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GRUNIGEN MEDICAL LIBRARY

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### Core Resources

ANTPAC Catalog	Case Files Collection	JAMAevidence	NIH Policy Guide
AccessMedicine	CINAHL via EBSCO	LWW Health Library	PubMed@UCI
BMJ Best Practice	Cochrane Library	Micromedex	Subject Guides
BMJ Clinical Evidence	Exam Master Online	NEJM Journal Watch	UpToDate

[View more resources →](#)

**National Guideline Clearinghouse**

## Most relevant resources for Clerkship students

- AccessMedicine
- ACP Journal Club
- ANTPAC Catalog
- BMJ Case Reports (coming soon!)
- Case Files Collection
- Cochrane Library
- Exam Master Online
- JAMA Evidence
- Medical Student Course Guide
- MEDLINEplus
- Micromedex
- National Guideline Clearinghouse
- NEJM Journal Watch
- PubMed@UCI
- Red Book Online
- UpToDate
- VisualDx

## GML Core Resources

(<http://grunigen.lib.uci.edu/core-resources>)

# Family Medicine Clerkship EBM Assignment

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- ❑ Assignment due dates:
  - Early due date: **On Monday, 2 weeks before the end of the clerkship (revisions allowed)**
  - Final due date: **On Friday, last day of the clerkship (no revisions allowed)**
- ❑ Complete the Family Medicine Clerkship Literature Search Worksheet located at: <http://grunigen.lib.uci.edu/evidence-based-instruction/family-medicine-clerkship>
- ❑ Logon with your **UCINetID** and password. Save your work between sessions. **(Try it right now: enter some information, save the worksheet, re-open it and be sure that what you save is still there.)**
- ❑ Additional resources to help you with completing the assignment are available on the worksheet under **Resources for Critical Appraisal.**

# 4 Steps: Assignment Requirement

---

1. Ask a focused, **treatment** or **preventive therapy**-related clinical question regarding a specific patient or population with a specific clinical problem.
  - **Important Note:** The critical analysis in section four is only relevant for this type of question.
  - Questions relating to disease screening or the comparison of diagnostic tests are not acceptable.
2. Based on the clinical question you ask, search for relevant information in 4 databases: **UpToDate**, the **Cochrane Library**, the **National Guideline Clearinghouse**, & **PubMed**.
3. Find a relevant **randomized controlled trial** in PubMed.

Critically analyze the selected article you found in PubMed and discuss applicability to the patient or population you asked in step 1.



# Step 1:

## Ask a Focused Clinical Question (PICO)

---

### Question #1:

The first step of EBM is to ask a well-built focused clinical question with the **PICO** components. What does **PICO** stand for?

**P** = Patient/population/Problem

**I** = Intervention/Exposure

**C** = Comparison

**O** = Outcome

The **PICO** terms should match your clinical question.



# Step 1:

## Ask a Focused Clinical Question

---

### Question #2:

Is this an answerable clinical question?

- ❑ *“What is the best breast cancer treatment?”*
- ❑ *“In a middle-aged female diagnosed with early stage breast cancer, does breast conserving therapy followed by radiotherapy have an equivalent survival rate as compared to mastectomy?”*





# Step 1:

## Ask a Focused Clinical Question

---

### Question #3:

*“In a middle-aged female diagnosed with early stage breast cancer, does breast conserving therapy followed by radiotherapy have an equivalent survival rate as compared to mastectomy?”*

The question above can be broken down into the following PICO elements:

P = middle-aged female diagnosed with early stage breast cancer

I = breast conserving therapy followed by radiotherapy

C = mastectomy

O = survival rate



# Step 1:

## Ask a Focused Clinical Question

---

**Question #4:** Your search terms should be derived from your clinical question/PICO, what are the possible search terms in each portion of the PICO?

**P = middle-aged female** diagnosed with **early stage breast cancer**

**I = breast conserving therapy** followed by radiotherapy

**C = mastectomy**

**O = survival rate**

- (breast cancer OR breast neoplasms) AND early stage
- (breast conserving therapy OR breast conserving surgery OR Lumpectomy)
- (mastectomy OR mastectomies)
- (survival OR mortality OR death)

*Depending on the resource, your search strategy might include some or all of these terms.*

# Step 1:

## Ask a Focused Clinical Question

---

Is your question useful?

- The **goal of this assignment** is not only to learn how to search the literature effectively, but to also learn something about clinical practice you did not know previously.
- Researching something that is already well established in clinical practice doesn't allow you to receive the full benefit from the assignment.
- Consider selecting a topic that is not yet resolved or for which there is disagreement or uncertainty. UpToDate is a good source to explore this.



# Step 1:

## Ask a Focused Clinical Question

---

Is your question useful?

- For instance: “***In adult females undergoing IUD placement, do prophylactic antibiotics decrease the rate of IUD removal?***”
- UpToDate: “*Antibiotic prophylaxis for the placement of an IUD is not recommended.*” (<https://www.uptodate.com/contents/intrauterine-contraceptive-device-insertion-and-removal>)
- This is also the current recommendation of both the American College of Obstetricians and Gynecologists ([DOI: 10.1097/AOG.0b013e318227f05e](https://doi.org/10.1097/AOG.0b013e318227f05e)) and the U.S. Selected Practice Recommendations for Contraceptive Use (<http://www.cdc.gov/mmwr/preview/mmwrhtml/rr6205a1.htm>)

# Step 2: Search for Background & Foreground Information

---

Search 4 databases:

- UpToDate
- Cochrane Library
- National Guideline Clearinghouse
- PubMed

Depending on your clinical question you may not find anything particularly relevant from the Cochrane Library or the NGC database. If so, state this clearly.

Briefly discuss why your results are relevant or irrelevant.

