

Clinical Outlet

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INSIGHTS and COMMUNICATIONS for HEALTHCARE PROFESSIONALS



Innovate or Die!

by **Brad Cooper, MSPT, MBA, MTC, ATC – Denver, CO**

The fields of medicine and rehabilitation are changing rapidly, and HEALTHSOUTH is leading the charge. But remember, the definition of insanity is doing the same thing over and over and expecting to get different results. Doing the same things you did last year and expecting better results doesn't cut it. It's time to reinvent!

To be successful, we need, as Tom Peters suggests, a few "freaks" or "revolutionaries" on our teams, challenging us to try the new, the uncomfortable, even the odd. A ballplayer's total hits in a season are much more dependent upon the number of times he gets up to bat than his actual batting average. We need "at bats" and the only way to get 'em is to try new things...wake up the WOW...release the revolutionaries! **Managers** - take this short quiz to see if you're on the cutting edge or just "going over the edge."



"Entrepreneurial Quotient"

- 1) When an employee approaches me with a new program idea for the clinic, I ...
 - a) Encourage them to develop it on their own and approach me after it begins to be successful
 - b) Let out a loud "Yes!" give the employee a "high five" and immediately set up a time to help them put a basic business plan together to maximize the chances of success
 - c) Respond with "sorry, it's just not in the budget"
 - d) Assume it's a mistake. Nobody ever approaches me with new program ideas
- 2) In looking at the upcoming year, a significant part of your business plan is tied to growing "non-traditional" programs (programs that fall outside of the traditional spine and ortho areas, including Pilates, Massage, Vestibular, BikeFit, Golf Performance, etc)
 - a) False
 - b) True
- 3) The last time I publicly recognized our team of entrepreneurs was...
 - a) What's a "Team of Entrepreneurs?"
 - b) In the past month
 - c) I don't believe in recognizing outstanding performance. Isn't a paycheck every two weeks recognition enough?
- 4) Once (if) we've started an entrepreneurial/non-traditional program, we have
 - a) No specific follow-up process
 - b) A specific plan for follow-up accountability in place
 - c) No time to even consider setting up an extra process

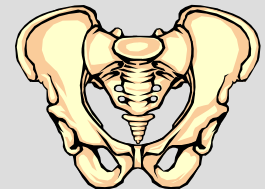
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Sacroiliac Joint Disease: Diagnoses and Misdiagnoses

by **Mangala Shetty, MD and Adam C. Geril, MS, PT, OCS, ATC Gainseville, FL**

Abstract

Objective: To demonstrate how a multidisciplinary approach can be used to enhance the diagnosis and treatment of patients with sacroiliac joint dysfunction.



Case Report: A 41-year-old female, with a ten-year history of chronic low back pain as well as left groin pain. Extensive diagnostic work-up was done including CT scan of the abdomen and pelvis as well as lumbar spine MRI. Subsequent treatment included multiple abdominal surgeries. A multidisciplinary team consisting of a fellowship trained Pain Management Physician, Physical Therapist, several Exercise Specialists, and the patient utilized a manual approach to address the patient's symptoms. The patient had a 60% decrease in pain symptoms after two injections and a short course of Physical Therapy that focused on restoration of joint mobility and dynamic muscular stabilization. At the time of discharge from the physicians service, three months post initial management, the patient reported an 80% pain relief.

Conclusion: Significant pain relief can be attained in a relatively short time span in chronic pain patients with primarily musculoskeletal symptoms. An interdisciplinary approach to the assessment and treatment of patients with sacroiliac dysfunction yields quick and long lasting results provided patient compliance.

Key words: Sacroiliac joint syndromes, Injection, Corticosteroid, Treatment

continued on page 2

Sacroiliac Joint Disease continued -

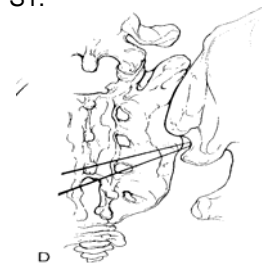


Low back pain can be generated from several different sites. Among the most common is the intervertebral disc. Since the Mixer and Barr study in the early 30's, much attention has been paid to this area in diagnostics and surgical treatment. Despite much of the anatomical significance tied to the intervertebral disc and its role in back pain, the problem continues to exist with growing magnitude. 11 million working age people are disabled due to low back pain⁷. Of that number musculoskeletal problems are the greatest portion of all work-related injuries. This obviously sets the stage for other pain generators to be investigated for their role in low back pain^{4, 5, 6}. There have been several studies demonstrating the lack of correlation of imaging to pain. Recent research has shown the sacroiliac joint as a common source of low back pain⁵. There has also been success reported with sacroiliac joint blocks and manipulative treatment^{1, 4}.

