American College of Radiology ACR Appropriateness Criteria[®]

Back Pain-Child

Variant 1: Child. Back pain. No clinical red flags. Initial imaging.

	Appropri	ateness	005		D 1 DD1	D (1				F	'inal '	Tabu	latio	ns		
Procedure	Categ		SOE	Adults RRL	Peds RRL	Rating	Median	1	2	3	4	5	6	7	8	9
Radiography spine area of interest	Usuall approp		Limited	Varies	Varies	2	2	3	6	2	1	4	0	1	0	0
			References		Study	v Quality										
			3 (19926701)			4										
			16 (28786774)			4										
			12 (32603067)			4										
Radiography complete spine	Usuall approp		Limited		ଝେଙେ 0.3- 3 mSv [ped]	2	2	7	6	3	0	0	0	1	0	0
			References		Study	Quality										
			3 (19926701)			4										
			16 (28786774)			4										
			12 (32603067)			4				_						
MRI complete spine without IV contrast	Usuall approp		Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	11	2	0	1	1	2	0	0	0
MRI complete spine without and with IV contrast	Usuall approp		Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	13	2	0	0	2	0	0	0	0
Bone scan whole body with SPECT or SPECT/CT area of interest	Usuall approp		Expert Consensus	֎֎֎ 1-10 mSv	֎֎֎֎ 3- 10 mSv [ped]	1	1	13	3	1	0	0	0	0	0	0

Bone scan whole body with SPECT or SPECT/CT complete spine	Usually not appropriate	Expert Consensus	ବଟଟ 1-10 mSv	≎≎≎≎ 3- 10 mSv [ped]	1	1	14	2	1	0	0	0	0	0	0
CT spine area of interest without IV contrast	Usually not appropriate	Expert Consensus	Varies	Varies	1	1	10	2	1	2	0	1	1	0	0
CT spine area of interest without and with IV contrast	Usually not appropriate	Expert Consensus	Varies	Varies	1	1	13	3	0	0	0	1	0	0	0
CT spine area of interest with IV contrast	Usually not appropriate	Expert Consensus	Varies	Varies	1	1	12	3	1	0	0	1	0	0	0
MRI spine area of interest without and with IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	12	3	0	0	1	1	0	0	0
MRI spine area of interest without IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	12	3	1	0	0	0	1	0	0
MRI complete spine with IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	13	2	0	2	0	0	0	0	0
MRI spine area of interest with IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	13	2	0	0	1	1	0	0	0
CT myelography complete spine	Usually not appropriate	Expert Consensus	ଡଡଡଡଡ 30- 100 mSv	≎≎≎≎ 3- 10 mSv [ped]	1	1	16	0	1	0	0	0	0	0	0
CT myelography spine area of interest	Usually not appropriate	Expert Consensus	Varies	Varies	1	1	16	0	1	0	0	0	0	0	0
CT complete spine without and with IV contrast	Usually not appropriate	Expert Consensus	ବବବବ 10-30 mSv	≎≎≎≎ 3- 10 mSv [ped]	1	1	14	3	0	0	0	0	0	0	0
CT complete spine without IV contrast	Usually not appropriate	Expert Consensus	ବବବବ 10-30 mSv	≎≎≎≎ 3- 10 mSv [ped]	1	1	13	2	2	0	0	0	0	0	0
CT complete spine with IV contrast	Usually not appropriate	Expert Consensus	ବବବବ 10-30 mSv	₩₩₩ 3- 10 mSv [ped]	1	1	14	1	2	0	0	0	0	0	0
US spine area of interest	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	12	2	1	0	0	1	1	0	0

	Appropriate	eness	005					Final Tabulations 1 2 3 4 5 6 7 8 9 0 0 0 0 3 0 3 4 7								
Procedure	Categor		SOE	Adults RRL	Peds RRL	Rating	Median	1	2	3	4	5	6	7	8	9
Radiography spine area of interest	Usually appropria		Limited	Varies	Varies	8	8	0	0	0	0	3	0	3	4	7
			References		Study	Quality								•	•	
			17 (24686297)			3										
			1 (33781487)			4										
			2 (34995265)			3										
			16 (28786774)			4										
			12 (32603067)			4										
			9 (28135365)			4					-	_				
MRI complete spine without IV contrast	May be appropria (Disagreem	ite	Expert Opinion	O 0 mSv	O 0 mSv [ped]	5	5	1	1	0	4	7	2	1	0	1
			References		Study	V Quality										
			17 (24686297)			3										
			13 (26275972)			4										
			2 (34995265)			3										
			16 (28786774)			4										
			21 (33220471)			4		-			-	1	1			,
MRI complete spine without and with IV contrast	May be appropria		Limited	O 0 mSv	O 0 mSv [ped]	5	5	1	1	1	3	8	2	0	1	0
			References		Study	v Quality										
			17 (24686297)			3										
			13 (26275972)			4										
			2 (34995265)			3										
			16 (28786774)			4										
			21 (33220471)			4										

Variant 2: Child. Back pain. With at least one clinical red flag. Initial imaging.

