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.

Duogodyna	Appropriateness	SOE	Adults RRL	Peds RRL	Rating	Median			F	inal T	Fabu	latior	ıs		
Procedure	Category	SOE	Auuits KKL	reus KKL	Kating	Median	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	

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		Study	y Quality										
		41 (19013566)			4										
		40 (30217580)			2										
		39 (24075785)			2										
		38 (24998103)			2										
		37 (28421665)			1										
		36 (28063909)			1										
		35 (30696556)			1										
		34 (26658133)			1										
		33 (29628611)			4				1	ı					
Uterine artery embolization	Usually appropriate	Strong	N/A	N/A	7	7	0	0	1	0	0	2	6	1	1
		References		Study	y Quality		-								
		5 (34877531)			1										
		47 (17943348)			2										
		46 (28608747)			2										
		45 (34058169)	1		4										
		44 (27966042)			1										
		43 (33197612)		(Good										
		42 (23070101)			1										
		13 (27393268)			1										
		6 (32726530)			4										
Hysteroscopic myomectomy	Usually appropriate	Strong	N/A	N/A	7	7	0	0	1	0	1	1	5	1	2
		References		Study	y Quality										
		11 (35216832)			2										
		10 (24303914)			2										
		9 (15760959)			1										
		8 (25172985)			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)		Inac	lequate										
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 [Гаbu	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	Fin			ations		9
		References		Study	y Quality									
		32 (33567071)		Staaj	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)		1	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	y 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	6	1	3
		References		Study	y Quality		•								
		43 (33197612)		(Good										
		42 (23070101)			1										
		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										
Hysterectomy															
Trysterectomy	May be appropriate	Strong	N/A	N/A	6	6	0	0	0	0	4	5	2	0	0
Trysterectomy	May be appropriate	Strong References	N/A		6 y Quality	6	0	0	0	0	4	5	2	0	0
Trysterectomy	May be appropriate	, and the second	N/A			6	0	0	0	0	4	5	2	0	0
Trysterectomy	May be appropriate	References	N/A	Study	y Quality	6	0	0	0	0	4	5	2	0	0
Trysterectomy	May be appropriate	References 58 (26272688)	N/A	Study	y Quality 4	6	0	0	0	0	4	5	2	0	0
Trysterectomy	May be appropriate	References 58 (26272688) 57 (26264829)	N/A	Study	y Quality 4 Good	6	0	0	0	0	4	5	2	0	0
Trysterectomy	May be appropriate	References 58 (26272688) 57 (26264829) 56 (22269187)	N/A	Study	y Quality 4 Good 4	6	0	0	0	0	4	5	2	0	0
Trysterectomy	May be appropriate	References 58 (26272688) 57 (26264829) 56 (22269187) 55 (33259542) 54 (20526776) 53 (32376318)	N/A	Study	y Quality 4 Good 4	6	0	0	0	0	4	5	2	0	0
Trysterectomy	May be appropriate	References 58 (26272688) 57 (26264829) 56 (22269187) 55 (33259542) 54 (20526776) 53 (32376318) 52 (31479034)	N/A	Study	y Quality 4 Good 4 1 2 2 1	6	0	0	0	0	4	5	2	0	0
Trysterectomy	May be appropriate	References 58 (26272688) 57 (26264829) 56 (22269187) 55 (33259542) 54 (20526776) 53 (32376318) 52 (31479034) 51 (29286988)	N/A	Study	y Quality 4 Good 4 1 2 2 1 2	6	0	0	0	0	4	5	2	0	0
	May be appropriate	References 58 (26272688) 57 (26264829) 56 (22269187) 55 (33259542) 54 (20526776) 53 (32376318) 52 (31479034)	N/A	Study	y Quality 4 Good 4 1 2 2 1	6	0	0	0	0	4	5	2	0	0
Hysteroscopic myomectomy	May be appropriate May be appropriate	References 58 (26272688) 57 (26264829) 56 (22269187) 55 (33259542) 54 (20526776) 53 (32376318) 52 (31479034) 51 (29286988)	N/A	Study	y Quality 4 Good 4 1 2 2 1 2	6	0	0	0	0	3	5	2	0	0
	appropriate May be	References 58 (26272688) 57 (26264829) 56 (22269187) 55 (33259542) 54 (20526776) 53 (32376318) 52 (31479034) 51 (29286988) 50 (27335259)		Study N/A	y Quality 4 Good 4 1 2 2 1 2 4										

			4 (31678093) 3 (32532486)				2 3										
Endometrial ablation	Usuall approp	y not oriate	Strong	N/A		N/A	3	3	2	1	3	4	1	0	0	0	0
			References			Study	Quality		<u> </u>								
			References 48 (27575538)				2										
			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		<u> </u>								
			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.

D 1	Appropriateness	COF	A L L DDI	D I DDI	D 41	3.5 31			I	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	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)		Inac	dequate										

	г															
		67 (21717251)				2										
		66 (28516272)				2										
		65 (21850565)				2										
Hysterectomy	May approp	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										
		56 (22269187) 55 (33259542) 54 (20526776)				1										
		54 (20526776)				2										
		54 (20526776) 53 (32376318)				2										
		52 (31479034)				1										
		51 (29286988)				2										
		50 (27335259)				4										
MR-guided high-frequency focused ultrasound ablation	Usually approp	Expert Consensus	N/A		N/A	3	3	4	1	4	1	0	0	1	0	0
Endometrial ablation	Usually approp	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 approp	Expert Consensus	N/A		N/A	2	2	5	2	1	0	3	0	0	0	0
Hysteroscopic myomectomy	Usually approp	Expert Consensus	N/A		N/A	2	2	3	3	1	2	1	0	1	0	0
Laparoscopic or open myomectomy	Usually approp	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	COF	A L L DDI	D 1 DD1	.	3.5.11			F	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	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 approp	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 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	Usually approp	Expert Consensus	N/A	N/A	2	2	5	3	1	1	0	1	0	0	0
Laparoscopic uterine artery occlusion	Usually approp	Expert Consensus	N/A	N/A	2	2	5	2	2	2	0	0	0	0	0
Laparoscopic or open myomectomy	Usually 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	COF	A L L DDI	n i nnr	D 4	3.6.19			F	inal T	Гabu	lation	ns		
	Category	SOE	Adults RRL	Peds RRL	Rating	Median	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 approp		Limited	N/A		N/A	6	6	0	0	0	1	3	5	2	0	0
	•		References														
			76 (31834160)			Study Quality 4											
			75 (25765878)			3											
			74 (26372352)			_	4				,						
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											
			5 (34877531)														
			4 (31678093)		2												
			3 (32532486)		3						,						
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 oriate	not Expert Consensus			N/A	2	2	3	3	2	2	1	0	0	0	0
Medical management	Usuall approp					N/A	2	2	2	4	1	2	2	0	0	0	0
Laparoscopic uterine artery occlusion	Usually 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		

		References		Ctud	ly Quality										
		11 (35216832)		Stud											
		`													
		10 (24303914)													
		9 (15760959)			1										
		8 (25172985)		4											
		7 (16603437)			1						1				
Laparoscopic or open myomectomy	Usually appropriate	Strong	N/A	N/A	7	7	1	0	0	0	1	1	5	0	3
		References		Stud	ly 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		Stud	ly 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	ly 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	ly 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

		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.