

## International Toll-Free Phone Numbers:

<b>Argentina</b>	0800 666 3161	<b>Korea (South)</b>	003 0813 1964
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<b>Austria</b>	0800 291 949	<b>Luxembourg</b>	800 2 7666
<b>Bahamas</b>	1 800 205 5965	<b>Malaysia</b>	1 800 813 715
<b>Belgium</b>	0 800 75 239	<b>Mexico</b>	001 800 514 5965
<b>Brazil</b>	0800 891 6845	<b>Monaco</b>	800 93 417
<b>Chile</b>	123 0020 9727	<b>Netherlands</b>	0 800 023 5304
<b>China, Northern</b>	10 800 714 1202	<b>New Zealand</b>	0 800 451 031
<b>China, Southern</b>	10 800 140 1181	<b>Norway</b>	800 196 66
<b>Colombia</b>	01 800 518 0790	<b>Panama</b>	00 800 226 5965
<b>Costa Rica</b>	0800 015 0617	<b>Philippines</b>	1 800 1110 0863
<b>Czech Republic</b>	800 700 295	<b>Poland</b>	00 800 111 49 59
<b>Denmark</b>	80 886 220	<b>Portugal</b>	800 819 729
<b>Finland</b>	0 800 119 655	<b>Russian</b>	810 800 2705 1012
<b>France</b>	0 800 903 255	<b>Singapore</b>	800 101 2003
<b>Germany</b>	0 800 181 9023	<b>Slovenia</b>	0 800 80204
<b>Greece</b>	00 800 161 2205 5965	<b>South Africa</b>	0 800 980 989
<b>Hong Kong</b>	800 901 111	<b>Spain</b>	900 947 605
<b>Hungary</b>	06 800 162 51	<b>Sweden</b>	02 079 0880
<b>India</b>	000 8001007362	<b>Switzerland</b>	0 800 564 398
<b>Indonesia</b>	001 803 017 5965	<b>Taiwan</b>	00 801 126 974
<b>Ireland</b>	1 800 760 612	<b>Thailand</b>	001 800 156 205 5965
<b>Israel</b>	1 80 924 6042	<b>United Kingdom</b>	0 808 101 1147
<b>Italy</b>	800 873 740	<b>Uruguay</b>	0004 019 0189
<b>Japan</b>	00531 16 0845	<b>Venezuela</b>	0 800 100 8304

Presented at the **Breast Cancer Symposium**

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# 2011 Breast Cancer Symposium Presscast

September 6, 2011

Moderator: Andrew D. Seidman, MD

Presenters: Julliette M. Buckley, MD

Usama Mahmood, MD

Jose Luiz Barbosa Bevilacqua, MD

Jamie Caughran, MD

Presented at the Breast Cancer Symposium

*Presented data is the property of the author.*

# Recurrence Rates and Long Term Survival in Women Diagnosed With Breast Cancer at Age 40 and Younger

Julliette M. Buckley MB, MD, Suzanne B. Coopey MD, Srila Samphao MD, Andrzej Niemierko PhD\*, Michelle C. Specht MD, Kevin S. Hughes MD, Michele A. Gadd MD, Alphonse G. Taghian MD, PhD\* and Barbara L. Smith MD, PhD

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Presented at the **Breast Cancer Symposium**

*Presented data is the property of the author.*

# Background

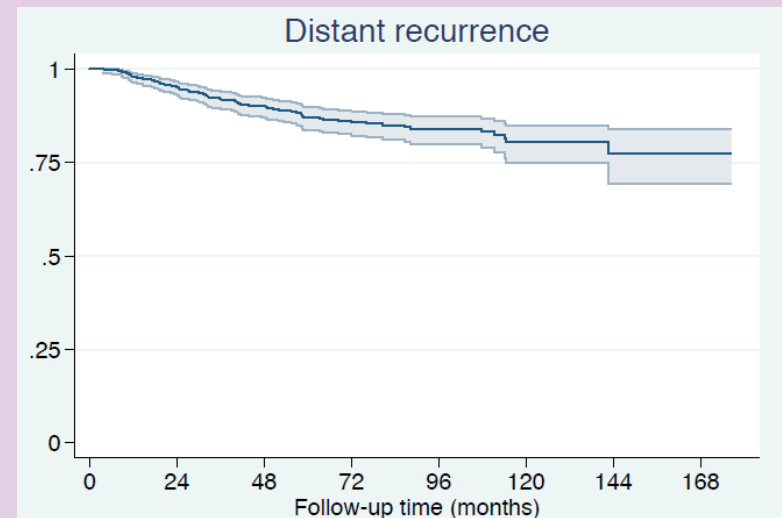
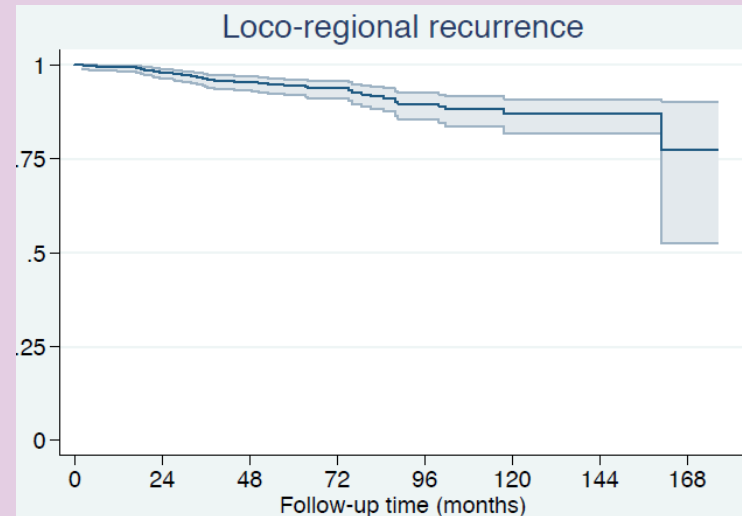
- Breast cancer in women under 40 is often diagnosed at a later stage compared to women > 40
- Young age at diagnosis has been shown to be an independent risk factor for recurrence, even after controlling for stage at diagnosis
- Prior studies have shown that younger women have higher rates of local recurrence (breast and/or axilla) after lumpectomy
- We sought to determine the risk of local and distant recurrence in young women in the modern era of multimodal therapy for breast cancer

