

Nerve Block	Transducer Placement	Ultrasound Image	Reverse Ultrasound Anatomy™	Anatomy																
<p><b>Femoral</b></p> <p><b>Indications:</b> Surgery on femur, anterior thigh and knee, patella fracture, quadriceps tendon repair.  <b>Analgesia for hip and femur fractures.</b>  <b>Patient position:</b> Supine.  <b>Transducer:</b> Linear.  <b>Needle:</b> 22G, 5-10cm short bevel.  <b>Common EMR obtained:</b> Quadriceps muscle contraction.  <b>LA:</b> 10-20 ml.</p> <p><b>ABBREVIATIONS</b></p> <table border="0"> <tr> <td><b>ASIS</b> Anterior Superior Iliac Spine</td> <td><b>IPM</b> Iliopsoas Muscle</td> </tr> <tr> <td><b>BORe</b> Bolus Observe Reposition</td> <td><b>LA</b> Local Anesthetic</td> </tr> <tr> <td><b>EMR</b> Evoked Motor Response</td> <td><b>LFCN</b> Lateral Femoral Cutaneous Nerve</td> </tr> <tr> <td><b>FA</b> Femoral Artery</td> <td><b>FN</b> Femoral Nerve</td> </tr> <tr> <td><b>FI</b> Fascia Iliaca</td> <td><b>SaM</b> Sartorius Muscle</td> </tr> <tr> <td><b>FL</b> Fascia lata</td> <td><b>SAIS</b> Superior Anterior Iliac Spine</td> </tr> <tr> <td><b>FN</b> Femoral Nerve</td> <td><b>SCA</b> Superficial Circumflex Artery</td> </tr> <tr> <td><b>FV</b> Femoral Vein</td> <td><b>TFL</b> Tensor Fascia Lata</td> </tr> </table>	<b>ASIS</b> Anterior Superior Iliac Spine	<b>IPM</b> Iliopsoas Muscle	<b>BORe</b> Bolus Observe Reposition	<b>LA</b> Local Anesthetic	<b>EMR</b> Evoked Motor Response	<b>LFCN</b> Lateral Femoral Cutaneous Nerve	<b>FA</b> Femoral Artery	<b>FN</b> Femoral Nerve	<b>FI</b> Fascia Iliaca	<b>SaM</b> Sartorius Muscle	<b>FL</b> Fascia lata	<b>SAIS</b> Superior Anterior Iliac Spine	<b>FN</b> Femoral Nerve	<b>SCA</b> Superficial Circumflex Artery	<b>FV</b> Femoral Vein	<b>TFL</b> Tensor Fascia Lata	<p><b>Initial transducer placement:</b> Femoral crease, parallel and inferior to inguinal ligament, must find the common FA  <b>Initial depth setting:</b> 4 cm.</p>	<p><b>Landmarks:</b> Common femoral artery and fascia iliaca (arrows).  <b>Ideal view:</b> Femoral nerve lateral to femoral artery, below fascia iliaca, above departure of profunda femoris artery.</p>	<p><b>Technique:</b> Needle Insertion in plane, lateral to medial, alternatively out of plane.  <b>Ideal spread of LA:</b> Under the fascia iliaca around the femoral nerve.  <b>Number of injections:</b> One. BORE.</p>	<p><b>Tips:</b> Obtain view proximal to bifurcation of the FA. Tilt the probe cranially/caudally to optimize the image of the nerve. Puncture the FI lateral to the edge of the FN.  <b>Beware:</b> motor weakness of quadriceps muscles can occur; risk of falls.</p>
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<p><b>Saphenous</b></p> <p><b>Indications:</b> Analgesia for knee surgery as a component of multimodal analgesia. In combination with sciatic nerve block for surgery below the knee.  <b>Patient position:</b> supine with leg abducted and externally rotated.  <b>Transducer:</b> Linear.  <b>Needle:</b> 22G, 5-10 cm short bevel.  <b>Common EMR obtained:</b> If used, paresthesia of medial aspect of lower leg or vastus medialis twitch can be elicited.  <b>LA:</b> 10-15 ml</p> <p><b>ABBREVIATIONS</b></p> <table border="0"> <tr> <td><b>ALM</b> Adductor Longus Muscle</td> <td><b>SaM</b> Saphenous Nerve</td> </tr> <tr> <td><b>AMM</b> Adductor Magnus Muscle</td> <td><b>PD</b> Power Doppler</td> </tr> <tr> <td><b>FA</b> Femoral Artery</td> <td><b>RFM</b> Rectus Femoris Muscle</td> </tr> <tr> <td><b>SaM</b> Sartorius Muscle</td> <td><b>VMM</b> Vastus Medialis Muscle</td> </tr> <tr> <td></td> <td><b>VMN</b> Vastus Medialis Nerve</td> </tr> </table>	<b>ALM</b> Adductor Longus Muscle	<b>SaM</b> Saphenous Nerve	<b>AMM</b> Adductor Magnus Muscle	<b>PD</b> Power Doppler	<b>FA</b> Femoral Artery	<b>RFM</b> Rectus Femoris Muscle	<b>SaM</b> Sartorius Muscle	<b>VMM</b> Vastus Medialis Muscle		<b>VMN</b> Vastus Medialis Nerve	<p><b>Initial transducer placement:</b> Transverse view at medial aspect of lower thigh to mid-thigh level.  <b>Initial depth setting:</b> 4 cm.</p>	<p><b>Landmarks:</b> Sartorius muscle and femoral artery  <b>Ideal view:</b> Femoral artery in the subsartorius plane at the medial edge of the vastus medialis.</p>	<p><b>Technique:</b> Needle insertion in plane, lateral to medial, alternatively out of plane.  <b>Ideal spread of LA:</b> In the fascial plane (arrows) underneath sartorius muscle on both sides of the artery  <b>Number of injections:</b> One. BORE</p>	<p><b>Tips:</b> When localization of femoral artery proves difficult, use PD and/or start scanning at the level of the femoral crease and follow the course of the femoral artery distally into the canal.</p>						
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<p><b>Sciatic Subgluteal level</b></p> <p><b>Indications:</b> Anesthesia and analgesia for surgery on femur, at and below the knee.  <b>Patient position:</b> Prone, lateral or oblique (shown).  <b>Transducer:</b> Linear or curved in larger patients  <b>Needle:</b> 22G, 8-10cm short bevel.  <b>Common EMR obtained:</b> Twitch of calf or foot  <b>LA:</b> 15-20 ml.</p> <p><b>ABBREVIATIONS</b></p> <table border="0"> <tr> <td><b>AMM</b> Adductor Magnus Muscle</td> <td><b>IT</b> Ischial Tubercle</td> </tr> <tr> <td><b>BORe</b> Bolus Observe Reposition</td> <td><b>LCnN</b> Lateral cluneal Nerves</td> </tr> <tr> <td><b>EMR</b> Evoked Motor Response</td> <td><b>LA</b> Local Anesthetic</td> </tr> <tr> <td><b>GMM</b> Gluteus Maximus Muscle</td> <td><b>ScN</b> Sciatic Nerve</td> </tr> <tr> <td><b>GT</b> Great Trochanter</td> <td><b>STM</b> Semitendinosus Muscle</td> </tr> <tr> <td><b>IGA</b> Inferior Gluteal Artery</td> <td></td> </tr> </table>	<b>AMM</b> Adductor Magnus Muscle	<b>IT</b> Ischial Tubercle	<b>BORe</b> Bolus Observe Reposition	<b>LCnN</b> Lateral cluneal Nerves	<b>EMR</b> Evoked Motor Response	<b>LA</b> Local Anesthetic	<b>GMM</b> Gluteus Maximus Muscle	<b>ScN</b> Sciatic Nerve	<b>GT</b> Great Trochanter	<b>STM</b> Semitendinosus Muscle	<b>IGA</b> Inferior Gluteal Artery		<p><b>Initial transducer placement:</b> Gluteal crease, scan cephalad-caudad until the best view of the oval-shaped sciatic nerve and the muscular tunnel in which it travels are visualized regardless of the level.  <b>Initial depth setting:</b> 4-5 cm.</p>	<p><b>Landmarks:</b> Sciatic nerve, gluteus maximus, fascia underneath gluteus maximus.  <b>Ideal view:</b> Sciatic nerve in common connective tissue sheath (intermuscular tunnel).</p>	<p><b>Technique:</b> Needle insertion in plane, lateral to medial, alternatively out of plane.  <b>Ideal spread of LA:</b> Around the nerve, within the common connective tissue sheath.  <b>Number of injections:</b> One. BORE.</p>	<p><b>Tips:</b> Avoid inferior gluteal artery. Needle should enter the sheath of the ScN either at the lateral or medial aspect of the nerve. Transducer pressure and tilt often required to obtain the adequate view.</p>				
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