



Ultrasound Guided Sacroiliac Joint Injection for Pregnant Women with Sacroiliac Joint Pain

Kimpreet Kaur DO^{1,3,4}, Sean Fletcher MD^{2,3}

1. Dept of Anesthesiology, USUSH School of Medicine, Bethesda, MD, USA

2. Dept of Physical Medicine & Rehabilitation, USUSH School of Medicine, Bethesda, MD, USA

3. Chronic Pain, Dept of Rehabilitation Medicine, Brooke Army Medical Center, JBSA Fort Sam Houston, TX, USA

4. San Antonio Uniformed Services Health Education Consortium Pain Medicine Fellowship, San Antonio Military Medical Center, JBSA Fort Sam Houston, TX, USA

The views expressed herein are those of the author(s) and do not reflect the official policy or position of Brooke Army Medical Center, the U.S. Army Medical Department, the U.S. Army Office of the Surgeon General, the Department of the Army, the Department of the Air Force, or the Department of Defense, or the U.S. Government.



INTRODUCTION

- Sacroiliac joint (SIJ) dysfunction is a major cause of low back during pregnancy, with a prevalence of 78% during first trimester.¹
- Experiencing SIJ pain during the first trimester is a positive predictor of experiencing SIJ pain in the third trimester.
- A series of provocative tests are performed to clinically diagnose SI joint pain but local anesthetic injection is gold standard.
- At least three out of six positive provocative tests increase sensitivity and specificity for accurate diagnosis of SIJ pain.²
- Common provocative tests include Yeomans test, Gaenslens, sacral thrust, sacral distraction, thigh thrust, and FABER (Flexion, Abduction, External Rotation).
- Current therapies for SIJ pain include physical therapy, sacral belt, TENs unit, non steroidal anti-inflammatory drugs (NSAID), SIJ belt, and diagnostic/therapeutic corticosteroid injections (CSI).
- Unfortunately many of these modalities are contraindicated in the pregnant population due to undue risk to the fetus.
- In humans, first-trimester exposure from systemic corticosteroids may increase the risk for oral clefts up to 3-fold but the absolute risk is still considered low, given the baseline risk for oral clefts is estimated at 1/1000 live births.³
- A meta-analysis has shown no statistically significant increase in risk of major malformations with corticosteroid exposure.³
- Corticosteroids during pregnancy are considered category B medication during pregnancy.
- Counsel patients with gestational diabetes there is a risk for transient increase in blood glucose levels.

CASE VIGNETTE

- A 34-year-old G6P4A1 female with a past medical history of anxiety, post-traumatic stress disorder, asthma, obesity, and chronic low back presented for sacroiliac joint pain at 10 weeks of pregnancy. Patient had bilateral SIJ CSIs performed at 10 week and repeat injections at 20 weeks.

DIAGNOSIS OF SIJ PAIN



Yeomans Test



Gaenslen's Test



Sacral Thrust



Sacral Distraction Test



Thigh Thrust



FABER

DISCUSSION

- Routinely a CSI is offered as a therapeutic intervention and is most commonly performed under fluoroscopy.
- During pregnancy, fluoroscopy is contraindicated as ionizing radiation can be teratogenic to the fetus and most providers would recommend other conservative measures.
- After consultation with her obstetrics team, this bilateral sacroiliac joint injection was done successfully under ultrasound guidance, thus eliminating the concern of ionizing radiation.
- This is a less common technique that can be safely performed on pregnant patients.
- Some of the challenges include patient positioning, needle visualization under ultrasound, and unfamiliarity with the procedure.
- In conclusion our patient had greater than 50% relief in her daily symptoms which allowed her to perform her daily activities with less pain.
- The ability to ambulate without pain can prevent deep venous thrombosis in an already hypercoagulable state.

REFERENCES

1. Filipec, Manuela, et al. "Incidence, Pain, and Mobility Assessment of Pregnant Women with Sacroiliac Dysfunction." *International Journal of Gynecology & Obstetrics*, vol. 142, no. 3, 2018, pp. 283–287., <https://doi.org/10.1002/ijgo.12560>.
2. Laslett, Mark, et al. "Diagnosis of Sacroiliac Joint Pain: Validity of Individual Provocation Tests and Composites of Tests." *Manual Therapy*, vol. 10, no. 3, 2005, pp. 207–218., <https://doi.org/10.1016/j.math.2005.01.003>.
3. Makol, Ashima, et al. "Rheumatoid Arthritis and Pregnancy." *Drugs*, vol. 71, no. 15, 2011, pp. 1973–1987., <https://doi.org/10.2165/11596240-000000000-00000>.

