American College of Radiology
ACR Appropriateness Criteria®

Renal Trauma

Variant 1: Blunt abdominal trauma with microscopic hematuria; no suspicion of associated abdominal injury.

Procedure	Appropriateness Category	SOE	Adults RRL	Peds RRL	Rating	Median	Final Tabulations								
							1	2	3	4	5	6	7	8	9
CT abdomen and pelvis with IV contrast	May be appropriate		☢☢☢ 1-10 mSv	☢☢☢☢ 3-10 mSv [ped]	5	n/a	0	0	0	0	0	0	0	0	0
CT abdomen and pelvis without IV contrast	May be appropriate		☢☢☢ 1-10 mSv	☢☢☢☢ 3-10 mSv [ped]	4	n/a	0	0	0	0	0	0	0	0	0
US abdomen (FAST scan)	May be appropriate		O 0 mSv	O 0 mSv [ped]	4	n/a	0	0	0	0	0	0	0	0	0
Radiography abdomen and pelvis	May be appropriate		☢☢☢ 1-10 mSv	☢☢☢ 0.3-3 mSv [ped]	4	n/a	0	0	0	0	0	0	0	0	0
CT abdomen and pelvis without and with IV contrast	Usually not appropriate		☢☢☢☢ 10-30 mSv	☢☢☢☢☢ 10-30 mSv [ped]	3	n/a	0	0	0	0	0	0	0	0	0
Radiography intravenous urography	Usually not appropriate		☢☢☢ 1-10 mSv	☢☢☢ 0.3-3 mSv [ped]	2	n/a	0	0	0	0	0	0	0	0	0
US kidneys and bladder retroperitoneal	Usually not appropriate		O 0 mSv	O 0 mSv [ped]	2	n/a	0	0	0	0	0	0	0	0	0
Arteriography kidney	Usually not appropriate		☢☢☢ 1-10 mSv		1	n/a	0	0	0	0	0	0	0	0	0

Variant 2: Blunt abdominal injury; suspicion of multisystem trauma, with hematuria.

Procedure	Appropriateness Category	SOE	Adults RRL	Peds RRL	Rating	Median	Final Tabulations								
							1	2	3	4	5	6	7	8	9
CT abdomen and pelvis with IV contrast	Usually appropriate		☢☢☢ 1-10 mSv	☢☢☢☢ 3-10 mSv [ped]	9	n/a	0	0	0	0	0	0	0	0	0
Radiography abdomen and pelvis	Usually appropriate		☢☢☢ 1-10 mSv	☢☢☢ 0.3-3 mSv [ped]	7	n/a	0	0	0	0	0	0	0	0	0
CT abdomen and pelvis without IV contrast	May be appropriate		☢☢☢ 1-10 mSv	☢☢☢☢ 3-10 mSv [ped]	5	n/a	0	0	0	0	0	0	0	0	0
Radiography intravenous urography	May be appropriate		☢☢☢ 1-10 mSv	☢☢☢ 0.3-3 mSv [ped]	4	n/a	0	0	0	0	0	0	0	0	0
Arteriography kidney	May be appropriate		☢☢☢ 1-10 mSv		4	n/a	0	0	0	0	0	0	0	0	0
US abdomen (FAST scan)	May be appropriate		O 0 mSv	O 0 mSv [ped]	4	n/a	0	0	0	0	0	0	0	0	0
CT abdomen and pelvis without and with IV contrast	Usually not appropriate		☢☢☢☢ 10-30 mSv	☢☢☢☢☢ 10-30 mSv [ped]	3	n/a	0	0	0	0	0	0	0	0	0
US kidneys and bladder retroperitoneal	Usually not appropriate		O 0 mSv	O 0 mSv [ped]	2	n/a	0	0	0	0	0	0	0	0	0

Variant 3: Penetrating abdominal injury; suspicion of multisystem trauma, with or without hematuria.

Procedure	Appropriateness Category	SOE	Adults RRL	Peds RRL	Rating	Median	Final Tabulations								
							1	2	3	4	5	6	7	8	9
CT abdomen and pelvis with IV	Usually		☢☢☢ 1-10	☢☢☢☢ 3-	9	n/a	0	0	0	0	0	0	0	0	0

Procedure	Appropriateness Category	SOE	Adults RRL	Peds RRL	Rating	Median	Final Tabulations								
							1	2	3	4	5	6	7	8	9
contrast	appropriate		mSv	10 mSv [ped]											
CT abdomen and pelvis without IV contrast	May be appropriate		☢☢☢ 1-10 mSv	☢☢☢☢ 3-10 mSv [ped]	5	n/a	0	0	0	0	0	0	0	0	0
US abdomen (FAST scan)	May be appropriate		O 0 mSv	O 0 mSv [ped]	4	n/a	0	0	0	0	0	0	0	0	0
Radiography intravenous urography	May be appropriate		☢☢☢ 1-10 mSv	☢☢☢ 0.3-3 mSv [ped]	4	n/a	0	0	0	0	0	0	0	0	0
Arteriography kidney	May be appropriate		☢☢☢ 1-10 mSv		4	n/a	0	0	0	0	0	0	0	0	0
Radiography abdomen and pelvis	May be appropriate		☢☢☢ 1-10 mSv	☢☢☢ 0.3-3 mSv [ped]	4	n/a	0	0	0	0	0	0	0	0	0
CT abdomen and pelvis without and with IV contrast	Usually not appropriate		☢☢☢☢ 10-30 mSv	☢☢☢☢☢ 10-30 mSv [ped]	3	n/a	0	0	0	0	0	0	0	0	0
US kidneys and bladder retroperitoneal	Usually not appropriate		O 0 mSv	O 0 mSv [ped]	2	n/a	0	0	0	0	0	0	0	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.**