

**American College of Radiology**  
**ACR Appropriateness Criteria®**

## Plexopathy

**Variant 1: Brachial plexopathy, acute or chronic, nontraumatic. No known malignancy. Initial imaging.**

Procedure	Appropriateness Category	SOE	Adults RRL	Peds RRL	Rating	Median	Final Tabulations								
							1	2	3	4	5	6	7	8	9
MRI brachial plexus without and with IV contrast	Usually appropriate	Strong	0 0 mSv	0 0 mSv [ped]	9	9	1	0	0	0	0	1	2	3	13
		References		Study Quality											
		44 (22071340)		3											
		45 (19663545)		3											
		6 (21763092)		4											
		9 (24355190)		4											
		10 (30688245)		4											
		27 (24210315)		4											
		47 (28987674)		1											
		46 (28723713)		2											
MRI brachial plexus without IV contrast	Usually appropriate	Strong	0 0 mSv	0 0 mSv [ped]	7	7	0	1	0	1	3	0	6	4	5
		References		Study Quality											
		44 (22071340)		3											
		45 (19663545)		3											
		6 (21763092)		4											
		9 (24355190)		4											
		10 (30688245)		4											
		27 (24210315)		4											





10 (30688245)	4
27 (24210315)	4
47 (28987674)	1
46 (28723713)	2

**Variant 2: Lumbosacral plexopathy, acute or chronic, nontraumatic. No known malignancy. Initial imaging.**

Procedure	Appropriateness Category	SOE	Adults RRL	Peds RRL	Rating	Median	Final Tabulations								
							1	2	3	4	5	6	7	8	9
MRI lumbosacral plexus without and with IV contrast	Usually appropriate	Strong	O 0 mSv	O 0 mSv [ped]	9	9	1	0	0	0	1	0	3	2	13

References	Study Quality
63 (19333087)	3
4 (23842967)	4
2 (24210317)	4
56 (30262644)	2
62 (29581014)	2
3 (27454861)	4
8 (25940664)	4
1 (30152741)	4
64 (28059708)	2
7 (29662907)	4
61 (25764239)	4

MRI lumbosacral plexus without IV contrast	Usually appropriate	Strong	O 0 mSv	O 0 mSv [ped]	7	7	0	0	0	0	0	0	12	7	2
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References	Study Quality
63 (19333087)	3
4 (23842967)	4
2 (24210317)	4
56 (30262644)	2

62 (29581014)	2
3 (27454861)	4
8 (25940664)	4
1 (30152741)	4
64 (28059708)	2
7 (29662907)	4
61 (25764239)	4

MRI lumbar spine without IV contrast	May be appropriate	Limited	O 0 mSv	O 0 mSv [ped]	6	6	0	0	2	0	3	7	3	2	3
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References	Study Quality
1 (30152741)	4

CT abdomen and pelvis with IV contrast	May be appropriate	Expert Consensus	⊕⊕⊕ 1-10 mSv	⊕⊕⊕⊕ 3-10 mSv [ped]	5	5	0	0	0	1	17	3	0	0	0
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MRI lumbar spine without and with IV contrast	May be appropriate	Limited	O 0 mSv	O 0 mSv [ped]	5	5	0	0	1	0	19	1	0	0	0
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References	Study Quality
1 (30152741)	4

