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	SOE	Adults RRL	Peds RRL	Rating	Median			F	inal T	Γabu	latior	ıs		
Troccure	Category	SOL	radits RRE	I cus KKL	Rating	Wicdian	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
17 (25516866)	4
22 (31971678)	1
18 (28579415)	1
19 (30303923)	1
21 (31594635)	1
16 (34011888)	4
23 (32459423)	1
24 (31468503)	1
26 (30303900)	1
32 (33567071)	2
20 (34711224)	1
31 (32748236)	3
25 (33596357)	1
27 (30969201)	1
30 (33715871)	1
28 (22296075)	1
29 (24630081)	1

MR-guided high-frequency focused ultrasound ablation	Usually appropriate	Strong	N/A	N/A	7	7	0	0	1	1	1	2	5	1	0
		References		Stud	y Quality										
		39 (24075785)			2										
		41 (19013566)			4										
		36 (28063909)			1										
		34 (26658133)			1										
		37 (28421665)			1										
		40 (30217580)			2										
		35 (30696556)			1										
		33 (29628611)			4										
		38 (24998103)			2										
Uterine artery embolization	Usually appropriate	Strong	N/A	N/A	7	7	0	0	1	0	0	2	6	1	1
		References		Stud	y Quality										
		47 (17943348)			2										
		46 (28608747)			2										
		42 (23070101)			1										
		6 (32726530)			4										
		45 (34058169)			4										
		43 (33197612)		(Good										
		13 (27393268)			1										
		44 (27966042)			1										
		5 (34877531)			1										
Hysteroscopic myomectomy	Usually appropriate	Strong	N/A	N/A	7	7	0	0	1	0	1	1	5	1	2
		References		Stud	y Quality										
		6 (32726530)			4										
		4 (31678093)			2										
		3 (32532486)			3										
		5 (34877531)			1										

		7 (16603437)			1										
		10 (24303914)			2										
		11 (35216832)			2										
		8 (25172985)			4										
		9 (15760959)			1										
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										
		13 (27393268)			1										
		11 (35216832)			2										
		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)		Inac	dequate										
Hysterectomy	Usually not appropriate	Expert Consensus	N/A	N/A	1	1	10	1	0	0	0	0	0	0	0

Variant 2: Reproductive age patient with uterine fibroids, symptomatic with heavy uterine bleeding or bulk symptoms (eg, pressure, pain, fullness, bowel, or bladder symptoms), and no desire for future fertility. Initial therapy.

ъ .	Appropriateness	COF	A L L DDI	n i nnr	D 41	3.6 11			F	inal [Гabu	latio	ns		
Procedure	Category	SOE	Adults RRL	Peds RRL	Rating	Median	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

Procedure	Appropriateness Category	SOE	Adults RRL	Peds RRL	Rating	Median	1	2		nal T		ations		8 9)
		References		Study	Quality										
		17 (25516866)		Siday	4										
		22 (31971678)			<u>.</u> 1										
		18 (28579415)			1										
		19 (30303923)			1										
		21 (31594635)			1										
		16 (34011888)			4										
		23 (32459423)			1										
		24 (31468503)			1										
		26 (30303900)			1										
		32 (33567071)			2										
		20 (34711224)			1										
		31 (32748236)			3										
		25 (33596357)			1										
		27 (30969201)			1										
		30 (33715871)			1										
		28 (22296075)			1										
		29 (24630081)			1			l							
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										
		39 (24075785)			2										
		36 (28063909)			1										
		34 (26658133)			1										
		37 (28421665)			1										
		40 (30217580)			2										
		35 (30696556)			1										

