Office Knee Injections

Step By Step

Prem Sequeira, MD, CCFP

Presented at Family Medicine Potpourri, Memorial University of Newfoundland

Corticosteroid injections can give dramatic and long-lasting relief for patients with all forms of arthropathy, including osteoarthritis (the most common form treated in general practice).

A steroid injection, into a joint, poses less risk to a patient than the risks of an oral anti-inflammatory. This is especially the case for patients with cardiac or renal disease. Both treatments are acceptable first-line therapies for monarthropathy.

What is "sterile no touch"?

The "sterile no touch" technique is as effective and acceptable for injecting joints as the doctor/assistant technique used in most training centres. The single person no touch technique is described in various steps (see Steps 1 to 10 on the next few pages).

Where is the entry point?

There are multiple entry sites for the knee joint. With the patient sitting, the lateral and medial joint lines are readily palpable. The medial joint line is not usually used as an injection site as, in theory, the underlying fat pad (rather than the joint space) may receive the steroid injection. The lateral joint line, therefore, is the preferred route for injection while the patient remains sitting.

How do I draw up the medication?

Use a 3 cc syringe with a 22-gauge needle to draw up 1 cc of corticosteroid (Depomedrol® 40 mg/mL is considered most cost-effective), and 2 cc of xylocaine.

Remove the 22-gauge needle and replace with a 25-gauge one and a half inch long needle that will be used for the injection. Leave the cap on the needle and set this aside until the patient's knee has been prepared for the injection.

To see these steps in action, go to page 54.

Jake's knee pain

Jake, 62, presents due to the pain in his right knee.

He is retired, has Class I ischemic heart disease, and symptomatic right knee osteoarthritis.

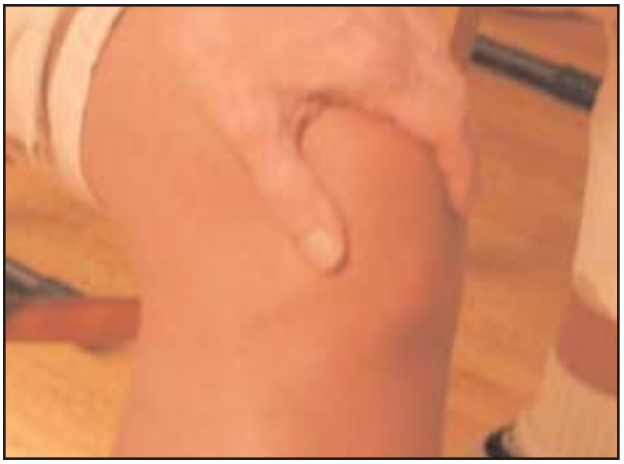
X-rays show bilateral knee osteoarthritis.

Jake is looking for symptom relief for his right knee. Presently, he has no symptoms in his left knee.

To relieve his pain, Jake was given an intra-articular corticosteroid injection to the right knee. He had relief of his pain and a return to his normal walking program. He was advised to follow-up if his symptoms return.

If steroid injection was successful for Jake, and his other knee became symptomatic, there would be no contraindication to injecting both joints at the same visit or sequentially.

Knee Injections

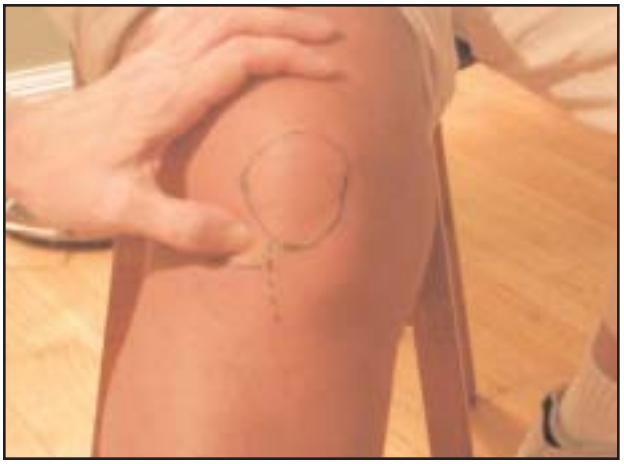


Step 1. The patient remains seated. Start by clearly identifying the lateral aspect of the patella.

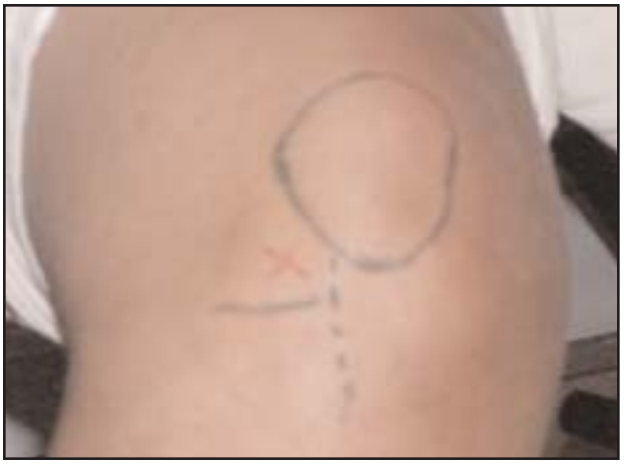
Step 2. Have a mental picture of the outline of the patella. If necessary, mark an outline with a pen.

Step 3. Palpate the lateral border of the patellar tendon. Mark this with a pen if necessary.

