



ECIBC recommendation on tailored screening tests for dense breast tissue

Bibliography

Digital Breast Tomosynthesis (DBT)

Evidence of effects

Ciatto S, Houssami N, Bernardi D, Caumo F, Pellegrini M, Brunelli S, et al. Integration of 3D digital mammography with tomosynthesis for population breast-cancer screening (STORM): a prospective comparison study. *The Lancet Oncology*. 2013;14(7):583-9.

Bernardi D, Macaskill P, Pellegrini M, Valentini M, Fantò C, Ostillo L, et al. Breast cancer screening with tomosynthesis (3D mammography) with acquired or synthetic 2D mammography compared with 2D mammography alone (STORM-2): a population-based prospective study. *Lancet Oncol*. 2016 Aug;17(8):1105-13.

Lång K, Nergården M, Andersson I, Rosso A, Zackrisson S. False positives in breast cancer screening with one-view breast tomosynthesis: An analysis of findings leading to recall, work-up and biopsy rates in the Malmö Breast Tomosynthesis Screening Trial. *Eur Radiol*. 2016 Nov;26(11):3899-3907.

Lång K, Andersson I, Rosso A, Tingberg A, Timberg P, Zackrisson S. Performance of one-view breast tomosynthesis as a stand-alone breast cancer screening modality: results from the Malmö Breast Tomosynthesis Screening Trial, a population-based study. *Eur Radiol*. 2016 Jan;26(1):184-90. doi: 10.1007/s00330-015-3803-3.

Lang K, Andersson I, Rosso A, Tingberg A, Timberg P, Zackrisson S. Performance of one-view breast tomosynthesis as a stand-alone breast cancer screening modality: results from the Malmö Breast Tomosynthesis Screening Trial, a population-based study. *Eur Radiol*. 2015.

Houssami N, Macaskill P, Bernardi D, Caumo F, Pellegrini M, Brunelli S, et al. Breast screening using 2D-mammography or integrating digital breast tomosynthesis (3D-mammography) for single-reading or double-reading--evidence to guide future screening strategies. *Eur J Cancer*. 2014; 50(10):1799-807.

Acceptability

Lee CI, Cevik M, Alagoz O, Sprague BL, Tosteson AN, Miglioretti DL, Kerlikowske K, Stout NK, Jarvik JG, Ramsey SD, Lehman CD. Comparative effectiveness of combined digital mammography and tomosynthesis screening for women with dense breasts. *Radiology*. 2015; 274(3): 772-80.

Economic evidence

Lee CI, Cevik M, Alagoz O, Sprague BL, Tosteson AN, Miglioretti DL, Kerlikowske K, Stout NK, Jarvik JG, Ramsey SD, Lehman CD. Comparative effectiveness of combined digital mammography and tomosynthesis screening for women with dense breasts. *Radiology*. 2015; 274(3): 772-80.

Values and preferences

For more details about the results see the full report (Contract: FWC 443094 012015 PICO 10-11).

Hand-Held UltraSound (HHUS)

Evidence of Effects

Ohuchi N, Suzuki A, Sobue T, Kawai M, Yamamoto S, Zheng YF, Shiono YN, Saito H, Kuriyama S, Tohno E, Endo T, Fukao A, Tsuji I, Yamaguchi T, Ohashi Y, Fukuda M, Ishida T; J-START investigator groups. Sensitivity and specificity of mammography and adjunctive ultrasonography to screen for breast cancer in the Japan Strategic Anti-cancer Randomized Trial (J-START): a randomised controlled trial. *Lancet*. 2016 Jan 23;387(10016):341-8.

Corsetti V(1), Houssami N, Ghirardi M, Ferrari A, Speziani M, Bellarosa S, Remida G, Gasparotti C, Galligioni E, Ciatto S. Evidence of the effect of adjunct ultrasound screening in women with mammography-negative dense breasts: interval breast cancers at 1 year follow-up. *Eur J Cancer*. 2011 May;47(7):1021-6.

de Felice C, Savelli S, Angeletti M, Ballesio L, Manganaro L, Meggiorini ML, Porfiri LM. Diagnostic utility of combined ultrasonography and mammography in the evaluation of women with mammographically dense breasts. *J Ultrasound*. 2007; 10(3): 143-51.

Kolb TM(1), Lichy J, Newhouse JH. Comparison of the performance of screening mammography, physical examination, and breast US and evaluation of factors that influence them: an analysis of 27,825 patient evaluations. *Radiology*. 2002 Oct;225(1):165-75.

Korraphong P, Limsuwan P, Tangcharoensathien W, Ansusingha T, Thephamongkhon K, Chuthapisith S. Improving breast cancer detection using ultrasonography in asymptomatic women with non-fatty breast density. *Acta Radiol*. 2014 Oct;55(8):903-8.

Venturini E, Losio C, Panizza P, Rodighiero MG, Fedele I, Tacchini S, Schiani E, Ravelli S, Cristel G, Panzeri MM, De Cobelli F, Del Maschio A. Tailored breast cancer screening program with microdose mammography, US, and MR Imaging: short-term results of a pilot study in 40-49-year-old women. *Radiology*. 2013; 268(2): 347-55.

Acceptability

Lee CI, Cevik M, Alagoz O, Sprague BL, Tosteson AN, Miglioretti DL, Kerlikowske K, Stout NK, Jarvik JG, Ramsey SD, Lehman CD. Comparative effectiveness of combined digital mammography and tomosynthesis screening for women with dense breasts. *Radiology*. 2015; 274(3): 772-80.