# Methods

- The study was approved by our Institutional Review Board
- We identified 628 women aged 40 and younger diagnosed with breast cancer between 1996-2008
- We collected data on the type of cancer, the type of treatment, breast cancer recurrence, and overall survival

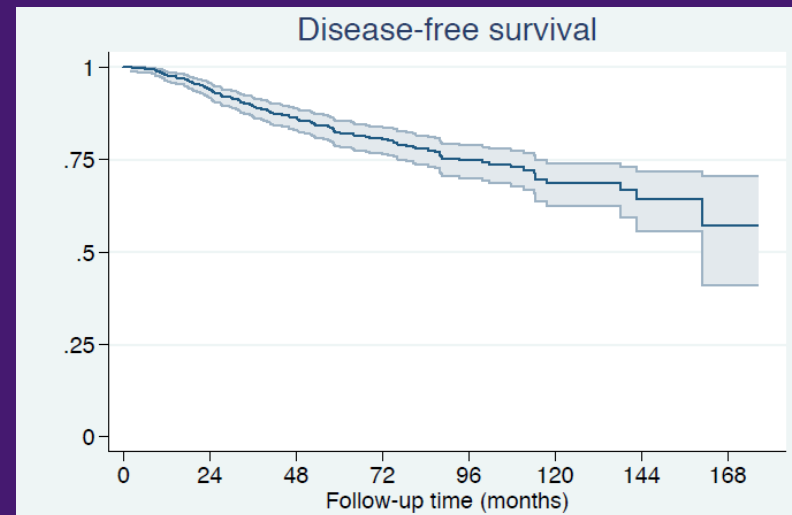
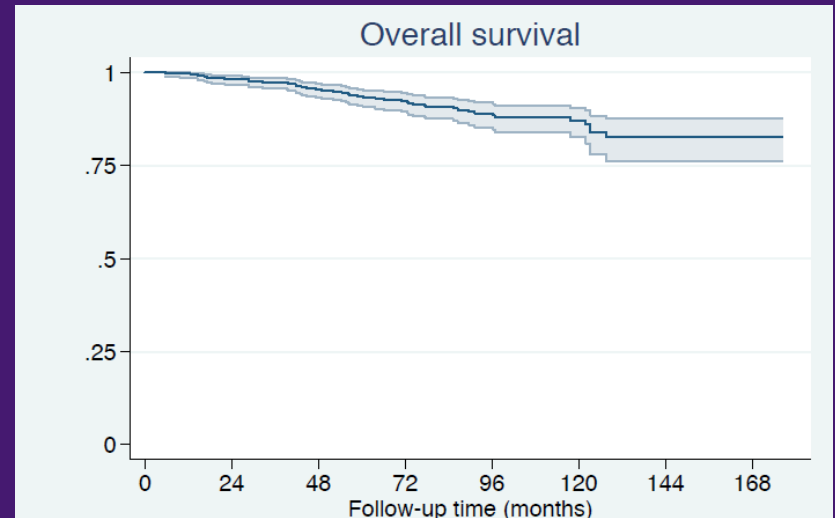
# Recurrence Rates

- The overall rates of local recurrence (breast and/or axilla) were **5.6%** at 5 years and **13%** at 10 years
- The overall rates of distant recurrence were **12%** at 5 years and **19%** at 10 years
- There was **no significant difference** in the rates of local recurrence between patients who had mastectomy (12/161) and patients who had a lumpectomy (30/421)



# Survival

- **93%** of all women aged 40 and younger diagnosed with breast cancer were alive at 5 years and **87%** were alive at 10 years
- **82.5%** of women were alive with no evidence of breast cancer at 5 years after diagnosis and **68.5%** were alive with no evidence of breast cancer at 10 years after diagnosis



# Conclusions

- Women aged 40 and under diagnosed with breast cancer today have a good prognosis with a low risk of breast cancer recurrence at 5 and 10 years
- We demonstrated similar rates of local recurrence after lumpectomy compared to mastectomy, suggesting that lumpectomy is a safe option for young women
- We believe that awareness of the genetic risk of breast cancer, advances in screening for breast cancer, and improvements in systemic and radiation therapy have contributed to longer overall survival for young women with breast cancer

# Comparison of Survival with Breast-Conservation Therapy or Mastectomy for Young Women with Early-Stage Breast Cancer

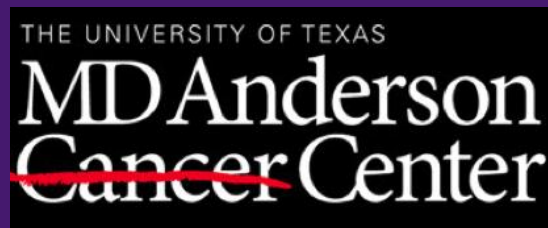
Usama Mahmood MD<sup>1</sup>, Christopher Morris MS<sup>2</sup>, Geoffrey Neuner MD<sup>2</sup>, Matthew Koshy MD<sup>3</sup>, Susan Kesmodel MD<sup>4</sup>, Robert Buras MD<sup>4</sup>, Saranya Chumsri MD<sup>5</sup>, Ting Bao MD<sup>5</sup>, Katherine Tkaczuk MD<sup>5</sup>, Steven Feigenberg MD<sup>2</sup>