# UpToDate

---

## Question #5:

What kind of literature would you expect to find in **UpToDate**?

- A. Practice Guidelines
- B. Book Chapters
- C. Expert Opinions
- D. Syntheses of peer-reviewed articles written by experts in the field



# UpToDate

---

- ❑ Narrative reviews that are expert-opinion based clinical summaries.
- ❑ The published literature is referenced extensively, but the information is not strictly evidence-based.

## Tasks:

1. Locate at least one article that provides information on interventions that apply to the patient/population and clinical problem.
2. Provide the
  - **exact** search terms and strategy.
  - **title** of at least one relevant article.
  - a **brief** summary of what you learn from the article.

# UpToDate Search Results

UpToDate®

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breast conserving therapy and mastectomy

All Topics



Contents

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Search Results for "breast conserving therapy and mastectomy"

Search Strategy

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All Topics

Adult

Pediatric

Patient

Graphics

## Overview of the treatment of newly diagnosed, non-metastatic breast cancer

- Early-stage breast cancer
- Locally advanced breast cancer
- Summary
- Special considerations
- Prognosis

## Relevant articles

### Breast conserving therapy

- Summary and recommendations
- Patient selection for BCT
- Local recurrence
- Underutilization of BCT
- Surgical technique

### Management of locoregional recurrence of breast cancer after breast conserving therapy

- Summary and recommendations
- Management of the breast
- Regional axillary and supraclavicular recurrence
- Role of systemic therapy
- Management of the axilla

### Patient information: Surgical procedures for breast cancer — Mastectomy and breast conserving therapy (Beyond the Basics)

## Topic Outline [Show Graphics \(1\)](#)

### SUMMARY

#### INTRODUCTION

#### PATIENT STRATIFICATION

#### EARLY-STAGE BREAST CANCER

- Breast-conserving therapy
- Mastectomy

##### - Role of RT

- Evaluation of the axillary nodes
- Adjuvant therapy

#### LOCALLY ADVANCED BREAST CANCER

- Neoadjuvant systemic therapy
- Surgical approach after neoadjuvant treatment

- Primary tumor

- Regional nodes

- Primary surgery

- Adjuvant therapy

#### SPECIAL CONSIDERATIONS

- Fertility preservation

- Older women

- Postmenopausal women

- Male breast cancer

- Breast cancer in pregnancy

#### PROGNOSIS

- Resumption of menses



# UpToDate Article

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breast conserving therapy AND mastectomy All Topics Contents

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breast conserving therapy Find Patient Print Email

## Topic Outline

### SUMMARY

## INTRODUCTION

## PATIENT STRATIFICATION

## EARLY-STAGE BREAST CANCER

- Breast-conserving therapy
- Mastectomy
- Role of RT
- Evaluation of the axillary nodes
- Adjuvant therapy

## LOCALLY ADVANCED BREAST CANCER

- Neoadjuvant systemic therapy
- Surgical approach after neoadjuvant treatment
- Primary tumor
- Regional nodes

- Primary surgery
- Adjuvant therapy

## SPECIAL CONSIDERATIONS

- Fertility preservation
- Older women
- Postmenopausal women
- Male breast cancer
- Breast cancer in pregnancy

## PROGNOSIS

- Resumption of menses

## POSTTREATMENT SURVEILLANCE

## INFORMATION FOR PATIENTS

## SUMMARY

- Patient stratification
- Early-stage breast cancer

## Overview of the treatment of newly diagnosed, non-metastatic breast cancer

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**Disclosures:** Alphonse Taghian, MD, PhD Nothing to disclose. Moataz N El-Ghamry, MD Nothing to disclose. Sofia D Merajver, MD, PhD Nothing to disclose. Daniel F Hayes, MD Grant/Research/Clinical Trial Support: Janssen R&D, LLC [Breast cancer (Abiraterone)]; Janssen R&D, LLC [Breast cancer (CellSearch)]; Puma Biotechnology, Inc. [Breast cancer (Neratinib)]; Pfizer [Breast cancer (Palbociclib)]; Astra Zeneca [Breast cancer (Circulating tumor cells)]. Speaker's Bureau: Lilly Oncology (Breast cancer). Consultant/Advisory Boards: Pfizer [Breast cancer (Palbociclib)]. Other Financial Interest: Janssen R&D, LLC [Breast cancer (CellSearch)]. **Sadhna**

All topics are updated as new evidence becomes available and our [peer review process](#) is complete.

**Literature review current through:** Sep 2015. | **This topic last updated:** Aug 25, 2014.

**INTRODUCTION** — Globally, breast cancer is the most frequently diagnosed cancer and the leading cause of cancer death in women. In the United States, breast cancer is the most commonly diagnosed cancer and the second most common cause of cancer death in women. In addition, breast cancer is the leading cause of death in women ages 40 to 49 years.

Breast cancer is treated with a multidisciplinary approach involving surgical oncology, radiation oncology, and medical oncology, which has been associated with a reduction in breast cancer mortality [1].

This topic will provide an overview of the initial treatment of breast cancer and posttreatment surveillance. The epidemiology, clinical manifestations, diagnosis, staging of breast cancer, and specific discussions of the multimodality treatments for early breast cancer and the approach to metastatic disease are discussed elsewhere. (See "[Clinical features, diagnosis, and staging of newly diagnosed breast cancer](#)" and "[Systemic treatment for metastatic breast cancer: General principles](#)" and "[Metastatic breast cancer: Local treatment](#)".)

Because ductal carcinoma in situ (DCIS) and invasive breast cancer are managed differently, we will restrict discussion in this topic to invasive breast cancer. A discussion on DCIS is covered separately. (See "[Breast ductal carcinoma in situ: Epidemiology, clinical manifestations, and diagnosis](#)" and "[Ductal carcinoma in situ: Treatment and prognosis](#)".)

