

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

## Multiple Gestations

**Variant 1: Known or suspected multiple gestations. Monochorionic or dichorionic. First trimester. Initial imaging.**

| 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      | Strong        | O 0 mSv    | O 0 mSv [ped] | 9      | 9      | 0                 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 7 |
|                                   |                          | References    |            | Study Quality |        |        |                   |   |   |   |   |   |   |   |   |
|                                   |                          | 9 (32861686)  |            | 4             |        |        |                   |   |   |   |   |   |   |   |   |
|                                   |                          | 27 (29115085) |            | 4             |        |        |                   |   |   |   |   |   |   |   |   |
|                                   |                          | 24 (27180271) |            | Good          |        |        |                   |   |   |   |   |   |   |   |   |
|                                   |                          | 28 (21308842) |            | 3             |        |        |                   |   |   |   |   |   |   |   |   |
|                                   |                          | 35 (31710737) |            | 3             |        |        |                   |   |   |   |   |   |   |   |   |
|                                   |                          | 34 (24585501) |            | 4             |        |        |                   |   |   |   |   |   |   |   |   |
|                                   |                          | 33 (27622859) |            | 3             |        |        |                   |   |   |   |   |   |   |   |   |
|                                   |                          | 32 (27363529) |            | 3             |        |        |                   |   |   |   |   |   |   |   |   |
|                                   |                          | 31 (26466907) |            | 3             |        |        |                   |   |   |   |   |   |   |   |   |
|                                   |                          | 30 (25989950) |            | 3             |        |        |                   |   |   |   |   |   |   |   |   |
|                                   |                          | 29 (23754823) |            | 4             |        |        |                   |   |   |   |   |   |   |   |   |
| US pregnant uterus transvaginal   | Usually appropriate      | Moderate      | O 0 mSv    | O 0 mSv [ped] | 7      | 7      | 0                 | 0 | 0 | 0 | 0 | 4 | 2 | 3 | 1 |
|                                   |                          | References    |            | Study Quality |        |        |                   |   |   |   |   |   |   |   |   |
|                                   |                          | 9 (32861686)  |            | 4             |        |        |                   |   |   |   |   |   |   |   |   |
|                                   |                          | 24 (27180271) |            | Good          |        |        |                   |   |   |   |   |   |   |   |   |

|                                                |                         |                  |               |               |   |   |    |   |   |   |   |   |   |   |   |
|------------------------------------------------|-------------------------|------------------|---------------|---------------|---|---|----|---|---|---|---|---|---|---|---|
| US cervix transvaginal                         | Usually not appropriate | Limited          | O 0 mSv       | O 0 mSv [ped] | 2 | 2 | 4  | 3 | 3 | 1 | 0 | 0 | 0 | 0 | 0 |
|                                                |                         | References       | Study Quality |               |   |   |    |   |   |   |   |   |   |   |   |
|                                                |                         | 25 (26363481)    | 3             |               |   |   |    |   |   |   |   |   |   |   |   |
|                                                |                         | 26 (28942691)    | 4             |               |   |   |    |   |   |   |   |   |   |   |   |
| US assessment for TTTS                         | Usually not appropriate | Limited          | O 0 mSv       | O 0 mSv [ped] | 2 | 2 | 5  | 0 | 2 | 3 | 0 | 0 | 0 | 0 | 0 |
|                                                |                         | References       | Study Quality |               |   |   |    |   |   |   |   |   |   |   |   |
|                                                |                         | 9 (32861686)     | 4             |               |   |   |    |   |   |   |   |   |   |   |   |
| US pregnant uterus biophysical profile         | Usually not appropriate | Expert Consensus | O 0 mSv       | O 0 mSv [ped] | 1 | 1 | 10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| US echocardiography fetal                      | Usually not appropriate | Limited          | O 0 mSv       | O 0 mSv [ped] | 1 | 1 | 7  | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
|                                                |                         | References       | Study Quality |               |   |   |    |   |   |   |   |   |   |   |   |
|                                                |                         | 9 (32861686)     | 4             |               |   |   |    |   |   |   |   |   |   |   |   |
| US duplex Doppler fetal middle cerebral artery | Usually not appropriate | Expert Consensus | O 0 mSv       | O 0 mSv [ped] | 1 | 1 | 9  | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| US duplex Doppler fetal umbilical artery       | Usually not appropriate | Limited          | O 0 mSv       | O 0 mSv [ped] | 1 | 1 | 8  | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
|                                                |                         | References       | Study Quality |               |   |   |    |   |   |   |   |   |   |   |   |
|                                                |                         | 9 (32861686)     | 4             |               |   |   |    |   |   |   |   |   |   |   |   |
| MRI fetal without and with IV contrast         | Usually not appropriate | Expert Consensus | O 0 mSv       | O 0 mSv [ped] | 1 | 1 | 9  | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| MRI fetal without IV contrast                  | Usually not appropriate | Expert Consensus | O 0 mSv       | O 0 mSv [ped] | 1 | 1 | 9  | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