EQUIPMENT

- Ultrasound with curvilinear probe
- Ultrasound probe cover
- 22G 3.5 or 5 inch spinal needle
- Corticosteroid
- Local anesthetic
- Sterile drapes

PATIENT POSITONING

- Prior to 12 week gestation can place patient in the prone position.
- Alternative position would include the left lateral decubitus position to avoid vena cava compression (Fig. A).

TECHNIQUE

- Prepare sterile field (Fig. B) for procedure.
- First identify sacral hiatus (Fig. C) under ultrasound, usually palpable prior to placement of curvilinear probe.
- Move probe laterally until the edge of the sacrum is visible.
- At this point move cephalad until the posterior ilium comes into view.
- The most likely trajectory will be from a medial to lateral approach as the posterior SIJ is oriented medial to lateral (Fig. D).

IMAGES



Figure A. Patient is lying in left lateral decubitus at 20 weeks gestation.



Figure B. Prior to procedure sterile field is prepped with sterile drapes.

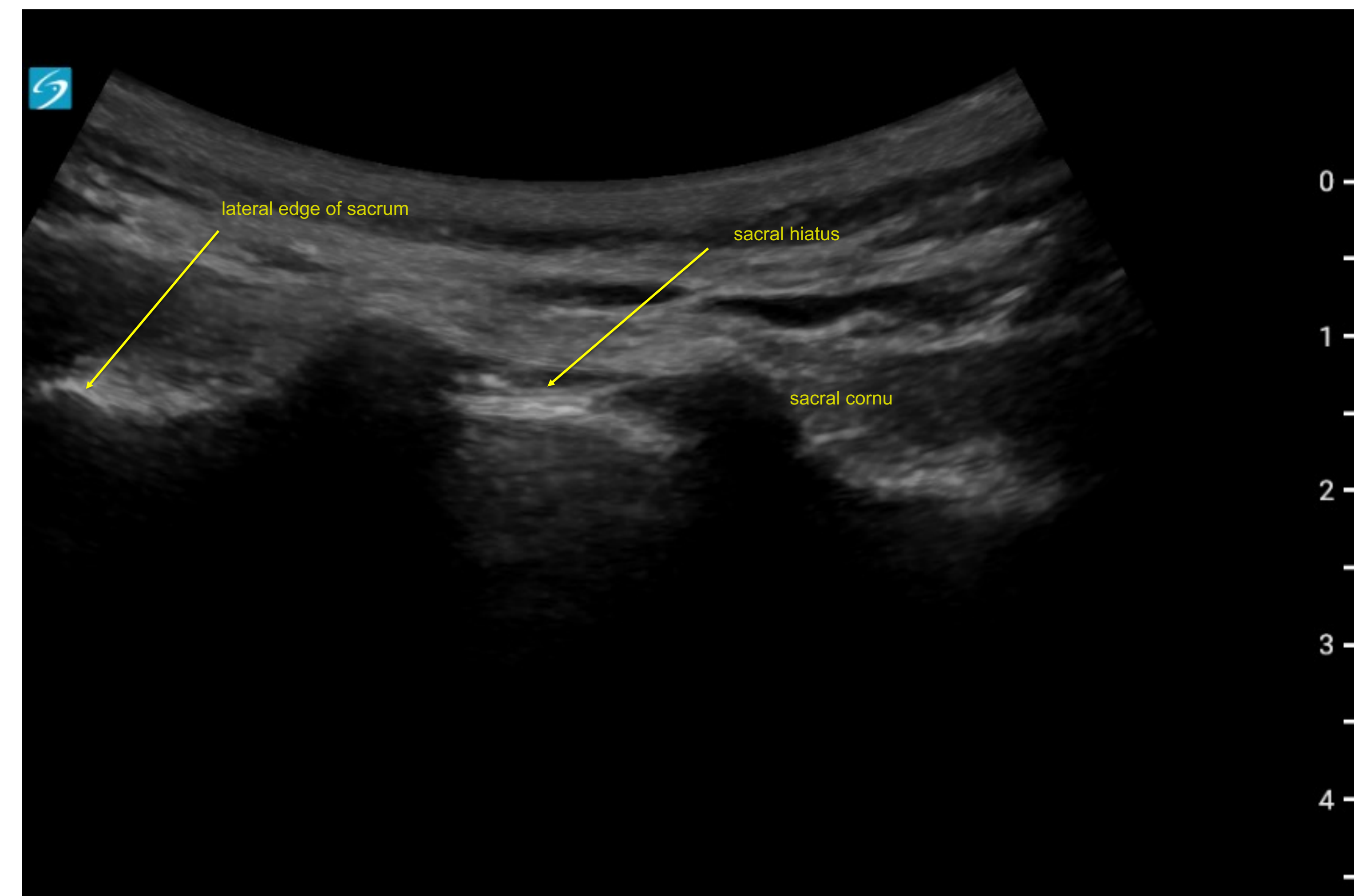


Figure C. After palpation of sacral hiatus place curvilinear probe is placed on top to visualize the sacral hiatus.

