TITLE: Digital Tomosynthesis for the Screening and Diagnosis of Breast Cancer: Diagnostic Accuracy and Guidelines

DATE: 23 December 2014

RESEARCH QUESTIONS

1. What is the clinical effectiveness of digital tomosynthesis compared with mammography for breast cancer screening?

2. What is the clinical effectiveness of digital tomosynthesis as an adjunct to mammography compared with mammography alone for breast cancer screening?

3. What is the clinical effectiveness of digital tomosynthesis compared with mammography for breast cancer diagnosis?

4. What is the clinical effectiveness of digital tomosynthesis as an adjunct to mammography compared with mammography alone for breast cancer diagnosis?

5. What are the evidence-based guidelines regarding the use of digital tomosynthesis for breast cancer screening and diagnosis?

KEY FINDINGS

Two systematic reviews, 17 non-randomized studies, and one evidence-based guideline were identified regarding digital tomosynthesis for screening and diagnosis of breast cancer.

METHODS

A limited literature search was conducted on key resources including PubMed, The Cochrane Library (2014, Issue 12), University of York Centre for Reviews and Dissemination (CRD) databases, Canadian and major international health technology agencies, as well as a focused Internet search. For research questions 1-4 methodological filters were applied to limit retrieval to health technology assessments, systematic reviews, meta-analyses, randomized controlled trials, and non-randomized studies. For research question 5 methodological filters were applied.

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to limit retrieval to guidelines. Where possible, retrieval was limited to the human population. For research questions 1-4 the search was also limited to English language documents published between August 1, 2013 and December 17, 2014. For research question 5 the search was also limited to English language documents published between January 1, 2010 and December 17, 2014. Internet links were provided, where available.

**SELECTION CRITERIA**

One reviewer screened citations and selected studies based on the inclusion criteria presented in Table 1.

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<th>Table 1: Selection Criteria</th>
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**RESULTS**

Rapid Response reports are organized so that the higher quality evidence is presented first. Therefore, health technology assessment reports, systematic reviews, and meta-analyses are presented first. These are followed by randomized controlled trials, non-randomized studies, and evidence-based guidelines.

Two systematic reviews, 17 non-randomized studies, and one evidence-based guideline were identified regarding digital tomosynthesis for screening and diagnosis of breast cancer. No relevant health technology assessments or randomized controlled trials were identified.

Additional references of potential interest are provided in the appendix.

**Health Technology Assessments**

No literature identified.

**Systematic Reviews and Meta-analyses**


Randomized Controlled Trials
No literature identified.

Non-Randomized Studies

Screening


PubMed: PM25107868

PubMed: PM23901124

Diagnosis

PubMed: PM25100302

PubMed: PM24450665

PubMed: PM25467641

PubMed: PM25076829

PubMed: PM24475859

PubMed: PM23673573

Screening and Diagnosis

Guidelines and Recommendations

See: Note following ‘Interventions and Practices Considered’

PREPARED BY:
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APPENDIX – FURTHER INFORMATION:

Systematic Reviews and Meta-analyses – Non-English Publications with English Summary


Clinical Practice Guidelines – Methodology Not Specified


Review Articles