**Variant 2: Multiple gestations. Monochorionic or dichorionic. First trimester. First trimester ultrasound performed. Next imaging study.**

| Procedure | Appropriateness Category | SOE | Adults RRL | Peds RRL | Rating | Median | Final Tabulations |   |   |   |   |   |   |   |   |
|-----------|--------------------------|-----|------------|----------|--------|--------|-------------------|---|---|---|---|---|---|---|---|
|           |                          |     |            |          |        |        | 1                 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |

| 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 | 0 | 0 | 0 | 1 | 0 | 2 | 7             |
|                                   |                          | References                      |                     | Study Quality    |         |        |                   |   |   |   |   |   |   |   |               |
|                                   |                          | 40 (24371108)                   |                     | 3                |         |        |                   |   |   |   |   |   |   |   |               |
|                                   |                          | 39 (27766995)                   |                     | 4                |         |        |                   |   |   |   |   |   |   |   |               |
|                                   |                          | 38 (21234973)                   |                     | 4                |         |        |                   |   |   |   |   |   |   |   |               |
|                                   |                          | 37 (31773823)                   |                     | 3                |         |        |                   |   |   |   |   |   |   |   |               |
|                                   |                          | 33 (27622859)                   |                     | 3                |         |        |                   |   |   |   |   |   |   |   |               |
|                                   |                          | 16 (34839475)                   |                     | 4                |         |        |                   |   |   |   |   |   |   |   |               |
|                                   |                          | 15 (32852128)                   |                     | 4                |         |        |                   |   |   |   |   |   |   |   |               |
|                                   |                          | 14 (31788879)                   |                     | 3                |         |        |                   |   |   |   |   |   |   |   |               |
|                                   |                          | 9 (32861686)                    |                     | 4                |         |        |                   |   |   |   |   |   |   |   |               |
|                                   |                          | 5 (31697621)                    |                     | 4                |         |        |                   |   |   |   |   |   |   |   |               |
|                                   |                          | US pregnant uterus transvaginal | Usually appropriate | Expert Consensus | O 0 mSv |        |                   |   |   |   |   |   |   |   | O 0 mSv [ped] |
| US cervix transvaginal            | May be appropriate       | Limited                         | O 0 mSv             | O 0 mSv [ped]    | 5       | 5      | 1                 | 0 | 0 | 4 | 4 | 2 | 0 | 0 | 0             |
|                                   |                          | References                      |                     | Study Quality    |         |        |                   |   |   |   |   |   |   |   |               |
|                                   |                          | 25 (26363481)                   |                     | 3                |         |        |                   |   |   |   |   |   |   |   |               |
|                                   |                          | 26 (28942691)                   |                     | 4                |         |        |                   |   |   |   |   |   |   |   |               |
| US echocardiography fetal         | May be appropriate       | Limited                         | O 0 mSv             | O 0 mSv [ped]    | 4       | 4      | 0                 | 0 | 2 | 5 | 1 | 3 | 0 | 0 | 0             |
|                                   |                          | References                      |                     | Study Quality    |         |        |                   |   |   |   |   |   |   |   |               |
|                                   |                          | 16 (34839475)                   |                     | 4                |         |        |                   |   |   |   |   |   |   |   |               |
|                                   |                          | 15 (32852128)                   |                     | 4                |         |        |                   |   |   |   |   |   |   |   |               |
| US assessment for TTTS            | Usually not appropriate  | Limited                         | O 0 mSv             | O 0 mSv [ped]    | 3       | 3      | 3                 | 1 | 2 | 2 | 1 | 0 | 1 | 0 | 0             |
|                                   |                          | References                      |                     | Study Quality    |         |        |                   |   |   |   |   |   |   |   |               |



