

IMAGING STUDIES DURING PREGNANCY

Dose: Rad = amount of energy deposited/kg of tissue

8 -15wk : greatest risk for radiation induced mental retardation, with threshold for adverse effect 20-40 Rad.

US: uses sound waves and not ionizing radiation. Is safe.

MRI: safe, but not recommended in 1st trimester.

Radioactive isotopes: contraindicated in pregnancy.

Shield abdomen with lead apron whenever possible.

Study	Fetal Exposure	# needed to = 5 rads
CXR (2 views)	0.02-0.07 mrad	100,000
Abdomen (1 view)	100 mrad	25
IVP (depends on # views)	>1 rad	
Hip Xray (1 view)	200 mrad	25
Mammogram	7-20 mrad	250
Barium enema or small bowel series	2-4 rad	2
CT head or chest	<1 rad	5
CT abd/lumbar	3.5 rad	1
CT Pelvimetry	250 mrad	20
VQ scan	50 mrad	100
Scan-bone, renal, brain, heart	< 0.5 rad	10

ACOG: Women should be counseled that x-ray exposure from a single diagnostic test does not result in harmful fetal effects. Specifically if < 5 rads has not been associated with increase in fetal anomalies or pregnancy loss.

If medically indicated, do test. Use non-ionizing radiation imaging (MRI, ultrasound) as appropriate.

*No reason to defer chest x-rays in pregnancy. If +PPD, get CXR that day. It's important to rule out active TB.

Consult radiologist with questions.

REFERENCES:

ACOG Committee Opinion, September 2004 ATLS textbook