CASE REPORT

This patient is a 41-year-old female with a ten-year history of low back pain. The patient also had a five-year history of left lower quadrant and groin pain with no traumatic etiology. The patient underwent multiple surgeries to determine the etiology of the pain, which included Left Oophorectomy, hysterectomy, and exploratory laparotomy. The Hysterectomy was performed because of the presence of fibroids and the left Oophorectomy was done because of cysts in the ovary. Both of these conditions were possible generators of the left lower quadrant pain. Despite surgeries, pain persisted.

Outside of surgery the patient's treatment history consisted of Chiropractic manipulation, and Physical Therapy consisting primarily of modalities and exercise. This course of treatment provided minimal short-term relief. The patient consulted a pain management team consisting of a Fellowship trained pain management specialist, Physical Therapist, and Exercise Specialist. The patient was first seen by the physician who found the following clinically relevant variables: Positive Gillete's sign, SIJ dysfunction; positive quadrant loading test on the left implicating the lower lumbar facet joints as well as the sacroiliac joints; and positive FABER's test on the left (acronym for Flexion, Abduction, External Rotation) which stresses the anterior joint line of the sacroiliac joint. This test is performed with the patient in the supine position and the hip placed in flexion, abduction and external rotation, with the knee flexed and the ankle placed on the opposite lower extremity anterior to the knee. Pressure is then placed on the knee, which compresses the posterior sacroiliac joint line and distracts the anterior sacroiliac joint line. Tenderness was noted to palpation over the right posterior superior iliac spine and over the L5-S1 facet joint. A leg length discrepancy was noted in supine with the left greater than the right. Peripheral neural tension tests including the straight leg raise and the LeSeque's test were negative. Reflexes, sensation, and strength were all within normal limits. Hamstring tightness was noted bilaterally. Magnetic Resonance Imaging of the Lumbar Spine demonstrated degenerative disc disease at L5-S1. The diagnosis at that time was sacroiliac joint dysfunction, left-sided lumbar facet joint disease and degenerative disc disease at L5-S1.



Treatment included sacroiliac joint injection, guided by fluoroscopy. The technique for the sacroiliac joint injection is with the needle directed at the inferior aspect of the posterior joint with the needle walked off the sacrum into the joint space (see schematic representation). Intra-articular dye is used to confirm the position of the needle into the joint space. The patient reported a 50% relief of symptoms with SI joint injection and physical therapy that was started post procedure. Three weeks post SI joint injection, one lumbar epidural injection with depomedrol and 0.25% marcaine was done with fluoroscopically guided to the left of the midline at L4-L5.

A therapist with manual therapy experience examined the patient. The following is a summary of the findings and their implications: A positive sit slump test on the left, which implicated a posterior torsion of the sacrum to the left. This finding revealed a hypomobility of the left sacroiliac joint when lumbar extension was attempted. The patient also demonstrated a positive "march" test on the left that implicates the ilium. The patient's leg length discrepancy was assessed as "functional" as it changed from longer on the left in supine to "equal" in long sitting. This implicates an anterior rotation of the left ilium. The patient also demonstrated soft tissue tightness of the left piriformis, postural deficits including forward head on neck, decreased lumbar lordosis, and poor pelvic awareness. The patient was treated immediately after the second injection with gentle facet mobilization exercises, which included lower trunk rotation, instruction in posture and body mechanics, and dynamic lumbar strengthening exercises. The second treatment targeted the specific hypomobile segments including the left sacroiliac and the left ilial sacral joints. Subsequent physical therapy treatments focused on strengthening and flexibility exercises. At the time of discharge from therapy the patient had a 60% improvement in pain complaints and was able to return to her previous level of work. All pre-treatment tests were normal after the fourth treatment. Emphasis was placed on a home exercise regimen of lumbar strengthening, and facet and SI joint mobilization. At the physician's three-month follow visit, the patient rated her overall improvement at about 80%.

CONCLUSION: The sacroiliac joint is a commonly missed site for pain as it relates to low back complaints. A team approach to determine the musculoskeletal problems related to dysfunction are paramount to patient care. Identifying SIJ pain is difficult since specific exam techniques or diagnostic tests don't exist that uniformly diagnose this condition. The assessment is one of exclusion as a systematic history and physical exams are performed. A multidisciplinary approach allows for multiple professionals to assess the pain generator and work in concert to promote an efficient and effective treatment. In this case the application of the sacroiliac joint injection allowed the mobilization exercises and strengthening program to be more effective than previous attempts.