|                                                |                         | References       |         | Study Quality |   |   |   |   |   |   |   |   |   |   |   |
|------------------------------------------------|-------------------------|------------------|---------|---------------|---|---|---|---|---|---|---|---|---|---|---|
|                                                |                         | 46 (22713497)    |         | 4             |   |   |   |   |   |   |   |   |   |   |   |
| US cervix transvaginal                         | Usually appropriate     | Limited          | 0 0 mSv | 0 0 mSv [ped] | 7 | 7 | 0 | 0 | 0 | 0 | 2 | 2 | 3 | 1 | 2 |
|                                                |                         | References       |         | Study Quality |   |   |   |   |   |   |   |   |   |   |   |
|                                                |                         | 43 (31878811)    |         | 4             |   |   |   |   |   |   |   |   |   |   |   |
|                                                |                         | 44 (27133011)    |         | 4             |   |   |   |   |   |   |   |   |   |   |   |
| US pregnant uterus transvaginal                | May be appropriate      | Expert Consensus | 0 0 mSv | 0 0 mSv [ped] | 6 | 6 | 0 | 0 | 0 | 1 | 0 | 7 | 1 | 0 | 1 |
| US duplex Doppler fetal umbilical artery       | May be appropriate      | Expert Consensus | 0 0 mSv | 0 0 mSv [ped] | 5 | 5 | 0 | 0 | 0 | 5 | 4 | 2 | 0 | 0 | 0 |
| US duplex Doppler fetal middle cerebral artery | Usually not appropriate | Limited          | 0 0 mSv | 0 0 mSv [ped] | 3 | 3 | 2 | 2 | 5 | 0 | 0 | 1 | 0 | 0 | 0 |
|                                                |                         | References       |         | Study Quality |   |   |   |   |   |   |   |   |   |   |   |
|                                                |                         | 45 (19012187)    |         | 4             |   |   |   |   |   |   |   |   |   |   |   |
| US pregnant uterus biophysical profile         | Usually not appropriate | Expert Consensus | 0 0 mSv | 0 0 mSv [ped] | 2 | 2 | 5 | 1 | 2 | 0 | 1 | 1 | 0 | 0 | 0 |
| US assessment for TTTS                         | Usually not appropriate | Expert Consensus | 0 0 mSv | 0 0 mSv [ped] | 2 | 2 | 5 | 1 | 2 | 1 | 0 | 1 | 0 | 0 | 0 |
| MRI fetal without IV contrast                  | Usually not appropriate | Expert Consensus | 0 0 mSv | 0 0 mSv [ped] | 2 | 2 | 5 | 2 | 0 | 2 | 0 | 1 | 0 | 0 | 0 |
| MRI fetal without and with IV contrast         | Usually not appropriate | Expert Consensus | 0 0 mSv | 0 0 mSv [ped] | 1 | 1 | 9 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

**Variant 4: Multiple gestations. Monochorionic twins. Second trimester anatomy examination. Follow-up imaging.**

[illegible]