**PATIENT STRATIFICATION** — The vast majority of patients with newly diagnosed breast cancer in the United States and developed countries have no evidence of metastatic disease. For these patients, the treatment approach depends on the stage at presentation. For treatment purposes, breast cancer is characterized using the Tumor, Node, Metastases system (TNM) ([table 1](#)):

- Early stage** – This includes patients with clinical stage I, IIA, or a subset of stage IIB disease (T2N1).
- Locally advanced** – This includes a subset of patients with clinical stage IIB disease (T3N0) and patients with stage IIIA to IIIC disease.

Approximately 5 percent of patients will have simultaneous metastatic disease identified at the initial presentation (de novo stage IV breast cancer). The treatment approach to these patients is discussed separately. (See "[Role of breast surgery for stage IV breast cancer](#)" and "[Systemic treatment for metastatic breast cancer: General principles](#)".)

**EARLY-STAGE BREAST CANCER** — In general, patients with early-stage breast cancer undergo primary surgery (lumpectomy or mastectomy) to the breast and regional nodes with or without

Topic Feedback

# The Cochrane Library

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## Question #6:

What is the key advantage of searching the **Cochrane Library**?

- A. Provides a collection of book chapters and narrative reviews.
- B. Offers meta-search tools that enable users to locate resources on multiple Internet sites.
- C. Provides a growing collection of systematic reviews/meta-analysis in clinical medicine.



# Cochrane Library of Systematic Reviews

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- ❑ The **Cochrane Database of Systematic Reviews** contains **critical analyses of multiple clinical studies** that are peer-reviewed, prepared and supervised by a Cochrane Review Group according to strict guidelines.
- ❑ The **Database of Abstracts of Reviews of Effects (Other Reviews)** contains abstracts of systematic reviews that have been quality-assessed. **NOTE:** this database has not been updated since Mar 2015.



# Cochrane Library of Systematic Reviews

---

## Tasks:

1. Locate at least one **systematic review** or **meta-analysis** that summarizes and analyzes individual clinical trials that apply to the patient/population and clinical problem.
2. Provide the
  - **exact** search terms and strategy.
  - **title** of at least one relevant systematic review.
  - a **brief** summary of what you find.
3. **If you are unable to find anything relevant, please explain briefly and include your exact search strategy.**



# Cochrane Library Homepage



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Better health.

Cochrane.org

Search title, abstract, keyword



**Click on Advanced Search**

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[Read the review](#) ➔



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**Polymer-based oral rehydration solution for treating acute watery diarrhoea**

Germana V Gregorio, Maria Liza M Gonzales, Leonila F Dans, Elizabeth G Martinez


13 December 2016






# Cochrane Library: Advanced Search

Wiley Online Library

 **Cochrane Library** Trusted evidence. Informed decisions. Better health.

Search Search Manager Medical Terms (MeSH)



 Title, Abstract, Keywords

[Search Limits](#) [Search Help](#) (Word variations have been searched)

Click on the + sign to add additional search boxes.

Search Search Manager

Title, Abstract, Keywords

  AND  Search All Text

[Search Limits](#) [Search Help](#) (Word variations have been searched)

Search

Search Manager

Medical Terms (MeSH)

Browse

Title, Abstract, Keywords

breast conserving therapy

Go

Save



AND

Title, Abstract, Keywords

mastectomy

[Add to Search Manager](#)[Search Limits](#)[Search Help](#)

(Word variations have been searched)

Clear

Select from Cochrane  
Reviews or Other Reviews

Copy and paste this search strategy into your worksheet

All Results (232)

☐ Cochrane Reviews (3)☒ All☐ Review☐ Protocol☒ Other Reviews (4)☐ Trials (222)☐ Methods Studies (2)☐ Technology Assessments (0)☐ Economic Evaluations (1)☐ Cochrane Groups (0)

Database of Abstracts of Reviews of Effect : Issue 1 of 4, January 2015

There are 4 results from 34181 records for your search on 'breast conserving therapy in Title, Abstract, Keywords and mastectomy in Title, Abstract, Keywords in Other Reviews'

Sort by Relevance: high to low

[Select all](#) | [Export all](#) | [Export selected](#)☐ **Breast-conserving therapy vs mastectomy in early-stage breast cancer: a meta-analysis of 10-year survival (Structured abstract)**

Centre for Reviews and Dissemination

Original Author(s): Morris A D , Morris R D , Wilson J F , White J , Steinberg S , Okunieff P , Arriagada R , LeM G , Blichert-Toft M and vanDongen J A

Cancer Journal from Scientific American, 1997, 3(1), 6-12

☐ **Locoregional and distant recurrences after breast conserving therapy in patients with triple-negative breast cancer: a meta-analysis (Provisional abstract)**

Centre for Reviews and Dissemination

Original Author(s): Wang J , Xie X , Wang X , Tang J , Pan Q , Zhang Y and Di M  
2013, 247-255Copy and paste the citation into  
your worksheet**Me** Methodology**Dx** Diagnostic

# National Guideline Clearinghouse

---

## Question #7

What kind of literature would you expect to find in  
**National Guideline Clearinghouse?**

- A. Practice Guidelines
- B. Book Chapters
- C. Narrative reviews
- D. Systematic Reviews/Meta Analysis

# National Guideline Clearinghouse

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- ❑ Clinical practice guidelines are systematically developed statements to assist practitioner and patient decisions about appropriate health care for specific clinical circumstances.
- ❑ The NGC website (<http://www.guideline.gov/>) contains guidelines from healthcare agencies and organizations worldwide and is operated under the auspices of the Agency for Healthcare Research and Quality, U.S.D.H.H.S.