CT abdomen and pelvis without IV contrast	Usually not appropriate	Expert Consensus	⊕⊕⊕ 1-10 mSv	⊕⊕⊕⊕ 3-10 mSv [ped]	3	3	7	3	2	5	3	0	0	0	0
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CT abdomen and pelvis without and with IV contrast	Usually not appropriate	Expert Consensus	⊕⊕⊕⊕ 10-30 mSv	⊕⊕⊕⊕⊕ 10-30 mSv [ped]	1	1	11	2	2	1	3	1	0	0	0
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CT myelography lumbar spine	Usually not appropriate	Expert Consensus	⊕⊕⊕⊕ 10-30 mSv		1	1	15	1	2	0	1	0	0	0	1
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CT lumbar spine with IV contrast	Usually not appropriate	Expert Consensus	⊕⊕⊕ 1-10 mSv	⊕⊕⊕⊕ 3-10 mSv [ped]	1	1	11	3	4	0	1	0	0	0	1
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CT lumbar spine without IV contrast	Usually not appropriate	Expert Consensus	⊕⊕⊕ 1-10 mSv	⊕⊕⊕⊕ 3-10 mSv [ped]	1	1	12	2	5	0	0	0	0	0	1
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CT lumbar spine without and with IV contrast	Usually not appropriate	Expert Consensus	☼☼☼☼ 10-30 mSv	☼☼☼☼☼ 3-10 mSv [ped]	1	1	15	1	3	0	0	0	0	0	1
MRI pelvis without IV contrast	Usually not appropriate	Expert Consensus	○ 0 mSv	○ 0 mSv [ped]	1	1	11	2	2	4	1	0	0	0	0
MRI pelvis without and with IV contrast	Usually not appropriate	Expert Consensus	○ 0 mSv	○ 0 mSv [ped]	1	1	12	2	3	0	1	2	0	0	0
FDG-PET/CT whole body	Usually not appropriate	Expert Consensus	☼☼☼☼ 10-30 mSv	☼☼☼☼☼ 3-10 mSv [ped]	1	1	14	3	2	0	0	0	0	0	1
MRI lumbar spine with IV contrast	Usually not appropriate	Limited	○ 0 mSv	○ 0 mSv [ped]	1	1	21	0	0	0	0	0	0	0	0
		References		Study Quality											
		1 (30152741)		4											
MRI lumbosacral plexus with IV contrast	Usually not appropriate	Strong	○ 0 mSv	○ 0 mSv [ped]	1	1	20	0	0	1	0	0	0	0	0
		References		Study Quality											
		63 (19333087)		3											
		4 (23842967)		4											
		2 (24210317)		4											
		56 (30262644)		2											
		62 (29581014)		2											
		3 (27454861)		4											
		8 (25940664)		4											
		1 (30152741)		4											
		64 (28059708)		2											
		7 (29662907)		4											
		61 (25764239)		4											
MRI pelvis with IV contrast	Usually not appropriate	Expert Consensus	○ 0 mSv	○ 0 mSv [ped]	1	1	15	1	1	2	1	0	0	0	0

**Variant 3: Brachial plexopathy, traumatic (not perinatal). Initial imaging.**

Procedure	Appropriateness Category	SOE	Adults RRL	Peds RRL	Rating	Median	Final Tabulations								
							1	2	3	4	5	6	7	8	9
MRI brachial plexus without IV contrast	Usually appropriate	Limited	O 0 mSv	O 0 mSv [ped]	9	9	2	0	0	0	0	0	4	1	13
		References		Study Quality											
		44 (22071340)		3											
		6 (21763092)		4											
		9 (24355190)		4											
		10 (30688245)		4											
		71 (28886666)		2											
		69 (29145043)		4											
		66 (29778092)		4											
		27 (24210315)		4											
		72 (27801698)		3											
MRI brachial plexus without and with IV contrast	Usually appropriate	Limited	O 0 mSv	O 0 mSv [ped]	7	7	0	0	0	0	0	0	15	5	1
		References		Study Quality											
		44 (22071340)		3											
		6 (21763092)		4											
		9 (24355190)		4											
		10 (30688245)		4											
		71 (28886666)		2											
		69 (29145043)		4											
		66 (29778092)		4											
		27 (24210315)		4											
		72 (27801698)		3											







