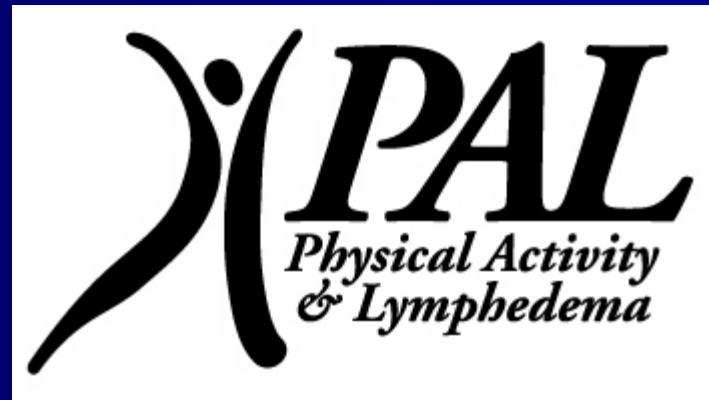


# Presentation of Main Results



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# Overview

- PAL study
  - Study Overview
  - Results
- What YOU can do



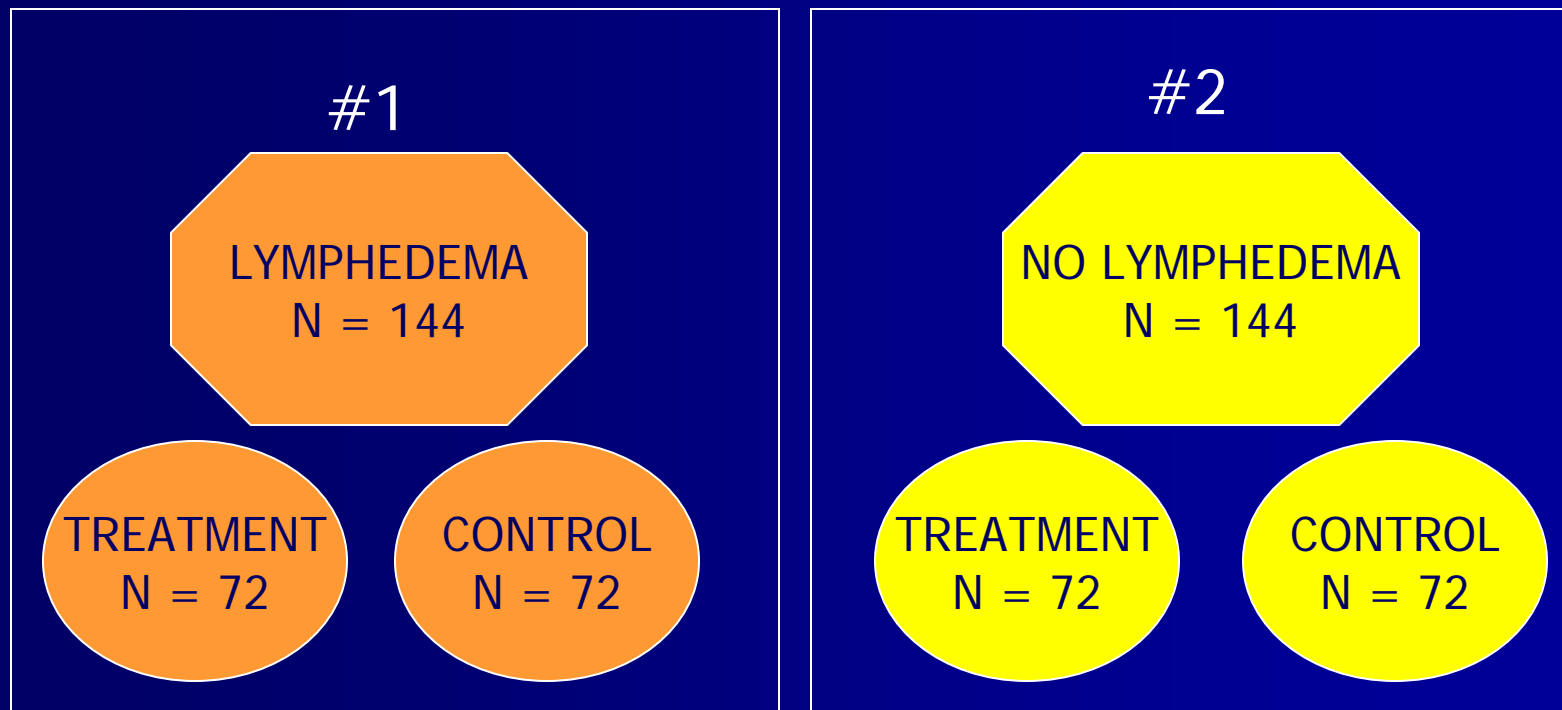
# The Physical Activity and Lymphedema (PAL) Trial