		20 (35136714)			4										
		22 (32530746)			4										
CT spine area of interest without IV contrast	May be appropriate	Limited	Varies	Varies	5	5	1	0	3	1	6	5	1	0	0
		References		Study	v Quality										
		19 (32364883)			4										
		18 (23255735)			4										
CT spine area of interest with IV contrast	May be appropriate	Limited	Varies	Varies	5	5	0	2	0	5	9	0	1	0	0
		References		Study	v Quality										
		19 (32364883)			4										
		12 (32603067)			4										
		18 (23255735)			4										
		20 (35136714)			4										
MRI spine area of interest without and with IV contrast	May be appropriate (Disagreement)	Expert Opinion	O 0 mSv	O 0 mSv [ped]	5	5	1	1	0	2	7	4	1	1	0
		References		Study	v Quality										
		17 (24686297)			3										
		13 (26275972)			4										
		2 (34995265)			3										
		16 (28786774)			4										
		21 (33220471)			4										
		20 (35136714)			4										
		22 (32530746)			4			1							
MRI spine area of interest without IV contrast	May be appropriate (Disagreement)	Expert Opinion	O 0 mSv	O 0 mSv [ped]	5	5	1	1	0	2	5	6	2	0	0
		References		Study	v Quality										
		17 (24686297)			3										
		13 (26275972)			4										

		16 (28786774)			4]								
		21 (33220471)			4										
Radiography complete spine	May be appropriate	Limited		≎≎≎ 0.3- 3 mSv [ped]	5	5	0	1	1	0	7	3	4	1	0
		References		Study	v Quality										
		17 (24686297)			3										
		1 (33781487)			4										
		2 (34995265)			3										
		16 (28786774)			4										
		12 (32603067)			4										
		9 (28135365)			4	T									
MRI complete spine with IV contrast	Usually not appropriate	Limited	O 0 mSv	O 0 mSv [ped]	2	2	8	3	3	0	1	1	1	0	0
		References		Study	v Quality										
		17 (24686297)			3										
		13 (26275972)			4										
		2 (34995265)			3		-								
		21 (33220471)			4	1									
MRI spine area of interest with IV contrast	Usually not appropriate	Limited	O 0 mSv	O 0 mSv [ped]	2	2	8	3	3	0	2	0	0	1	0
		References		Study	Quality										
		17 (24686297)			3										
		13 (26275972)			4										
		2 (34995265)			3										
		21 (33220471)			4	1		-		1					
CT complete spine without IV contrast	Usually not appropriate	Limited	ଡଡଡଡ 10-30 mSv	ତତତତ 3- 10 mSv [ped]	2	2	7	4	4	1	1	0	0	0	0
		References		Study	v Quality		ļ								
		19 (32364883)			4										
		12 (32603067)			4]								

		18 (23255735)			4										
Bone scan whole body with SPECT or SPECT/CT area of interest	Usually not appropriate		ଡଡଡ 1-10 mSv	∞∞∞∞ 3- 10 mSv [ped]	1	1	13	1	2	0	1	0	0	0	0
Bone scan whole body with SPECT or SPECT/CT complete spine	Usually not appropriate		େତେତେ 1-10 mSv	€€€€€ 3- 10 mSv [ped]	1	1	12	3	2	0	0	0	0	0	0
CT spine area of interest without and with IV contrast	Usually not appropriate		Varies	Varies	1	1	9	2	2	2	1	1	0	0	0
		References		Study	y Quality										
		19 (32364883)			4										
		18 (23255735)			4										
		20 (35136714)			4	1				1					
CT myelography complete spine	Usually not appropriate		ଚଚଚଚଚ 30 100 mSv	- 000000 3- 10 mSv [ped]	1	1	14	0	3	0	0	0	0	0	0
CT myelography spine area of interest	Usually not appropriate		Varies	Varies	1	1	14	0	3	0	0	0	0	0	0
CT complete spine without and with IV contrast	Usually not appropriate		ଷତ୍ତତ 10-3 mSv	0	1	1	12	2	0	1	1	1	0	0	0
CT complete spine with IV contrast	Usually not appropriate		ଷତ୍ତତ 10-3 mSv	0	1	1	13	2	0	0	2	0	0	0	0
		References		Study	y Quality										
		19 (32364883)			4										
		12 (32603067)			4										
		18 (23255735)			4										
		20 (35136714)			4	1		-	1	1			1	1	,
US spine area of interest	Usually not appropriate		O 0 mSv	O 0 mSv [ped]	1	1	9	2	3	1	1	0	1	0	0

Variant 3: Child. Back pain. With at least one clinical red flag. Negative radiographs. Next imaging study.