		References	Study Quality													
		4 (23842967)	4													
		8 (25940664)	4													
MRI lumbosacral plexus without and with IV contrast	Usually appropriate	Limited	O 0 mSv	O 0 mSv [ped]	7	7	0	0	0	0	0	0	16	4	1	
		References	Study Quality													
		4 (23842967)	4													
		8 (25940664)	4													
MRI lumbar spine without IV contrast	May be appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	6	6	0	0	0	1	6	13	1	0	0	
CT myelography lumbar spine	May be appropriate	Expert Consensus	☼☼☼☼ 10-30 mSv		5	5	1	0	0	9	8	3	0	0	0	
CT lumbar spine without IV contrast	May be appropriate	Expert Consensus	☼☼☼ 1-10 mSv	☼☼☼☼ 3-10 mSv [ped]	5	5	1	0	1	7	8	3	0	1	0	
MRI pelvis without IV contrast	May be appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	5	5	1	0	0	2	15	3	0	0	0	
MRI lumbar spine without and with IV contrast	May be appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	5	5	1	0	1	7	9	3	0	0	0	
CT abdomen and pelvis with IV contrast	May be appropriate	Expert Consensus	☼☼☼ 1-10 mSv	☼☼☼☼ 3-10 mSv [ped]	4	4	8	1	1	5	4	1	0	0	0	
CT abdomen and pelvis without IV contrast	May be appropriate	Expert Consensus	☼☼☼ 1-10 mSv	☼☼☼☼ 3-10 mSv [ped]	4	4	6	3	1	5	5	0	0	0	0	
MRI pelvis without and with IV contrast	May be appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	4	4	3	0	1	8	7	2	0	0	0	
CT abdomen and pelvis without and with IV contrast	Usually not appropriate	Expert Consensus	☼☼☼☼ 10-30 mSv	☼☼☼☼☼ 10-30 mSv [ped]	1	1	12	2	2	2	1	1	0	0	0	
CT lumbar spine with IV contrast	Usually not appropriate	Expert Consensus	☼☼☼ 1-10 mSv	☼☼☼☼ 3-10 mSv [ped]	1	1	11	2	2	2	2	0	1	0	0	

CT lumbar spine without and with IV contrast	Usually not appropriate	Expert Consensus	⊕⊕⊕⊕⊕ 10-30 mSv	⊕⊕⊕⊕⊕ 3-10 mSv [ped]	1	1	13	1	2	1	2	1	0	0	0
FDG-PET/CT whole body	Usually not appropriate	Expert Consensus	⊕⊕⊕⊕⊕ 10-30 mSv	⊕⊕⊕⊕⊕ 3-10 mSv [ped]	1	1	17	0	2	0	0	0	0	0	1
MRI lumbar spine with IV contrast	Usually not appropriate	Expert Consensus	○ ○ mSv	○ ○ mSv [ped]	1	1	20	1	0	0	0	0	0	0	0
MRI lumbosacral plexus with IV contrast	Usually not appropriate	Limited	○ ○ mSv	○ ○ mSv [ped]	1	1	20	1	0	0	0	0	0	0	0
		References		Study Quality											
		4 (23842967)		4											
		8 (25940664)		4											
MRI pelvis with IV contrast	Usually not appropriate	Expert Consensus	○ ○ mSv	○ ○ mSv [ped]	1	1	14	1	1	0	2	0	0	2	0

**Variant 5: Brachial plexopathy, known malignancy or post-treatment syndrome. Initial imaging.**

Procedure	Appropriateness Category	SOE	Adults RRL	Peds RRL	Rating	Median	Final Tabulations								
							1	2	3	4	5	6	7	8	9
MRI brachial plexus without and with IV contrast	Usually appropriate	Limited	O 0 mSv	O 0 mSv [ped]	9	9	2	0	0	0	0	0	1	1	16
		References		Study Quality											
		20 (25300985)		3											
		5 (24370167)		4											
		6 (21763092)		4											
		9 (24355190)		4											
		10 (30688245)		4											
		80 (24842865)		4											
		27 (24210315)		4											
		79 (26934119)		4											

		76 (24928074)			4												
MRI brachial plexus without IV contrast	Usually appropriate	Limited	O 0 mSv	O 0 mSv [ped]	7	7	0	0	0	0	0	1	16	4	0		
		References			Study Quality												
		20 (25300985)			3												
		5 (24370167)			4												
		6 (21763092)			4												
		9 (24355190)			4												
		10 (30688245)			4												
		80 (24842865)			4												
		27 (24210315)			4												
		79 (26934119)			4												
		76 (24928074)			4												
CT neck with IV contrast	May be appropriate	Limited	☢☢☢ 1-10 mSv	☢☢☢ 0.3-3 mSv [ped]	6	6	0	0	0	0	8	12	1	0	0		
		References			Study Quality												
		43 (28096728)			4												
MRI cervical spine without and with IV contrast	May be appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	6	6	0	0	0	0	3	17	1	0	0		
FDG-PET/CT whole body	May be appropriate	Limited	☢☢☢☢ 10-30 mSv	☢☢☢☢ 3-10 mSv [ped]	6	6	1	0	1	0	7	7	3	0	1		
		References			Study Quality												
		76 (24928074)			4												
		82 (27095861)			4												
MRI cervical spine without IV contrast	May be appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	5	5	0	0	0	1	17	3	0	0	0		
CT neck without IV contrast	May be appropriate	Limited	☢☢☢ 1-10 mSv	☢☢☢ 0.3-3 mSv [ped]	4	4	6	3	1	5	3	1	0	1	0		
		References			Study Quality												
		43 (28096728)			4												