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Departments of Radiation Oncology<sup>2</sup>, Surgical Oncology<sup>4</sup>, and Medical Oncology<sup>5</sup>  
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Department of Cellular and Radiation Oncology<sup>3</sup>,  
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September 6, 2011



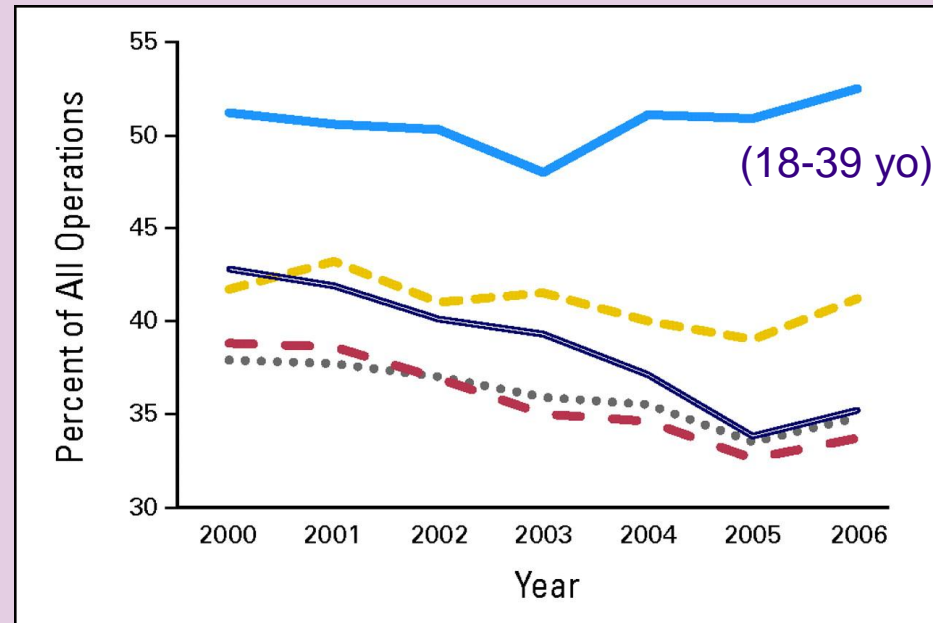
Presented at the Breast Cancer Symposium

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# Breast-Conservation Therapy (BCT) in Young Women

- Reluctance to apply BCT in young women (< 40 y.o.)
- Young women comprised a small portion of patients on initial trials comparing BCT and mastectomy
- Studies suggest young women have more local recurrences with BCT, however, none have shown worse survival

Mastectomy rates (2000 – 2006)



Habermann EB et al, JCO 2010; 28:  
3437-41

# Purpose

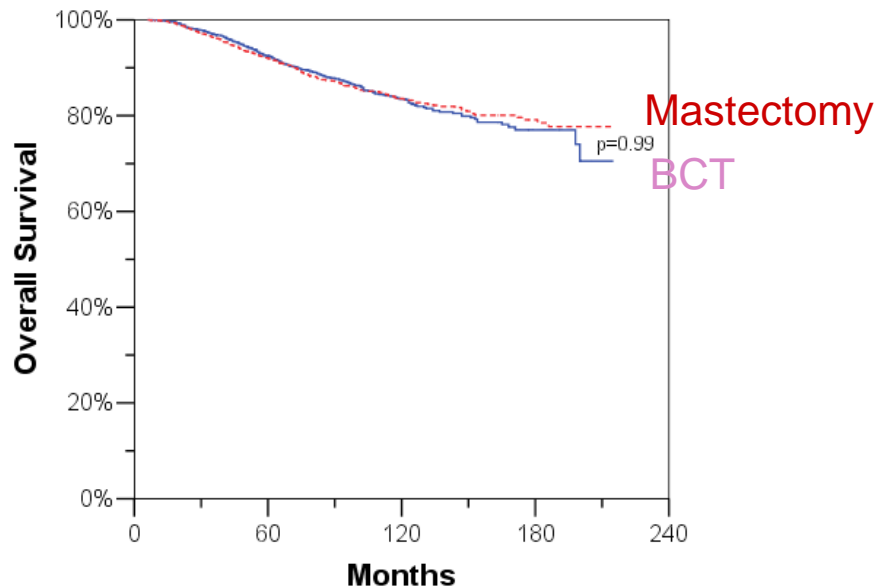
- To compare survival between BCT and mastectomy in young women (< 40 y.o.) with early stage breast cancer using a large, US Cancer database

