

# NEONATAL SPINE ULTRASOUND PROTOCOL

UW Medicine

**PATIENT PREP:** No prep

**PATIENT POSITION:** Prone with legs folded under body. Place a rolled washcloth underneath the lower abdomen to help curve the spine and stabilize the infant.

**TRANSDUCER SELECTION:** L12 or L18 Linear transducer

**\*\*Exams are usually done in the NICU, where there are strict disinfection guidelines. All personnel entering the NICU must use good hand washing technique along with use of disinfecting gel.**

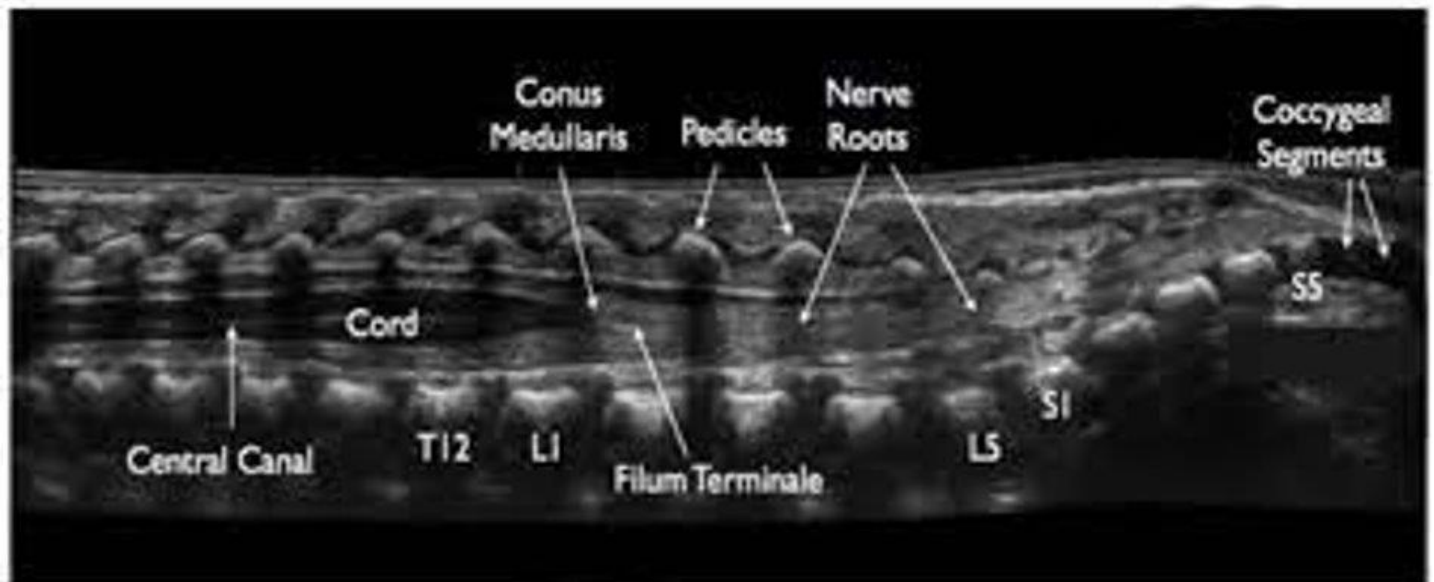
**\*\*Upon arrival to the neonatal unit, you must wash your hands and arms up to your elbow. At UW Montlake, the hand washing station is located in the hall to the left of the elevators. ALSO BE SURE TO SIGN THE STAFF/VISITOR LOG that is hanging near the hand washing station.**

**\*\*Always read the sign on the patient door. If the patient is in isolation, follow the instructions. If there is a sign that says "72," that means that they baby is in its first 72 hours of life, and you need to contact the RN before going in.**

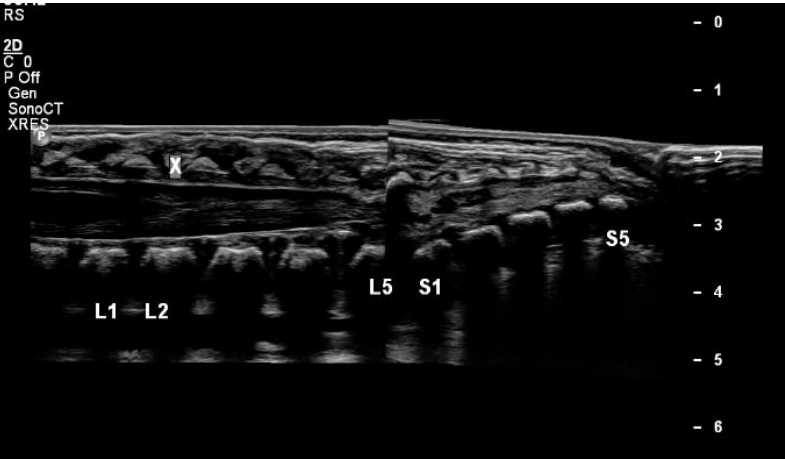
**\*\*If the patient is in isolation, then the sonographer should wear a blue plastic gown. Please let the RN know that you are coming up or that you have arrived before starting the exam.**