	Appropriateness	0.07	A 1 1/ DD-	D 1 557	D										
Procedure	Category	SOE	Adults RRL	Peds RRL	Rating	Median	1	2	3	4	5	6	7	8	9
MRI spine area of interest without IV contrast	Usually appropriate	Limited	O 0 mSv	O 0 mSv [ped]	8	8	0	1	0	0	0	1	6	8	1
		References		Study	Quality										
		17 (24686297)			3										
		26 (30302556)			2										
		24 (28514223)			4										
		19 (32364883)			4										
		2 (34995265)			3										
		16 (28786774)			4										
		12 (32603067)			4										
		25 (32058837)			4			. – –			1		1	1	
MRI spine area of interest without and with IV contrast	Usually appropriate	Limited	O 0 mSv	O 0 mSv [ped]	7	7	1	0	1	0	2	2	6	3	2
		References		Study	Quality										
		17 (24686297)			3										
		26 (30302556)			2										
		24 (28514223)			4										
		19 (32364883)			4										
		2 (34995265)			3										
		16 (28786774)			4										
		12 (32603067)			4										
		25 (32058837)			4					-			1	1	
MRI complete spine without IV contrast	May be appropriate (Disagreement)	Expert Opinion	O 0 mSv	O 0 mSv [ped]	5	5	0	1	1	1	3	4	4	3	0
		References		Study	Quality										
		17 (24686297)			3										
		26 (30302556)		2											

							_								
		24 (28514223)			4										
		19 (32364883)			4										
		2 (34995265)			3										
		16 (28786774)			4										
		12 (32603067)			4										
		25 (32058837)			4										
MRI complete spine without and with IV contrast	May be appropriate (Disagreement)	Expert Opinion	O 0 mSv	O 0 mSv [ped]	5	5	0	1	1	2	4	2	4	3	0
		References		Stud	y Quality							•			
		17 (24686297)			3										
		26 (30302556)			2										
		24 (28514223)			4										
		19 (32364883)			4										
		2 (34995265)			3										
		16 (28786774)			4										
		12 (32603067)			4										
		25 (32058837)			4									1	
CT spine area of interest without IV contrast	May be appropriate	Limited	Varies	Varies	5	5	0	1	0	2	7	6	1	0	0
		References		Stud	y Quality										
		2 (34995265)			3										
		23 (25969937)			4										
		18 (23255735)			4				1		-			1	
CT spine area of interest with IV contrast	May be appropriate	Limited	Varies	Varies	5	5	0	1	1	1	8	5	1	0	0
		References		Stud	y Quality										
		19 (32364883)			4										
		2 (34995265)			3										
		23 (25969937)		4											
		18 (23255735)		4											
		20 (35136714)			4										

MRI complete spine with IV contrast	May be appropriate (Disagreement)	Expert Opinion	O 0 mSv	O 0 mSv [ped]	5	5	5	3	6	0	1	0	1	1	0
		References		Study	y Quality										
		17 (24686297)			3										
		24 (28514223)			4										
		19 (32364883)			4										
		2 (34995265)			3										
MRI spine area of interest with IV contrast	May be appropriate (Disagreement)	Expert Opinion	O 0 mSv	O 0 mSv [ped]	5	5	4	4	5	0	2	0	1	0	1
		References		Study	y Quality										
		17 (24686297)			3										
		24 (28514223)			4										
		19 (32364883)			4										
		2 (34995265)			3									-	
CT complete spine without IV contrast	May be appropriate	Limited	ତତତତ 10-30 mSv	֎֎֎֎ 3- 10 mSv [ped]	5	5	0	2	1	5	8	1	0	0	0
		References		Study	y Quality										
		2 (34995265)			3										
		23 (25969937)			4										
		18 (23255735)			4										
CT complete spine with IV contrast	May be appropriate	Limited	ତତତତ 10-30 mSv	ଡେଡେଡ 3- 10 mSv [ped]	4	4	1	4	1	3	6	2	0	0	0
		References		Study	y Quality										
		19 (32364883)			4										
		2 (34995265)			3										
		23 (25969937)			4										
		18 (23255735)			4										
		20 (35136714)			4										

