# American College of Radiology ACR Appropriateness Criteria®

#### **Major Blunt Trauma**

Variant 1: Adult. Major blunt trauma. Hemodynamically unstable. Initial imaging.

D 1	Appropriate	eness	COF	4 1 14 DD		D 1 DD1	D ()	3.6.19			F	inal '	Гаbu	latio	ns		
Procedure	Category		SOE	Adults RR	IL	Peds RRL	Rating	Median	1	2	3	4	5	6	7	8	9
Radiography trauma series	Usually appropriat		Limited	<b>���</b> 1-10 mSv	0		9	9	0	0	0	0	1	0	2	1	7
			References			Study	Quality										
			13 (29950261)				4										
			14 (33703916)				2										
CT whole body with IV contrast	May be appropriat		Limited	���� 10- mSv	30		6	6	0	0	0	0	4	3	1	1	2
			References			Study	Quality										
			9 (23894365)				4										
			11 (33795900)				4										
MRI abdomen and pelvis without IV contrast	Usually no appropriat		Expert Consensus	O 0 mSv	,	O 0 mSv [ped]	2	2	5	4	0	0	1	1	0	0	0
MRI abdomen and pelvis without and with IV contrast	Usually no appropriat		Expert Consensus	O 0 mSv	′	O 0 mSv [ped]	2	2	5	3	2	0	1	0	0	0	0
CT whole body without IV contrast	Usually no appropriat		Limited	���� 10- mSv	30		2	2	4	4	1	1	0	1	0	0	0
			References			Study	Quality										
			12 (26122129)				4										

Variant 2: Adult. Major blunt trauma. Hemodynamically stable. Not otherwise specified. Initial imaging.

<b>D</b> 1	Appropri	iateness	COL	A L L DDI	D I DDI	D 41	3.5 3.			F	inal '	Tabu	latio	ıs		
Procedure	Categ	gory	SOE	Adults RRL	Peds RRL	Rating	Median	1	2	3	4	5	6	7	8	9
CT whole body with IV contrast	Usua approp		Strong	���� 10-30 mSv	)	9	9	0	0	0	0	0	0	3	2	6
			References		Study	Quality										
			18 (25250591)		C	Good										
			17 (23949104)			3										
			9 (23894365)			4										
			20 (27163732)			2										
			19 (28610777)			Good				1						
Radiography trauma series	Usua approp		Limited	<b>≎≎≎</b> 1-10 mSv		8	8	0	0	0	0	1	0	3	2	5
			References		Study	Quality										
			13 (29950261)			4										
			14 (33703916)			2										
MRI abdomen and pelvis without and with IV contrast	Usuall approp		Expert Consensus	O 0 mSv	O 0 mSv [ped]	2	2	5	3	0	1	1	1	0	0	0
CT whole body without IV contrast	Usuall approp		Limited	���� 10-30 mSv	)	2	2	2	4	3	2	0	0	0	0	0
			References		Study	Quality										
			9 (23894365)			4										
MRI abdomen and pelvis without IV contrast	Usuall approp		Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	6	2	0	1	1	1	0	0	0

Variant 3: Adult. Major blunt trauma. Hemodynamically stable. Suspected facial injury. Initial imaging.

Day of James	Appropriateness	SOE	A 414 DDI	D. J. DDI	D - 41	M. 32			F	inal '	Гаbu	latio	ns		
Procedure	Category	SOE	Adults RRL	Peds RRL	Rating	Median	1	2	3	4	5	6	7	8	9
CT head without IV contrast	Usually	Limited	<b>���</b> 1-10	<b>���</b> 0.3-	9	9	0	0	1	0	1	0	2	0	7