US neck	Usually not appropriate	Limited	O 0 mSv	O 0 mSv [ped]	3	3	6	4	6	3	1	1	0	0	0
		References		Study Quality											
		83 (24677066)		3											
		81 (29399848)		2											
		50 (29791960)		4											
CT myelography cervical spine	Usually not appropriate	Expert Consensus	⊗⊗⊗⊗ 10-30 mSv	⊗⊗⊗ 0.3-3 mSv [ped]	2	2	9	3	6	1	0	0	0	1	0
CT neck without and with IV contrast	Usually not appropriate	Limited	⊗⊗⊗ 1-10 mSv	⊗⊗⊗⊗ 3-10 mSv [ped]	1	1	14	6	1	0	0	0	0	0	0
		References		Study Quality											
		43 (28096728)		4											
CT cervical spine with IV contrast	Usually not appropriate	Expert Consensus	⊗⊗⊗ 1-10 mSv	⊗⊗⊗⊗ 3-10 mSv [ped]	1	1	11	2	5	0	1	0	0	1	0
CT cervical spine without IV contrast	Usually not appropriate	Expert Consensus	⊗⊗⊗ 1-10 mSv	⊗⊗⊗⊗ 3-10 mSv [ped]	1	1	11	4	2	2	0	0	0	1	0
CT cervical spine without and with IV contrast	Usually not appropriate	Expert Consensus	⊗⊗⊗ 1-10 mSv	⊗⊗⊗⊗ 3-10 mSv [ped]	1	1	14	3	2	0	0	0	0	1	0
MRI cervical spine with IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	12	1	3	0	2	1	1	0	0
MRI brachial plexus with IV contrast	Usually not appropriate	Limited	O 0 mSv	O 0 mSv [ped]	1	1	21	0	0	0	0	0	0	0	0
		References		Study Quality											
		20 (25300985)		3											
		5 (24370167)		4											
		6 (21763092)		4											
		9 (24355190)		4											
		10 (30688245)		4											
		80 (24842865)		4											

27 (24210315)	4
79 (26934119)	4
76 (24928074)	4

**Variant 6: Lumbosacral plexopathy, known malignancy or post-treatment syndrome. Initial imaging.**

Procedure	Appropriateness Category	SOE	Adults RRL	Peds RRL	Rating	Median	Final Tabulations								
							1	2	3	4	5	6	7	8	9
MRI lumbosacral plexus without and with IV contrast	Usually appropriate	Limited	O 0 mSv	O 0 mSv [ped]	9	9	2	0	0	0	0	0	0	2	16

References	Study Quality
4 (23842967)	4
2 (24210317)	4
3 (27454861)	4
8 (25940664)	4
85 (29264779)	4
7 (29662907)	4
84 (26323816)	4
76 (24928074)	4

MRI lumbosacral plexus without IV contrast	Usually appropriate	Limited	O 0 mSv	O 0 mSv [ped]	7	7	0	0	0	0	0	0	15	6	0
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References	Study Quality
4 (23842967)	4
2 (24210317)	4
3 (27454861)	4
8 (25940664)	4
85 (29264779)	4
7 (29662907)	4
84 (26323816)	4
76 (24928074)	4