| Procedure                                | Appropriateness Category | SOE           | Adults RRL | Peds RRL      | Rating | Median | Final Tabulations |   |   |   |   |   |   |   |   |
|------------------------------------------|--------------------------|---------------|------------|---------------|--------|--------|-------------------|---|---|---|---|---|---|---|---|
|                                          |                          |               |            |               |        |        | 1                 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|                                          |                          |               |            |               |        |        |                   |   |   |   |   |   |   |   |   |
|                                          |                          | References    |            | Study Quality |        |        |                   |   |   |   |   |   |   |   |   |
|                                          |                          | 58 (20215730) |            | 3             |        |        |                   |   |   |   |   |   |   |   |   |
|                                          |                          | 57 (31875322) |            | 3             |        |        |                   |   |   |   |   |   |   |   |   |
|                                          |                          | 56 (29024208) |            | 3             |        |        |                   |   |   |   |   |   |   |   |   |
|                                          |                          | 55 (24011780) |            | 3             |        |        |                   |   |   |   |   |   |   |   |   |
|                                          |                          | 54 (25925425) |            | 4             |        |        |                   |   |   |   |   |   |   |   |   |
|                                          |                          | 49 (20516671) |            | 4             |        |        |                   |   |   |   |   |   |   |   |   |
|                                          |                          | 41 (30308091) |            | 4             |        |        |                   |   |   |   |   |   |   |   |   |
|                                          |                          | 9 (32861686)  |            | 4             |        |        |                   |   |   |   |   |   |   |   |   |
| US echocardiography fetal                | Usually appropriate      | Limited       | O 0 mSv    | O 0 mSv [ped] | 9      | 9      | 0                 | 0 | 0 | 0 | 0 | 0 | 1 | 3 | 6 |
|                                          |                          | References    |            | Study Quality |        |        |                   |   |   |   |   |   |   |   |   |
|                                          |                          | 9 (32861686)  |            | 4             |        |        |                   |   |   |   |   |   |   |   |   |
|                                          |                          | 52 (23223160) |            | 4             |        |        |                   |   |   |   |   |   |   |   |   |
|                                          |                          | 53 (25560113) |            | 4             |        |        |                   |   |   |   |   |   |   |   |   |
| US assessment for TTTS                   | Usually appropriate      | Limited       | O 0 mSv    | O 0 mSv [ped] | 9      | 9      | 0                 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 7 |
|                                          |                          | References    |            | Study Quality |        |        |                   |   |   |   |   |   |   |   |   |
|                                          |                          | 9 (32861686)  |            | 4             |        |        |                   |   |   |   |   |   |   |   |   |
|                                          |                          | 12 (27561094) |            | 3             |        |        |                   |   |   |   |   |   |   |   |   |
| US duplex Doppler fetal umbilical artery | Usually appropriate      | Limited       | O 0 mSv    | O 0 mSv [ped] | 9      | 9      | 0                 | 0 | 0 | 0 | 0 | 0 | 1 | 3 | 6 |
|                                          |                          | References    |            | Study Quality |        |        |                   |   |   |   |   |   |   |   |   |
|                                          |                          | 9 (32861686)  |            | 4             |        |        |                   |   |   |   |   |   |   |   |   |
| US cervix transvaginal                   | Usually appropriate      | Limited       | O 0 mSv    | O 0 mSv [ped] | 7      | 7      | 0                 | 0 | 0 | 1 | 0 | 3 | 3 | 2 | 1 |

[illegible]

**Variant 5: Multiple gestations. Dichorionic twins or multichorionic higher order multiples. Growth and antepartum surveillance.**