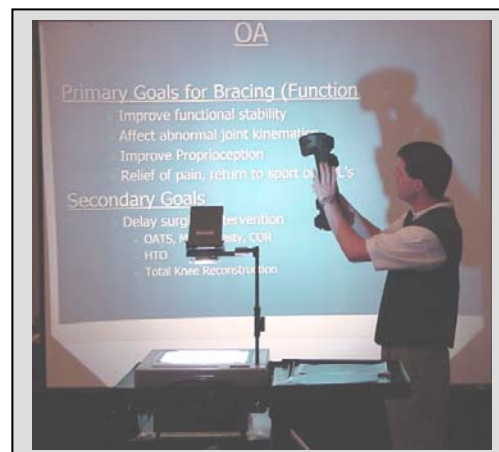
references listed on page 8

ACL Update 2001

95 clinicians were in attendance at a clinical education program focusing on the management and rehabilitation of patients with injuries to their anterior cruciate ligament. The program was held at the Grand Pacific Palisades Resort in Carlsbad, CA on February 3-4th with generous support and financial assistance from dj Orthopedics. Program highlights included lecture presentations on anatomy, biomechanics, mechanisms of injury, clinical evaluation, surgical procedures, post-operative and non-operative principles of rehabilitation, functional exercise, home program prescription, and isokinetic evaluation. Lab rotations included demonstrations on knee ligamentous examination, KT-1000 joint arthrometry, trends in knee bracing, therapeutic exercise techniques, and functional testing and evaluation.

For those unable to attend, the program was professionally videotaped and will be added to the Clinical Education Department's video store library for purchase by facilities. These tapes should be available by the end of March. More information regarding how to order can be found at the clinical education department's web site. Click on "video store" at the home page. The faculty for the program represented a diverse and expert group of speakers including:

Tal David, MD	OASIS – San Diego, CA
Neil ElAttache, MD	Kerlan-Jobe; Los Angeles, CA
Bruce Beynnon, PhD	University of Vermont
Tom Daniels	dj Orthopedics – Vista, CA
Cheryl Ferris, MS, ATC	University of Pittsburgh
Mike McCormack, MS, PT, SCS, ATC	HEALTHSOUTH – Cincinnati
Kevin Wilk, PT	HEALTHSOUTH – Birmingham
Mark Paterno, MS, PT, ATC	HEALTHSOUTH – Crestview Hills, KY
Ricardo Fernandez, MS, PT, OCS, CSCS	HEALTHSOUTH - Chicago
Tim Heckmann, MS, PT, ATC	HEALTHSOUTH – Cincinnati
Russ Paine, PT	HEALTHSOUTH – Houston
Mick Joseph, MS, PT	HEALTHSOUTH – W. Hartford, CT
Ed Mulligan, MS, PT, SCS, ATC	HEALTHSOUTH – Grapevine, TX



Tom Daniels demonstrating the features of a knee brace



Russ Paine explains an important principle regarding functional evaluation of the knee.

Internet Learning Opportunity

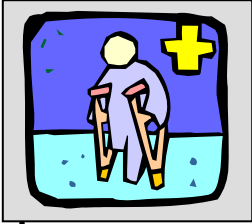
RehabMAX.com and HEALTHSOUTH have teamed to provide rehabilitation professionals a chance to experience accredited, online education courses at a discount. HEALTHSOUTH clinical employees will have the ability to individually purchase courses at a 20% discount from the normal retail tuition. Discount coupons must be redeemed with 15 days of receipt. Once redeemed, the clinician may spend as much time as desired completing the educational program.

Each course has been accredited for CEU credit in the states requiring pre-certification for Physical Therapists. The courses feature audio lectures accompanied by on-screen slide presentations. Each course consists of four one-hour modules, divided into 15-minute sections. Username and password access allows for self-paced completion of the course. RehabMax currently offers the following five course titles:

- **Management of Headache and Neck Symptoms**
Steven L. Kraus, PT, OCS, MTC
- **Movement Impairment Syndromes: Concepts and Classifications**
Shirley Sahrman, PhD, PT, FAPTA
- **The Pelvic Girdle: Structure, Function, Evaluation, and Treatment**
Richard Jackson, PT, OCS
- **Endurance Impairments: Examination, Differential Diagnosis, and Interventions**
Steven Tepper, PhD, PT
- **Pharmacology from a Rehabilitation Perspective**
Charles D. Ciccone, PhD, PT



RehabMAX.com provides rehabilitation professionals with convenient, inexpensive access to reliable continuing education. Online continuing education allows clinicians to maximize learning through interactivity and minimize expense by enabling them to complete courses at their own pace and schedule. To obtain the HEALTHSOUTH discount, interested clinicians should contact the Clinical Education office by e-mail at linda.barge@healthsouth.com or call 817-488-5159. After employment verification, the clinician will be sent e-mail instructions and a unique discount coupon number to enter when ordering a course from the transaction screen.



