Dynamic Chiropractic

NEWS / PROFESSION

American Back Society Meeting, Part II

CARING FOR THE BACK AS THE WORLD TURNS

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Editor's note: This is the second part of Dr. Cooperstein's two-part coverage of the American Back Society meeting in San Francisco, December 12-14, 1996. Part I, "Restoration of the Intervertebral Disc," was published in the Feb. 10, 1997 edition of *Dynamic Chiropractic*.

Sacroiliac Area

Drs. Greenman, Glassman, and Lippitt each dealt with aspects of the lumbopelvic area, in some ways overlapping and other ways differing from typical chiropractic concepts.

Greenman on Sacral Base Unleveling

Osteopath Phillip Greenman discussed the process that begins with an anatomical short leg, proceeds through an unleveling of the sacral base and pelvic obliquity, and finally results in "failed back syndrome." Although radiology remains the gold standard for identifying a short leg, the weightbearing location of the iliac crests is more easily determined and perhaps more clinically relevant. Asked about the treatment of functional LLI, Dr. Greenman stated that it should be treated before lift therapy, and that lifts are not indicated for truly functional LLI. (This is obviously very different from the views held by many chiropractors, who routinely lift low sacral bases on the side functional LLI.) According to Dr. Greenman, 62% of the back pain population has sacral base unleveling; the asymptomatic patient is "a disaster waiting to happen." Apart from pain, a short leg problem negatively impacts posture, athletic performance, leg strength, structural changes in the lumbar vertebra, the gait mechanism, energy expenditure, and spinal muscle activity.

Glassman and Lippitt on Sacroiliac Lesions

Osteopath Jerrel Glassman treats a lot of sacroiliac disorders, including "misalignments" such as upslips of the innominate bone. In depicting just such a lesion, he used an illustration that in its original context[1] portrays what does not happen unless the pubic ligament is severely compromised, and is thus unlikely to occur in the average low back patient. In all honesty, I have never been enamored with osteopathic concepts like upslips and downslips of the innominate bone, which would put an insupportable burden on the symphysis pubis.[2]

Among the points made by Dr. Glassman:

- Weak anterior musculature can cause instability.
- Orthoses are useful in treatment.
- Lifts can be used to normalize the sacral base by the full amount (?) required to level the base.
- Lumbar x-rays should be taken weightbearing, because symptoms accrue in that position.
- Osteopaths use an x-ray line marking system to measure the lumbar lordosis, sacral base alignment, etc.

- Sagittal plane instability may be treated with prolotherapy.
- Proprioceptive retraining and dysfunctional motor programming identification are part of the treatment plan.

Dr. Alan Lippitt also commonly finds pelvic positional faults, including innominate slips and sacral torsions. Although he does not find the standard orthopedic tests valuable for diagnosing a sacroiliac problem, he does find palpation of the PSISs while the sitting patient flexes forward to be useful. Although Dr. Lippitt's treatment regimen includes mobilization and other conservative methods, he also finds prolotherapy (described in a previous column3 and medication quite useful, not to mention an occasional screw or two through the sacroiliac joint. (Although these nut and bolt jobs seem sort of radical, at least to me, the good news is that Dr. Lippett says he has never had a screw break.)

Nervous System

Schuller on SMP

Dr. Arthur Schuller spoke on sympathetically maintained pain (SMP), pain that is attributable to sympathetic efferent function in peripheral tissues. When the alpha-1 receptors are activated by the release of norepinephrine from the sympathetic terminals, nociceptors are activated and pain is the result. Central neurons concerned with pain sensation become sensitized such that input from low-threshold mechanoreceptors also evoke pain. Although Dr. Schuller acknowledges that the evidence for SMP is largely anecdotal, he believes it should be considered whenever a patient has severe pain that cannot be otherwise explained. The quality of the pain is perceived as burning or electrical, and is unrelated to mechanical movement. Patients may have dysesthesia, causalgia, allodynia, hyperalgesia, and vasomotor and sudomotor changes; pain provoked by mild cooling is especially suspect. There may also be atrophic changes in the skin, muscle, and bone. Anesthetic sympathetic blockade is useful in the diagnosis. The incidence of SMP among patients with spinal disease is not known, but probably under-recognized.