|                                                |                         |                  |         |               |   |   |    |   |   |   |   |   |   |   |   |
|------------------------------------------------|-------------------------|------------------|---------|---------------|---|---|----|---|---|---|---|---|---|---|---|
| US pregnant uterus transvaginal                | May be appropriate      | Expert Consensus | 0 0 mSv | 0 0 mSv [ped] | 6 | 6 | 0  | 0 | 0 | 1 | 3 | 3 | 2 | 0 | 1 |
| US cervix transvaginal                         | May be appropriate      | Limited          | 0 0 mSv | 0 0 mSv [ped] | 6 | 6 | 0  | 1 | 0 | 0 | 3 | 3 | 2 | 0 | 1 |
|                                                |                         | References       |         | Study Quality |   |   |    |   |   |   |   |   |   |   |   |
|                                                |                         | 43 (31878811)    |         | 4             |   |   |    |   |   |   |   |   |   |   |   |
| US duplex Doppler fetal umbilical artery       | May be appropriate      | Expert Consensus | 0 0 mSv | 0 0 mSv [ped] | 6 | 6 | 0  | 0 | 1 | 1 | 3 | 4 | 0 | 1 | 0 |
| US pregnant uterus biophysical profile         | May be appropriate      | Limited          | 0 0 mSv | 0 0 mSv [ped] | 5 | 5 | 0  | 0 | 0 | 0 | 6 | 3 | 1 | 1 | 0 |
|                                                |                         | References       |         | Study Quality |   |   |    |   |   |   |   |   |   |   |   |
|                                                |                         | 62 (17154226)    |         | 3             |   |   |    |   |   |   |   |   |   |   |   |
|                                                |                         | 63 (26453124)    |         | 3             |   |   |    |   |   |   |   |   |   |   |   |
| US echocardiography fetal                      | May be appropriate      | Expert Consensus | 0 0 mSv | 0 0 mSv [ped] | 5 | 5 | 0  | 0 | 2 | 2 | 4 | 2 | 0 | 0 | 0 |
| US duplex Doppler fetal middle cerebral artery | May be appropriate      | Expert Consensus | 0 0 mSv | 0 0 mSv [ped] | 5 | 5 | 0  | 0 | 1 | 3 | 3 | 3 | 0 | 0 | 0 |
| US assessment for TTTS                         | Usually not appropriate | Expert Consensus | 0 0 mSv | 0 0 mSv [ped] | 2 | 2 | 4  | 2 | 1 | 2 | 0 | 1 | 0 | 0 | 0 |
| MRI fetal without IV contrast                  | Usually not appropriate | Expert Consensus | 0 0 mSv | 0 0 mSv [ped] | 2 | 2 | 5  | 2 | 1 | 1 | 0 | 1 | 0 | 0 | 0 |
| MRI fetal without and with IV contrast         | Usually not appropriate | Expert Consensus | 0 0 mSv | 0 0 mSv [ped] | 1 | 1 | 10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

**Variant 6: Multiple gestations. Monochorionic twins. Growth and antepartum surveillance.**

[illegible]





|                                        |                         |                  |         |               |   |   |   |   |   |   |   |   |   |   |   |
|----------------------------------------|-------------------------|------------------|---------|---------------|---|---|---|---|---|---|---|---|---|---|---|
| US pregnant uterus transvaginal        | May be appropriate      | Expert Consensus | 0 0 mSv | 0 0 mSv [ped] | 6 | 6 | 0 | 0 | 0 | 1 | 1 | 5 | 2 | 0 | 1 |
| US cervix transvaginal                 | May be appropriate      | Limited          | 0 0 mSv | 0 0 mSv [ped] | 6 | 6 | 0 | 0 | 0 | 1 | 4 | 6 | 0 | 0 | 0 |
|                                        |                         | References       |         | Study Quality |   |   |   |   |   |   |   |   |   |   |   |
|                                        |                         | 43 (31878811)    |         | 4             |   |   |   |   |   |   |   |   |   |   |   |
| US echocardiography fetal              | May be appropriate      | Limited          | 0 0 mSv | 0 0 mSv [ped] | 6 | 6 | 0 | 0 | 0 | 1 | 2 | 3 | 1 | 1 | 2 |
|                                        |                         | References       |         | Study Quality |   |   |   |   |   |   |   |   |   |   |   |
|                                        |                         | 9 (32861686)     |         | 4             |   |   |   |   |   |   |   |   |   |   |   |
|                                        |                         | 12 (27561094)    |         | 3             |   |   |   |   |   |   |   |   |   |   |   |
| MRI fetal without IV contrast          | May be appropriate      | Limited          | 0 0 mSv | 0 0 mSv [ped] | 5 | 5 | 2 | 1 | 0 | 2 | 4 | 1 | 0 | 0 | 0 |
|                                        |                         | References       |         | Study Quality |   |   |   |   |   |   |   |   |   |   |   |
|                                        |                         | 17 (25377504)    |         | 3             |   |   |   |   |   |   |   |   |   |   |   |
| MRI fetal without and with IV contrast | Usually not appropriate | Expert Consensus | 0 0 mSv | 0 0 mSv [ped] | 1 | 1 | 9 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