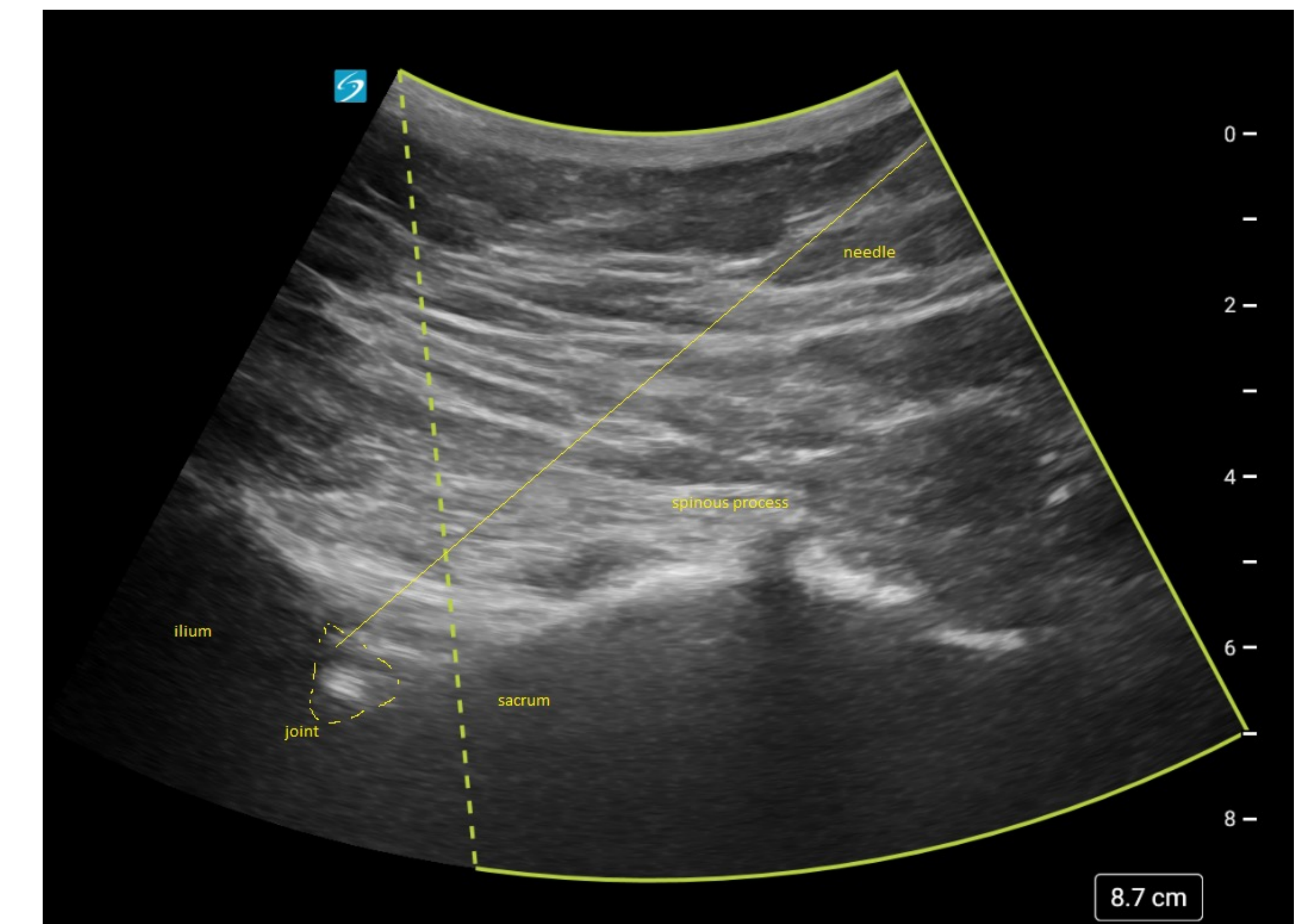


Figure D. Once the SIJ is visualized the needle is directed in between the ilium and sacrum. Here the trajectory of the needle can be visualized.