Cailliet and the Neurophysiological Basis for Back Pain A voluntary movement unleashes a pattern of activity that is already programmed in the central nervous system. For example, we don't so much learn how to stand, as improve upon a pattern that is inherent in the CNS from the beginning of life. There are intrinsic control patterns in the muscular system as well, coordinated through the GTOs and spindle fibers. There are, however, "perturbers" that may interfere with these patterns: fatigue, errors in judgment during activity, emotional condition, etc. Improper use of the body results in nociceptor output back to the cortex that registers as functional derangement, or malfunction. Finally, we develop pain as the result of a process of impaired neurological function. It is amenable to improvement through treatment and learning improved movement patterns that reset the proprioceptors.

Silverman on Electrodiagnostics

Although we chiropractors have bet the family farm on treating "nerve interference," we receive very little undergraduate training, if any, in directly measuring neurological function, or even interpreting neurologist reports. Hoping it would help fill in the void, I attended a workshop on electrodiagnosis conducted by physiatrist Judy Silverman. After lulling me into a false sense of security with a detailed but otherwise routine description of what a neuron is, she rapidly left me in the dust while discussing the specifics of how one directly reads the nervous system. Two of the medical doctors in the audience had questions about the surface EMG studies their patients bring in from their chiropractors. Dr. Silverman stated that although surface EMG might be useful in a

biofeedback setting, where a small or large response helps the subject gain control over a muscle group, it should not be used for left/right comparisons. More specifically, in a chiropractic setting, there would be too many confounding factors to conclude that the paraspinal muscles on one side of the body were more active ("spasmed") than on the other side.

Haldeman on Credentialing

Dr. Scott Haldeman spoke on the topic of credentialing of health care providers. After declaring that "managed care is here to stay, whatever you may think," he described how credentialing could potentially ensure the compatibility of patient, doctor, and provider needs. Patients want effective care delivered by good doctors, without undue interference from the insurance carrier, while doctors symmetrically want to render effective care, without undue interference. The managed care organization, like any other consumer of a service, wants to balance low cost and high quality, and furthermore understands that high patient and doctor satisfaction is essential to effectively compete in the marketplace. Although utilization must be reduced, the quality of care must be increased. This will require more trust by all concerned parties, less paperwork, and more uniformity of care. The gatekeeper concept is losing ground in favor of direct access to all different types of specialists; the care will be protocol, not gatekeeper, driven. "Provider credentialing should be balanced among all disciplines and specialties."

[As a side note, this presentation confirmed the implicit wisdom of a joke I have heard frequently, the one about how managed care wants to makeover doctors' offices according to the fast food model "Mary, let's stop off and have a physical at Doc in the Box on the way home." Dr. Haldeman emphasized how much the health care industry could learn from a McDonald's restaurants he recently visited in Russia, that serves a hamburger identical to one from his own Southern California.]

According to Dr. Haldeman, we fought managed care because we didn't like it, but we lost and therefore it is here to stay. Now we must become the agents of change and adopt a position of enlightened, not angry, self-interest, so as to facilitate the development of guidelines, perform research, and establish quality assuredness. He believes that a doctor who is credentialed may help avoid unnecessary care, receive reasonable reimbursement, and provide the least expensive, most effective care. Facilities as well will have to be credentialed. We need a system where there is:

- efficient authorization for care, without costly delays that waste doctor time and hurt patients;
- proactive ability to determine the likely expense of care, and thus guidelines for care;
- control of access, so patients can't go from provider to provider without restriction.

Haldeman on the Legitimation of Manipulation

Dr. Haldeman returned to explain that spinal manipulation is a good example of how outcome-based research can lead to the widespread acceptance of a treatment method. Thermography, by comparison, is an equally good example of how one's favorite procedure could easily get excluded from the managed care system. Some 20 years ago the NIH found little evidence in support of spinal manipulation, whereas the recent AHCPR and Quebec Task Force reports found enough outcome based research to support it, along with only a few other treatments, for low back pain. The parameters that have been measured include relief of acute pain, various physical measures, cost effectiveness, early return to work, and patient satisfaction.