**Variant 7: Multiple gestations. Dichorionic or multichorionic higher order multiples or monochorionic gestations. Known abnormality or discordance between fetuses (fluid, size, weight). Growth and antepartum surveillance.**

| 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 | 0 | 0 | 0 | 0 | 0 | 1 | 9 |
|                                   |                          | References    |            | Study Quality |        |        |                   |   |   |   |   |   |   |   |   |
|                                   |                          | 9 (32861686)  |            | 4             |        |        |                   |   |   |   |   |   |   |   |   |
|                                   |                          | 83 (29363848) |            | 4             |        |        |                   |   |   |   |   |   |   |   |   |
|                                   |                          | 84 (24751835) |            | M             |        |        |                   |   |   |   |   |   |   |   |   |
|                                   |                          | 4 (29287298)  |            | 4             |        |        |                   |   |   |   |   |   |   |   |   |

|                                                |                     |                  |         |               |   |   |   |   |   |   |   |   |   |   |   |  |  |
|------------------------------------------------|---------------------|------------------|---------|---------------|---|---|---|---|---|---|---|---|---|---|---|--|--|
|                                                |                     | 58 (20215730)    |         |               | 3 |   |   |   |   |   |   |   |   |   |   |  |  |
| US duplex Doppler fetal umbilical artery       | Usually appropriate | Limited          | O 0 mSv | O 0 mSv [ped] | 8 | 8 | 0 | 0 | 0 | 0 | 2 | 0 | 3 | 2 | 3 |  |  |
|                                                |                     | References       |         | Study Quality |   |   |   |   |   |   |   |   |   |   |   |  |  |
|                                                |                     | 42 (27062653)    |         | 3             |   |   |   |   |   |   |   |   |   |   |   |  |  |
|                                                |                     | 77 (20878679)    |         | 3             |   |   |   |   |   |   |   |   |   |   |   |  |  |
|                                                |                     | 76 (21962139)    |         | 3             |   |   |   |   |   |   |   |   |   |   |   |  |  |
|                                                |                     | 75 (32573847)    |         | 3             |   |   |   |   |   |   |   |   |   |   |   |  |  |
|                                                |                     | 70 (14533898)    |         | 4             |   |   |   |   |   |   |   |   |   |   |   |  |  |
| US pregnant uterus biophysical profile         | Usually appropriate | Expert Consensus | O 0 mSv | O 0 mSv [ped] | 7 | 7 | 0 | 0 | 0 | 0 | 1 | 4 | 3 | 0 | 2 |  |  |
| US duplex Doppler fetal middle cerebral artery | Usually appropriate | Moderate         | O 0 mSv | O 0 mSv [ped] | 7 | 7 | 0 | 0 | 0 | 0 | 2 | 2 | 4 | 1 | 1 |  |  |
|                                                |                     | References       |         | Study Quality |   |   |   |   |   |   |   |   |   |   |   |  |  |
|                                                |                     | 3 (26094734)     |         | 2             |   |   |   |   |   |   |   |   |   |   |   |  |  |
|                                                |                     | 51 (31605505)    |         | 4             |   |   |   |   |   |   |   |   |   |   |   |  |  |
|                                                |                     | 72 (30125414)    |         | 3             |   |   |   |   |   |   |   |   |   |   |   |  |  |
|                                                |                     | 73 (30207009)    |         | 3             |   |   |   |   |   |   |   |   |   |   |   |  |  |
|                                                |                     | 74 (22418955)    |         | 4             |   |   |   |   |   |   |   |   |   |   |   |  |  |
| US pregnant uterus transvaginal                | May be appropriate  | Expert Consensus | O 0 mSv | O 0 mSv [ped] | 6 | 6 | 0 | 0 | 0 | 0 | 3 | 7 | 1 | 0 | 0 |  |  |
| US echocardiography fetal                      | May be appropriate  | Limited          | O 0 mSv | O 0 mSv [ped] | 6 | 6 | 0 | 0 | 0 | 1 | 3 | 4 | 1 | 0 | 1 |  |  |
|                                                |                     | References       |         | Study Quality |   |   |   |   |   |   |   |   |   |   |   |  |  |
|                                                |                     | 32 (27363529)    |         | 3             |   |   |   |   |   |   |   |   |   |   |   |  |  |
|                                                |                     | 52 (23223160)    |         | 4             |   |   |   |   |   |   |   |   |   |   |   |  |  |
|                                                |                     | 82 (27813120)    |         | 3             |   |   |   |   |   |   |   |   |   |   |   |  |  |
|                                                |                     | 81 (23495173)    |         | 3             |   |   |   |   |   |   |   |   |   |   |   |  |  |
|                                                |                     | 80 (27150066)    |         | 3             |   |   |   |   |   |   |   |   |   |   |   |  |  |
|                                                |                     | 79 (21998013)    |         | 3             |   |   |   |   |   |   |   |   |   |   |   |  |  |
|                                                |                     | 78 (24919586)    |         | 3             |   |   |   |   |   |   |   |   |   |   |   |  |  |