# Multivariable Analysis (14,764 pts)

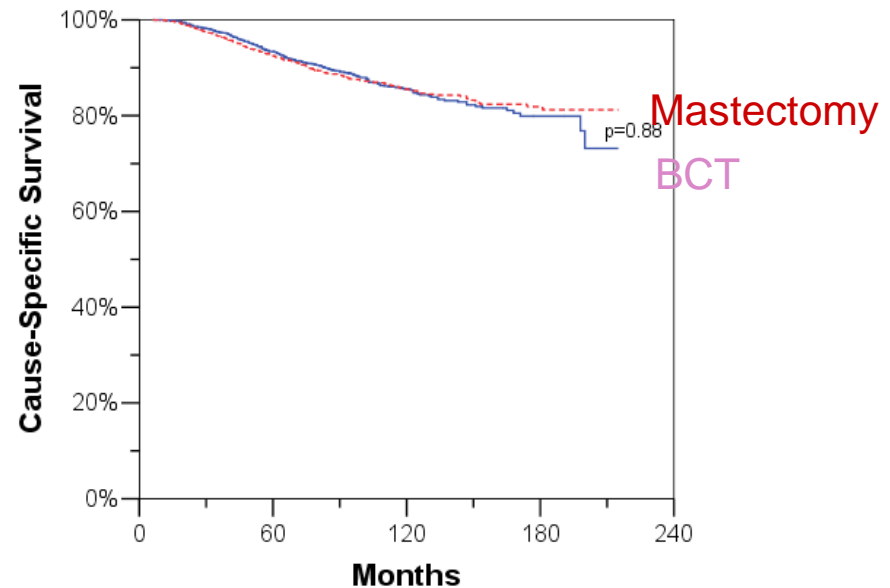
- After controlling for all available patient and tumor characteristics (including year of diagnosis, age, race/ethnicity, histology, grade, one versus multiple regions of involvement, tumor size, # positive LN, # examined LN, ER status, and PR status)...
- BCT compared with mastectomy resulted in similar:
  - Overall survival [HR 0.93 (p = 0.16)]
  - Breast cancer-specific survival [HR 0.93 (p = 0.26)]

# Matched Pair Analyses (4,644 pts)

## Overall Survival



## Breast CA-Specific Survival



10-yr OS

p-value

BCT

83.5%

0.99

Mastectomy

83.6%

10-yr BCSS

p-value

BCT

85.5%

0.88

Mastectomy

85.5%

# Conclusions

- Analysis of this large database suggests similar survival with either BCT or mastectomy in the treatment of young women with early stage breast cancer
- Women should be counseled appropriately regarding their treatment options and should not choose a mastectomy based on an assumption of improved survival

# Nomograms for predicting the risk of arm lymphedema after axillary dissection in breast cancer

Bevilacqua, JLB; Kattan, MW; Yu,C; Koifman,S; Mattos, IE; Koifman,RJ; Bergmann,  
A

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Department of Quantitative Health Sciences, Cleveland Clinic, USA

Instituto Nacional de Câncer (INCA), Brazil

Presented at the **Breast Cancer Symposium**

*Presented data is the property of the author.*

# Introduction

- Axillary lymph node dissection (ALND) is done in about 25% of patients with Breast Cancer.
- Secondary lymphedema (LE) occurs in about 30% of patients submitted to ALND.
- Up to 150,000 women develop LE each year worldwide.
- Over 4 million people are currently alive and suffering from LE related to breast cancer treatment.

# Rationale

- Several risk factors for LE have been identified in the literature.
- Usually the results of these studies are expressed as relative risk (odds ratio or hazard ratio).
- It is difficult to apply accumulated knowledge when estimating the risk of LE in an individual patient.
- Absolute risk is easier to be used in an individual patient.

# Objectives

- Create validated nomograms (graphic statistical models) to assist in predicting the risk of LE after ALND.
- Develop a user-friendly software program to allow easy calculation of the risk predicted by the nomograms.
- Calculate the overall 5-year cumulative incidence of LE in a large prospective cohort specifically established to study the incidence and factors associated with LE after ALND for breast cancer.

# Methods – Study Design

- Perspective cohort → 1,243 Women were prospectively followed with the specific aim of determining the incidence of and the predictive factors for LE after ALND.
- Eligible criteria: Unilateral breast cancer; Conservative surgery or mastectomy, ALND (level I+II or I+II+III); Brazilian National Cancer Institute; from August 2001 to November 2002.
- 189 patients excluded → at least 1 exclusion criteria
- 1,054 eligible patients
- Median follow up was 41 months
- Losses were infrequent → 66 patients (6.3% in the overall cohort)
- Three Cox proportional hazards multivariable models

# Arm volume – Free Online Calculator

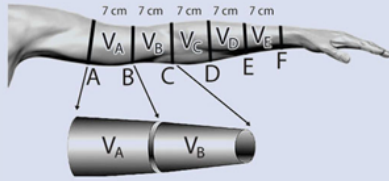
Arm Volume Calculator - Upper Limb Volume Calculator - Version 1.0.2 - Windows Internet Explorer

http://www.armvolume.com/

Arguivo Editar Exibir Favoritos Ferramentas Ajuda

Arm Volume Calculator - Upper Limb Volume Calculator...