What happened to thermography? Although it had been widely used (and paid for), thermography turned out to be too expensive and lacked even one outcome study showing that it changed either the treatment rendered or the outcome of care. Many papers came out showing asymptomatic patients had abnormal thermograms, and that positive thermograms may not correlate with the location of the pain. Moreover, correlation with EMG and CT imaging was also very low. In the case of SMT, by comparison, the chiropractic profession had the wisdom to recognize the need for establishing guidelines. It set into motion a process that led to the Rand reports and the Mercy guidelines, the principal points of which have been reiterated by the AHCPR guidelines. "That's how you protect what has been legitimized," according to Dr. Haldeman. "We all have our favorite techniques, what we believe to be valuable, but if we want them to be paid for and to be included in algorithms, then we are going to have to [provide outcome-based evidence for their clinical utility]."

Meeker Discusses RCT

Dr. William Meeker, director of the Palmer Center for Chiropractic Research, presented the results of a prospective randomized controlled clinical trial that compared chiropractic management vs. physical therapy/exercise management for potential workers' compensation cases involving injuries to the low back. (He also presented these results at the 1996 International Conference on Spinal Manipulation, at Bournemouth, England.) Workers were randomly allocated to three treatment groups: "chiropractic care" emphasizing SMT but including modalities and other procedures, "medical care" emphasizing rehabilitation and supervised exercise provided by a physical therapist, and a combination of the two kinds of care. Outcome measures included the SF36 General Health Perception Survey (eight variables), the McGill Melzack Pain Questionnaire (six variables), and the Roland Morris Disability Questionnaire (one variable). The combined treatment group received the quickest and largest reduction in their pain across several of the variables, while the group receiving chiropractic care demonstrated the quickest and largest improvement in their physical function, as measured by the SF36. Several conclusions may be drawn:

- Most workers with low back pain show a rapid pain reduction.
- Treatment regimens that include SMT are more effective than exercise alone.
- So called "active" treatments may not be more effective than "passive" treatments, as a growing body of conventional wisdom declares.

This study suggests the potential value of a multidisciplinary approach to the treatment of low back pain.

Cooperstein and Jansen on Researching LLI with a "Smart Table"

I and colleague Robert Jansen conducted a workshop in which we updated our research on functional leg length inequality and modeling the prone leg check. We have constructed a friction-reduced table that substantially overcomes the friction artifact that we believe lowers the reliability of standard leg checking, and interferes with investigating the validity of the putative short leg phenomenon. The table, described in detail elsewhere,[4] affords the legs quasi-independent movements by putting them on separate left-right tracks, and uses optoelectric position sensors to dynamically monitor both absolute and relative leg positions. We have been measuring the viscoelastic properties of in vivo subjects whose legs are subjected to distractive and compressive forces, within the tow region of their amounts to their strain-stress curves. It may not be obvious at first glance, but that is what the prone leg check is all about. (There is more to come on this subject. Copies of previously published papers may be obtained from the authors.)

Becker on Somatization as the Great Impostor

Dr. George Becker addressed the topic of somatization, casting doubt on whether it is really possible to distinguish depression from chronic fatigue syndrome and fibromyalgia. Somatization is a tendency to experience emotional distress as somatic symptoms (i.e., pain) and attribute them to physical illness and seek medical help. The typical chronic back pain patient often becomes a basket case after a trivial injury, so that back pain may be the first sign of depression. Abandonment, abuse, and alcoholism ("the three A's") are also predisposing factors.

Dr. Becker's favorite psychological test is the pain drawing. (Note the irony in calling a pain diagram a psychological test.) Subjective complaints that are not consistent with physical findings give rise to "diagnoses of frustration" by the doctor: chronic fatigue syndrome, fibromyositis, fibromyalgia syndrome, etc., all unicorns, according to Dr. Becker. Although some of these unicorns may actually exist, it is an oxymoron to claim that a particular patient has fibromyalgia syndrome, but is not really depressed; there is no magic involved in the fact that both "just happen to respond" to the same antidepressant drug. This only begs the question. How do you know the person does not really have clinical depression? The goal of care is to accept reality, realize that cure may not be possible, devise appropriate care, and definitely discontinue inappropriate care.

Dr. Becker finished his presentation with his trademark slide, featuring a red herring that is changed into an albatross by an unnecessary surgery.

Spinal Imaging

Parker on Spinal Imaging and Sonography

Dr. Jacob J. Parker conducted a particularly compelling workshop on spinal imaging. His was the first such workshop I have ever attended in which the primary emphasis was not on the diagnostic interpretation of the images. He emphasized the clinical guidelines for the use of diagnostic spinal imaging; the cost-effectivity of imaging; and the nature of the pathological processes that eventually progress to what is seen in the image.

