

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

Growth Disturbances–Risk of Fetal Growth Restriction

Variant 1: Growth disturbance. Low risk for fetal growth restriction. Initial evaluation.

Procedure	Appropriateness Category	SOE	Adults RRL	Peds RRL	Rating	Median	Final Tabulations								
							1	2	3	4	5	6	7	8	9
US pregnant uterus transabdominal	Usually appropriate	Limited	O 0 mSv	O 0 mSv [ped]	9	9	0	0	1	0	0	0	0	2	9
		References	Study Quality												
		26 (26031399)	3												
US pregnant uterus biophysical profile	Usually not appropriate	Limited	O 0 mSv	O 0 mSv [ped]	3	3	0	4	4	2	3	0	0	0	0
		References	Study Quality												
		27 (2404302)	4												
US duplex Doppler fetal umbilical artery	Usually not appropriate	Limited	O 0 mSv	O 0 mSv [ped]	3	3	3	3	5	0	0	1	0	0	0
		References	Study Quality												
		31 (2178428)	3												
US duplex Doppler maternal uterine artery	Usually not appropriate	Limited	O 0 mSv	O 0 mSv [ped]	3	3	2	4	4	0	1	1	0	0	0
		References	Study Quality												
		28 (26112630)	3												
		30 (24277892)	3												
		29 (28712949)	3												
US duplex Doppler ductus venosus	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	2	2	5	5	2	0	0	0	0	0	0

US duplex Doppler fetal middle cerebral artery	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	2	2	4	6	2	0	0	0	0	0	0
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Variant 2: Growth disturbance. High risk for fetal growth restriction. Initial evaluation.

Procedure	Appropriateness Category	SOE	Adults RRL	Peds RRL	Rating	Median	Final Tabulations								
							1	2	3	4	5	6	7	8	9
US pregnant uterus transabdominal	Usually appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	9	9	0	0	0	0	0	0	0	2	10
US pregnant uterus biophysical profile	Usually appropriate	Limited	O 0 mSv	O 0 mSv [ped]	7	7	0	0	0	0	3	2	3	4	1

	References		Study Quality	
	27 (2404302)		4	
	18 (16319247)		3	
	32 (-3130664)		4	

US duplex Doppler fetal umbilical artery	Usually appropriate	Limited	O 0 mSv	O 0 mSv [ped]	7	7	0	0	0	0	2	3	6	2	0
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	References		Study Quality	
	35 (7755042)		M	

US duplex Doppler ductus venosus	May be appropriate	Limited	O 0 mSv	O 0 mSv [ped]	5	5	0	0	0	1	9	3	0	0	0
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	References		Study Quality	
	19 (17267821)		3	

US duplex Doppler maternal uterine artery	May be appropriate	Limited	O 0 mSv	O 0 mSv [ped]	5	5	0	1	1	0	5	4	0	1	0
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	References		Study Quality	
	33 (25810352)		3	
	34 (25346413)		2	

US duplex Doppler fetal middle cerebral artery	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	2	2	2	6	2	0	1	0	1	0	0
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Variant 3: Established fetal growth restriction. Follow-up evaluation.

Procedure	Appropriateness Category	SOE	Adults RRL	Peds RRL	Rating	Median	Final Tabulations								
							1	2	3	4	5	6	7	8	9
US pregnant uterus biophysical profile	Usually appropriate	Limited	O 0 mSv	O 0 mSv [ped]	9	9	0	0	0	0	0	1	0	2	9
		References	Study Quality												
		25 (24931475)	3												
		32 (-3130664)	4												
US pregnant uterus transabdominal	Usually appropriate	Limited	O 0 mSv	O 0 mSv [ped]	9	9	0	0	0	0	0	0	0	1	11
		References	Study Quality												
		1 (24785859)	4												
		8 (24839087)	4												
		11 (23635765)	4												
US duplex Doppler fetal umbilical artery	Usually appropriate	Strong	O 0 mSv	O 0 mSv [ped]	8	8	0	0	0	0	0	1	2	4	5
		References	Study Quality												
		44 (28032647)	2												
		37 (24635223)	3												
		38 (25603682)	3												
		39 (25068564)	3												
		41 (25754212)	4												
		42 (25545442)	3												
		43 (25751217)	4												
		45 (23585420)	2												
		9 (15302194)	1												
		18 (16319247)	3												
		40 (23999424)	3												

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.