Inpatient Division

SKIN CARE with the LYMPHEDEMA PATIENT: PART II

by *Pere' M. Summers, OTR/L*

HEALTHSOUTH Rehabilitation Institute of Tucson – Comprehensive Lymphedema Treatment Center

In last month's edition, general considerations for skin care with the lymphedema patient were presented. The topics of dryness, hyperkeritosis, fungal infections and lymphatic cysts were also examined. The conclusion of the article examines additional clinical topics relevant to skin care and the treatment of the lymphedema patient.

Skin care is very important with the lymphedema patient. The stagnant protein rich edema results in a higher risk for infection than in the general population. Skin should be inspected at every therapy session.

Skin condition and any changes should be carefully documented. This would include appearance, location of any problem areas, the duration of any skin problems, and any treatment used in the past or currently being used.

RADIATION SCARRING

Radiation therapy for cancer can damage healthy tissues. Visible and/or palpable changes in the skin can occur. If the patient is undergoing radiation therapy at the same time as therapy for lymphedema, the therapist needs to pay special attention to the viability of the tissues. Watch for burns starting as reddened areas. Avoid doing manual lymph drainage over the fresh burns. Do not do manual lymph drainage if the area is tender. Skin burned from radiation shreds easily.

Older radiation burns can influence the therapy plan of action. Before starting the treatment it is important to consider if the irradiated fibrosis can be moved over the deeper tissues. If this is not possible, one must conclude that these structures (bowel, urinary bladder, nerves or ribs) are involved in the radiation- damaged tissues. Adhesions can be present and in situations where the abdomen or groin was irradiated, it could be painful to the patient to have this area decongested through manual lymph drainage. And even though the radiation therapy occurred years previously, skin can still easily shred. Radiation ulcers rarely heal spontaneously. The preferred treatment is excision and skin graft.

In all cases, the therapist should consistently monitor the patient for pain. Manual lymph drainage should never be unpleasant, uncomfortable or painful.

MALIGNANCIES

As a rule these are relative contraindications for therapy. In theory the possibility exists that cancer cells could be transported via lymph fluid across the watersheds thereby causing metastasis. At this date, there is no scientific data to support this theory. Some physicians prefer patients with active cancer not be treated and others do not feel the possibility of causing a metastasis is viable. In all cases it should be the physician and patient who make the ultimate decision regarding whether or not to pursue therapy. If the therapist is uneasy though he/she should not be working with the patient.

Sometimes the therapy is palliative. If the cancer has already metastasized and worsening the condition is not a consideration the therapist should do what is needed to relieve the patient of the discomfort caused by the swollen area.

In any case, treatment of the cancer always takes precedence over the treatment of the lymphedema. Signs of malignancy are:

1. Rapid onset and rapid progression of the lymphedema
2. Shortening of the distance between neck and acromion
3. Swelling and nodules in the supraclavicular fossa
4. Swelling and nodules in other areas
5. Skin and surface contour changes e.g. red streaks in the skin (malignant lymphangiosis), hematoma-like discoloration (angiosarcoma), collateral venous circulation, cysts, fistulas
6. Pain, paralysis
7. Non-healing open wounds.

If any of these signs are present, refer the patient back to the referring physician. As with everything, documentation is important. Pictures should be taken if possible.

Wound Care Prevention, Evaluation, and Healing

March 10-11 – Arlington, TX
March 24-25 – Richmond, VA

Go to www.hsedu.com for program information and registration forms

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Occupational Health

Please find below a listing of NIOSH approved educational providers for occupational medicine topics including spirometry and audiometry. For more information, visit

www.niosh-erc.org/coursebytopic/catalog.pdf.

Deep South Center for Occupational Health and Safety
University of Alabama at Birmingham School of Public Health
1530 3rd Avenue South; Birmingham, AL 35294-0022
(205) 934-7178 Fax: (205) 975-7179
Melinda Sledge; E-Mail: dsc@uab.edu
www.uab.edu/dsc/

University of Cincinnati Department of Environmental Health
P.O. Box 670056; Cincinnati, Ohio 45267-0056
(800) 207-9399 Fax: (513) 558-1756
Marianne Kautz - E-Mail: mari.kautz@uc.edu
www.uc.edu/www/envhealth/conted/

Harvard Education and Research Center & School of Public Health
Center for Continuing Professional Education
677 Huntington Avenue; Boston, MA 02115
(617) 432-3314 Fax: (617) 432-3535
Lynn Fitzgerald - E-mail: lfitzger@hsph.harvard.edu
www.hsph.harvard.edu/ccpe/

