

# US screening

Tom Stavros, MD, FACR

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for breast CA screening

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- MRI approved for high risk women with dense breast - ACRIN 6667
- 70-80% of breast carcinomas occur in patients with no known risk factors other than dense breasts - (? US “screening”)

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multiple single center studies of hand held US  
roughly 3 per 1000 cancers missed on mammography

- Kaplan
- Kolb x 2
- Buchberger
- Crystal
- Leconte
- Berg
- Benson

US screening  
multicenter prospective study  
ACRIN 6666

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- no reimbursement

# US screening automated scanner - SonoCine

Kelly KM, Dean J et al. Eur Radiol, Sept 2009

- 2003-2007
- multi-center - 8 centers
- BIRADS mamm density 3 or 4
- or family or personal history of breast cancer
- 35 years old or older and asymptomatic
- not greater than 7 cm thick when compressed for mamms
- together with mammography or 6 mos alternating
- 6425 automated whole breast scans in 4419 patients

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- standard high end US front ends
- 7-12 MHz linear array transducers
- 2000-5000 images depending upon breast size with average of 3000
- 4-7 sweeps or rows per breast
- rows overlap 7 - 10 mm
- reviewed in video mode at 8-10 frames / sec
- simulates real-time hand-held exam - motion appears to make lesions easier to detect
- 4-10 minutes to interpret

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**AWBU finds small killing cancers**

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- reserving AWBU for high risk patients would make data better

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- need robust 3 D, especially coronal images for spiculation and architectural distortion