	Appropriateness								F	inal	Tabu	latio	ns		
Procedure	Category	SOE	Adults RRI	Peds RRL	Rating	Median	1	2	3	4	5	6	7	8	9
	appropriate		mSv	3 mSv [ped]											
		References		Stud	y Quality										
		3 (33958108)			4										
Radiography trauma series	Usually appropriate	Limited	��� 1-10 mSv		9	9	0	0	1	0	0	1	3	0	6
		References		Stud	y Quality						•	•			
		13 (29950261)	)		4										
		14 (33703916)			2										
CT maxillofacial without IV contrast	Usually appropriate	Expert Consensus	�� 0.1-1m\$	&	8	8	0	0	0	1	0	1	1	5	3
CTA head and neck with IV contrast	Usually appropriate	Expert Consensus	��� 1-10 mSv	<b>⊕⊕⊕⊕</b> 3- 10 mSv [ped]	7	7	0	0	0	0	1	2	6	1	1
CT whole body with IV contrast	Usually appropriate	Strong	���� 10-3 mSv	30	7	7	0	1	0	0	0	1	5	3	1
		References		Stud	y Quality										
		18 (25250591)	)	(	Good										
		17 (23949104)	)		3										
		9 (23894365)			4										
		20 (27163732)	)		2										
		19 (28610777)		(	Good						1				
CT whole body without IV contrast	May be appropriate	Limited	���� 10-3 mSv	30	4	4	2	1	2	3	3	0	0	0	0
		References		Stud	y Quality										
		9 (23894365)			4										
CT head with IV contrast	Usually not appropriate	Expert Consensus	��� 1-10 mSv	��� 0.3- 3 mSv [ped]	2	2	3	8	0	0	0	0	0	0	0

CT maxillofacial with IV contrast	Usually not appropriate	Expert Consensus	�� 0.1-1mSv	��� 0.3- 3 mSv [ped]	2	2	3	4	3	1	0	0	0	0	0
MRI head without IV contrast abbreviated	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	2	2	4	3	2	0	1	0	0	0	1
CT head without and with IV contrast	Usually not appropriate	Expert Consensus	<b>≎≎≎</b> 1-10 mSv	���� 3- 10 mSv [ped]	1	1	6	5	0	0	0	0	0	0	0
CT maxillofacial without and with IV contrast	Usually not appropriate	Expert Consensus	��� 1-10 mSv	��� 0.3- 3 mSv [ped]	1	1	7	3	0	1	0	0	0	0	0

#### Variant 4: Adult. Major blunt trauma. Hemodynamically stable. Suspected extremity trauma. Initial imaging.

- ·	Appropriat	teness	COF	4 1 14 BB1	D 1 D		.•	3.6.11			F	inal	Tabu	latio	ns		
Procedure	Catego		SOE	Adults RRI	Peds R	KL   Ka	ting	Median	1	2	3	4	5	6	7	8	9
Radiography extremity area of interest	Usuall appropri		Expert Consensus	Varies	Varie	s	8	8	0	0	0	0	0	0	3	3	5
CT whole body with IV contrast	Usuall appropri		Strong	���� 10-3 mSv	0	,	7	7	0	1	0	0	3	1	1	2	3
			References			Study Qua	lity										
			18 (25250591)			Good											
			17 (23949104)			3											
			9 (23894365)			4											
			20 (27163732)			2											
			19 (28610777)			Good							_				
Radiography trauma series	Usuall appropri		Limited	��� 1-10 mSv		,	7	7	0	0	0	1	1	0	4	3	2
			References			Study Qua	lity										
			13 (29950261)			4	·										
			14 (33703916)			2											

CTA extremity area of interest with IV contrast	May approp	be oriate	Limited	Varies		Varies	6	6	1	0	0	0	3	4	2	0	1
			References			Study	Quality										
			9 (23894365)				4										
			12 (26122129)				4										
			24 (24056401)				2										
			23 (33642083)				4		_	1							
CT whole body without IV contrast	Usuall approp		Limited	ଫଫଫଫ 10- mSv	30		3	3	3	2	1	3	1	0	0	1	0
			References			Study	Quality										
			12 (26122129)				4										
			9 (23894365)				4										
			24 (24056401)				2		_								
CT extremity area of interest with IV contrast	Usuall approp		Limited	Varies		Varies	2	2	2	6	1	1	1	0	0	0	0
			References			Study	Quality										
			9 (23894365)				4										
			23 (33642083)				4										
CT extremity area of interest without and with IV contrast	Usuall approp		Expert Consensus	Varies		Varies	2	2	4	2	2	1	1	0	0	1	0
US duplex Doppler extremity area of interest	Usuall approp		Expert Consensus	O 0 mSv	,	O 0 mSv [ped]	2	2	5	4	0	0	2	0	0	0	0
CT extremity area of interest without IV contrast	Usuall approp		Expert Consensus	Varies		Varies	2	2	2	5	1	1	2	0	0	0	0

Variant 5: Adult. Major blunt trauma. Hemodynamically stable. Suspected bowel or mesenteric trauma. Initial imaging.