Great Lakes Center for Occupational and Environmental Safety & Health
University of Illinois at Chicago School of Public Health
2121 West Taylor St.; Chicago, IL 60612
(312) 996-6904 Fax: (312) 413-7369
Marilyn Bingham, Registrar - Email: syn@uic.edu
www.uic.edu/spha/glakes/ce/

Heartland Center for Occupational Health and Safety
University of Iowa, College of Public Health
Department of Occupational and Environmental Health
100 Oakdale Campus - 108 IREH; Iowa City, IA 52242-5000
(319) 335-4429 Fax: (319) 335-4225
Nancy L. Sprince, M.D., M.P.H., Director
E-Mail: nancy-sprince@uiowa.edu
www.public-health.uiowa.edu/och/index.html

Univ of Michigan Center for Occupational Health and Safety Engineering
1205 Beal; IOE Bldg; Ann Arbor, MI 48109-2117
(734) 936-0148 Fax: (734) 763-3451
Randy Raqbourm - E-Mail: ce.programs@umich.edu
www.engin.umich.edu/dept/ioe/COHSE/

Sunshine Education and Research Center
University of South Florida College of Public Health
13201 Bruce B. Downs Blvd., MDC Box 56; Tampa, FL 33612
(813) 974-6624 Fax: (813) 974-7857
Diane McCluskey - E-Mail: dmccclusk@hsc.usf.edu
www.hsc.usf.edu/erc/

University of California, Berkeley - School of Public Health
140 Warren; Berkeley, CA 94720-7360
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Southwest Center for Occupational and Environmental Health
University of Texas Health Science
Center at Houston
School of Public Health
P.O. Box 20186; Houston, TX 77225-0186
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4225 Roosevelt Way NE Suite 100; Seattle, WA 98195-6099
(206) 543-1069 Fax: (206) 685-3872
R. Scott McKay
E-Mail: ce@u.washington.edu
www.depts.washington.edu/envhlth/conted.htm

resources continued in column to the right -

Surgery Division

"AMBULATORY ADVICE"

RU?

*provided by Donna Slosburg,
Surgery Clinical Specialist
Area Manager/Market
Coordinator West Coast Florida*



ARE YOU READY?

Are you aware that JCAHO is now making more unannounced surveys between the 9th and 15th months of your triennial accreditation process. *Are you ready?*

ARE YOU INVOLVED?

- Does your state have an ASC society? Are you a member?
- Are you familiar with your legislators?
- Have you invited them to your ASC for a tour?
- Are you or your staff, members of your local and national Chapters of FASA, AAASC, AORN, ASPAN, SGNA?

ARE YOU DOING PEDIATRICS IN YOUR FACILITY?

The American Society of PeriAnesthesia Nurses (ASPAN) recently devoted their December 2000 Journal of PeriAnesthesia Nursing to Pediatrics. There are numerous articles such as:

- "Suggestions on Meeting ASPAN Standards in a Pediatric Setting"
- "Parental Involvement in Perioperative Anesthetic Management"
- "Postoperative Nausea and Vomiting in Children"
- "Pediatric Pain, Tools and Assessment"
- "Sedation/Analgesia for Diagnostic and Therapeutic Procedures in Children"
- "Pediatric Legalities"

TROUBLESOME JCAHO STANDARDS

At the recent 5th Annual Ambulatory Care JCAHO Conference in Chicago the following standards are considered to be the top 10 challenging standards:

HR 5 , HR 4.2, HR 7.1, HR 7.2.1, IC 4, EC 2.9, PL 4, LD 1.9, TX3.4 and TX3.9

The first edition of the Surgery Division Nursing Clinical Career Ladder was distributed through facility mail in late January. Please contact your administrator or Director of Nursing to review the program and for any questions. If you did receive a copy through facility mail, please e-mail kerry.russell@healthsouth.com with your facility number and address.



HEALTHSOUTH Manuals you should have in your Ambulatory Surgery Center:

- Risk Management Policy and Procedure Manual
- Infection Control Manual
- Human Resources Manuals:
Employment Process Manual
Salary Administration Plan Handbook
- Implementation Manual
- Environment of Care Policies
- 7 Minute Safety Training Manual
- Quality Standards JCAHO Manual
- Quality Standards Credentialing Manual
- Service Satisfaction Modules



Other outside recommended manuals include:

- AORN Standards, Recommendations, Practice, and Guidelines
- Alexander's Care of the Patient in Surgery
- JCAHO Comprehensive Accreditation Manual for Ambulatory Care