# National Guideline Clearinghouse

---

## Tasks:

1. Locate at least one **clinical practice guideline** that provides evidence-based guidance on interventions that apply to the patient/population and clinical problem.
2. Provide the
  - **exact** search terms and strategy.
  - **title** of at least one relevant practice guideline.
  - a **brief** summary of what you find.
3. **If you are unable to find anything relevant, please explain briefly.**





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Search



SEARCH  
TIPS »

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HOME NEW THIS WEEK GUIDELINE SUMMARIES GUIDELINE SYNTHESSES EXPERT COMMENTARIES MATRIX TOOL SUBMIT GUIDELINES HELP & ABOUT

1-11 of 11 results for

“breast cancer and breast-conserving surgery and mastectomy”

Search Strategy:  
Copy & Paste  
into worksheet

NARROW RESULTS

Clear All

☐ Meets 2013 Inclusion Criteria (4)

☐ U.S.-based Organizations (6)

Publication Date

From: 2010 To: 2016

Apply

Target Population Characteristics

Age

☐ Adult (19 to 44 years) (3)

☐ Aged (65 to 79 years) (3)

☐ Aged, 80 and over (3)

☐ Middle Age (45 to 64 years) (3)

1

SORT BY Relevance | Date SHOW 20 | 50 | 100

Compare Summaries



GUIDELINE SUMMARY NGC:010022 1998 OCT (REVISED 2013 SEP)

Treatment of primary breast cancer. A national clinical guideline.

Scottish Intercollegiate Guidelines Network

Compare



GUIDELINE SUMMARY NGC:010420 2014 MAR 1

Society of Surgical Oncology–American Society for Radiation Oncology consensus guideline on margins for breast-conserving surgery with whole-breast irradiation in stages I and II invasive breast cancer.

American Society for Radiation Oncology; Society of Surgical Oncology

Compare



# PubMed vs. PubMed Clinical Queries

---

## Question #8:

Which PubMed search interface offers specialized search filters to optimize the search strategies for retrieving sound clinical studies in **etiology**, **prognosis**, **diagnosis**, and **therapy**?

The Search may be **either broad and sensitive**, or **narrow and specific**.

- A. PubMed
- B. PubMed Clinical Queries

# PubMed Clinical Queries

---

- ❑ Will filter your search results according to several pre-defined clinical study categories:
  - **Therapy** (used for this assignment)
  - Diagnosis
  - Etiology/Harm
  - Prognosis
  - Clinical Predication Guides (not relevant for this exercise)
- ❑ Results can be further limited by scope:
  - **Sensitive/Broad** – More articles, less restricted to specific study type
  - **Specific/Narrow** – Fewer articles, more focused on exact study type
- ❑ *This is merely a tool, and is not always the best approach*

# Study Design

---

## Question #9:

When evaluating a study on **therapy**, which **study design** represents the best clinical evidence for **making a treatment recommendation**?

- A. Case Series
- B. Randomized Controlled Trials
- C. Narrative Reviews
- D. Case Controls
- E. Cohort Studies

# PubMed

---

## Tasks:

1. Do your search *first* in **PubMed Clinical Queries**.
  - If you do not find any relevant results, then do your search in the PubMed regular search, but **indicate this** in your comments.
2. Locate a **randomized controlled trial** (RCT) that provides evidence regarding the efficacy of interventions that apply to the patient/population and clinical problem.
3. Provide the
  - **Copy and Paste the exact** search strategy from the History section of the **Advanced Search Builder** page. **DO NOT just tell me what your search terms were!**
  - **full citation & abstract** of one relevant article.
4. Select one RCT for critical analysis.



# Boolean connectors in PubMed

---

## Question #10.

Which **Boolean operators** may be used in a PubMed search to connect multiple search concepts?

- A. AND, OR, NOT
- B. and, or, but, vs
- C. +, -, =
- D. AND, BUT, WITHOUT

# PubMed

---

- ❑ You MUST access PubMed through the UCI Library website.
- ❑ Capitalize Boolean connectors in PubMed (**AND**, **OR**, **NOT**).
- ❑ Avoid prepositions, or other minor parts of speech as search terms.
- ❑ Avoid acronyms, initialisms, and other abbreviations as search terms.
- ❑ Avoid imprecise search terms, e.g., **increased**, **better**, **greater**, **less**, **worse**, **vs**, **versus**, etc.

# PubMed Clinical Queries

NCBI Resources ▾ How To ▾

PubMed.gov

US National Library of Medicine  
National Institutes of Health

PubMed ▾

Advanced

Search



## PubMed

PubMed comprises more than 26 million citations for biomedical literature from MEDLINE, life science journals, and online books. Citations may include links to full-text content from PubMed Central and publisher websites.

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[Topic-Specific Queries](#)

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[Clinical Trials](#)

[E-Utilities \(API\)](#)

[LinkOut](#)

### Latest Literature

New articles from highly accessed journals

[Blood](#) (4)

[Cochrane Database Syst Rev](#) (4)

[J Biol Chem](#) (8)

### Trending Articles

PubMed records with recent increases in activity

Retraction: The improvement of large High-Density Lipoprotein (HDL) particle levels, and presumably HDL metabolism, depend on effects of low-carbohydrate diet and weight loss.

EXCLI J. 2016.