<b>D</b> 1	Appropriateness	COF	A L L DDI	D 1 DD1	ъ.:	3.5 31			F	inal '	Гаbu	latio	ns		
Procedure	Category	SOE	Adults RRL	Peds RRL	Rating	Median	1	2	3	4	5	6	7	8	9
CT abdomen and pelvis with IV	Usually	Limited	<b>⊕⊕⊕</b> 1-10	<b>♦♦♦</b> 3-	9	9	0	0	0	0	1	0	2	2	6

Procedure	Appropria	ateness	SOE	Adults RRL	Peds RRL	Datina	Median			F	inal '	Tabul	latior	ıs		
Procedure	Catego	ory	SUE	Adults RRL	Peds RRL	Rating	Median	1	2	3	4	5	6	7	8	9
contrast	appropi	riate		mSv	10 mSv [ped]											
			References		Study	Quality										
			25 (23624596)		Inac	dequate										
			26 (30201138)			4										
			27 (33909460)			4										
CTA abdomen and pelvis with IV contrast	Usual appropi		Limited	<b>≎≎≎≎</b> 10-30 mSv		8	8	1	0	0	0	3	0	1	2	4
		,	References		Study	Quality										
			24 (24056401)			2										
			26 (30201138)			4										
			27 (33909460)			4										
CT whole body with IV contrast	Usual appropi		Strong	<b>≎≎≎≎</b> 10-30 mSv		7	7	0	0	0	1	1	1	3	2	3
			References		Study	Quality										
			18 (25250591)		(	Good										
			17 (23949104)			3										
			25 (23624596)		Inac	dequate										
			9 (23894365)			4										
			20 (27163732)			2										
			19 (28610777)		(	Good										
			27 (33909460)			4										
			26 (30201138)			4			1							
Radiography trauma series	Usual appropi		Limited	��� 1-10 mSv		7	7	0	0	0	1	1	1	3	1	4
			References		Study	Quality										
			13 (29950261)			4										
			14 (33703916)		2											

CT abdomen and pelvis without IV contrast	May approp	Limited	��� 1-10 mSv	0	���� 3- 10 mSv [ped]	4	4	2	1	1	3	3	1	0	0	0
		References			Study	Quality										
		9 (23894365)				4										
CT whole body without IV contrast	May approp	Limited	���� 10- mSv	30		4	4	1	3	1	4	1	0	1	0	0
		References			Study	Quality										
		9 (23894365)				4										
CT abdomen and pelvis without and with IV contrast	Usuall approp	Expert Consensus	<b>����</b> 10- mSv	30	����� 10-30 mSv [ped]	2	2	2	6	2	0	0	0	0	0	1
MRI abdomen and pelvis without and with IV contrast	Usuall approp	Expert Consensus	O 0 mSv	,	O 0 mSv [ped]	2	2	4	2	1	1	2	1	0	0	0
US abdomen	Usuall approp	Limited	O 0 mSv	,	O 0 mSv [ped]	2	2	3	6	1	0	0	0	1	0	0
		References			Study	Quality										
		28 (36882128)				2										
MRI abdomen and pelvis without IV contrast	Usuall approp	Expert Consensus	O 0 mSv	,	O 0 mSv [ped]	1	1	6	2	0	1	1	1	0	0	0

