

## DEPARTMENT OF DIAGNOSTIC RADIOLOGY AND NUCLEAR MEDICINE

### Patient Information Sheet

#### Image-guided Joint Aspiration or Joint Injection

**General Indications for the Procedure:** The procedures described in this Patient Information Sheet include removing fluid from a joint (aspiration) and putting fluid into a joint (injection) using a needle and syringe, with “image guidance.” Image guidance refers to fluoroscopy (live X-ray), CT or ultrasound. Aspiration is performed because some diseases of joints, especially infections, are best diagnosed by removing and testing a sample of joint fluid. Injection is performed because injecting medication into a joint may be the best way to treat a patient’s joint disease or to provide relief of joint pain. Performing these procedures with image guidance helps make certain that fluid is removed from or put into the joint, rather than tissue outside the joint.

**Description of the Procedure:** An image of the joint is first taken with fluoroscopy, CT or ultrasound. This image helps the physician plan the best way to enter the joint and avoid structures that could be harmed, such as large blood vessels or nerves. The skin is marked to show the best place to put in the needle. After cleaning the skin, the skin and deeper tissues are numbed with an anesthetic (numbing medication), which is injected with a tiny needle. This injection may cause the patient to feel a brief stinging, pinching and/or burning sensation. Following injection of the numbing medication, another larger needle is guided into the joint, using fluoroscopy, CT or ultrasound to watch where the needle is going. A small amount of contrast medium (“dye”) may be injected to confirm the needle is in the joint. Once needle tip is in the joint, the removal (aspiration) or injection of fluid can be completed, after which the needle is removed. Only a tiny puncture wound in the skin remains after removal of the needle, which is covered with a Band-Aid.

**Risks of the Procedure:** The most common risk is mild bleeding or bruising at the site of the needle puncture. Serious bleeding from such a minor procedure is extremely rare but could occur, requiring a transfusion or even surgery. Even though the skin is carefully cleaned and the puncture is performed with sterile technique, an infection could develop (if one is not already present), in which case the patient might need antibiotics. If an anesthetic is injected into the region of the joint, it may leak out and affect a large nerve, which could cause temporary numbness or weakness of an arm or leg. Uncommonly, patients are found to be allergic to medication that is injected (including the numbing medication), possibly causing hives, itching or sneezing. In very rare cases, allergic reactions could involve serious, even life-threatening conditions, such as asthma, shock, convulsions or severe swelling of the airway.

**Alternatives to the Procedure:** Fluid could be removed from a joint in an operating room by a surgeon, but this is more dangerous for most patients. A procedure could be performed without image guidance, but it is not as certain that the needle would be placed properly into the joint.

**Probable Consequences of Refusing the Procedure:** In the case of joint aspiration, if joint fluid is not drained, then it might be more difficult to diagnose and properly treat the cause of the patient’s joint problem, and the condition might become worse. In the case of joint injection, if patients need medication or anesthetic placed in the joint and refuse the procedure, they will not receive important treatment for their condition.

**Persons performing the procedure:** The key portions of the procedure will be performed by an attending physician who is a member of the medical staff of Rush University Medical Center, or a resident or fellow in Body Imaging who will be observed and supervised by a member of the medical staff. Residents are licensed physicians in an approved residency program. Fellows are licensed physicians who have completed a residency in radiology and are in an approved post-residency training program. The parts of the procedures residents or fellows perform will be based on their level of training and competence.