### PubMed Commons

Featured comments

Surrogate endpoints & survival in oncology  
@JohnTuckerPhD discusses correlation of  
associations. [bit.ly/2gaYszk](http://bit.ly/2gaYszk)  
Dec 13

# PubMed Search Strategy

---

- ◉ **Question #11.**
- ◉ **Based on the PICO you identified in Question #4, what is a good PubMed search strategy to retrieve articles on this subject?**
- ◉ **early stage breast cancer AND (breast conserving therapy OR breast conserving surgery) AND (mastectomies OR mastectomy) AND (survival OR mortality OR death)**



# PubMed Clinical Queries

Results of searches on this page are limited to specific clinical research areas. For comprehensive searches, use [PubMed](#) directly.

early stage breast cancer AND (breast conserving therapy OR breast conserving surgery) AND (mastectomies OR mastectomy) AND (x)

**Search**

## Clinical Study Categories

Category:

Scope:

**Results: 5 of 256**

Partial breast irradiation for early breast cancer.

Hickey BE, Lehman M, Francis DP, See AM.  
Cochrane Database Syst Rev. 2016 Jul 18; 7:CD007077. Epub 2016 Jul 18.

Randomized trial of a physical activity intervention in women with metastatic breast cancer.

Ligibel JA, Giobbie-Hurder A, Shockro L, Campbell N, Partridge AH, Tolane SM, Lin NU, Winer EP.  
Cancer. 2016 Apr 15; 122(8):1169-77. Epub 2016 Feb 12.

Adjuvant radiation therapy of regional lymph nodes in breast cancer - a meta-analysis of randomized trials- an update.

Budach W, Bölke E, Kammers K, Gerber PA, Nestle-Krämling C, Matuschek C.  
Radiat Oncol. 2015 Dec 21; 10:258. Epub 2015 Dec 21.

The Effects of Surgery Type and Chemotherapy on Early-Stage Breast Cancer Patients' Quality of Life Over 2-Year Follow-up.

Jeffe DB, Pérez M, Cole EF, Liu Y, Schootman M.  
Ann Surg Oncol. 2016 Mar; 23(3):735-43. Epub 2015 Oct 28.

5-year results of accelerated partial breast irradiation using sole interstitial multicatheter brachytherapy versus whole-breast irradiation with boost after breast-conserving surgery for low-risk invasive and in-situ carcinoma of the female breast: a randomised, phase 3, non-inferiority trial.

Strnad V, Ott OJ, Hildebrandt G, Kauer-Dorner D, Knauerhase H, Major T, Lyczek J, Guinot JL, Dunst J, Gutierrez Miguelez C, et al.  
Lancet. 2016 Jan 16; 387(10015):229-38. Epub 2015 Oct 19.

[See all \(256\)](#)

## Systematic Reviews

**Broad: more articles, less study-type precision**  
**Narrow: fewer articles, more study-type precision**

**Results: 5 of 39**

Partial breast irradiation for early breast cancer.

Hickey BE, Lehman M, Francis DP, See AM.  
Cochrane Database Syst Rev. 2016 Jul 18; 7:CD007077. Epub 2016 Jul 18.

Outcomes After Oncoplastic Breast-Conserving Surgery in Breast Cancer Patients: A Systematic Literature Review.

De La Cruz L, Blankenship SA, Chatterjee A, Geha R, Nocera N, Czerniecki BJ, Tchou J, Fisher CS.  
Ann Surg Oncol. 2016 Oct; 23(10):3247-58. Epub 2016 Jun 29.

Adjuvant radiation therapy of regional lymph nodes in breast cancer - a meta-analysis of randomized trials- an update.

Budach W, Bölke E, Kammers K, Gerber PA, Nestle-Krämling C, Matuschek C.  
Radiat Oncol. 2015 Dec 21; 10:258. Epub 2015 Dec 21.

The INTRABEAM® Photon Radiotherapy System for the adjuvant treatment of early breast cancer: a systematic review and economic evaluation.

Picot J, Copley V, Colquitt JL, Kalita N, Hartwell D, Bryant J.  
Health Technol Assess. 2015 Aug; 19(69):1-190.

Intraoperative Radiotherapy Versus Whole-Breast External Beam Radiotherapy in Early-Stage Breast Cancer: A Systematic Review and Meta-Analysis.

Zhang L, Zhou Z, Mei X, Yang Z, Ma J, Chen X, Wang J, Liu G, Yu X, Guo X.  
Medicine (Baltimore). 2015 Jul; 94(27):e1143.

**Go to all results & add filters**

[See all \(39\)](#)

## Medical Genetics

Topic:

**Results: 5 of 25**

Management of breast cancer in very young women.

Rosenberg SM, Partridge AH.  
Breast. 2015 Nov; 24 Suppl 2:S154-8.

Preoperative Single-Fraction Partial Breast Radiation Therapy: A Novel Phase 1, Dose-Escalation Protocol With Radiation Response Biomarkers.

Horton JK, Blitzblau RC, Yoo S, Geradts J, Chang Z, Baker JA, Georgiade GS, Chen W, Siamakpour-Reihani S, Wang C, et al.  
Int J Radiat Oncol Biol Phys. 2015 Jul 15; 92(4):846-55. Epub 2015 Mar 14.

Breast cancer under age 40: a different approach.

Ribnikar D, Ribeiro JM, Pinto D, Sousa B, Pinto AC, Gomes E, Moser EC, Cardoso MJ, Cardoso F.  
Curr Treat Options Oncol. 2015 Apr; 16(4):16.

Tumor intrinsic subtype is reflected in cancer-adjacent tissue.

Casbas-Hernandez P, Sun X, Roman-Perez E, D'Arcy M, Sandhu R, Hishida A, McNaughton KK, Yang XR, Makowski L, Sherman ME, et al.  
Cancer Epidemiol Biomarkers Prev. 2015 Feb; 24(2):406-14. Epub 2014 Dec 2.

Neoadjuvant therapy in the treatment of breast cancer.

Teshome M, Hunt KK.  
Surg Oncol Clin N Am. 2014 Jul; 23(3):505-23. Epub 2014 Apr 24.