CT abdomen and pelvis with IV contrast	May be appropriate	Expert Consensus	☼☼☼ 1-10 mSv	☼☼☼☼ 3-10 mSv [ped]	6	6	0	0	0	0	8	12	1	0	0
MRI pelvis without and with IV contrast	May be appropriate	Expert Consensus	○ 0 mSv	○ 0 mSv [ped]	6	6	0	0	0	0	7	11	3	0	0
MRI lumbar spine without and with IV contrast	May be appropriate	Limited	○ 0 mSv	○ 0 mSv [ped]	6	6	0	0	0	0	4	13	3	1	0
		References		Study Quality											
		3 (27454861)		4											
		7 (29662907)		4											
FDG-PET/CT whole body	May be appropriate	Limited	☼☼☼☼ 10-30 mSv	☼☼☼☼ 3-10 mSv [ped]	6	6	2	0	0	0	7	6	4	0	1
		References		Study Quality											
		84 (26323816)		4											
		76 (24928074)		4											
MRI pelvis without IV contrast	May be appropriate	Expert Consensus	○ 0 mSv	○ 0 mSv [ped]	5	5	0	0	0	10	9	2	0	0	0
MRI lumbar spine without IV contrast	May be appropriate	Limited	○ 0 mSv	○ 0 mSv [ped]	5	5	0	0	0	1	15	4	0	1	0
		References		Study Quality											
		3 (27454861)		4											
		7 (29662907)		4											
CT abdomen and pelvis without IV contrast	Usually not appropriate	Expert Consensus	☼☼☼ 1-10 mSv	☼☼☼☼ 3-10 mSv [ped]	3	3	5	3	4	4	3	1	0	0	0
CT abdomen and pelvis without and with IV contrast	Usually not appropriate	Expert Consensus	☼☼☼☼ 10-30 mSv	☼☼☼☼☼ 10-30 mSv [ped]	2	2	10	2	2	2	2	1	1	0	0
CT myelography lumbar spine	Usually not appropriate	Expert Consensus	☼☼☼☼ 10-30 mSv		2	2	10	3	5	0	2	0	0	0	0

CT lumbar spine with IV contrast	Usually not appropriate	Expert Consensus	☼☼☼ 1-10 mSv	☼☼☼☼ 3-10 mSv [ped]	1	1	11	3	4	0	1	0	0	1	0
CT lumbar spine without IV contrast	Usually not appropriate	Expert Consensus	☼☼☼ 1-10 mSv	☼☼☼☼ 3-10 mSv [ped]	1	1	13	1	3	2	0	0	0	1	0
CT lumbar spine without and with IV contrast	Usually not appropriate	Expert Consensus	☼☼☼☼ 10-30 mSv	☼☼☼☼ 3-10 mSv [ped]	1	1	13	4	1	1	0	0	0	1	0
MRI lumbar spine with IV contrast	Usually not appropriate	Limited	○ ○ mSv	○ ○ mSv [ped]	1	1	12	1	2	1	2	0	1	1	0
		References		Study Quality											
		3 (27454861)		4											
		7 (29662907)		4											
MRI lumbosacral plexus with IV contrast	Usually not appropriate	Limited	○ ○ mSv	○ ○ mSv [ped]	1	1	21	0	0	0	0	0	0	0	0
		References		Study Quality											
		4 (23842967)		4											
		2 (24210317)		4											
		3 (27454861)		4											
		8 (25940664)		4											
		85 (29264779)		4											
		7 (29662907)		4											
		84 (26323816)		4											
		76 (24928074)		4											
MRI pelvis with IV contrast	Usually not appropriate	Expert Consensus	○ ○ mSv	○ ○ mSv [ped]	1	1	11	2	3	1	1	1	1	0	0



## Appendix Key

A more complete discussion of the items presented below can be found by accessing the supporting documents at the designated hyperlinks.

**Appropriateness Category:** The panel's recommendation for a procedure based on the assessment of the risks and benefits of performing the procedure for the specified clinical scenario.

**SOE:** Strength of Evidence. The assessment of the amount and quality of evidence found in the peer reviewed medical literature for an appropriateness recommendation.

- **References:** The citation number and PMID for the reference(s) associated with the recommendation.
- **Study Quality:** The assessment of the quality of an individual reference based on the number of study quality elements described in the reference.

**RRL:** Relative Radiation Level. A population based assessment of the amount of radiation a typical patient may be exposed to during the specified procedure.

**Rating:** The final rating (1-9 scale) for the procedure as determined by the panel during rating rounds.

**Median:** The median rating (1-9 scale) for the procedure as determined by the panel during rating rounds.

**Final tabulations:** A histogram showing the number of panel members who rated the procedure as noted in the column heading (ie, 1, 2, 3, etc.).

Additional supporting documents about the AC methodology and processes can be found at [www.acr.org/ac](http://www.acr.org/ac).