		33 (29628611)			4										
		38 (24998103)			2										
Uterine artery embolization	Usually appropriate	Strong	N/A	N/A	7	7	1	0	0	0	0	0	6	1	3
		References		Study	y Quality										
		42 (23070101)			1										
		43 (33197612)		(Good										
		13 (27393268)			1										
		5 (34877531)			1						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	y Quality		-								
		4 (31678093)			2										
		12 (32192462)		(Good										
		13 (27393268)			1				ı				T		
Hysterectomy	May be														
	appropriate	Strong	N/A	N/A	6	6	0	0	0	0	4	5	2	0	0
	appropriate	Strong References	N/A		6 y Quality	6	0	0	0	0	4	5	2	0	0
	appropriate		N/A			6	0	0	0	0	4	5	2	0	0
	appropriate	References	N/A		Quality	6	0	0	0	0	4	5	2	0	0
	appropriate	References 54 (20526776)	N/A		y Quality 2	6	0	0	0	0	4	5	2	0	0
	appropriate	References 54 (20526776) 50 (27335259)	N/A		Quality 2 4	6	0	0	0	0	4	5	2	0	0
	appropriate	References 54 (20526776) 50 (27335259) 51 (29286988) 55 (33259542) 56 (22269187)	N/A	Study	Quality 2 4 2 1 4	6	0	0	0	0	4	5	2	0	0
	appropriate	References 54 (20526776) 50 (27335259) 51 (29286988) 55 (33259542) 56 (22269187) 57 (26264829)	N/A	Study	y Quality 2 4 2 1 4 Good	6	0	0	0	0	4	5	2	0	0
	appropriate	References 54 (20526776) 50 (27335259) 51 (29286988) 55 (33259542) 56 (22269187) 57 (26264829) 58 (26272688)	N/A	Study	Quality 2 4 2 1 4	6	0	0	0	0	4	5	2	0	0
	appropriate	References 54 (20526776) 50 (27335259) 51 (29286988) 55 (33259542) 56 (22269187) 57 (26264829) 58 (26272688) 52 (31479034)	N/A	Study	Quality 2 4 2 1 4 Good 4 1	6	0	0	0	0	4	5	2	0	0
	appropriate	References 54 (20526776) 50 (27335259) 51 (29286988) 55 (33259542) 56 (22269187) 57 (26264829) 58 (26272688)	N/A	Study	y Quality 2 4 2 1 4 Good	6	0	0	0	0	4	5	2	0	0
Hysteroscopic myomectomy	May be appropriate May be appropriate	References 54 (20526776) 50 (27335259) 51 (29286988) 55 (33259542) 56 (22269187) 57 (26264829) 58 (26272688) 52 (31479034)	N/A	Study	Quality 2 4 2 1 4 Good 4 1	6	0	0	0	0	3	5	2	0	0
	May be	References 54 (20526776) 50 (27335259) 51 (29286988) 55 (33259542) 56 (22269187) 57 (26264829) 58 (26272688) 52 (31479034) 53 (32376318)		Study N/A	Quality 2 4 2 1 4 Good 4 1 2										

			3 (32532486)			3										
Endometrial ablation	Usuall	y not	5 (34877531) Strong	N/A	N/A	3	3	2	1	3	4	1	0	0	0	0
	approp	orrate	References		Study	Quality										
			48 (27575538) 49 (32984945)			2										
Laparoscopic uterine artery occlusion	Usuall approp	y not oriate	Limited	N/A	N/A	3	3	4	1	3	2	1	0	0	0	0
			References		Study	Quality										
			15 (22526109)			2										

Variant 3: Reproductive age patient with uterine fibroids and concurrent adenomyosis, symptomatic with heavy uterine bleeding or bulk symptoms (eg, pressure, pain, fullness, bladder, or bowel symptoms), and no desire for future fertility. Initial therapy.

n 1	Appropriatene	SS GOF	4 1 14 BBI	D I DDI	D (1)	24.11			F	inal	Tabu	latio	ns		
Procedure	Category	SOE	Adults RRL	Peds RRL	Rating	Median	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	y Quality										
		60 (21784734)			1										
		61 (21422847)			1										
		62 (21134503)			1										
		63 (26071673)			1										
		64 (34553161)			1								_		
Uterine artery embolization	Usually appropriate	Strong	N/A	N/A	7	7	1	0	0	0	1	1	5	2	1
		References		Study	y Quality										
		65 (21850565)			2										
		67 (21717251)			2										

			66 (28516272)			2										
			68 (29032946)		Inad	lequate										
			69 (29496654)			4				,						
Hysterectomy	May be appropria		Strong	N/A	N/A	6	6	0	0	0	0	3	4	3	0	1
			References		Study	Quality										
			54 (20526776)			2										
			50 (27335259)			4										
			51 (29286988)			2										
			55 (33259542)			1										
			56 (22269187)			4										
			57 (26264829)		G	lood										
			58 (26272688)			4										
			52 (31479034)			1										
			53 (32376318)			2		_								
MR-guided high-frequency focused ultrasound ablation	Usually nappropria	not ate	Expert Consensus	N/A	N/A	3	3	4	1	4	1	0	0	1	0	0
Endometrial ablation	Usually nappropria		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 nappropria		Expert Consensus	N/A	N/A	2	2	5	2	1	0	3	0	0	0	0
Hysteroscopic myomectomy	Usually nappropria		Expert Consensus	N/A	N/A	2	2	3	3	1	2	1	0	1	0	0
Laparoscopic or open myomectomy	Usually nappropria		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.

