

Extremity Injections

	Ropivacaine HCL 0.5% (Naropin) 5mg/mL	Lidocaine HCL 1% Preservative Free 10mg/mL	Bupivacaine 0.25% 2.5 mg/mL	Omnipaque (Iohexol) 300 mg/mL	Dexamethasone Sodium Phosphate 10 mg/mL	Triamcinolone Acetonide (Kenalog) 40mg/mL	Volume Injected
Iliopsoas Bursa	2 mL	2 mL	----	----	----	1 mL (40 mg)	5 mL
Greater Trochanteric Bursa	2 mL	----	----	----	----	1 mL (40 mg)	3 mL
Subacromial Bursa	1 mL	1 mL	----	----	----	1 mL (40 mg)	3 mL
Piriformis	2 mL	----	----	----	----	1 mL (40 mg)	3 mL
Hamstring Tendon	4 mL	----	----	----	----	1 mL (40 mg)	5 mL
Biceps Tendon sheath (US guided tenograms as well)	1 mL	----	----	----	†May use instead of triamcinolone	1 mL (40 mg)	2 mL
Knee Joint	4 mL	4 mL **	----	*	----	1 mL (40 mg)	9 mL
Large Joint Injection: (Hip & Shoulder)	2 mL	2 mL **	----	*	----	1 mL (40 mg)	5 mL
Medium Joint Injection (Wrist, Elbow, & Ankle)	2 mL	2 mL **	----	*	----	1 mL (40 mg)	<u>2.5 mL</u>
Small Joint Injection (Acromioclavicular, Hand, & Foot)	1 mL	1 mL **	----	*	1 mL (10mg)	†May use instead of dexamethasone if deep structure	<u>1-2 mL</u>
Ganglion Cyst & Morton's Neuroma	----	1 mL	----	----	----	1 mL (40mg)	<u>1 mL</u>
Morton's Neuroma Ablation	----	----	0.4 mL	----	----	0.1 mL 100% EtOH	0.5 mL
Ischiofemoral Space	1 mL	1 mL	----	----	----	1 mL (40mg)	3 mL
Tenogram	----	7 mL	----	3 mL	1 mL (10mg)	----	11 mL
Baker's Cyst	1mL	1mL				1 mL (40mg)	3 mL

NOTE: 1% Lidocaine (Xylocaine) 10mg/mL and 8.4% Sodium Bicarbonate (9mL/1mL) are used for local anesthesia of the subcutaneous tissues on every procedure.

NOTE: When using Lidocaine, always use the preservative-free (P-F) version if you are going to mix it with corticosteroids or if you are administering deep anesthesia through a needle you will use to aspirate for infection. This will be determined by the physician performing the procedure.

* For fluoroscopically guided injections, particularly joint injections, contrast is needed to confirm needle placement. If allergic to nonionic contrast agents such as Iohexol, use Gadoterate Meglumine (Dotarem) 0.5 mmol per mL or air.

** If corticosteroids are not being used and only anesthetic is being requested, switch to 2% Lidocaine HCl 20mg/mL (5mL vial)

† Use Dexamethasone instead of Triamcinolone Acetonide (Kenalog) if superficial injection to minimize atrophy and skin pigmentation as determined by the physician.

Spine Injections

	Ropivacaine HCL 0.5% (Naropin) 5mg/mL	Lidocaine HCL 1% Preservative Free 10mg/mL	Lidocaine 0.5% (Xylocaine) 5mg/mL	Dexamethasone Sodium Phosphate 10 mg/mL	Triamcinolone Acetonide (Kenalog) 40mg/mL †	Bupivacaine 0.25% 2.5mg/mL	Volume Injected
Lumbar							
Midline Epidural			5 mL		2 mL (80 mg)		7 mL
Caudal Epidural			8 mL		2 mL (80 mg)		10 mL
Transforaminal Epidural below L2		2 mL			2 mL (80 mg) *		4 mL
Transforaminal Epidural on the left at or above the L2 level		2.5 mL		1.5 mL (15 mg)			4 mL
Transforaminal Epidural: 2 level or bilateral injections		6 mL			2 mL (80 mg) *		4 mL each
Nerve Root Block below L2		1 mL			1 mL (40 mg) *		1-2 mL
Nerve Root Block on the left at or above the L2 level		1 mL		1 mL (10mg)			1-2 mL
Facet Joint and Sacroiliac Joint	1 mL				1 mL (40 mg) *		1-2 mL
Synovial cyst	1.5 mL		3 mL: Mix 1:1 w/ contrast**		1.5 mL (60 mg)		3 mL **
Lumbar Sympathetic Ganglia		10 mL				10 mL	20 mL
Cervical							
Nerve Root & Midline Epidural		1 mL		1 mL (10 mg)			1-2 mL
Transforaminal Epidural		1 mL Inject 1 st		1 mL (10 mg) after Lidocaine			2 mL
Thoracic							
Nerve Root Block		1 mL		1 mL (10mg)			1-2 mL
Transforaminal Epidural		1 mL		1 mL (10mg)			2 mL

NOTE: 1% Lidocaine (Xylocaine) 10mg/mL and 8.4% Sodium Bicarbonate (9mL/1mL) are used for all procedures for local anesthesia of the subcutaneous tissues.

NOTE: Iohexol (Omnipaque) 300 mg/mL is used for all spine injections to confirm appropriate needle placement. If allergic to nonionic contrast, use Dotarem (Gadoterate Maglumine) 0.5 mmol per mL.

* If asked to do multiple injections at one setting, use no more than 2 mL Triamcinolone (Kenalog) total.