### Upper Limb Volume Calculator



$V_{Limb} = V_A + V_B + V_C + V_D + V_E$

Where:

$V_A = 7 (A^2 + AB + B^2) \times 3.14$   
 $V_B = 7 (B^2 + BC + C^2) \times 3.14$   
 $V_C = 7 (C^2 + CD + D^2) \times 3.14$   
 $V_D = 7 (D^2 + DE + E^2) \times 3.14$   
 $V_E = 7 (E^2 + EF + F^2) \times 3.14$

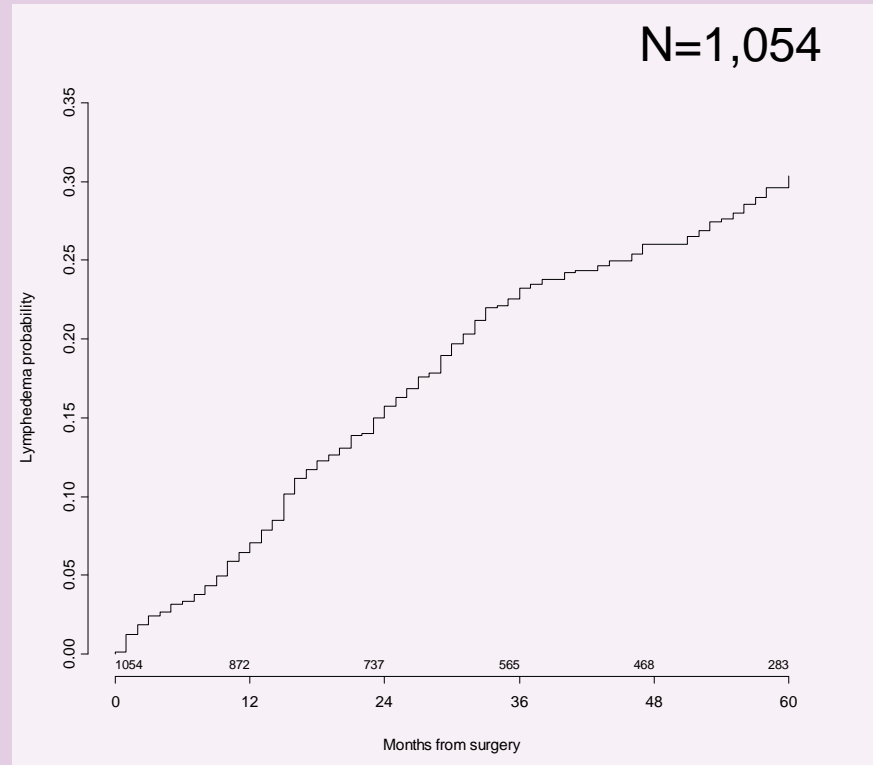
RIGHT LIMB CIRCUMFERENCE MEASUREMENTS		<input type="checkbox"/>	?
Right Limb - Circumference at 14 cm from antecubital crease around upper arm (in cm)	<input type="text"/>		?
Right Limb - Circumference at 7 cm from antecubital crease around upper arm (in cm)	<input type="text"/>		?
Right Limb - Circumference at the antecubital crease (in cm)	<input type="text"/>		?
Right Limb - Circumference at 7 cm from antecubital crease around forearm (in cm)	<input type="text"/>		?
Right Limb - Circumference at 14 cm from antecubital crease around forearm (in cm)	<input type="text"/>		?
Right Limb - Circumference at 21 cm from antecubital crease around forearm (in cm)	<input type="text"/>		?
LEFT LIMB CIRCUMFERENCE MEASUREMENTS		<input type="checkbox"/>	?
Left Limb - Circumference at 14 cm from antecubital crease around upper arm (in cm)	<input type="text"/>		?

[www.armvolume.com](http://www.armvolume.com)

# Methods – Statistical Analysis

Model (Nomogram )	When the model should be used?	Variables in the model
I	Preoperative	<ul style="list-style-type: none"><li>• Age</li><li>• BMI</li><li>• Number of cycles of neoadjuvant chemotherapy infused on the ipsilateral arm</li></ul>
II	Within the first 6 months after surgery	<ul style="list-style-type: none"><li>• Variables used in Model I</li><li>• Level of ALND (I/II vs. I/II/III)</li><li>• Location of radiotherapy field (no radiotherapy vs. breast/chest wall vs. axillary/supraclavicular/internal mammary lymph node basin)</li></ul>
III	6 months or later after surgery	<ul style="list-style-type: none"><li>• Variables used in Model II</li><li>• Development of seroma</li><li>• Development of early edema</li></ul>

# Results – Cumulative Incidence of LE



**5-year cumulative incidence of LE →**  
**30.3%** (95% CI, 26.9%–33.6%)

# Results – Independent predictive factors associated with LE

Predictor variables	d.f.	P	P	P
		Perioperative Nomogram	<6 Month Nomogram	>6 Month Nomogram
Age	2	0.0040	0.0002	0.0485
Body mass index	2	<0.0001	<0.0001	<0.0001
Number of cycles of neoadjuvant chemo	1	<0.0001	-	-
Number of cycles of neo or adjuvant chemo	1	-	0.0001	0.0338
Level of axillary lymph node dissection	1	NA	0.0185	0.0836
Radiotherapy field	1	NA	<0.0001	<0.0001
Seroma	1	NA	NA	0.0418
Early edema	1	NA	NA	<0.0001