### Variant 6: Adult. Major blunt trauma. Hemodynamically stable. Suspected urinary system trauma. Initial imaging.

D 1	Appropriateness	COE	ALL DDI	D I DDI	D 4	3.6.11			F	inal '	Tabu	latio	ns		
Procedure	Category	SOE	Adults RRL	Peds RRL	Rating	Median	1	2	3	4	5	6	7	8	9
CT abdomen and pelvis with IV contrast	Usually appropriate	Limited	<b>≎≎≎</b> 1-10 mSv	���� 3- 10 mSv [ped]	8	8	0	0	0	0	0	0	3	4	4

References	Study Quality
25 (23624596)	Inadequate
12 (26122129)	4

		24 (24056401)				2										
CT whole body with IV contrast	Usually appropriate	Strong	���� 10-3 mSv	30		7	7	0	0	0	1	2	1	2	3	2
		References			Study	Quality										_
		18 (25250591)			G	food										
		17 (23949104)				3										
		25 (23624596)			Inad	lequate										
		9 (23894365)				4										
		20 (27163732)				2										
		19 (28610777)		Good												
Radiography trauma series	Usually appropriate	Limited	��� 1-10 mSv	)		7	7	0	0	1	0	1	3	1	0	5
		References		Study	Quality										,	
		13 (29950261)			4											
		14 (33703916)				2										
CTA abdomen and pelvis with IV contrast	May be appropriate	Limited	���� 10-3 mSv	30		6	6	1	0	0	0	4	1	1	1	3
		References			Study	Quality										
		24 (24056401)				2										
		9 (23894365)				4										
		12 (26122129)				4										
		23 (33642083)				4			•							
CT pelvis with bladder contrast (CT cystography)	May be appropriate (Disagreement)	Expert Opinion	���� 10-3 mSv	30	���� 3- 10 mSv [ped]	5	5	0	0	1	1	4	1	2	0	2
		References			Study	Quality										
		29 (32391715)				4										
CT abdomen and pelvis without and with IV contrast	Usually not appropriate	Expert Consensus	���� 10-3 mSv	30	<b>�����</b> 10-30 mSv [ped]	3	3	0	4	2	0	4	0	0	1	0

Fluoroscopy retrograde urethrography	Usually appropr	Limited	��� 1-10 mSv	0	��� 0.3- 3 mSv [ped]	3	3	2	3	2	1	2	0	1	0	0
		References			Study	Quality										
		31 (30605143)				1										
CT whole body without IV contrast	Usually appropr	Limited	���� 10-: mSv	30		3	3	3	1	4	0	2	1	0	0	0
		References			Study	Quality										
		9 (23894365)				4										
		11 (33795900)				4										
CT abdomen and pelvis without IV contrast	Usually appropr	Limited	��� 1-10 mSv	0	���� 3- 10 mSv [ped]	2	2	2	4	3	2	0	0	0	0	0
		References			Study	Quality										
		9 (23894365)			-	4										
CTU without and with IV contrast	Usually appropr	Limited	���� 10∹ mSv	30	\$\$\$\$\$ 10-30 mSv [ped]	2	2	3	3	2	0	2	1	0	0	0
		References			Study	Quality										
		30 (31494707)				4										
		31 (30605143)				1										
Fluoroscopy cystography	Usually appropr	Limited	��� 1-10 mSv	0		2	2	3	4	2	0	2	0	0	0	0
		References			Study	Quality										
		29 (32391715)				4										
Radiography intravenous urography	Usually appropr	Expert Consensus	��� 1-10 mSv	0	��� 0.3- 3 mSv [ped]	2	2	4	5	2	0	0	0	0	0	0
MRI abdomen and pelvis without IV contrast	Usually appropr	Expert Consensus	O 0 mSv	,	O 0 mSv [ped]	1	1	6	0	1	3	1	0	0	0	0
MRI abdomen and pelvis without and with IV contrast	Usually appropr	Expert Consensus	O 0 mSv	,	O 0 mSv [ped]	1	1	6	1	1	1	2	0	0	0	0

MRU without and with IV contrast	Usually no appropriate		Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	6	2	0	0	0	0	0	1	0
US abdomen and pelvis	Usually no appropriate		Limited	O 0 mSv	O 0 mSv [ped]	1	1	6	2	2	0	1	0	0	0	0
		References			Study											
		28 (36882128)				2										

