



JEFFREY BROWNE, MD

Musculoskeletal Radiologist

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Undergraduate:

Boston College

Medical School:

University of Connecticut School of Medicine

Residency:

Duke University Medical Center

Internship:

St. Raphael's Hospital

Fellowship:

Duke University Medical Center

To schedule fluoroscopic guided injections call:

Blue Ridge Facility - 781-1437

Cedarhurst Facility - 877-5400

Image Guided Pain Management: Steroid/Anesthetic Injections for Joint Pain at Blue Ridge and Cedarhurst facilities

Acute and chronic joint pain is a common clinical problem and can often be extremely debilitating and difficult to manage. Fluoroscopic-guided injection of a short-acting anesthetic and long-acting corticosteroid can be useful in managing patients with joint pain which has failed to resolve with conservative therapy. Musculoskeletal trained radiologists at our Blue Ridge and Cedarhurst office facilities can perform these fluoroscopic pain management procedures safely and effectively with minimum patient discomfort.

Injections can be used to:

- Resolve pain faster than conservative management
- Diagnose site of pain
- Control pain in non-surgical candidates
- Diminish pain to allow patients to initiate physical therapy or exercise
- Eliminate or delay surgical intervention

Indications for joint injection or aspiration fall into two categories - diagnostic and therapeutic. Some of the more common indications include:

- Osteoarthritis
- Synovitis
- Inflammatory arthritis
- Crystalloid arthropathies
- Ganglion or Baker's cysts
- Effusion of unknown origin or suspected infection

Procedure

Fluoroscopic guided injections increase the precision of these procedures by confirming correct needle placement. After local anesthesia, a needle is maneuvered into the area of interest under intermittent fluoroscopic guidance. Correct needle placement is confirmed by using a combination of imaging and injection of a small amount of iodinated contrast. A combination of a short-acting anesthetic, such as bupivacaine, and an intermediate to long acting corticosteroid, such as triamcinolone, are then injected. The anesthetic can provide immediate pain relief lasting 4-6 hours while the corticosteroid takes effect approximately 1-2 days after injection, reaching maximum effectiveness within 5-7 days.

The duration of the pain relief varies depending on the severity and reversibility of the patient's condition. If the therapeutic effect is achieved, several injections per year can be performed with few long term consequences. The radiologist will ask patients to



assess changes in their pain shortly after their injection. Immediate pain relief is diagnostic of a problem at the site of injection.

Fluoroscopic guided diagnostic injections to determine the site responsible for the patient's pain are gaining in popularity. This technique is useful because clinical findings can be inconclusive, and abnormalities on imaging studies may not be responsible for the patient's symptoms. Our musculoskeletal radiologists are well trained in performing diagnostic and therapeutic injections and aspirations of multiple joints including the shoulder, elbow, wrist, hip, sacroiliac, knee, ankle and foot.

Before arriving for the procedure, patients are requested to inform the staff if they are diabetic, taking blood thinners such as Coumadin or Plavix, or have an allergy to iodinated contrast. The radiologist will question the patient prior to the procedure and correlate their symptoms with any prior available imaging studies. The patient may be asked to bring any relevant imaging studies if the priors were not performed at Raleigh Radiology or Rex Hospital facility.

Complications

Complications are infrequent but can include bleeding, infection at the injection site, and allergy to the iodinated contrast or anesthetic. Closer monitoring of blood glucose levels in diabetics is suggested in the week following the injection as levels may increase. Patients are asked to avoid excessive or rigorous activity in the week following the injection to avoid injury and potentially prohibit the corticosteroid from reaching its full potential effect.

Scheduling

Physicians who wish to refer patients to Raleigh Radiology for fluoroscopic guided injections can schedule patients by calling the Blue Ridge facility at 781-1437 or the Cedarhurst facility at 877-5400.

Musculoskeletal services offered at Raleigh Radiology outpatient facilities and Rex Hospital

- Diagnostic/Therapeutic Joint Injection/Aspiration
- MRI
- Multidetector CT
- CT Arthrography
- MR Arthrography
- MSK Shoulder Ultrasound (Cedarhurst)
- Nuclear Medicine (Rex Hospital)
- Bone/Soft Tissue Biopsy (Rex Hospital)
- Tumor Ablation (Consultation at Blue Ridge with procedure at Rex)
- Vertebroplasty/Kyphoplasty (Consultation at Blue Ridge with procedure at Rex)



References

- Boswell MV, Trescot AM, Datta S, et al. Interventional techniques: evidence-based practice guidelines in the management of chronic spinal pain. *Pain Physician* 2007 10:7-111.
- Silbergleit R, Mehta BA, Sanders WP and Talati SJ. Imaging-guided injection techniques with fluoroscopy and CT for spinal pain management. *Radiographics* 2001 21:927-39.
- Dussault RG, Kaplan PA, Anderson MW. Fluoroscopy-guided sacroiliac joint injections. *Radiology* 2000 214:273-6.

Sub-specialized Radiologists

- Neil A. Ramquist, MD Diagnostic
Donald G. Detweiler, MD Diagnostic
W. Kent Davis, MD Neuroradiology
Andrew B. Weber, MD Vascular & Interventional
Mark H. Knelson, MD Vascular & Interventional
Julia K. Taber, MD Pediatric and Women's Imaging
Gregory C. Hinn, MD Musculoskeletal
Gregory A. Bortoff, MD, PhD Abdominal Imaging
Jerry L. Watson, MD Abdominal Imaging
Cynthia S. Payne, MD Vascular & Interventional, Neuroradiology
Tracey E. O'Connell, MD Musculoskeletal and Abdominal Imaging
Jennifer S. Van Vickle, MD Abdominal Imaging & Women's Imaging
Gintaras E. Degesys, MD Women's Imaging & Musculoskeletal
Laura O. Thomas, MD Abdominal Imaging & Women's Imaging
John G. Alley, Jr., MD Neuroradiology
Todd J. Roth, MD Abdominal Imaging
Steven R. Carter, MD Musculoskeletal
Satish Mathan, MD Vascular & Interventional
Andrew G. Moran, MD Nuclear Medicine & Abdominal Imaging
Joshua B. Mitchell, MD Musculoskeletal
Michael C. Hollingshead, MD Neuroradiology
Jason R. Harris, MD Vascular & Interventional
Jeffrey Browne, MD Musculoskeletal

Raleigh Radiology locations

Blue Ridge

3200 Blue Ridge Rd, Ste 100
Raleigh, NC 27612
T 919-781-1437
F 919-787-4870

Clayton MRI

300 Guy Road, Suite 102
Raleigh, NC 27520
T 919-877-5400
F 919-877-5480

Cedarhurst

1212 Cedarhurst Drive
Raleigh, NC 27609
T 919-877-5400
F 919-877-5480

Wake Forest

839 Durham Rd, Unit A
Wake Forest, NC 27587
T 919-877-5400
F 919-877-5480

Cary

251 Keisler Drive, Suite 100
Cary, NC 27518
T 919-781-1437
F 919-787-4870

Brier Creek location

Coming in 2009

Breast Center

3900 Barrett Drive, Suite 100
Raleigh, NC 27609
T 919-781-1437
F 919-787-4870

Rex Hospital

4420 Lake Boone Trail
Raleigh, NC 27607
T 919-784-3023 24/7
F 919-784-3497
919-784-3419--Scheduling

