

HOW TO OBTAIN AN SI JOINT ARTHROGRAM 90% OF THE TIME IN 30 SECONDS OR LESS

To the Editor:

SI Joint pain is present in between 18.5%-30% of patients presenting with chronic low back pain (1, 2). However, despite its prevalence, many interventionalists avoid the joint because of the difficulty in reliably and quickly obtaining an arthrogram. While the classic technique for injection described by Fortin et al (3) can access the joint, my experience demonstrated an unacceptably low likelihood of obtaining a reliable arthrogram in a reasonable amount of time. As a result, a new technique was developed by trial and error which allows prompt access to an SI arthrogram with high reproducibility.

The Centeno technique enters the lower part of the SI joint similar to other techniques, but recognizes that the SI joint is a potential space. As a result, a 22 gauge needle is used (rather than a 25 gauge needle, which is becoming more common) to dilate the lower portion of the joint. The fluoroscope beam is tilted cephalad so that the lower portion of the joint can be imaged with the beam "looking down" the lower joint. As with any other technique, more time is spent with image prep than injection. The C-Arm is orbited back and forth such that both sides of the lower joint are crisp. The main difference between the Centeno and other techniques is that it relies on the idea that small changes in the depth of the injection can lead to dramatic improvement in contrast flow. As a result, the needle is inserted

into the joint lucency until "articular slide" is appreciated. This is a tactile feel whereby the needle starts to slide or glide as if between two lubricated joint surfaces. Once the needle has been inserted approximated 1-2 cm into the joint, the physician attempts to inject contrast under only light to moderate pressure. Oftentimes no contrast flow will be detected in the joint (in my experience less than 10-20% of the time) and the plunger of the needle will fail to budge. To reduce fluoroscope exposure, the needle is then very slowly extracted while the physician turns attention from the fluoroscope screen to the syringe. Without any imaging, while the needle is very slowly extracted, the physician continues to apply light to moderate pressure to the plunger. Once a significant loss of resistance with seen in the syringe, the physician injects ¼ cc of contrast and checks the fluoroscope image. If an arthrogram is not detected, the needle is slowly withdrawn until one is detected or the needle needs to be reinserted for a second pass. Please realize that the needle extraction occurs millimeter by millimeter as often flow will be obtained at a very specific point (for instance at 6 mm of extraction but not until this exact point has been reached). As a result, think of this technique as similar to other loss of resistance techniques.

Why does this procedure work? The SI joint is a very tortuous joint that is different in each patient (4). As a result, the needle often ends up against cartilage or bone and is unable

to transmit contrast into the joint. In addition, as the needle is extracted, it can be freed of local impediments to flow yet remains in the joint capsule. My group has also had great success with the same technique applied to cervical facet injections. Again, here as with the SI technique, the needle often remains in the capsule but actually leaves the space between joint surfaces. If you're frustrated with getting an SI arthrogram before the excess radiation alarms start buzzing, give the Centeno technique a try.

REFERENCES

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