

**American College of Radiology
ACR Appropriateness Criteria®**

Management of Uterine Fibroids

Variant 1: Reproductive age patient with uterine fibroids, symptomatic with heavy uterine bleeding or bulk symptoms (eg, pressure, pain, fullness, bladder, or bowel symptoms), and a desire to preserve fertility. Initial therapy.

Procedure	Appropriateness Category	SOE	Adults RRL	Peds RRL	Rating	Median	Final Tabulations								
							1	2	3	4	5	6	7	8	9
Medical management	Usually appropriate	Strong	N/A	N/A	7	7	1	0	0	0	2	1	4	2	1

References	Study Quality
32 (33567071)	2
31 (32748236)	3
30 (33715871)	1
29 (24630081)	1
28 (22296075)	1
27 (30969201)	1
26 (30303900)	1
25 (33596357)	1
24 (31468503)	1
23 (32459423)	1
22 (31971678)	1
21 (31594635)	1
20 (34711224)	1
19 (30303923)	1
18 (28579415)	1
17 (25516866)	4
16 (34011888)	4

		7 (16603437)	1															
		6 (32726530)	4															
		5 (34877531)	1															
		4 (31678093)	2															
		3 (32532486)	3															
Laparoscopic or open myomectomy	Usually appropriate	Strong	N/A	N/A	7	7	0	0	1	0	0	2	4	3	1			
		References		Study Quality														
		4 (31678093)		2														
		12 (32192462)		Good														
		11 (35216832)		2														
		13 (27393268)		1														
		14 (27896247)		4														
Laparoscopic uterine artery occlusion	Usually not appropriate	Limited	N/A	N/A	2	2	4	2	4	1	0	0	0	0	0			
		References		Study Quality														
		15 (22526109)		2														
Endometrial ablation	Usually not appropriate	Limited	N/A	N/A	1	1	7	1	3	0	0	0	0	0	0			
		References		Study Quality														
		2 (28952185)		Inadequate														
Hysterectomy	Usually not appropriate	Expert Consensus	N/A	N/A	1	1	10	1	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
Medical management	Usually appropriate	Strong	N/A	N/A	7	7	0	1	0	0	1	0	5	2	2

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		References		Study Quality													
		32 (33567071)		2													
		31 (32748236)		3													
		30 (33715871)		1													
		29 (24630081)		1													
		28 (22296075)		1													
		27 (30969201)		1													
		26 (30303900)		1													
		25 (33596357)		1													
		24 (31468503)		1													
		23 (32459423)		1													
		22 (31971678)		1													
		21 (31594635)		1													
		20 (34711224)		1													
		19 (30303923)		1													
		18 (28579415)		1													
		17 (25516866)		4													
		16 (34011888)		4													
		MR-guided high-frequency focused ultrasound ablation	Usually appropriate	Strong	N/A	N/A	7	7	0	0	1	1	1	2	6	0	0
				References		Study Quality											
40 (30217580)				2													
39 (24075785)				2													
38 (24998103)				2													
37 (28421665)				1													
36 (28063909)				1													
35 (30696556)				1													

		34 (26658133)		1												
		33 (29628611)		4												
Uterine artery embolization	Usually appropriate	Strong	N/A	N/A	7	7	1	0	0	0	0	0	0	6	1	3
		References	Study Quality													
		43 (33197612)	Good													
		42 (23070101)	1													
		13 (27393268)	1													
		5 (34877531)	1													
Laparoscopic or open myomectomy	Usually appropriate	Strong	N/A	N/A	7	7	0	0	0	0	2	3	5	1	0	
		References	Study Quality													
		4 (31678093)	2													
		12 (32192462)	Good													
		13 (27393268)	1													
Hysterectomy	May be appropriate	Strong	N/A	N/A	6	6	0	0	0	0	4	5	2	0	0	
		References	Study Quality													
		58 (26272688)	4													
		57 (26264829)	Good													
		56 (22269187)	4													
		55 (33259542)	1													
		54 (20526776)	2													
		53 (32376318)	2													
		52 (31479034)	1													
		51 (29286988)	2													
		50 (27335259)	4													
Hysteroscopic myomectomy	May be appropriate	Strong	N/A	N/A	6	6	0	0	0	0	3	4	4	0	0	
		References	Study Quality													
		5 (34877531)	1													