CT spine area of interest without and with IV contrast	Usually approp	Limited	Varies	Varies	3	3	4	3	2	4	2	1	0	0	1
		References		Study	y Quality										
		2 (34995265)			3										
		23 (25969937)			4										
		18 (23255735)			4										
		20 (35136714)			4				-						
Bone scan whole body with SPECT or SPECT/CT area of interest	Usually approp	Limited	ତେତେ 1-10 mSv	ଡଡଡଡ 3- 10 mSv [ped]	2	2	6	3	1	0	6	1	0	0	0
		References		Study	y Quality										
		15 (27387155)			4										
		23 (25969937)			4										
		18 (23255735)			4				-						
Bone scan whole body with SPECT or SPECT/CT complete spine	Usually approp	Limited	ଝେଝ 1-10 mSv	ଡେଡେଡଡ 3- 10 mSv [ped]	2	2	6	3	5	1	2	0	0	0	0
		References		Study	y Quality										
		15 (27387155)			4										
		23 (25969937)			4										
		12 (32603067)			4										
		18 (23255735)			4										<u> </u>
US spine area of interest	Usually approp	Limited	O 0 mSv	O 0 mSv [ped]	2	2	8	3	4	0	0	2	0	0	0
		References		Study	y Quality										
		24 (28514223)			4										
CT myelography complete spine	Usually approp	Expert Consensus	ଡଡଡଡଡ 3(100 mSv)- 🕸 🏵 🏵 🕏 3- 10 mSv [ped]	1	1	13	2	2	0	0	0	0	0	0
CT myelography spine area of interest	Usually approp	Expert Consensus	Varies	Varies	1	1	13	2	2	0	0	0	0	0	0

CT complete spine without and with IV contrast	Usually not appropriate	Expert Consensus	ବ୍ଳବଙ୍କ 10-30 mSv	≎≎≎≎ 3- 10 mSv [ped]	1	1	9	3	1	2	2	0	0	0	0	
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Variant 4: Child. Back pain. Known or suspected inflammation, infection, or neoplasm. Initial imaging.

	Appropria	ateness				-				F	inal	Tabul	atior	ns		
Procedure	Catego	ory	SOE	Adults RRL	Peds RRL	Rating	Median	1	2	3	4	5	6	7	8	9
MRI complete spine without and with IV contrast	Usual appropr	ly riate	Limited	O 0 mSv	O 0 mSv [ped]	8	8	0	1	0	0	1	1	2	9	3
			References		Study	Quality										
			16 (28786774)			4										
			12 (32603067)			4										
			25 (32058837)			4										
	_		20 (35136714)			4										
			22 (32530746)			4				1						
MRI complete spine without IV contrast	May b appropr		Limited	O 0 mSv	O 0 mSv [ped]	6	6	0	1	0	0	7	6	3	0	0
			References		Study	v Quality										
			16 (28786774)			4										
			12 (32603067)			4										
	_		25 (32058837)			4										
			20 (35136714)			4										
			22 (32530746)		I	4		_	-							
Radiography spine area of interest	May b appropr (Disagree	riate	Expert Opinion	Varies	Varies	5	5	1	2	1	1	3	2	6	1	0
			References		Study	v Quality										
			13 (26275972)			4										
			12 (32603067)			4										
			9 (28135365)			4										
			18 (23255735)			4										

															
		25 (32058837)			4						1				
CT spine area of interest without IV contrast	May be appropriate	Limited	Varies	Varies	5	5	0	1	0	4	7	4	1	0	0
		References		Study	y Quality										
		3 (19926701)			4										
CT spine area of interest without and with IV contrast	May be appropriate (Disagreement)	Expert Opinion	Varies	Varies	5	5	2	5	3	3	1	2	1	0	0
		References		Study	y Quality										
		3 (19926701)			4					-					
CT spine area of interest with IV contrast	May be appropriate (Disagreement)	Expert Opinion	Varies	Varies	5	5	0	1	1	1	8	4	1	0	1
		References		Study	y Quality										
		3 (19926701)			4										
		19 (32364883)			4										
		20 (35136714)			4										
Radiography complete spine	May be appropriate (Disagreement)	Expert Opinion		ତତତ 0.3- 3 mSv [ped]	5	5	2	1	1	5	4	2	2	0	0
		References		Study	y Quality										
		13 (26275972)			4										
		12 (32603067)			4										
		9 (28135365)			4										
		18 (23255735)			4										
		25 (32058837)			4				-	-					
MRI complete spine with IV contrast	May be appropriate (Disagreement)	Expert Opinion	O 0 mSv	O 0 mSv [ped]	5	5	2	7	1	4	0	1	2	0	0
		References		Study	y Quality										
		16 (28786774)		4											
		12 (32603067)			4										
		25 (32058837)			4										