	Appropriateness	G07							I	inal	Tabu	latio	ns		
Procedure	Category	SOE	Adults RRL	Peds RRL	Rating	Median	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	y 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	y Quality										
		17 (25516866)			4										
		22 (31971678)			1										
		18 (28579415)			1										
		19 (30303923)			1										
		21 (31594635)			1										
		16 (34011888)			4										
		23 (32459423)			1										
		24 (31468503)			1										
		26 (30303900)			1										
		32 (33567071)			2										
		20 (34711224)			1										
		31 (32748236)			3										
		25 (33596357)			1										
		27 (30969201)			1										
		30 (33715871)			1										
		28 (22296075)			1										
		29 (24630081)			1										
Uterine artery embolization	May be appropriate	Limited	N/A	N/A	6	6	0	0	0	0	2	4	4	1	0
		References		Study	y Quality										
		73 (19692192)			2										

MR-guided high-frequency focused ultrasound ablation	May approp	Strong	N/A	N/A	5	5	0	1	1	2	3	3	1	0	0
		References		Study	Quality										
		72 (19640736)			2										
		70 (32676291)			4										
		71 (23099002)			2										
Hysterectomy	Usuall approp	Limited	N/A	N/A	3	3	2	0	5	3	1	0	0	0	0
		References		Study	Quality										
		50 (27335259)			4										
Endometrial ablation	Usuall approp	Expert Consensus	N/A	N/A	2	2	5	3	1	1	0	1	0	0	0
Laparoscopic uterine artery occlusion	Usuall approp	Expert Consensus	N/A	N/A	2	2	5	2	2	2	0	0	0	0	0
Laparoscopic or open myomectomy	Usuall approp	Expert Consensus	N/A	N/A	2	2	4	2	4	1	0	0	0	0	0

Variant 5: Postmenopausal patient with uterine fibroids, symptomatic with heavy uterine bleeding or bulk symptoms (eg, pressure, pain, fullness, bladder, or bowel symptoms). Negative endometrial biopsy. Next step.

Procedure	Appropriateness	COE	Adults RRL	Peds RRL	Rating	Median	Final Tabulations											
	Category	SOE					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
54 (20526776)	2
50 (27335259)	4
51 (29286988)	2
55 (33259542)	1
56 (22269187)	4

			57 (26264829)		Good												
Uterine artery embolization	May approp		Limited	N/A		N/A	6	6	0	0	0	1	3	5	2	0	0
	•		References														
			74 (26372352)			Study Quality 4											
			76 (31834160)			4											
			75 (25765878)			3											
Laparoscopic or open myomectomy	May approp		Expert Consensus	N/A		N/A	6	6	0	0	0	0	4	7	0	0	0
Hysteroscopic myomectomy	May approp					N/A	5	5	0	0	1	0	5	4	1	0	0
			References		Study Quality												
			4 (31678093)		2												
			3 (32532486)		3												
			5 (34877531)		1				_								
MR-guided high-frequency focused ultrasound ablation	Usually approp		Expert Consensus	N/A		N/A	3	3	3	2	2	1	2	0	1	0	0
Endometrial ablation	Usually approp	y not riate	Expert Consensus	N/A		N/A	2	2	3	3	2	2	1	0	0	0	0
Medical management	Usuall approp		Expert Consensus	N/A		N/A	2	2	2	4	1	2	2	0	0	0	0
Laparoscopic uterine artery occlusion	Usuall approp		Expert Consensus	N/A		N/A	2	2	5	2	2	1	1	0	0	0	0

Variant 6: Reproductive age patient with uterine fibroids desiring pregnancy and experiencing reproductive dysfunction. Initial therapy.

Procedure	Appropriateness	COF	Adults RRL	Peds RRL	Rating	Median	Final Tabulations										
	Category	SOE					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		

		D. C.		G. 1	y Quality										
		References		Stud											
		7 (16603437)		2											
		10 (24303914)													
		11 (35216832)			2										
		8 (25172985)		4											
		9 (15760959)			1					ı					
Laparoscopic or open myomectomy	Usually appropriate	Strong	N/A	N/A	7	7	1	0	0	0	1	1	5	0	3
		References		Stud	y Quality										
		77 (17349643)													
		78 (11098042)													
Uterine artery embolization	May be appropriate	Limited	N/A	N/A	6	6	0	0	1	3	0	3	3	0	1
		References		Stud	y 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		Stud	y 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		Stud	y Quality										
		80 (17292361)			4										
		81 (21611041)			4										
		82 (21570071)			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	G. 1	y Quality			•	-	-	•	•		•		

		2 (28952185)			Inac											
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.