Ultrasound Guided Synovial biopsy of	
referred below as "target joint"	

Laterality:

Consent: The following information was discussed with the patient prior to the procedure:

The medical literature reports that complications from this procedure is rare, occurring in less than 2% of patients. The risks of synovial biopsy include infection necessitating use of intravenous antibiotics and possibly surgery, bleeding in the joint, damage to a tendon that may require surgical repair, damage to the nerve which can cause permanent sensory or motor deficits, and pain following the procedure. We will use every effort and precaution to avoid complications, but you need to be aware of these. We use sterile technique to minimize the risk of infection. We use ultrasound guidance to minimize trauma to the joint and surrounding tissues.

The patient verbalized understanding of these risks, and consented.

Equipment: MyLab X8 with linear transducer L4-15

Localization & Sterilization: The target joint was imaged in orthogonal planes and an optimal location was identified to access the joint.

The transducer was placed in axis, and an area just to the probe was marked as the access point.

Sterilization: An radius of about 10cm around the access point was sterilized using multiple scrubs with viscous chlorhexadine. This produced a sterile area spanning 20cm around the access point. Next, Dr. Ben-Artzi placed facemask, headcover, sterile gown, and sterile gloves. Next, sterile pads were laid around the sterile site, leaving a sterile window surrounded by the pads. Next, the ultrasound probe was covered with a sterile sleeve.

Anesthesia: The access point was then anesthetized using a 27 gauge needle to administer 1-2ml of 2% lidocaine to the site of injection.

Procedure: A 22 gauge needle was used to access the joint, under direct ultrasound visualization. Chlorhexidine was used as a sound conductive medium. While introducing the needle, care was taken to avoid damaging any visible tendons, vascular structures, and nerves. Once the needle was in the joint space, the joint capsule was inflated with 2% lidocaine (without epinephrine). The same tract used by this needle, was then used to access the joint with a gauge biopsy needle. passes were made with the biopsy needle, using the same track, to collect tissue samples.

Tissue was collected in the containers with the following media:

- 1. Formalin
- 2. Methanol
- 3. Sterile container with no media
- 4. RPMI

Once sufficient tissue was collected, the access point was cleaned and a band aid was applied.

The patient is instructed to keep the puncture site clean in covered for 3 days after the biopsy, with a drop of antibiotic ointment on the site.

The patient is told to expect some pain in the next 24 hours. He/she may apply ice to the joint, and take any analgesics. The patient is instructed that if they have severe pain, any bleeding, redness and swelling suggestive of infection, or functional deficiencies of the joint, they should contact me immediately. If they can not reach me within 2-3 hours, they should seek medical attention at the nearest emergency room.