

# UT Southwestern Department of Radiology

## Ultrasound- Neonatal Spine

### **PURPOSE:**

To evaluate for spinal dysraphism or suspected spinal cord anomaly.

### **AGE RANGE:**

Less than or equal to 6 months. If child was born premature, they may be seen up until 9 months corrected age (until 6 months after their 40-week due date).

### **SCOPE:**

Applies to all ultrasound Neonatal Spine evaluation studies performed at Imaging Services / Radiology

### **INDICATIONS:**

- Posterior mid-line cysts/masses
- Mid-line skin dimples - often called a 'Sacral Pit'
- Tufts of hair
- Visible hemangioma / skin discoloration
- Infection / abscess

### **CONTRAINDICATIONS:**

No absolute contraindications.

### **EQUIPMENT:**

Linear array transducers:

EPIQ 7G L12-5.

EPIQ 5G eL18-4.

GE LOGIC E9 ML6-15.

IU22 L12-5.

### **PATIENT PREPARATION:**

- Prone, head, slightly higher than the feet to better fill the lower csf space.
- A rolled towel (or similar) under the baby's abdomen to slightly widen the posterior inter-spinous spaces.
- use warm coupling gel and use additional gel to form a standoff when visualizing superficial structures

### **EXAMINATION:**

#### **GENERAL GUIDELINES:**

Infants greater than 6 months should not be imaged due to ossification of the posterior elements. If child was born premature, they may be seen up until 6 months corrected age.

#### **EXAM INITIATION:**

- Introduce yourself to the patient (AIDET)
- Verify patient identify using patient name and DOB
- Explain Test
- Obtain patient history including symptoms.
- Enter and store data page

## UT Southwestern Department of Radiology

- Place patient in Prone position. (Decubitus positioning may be used under extenuating circumstances.)

**Note: Label positioning on all images, and indicate position and reason in tech note.**

### **TECHNIQUE CONSIDERATIONS:**

- Assess and label the coccyx and sacral spine in the longitudinal plane.
- Assess and label the lumbosacral spine in longitudinal plane where the transition is seen.
- Assess, count and label the lumbar spine in the longitudinal plane along with the level of termination of the conus.
- Obtain two cine evaluations of the movement of the distal cord and nerve roots in longitudinal plane.
- Assess the lumbosacral spine and spinal cord, filum, and nerve roots in the transverse planes starting above the level of the conus.
- Assess the underlying subcutaneous tissues for possible sinus tract. Include coccyx.
- If the filum appears thickened or echogenic, obtain a measurement (normal < 2mm)
- Obtain longitudinal and transverse images at the level of any clinically identified sacral abnormality.

### **DOCUMENTATION:**

- Long Sacral (S) Spine
- Long Sacral (S) and Lumbar (L) Spine
- Long Lumbar Spine including conus X 2 with labeling
- Long cine clips of Lumbar Spine x 2
- Transverse L1-L2
- Transverse L2-L3
- Transverse L3-L4
- Transverse L4-L5
- Obtain a cine or panoramic view of the entire spine to include T12-coccyx.

**\* Depending on indication(s) take long and trans images of area of sacral dimple, tuft of hair, asymmetrical gluteal cleft. Take an image if able to obtain Panoramic view of spine.**

### **PROCESSING:**

- Review examination images and data
- Export all images to PACS
- Document relevant history and impressions in primordial.
- Present images to Radiologist

### **REFERENCES:**

Siegel, Marilyn, (2002). Pediatric Sonography. Philadelphia, PA: Lippincott Williams and Wilkins.  
<https://www.acr.org/-/media/ACR/Files/Practice-Parameters/US-NeonatalSpine.pdf>

# UT Southwestern Department of Radiology

## REVISION HISTORY:

<b>SUBMITTED BY:</b>	<b>Samantha Lewis, B.S., RDMS</b>	<b>Title</b>	<b>Ultrasound Team Leader-Plano</b>
<b>APPROVED BY:</b>	<b>Jeannie Kwon, M.D.</b>	<b>Title</b>	<b>Director of Ultrasound</b>
	<b>Christy Baez, RDMS. RVT</b>		<b>Ultrasound Team Leader-Dallas</b>
<b>APPROVAL DATE:</b>	<b>11/5/2019</b>		
<b>REVIEW DATE(S):</b>			
<b>REVISION DATE(S):</b>		<b>Brief Summary</b>	