

**Morphologic and functional placental assessment is a requisite component of a fetal/obstetric MRI study.**

MRI of the placenta is a requisite component of obstetric MRI studies.

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Placental assessment requires morphologic (MR) and functional (uterine arterial Doppler) analysis.

More than 15% of pregnancies are affected by placenta related adverse obstetrical outcomes necessitating uterine artery Doppler to screen for impaired placentation.

Preeclampsia and other hypertensive disorders of pregnancy occur in 5-8% of all pregnancies of women who have no known risk factors.

In each trimester of pregnancy, uterine artery Doppler is an essential component within the evidence based multifactorial Fetal Medicine Foundation algorithm optimizing personalized quantitative preeclampsia risk assessment

\*The competing risk approach for prediction of preeclampsia. Wright. Am J Obstet Gynecol. July 2020

\*From first trimester screening to risk stratification of evolving preeclampsia and second and third trimesters of pregnancy: comprehensive approach. Ultrasound Obstet Gynecol. Poon. 2020;55:5-12.

Uterine arterial Doppler is necessary to assess placental function in patients with:

\_clinical and/or ACOG established preeclampsia risk factors

\_placenta /umbilical cord dysmorphology at the time of obstetric MRI appointment.

\_MR demonstration of fetal organ abnormalities that can be the ischemic and/or hemorrhagic consequence of primary placental histopathologies (for example, fetal vascular malperfusion.)

\*American College of Radiology-Society of Pediatric Radiology Practice Parameters for Fetal MRI. Revised 2020(Resolution 45)