How Imaging Procedures Assist in the Alleviation of Back Pain: Interventional Radiology Procedures Available at Wake Radiology Help in Minimizing Back Pain

By William J. Vanarthos, M.D.

Summary:
- Imaging-guided percutaneous techniques confirm needle placement, thereby increasing precision and reducing complications.
- Pain can be treated safely and effectively with local injections of anesthetic and/or long-acting steroids.
- Injection of the epidural space through the sacral hiatus is a safe and quick procedure, maximizing exposure to the sacral roots and relieving most low back, pelvic, and hip pain.

Local back pain and radiculopathy are prevalent conditions that debilitate millions of Americans annually resulting in an enormous number of lost man-hours of work. The prevalence of these conditions is at least 5% annually (1,2,3). Most cases are treated conservatively with rest, non-steroidal anti-inflammatory drugs, or physical therapy. A small percentage of cases require surgery. Unfortunately, since imaging abnormalities do not correlate with symptoms in most cases (4), a specific diagnosis cannot be made, yet patients have continued pain.

Percutaneous injection techniques have been utilized for back pain management for many years, but historically have been performed without imaging guidance (1). More recently, minimally invasive imaging-guided percutaneous techniques utilizing primarily fluoroscopy and computed tomography have been employed to confirm needle placement, thereby increasing precision. In most cases, better results and reduced complication rates have made these procedures grow in popularity (1).

Cervical, thoracic, lumbosacral, and sacroiliac pain can be treated safely and effectively with local injections of anesthetic and/or long-acting steroids into facet joints, sacroiliac joints, selective nerve roots, spondylolytic regions, and the epidural space (1). The purpose of this article is to highlight one approach to the epidural space through the sacral hiatus (Figure 1) using c-arm fluoroscopy.

With the patient in a prone position (to enhance comfort and virtually eliminate movement), c-arm fluoroscopy is used to identify the sacral hiatus in the lateral projection. Using sterile technique and local anesthesia, a 22-gauge spinal needle is directed into the sacral hiatus and advanced until it reaches the level of S3. This level maximizes exposure of the sacral roots (Figure 2) to the injected solution, yet is caudal enough to minimize the risk of dural puncture (Figure 3). An injection of ≤5 mL of bupivacaine/epinephrine, a mixture of local anesthetics and vasoconstrictor agent, is performed. The needle is directed to the symptomatic side (3). A solution of 5 mL (40 mg/mL) of Triamcinolone Acetonide Injectable Suspension (Kenalog-40), 4.5 mL (5 mg/mL) of 0.5% Diflucinate HCL Injection (Sensiozine-MPF),

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and 1 ml of 1% Lidocaine HCL. Injection (10mg/ml) is injected to achieve immediate pain relief and long-term anti-inflammatory therapy. Lidocaine reduces any pain the patient may experience from the pressure of the injection, however it can be eliminated.

From start to finish, the procedure takes less than 5 minutes in experienced hands, especially if the patient is consented and prepared by the technologist prior to the arrival of the radiologist. Generally, the patient experiences immediate and often complete pain relief, which lasts 3-4 months on average.

Wake Radiology
Diagnostic Imaging welcomes Dr. Louis F. Posillico to its staff. Previously, Dr. Posillico served as a staff radiologist with Staff Care in Irving, TX, Precision Health Imaging in Modesto, CA along with a number of other assignments.

Dr. Posillico earned his MD from Georgetown University and served his internship and radiology residency at the University of Pittsburgh Medical Center. He was a Nuclear Medicine Fellow at Duke University Medical Center. He is currently certified by the American Board of Radiology and the American Board of Nuclear Medicine.

New Clinical Editor Named for Scannings
William J. Varathos Named Health Care Editor

We welcome William J. Varathos, MD as Scannings’ new Medical Editor. Dr. Varathos joined Wake Radiology in 1999. He received his medical degree from New York Medical College in Valhalla, New York. He completed a combined internship and residency in Diagnostic Radiology at Jackson Memorial Hospital as part of the University of Miami School of Medicine Program in Miami, Florida. Dr. Varathos further completed a Musculoskeletal Radiology fellowship at North Carolina Baptist Hospital as part of the Bowman Gray School of Medicine program in Winston-Salem. Dr. Varathos is board certified in diagnostic radiology by the American Board of Radiology. Prior to coming to North Carolina, Dr. Varathos was an assistant professor of Diagnostic Radiology, Chief of Orthopedic and Emergency Radiology, and Clinical Director for Medical Services at the University of Kentucky Medical Center in Lexington, Kentucky.

MANAGED CARE UPDATE

Please note changes: Wake Radiology Diagnostic Imaging and Village Radiology Consultants no longer participate with CCN and TRICARE (except for TRICARE for Life).

Wake Radiology Diagnostic Imaging, Village Radiology Consultants, Raleigh MRI Center and Wake Radiology Oncology Services participate with the following plans:

- AHA (American Healthcare Alliance - they use MedCost's network)
- Alliance PPO (a MAMSI product)
- Blue Cross and Blue Shield - (all plans)
- CIGNA - (all plans)
- Duke Health Direct
- Health Care Savings
- MAMSI Life & Health PPO
- MedCost - (all plans)
- Medicare
- Medicaid
- Optimum Choice of the Carolinas Inc.
- TRICARE for Life (secondary to Medicare)

Note: Patients who are in a plan with which we do not participate with can be seen on an out-of-network basis. A patient can choose this option with a higher deductible and/or higher co-insurance. We will be glad to contact the insurer to get eligibility and benefit coverage if requested.

Wake Radiology continues to align its managed care contracts with those of its referring physicians. If there are additional plans that we should consider, please call Michelle Jackson at (919) 788-7904, fax to (919) 789-4461, or e-mail mjaackson@wakeradiology.com.

“Wake Up With Wake Radiology” Hibernate In Winter

The morning breakfasts at Wake Radiology North Hills, Wake Raleigh, Cary and Chapel Hill offices have concluded with the holiday fare served in December. The breakfasts, initiated by celebration of the practice’s 50th anniversary, greeted a variety of staff from practices nearby to the four locations.

“Sharing our anniversary with so many new friends was really satisfying to us all,” said Caity Davis, Wake Radiology Marketing Administrator.