Ultrasound: high-frequency sound waves that travel at 10 to 20 million cycles per second. The pattern of echo waves creates a picture of tissue and bone.

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Routine prenatal ultrasound (RPU) actually detects only between 17 and 85 percent of the 1 in 50 babies who have major abnormalities at birth. Studies have suggested that these effects are of real concern in living tissues:

- Cell abnormalities caused by exposure to ultrasound were seen to persist for several generations.
- In newborn rats (similar stage of development as human fetuses at four to five months in utero), ultrasound can damage the myelin that covers nerves.
- Exposing mice to dosages typical of obstetric ultrasound caused a 22% reduction in the rate of cell division and doubling of the rate of apoptosis (programmed cell death), in the cells of the small intestine.
- Two long-term randomized controlled trials comparing exposed and unexposed children's development at eight to nine years old found no measurable effect from ultrasound. However, the authors comment that intensities used today are many times higher than there were in 1979 and 1981.

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References available online: www.aip.org/jbb.png

Ultrasound in Pregnancy

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