WEB SITE BOOKMARKS

Pertinent web sites that should be book marked by Ambulatory Surgery Center Clinicians

www.osha.gov

Occupational Safety & Health Administration – U.S. Department of Labor

www.cdc.gov

Centers for Disease Control and Prevention

www.aorn.org

The Association of Perioperative Registered Nurses

www.apic.org

Association for Professional Infection Control and Epidemiology

www.aspan.org

American Society of PeriAnesthesia Nurses

www.jcaho.org

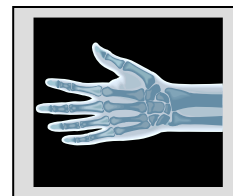
Joint Commission on Accreditation of Healthcare Organizations

www.guidelines.gov

National Guidelines Clearinghouse sponsored by the

Agency for Healthcare Research and Quality

Diagnosics Division



MRI and DISC PROLAPSE

by Catherine Westbrook MSc DCRR CTC - Training & Education Manager - HealthSouth (UK) plc

Magnetic Resonance Imaging (MRI) provides high-resolution, multiplanar views that have high soft tissue contrast and no ionising radiation. In the lumbar spine both anatomy and tissue characterization can be demonstrated. Typically, sagittal and multi-angled axial T1 and T2 weighted images are acquired, sometimes after contrast enhancement. Coronal imaging is occasionally used. MRI can clearly define all pathologies in the lumbar spine by a combination of their configuration and their T1 and T2 characteristics. Degenerative discs have a low signal on T1 and T2 images. Tumours, infection and inflammation are of high signal intensity on T2 weighted images.



Axial T2 (all normal appearances)



Sagittal T1

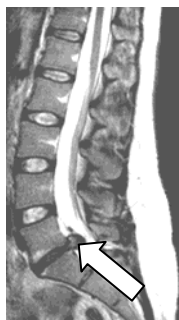


Sagittal T2

MRI is the modality of choice to study the morphology of degenerative disc disease, bulging and herniated discs, and distortions in the thecal sac or nerve roots. It is also indicated for the evaluation of patients with neoplastic or infectious disorders and those with coexisting evidence of neurologic impairment. Contrast enhancement is particularly useful in distinguishing recurrent disc herniation from epidural scarring in the postoperative spine, and defining compression resulting from herniated discs or spinal stenosis. Enhancement also demonstrates nerve roots in viral or inflammatory conditions and visualizes tumours in the intramedullary, extramedullary and extradural spaces including conus ependymomas, drop metastases and meningiomas.

A common indication for MRI is patients with unresolved low back pain, the causes of which include intervertebral disc herniation, arachnoiditis, epidural fibrosis, instability, spinal stenosis and vertebral osteomyelitis. For these groups, evaluation by MRI imaging is critical because it provides evidence for the cause of pain and assists in treatment planning.

CASE STUDY 1



This 29-year-old female presented with altered sensation in the region of the right sciatic nerve. This midline sagittal T2 weighted image clearly demonstrates a large prolapsed intervertebral disc at L5/S1 (arrow), causing nerve root compression and explaining her symptoms. The degenerative nature of this disc has resulted in it having a lower signal intensity than its neighbouring discs. This is due to a loss of hydration.

CASE STUDY 2

This 51-year-old female patient has a history of cervical and thoracic trauma. She presented with bilateral up-going plantars. This midline sagittal T2 weighted image demonstrates a severe disc herniation and avulsion of a free fragment with cord compression at T8 (arrow).



FURTHER READING

1. Long-term clinical and magnetic resonance imaging follow-up assessment of patients with lumbar spinal stenosis after laminectomy. Herno A, Partanen K, Talaslahti T, Kaukanen E, Turunen V, Suomalainen O, Airaksinen O. *Spine* 1999 Aug 1;24(15):1533-7
2. Magnetic resonance imaging before chemonucleolysis for lumbar disc prolapse. Gosal HS, Harrison DJ. *European Spine Journal* 1995;4(4):206-9
3. MR imaging of the postoperative lumbar spine. Ross JS. *Magnetic Resonance Imaging Clinics of North America* 1999 Aug;7(3):513-24, viii
4. Magnetic resonance imaging in low back pain: general principles and clinical issues. Beattie PF, Meyers SP. *Physical Therapy* 1998 Jul;78(7):738-53

Innovate or Die! continued -

- 5) If I found out about a 2 day course available only to HEALTHSOUTH Administrators and Site Coordinators that would not only help set up turn-key entrepreneurial programs that could be brought back to my facility, but would also provide pointers on managing and growing entrepreneurial programs, I would
- Throw it in the trash – I don't have time for anything else!
 - Immediately request to be placed on the waiting list and clear out my calendar for it. I know it's too early to sign up, but I've GOT to be a part of this program!!
 - Possibly request more information, but I know up front I wouldn't have time to go or the money in the budget to send a teammate

Scoring: For every time you answered "B" give yourself one million points

No Points: It may be worth re-taking the quiz next week

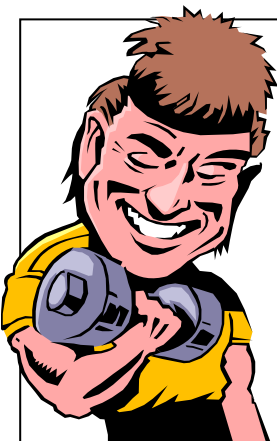
1 – 2 million points: Not bad. On the right track!