[See all \(25\)](#)

This column displays citations pertaining to topics in medical genetics. See more [filter information](#).



Results of searches on this page are limited to specific clinical research areas. For comprehensive searches, use [PubMed](#) directly.

early stage breast cancer AND (breast conserving therapy OR breast conserving surgery) AND (mastectomies OR mastectomy) A

Search

## Clinical Study Categories

Category:

Scope:

### Results: 5 of 53

[Internal Mammary and Medial Supraclavicular Irradiation in Breast Cancer.](#)

Poortmans PM, Collette S, Kirkove C, Van Limbergen E, Budach V, Struikmans H, Collette L, Fourquet A, Maingon P, Valli M, et al. *N Engl J Med.* 2015 Jul 23; 373(4):317-27.

[Regional Nodal Irradiation in Early-Stage Breast Cancer.](#)

Whelan TJ, Olivetto IA, Parulekar WR, Ackerman I, Chua BH, Nabid A, Vallis KA, White JR, Rousseau P, Fortin A, et al. *N Engl J Med.* 2015 Jul 23; 373(4):307-16.

[Whole-breast irradiation with or without a boost for patients treated with breast-conserving surgery for early breast cancer: 20-year follow-up of a randomised phase 3 trial.](#)

Bartelink H, Maingon P, Poortmans P, Weltens C, Fourquet A, Jager J, Schinagel D, Oei B, Rodenhuis C, Horiot JC, et al. *Lancet Oncol.* 2015 Jan; 16(1):47-56. Epub 2014 Dec 9.

[A cohort analysis to identify eligible patients for intraoperative radiotherapy \(IORT\) of early breast cancer.](#)

Sperk E, Astor D, Keller A, Welzel G, Gerhardt A, Tuschy B, Sütterlin M, Wenz F. *Radiat Oncol.* 2014 Jul 12; 9:154. Epub 2014 Jul 12.

[Trastuzumab-associated cardiac events at 8 years of median follow-up in the Herceptin Adjuvant trial \(BIG 1-01\).](#)

de Azambuja E, Procter MJ, van Veldhuisen DJ, Agbor-Tarh D, Metzger-Filho O, Steinseifer J, Untch M, Smith IE, Gianni L, Baselga J, et al. *J Clin Oncol.* 2014 Jul 10; 32(20):2159-65. Epub 2014 Jun 9.

[See all \(53\)](#)

## Systematic Reviews

### Results: 5 of 36

[The INTRABEAM® Photon Radiotherapy System for the adjuvant treatment of early breast cancer: a systematic review and economic evaluation.](#)

Picot J, Copley V, Colquitt JL, Kalita N, Hartwell D, Bryant J. *Health Technol Assess.* 2015 Aug; 19(69):1-190.

[Intraoperative Radiotherapy Versus Whole-Breast External Beam Radiotherapy in Early-Stage Breast Cancer: A Systematic Review and Meta-Analysis.](#)

Zhang L, Zhou Z, Mei X, Yang Z, Ma J, Chen X, Wang J, Liu G, Yu X, Guo X. *Medicine (Baltimore).* 2015 Jul; 94(27):e1143.

[Management of the regional lymph nodes following breast-conservation therapy for early-stage breast cancer: an evolving paradigm.](#)

Warren LE, Punglia RS, Wong JS, Bellon JR. *Int J Radiat Oncol Biol Phys.* 2014 Nov 15; 90(4):772-7. Epub 2014 Oct 18.

[A cohort analysis to identify eligible patients for intraoperative radiotherapy \(IORT\) of early breast cancer.](#)

Sperk E, Astor D, Keller A, Welzel G, Gerhardt A, Tuschy B, Sütterlin M, Wenz F. *Radiat Oncol.* 2014 Jul 12; 9:154. Epub 2014 Jul 12.

[Partial breast irradiation for early breast cancer.](#)

Lehman M, Hickey BE, Francis DP, See AM. *Cochrane Database Syst Rev.* 2014 Jun 18; 6:CD007077. Epub 2014 Jun 18.

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[See all \(36\)](#)

## Medical Genetics

Topic:

### Results: 5 of 25

[Management of breast cancer in very young women.](#)

Rosenberg SM, Partridge AH. *Breast.* 2015 Aug 6; . Epub 2015 Aug 6.

[Preoperative Single-Fraction Partial Breast Radiation Therapy: A Novel Phase 1, Dose-Escalation Protocol With Radiation Response Biomarkers.](#)

Horton JK, Blitzblau RC, Yoo S, Geradts J, Chang Z, Baker JA, Georgiade GS, Chen W, Siamakpour-Reihani S, Wang C, et al. *Int J Radiat Oncol Biol Phys.* 2015 Jul 15; 92(4):846-55. Epub 2015 Mar 14.

[Breast cancer under age 40: a different approach.](#)

Ribnikar D, Ribeiro JM, Pinto D, Sousa B, Pinto AC, Gomes E, Moser EC, Cardoso MJ, Cardoso F. *Curr Treat Options Oncol.* 2015 Apr; 16(4):16.

[Tumor intrinsic subtype is reflected in cancer-adjacent tissue.](#)

Casbas-Hernandez P, Sun X, Roman-Perez E, D'Arcy M, Sandhu R, Hishida A, McNaughton KK, Yang XR, Makowski L, Sherman ME, et al. *Cancer Epidemiol Biomarkers Prev.* 2015 Feb; 24(2):406-14. Epub 2014 Dec 2.

[Neoadjuvant therapy in the treatment of breast cancer.](#)

Teshome M, Hunt KK. *Surg Oncol Clin N Am.* 2014 Jul; 23(3):505-23. Epub 2014 Apr 24.

[See all \(25\)](#)

This column displays citations pertaining to topics in medical genetics. See more [filter information](#).

