low back pain referred down the back of the thigh and leg, numbness and/or tingling in the toes is a fairly reliable indicator of some involvement in the region of the fifth nerve. Similar sensations to the posterior calf, I have felt, are similarly referable to the fourth lumbar segment. Severe pain in this same region may also be from this same segment although if the pain extends on down into the toes it is more probably the fifth nerve. Such pain, however, involving segments four and five, is not usually of sacroiliac origin but rather from homologous disks degenerating. Saddle pain lateral to the glutei posteriorly I have found present in third lumbar involvement; second lumbar in the inner side of the thigh with first lumbar just above it; but it must be remembered that these will vary with individuals and their various interpretations. Muscles will be painful on occasion and will require exact knowledge of their nerve supply for answers. A handy reference guide has been compiled by R. A. Steele, P.C.O., 1933.

Interference with normal reflex

responses to various tendon percussions is helpful in determining levels at which pathologies might exist, except under certain conditions. These may include advanced age groups and arthritis. Pregnancy sometimes alters the picture, too, especially the abdominal reflexes.

As previously recorded, it is helpful to remember that the cremaster reflexes most frequently through the first lumbar; the second lumbar commonly cares for the adductor longus; lumbar three, the patellar responses; lumbar four, the medial



A-P view of opaque oil in posterior ligaments of right sacroiliac.



Lateral view of same

hamstrings; and lumbar five, the Achilles. Less than the normal jerk may be looked upon with suspicion when putting together the parts of the diagnostic puzzle.

The bones of the pelvis having been found so variable and bilaterally asymmetrical, it was long ago found necessary to adopt other criteria than those of comparative positions of fellow bony eminences. Each innominate is an entity in itself, capable of independent action, although for purposes of pelvic stability fellow innominates' actions should not be too distantly comparable. The sacroiliac joints, with normal limits, should be similarly stable in order to function similarly as demanded, especially in flexion.

X-ray has helped by visualizing the pubes in functional relation. This may be palpated and corroborated anteriorly over the pubes. Competent X-ray consultation must be available in any true evaluation of the low back syndrome.

Further corroboration may be ob-

tained with the patient prone and the thigh on the affected side drawn across its fellow. The leg is fixed in this position by the operator's interposed leg and pressure made simultaneously with both hands, one on the lower part of the sacrum and one on the upper part of the ilium. Sufficient pressure is made to mobilize on the sacrum, or vice versa. Occasionally the opposite sacroiliac will mobilize. Either is palpable and frequently audible, especially when the ilium has been subluxated and fixed in a posterior position.

While the patient is still prone other helpful maneuvers may be employed to elicit instability due to lax ligament structure around this point. The operator stands facing the subject and, lightly grasping the contra-lateral foot, flexes the leg to a right angle with the thigh. Now, the examining hand is laid flat on the sacrum in such a manner that the tips of the fingers contact the posterior border of the ilium at the juncture of the sacrum and the ilium. In this manner the excursion of the ilium on the sacrum can be palpated as it is swept backward by the operator using the flexed leg to externally rotate the thigh and, in turn, the ilium. Too free motion is readily palpable and the just label of hypermobile or unstable joint is or is not applied.

If our patient's problem is an acute one with considerable spasm, it may be difficult or impossible to examine him with much, if any, degree of cooperation; nor may it be possible to elicit with any degree of certainty the necessary signs for differential analysis. General anesthesia may be necessary and pentothal is preferable in our practice

when administered by one expert in its use.

If fourth lumbar or fifth lumbar is deemed unstable by exercise of Dandy's maneuver and employment of his sign, and the sacroiliacs are similarly affected, neither should be treated without the other. They are probably both culpable and part of a single syndrome.

Uncomplicated posterior sacroiliac subluxation engenders no change in deep tendon reflexes and pain is relieved almost at once upon replacement. Recurrent subluxation should be unhesitatingly treated with sclerosing solution to regain stability and avoid a lifetime of supports and belts.

*(Continued on Page 37)*



**Right posterior oblique view of right sacroiliac.**

## Sacroiliac

(Continued from Page 19)

Recurrent spraining of the lumbar region or of the lumbo-dorsal juncture may be due to sacroiliac joint instability. The syndrome may include tenderness about the segment involved—spastic deformity—restricted motion—absent or diminished deep tendon response—referred segmental pain. Treatment should be directed to the more fundamental supporting structures first even as lift therapy is applied.