3 – 5 million points: WOW! Great Start!! Keep up the good work!

Regardless of how you scored yourself here, you may benefit from the "Entrepreneurial Extravaganza" coming to Colorado September 15-16th. While you can't register for the program yet, you can mark your calendars and contact Brad Cooper at Coop@wowspeak.com for more information. Course registration will be limited, so get signed up early if you're looking for ways to "become an entrepreneurial revolutionary" in 2001. In the mean time, check out Tom Peter's latest series on branding (such as Professional Service Firm 50) or Guy Kawasaki's Rules for Revolutionaries – they'll get you off to a running start in your pursuit of innovation...

*Brad Cooper, MSPT, MBA, MTC, ATC provides programs including "Quality Care...Efficiently!" "Workin' Up to WOW!" and "Secrets to Service Beyond the Smile" nationally for HEALTHSOUTH. He is also the Area Administrator in Denver, Colorado, where an outstanding team of revolutionaries have been responsible for starting almost FIFTY overlapping entrepreneurial programs in the past year. Please contact him at Coop@wowspeak.com with **your ideas** for the program or for more information.*

CURRICULUM DIRECTOR WANTED



The Clinical Education Department is currently seeking an individual to update and instruct our strength and conditioning performance enhancement curriculum. The clinician should have at least five years of practical experience, previous teaching background, and certification by the National Strength and Conditioning Association.

This education program is part of your performance enhancement curriculum and the underlying tenet of the training is to prepare the participant to initiate revenue generating strength and conditioning services at their home facility.

Clinicians interested in this opportunity should send their curriculum vitae with a cover letter detailing your proposed program's overview, learning objectives, and agenda to Ed Mulligan in the HEALTHSOUTH Corporate Clinical Education Office for consideration.

Lymphedema Skin Care article

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ACUTE INFLAMMATORY EPISODE

As mentioned previously, the lymphedema population is more prone to infection than the general population. Sometimes there is an event the patient can refer to as the primary cause for the infection but not always.

Signs of an acute inflammatory episode are:

- Rash that covers entire or a large portion of the area
- Red streaks that look like lightening bolts
- Red blotches
- Pain in the lymphedematous area that is deep and severe
- Heat in the red area
- Nausea, vomiting and fever or chills

Not all the signs need to be present to represent an infection. The physician needs to be notified immediately and the patient placed on an antibiotic of choice. There is no specific antibiotic generally recommended.

If an acute inflammatory episode occurs during the lymphedema treatment, manual lymph drainage and compression should not be done until the individual has been on antibiotics for at least 72 hours. The patient can elevate the extremity and apply cold packs for relief of pain. If symptoms are not relieved by that time, therapy should still be put on hold and the patient instructed to return to the physician for additional care.

Sometimes following an infection the involved area becomes more edematous. The patient might require 2 or 3 therapy visits to be able to control the condition again.

DRIED LYMPH FLUID

This is lymph fluid that has leaked out on the skin. It is most frequently located in the creases behind the heel or knee but can be found any place, predominately on the lower extremities. It presents a grayish-brown crust on the skin. It is best removed by softening the crust with Vaseline or baby oil and gently rubbing it off with a firm material such as a Loofah or the wooden end of a Q-tip. It is important not to confuse dried lymph crust with hyperkeratosis.

These are the most common skin problems found in the lymphedema population. Certainly there are others such as found with the HIV-AIDS Kaposi Sarcoma population. Generally, basic good hygiene can help control the most common skin problems. Remember to include the patient in skin care treatment and modify if needed to fit the patient's home environment or lifestyle. As always, if the therapist is uncertain, the physician should be contacted.