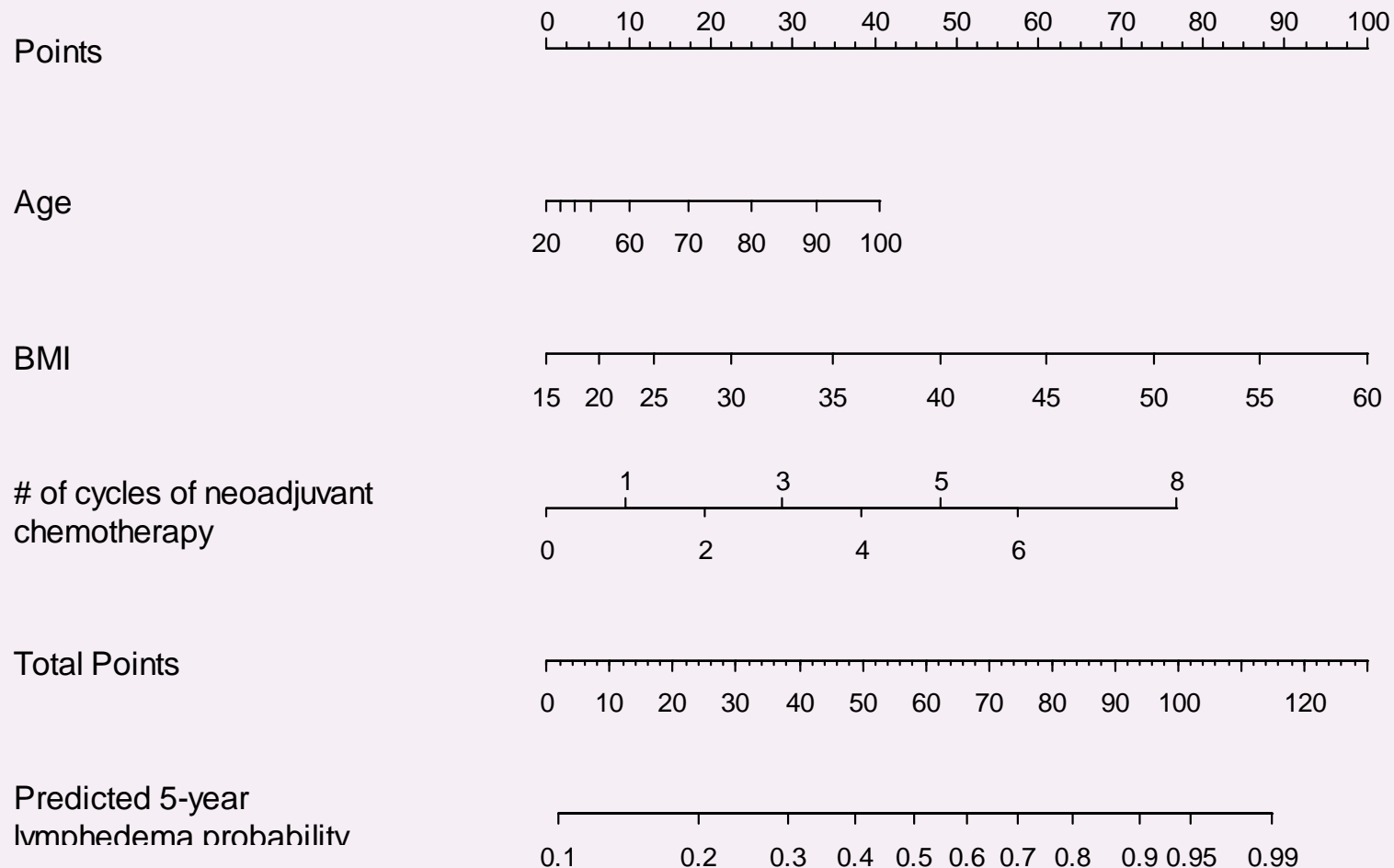
\* Multivariable Cox proportional hazards analyses

# Results – Independent predictive factors associated with LE

Predictor variables	d.f.	P	P	P
		Perioperative Nomogram	<6 Month Nomogram	>6 Month Nomogram
Age	2	0.0040	0.0002	0.0485
<b>No previous study has ever demonstrated an association between arm lymphedema and ipsilateral NEOADJUVANT chemotherapy infusion.</b>				
Level of axillary lymph node dissection	1	NA	0.0185	0.0836
Radiotherapy field	1	NA	<0.0001	<0.0001
Seroma	1	NA	NA	0.0418
Early edema	1	NA	NA	<0.0001