			20 (2512(714)				4										
			20 (35136714)				4										
			22 (32530746)				4			1	1	1					
CT complete spine without and with IV contrast	May approp (Disagree	riate	Expert Opinion	େଡେଡେଡ 10- mSv	30	֎֎֎֎ 3- 10 mSv [ped]	5	5	3	10	1	0	0	2	1	0	0
			References			Study	Quality										
			20 (35136714)				4										
CT complete spine without IV contrast	May approp		Limited	ଡଡଡଡ 10- mSv	30	≎≎≎≎ 3- 10 mSv [ped]	5	5	0	2	3	3	7	0	2	0	0
			References			Study	Quality										
			3 (19926701)				4										
CT complete spine with IV contrast	May approp (Disagree	riate	Expert Opinion	ଡଡଡଡ 10- mSv	30	≎≎≎≎ 3- 10 mSv [ped]	5	5	0	3	0	2	9	1	2	0	0
			References			Study	v Quality										
			3 (19926701)				4										
			19 (32364883)				4										
			20 (35136714)				4										
Bone scan whole body with SPECT or SPECT/CT complete spine	Usually approp		Expert Consensus	ତତତ 1-10 mSv	0	≎≎≎≎ 3- 10 mSv [ped]	2	2	9	3	4	1	0	0	0	0	0
Bone scan whole body with SPECT or SPECT/CT area of interest	Usually approp		Expert Consensus	ତତତ 1-1(mSv	0	ବତତତ 3- 10 mSv [ped]	1	1	10	2	2	1	2	0	0	0	0
CT myelography complete spine	Usually approp		Expert Consensus	ତତତତତ 3 100 mSv		ଡଡଡଡ 3- 10 mSv [ped]	1	1	12	3	2	0	0	0	0	0	0
CT myelography spine area of interest	Usually approp		Expert Consensus	Varies		Varies	1	1	12	3	2	0	0	0	0	0	0
US spine area of interest	Usually approp		Expert Consensus	O 0 mSv	,	O 0 mSv [ped]	1	1	12	2	0	1	1	1	0	0	0

Variant 5: Child. Back pain. With at least one clinical red flag. Suspected infection, inflammation, or malignancy on radiography. Next imaging study.

	Appropriateness								I	inal	Tabu	latio	ns		
Procedure	Category	SOE	Adults RRL	Peds RRL	Rating	Median	1	2	3	4	5	6	7	8	9
MRI spine area of interest without and with IV contrast	Usually appropriate	Limited	O 0 mSv	O 0 mSv [ped]	8	8	1	0	1	0	0	2	3	5	5
		References		Study	Quality										
		16 (28786774)			4										
		12 (32603067)			4										
		25 (32058837)			4										
		20 (35136714)			4										
		22 (32530746)			4				1			1	1		
MRI complete spine without and with IV contrast	Usually appropriate	Limited	O 0 mSv	O 0 mSv [ped]	7	7	1	0	1	0	1	2	4	5	3
		References		Study	Quality										
		16 (28786774)			4										
		12 (32603067)			4										
		25 (32058837)			4										
		20 (35136714)			4										
		22 (32530746)			4				1						
MRI complete spine without IV contrast	May be appropriate (Disagreement)	Expert Opinion	O 0 mSv	O 0 mSv [ped]	5	5	0	1	2	1	3	7	2	1	0
		References		Study	Quality										
		16 (28786774)			4										
		12 (32603067)			4										
		25 (32058837)			4										
		20 (35136714)			4										
		22 (32530746)			4						1			1	
Bone scan whole body with SPECT or SPECT/CT area of interest	May be appropriate	Limited	ତତତ 1-10 mSv	&&&& 3- 10 mSv [ped]	5	5	2	1	2	1	9	1	1	0	0
		References		Study	Quality										