Dr. Parker began his talk with a price list for the different types of images, and ended his talk (echoing Dr. Haldeman) with the comment "managed care is here to stay ... If we don't contain costs, our goose is cooked."

He described how the discovery that a very high percentage of asymptomatic subjects are walking around with disk bulges and worse has led to a "denial frenzy" among insurance companies, who are now refusing compensation for advanced imaging procedures on that basis. (I guess every profession has its own Mercy guidelines problem.) He thought this unjustified, because there are not enough prospective studies on the long-term natural history of such asymptomatic disk bulges. He believes the risk for these subjects developing spinal problems is much greater than in the case of bulge-free subjects.

Parker on Spinal Sonography

Dr. Parker returned to describe the use of sonography (imaging produced by ultrasonography) for the diagnosis of soft tissue injuries of the spine. He also reported on a prospective study of the utility of this procedure. The image itself may be called an echogram, sonograph, or ultrasonogram. Musculoskeletal ultrasound represents a new departure, with some obvious advantages and disadvantages. It is inexpensive, noninvasive, risk-free, comfortable for the patient, and fast. But it also features a steep learning curve, provides only a partial picture, is not easy to interpret, provides very variable image quality, and is operator dependant. Finally, and worst of all, the images themselves, according to Dr. Parker, "resemble a weather map." Although sonograms may enable visualization of ruptures, contusions, hematomas, myositis ossificans, myositis,

compartment syndromes, and muscle cramps, the patient's history becomes critical in evaluating them.

Simmons on MRI Myelography

Dr. Edward Simmons described MRI myelography, a new technique that makes it technically possible to obtain a myelographic image using MRI, without the need to inject a contrast medium. Using special T2 weighted fast spin echo, imaging of the cerebral spinal fluid can be enhanced while the signals from surrounding tissues are suppressed, giving a myelographic image similar to a radiographic study using a contrast medium. Standard MRI traditionally has been used preoperatively for people with suspected stenosis or herniation. Although it allows dynamic (i.e., weightbearing) depiction of degree of stenosis, it is invasive and has a definite rate of morbidity headaches, arachnoiditis, etc. The MRI myelogram shows the location of stenosis with more precision and often reveals a given level to be more problematic than could be suspected from judging by the plain MRI.

Dr. Simmons described a study in which 39 MRI standard studies and then MRI myelograms were independently reviewed to determine the need for surgical decompression. MRI myelography reduced the number of levels indicated from 147 to 96, dispelling the stereotypical belief that MRI myelography will overestimate the need for surgery. It may also show areas of CSF penetration below what might otherwise be construed to represent a complete block, and furthermore delineates the root sleeves. The procedure is cost effective, since there is no additional charge beyond standard MRI.

Nordhoff on the Impact of MVAs

Dr. Lawrence Nordhoff described the mechanism and overall societal impact of motor vehicle accidents. He began his talk with a synopsis of the recent Quebec Task Force findings as recently reported in Spine. (The QTF found only 380 studies out of the thousands consulted to be useful for their purposes, a situation to which Dr. Croft has objected, as well as to their conclusion that six weeks is the expected time frame for healing.) Although 86% of car crashes are not serious, the annual cost of treating the injuries sustained remains many billions of dollars. Dr. Nordhoff is an expert in collision dynamics as they impact upon vehicles and their occupants. A few of the points made:

- Rear-end crashes, in which the head and neck are struck by the forward moving seat back, are more complex to analyze than front-end and side crashes.
- Prolonged disability tends to involve women, the elderly, and victims of multiple injuries.
- Awareness of impending doom is a huge factor in rear-enders.
- Sometimes there may be little or no vehicle damage.
- Arm symptoms may increase over time, unlike neck pain which tends to diminish.

The American Back Society can be reached at 2647 E. 14th St., Suite 401, Oakland CA 94601, tel: (510)536-9929; fax (510)536-1812. Audio cassettes for this symposium are available. Dr. Cooperstein is a faculty member at Palmer West, and may be reached either at the college (90 East Tasman, San Jose CA 95134) or via e-mail, DRRCOOP@aol.com.

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