Economic evidence

Sprague BL, Stout NK, Schechter C, van Ravesteyn NT, Cevik M, Alagoz O, Lee CI, van den Broek JJ, Miglioretti DL, Mandelblatt JS, de Koning HJ, Kerlikowske K, Lehman CD, Tosteson AN. Benefits, harms, and cost-effectiveness of supplemental ultrasonography screening for women with dense breasts. *Ann Intern Med*. 2015 Feb; 162(3): 157-66.

Venturini E, Losio C, Panizza P, Rodighiero MG, Fedele I, Tacchini S, Schiani E, Ravelli S, Cristel G, Panzeri MM, De Cobelli F, Del Maschio A. Tailored breast cancer screening program with microdose mammography, US, and MR Imaging: short-term results of a pilot study in 40-49-year-old women. *Radiology*. 2013; 268(2): 347-55.

Corsetti V, Houssami N, Ferrari A, Ghirardi M, Bellarosa S, Angelini O, et al. Breast screening with ultrasound in women with mammography-negative dense breasts: evidence on incremental cancer detection and false positives, and associated cost. *Eur J Cancer*. 2008; 44(4): 539-44.

Brancato B, Bonardi R, Catarzi S, Iacconi C, Risso G, Taschini R, et al. Negligible advantages and excess costs of routine addition of breast ultrasonography to mammography in dense breasts. *Tumori*. 2007; 93(6): 562-6.

de Felice C, Savelli S, Angeletti M, Ballesio L, Manganaro L, Meggiorini ML, Porfiri LM. Diagnostic utility of combined ultrasonography and mammography in the evaluation of women with mammographically dense breasts. *J Ultrasound*. 2007; 10(3): 143-51.

Values and preferences

For more details about the results see the full report (Contract: FWC 443094 012015 PICO 10-11).

Automated breast ultrasound (ABUS).ABUS

Evidence of Effects

Brem RF(1), Tabár L, Duffy SW, Inciardi MF, Guingrich JA, Hashimoto BE, Lander MR, Lapidus RL, Peterson MK, Rapelyea JA, Roux S, Schilling KJ, Shah BA, Torrente J, Wynn RT, Miller DP. Assessing improvement in detection of breast cancer with three dimensional automated breast US in women with dense breast tissue: the Somolnsight Study. *Radiology*. 2015 Mar;274(3):663-73.

Giuliano V(1), Giuliano C. Improved breast cancer detection in asymptomatic women using 3D-automated breast ultrasound in mammographically dense breasts. *Clin Imaging*. 2013 May-Jun;37(3):480-6.

Kelly KM(1), Dean J, Comulada WS, Lee SJ. Breast cancer detection using automated whole breast ultrasound and mammography in radiographically dense breasts. *Eur Radiol*. 2010 Mar;20(3):734-42.

Acceptability

Lee CI, Cevik M, Alagoz O, Sprague BL, Tosteson AN, Miglioretti DL, Kerlikowske K, Stout NK, Jarvik JG, Ramsey SD, Lehman CD. Comparative effectiveness of combined digital mammography and tomosynthesis screening for women with dense breasts. *Radiology*. 2015; 274(3): 772-8

Economic evidence

Not applicable

Values and preferences

For more details about the results see the full report (Contract: FWC 443094 012015 PICO 10-11).

Magnetic Resonance Imaging (MRI)

Evidence of effects

Berg WA, Zhang Z, Lehrer D, Jong RA, Pisano ED, Barr RG, et al. Detection of breast cancer with addition of annual screening ultrasound or a single screening MRI to mammography in women with elevated breast cancer risk. *JAMA* 2012;307(13):1394-404.

Kriege M, Brekelmans CT, Obdeijn IM, Boetes C, Zonderland HM, Muller SH, et al. Factors affecting sensitivity and specificity of screening mammography and MRI in women with an inherited risk for breast cancer. *Breast Cancer Res Treat*. 2006;100(1):109-19.

Kuhl CK, Schrading S, Strobel K, Schild HH, Hilgers RD, Bieling HB. Abbreviated Breast Magnetic Resonance Imaging (MRI): First Postcontrast Subtracted Images and Maximum- Intensity Projection-A Novel Approach to Breast Cancer Screening With MRI. *J Clin Oncol*. 2014;32(22):2304-10.

Chen SQ, Huang M, Shen YY, Liu CL, Xu CX. Application of Abbreviated Protocol of Magnetic Resonance Imaging for Breast Cancer Screening in Dense Breast Tissue. *Acad Radiol*. 2017 Mar;24(3):316-320..

Kuhl CK, Strobel K, Bieling H, Leutner C, Schild HH, Schrading S. Supplemental Breast MR Imaging Screening of Women with Average Risk of Breast Cancer. *Radiology*. 2017 May;283(2):361-370.

Acceptability

Lee CI, Cevik M, Alagoz O, Sprague BL, Tosteson AN, Miglioretti DL, Kerlikowske K, Stout NK, Jarvik JG, Ramsey SD, Lehman CD. Comparative effectiveness of combined digital mammography and tomosynthesis screening for women with dense breasts. *Radiology*. 2015; 274(3): 772-80.

Economic evidence

Not available

Values and preferences

For more details about the results see the full report (Contract: FWC 443094 012015 PICO 10-11).