

**DEPARTMENT OF DIAGNOSTIC RADIOLOGY AND NUCLEAR MEDICINE
SECTION OF NEURORADIOLOGY**

PATIENT INFORMATION SHEET

Cervical C1-C2 Spinal Puncture / Spinal Tap with X-ray Fluoroscopy

Indications for the Procedure: Spinal fluid to be withdrawn for analysis to diagnose certain diseases, such as infection, multiple sclerosis, cancer or bleeding into the brain. The procedure is also used to measure the pressure in the spinal canal.

Description of the Procedure: A C1-C2 cervical spinal puncture (spinal tap) with X-ray guidance is a radiological examination in which the radiology doctor removes spinal fluid from the part of the spinal canal that is in the neck, using a needle. The patient is placed on his/her side on the X-ray table and the skin of the neck is cleaned with an antiseptic which contains iodine. With a small needle, a puncture (stick) is made with a tiny needle, and the skin and deeper tissues of the upper neck are numbed with lidocaine, an anesthetic drug (a numbing medicine). With X-ray guidance, a second needle is placed into the upper part of the spinal canal located in the upper neck. If pressure measurements are required, a measurement device (manometer) is connected to the second needle to record the pressure of the spinal fluid. After the pressure measurements are recorded, the device is removed from the needle and a small tube is then connected to the second needle to collect spinal fluid. A small amount of fluid is collected and sent to the laboratory for analysis. At the end of the procedure, the needle is withdrawn from the neck, leaving a tiny puncture mark on the back of the neck that is covered with a Band-Aid. The patient is then either observed in the X-ray department for 1-2 hours or returned to his/her hospital room for observation.

Risks of the Procedure: Serious complications from this procedure are rare. There may be injury to nerves, bleeding within or outside of the spinal canal or into the back, or local infection at the puncture site, in the spine, or tissues of the spine.

Alternatives to the Procedure: The alternatives to this procedure include lumbar puncture without X-ray fluoroscopy, lumbar puncture with X-ray fluoroscopy, or surgery to remove spinal fluid.

Probable Consequences of Refusing the Procedure: The patient's doctor may not be able to properly diagnose and treat the patient's condition, which may lead to worsening of the patient's problem, with progression of symptoms or decline in body function.

Person(s) 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 fellow or resident in Neuroradiology who will be observed and supervised by a member of the medical staff. Residents and fellows are licensed physicians. Fellows have completed a residency in radiology and are in an approved post-residency training program. Residents are in training in an approved residency program. The parts of the procedures fellows or residents will perform will be based on their level of training and competence.

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