## Variant 7: Adult. Major blunt trauma. Hemodynamically stable. Suspected chest trauma. Initial imaging.

ъ	Appropri	ateness	COF	4 1 14 DD		D 1 DD1	3.6.11	Final Tabulations									
Procedure	Categ	ory	SOE	Adults RR	(L	Peds RRL	Rating	Median	1	2	3	4	5	6	7	8	9
CTA chest with IV contrast	Usua approp		Limited	0	���� 3- 10 mSv [ped]	9	9	0	0	1	0	2	0	1	1	6	
			References			Study Quality											
			12 (26122129)		4												
CT chest with IV contrast	Usua approp		Strong	��� 1-10 mSv	0	���� 3- 10 mSv [ped]	9	9	0	0	0	0	0	0	3	2	6
			References			Study Quality											
			20 (27163732)				2										
			9 (23894365)				4										
			13 (29950261)														
			28 (36882128)														
Radiography trauma series	Usua approp		Limited	��� 1-10 mSv	0		8	8	0	0	1	0	0	0	3	3	4
			References			Study	Quality										
			13 (29950261)				4										
			14 (33703916)				2										
CT whole body with IV contrast	Usua approp		Strong	���� 10- mSv	30		7	7	0	0	0	1	1	1	3	3	2

	References		Study	y Quality										
	18 (25250591)		(	Good										
	17 (23949104)			3										
	25 (23624596)		Inac	dequate										
	9 (23894365)			4										
	20 (27163732)			2										
	19 (28610777)		(	Good										
May be appropriate	Limited	���� 10-30 mSv		4	4	2	2	1	4	1	1	0	0	0
	References		Study											
	9 (23894365)													
Usually not appropriate	Limited	��� 1-10 mSv	���� 3- 10 mSv [ped]	3	3	2	2	3	4	0	0	0	0	0
	References		Study			•				•	•			
	9 (23894365)													
Usually not appropriate	Expert Consensus	��� 1-10 mSv	���� 3- 10 mSv [ped]	2	2	5	3	3	0	0	0	0	0	0
Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	6	2	1	1	0	1	0	0	0
Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	6	2	1	0	1	1	0	0	0
Usually not appropriate	Limited	O 0 mSv	O 0 mSv [ped]	1	1	6	4	0	0	1	0	0	0	0
	References		Study Quality			-				_				
	4 (29146418)	2												
	6 (31597173)			4										
	Usually not appropriate  Usually not appropriate	18 (25250591)   17 (23949104)   25 (23624596)   9 (23894365)   20 (27163732)   19 (28610777)   May be appropriate	18 (25250591)   17 (23949104)   25 (23624596)   9 (23894365)   20 (27163732)   19 (28610777)	18 (25250591)   17 (23949104)   25 (23624596)   Inac   9 (23894365)   20 (27163732)   19 (28610777)   (2000	18 (25250591)   Good     17 (23949104)   3     25 (23624596)   Inadequate     9 (23894365)   4     20 (27163732)   2     19 (28610777)   Good     May be appropriate	18 (25250591)   Good   17 (23949104)   3   25 (23624596)   Inadequate   9 (23894365)   4   20 (27163732)   2   19 (28610777)   Good   May be appropriate   Limited   \$\pi \pi \pi \pi \pi \pi \pi \pi \pi \pi	18 (25250591)   Good   17 (23949104)   3   3   25 (23624596)   Inadequate   9 (23894365)   4   4   2   2   2   2   2   2   2   2	18 (25250591)   Good   17 (23949104)   3   25 (23624596)   Inadequate   9 (23894365)   4   20 (27163732)   2   19 (28610777)   Good	18 (25250591)   Good   17 (23949104)   3   25 (23624596)   Inadequate   9 (23894365)   4   20 (27163732)   2   Good	18 (25250591)   Good   17 (23949104)   3   25 (23624596)   Inadequate   9 (23894365)   4   20 (27163732)   2   2   19 (28610777)   Good	18 (25250591)   Good   17 (23949104)   3   25 (23624596)   Inadequate   9 (23894365)   4   20 (27163732)   2   19 (28610777)   Good	18 (25250591)   Good   17 (23949104)   3   25 (23624596)   Inadequate   9 (23894365)   4   20 (27163732)   2   19 (28610777)   Good	18 (25250591)   Good   17 (23949104)   3   25 (23624596)   Inadequate   9 (23894365)   4   20 (27163732)   2   19 (28610777)   Good	18 (25250591)   Good   17 (23949104)   3   25 (23624596)   Inadequate   9 (23894365)   4   20 (27163732)   2   19 (28610777)   Good

