

21 (8539411)	3
22 (8086252)	4
19 (21353753)	4
15 (18625353)	4
29 (2713773)	4
24 (3218915)	4
26 (6332488)	4

Percutaneous antegrade ureteral stenting (with or without safety nephrostomy)	May be appropriate	Limited	N/A	N/A	6	6	0	0	0	0	0	0	0	0	0	
		References	Study Quality													
		31 (18941097)	4													

PCN (includes PCNU) followed by delayed surgery	Usually appropriate	Limited	N/A	N/A	7	n/a	0	0	0	0	0	0	0	0	0	
		References	Study Quality													
		14 (20472267)	4													
		32 (14501730)	2													

Variant 2: Seven-day history of right flank pain, fever, and leukocytosis. Urinalysis positive for blood and infection. CT scan shows a 10 mm calculus in the mid right ureter without hydronephrosis.

Procedure	Appropriateness Category	SOE	Adults RRL	Peds RRL	Rating	Median	Final Tabulations									
							1	2	3	4	5	6	7	8	9	
Medical management without decompression	Usually not appropriate	Expert Consensus	N/A	N/A	2	2	0	0	0	0	0	0	0	0	0	
Retrograde ureteral stenting	Usually appropriate	Strong	N/A	N/A	8	8	0	0	0	0	0	0	0	0	0	
		References	Study Quality													
		33 (26662171)	1													
		40 (24698195)	1													
		41 (23795789)	2													

38 (12376218)	4
37 (2667249)	4
35 (10468719)	2
36 (8573816)	2
39 (20063999)	4
34 (23017519)	3

PCN (includes PCNU)	May be appropriate	Strong	N/A	N/A	5	n/a	0	0	0	0	0	0	0	0	0
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References	Study Quality
44 (28128911)	1
43 (6836120)	4
16 (9314366)	3
42 (11257644)	1

Percutaneous antegrade ureteral stenting (with or without safety nephrostomy)	Usually not appropriate	Expert Consensus	N/A	N/A	2	2	0	0	0	0	0	0	0	0	0
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PCN (includes PCNU) followed by delayed surgery	May be appropriate	Limited	N/A	N/A	5	n/a	0	0	0	0	0	0	0	0	0
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References	Study Quality
27 (9542016)	4
28 (6718717)	4
43 (6836120)	4

Variant 3: Pregnant patient (20 weeks) with 3-day history of left flank pain, fever, and leukocytosis. Urinalysis positive for infection. Ultrasound shows new, moderate left hydronephrosis.

Procedure	Appropriateness Category	SOE	Adults RRL	Peds RRL	Rating	Median	Final Tabulations								
							1	2	3	4	5	6	7	8	9
Medical management without decompression	Usually not appropriate	Limited	N/A	N/A	2	2	0	0	0	0	0	0	0	0	0

References	Study Quality
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References	Study Quality
54 (22315095)	2
55 (19278608)	4
56 (15533473)	2
57 (15851050)	3

PCN (includes PCNU)	Usually appropriate	Strong	N/A	N/A	8	n/a	0	0	0	0	0	0	0	0	0	0
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References	Study Quality
68 (23666587)	2
69 (23164390)	2
64 (2261404)	4
66 (2025771)	4
65 (1916512)	1
25 (10091780)	2
4 (1407920)	2
58 (3721300)	4
6 (2442872)	4
59 (20728326)	4
60 (20419970)	2
61 (21481096)	1
62 (21319508)	2
63 (18042018)	2
67 (8428414)	2
70 (19338533)	2

Percutaneous antegrade ureteral stenting (with or without safety nephrostomy)	Usually appropriate	Limited	N/A	N/A	8	8	0	0	0	0	0	0	0	0	0	0
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References	Study Quality
71 (19945660)	4

PCN (includes PCNU) followed by delayed surgery	May be appropriate	Limited	N/A	N/A	4	n/a	0	0	0	0	0	0	0	0	0	0
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References	Study Quality
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55 (19278608)	4
56 (15533473)	2

Variant 5: Prolonged history of right flank pain, fever, and leukocytosis. Urinalysis positive for blood and infection. Patient appears septic and is hypotensive. CT scan shows dilated right ureter and renal pelvis with perinephric stranding. No etiology for ureteral obstruction identified with current imaging.

Procedure	Appropriateness Category	SOE	Adults RRL	Peds RRL	Rating	Median	Final Tabulations								
							1	2	3	4	5	6	7	8	9
Medical therapy without decompression	Usually not appropriate	Limited	N/A	N/A	1	1	0	0	0	0	0	0	0	0	0
		References		Study Quality											
		72 (25661913)		4											
Retrograde ureteral stenting	May be appropriate	Limited	N/A	N/A	6	6	0	0	0	0	0	0	0	0	0
		References		Study Quality											
		72 (25661913)		4											
PCN (includes PCNU)	Usually appropriate	Strong	N/A	N/A	8	n/a	0	0	0	0	0	0	0	0	0
		References		Study Quality											
		77 (26321323)		1											
		79 (24033464)		2											
		18 (8136591)		3											
		75 (1414717)		4											
		27 (9542016)		4											
		38 (12376218)		4											
		76 (10443717)		4											
		73 (11774760)		4											
		17 (8186603)		4											
		37 (2667249)		4											
		43 (6836120)		4											
		78 (3398131)		4											

References	Study Quality
85 (18682673)	4
27 (9542016)	4
43 (6836120)	4
82 (9211774)	4
81 (7563324)	4

PCN (includes PCNU) followed by delayed surgery	Usually appropriate	Limited	N/A	N/A	7	n/a	0	0	0	0	0	0	0	0	0

References	Study Quality
86 (8911355)	4

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.