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Procedure	Appropriateness Category	SOE	Adults RRL	Peds RRL	Rating	Median	Final Tabulations								
							1	2	3	4	5	6	7	8	9
Medical management	Usually appropriate	Strong	N/A	N/A	7	7	0	1	0	0	3	0	5	0	2
		References		Study Quality											
		64 (34553161)		1											
		63 (26071673)		1											
		62 (21134503)		1											
		61 (21422847)		1											
		60 (21784734)		1											
Uterine artery embolization	Usually appropriate	Strong	N/A	N/A	7	7	1	0	0	0	1	1	5	2	1
		References		Study Quality											
		69 (29496654)		4											
		68 (29032946)		Inadequate											

		67 (21717251)		2												
		66 (28516272)		2												
		65 (21850565)		2												
Hysterectomy	May be appropriate	Strong	N/A	N/A	6	6	0	0	0	0	3	4	3	0	1	
		References		Study Quality												
		58 (26272688)		4												
		57 (26264829)		Good												
		56 (22269187)		4												
		55 (33259542)		1												
		54 (20526776)		2												
		53 (32376318)		2												
		52 (31479034)		1												
		51 (29286988)		2												
		50 (27335259)		4												
MR-guided high-frequency focused ultrasound ablation	Usually not appropriate	Expert Consensus	N/A	N/A	3	3	4	1	4	1	0	0	1	0	0	
Endometrial ablation	Usually not appropriate	Limited	N/A	N/A	2	2	4	2	4	1	0	0	0	0	0	
		References		Study Quality												
		59 (25460320)		1												
Laparoscopic uterine artery occlusion	Usually not appropriate	Expert Consensus	N/A	N/A	2	2	5	2	1	0	3	0	0	0	0	
Hysteroscopic myomectomy	Usually not appropriate	Expert Consensus	N/A	N/A	2	2	3	3	1	2	1	0	1	0	0	
Laparoscopic or open myomectomy	Usually not appropriate	Expert Consensus	N/A	N/A	2	2	2	7	2	0	0	0	0	0	0	

Variant 4: Reproductive age patient with pedunculated submucosal uterine fibroids, symptomatic with heavy uterine bleeding. Initial therapy.

Procedure	Appropriateness Category	SOE	Adults RRL	Peds RRL	Rating	Median	Final Tabulations																			
							1	2	3	4	5	6	7	8	9											
Hysteroscopic myomectomy	Usually appropriate	Moderate	N/A	N/A	8	8	0	0	0	1	0	0	1	5	4											
		References	Study Quality																							
		4 (31678093)	2																							
Medical management	Usually appropriate	Strong	N/A	N/A	7	7	0	1	0	2	2	0	6	0	0											
		References	Study Quality																							
		32 (33567071)	2																							
		31 (32748236)	3																							
		30 (33715871)	1																							
		29 (24630081)	1																							
		28 (22296075)	1																							
		27 (30969201)	1																							
		26 (30303900)	1																							
		25 (33596357)	1																							
		24 (31468503)	1																							
		23 (32459423)	1																							
		22 (31971678)	1																							
		21 (31594635)	1																							
		20 (34711224)	1																							
		19 (30303923)	1																							
		18 (28579415)	1																							
		17 (25516866)	4																							
		16 (34011888)	4																							
		Uterine artery embolization	May be appropriate	Limited	N/A										N/A	6	6	0	0	0	0	2	4	4	1	0
				References	Study Quality																					
73 (19692192)	2																									

