SACROILIAC JOINT ACCESS/ INJECTION

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These safety practices have been developed to highlight the important elements in the safe performance of interventional pain procedures. Adherence to these practices will help decrease the risk of preventable complications. For additional information about the indications and technical aspects that yield improved treatment outcomes, refer to the *IPSIS Technical Manual and Atlas of Interventional Pain and Spine Procedures*.

/// PERSONNEL

- Only physicians trained in the technique and interpretation of sacroiliac joint (SIJ) access/injection should perform this procedure.
- Appropriately trained personnel are needed to operate the fluoroscopy unit or assist the physician.

/// CONTRAINDICATIONS

ABSOLUTE

- An active systemic infection or a localized infection within the procedural field
- Uncooperative patient or inability to obtain informed consent
- Allergy to medication(s) that cannot safely be omitted or mitigated by pre-treatment
- Hypertensive emergency/urgency
- Anatomical derangements that compromise the safe and successful conduct of the procedure

RELATIVE

- Pregnancy (for fluoroscopically and CT-guided injections)
- Asymptomatic blood pressure >180/110
- Uncorrected coagulopathy

/// ANTITHROMBOTICS AND BLEEDING DISORDERS

- The bleeding risk is classified as low for SIJ injections. The general consensus is that anticoagulant and antiplatelet therapy does not need to be discontinued before these procedures.

PROCEDURAL SEDATION

- Sedation is not intrinsically necessary for SIJ access/injection, but if employed in unique circumstances (*e.g.*, movement disorder, cases of extreme anxiety, previous vasovagal response), the patient should remain able to communicate pain or other adverse sensations or events. Deep sedation and general anesthesia are contraindicated.
- The use of sedation may alter diagnostic conclusions.
- The decision to use sedation for an appropriate indication should be made on a case-by-case basis. Patients should be advised during informed consent that procedural sedation is not necessary but elective.
- If the physician performing the procedure decides that sedation is indicated, a separate healthcare provider must administer the medications and monitor the patient.
- Resuscitation drugs, appropriate monitoring equipment, and oxygen must be available if sedation is utilized.

SAFE, ASEPTIC PRACTICES

- Strict aseptic technique should always be applied to the facility, patient, physician, assisting personnel, injectate/syringe, and other procedural materials. Examples include, but are not limited to:
  - Skin overlying the target region should be prepared for an aseptic procedure, preferably using chlorhexidine in alcohol. The area should then be draped to create a sterile field.
  - A face mask and sterile gloves must be worn during the procedure.
  - Sterile single-use syringes and needles are required, and single-dose vials should be utilized when available.
  - Acquisition, storage, and utilization of medications should adhere to relevant regulatory guidelines.

IMAGING

- Use of image guidance is critical for appropriate needle placement and monitoring contrast medium flow patterns.
- Fluoroscopic guidance has been used in the primary literature validating the safety and efficacy of SIJ injections, while the same rigor of investigation has not occurred for alternative image guidance. Therefore, fluoroscopy is currently the recommended image-guidance modality for SIJ injections.
- The fluoroscopic technique should follow the ALARA (As Low As Reasonably Achievable) principles to minimize X-ray exposure for the patient and the healthcare team.
- If using fluoroscopy, multiplanar views should be used to confirm appropriate needle placement and to avoid placement too far anterior or inferior. Saving a final true AP needle placement view documents that the needle tip has not traversed the greater sciatic foramen into the sciatic nerve or pelvic cavity. A true lateral view documents that the needle tip has not passed the anterior aspect of the joint into the pelvic cavity.
- A post-contrast true lateral view can be used to monitor for anterior or cephalad contrast spread through a capsular defect, which may result in anesthetizing the L5 or S1 nerve roots, lumbosacral plexus, or sciatic nerve.

- Obtain images documenting the final needle position and satisfactory contrast medium spread.
- In procedures where intrathecal access is not possible, GBCM can be utilized. However, GBCM has a lower relative radiodensity compared to iodinated contrast medium, producing a contrast flow pattern that is less apparent on fluoroscopy. Regardless, the lowest necessary volume of GBCM should be utilized.

PROCEDURE TECHNIQUE

- The total volume of all medications injected into the joint (including contrast medium) should not exceed 2 ml. Physicians injecting a higher volume should be aware that medication will likely be administered to inadvertent structures, most likely resulting in dorsal medication deposition. This also includes the possibility of anesthetizing the L5 or S1 nerve roots, lumbosacral plexus, or sciatic nerve.

POST-PROCEDURE MONITORING/FOLLOW-UP

- Patients should be monitored for an appropriate time following the procedure, depending upon the nature of the intervention and the agents utilized.
- A certain percentage of patients will have a ventral capsular defect in the joint capsule, which, if present, may allow for medication to spread onto the lumbosacral plexus. Smaller percentages will have cephalad or posterior capsular defects in the joint capsule, which, if present, may allow for medication to spread onto the L5 and/or S1 nerve roots. If lower extremity weakness or numbness occurs post-procedure, physicians should consider observing patients until normal neurologic function of the lower extremities returns.
- Provide detailed oral and written discharge instructions to patients that outline the following:
  - restrictions and recommendations for the immediate post-injection period
  - potential common side effects that may occur immediately post-injection and in the days following the procedure, including injection site discomfort, elevated blood glucose, minor bleeding/bruising, facial flushing, or headache
  - symptoms that merit immediate medical attention, including but not limited to fever, severe worsening of pain, purulent discharge, and new or worsening neurologic deficits
  - timing for resumption of usual medications and anticoagulants if discontinued for the procedure
  - instructions for diabetic patients to monitor blood glucose levels for 48 hours or until baseline levels have been achieved
- Ensure patients have a follow-up plan.

SOURCES

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DISCLOSURES

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No Financial Relationships to Disclose.

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No Financial Relationships to Disclose.

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