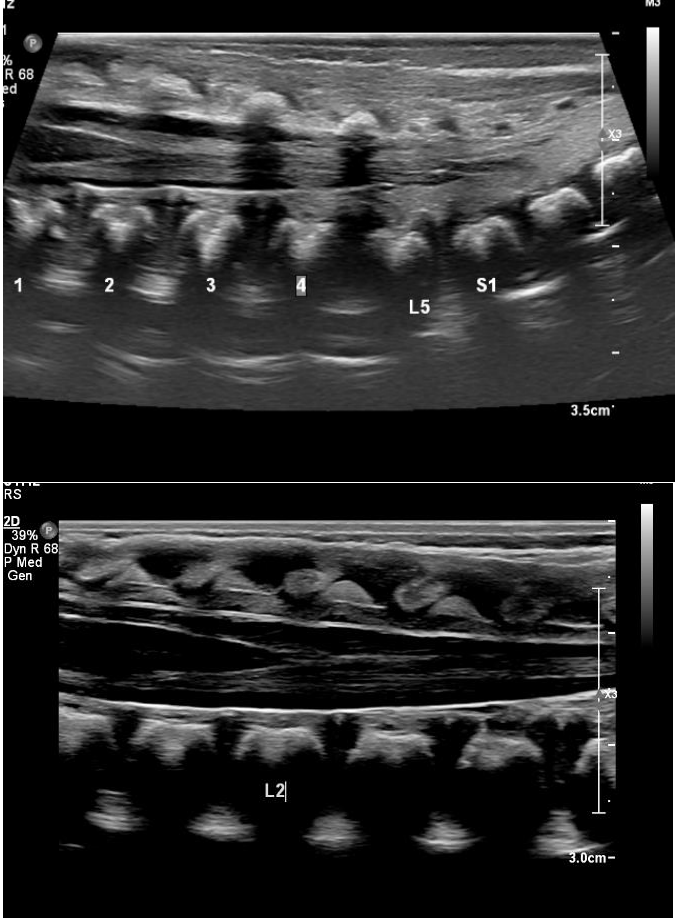


**\*\*Thoroughly clean the transducer and machine with Oxivir wipes between each patient.**



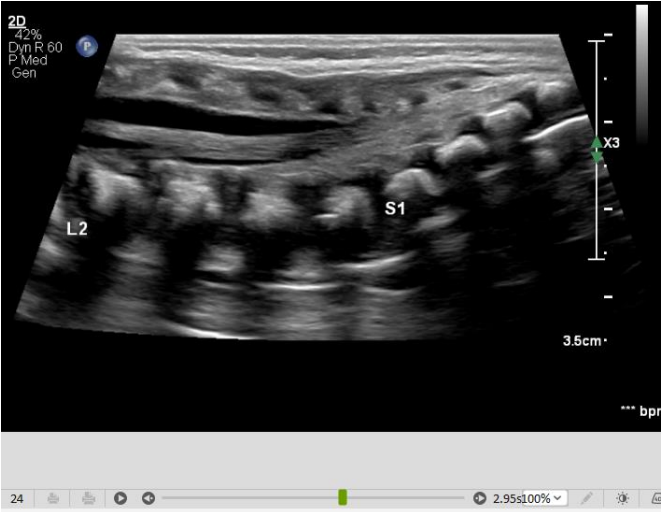
**\*\*Individual gel packs must be used to minimize any spread of infection.**