Variant 8: Major blunt trauma. Hemodynamically stable. Pregnant patient. Initial imaging.

	Appropriateness	605													
Procedure	Category	SOE	Adults RRL	Peds RRL	Rating	Median	1	2	3	4	5	6	7	8	9
US pregnant uterus	Usually appropriate	Limited	O 0 mSv	O 0 mSv [ped]	9	9	0	0	0	0	2	0	0	2	7
		References		Study	Quality										
		28 (36882128)			2										
CT abdomen and pelvis with IV contrast	Usually appropriate	Strong	ଡଡ଼େ 1-10 mSv	���� 3- 10 mSv [ped]	7	7	0	0	0	0	3	2	3	3	0
		References		Study	Quality										
		25 (23624596)		Inac	dequate										
		24 (24056401)			2										
		31 (30605143)			1										
Radiography trauma series	Usually appropriate	Limited	��� 1-10 mSv		7	7	0	0	0	1	1	2	2	2	3
		References		Study	Quality										-
		13 (29950261)			4										
		14 (33703916)			2										
CT whole body with IV contrast	May be appropriate	Strong	❤❤❤ 10-30 mSv		6	6	0	0	0	1	2	3	2	3	0
		References		Study	Quality										
		18 (25250591)		(	Good										
		17 (23949104)			3										
		9 (23894365)			4										
		20 (27163732)			2										
		19 (28610777)		(	Good										
CTA abdomen and pelvis with IV contrast	May be appropriate	Limited	���� 10-30 mSv		5	5	1	0	0	3	2	1	3	1	0
		References		Study	Quality		•								
		24 (24056401)			2										

CTA chest with IV contrast	May appropi (Disagree	riate	Expert Opinion	��� 1-10 mSv	0	���� 3- 10 mSv [ped]	5	5	1	0	0	2	3	1	2	2	0
			References			Study	Quality										
			9 (23894365)				4										
CT abdomen and pelvis without IV contrast	Usually appropi		Limited	��� 1-10 mSv	0	���� 3- 10 mSv [ped]	3	3	3	1	4	1	1	1	0	0	0
			References			Study	Quality										
		9 (23894365)					4										
CT whole body without IV contrast	Usually appropi		Limited	���� 10- mSv	30		3	3	3	1	3	1	2	1	0	0	0
			References			Study Quality											
			9 (23894365)				4										
			24 (24056401)				2										
CT abdomen and pelvis without and with IV contrast	Usually appropi		Expert Consensus	୫୫୫୫ 10- mSv	30	\$\$\$\$\$ 10-30 mSv [ped]	2	2	5	2	3	1	0	0	0	0	0
MRI abdomen and pelvis without IV contrast	Usually appropi		Expert Consensus	O 0 mSv	,	O 0 mSv [ped]	2	2	5	3	2	0	0	1	0	0	0
MRI abdomen and pelvis without and with IV contrast	Usually appropi		Expert Consensus	O 0 mSv	,	O 0 mSv [ped]	2	2	5	1	1	1	2	0	0	1	0
US abdomen and pelvis	Usually appropi		Limited	O 0 mSv	,	O 0 mSv [ped]	2	2	4	6	1	0	0	0	0	0	0
			References			Study	Quality		•								
			28 (36882128)				2										
US pelvis	Usually appropi		Limited	O 0 mSv	,	O 0 mSv [ped]	2	2	4	7	0	0	0	0	0	0	0
			References			Study	Quality										
			28 (36882128)				2										

#### **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.