UPCOMING EDUCATIONAL PROGRAMS



- Mar 3-4 Foot-Ankle Update – *Merritt Island, FL*
- Mar 3-4 Knee Lab – *Trumbull, CT*
- Mar 3-4 Shoulder Update – *Richmond, VA*
- Mar 9-11 NDT Intro – *San Antonio, TX*
- Mar 13 NDT Nursing – *Bakersfield, CA*
- Mar 15 NDT Nursing – *Tustin, CA*
- Mar 17-18 Vestibular and Balance Program – *Oklahoma City, OK*
- Mar 17-18 Ergonomics and Injury Management – *Birmingham, AL*
- Mar 17-18 The Running Course – *Jacksonville, FL*
- Mar 24-25 Mechanical Differential Diagnosis – *Paramus, NJ*
- Mar 30-31 Vestibular Training Program – *Bakersfield, CA*
- Mar 30-31 Oncology Program Development Seminar – *Sarasota, FL*
- Mar 31-Apr 1 Shoulder Roundtable – *San Antonio, TX*
- Mar 31-Apr 1 Knee Lab – *Towson, MD*
- Mar 31-Apr 1 QCE – WOW! – *Miami, FL*
- Mar 31-Apr 1 Lumbopelvic Girdle – *St. Louis, MO*
- Mar 31-Apr 1 Lumbar Spine – *Birmingham, AL*
- Apr 11 NDT Nursing – *Nittany Valley, PA*
- Apr 16-27 NDT Certification – Part I – *Harmarville, PA*
- Apr 19 NDT Nursing – *Harmarville, PA*
- Apr 21-22 Knee Lab – *Edison, NJ*
- Apr 21-22 QCE – WOW! – *Ft. Smith, AR*
- Apr 21-22 Shoulder Update – *Chicago, IL*
- Apr 21-22 Lumbar Spine – *Grapevine, TX*
- Apr 21-22 Shoulder Update – *Overland Park, KS*
- Apr 21-22 Cervicothoracic Spine – *Metairie, LA*
- Apr 21-22 Mechanical Differential Assessment – *E. Rutherford, NJ*
- Apr 27-29 NDT Intro – *Mechanicsburg, PA*
- Apr 28-29 Vestibular Training Program – *Las Vegas, NV*
- Apr 28-29 Knee Lab – *Cincinnati, OH*
- Apr 28-29 Mechanical Differential Assessment – *Manchester, NH*
- Apr 28-29 Lumbar Spine Lab – *Fargo, ND*
- Apr 28-29 FCE – Industrial Rehabilitation – *Salt Lake City, UT*

Sacroiliac Joint References

1. Cibulka M, Koldehoff, R. Clinical Usefulness of a Cluster of Sacroiliac Joint Tests in Patients With and Without Low Back Pain. *J. Orthop Sports Phys Ther* 1999;29(2):83-92
2. Maugars, Y, Mathis, C., Berthelot, J-M., Charlier, C., Prost, A. Assesment of the Efficacy of Sacroiliac Corticosteroid Injections In Spondylarthropathies: A Double-Blind Study *British Journal of Rheumatology* 1996;35:767-770
3. Maldjian, C., Mesgarzadeh, M, Tehranzadeh, J Diagnostic and Therapeutic Features of Facet and Sacroiliac Joint Injection *Radiologic Clinics of North America* Volume 36 Number 3, May 1998
4. Maigne, J, Aivaliklis, A., Pfefer, F Results of Sacroiliac Joint Boule Block and Value of Sacroilaic Pain Provocation Tests in 54 Patients With Low Back Pain. *Spine* 1996 Volume 21, Number 16, pp 1889-1892
5. Vleeming, A., VanWindergeran, J.P., & Dijkstra, P.F. (1991). Mobility of the sacroiliac joint in the elderly. A kinetic and radiology study. *Clinical Biomechanics*, 6, 161-168.
6. Prather, H. Pain in the Pelvis Advance For Directors in Rehabilitation. July 1999 Vol 8 No. 7 pp 49-51
7. Waldman, Steven D., Winnie, Alon P., 1996, *Interventional Pain Management*, W. B. Saunders Company
8. Lepping V. Work Hardening: a valuable resource for the occupational health nurse. *American Association of Occupational Health Nurses Journal*. 1990;38:313-317

ADA Signage Requirements

provided by Mark Paget, ATC, PTA – Spokane, WA

Most of you have gone through the ADA checklist. I have talked to someone at the ADA Headquarters on the exact requirements for our facilities pertaining to "Signage for Goods and Services". HealthSouth only needs signs for rooms that our patients will have access to on a regular basis. This will include:

- Restrooms
- Permanent Treatment Rooms defined as not having a curtain
- Locker Rooms
- Pool/Whirlpool Rooms
- Conference Rooms, only if utilized for "with patient" conferences
- Exam Rooms
- Any other patient accessible rooms
- Outside Handicapped Parking Space
- Inaccessible entrances need sign indicating the location of the nearest accessible entrance

Please keep in mind that all signs need Braille. The pictogram is used with handicapped parking spaces, restrooms, and any room handicapped accessible.

Therefore, we do not need signs for other non-patient accessible rooms, such as: storage, mechanical, office, lunchroom, etc. You may download the ADA checklist at www.access-board.gov

“Teaching goes on in the classroom ... Learning goes on in the clinic”



www.hsedu.com

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