MR-guided high-frequency focused ultrasound ablation	May be appropriate	Strong	N/A	N/A	5	5	0	1	1	2	3	3	1	0	0
		References		Study Quality											
		72 (19640736)		2											
		71 (23099002)		2											
		70 (32676291)		4											
Hysterectomy	Usually not appropriate	Limited	N/A	N/A	3	3	2	0	5	3	1	0	0	0	0
		References		Study Quality											
		50 (27335259)		4											
Endometrial ablation	Usually not appropriate	Expert Consensus	N/A	N/A	2	2	5	3	1	1	0	1	0	0	0
Laparoscopic uterine artery occlusion	Usually not appropriate	Expert Consensus	N/A	N/A	2	2	5	2	2	2	0	0	0	0	0
Laparoscopic or open myomectomy	Usually not appropriate	Expert Consensus	N/A	N/A	2	2	4	2	4	1	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
Hysterectomy	Usually appropriate	Strong	N/A	N/A	8	8	1	0	0	0	0	0	4	1	5
		References		Study Quality											
		57 (26264829)		Good											
		56 (22269187)		4											
		55 (33259542)		1											
		54 (20526776)		2											
		51 (29286988)		2											

		50 (27335259)			4											
Uterine artery embolization	May be appropriate	Limited	N/A	N/A	6	6	0	0	0	1	3	5	2	0	0	
		References			Study Quality											
		76 (31834160)			4											
		75 (25765878)			3											
		74 (26372352)			4											
Laparoscopic or open myomectomy	May be appropriate	Expert Consensus	N/A	N/A	6	6	0	0	0	0	4	7	0	0	0	
Hysteroscopic myomectomy	May be appropriate	Strong	N/A	N/A	5	5	0	0	1	0	5	4	1	0	0	
		References			Study Quality											
		5 (34877531)			1											
		4 (31678093)			2											
		3 (32532486)			3											
MR-guided high-frequency focused ultrasound ablation	Usually not appropriate	Expert Consensus	N/A	N/A	3	3	3	2	2	1	2	0	1	0	0	
Endometrial ablation	Usually not appropriate	Expert Consensus	N/A	N/A	2	2	3	3	2	2	1	0	0	0	0	
Medical management	Usually not appropriate	Expert Consensus	N/A	N/A	2	2	2	4	1	2	2	0	0	0	0	
Laparoscopic uterine artery occlusion	Usually not appropriate	Expert Consensus	N/A	N/A	2	2	5	2	2	1	1	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
Hysteroscopic myomectomy	Usually appropriate	Strong	N/A	N/A	7	7	1	0	0	0	0	3	4	1	2

		References		Study Quality											
		11 (35216832)		2											
		10 (24303914)		2											
		9 (15760959)		1											
		8 (25172985)		4											
		7 (16603437)		1											
Laparoscopic or open myomectomy	Usually appropriate	Strong	N/A	N/A	7	7	1	0	0	0	1	1	5	0	3
		References		Study Quality											
		77 (17349643)		1											
		78 (11098042)		2											
Uterine artery embolization	May be appropriate	Limited	N/A	N/A	6	6	0	0	1	3	0	3	3	0	1
		References		Study Quality											
		46 (28608747)		2											
Medical management	May be appropriate (Disagreement)	Expert Opinion	N/A	N/A	5	5	1	2	3	2	1	1	0	1	0
		References		Study Quality											
		79 (32430027)		1											
MR-guided high-frequency focused ultrasound ablation	May be appropriate	Limited	N/A	N/A	5	5	0	0	0	3	6	1	1	0	0
		References		Study Quality											
		82 (21570071)		4											
		81 (21611041)		4											
		80 (17292361)		4											
Laparoscopic uterine artery occlusion	Usually not appropriate	Expert Consensus	N/A	N/A	2	2	5	3	0	2	0	0	0	1	0
Endometrial ablation	Usually not appropriate	Limited	N/A	N/A	1	1	6	3	0	2	0	0	0	0	0
		References		Study Quality											

		2 (28952185)		Inadequate											
Hysterectomy	Usually not appropriate	Expert Consensus	N/A	N/A	1	1	9	1	0	0	0	0	0	0	1

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.