** If synovial cyst does not rupture on initial injection, inject lidocaine/contrast mix to rupture, repeat as needed.

† In certain clinical scenarios, Dexamethasone may be substituted for Triamcinolone for spine procedures as determined by the physician.

Conversion: 7mg of Dexamethasone is equivalent to 40 mg of Triamcinolone Acetonide.

Arthrogram Injections

	Lidocaine HCL 1% Preservative Free 10mg/mL	Omnipaque (Iohexol) 300 mg/mL	Ropivacaine HCL 0.5% (Naropin) 5mg/mL	0.9 % NaCL Preservative Free†	Dotarem (Gadoterate Meglumine) 0.5 mmol per mL	Volume Injected
MR Arthrogram						
Hip	5 mL	5 mL	5 mL	5 mL	0.1 mL	12-15 mL
Knee	20 mL	10 mL		10 mL	0.2 mL	40 mL
Shoulder	10 mL	5 mL		5 mL	0.1 mL	12-15 mL
Elbow	10 mL	5 mL		5 mL	0.1 mL	3-6 mL
Radiocarpal	10 mL	5 mL		5 mL	0.1 mL	2-4 mL
CT Arthrogram						
Hip	5 mL	10 mL	5 mL			12-15 mL
Knee	20 mL	20 mL				40 mL
Ankle	5 mL	5 mL				5-10 mL
Shoulder	10 mL	10 mL				12-15 mL
Elbow	5 mL	5 mL				3-6 mL
Radiocarpal	5 mL	5 mL				2-4 mL

Aspirations

	Lidocaine HCL 1% Preservative Free 10mg/mL	Omnipaque (Iohexol) 300 mg/mL		Sterile Water	
Fluoroscopy	10 mL	5 mL		10 mL	
Ultrasound	10 mL			10 mL	

NOTE: 1% Lidocaine (Xylocaine) 10mg/mL and 8.4% sodium bicarbonate (9mL/1mL) are used for all procedures for local anesthesia of the subcutaneous tissues.

NOTE: For LIDOCAINE ALLERGIC PATIENTS:

Use chloroprocaine (Nesacaine) 1% for skin. Since chloroprocaine has methylparaben in it, you shouldn't mix it with triamcinolone (Kenalog) or dexamethasone. An order must be placed in advance of the procedure by the physician.

Use tetracaine (Pontocaine) 0.5% with the steroid. It comes as a powder which needs to be mixed with sterile water. Use the same quantities as you would for ropivacaine. An order must be placed in advance of the procedure by the physician.

† 0.9% Bacteriostatic NaCl may also be used based on availability.

Peripheral Nerve Blocks

	Lidocaine HCL 1% Preservative Free 10mg/mL	Dexamethasone Sodium Phosphate 10 mg/mL	Bupivacaine 0.25% 2.5mg/mL	Volume to inject
Ganglion				
Stellate Ganglion	1ml Test Injection	1ml (10mg)	5 mL	7 mL
Ganglion Impar		1ml (10mg)	4 ml	5 ml
Medium Size Nerve				
Ulnar Nerve	3 mL	1 mL (10 mg)		4 mL
Tibial Nerve	3 mL	1 mL (10 mg)		4 mL
Obturator Nerve	3 mL	1 mL (10 mg)		4 mL
Saphenous Nerve	3 mL	1 mL (10 mg)		4 mL
Lateral Femoral Cutaneous Nerve	3 mL	1 mL (10 mg)		4 mL
Small-Sized Nerve				
Sural Nerve	1 mL	1 mL (10 mg)		2 mL
Pudendal Nerve	1 mL	1 mL (10 mg)		2 mL
Greater Occipital	1 mL	1 mL (10 mg)		2 mL
Digital Nerve	0.5 mL	0.5 mL (5 mg)		1 mL

NOTE: 1% Lidocaine (Xylocaine) 10mg/mL and 8.4% Sodium Bicarbonate (9mL/1mL) are used for all procedures for local anesthesia of the subcutaneous tissues.

Vertebroplasty

	Lidocaine HCL 1% Preservative Free 10mg/mL	Ropivacaine HCL 0.5% (Naropin) 5mg/mL	Volume Injected
Fluoroscopy	10 mL	10 mL	5-20 mL
CT	10 mL	10 mL	5-20 mL

Biopsy (For Pathology*)

	Lidocaine HCL 1% Preservative Free 10mg/mL	Ropivacaine HCL 0.5% (Naropin) 5mg/mL	Volume Injected
Fluoroscopy	10 mL	10 mL	5-20 mL
Ultrasound	10 mL	10 mL	5-20 mL
CT	10 mL	10 mL	5-20 mL

NOTE: 1% Lidocaine (Xylocaine) 10mg/mL and 8.4% sodium bicarbonate (9mL/1mL) are used for all procedures for local anesthesia of the subcutaneous tissues.

* Biopsy may be of a bone lesion of soft tissue mass. If an aspiration is performed at the same time as the biopsy, please refer to the aspiration chart for additional medications required for the procedure.

NOTE: For LIDOCAINE ALLERGIC PATIENTS:

Use chlorprocaine (Nesacaine) 1% for skin. Since chlorprocaine has methylparaben in it, you shouldn't mix it with triamcinolone (Kenalog) or dexamethasone.

An order must be placed in advance of the procedure by the physician.

Use tetracaine (Pontocaine) 0.5% with the steroid. It comes as a powder which needs to be mixed with sterile water. Use the same quantities as you would for ropivacaine.

An order must be placed in advance of the procedure by the physician.