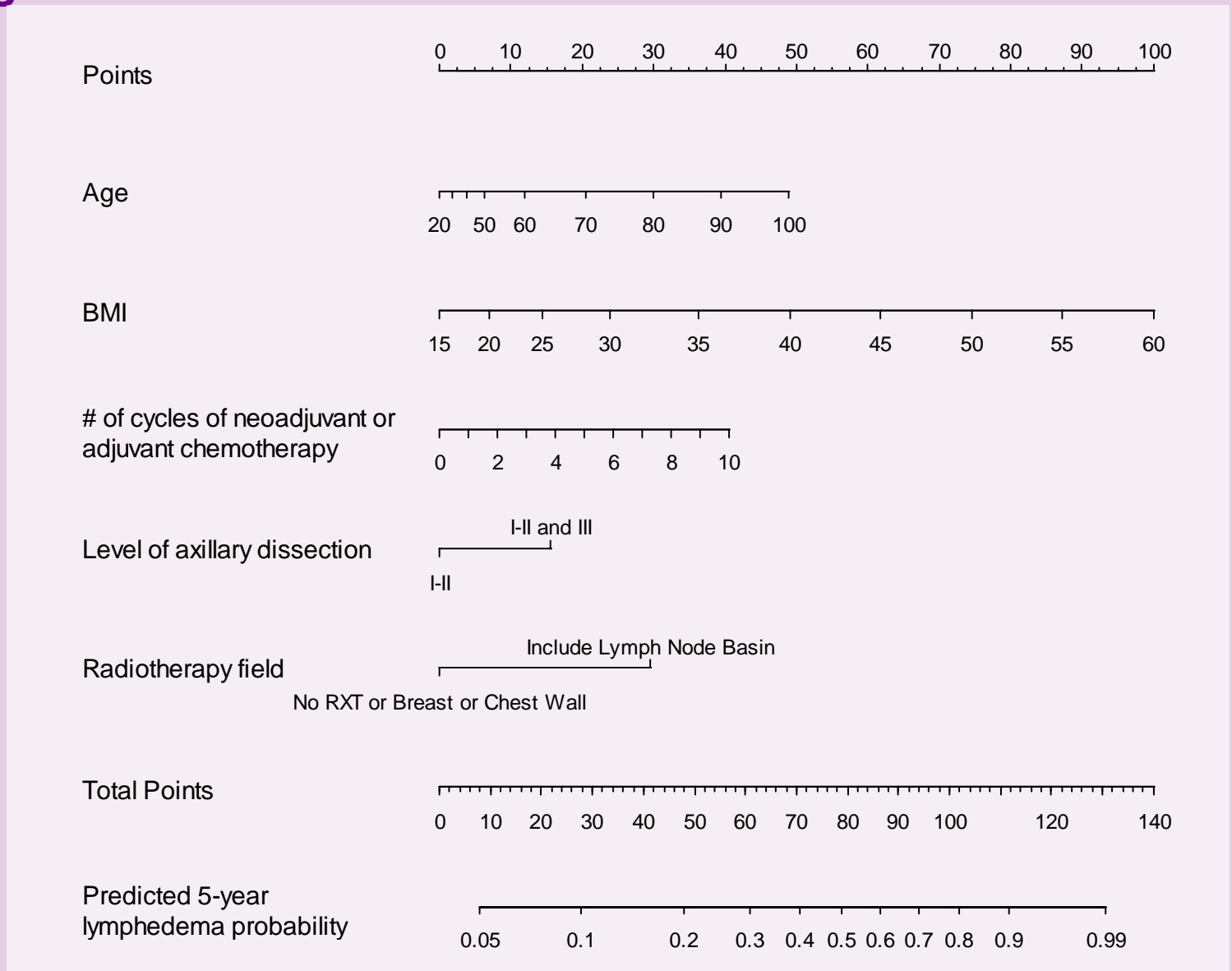
\* Multivariable Cox proportional hazards analyses