		18 (23255735)			4										
		25 (32058837)			4										
		20 (35136714)			4										
Bone scan whole body with SPECT or SPECT/CT complete spine	May be appropriate (Disagreement)	Expert Opinion	ଝେଝ 1-10 mSv	ତତତତ 3- 10 mSv [ped]	5	5	4	3	3	2	1	2	1	1	0
		References		Study	Quality		-								
		24 (28514223)			4										
		18 (23255735)			4										
		20 (35136714)			4					_					
FDG-PET/CT whole body	May be appropriate (Disagreement)	Expert Opinion	ତତତତ 10-30 mSv	֎֎֎֎ 3- 10 mSv [ped]	5	5	1	1	0	0	6	7	1	1	0
		References		Study	Quality										
		29 (30420225)			4										_
CT spine area of interest without IV contrast	May be appropriate	Limited	Varies	Varies	5	5	0	1	1	3	11	0	0	1	0
		References		Study	v Quality										
		3 (19926701)			4										
		18 (23255735)		.	4										
CT spine area of interest with IV contrast	May be appropriate	Limited	Varies	Varies	5	5	0	1	1	1	10	3	1	0	0
		References		Study	Quality										
		3 (19926701)			4										
		19 (32364883)			4										
		18 (23255735)			4										
		20 (35136714)			4					i		i			
MRI spine area of interest without IV contrast	May be appropriate (Disagreement)	Expert Opinion	O 0 mSv	O 0 mSv [ped]	5	5	1	1	1	1	3	7	2	1	0
		References		Study Quality											
		16 (28786774)			4										

		25 (32058837)			4										
		20 (35136714)			4										
		22 (32530746)			4										
MRI spine area of interest with IV contrast	May be appropriate (Disagreement)	Expert Opinion	O 0 mSv	O 0 mSv [ped]	5	5	3	6	1	3	1	1	0	2	0
		References		Study	y Quality		-								
		20 (35136714)			4										
CT complete spine with IV contrast	May be appropriate (Disagreement)	Expert Opinion	ତତତତ 10-30 mSv	≎≎≎≎ 3- 10 mSv [ped]	5	5	0	2	0	4	8	1	0	2	0
		References		Stud	y Quality										
		3 (19926701)			4										
		3 (19926701) 4 19 (32364883) 4													
		19 (32364883) 4 18 (23255735) 4													
		20 (35136714)			4										
CT complete spine without IV contrast	May be appropriate	Limited	ଡେଡେ≎ 10-30 mSv	֎֎֎֎ 3- 10 mSv [ped]	4	4	0	2	2	5	6	1	0	1	0
		References		Study	y Quality										
		3 (19926701)			4										
		18 (23255735)			4			_							
CT spine area of interest without and with IV contrast	Usually not appropriate	Limited	Varies	Varies	3	3	4	4	5	2	1	0	0	0	1
		References		Study	y Quality										
		3 (19926701)			4										
		18 (23255735)			4										
		20 (35136714)			4			-							
MRI complete spine with IV contrast	Usually not appropriate	Limited	O 0 mSv	O 0 mSv [ped]	2	2	3	6	2	3	1	1	1	0	0
		References		Study Quality											
		20 (35136714)			4										

CT myelography complete spine	Usuall approp	y not riate	Limited	ଡଡଡଡଡ 3(100 mSv		≎≎≎≎≎ 3- 10 mSv [ped]	2	2	8	5	3	1	0	0	0	0	0
			References			Study	Quality										
			23 (25969937)				4										
CT complete spine without and with IV contrast	Usually approp	y not riate	Limited	֎֎֎֎ 10-3 mSv	30	&&&& 3- 10 mSv [ped]	2	2	2	9	4	0	1	0	0	0	1
			References			Study	v Quality										
			3 (19926701)				4										
			20 (35136714)				4										
CT myelography spine area of interest	Usually approp		Limited	Varies		Varies	1	1	9	5	2	1	0	0	0	0	0
			References			Study	Quality										
			23 (25969937)				4										
US spine area of interest	Usually approp		Expert Consensus	O 0 mSv		O 0 mSv [ped]	1	1	11	4	1	0	0	1	0	0	0

Variant 6: Child. Chronic mechanical back pain associated with overuse or repetitive activity. Initial imaging.

