American College of Radiology
ACR Appropriateness Criteria®

Acute Elbow and Forearm Pain

Variant 1: Adult. Acute elbow or forearm pain. Initial imaging.

Procedure	Appropriateness Category	SOE	Adults RRL	Peds RRL	Rating	Median	Final Tabulations								
							1	2	3	4	5	6	7	8	9
Radiography area of interest	Usually appropriate	Limited	Varies	Varies	9	9	0	0	0	0	0	1	1	0	10
		References		Study Quality											
		1 (26454616)		4											
CT area of interest with IV contrast	Usually not appropriate	Expert Consensus	Varies	Varies	1	1	10	1	0	0	0	0	0	0	1
CT area of interest without IV contrast	Usually not appropriate	Expert Consensus	Varies	Varies	1	1	7	3	1	0	0	0	0	0	1
CT area of interest without and with IV contrast	Usually not appropriate	Expert Consensus	Varies	Varies	1	1	10	1	0	0	0	0	0	0	1
MRI area of interest without IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	10	1	0	0	0	0	0	0	1
MRI area of interest without and with IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	11	0	0	0	0	0	0	0	1
Bone scan area of interest	Usually not appropriate	Expert Consensus	☢☢☢ 1-10 mSv		1	1	11	0	0	0	0	0	0	0	1
US area of interest	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	7	0	2	0	2	0	0	1	0

Variant 2: Adult. Acute elbow or forearm pain. Suspect fracture. Radiographs normal or indeterminate. Next imaging study.

Procedure	Appropriateness Category	SOE	Adults RRL	Peds RRL	Rating	Median	Final Tabulations								
							1	2	3	4	5	6	7	8	9
CT area of interest without IV contrast	Usually appropriate	Limited	Varies	Varies	9	9	0	0	0	0	2	0	1	3	6
References			Study Quality												
8 (26711473)			4												
7 (32009431)			4												
6 (26712662)			3												
Radiography area of interest repeat in 10-14 days	Usually appropriate	Limited	Varies	Varies	8	8	0	0	0	0	2	1	2	2	5
MRI area of interest without IV contrast	Usually not appropriate	Limited	O 0 mSv	O 0 mSv [ped]	2	2	4	3	2	1	1	0	1	0	0
References			Study Quality												
9 (34480618)			4												
US area of interest	Usually not appropriate	Limited	O 0 mSv	O 0 mSv [ped]	2	2	6	3	3	0	0	0	0	0	0
References			Study Quality												
11 (27645809)			2												
12 (33524629)			3												
CT area of interest with IV contrast	Usually not appropriate	Expert Consensus	Varies	Varies	1	1	10	0	1	0	0	0	0	0	1
CT area of interest without and with IV contrast	Usually not appropriate	Expert Consensus	Varies	Varies	1	1	9	0	2	0	0	0	0	0	1
MRI area of interest without and with IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	8	0	2	0	1	0	0	0	1
Bone scan area of interest	Usually not appropriate	Expert Consensus	☢☢☢ 1-10 mSv		1	1	11	0	0	0	0	0	0	0	1

Variant 3: Adult. Acute elbow or forearm pain. Suspect tendon or ligament or muscle injury. Radiographs normal or indeterminate. Next imaging study.

Procedure	Appropriateness Category	SOE	Adults RRL	Peds RRL	Rating	Median	Final Tabulations								
							1	2	3	4	5	6	7	8	9
MRI area of interest without IV contrast	Usually appropriate	Strong	O 0 mSv	O 0 mSv [ped]	9	9	0	0	0	0	0	0	0	1	11

References	Study Quality
28 (29871547)	3
24 (32815807)	2
23 (33181575)	4
22 (29883504)	4
21 (32865288)	4
20 (31738202)	4
19 (32851878)	4
18 (33200244)	2
17 (28219360)	3
16 (30414825)	4
15 (32803410)	3
14 (30649622)	4
7 (32009431)	4

US area of interest	Usually appropriate	Strong	O 0 mSv	O 0 mSv [ped]	8	8	0	0	0	0	2	1	2	4	3

References	Study Quality
44 (32735456)	4
43 (25189955)	3
41 (34455451)	3
40 (35943621)	2
39 (27903163)	4
38 (31503046)	4

37 (32067711)	2
36 (33186208)	4
35 (21420815)	4
34 (21968485)	4
33 (33033880)	2
32 (35512167)	4
31 (30987955)	3
30 (29177701)	3
29 (33493736)	4
21 (32865288)	4
20 (31738202)	4
12 (33524629)	3

CT area of interest with IV contrast	Usually not appropriate	Expert Consensus	Varies	Varies	1	1	9	1	0	0	1	0	1	0	0
CT area of interest without IV contrast	Usually not appropriate	Expert Consensus	Varies	Varies	1	1	8	1	0	0	3	0	0	0	0
CT area of interest without and with IV contrast	Usually not appropriate	Expert Consensus	Varies	Varies	1	1	9	1	1	0	0	0	1	0	0
MRI area of interest without and with IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	7	1	2	0	0	1	0	0	1
Bone scan area of interest	Usually not appropriate	Expert Consensus	☢☢☢ 1-10 mSv		1	1	11	0	0	0	1	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.**