# PubMed Filters

---

## Question #12:

Based on the above search strategy for early stage breast cancer, which of the PubMed search filters below could you use to narrow the final search results?

- Publication Dates
- Languages
- Ages
- Clinical Trials
- Free Full Text



# PubMed Filters

PubMed

(Therapy/Narrow[filter]) AND (early stage breast cancer AND (breast conserving therapy)

Search

Create RSS

Create alert

Advanced

Click here to see search history

Help

## FILTERS

Article types

Clinical Trial

Review

Customize ...

Text availability

Abstract

Free full text

Full text

PubMed

Commons

Reader comments

Trending articles

Publication

dates

5 years

10 years

Custom range...

Species

Humans

Other Animals

Languages

English

Customize ...

Ages

Child: birth-18 years

Infant: birth-23 months

Adult: 19+ years

Adult: 19-44 years

Middle Aged: 45-64 years

Aged: 65+ years

Customize ...

Clear all

Show additional filters

Summary 20 per page Sort by Most Recent

Send to:

Filters: [Manage Filters](#)

Not needed if using Clinical Queries

## Search results

Items: 1 to 20 of 21

<< First < Prev Page 1 of 2 Next > Last >>

Filters activated: published in the last 10 years, English, Middle Aged: 45-64 years. [Clear all](#) to show 53 items.

☐ [Internal Mammary and Medial Supraclavicular Irradiation in Breast Cancer.](#)

1. Poortmans PM, Collette S, Kirkove C, Van Limbergen E, Budach V, Struikmans H, Collette L, Fourquet A, Maingon P, Valli M, De Winter K, Marnitz S, Barillot I, Scandolaro L, Vonk E, Rodenhuis C, Marsiglia H, Weidner N, van Tienhoven G, Glanzmann C, Kuten A, Arriagada R, Bartelink H, Van den Bogaert W; EORTC Radiation Oncology and Breast Cancer Groups. N Engl J Med. 2015 Jul 23;373(4):317-27. doi: 10.1056/NEJMoa1415369.

PMID: 26200978

[Similar articles](#)

☐ [Regional Nodal Irradiation in Early-Stage Breast Cancer.](#)

2. Whelan TJ, Olivetto IA, Parulekar WR, Ackerman I, Chua BH, Nabid A, Vallis KA, White JR, Rousseau P, Fortin A, Pierce LJ, Manchul L, Chafe S, Nolan MC, Craighead P, Bowen J, McCready DR, Pritchard KI, Gelmon K, Murray Y, Chapman JA, Chen BE, Levine MN; MA.20 Study Investigators. N Engl J Med. 2015 Jul 23;373(4):307-16. doi: 10.1056/NEJMoa1415340.

PMID: 26200977

[Similar articles](#)

☐ [Whole-breast irradiation with or without a boost for patients treated with breast-conserving surgery for early breast cancer: 20-year follow-up of a randomised phase 3 trial.](#)

3. Bartelink H, Maingon P, Poortmans P, Weltens C, Fourquet A, Jager J, Schinagel D, Oei B, Rodenhuis C, Horiot JC, Struikmans H, Van Limbergen E, Kirova Y, Elkhuizen P, Bongartz R, Miralbell R, Morgan D, Dubois JB, Remouchamps V, Mirimanoff RO, Collette S, Collette L; European Organisation for Research and Treatment of Cancer Radiation Oncology and Breast Cancer Groups. Lancet Oncol. 2015 Jan;16(1):47-56. doi: 10.1016/S1470-2045(14)71156-8. Epub 2014 Dec 9. Erratum

Use to display other hidden filters

## New feature

Try the new Display Settings option - Sort by Relevance

## Find related data

Database:

Find items

## Search details

Therapy/Narrow[filter] AND ((early[All Fields] AND stage[All Fields] AND ("breast neoplasms"[MeSH Terms] OR ("breast"[All Fields] AND "neoplasms"[All

Search

See more...

## Recent Activity

Turn Off Clear

(Therapy/Narrow[filter]) AND (early stage breast cancer AND (brea. PubMed

(Therapy/Narrow[filter]) AND (early stage breast cancer AND (brea. PubMed

(Therapy/Narrow[filter]) AND (early stage breast cancer AND (brea. PubMed

(Therapy/Narrow[filter]) AND (early stage breast cancer AND (brea. PubMed

mastectomy (8)

MeSH


# Search History

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## Question# 12:

Which feature in PubMed allows you to view, combine, expand, or copy and paste your previous search strategies?

- A. Advanced Search Builder / History
- B. Clipboard
- C. Send To
- D. Display Setting
- E. Search Details

 Filters activated: published in the last 10 years, English, Middle Aged: 45-64 years. [Clear all](#)

Use the builder below to create your search

[Edit](#)

[Clear](#)

### Builder

 [Show index list](#)  
    [Show index list](#)

or [Add to history](#)

## Search History

### History

[Download history](#) [Clear history](#)

Search	Add to builder	Query	Items found	Time
<a href="#">#11</a>	<a href="#">Add</a>	Search (Therapy/Narrow[filter]) AND (early stage breast cancer AND (breast conserving therapy OR breast conserving surgery) AND (mastectomies OR mastectomy) AND (survival OR mortality OR death)) Filters: published in the last 10 years; English; Middle Aged: 45-64 years	<a href="#">21</a>	17:26:50
<a href="#">#10</a>	<a href="#">Add</a>	Search (Therapy/Narrow[filter]) AND (early stage breast cancer AND (breast conserving therapy OR breast conserving surgery) AND (mastectomies OR mastectomy) AND (survival OR mortality OR death)) Filters: published in the last 10 years; English	<a href="#">26</a>	17:26:34
<a href="#">#9</a>	<a href="#">Add</a>	Search (Therapy/Narrow[filter]) AND (early stage breast cancer AND (breast conserving therapy OR breast conserving surgery) AND (mastectomies OR mastectomy) AND (survival OR mortality OR death)) Filters: published in the last 10 years	<a href="#">26</a>	17:26:25
<a href="#">#4</a>	<a href="#">Add</a>	Search (Therapy/Narrow[filter]) AND (early stage breast cancer AND (breast conserving therapy OR breast conserving surgery) AND (mastectomies OR mastectomy) AND (survival OR mortality OR death))	<a href="#">53</a>	17:26:14