	Appropriateness	COL			D. (*	N.C. 11]	Final	Tabu	latio	ons		
Procedure	Category	SOE	Adults RRL	Peds RRL	Rating	Median	1	2	3	4	5	6	7	8	9
Radiography spine area of interest	Usually appropriate	Limited	Varies	Varies	8	8	0	0	1	1	0	0	4	3	8
		References		Study	v Quality										
		17 (24686297)			3										
		35 (23334124)			3										
		1 (33781487)			4										
		2 (34995265)			3										
		32 (35767547)			3										
		16 (28786774)			4										

		12 (32603067)			4													
		9 (28135365)			4													
MRI spine area of interest without IV contrast	May be appropriate (Disagreement)	Expert Opinion	O 0 mSv	O 0 mSv [ped]	5	5	0	1	1	2	3	7	1	1	1			
		References		Study	Quality			-		-	-							
		3 (19926701)			4													
		14 (20495823)			4													
		16 (28786774)			4													
Radiography complete spine	May be appropriate (Disagreement)	Expert Opinion		ତେତେ 0.3- 3 mSv [ped]	5	5	4	5	2	0	2	3	1	0	0			
		References		Study	v Quality			-										
		17 (24686297)			3													
		35 (23334124)			3													
		1 (33781487)			4													
		2 (34995265)			3													
		32 (35767547)			3													
		16 (28786774)			4													
		12 (32603067)			4													
		9 (28135365)			4				1									
Bone scan whole body with SPECT or SPECT/CT area of interest	May be appropriate	Limited	ତେତେ 1-10 mSv	ଡଡଡଡଡ 3- 10 mSv [ped]	4	4	3	3	2	4	3	1	1	0	0			
		References		Study	v Quality													
		3 (19926701)			4													
		14 (20495823)			4													
		34 (16557139)			3													
		33 (29989259)			4													
		30 (28349205)		1	4				1					0				
CT spine area of interest without IV contrast	May be appropriate	Limited	Varies	Varies	4	4	0	1	0	8	5	2	0	1	0			

		2 (240052(5)			2										
		2 (34995265)			3										
		23 (25969937)			4										
		18 (23255735)			4		-		1		1				
MRI complete spine without IV contrast	Usually not appropriate	Limited	O 0 mSv	O 0 mSv [ped]	2	2	6	6	4	0	0	1	0	0	0
		References		Study	Quality										
		3 (19926701)			4										
		14 (20495823)			4										
		16 (28786774)		_	4							-			
Bone scan whole body with SPECT or SPECT/CT complete spine	Usually not appropriate	Limited	ଷ®ତ 1-10 mSv	≎≎≎≎≎ 3- 10 mSv [ped]	2	2	7	7	2	0	1	0	0	0	0
		References		Study	/ Quality										
		3 (19926701)			4										
		14 (20495823)			4										
		34 (16557139)			3										
		33 (29989259)			4										
		30 (28349205)			4						_				
CT complete spine without IV contrast	Usually not appropriate	Limited	֎֎֎֎ 10-30 mSv	\$\$\$\$\$ 3- 10 mSv [ped]	2	2	7	8	1	0	1	0	0	0	0
		References		Study	Quality										
		2 (34995265)			3										
		23 (25969937)			4										
		18 (23255735)			4							-			
MRI complete spine without and with IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	11	3	0	1	0	1	0	1	0
CT spine area of interest without and with IV contrast	Usually not appropriate	Expert Consensus	Varies	Varies	1	1	11	2	0	1	2	1	0	0	0
CT spine area of interest with IV contrast	Usually not appropriate	Expert Consensus	Varies	Varies	1	1	11	2	0	2	2	0	0	0	0

MRI spine area of interest without and with IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	13	2	1	0	1	0	0	0	0
MRI complete spine with IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	11	3	0	1	0	1	1	0	0
MRI spine area of interest with IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	13	2	1	0	1	0	0	0	0
CT myelography complete spine	Usually not appropriate	Expert Consensus	ଡଡଡଡଡ 30- 100 mSv	✿֎֎֎ 3- 10 mSv [ped]	1	1	13	3	1	0	0	0	0	0	0
CT myelography spine area of interest	Usually not appropriate	Expert Consensus	Varies	Varies	1	1	13	2	0	2	0	0	0	0	0
CT complete spine without and with IV contrast	Usually not appropriate	Expert Consensus	ବବବବ 10-30 mSv	≎≎≎≎ 3- 10 mSv [ped]	1	1	12	3	0	0	2	0	0	0	0
CT complete spine with IV contrast	Usually not appropriate	Expert Consensus	ବ୍ୟବ୍ୟକ 10-30 mSv	≎≎≎≎≎ 3- 10 mSv [ped]	1	1	11	4	1	0	1	0	0	0	0
US spine area of interest	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	12	3	1	0	1	0	0	0	0

Variant 7: Child. Back pain with palpable lump or skin discoloration or hairy patch or draining sinus. Initial imaging.