Treatment as indicated is administered first into the posterior ligaments. Hypertrophy of these may suffice but should it not the anteriors and inferiors may be treated from below through the sciatic foramen. If further strengthening is needed and desirable, the superiors are easily reached from behind, across the top of the joint. One c.c. of Synlasol spread thinly through the ligaments will suffice for each dose. Dosage depends entirely on response, as does the number of treatments. The usual number will be approximately ten impregnations with sclerosing solution.

Allergies can at times be troublesome. Antihistamines may be helpful but the reagent must be drastically cut in amounts to the almost minute dosage of 0.25 c.c. Treatment can be continued with these small doses. Immediate relief is had with epinephrine, which should always be handy.

The sacral foramina must be avoided and is easily done by directing the needle laterally at sufficient angle.

Case histories:

Mrs. M., age 28—white—house-

wife; generalized low back pain past six months—no known cause. Examination: pelvic contents normal except mild cervicitis—deep tendon reflexes to all lumbar segments normal—standing posture normal—right sacroiliac snapped free from posterior position—lumbar vertebral tenderness over all spines but negative for hypermobility—tonsils chronically infected. Minimal arthrotic changes in lumbo-sacral arthrodials were the only X-ray findings of note.

The sacroiliac hypermobility was elicited by the family physician and again by myself on two separate occasions, November 23, 1951 and December 4, 1951. One c.c. of Synlasol was spread thinly throughout the right posterior sacroiliac ligaments, and we have been unable to produce the joint snap since.

This case is presented to show how rapidly the treatment takes effect in some cases, even in a joint which after being realigned by the D.O. was out of normal relationship by the time the patient got into her car in front of his office.

Treatment still continues and a permanent result is assured. Sacroiliac pain is gone.

Mr. McG., age 30, white, farmer. Low back pain past year—casual relief with manipulation, heel-lift therapy and a sacroiliac belt. On examination in standing posture—deep tendon reflexes, lumbar spines—all seemed normal. The right sacroiliac snapped free from its posterior position and the left, although not fixed, was felt to have more than the normal range of motion on palpation as described. X-ray findings were noteworthy only in that the lumbar and sacroiliac arthrodials had some arthri-

tic changes. There was right sacral tilt downward one-half inch and the right leg was three-eighths inch short.

The patient was given four treatments with Slynasol using two c.c. each time into the right posterior sacroiliac ligaments from March 29, 1951 to April 19, 1951. He felt "like a new man" and was asked to return in one month for examination at which time he had maintained his improvement but had some slight residual backache which was felt to be left-sided instability. He was given two c.c. of Slynasol into the left posterior sacroiliac ligaments and asked to return in two months, but came back in six weeks with left low back pain traceable again to the sacroiliac. Four similar treatments then administered on July 5, 10 and 19 and on September 20, 1951, using one c.c. of Slynasol so as to gradually bring the left side into functional agreement with the right.

A hunting accident produced the old right posterior subluxation again on November 19, 1951. It was replaced without too much trouble and one c.c. of Slynasol deposited into the posterior ligaments. He has had no disability since this last treatment, wears no supports now and is pain free. He discharges all his normal duties, and all of them are heavy.

Bangor, Me.

*This paper was read before the Eastern Osteopathic Convention.*

#### REFERENCES

Gedney, Earl H., *The Osteopathic Profession*, June 1937 and Sept. 1951.

Colonna, Paul C., *Regional Orthopedic Surgery*, 1950.

Speed, Smith, Campbell's *Operative Orthopedics*, 1949.

Schaeffer, J. Parsons, Morris' *Human Anatomy*, 1949.

Tasker, Dain L., *Principles of Osteopathy*, 1925.

Mennell, James, *Backache* (Blakiston, 1935).

Wescheler, I. S., *Clinical Neurology*, 1944.

### Advances in Therapy

*(Continued from Page 8)*

first. No drug can control any massive bleeding such as hemorrhage from aneurysm rupture. But in such cases as pulmonary tuberculosis, bronchiectasis, lung tumor, coccidioidomycosis and rheumatic heart disease where there is brisk bleeding or repeated moderate episodes of bleeding, pituitrin has been effectively utilized.

#### Eclampsia

Adequate treatment of eclampsia and pre-eclampsia has been found by doctors from the Univ. of Cincinnati Coll. of Med. and the General Hosp. with use of two new veratrum preparations, Verenteral for intravenous use, and Veraflex for intramuscular use. These products were preferred over others in that they are sterilized, standardized, and reasonably stable. Five normotensive pregnant patients served as controls, 35 pre-eclamptic and 3 convulsive eclamptic patients, all on obstetrical ward at bed rest, received no medication prior to being treated with two extracts. Some patients were in labor, but all were given one to two hours bed rest before treatment was started, whenever possible.