|                                        |                         |                  |         |               |   |   |   |   |   |   |   |   |   |   |   |
|----------------------------------------|-------------------------|------------------|---------|---------------|---|---|---|---|---|---|---|---|---|---|---|
|                                        |                         | 58 (20215730)    |         | 3             |   |   |   |   |   |   |   |   |   |   |   |
|                                        |                         | 22 (-3196434)    |         | 4             |   |   |   |   |   |   |   |   |   |   |   |
| US assessment for TTTS                 | May be appropriate      | Limited          | O 0 mSv | O 0 mSv [ped] | 6 | 6 | 0 | 0 | 0 | 1 | 3 | 3 | 4 | 0 | 0 |
|                                        |                         | References       |         | Study Quality |   |   |   |   |   |   |   |   |   |   |   |
|                                        |                         | 71 (32832884)    |         | 3             |   |   |   |   |   |   |   |   |   |   |   |
|                                        |                         | 70 (14533898)    |         | 4             |   |   |   |   |   |   |   |   |   |   |   |
|                                        |                         | 69 (23617829)    |         | 4             |   |   |   |   |   |   |   |   |   |   |   |
|                                        |                         | 12 (27561094)    |         | 3             |   |   |   |   |   |   |   |   |   |   |   |
|                                        |                         | 9 (32861686)     |         | 4             |   |   |   |   |   |   |   |   |   |   |   |
|                                        |                         | 5 (31697621)     |         | 4             |   |   |   |   |   |   |   |   |   |   |   |
|                                        |                         | 4 (29287298)     |         | 4             |   |   |   |   |   |   |   |   |   |   |   |
| MRI fetal without IV contrast          | May be appropriate      | Limited          | O 0 mSv | O 0 mSv [ped] | 6 | 6 | 0 | 0 | 0 | 2 | 3 | 2 | 3 | 0 | 0 |
|                                        |                         | References       |         | Study Quality |   |   |   |   |   |   |   |   |   |   |   |
|                                        |                         | 68 (32358676)    |         | 3             |   |   |   |   |   |   |   |   |   |   |   |
|                                        |                         | 67 (29688161)    |         | 3             |   |   |   |   |   |   |   |   |   |   |   |
|                                        |                         | 66 (31220847)    |         | 3             |   |   |   |   |   |   |   |   |   |   |   |
|                                        |                         | 65 (26268524)    |         | 3             |   |   |   |   |   |   |   |   |   |   |   |
|                                        |                         | 18 (28444780)    |         | 3             |   |   |   |   |   |   |   |   |   |   |   |
|                                        |                         | 17 (25377504)    |         | 3             |   |   |   |   |   |   |   |   |   |   |   |
| US cervix transvaginal                 | May be appropriate      | Limited          | O 0 mSv | O 0 mSv [ped] | 5 | 5 | 0 | 0 | 0 | 2 | 4 | 5 | 0 | 0 | 0 |
|                                        |                         | References       |         | Study Quality |   |   |   |   |   |   |   |   |   |   |   |
|                                        |                         | 43 (31878811)    |         | 4             |   |   |   |   |   |   |   |   |   |   |   |
| MRI fetal without and with IV contrast | Usually not appropriate | Expert Consensus | O 0 mSv | O 0 mSv [ped] | 1 | 1 | 9 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

## 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](http://www.acr.org/ac).