	Appropri	iateness	COL		.	D 1 DD1	D (1				F	'inal '	Tabu	latio	ns		
Procedure	Categ	gory	SOE	Adults RR	L	Peds RRL	Rating	Median	1	2	3	4	5	6	7	8	9
MRI spine area of interest without and with IV contrast	Usua approp		Limited	O 0 mSv	,	O 0 mSv [ped]	7	7	0	0	1	1	3	1	5	3	3
			References			Study	v Quality										
			27 (16224110)				4										
			16 (28786774)				4										
			12 (32603067)				4										

MRI spine area of interest without IV contrast	Usually appropriate	Limited	O 0 mSv	O 0 mSv [ped]	7	7	0	0	1	0	4	1	6	4	1
		References		Study	Quality										
		27 (16224110)			4										
		16 (28786774)			4										
		12 (32603067)			4			-							
US spine area of interest	Usually appropriate	Limited	O 0 mSv	O 0 mSv [ped]	7	7	0	0	1	1	2	4	2	1	6
		References		Study	Quality										
		27 (16224110)			4										
		36 (23601014)			4										
MRI complete spine without IV contrast	May be appropriate (Disagreement)	Expert Opinion	O 0 mSv	O 0 mSv [ped]	5	5	0	1	1	1	3	8	1	1	1
		References		Study	Quality										
		27 (16224110)			4										
		16 (28786774)			4										
		12 (32603067)			4			-							
MRI complete spine without and with IV contrast	May be appropriate (Disagreement)	Expert Opinion	O 0 mSv	O 0 mSv [ped]	5	5	1	1	1	3	6	1	1	2	1
		References		Study	v Quality										
		27 (16224110)			4										
		16 (28786774)			4										
		12 (32603067)			4										
MRI spine area of interest with IV contrast	May be appropriate (Disagreement)	Expert Opinion	O 0 mSv	O 0 mSv [ped]	5	5	7	4	3	0	1	0	1	1	0
		References		Study	v Quality										
		27 (16224110)			4										
		16 (28786774)			4										
		12 (32603067)			4										

Radiography spine area of interest	Usually not appropriate	Expert Consensus	Varies	Varies	2	2	7	8	1	0	0	1	0	0	0
MRI complete spine with IV contrast	Usually not appropriate	Limited	O 0 mSv	O 0 mSv [ped]	2	2	7	7	0	0	1	1	0	1	0
		References		Study	y Quality										
		27 (16224110) 4 16 (28786774) 4													
		12 (32603067)		4			_	-							
Bone scan whole body with SPECT or SPECT/CT area of interest	Usually not appropriate	Expert Consensus	ତତତ 1-10 mSv	ଡଡଡଡ 3- 10 mSv [ped]	1	1	15	2	0	0	0	0	0	0	0
Bone scan whole body with SPECT or SPECT/CT complete spine	Usually not appropriate	Expert Consensus	ତତତ 1-10 mSv	֎֎֎֎ 3- 10 mSv [ped]	1	1	15	2	0	0	0	0	0	0	0
CT spine area of interest without IV contrast	Usually not appropriate	Expert Consensus	Varies	Varies	1	1	9	2	2	2	1	1	0	0	0
CT spine area of interest without and with IV contrast	Usually not appropriate	Expert Consensus	Varies	Varies	1	1	9	2	3	0	1	2	0	0	0
CT spine area of interest with IV contrast	Usually not appropriate	Expert Consensus	Varies	Varies	1	1	10	3	2	0	0	2	0	0	0
Radiography complete spine	Usually not appropriate	Expert Consensus		&&≎ 0.3- 3 mSv [ped]	1	1	9	7	0	1	0	0	0	0	0
CT myelography complete spine	Usually not appropriate	Expert Consensus	ଡଡଡଡଡ 30- 100 mSv	≎≎≎≎≎ 3- 10 mSv [ped]	1	1	13	3	1	0	0	0	0	0	0
CT myelography spine area of interest	Usually not appropriate	Expert Consensus	Varies	Varies	1	1	12	2	2	1	0	0	0	0	0
CT complete spine without and with IV contrast	Usually not appropriate	Expert Consensus	֎֎֎֎ 10-30 mSv	ତତତତ 3- 10 mSv [ped]	1	1	10	2	3	1	0	1	0	0	0
CT complete spine without IV contrast	Usually not appropriate	Expert Consensus	ତତତତ 10-30 mSv	≎≎≎≎≎ 3- 10 mSv [ped]	1	1	11	1	1	2	1	1	0	0	0

CT complete spine with IV contrast	Usually not appropriate	Expert Consensus	ବବବବ 10-30 mSv	₩₩₩₩ 3- 10 mSv [ped]	1	1	12	2	1	1	0	1	0	0	0	
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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.