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Display Settings: ☒ Abstract

Send to: ☐

THE LANCET Oncology  
FULL-TEXT ARTICLE

UC-eLinks

Link to full-text

Lancet Oncol. 2012 Apr;13(4):412-9. doi: 10.1016/S1470-2045(12)70042-6. Epub 2012 Feb 27.

## Breast conserving therapy versus mastectomy for stage I-II breast cancer: 20 year follow-up of the EORTC 10801 phase 3 randomised trial.

Litière S, Werutsky G, Fentiman IS, Rutgers E, Christiaens MR, Van Limbergen E, Baaijens MH, Boqaerts J, Bartelink H.

European Organisation for Research and Treatment of Cancer, Brussels, Belgium.

### Abstract

**BACKGROUND:** The EORTC 10801 trial compared breast-conserving therapy (BCT) with modified radical mastectomy (MRM) in patients with tumours 5 cm or smaller and axillary node negative or positive disease. Compared with BCT, MRM resulted in better local control, but did not affect overall survival or time to distant metastases. We report 20-year follow-up results.

**METHODS:** The EORTC 10801 trial was open for accrual between 1980 and 1986 in eight centres in the UK, the Netherlands, Belgium, and South Africa. 448 patients were randomised to BCT and 420 to MRM. Randomisation was done centrally, stratifying patients by institute, carcinoma stage (I or II), and menopausal status. BCT comprised of lumpectomy and complete axillary clearance, followed by breast radiotherapy and a tumour-bed boost. The primary endpoint was time to distant metastasis. This analysis was done on all eligible patients, as they were randomised.

**FINDINGS:** After a median follow-up of 22.1 years (IQR 16.5-23.8), 175 patients (42%) had distant metastases in the MRM group versus 207 (46%) in the BCT group. Furthermore, 506 patients (58%) died (232 [55%] in the MRM group and 274 [61%] in the BCT group). No significant difference was observed between BCT and MRM for time to distant metastases (hazard ratio 1.13, 95% CI 0.92-1.38;  $p=0.23$ ) or for time to death (1.11, 0.94-1.33;  $p=0.23$ ). Cumulative incidence of distant metastases at 20 years was 42.6% (95% CI 37.8-47.5) in the MRM group and 46.9% (42.2-51.6) in the BCT group. 20-year overall survival was estimated to be 44.5% (95% CI 39.3-49.5) in the MRM group and 39.1% (34.4-43.9) in the BCT group. There was no difference between the groups in time to distant metastases or overall survival by age (time to distant metastases: <50 years 1.09 [95% CI 0.79-1.51] vs ≥50 years 1.16 [0.90-1.50]; overall survival <50 years 1.17 [0.86-1.59] vs ≥50 years 1.10 [0.89-1.37]).

**INTERPRETATION:** BCT, including radiotherapy, offered as standard care to patients with early breast cancer seems to be justified, since long-term follow-up in this trial showed similar survival to that after mastectomy.

**FUNDING:** European Organisation for Research and Treatment of Cancer (EORTC).

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Long-term results of a randomized trial comparing breast-cons [J Natl Cancer Inst. 2000]

Twenty-five year results of the national cancer institute random [Breast Cancer Res Treat. 2012]

Review Effects of radiotherapy and of differences in the extent of surgery for early br [Lancet. 2005]

Review A systematic review of intraoperative radiotherapy in e [Breast Cancer Res Treat. 2004]

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Skin-sparing mastectomy with immediate breast and nipple reconstruction: a [Plast Surg Int. 2013]

Atypical Ductal Hyperplasia at the Margin of Lumpectomy Performed i [Int J Surg Oncol. 2012]

Two cases of cutaneous angiosarcoma developed after breast cancer su [Case Rep Dermatol. 2012]

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# Step 3: Critical Analysis

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- ◉ Answer sections 1-11 (within Question #4) regarding the randomized controlled trial you have selected from PubMed. Dr. Morohashi grades this section.
- ◉ If you are unsure about doing the calculations, there are tools provided on the worksheet to assist you in section 7.
- ◉ Some studies may not be amenable to doing the calculations. If so, state this clearly in the appropriate section. If you still have questions, please contact Dr. Morohashi.
- ◉ In particular, be sure to answer section #11 (“Are the likely treatment benefits worth the potential harms and costs?”) **in the context of the original question** you asked **AND the study** you just evaluated.
- ◉ For instance, if the study shows that a particular treatment is **not** effective, **don’t recommend** this for your patient/population.

## Step 3: Critical Analysis (cont'd)

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- ❑ Submit your worksheet online.
- ❑ Provide a copy of the article to Dr. Morohashi **AFTER** you receive final feedback from me.

# Critical Appraisal: short videos

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- ❑ How to calculate a **Relative Risk Reduction**.  
(<https://youtu.be/oe4NqGTZOQo>)
- ❑ How To Calculate The **Number Needed To Treat**  
(<https://youtu.be/M16SqIMqVto>)
- ❑ How to interpret and use **Confidence Intervals**  
(<https://youtu.be/llXEGuxvh28>)

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Research Librarian for Health Sciences

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