

CT scans in the Pregnant Patient

Trauma is the leading cause of non-obstetric death in the pregnant patient. Significant maternal injury or shock can raise the risk of fetal mortality to as high as 60-80%. In this patient, seen as a Level I or II trauma activation, I am concerned that the trauma may have caused significant, potentially life-threatening maternal injury. CT scan imaging of this patient is necessary to evaluate for these injuries. The typical VUMC trauma evaluation, including CT scan, exposes the fetus to less than 50 mGy. According to the American College of Radiology Practice Parameter for imaging pregnant patients, a radiation dose of less than 50 mGy (5 rad) has not been shown to demonstrate any risk of spontaneous abortion, birth defects, or mental retardation. A dose of 50 mGy is theorized to increase the lifetime cancer risk of the fetus by 1-2%. The patient has been or will be counseled regarding this. The American College of Obstetricians and Gynecologists Clinical Consensus states that “radiation exposure through radiography, computed tomography (CT) scan ... should not be withheld from a pregnant patient.” **In our estimation of risk/benefit, it is indicated to obtain CT imaging of this pregnant patient to avoid maternal and fetal mortality and morbidity from traumatic injury.**

References:

1. ACR-SPR Practice Parameter for Imaging Pregnant or Potentially Pregnant Adolescents and Women with Ionizing Radiation. Revised 2023 [Clean Copy \(acr.org\)](https://www.acr.org/Clean-Copy)
2. Imaging of Trauma in the Pregnant Patient. Raptis CA, Mellnick VM, Raptis DA, et al. Radiographics 2014; 34:748-763.
3. Practice Management Guidelines for the Diagnosis and Management of Injury in the Pregnant Patient: The EAST Practice management Guidelines Work Group. J Trauma 2010;69:211-214.
4. American College of Obstetricians and Gynecologists Clinical Consensus For Diagnostic Imaging During Pregnancy www.acog.org/clinical/clinical-guidance/committee-opinion/articles/2017/10/guidelines-for-diagnostic-imaging-during-pregnancy-and-lactation