# Results – Model I – Preoperative Nomogram

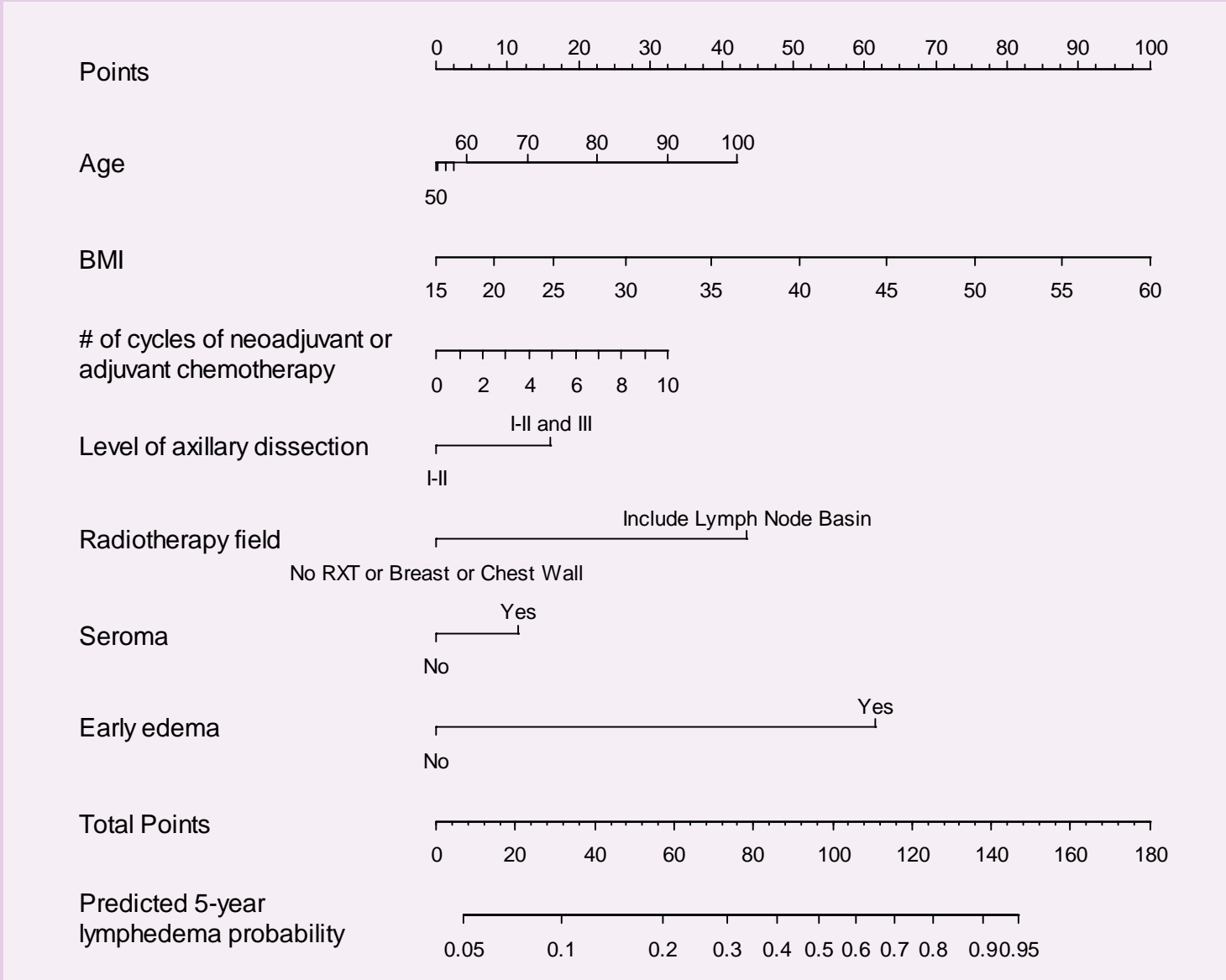


# Results – Model II – Within the first 6 months after surgery

## Nomogram



# Results – Model III – 6 months or later after surgery Nomogram



## Conclusions

- 5-year cumulative incidence of LE was 30.3%.
- We have develop a free online arm volume calculator ([www.armvolume.com](http://www.armvolume.com))
- Our analyses suggest that our nomograms accurately estimate the probability of LE.
- We have develop a free version of the nomogram models ([www.lymphedemarisk.com](http://www.lymphedemarisk.com)), which it will soon be available after the paper's publication.

# Risk of Arm Lymphedema – Free Online Calculator

The screenshot shows a web browser window titled "Risk of Arm Lymphedema - Windows Internet Explorer". The address bar contains "http://www.lymphedemarisik.com". The page content is titled "Upper Limb Lymphedema after Axillary Lymph Node Dissection". It features a form with the following fields:

- Patient's age:  ?
- Patient's weight (Kg)?:  ?
- Patient's height (meter)?:  ?
- Number of cycles of neo- or adjuvant chemotherapy infusions in ipsilateral arm:  ?
- Check here if you have both information about the need of radiotherapy and level of axillary dissection?:  ?

Below the form are three buttons: "Save Inputs", "Recall Inputs", and "Clear Cache" (with a question mark icon). A large "Calculate" button is centered below these. At the bottom, a box labeled "Predicted 5-year lymphedema probability (%)" contains a text input field with "----" as a placeholder.

# [www.lymphedemarisik.com](http://www.lymphedemarisik.com)

# Clinical presentation of breast cancer: Age, stage and treatment modalities in a contemporary cohort of Michigan women.

D. R. Smith PA-S<sup>1</sup>, J. Caughran MD<sup>2</sup>, J. L. Kreinbrink PA-S<sup>1</sup>, G. K. Parish PA-S<sup>1</sup>, S. M. Silver MD<sup>3</sup>, T. M. Breslin MD<sup>3</sup>, J. E. Pettinga MD<sup>4</sup>, A. M. Mehringer<sup>3</sup>, C.A. Wesen MD<sup>5</sup>, H. Yin<sup>3</sup>, D. Share<sup>6</sup>, A. T. Davis PhD<sup>1</sup>, F. T. Pleban<sup>1</sup>, T. A. Bacon-Baguley PhD<sup>1</sup>

Grand Valley State University<sup>1</sup>, Saint Mary's Lacks Cancer Center<sup>2</sup>, University of Michigan<sup>3</sup>, Spectrum Health<sup>4</sup>, St. John Providence<sup>5</sup>, Blue Cross Blue Shield of Michigan<sup>6</sup>



Presented at the Breast Cancer Symposium

*Presented data is the property of the author.*

# Purpose and Methods

- USPSTF revised breast cancer screening recommendations of 2009 were controversial with patients and clinicians
- Goal was to evaluate the current presentation and therapy given to women with breast cancer in Michigan
- Michigan Breast Oncology Quality Initiative (MiBOQI) database from 14 institutions was used with data between 2006-2009

# Results

- 5628 patients
  - Average age 59.4
  - Stages 0-III
- Mode of detection of breast cancer
  - Mammography: 65.5% (n=3869)
  - Palpation: 29.8% (n=1759)
    - Self Examination: 90.2% (n= 1586)
    - Clinician Examination: 9.8% (n= 173)
- Patients with palpable presentations were younger than those diagnosed by mammography (55.8 yr vs. 61.2 yr;  $p < 0.001$ )

# Results

- Patients presented at later stages in the palpation group
- Mastectomy was performed more often in the palpation group (45.8% vs 27.1%)
- Chemotherapy was given more often in the palpation group (22.7% vs 15.7%)

# Summary of Findings

	Mammographic Presentation	Palpable Presentation
<b>Age</b>		
<50	19.2%	40.1%*
>50	80.8%	59.9%*
<b>TNM Stage</b>		
0	25.1%	3.9%*
I	52.5%	29.2%*
II	18.2%	50.0%*
III	4.3%	16.9%*
<b>Treatment</b>		
% Mastectomy	27.1%	45.8%*
% Receiving Chemotherapy	15.7%	22.7%*

\*p<0.0001

# Conclusions

- Study does not represent screening population
- Women who have mammographically detected cancer
  - present at earlier stages
  - are more likely to undergo breast conservation and not require chemotherapy
- Women with breast cancer continue to present with palpable masses
- Annual screening mammograms and evaluation of palpable breast masses are important tools in breast cancer detection.

# Embargo Policies

- All abstracts presented at the 2011 Breast Cancer Symposium, including abstracts highlighted in today's presscast, are embargoed until 6:00 PM EDT today, September 6
- All 2011 Breast Cancer Symposium abstracts will be posted on <http://breastcasymposium.org/> today at 6:00 PM EDT

# QUESTION AND ANSWER SESSION

Presented at the Breast Cancer Symposium

# For More Information

- For oncologist-approved patient information resources, visit [www.Cancer.Net](http://www.Cancer.Net), ASCO's patient Website
- For interview requests and additional information contact:
  - Kelly Baldwin at 571-483-1365 or [mediateam@asco.org](mailto:mediateam@asco.org)