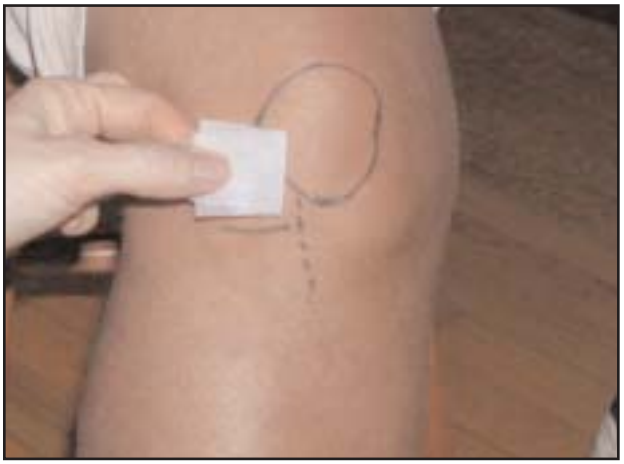
Dr. Sequeira is an orthopedic resident, Memorial University of Newfoundland, St. John's, Newfoundland.



Step 4. Outline the lateral tibial plateau. These landmarks are the borders of an easily palpable soft spot—the lateral joint line. Use your thumb nail to apply gentle pressure, and mark the spot. Apply pressure twice to create an X. This X will remain erythematous, and provide a visual bullseye which will not have to be directly touched again



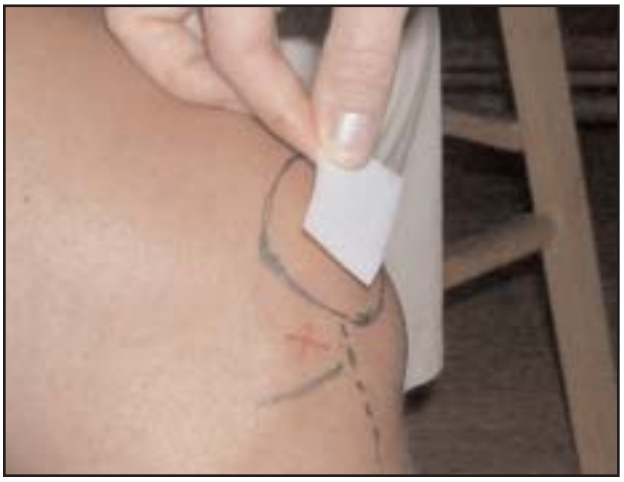
Step 5. X marks the spot.



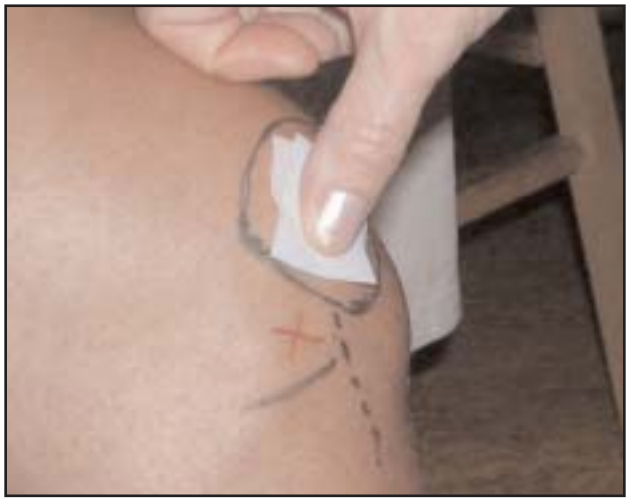
Step 6. Use an alcohol swab to cleanse the area over the X. Use the same technique as with any sterilizing agent and start in the centre and clean circumferentially. Use a second swab and repeat the cleaning. As with other antiseptics, the alcohol must remain on the skin for one minute to be effective.

Knee Injections

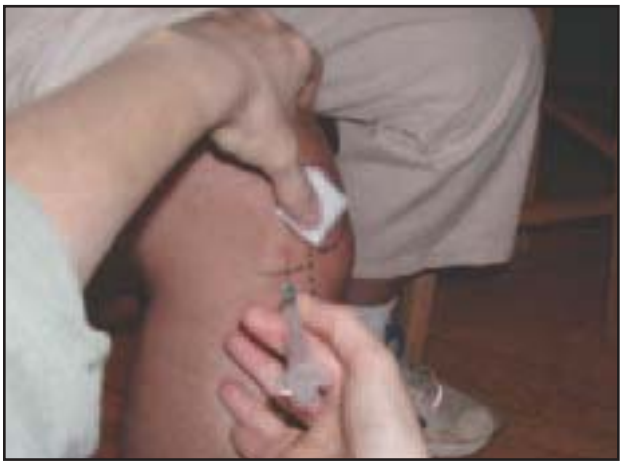
Step 7. While waiting for the alcohol to settle on the skin, take up another alcohol swab. This swab should be held only by one corner.



Step 8. The X is clearly visible. While still holding the alcohol swab by one edge, lay it over the edge of the patella. In the picture, the swab is not yet contacting the skin. When it does contact the skin, it should be laid down so that the physician can feel the edge of the patella through the swab.



Step 9. Now the alcohol swab is laid on the patella. It can be placed even further over the lateral edge than pictured. The lateral edge of the patella can now be felt through the swab. This allows the physician to have a palpable landmark to the joint space, in addition to the visible landmark provided by the X.



Step 10. While palpating through the alcohol swab, enter the knee through the X.

Aim for the middle of the knee. If your patient is sitting, this should be in a line parallel to the floor. CME

Net Readings

1. Health and Age:
   http://healthandage.com/Home/gid7=692
2. OA Knee Info.com:
   http://oakneeinfo.com