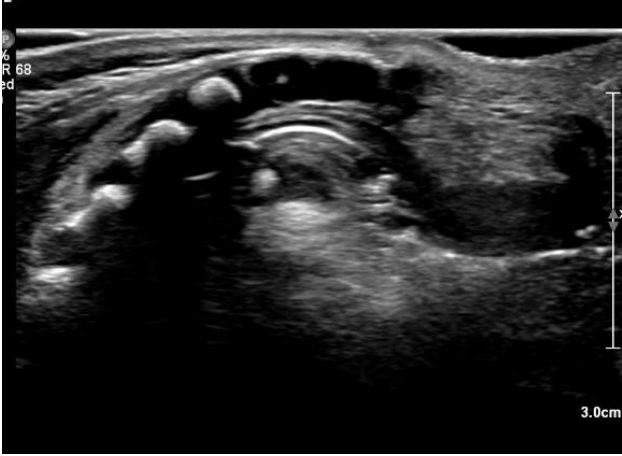



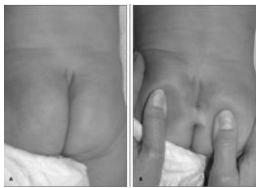
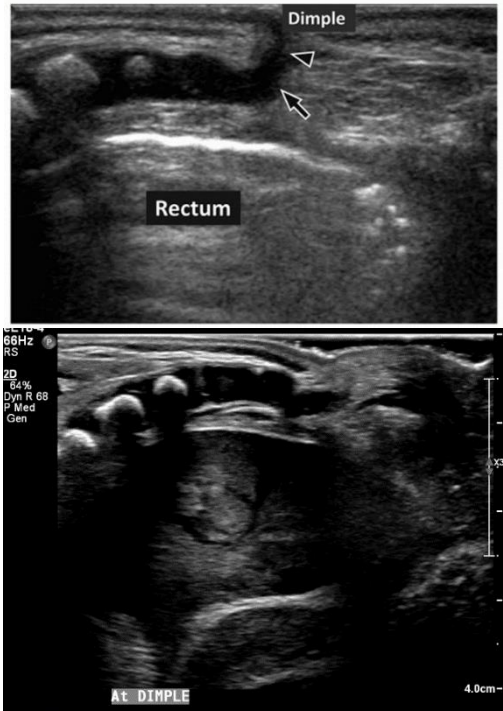

## IMAGES TO OBTAIN

ORIENTATION / VIEW	ANATOMY	EXAMPLE
<p><b>SAGITTAL</b></p> <p>Panoramic or Dual screen still image</p>	<p>Identify and label all vertebrae from L1 to S5 for global view</p> <p><b>METHODS FOR IDENTIFYING L1 -</b></p> <ol style="list-style-type: none"> <li>In a sagittal plane, scan lateral to the spine, find the last rib and follow it to the spine at T12. The next vertebral body down is L1. Count from there.</li> <li>In a sagittal plane, identify the S5-S1 vertebral bodies being careful not to count the coccyx. Then count upward L5-L1. The lumbar vertebrae lay flat where as the sacral are more arched.</li> </ol>	 <p>The image is a sagittal B-mode ultrasound scan of the spine. On the left side, technical parameters are listed: RS, 2D, C 0, P Off, Gen, SonoCT, XRES. On the right side, a depth scale is shown with markings from -0 to -6. The spine is oriented vertically, with the sacrum at the top and the lumbar vertebrae below. Labels 'L1 - L2' are placed on the left side of the lumbar vertebrae, 'L5 S1' are placed on the right side of the lumbar vertebrae, and 'S5' is placed on the right side of the sacrum. A small 'X' is marked on the upper part of the spine.</p>

<p><b>SAGITTAL</b></p> <p>2D image</p>	<p>Identify the tip of conus and label level of vertebrae it is seen at</p> <p>In a non-premature infant, between L1 and the end of L2, is considered normal.</p> <p>If the infant is premature, it is normal for the conus to terminate at the end of L3.</p>	
<p><b>SAGITTAL</b></p> <p>2D image</p>	<p>If present, document and measure any filar cysts seen</p> <p>Filar cysts are marquis diamond shaped, usually &lt;2cm and are incidental findings.</p>	
<p><b>TRANVERSE</b></p> <p>Cine clip</p>	<p>Sweep superior to inferior from mid thoracic region through sacrum</p>	

<p><b>TRANVERSE</b></p> <p>2D image</p>	<p>At inferior portion of cord near conus</p>	
<p><b>TRANVERSE</b></p> <p>Cine Clip AND 2D image</p>	<p>At fibers, showing free movement.</p> <p>Don't sweep, just stay stationary and look for fibers to move and whether they are gravity dependent.</p>	
<p><b>SAGITTAL</b></p> <p>Cine Clip AND 2D image</p>	<p>At fibers, showing free movement.</p> <p>Don't sweep, just stay stationary and look for fibers to move and whether they are gravity dependent or appear tethered</p>	

<p><b>SAGITTAL</b></p> <p>Cine Clip AND 2D image</p>	<p>At sacrum</p> <p>Of note: Coccyx is not ossified until 6 months of age</p> <p>Cine from outer to outer spine</p>	 <p>56 S SP COCCYX</p> <p><b>PARTIALLY OSSIFIED</b></p>  <p>3.0cm</p> <p><b>NOT OSSIFIED</b></p>
<p><b>TRANSVERSE</b></p> <p>Cine Clip AND 2D image</p>	<p>At sacrum</p> <p>Cine: Superior to inferior through gluteal cleft</p>	 <p>S TRANS</p> <p>1.51s100%</p>

<p><b>SAGITTAL</b></p> <p>Cine Clip AND 2D images</p> <p>Always spread buttocks in order to visualize the intergluteal cleft best.</p> 	<p>At dimple, hair tuft or skin defect looking for track.</p> <p>Label: AT DIMPLE etc and use marker to indicate exact location</p>	
<p><b>TRANSVERSE</b></p> <p>Cine Clip AND 2D image</p>	<p>At dimple, hair tuft or skin defect looking for tracking.</p> <p>Label: AT DIMPLE etc and use marker to indicate exact location</p>	

### NEONATAL SPINE ULTRASOUND PROTOCOL HISTORY

	Date	Changes made	By whom
Created	08/2020		
Reviewed	08/13/2020		Protocol review team
Updated	12/21/2022	Format change	Renee Betit Fitzgerald
Reviewed	2/23/2023	Added - Always spread buttocks in order to visualize intergluteal cleft best.	Protocol review team