R01-CA106851

- 1 year randomized controlled intervention
  - Twice weekly progressive strength training
  - Non-exercising control
- Recruitment goal = 288 BrCa survivors
- Measurements at baseline, 3, 6, 9 and 12 months
- 1/2 with, 1/2 without lymphedema at baseline
- 1-15 years post-diagnosis



# PAL Design



- ❖ 1 year randomized controlled intervention
- ❖ Target = 288 Breast Cancer Survivors

# Intervention adherence

- ❖ With lymphedema
  - 88% average attendance
- ❖ Without lymphedema
  - 79% average attendance



# Strength changes in women WITH lymphedema

	Treatment	Control	
Strength Changes	% $\Delta$	% $\Delta$	p-value*
Bench Press	29.4	4.06	<0.0001
Leg Press	32.5	7.61	<0.0001



# Strength changes in women WITHOUT lymphedema

	Treatment	Control	
Strength Changes	% $\Delta$	% $\Delta$	p-value*
Bench Press	36.1	9.82	<0.001
Leg Press	33.8	9.63	<0.001

# % changes in body image and relationships survey

	Treatment	Control
	% $\Delta$	% $\Delta$
	Total	12.0 <sup>e</sup>
Strength & Health	14.9 <sup>e</sup>	2.7
Social Barriers	5.4	-1.8
Appearance & Sexuality	7.3 <sup>d</sup>	-0.7



# Lymphedema outcomes in women WITH lymphedema

	Treatment	Control	CIR (95% CI) or p-value*
	Mean or (%)	Mean or (%)	
<b>Flare-Ups</b>	<b>(14%)</b>	<b>(29%)</b>	<b>0.47 (0.23 , 0.97)</b>
Prescribed treatment appts.	8.56	10.26	0.42
Interlimb difference			
5% increase	(11%)	(12%)	1.00
5% decrease	(19%)	(22%)	0.68
$\Delta$ in # of symptoms endorsed	-1.81	-1.17	0.06

# Cost: Intervention vs. flare-ups

- 77 prescribed flare-up appts in treatment group
- 195 prescribed flare-up appts in control group
- Cost of intervention around \$600 per woman
- Cost of additional flare-up appts in control group more than \$600 per woman



# Lymphedema outcomes in women WITHOUT lymphedema

	Treatment	Control	CIR (95% CI) or p-value*
	Mean or (%)	Mean or (%)	
<b>Onsets</b>	<b>(4.6%)</b>	<b>(4.4%)</b>	<b>1.03 (0.22, 4.92)</b>
Prescribed treatment appts.	2	4	0.66
Interlimb difference			
5% increase	(11%)	(17%)	0.35
5% decrease	(8%)	(12%)	0.59
$\Delta$ in # of symptoms endorsed	-0.51	-0.42	0.60

# Summary

- Twice weekly slowly progressive strength training is SAFE for breast cancer survivors who have had lymph node removal including
  - Those WITH lymphedema
  - Those AT RISK FOR lymphedema
- Risk of lymphedema flare-ups decreased by HALF
  - May save insurance companies money
- Strength improvements with this program are substantive
- Body image improved too



# What can YOU do?

- Resource guide available at:
  - [http://www.penncancer.org/penn\\_news.cfm?ID=888](http://www.penncancer.org/penn_news.cfm?ID=888)
- Grant funding is being sought for PAL dissemination models



## **Philadelphia:**

Sisters In Shape Fitness

## **Delaware County:**

Community YMCA of Eastern Delaware County, Ridley  
Area YMCA

The YMCA of Philadelphia and Vicinity hopes to have the program available at all 13 fitness center locations by January 2010.

## **Southern New Jersey (Burlington County)**

YMCA of Burlington County (Mount Laurel and Riverfront locations) has 3 programs





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## CO-INVESTIGATORS

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## RESEARCH STAFF

Amy Rogerino, MPH, Cathy Bryan, M.Ed., Damali Mason, M.Ed., Lorita Grant, MSW, MPH

## CANCER REGISTRARS

Robin Otto, Craig Edelman, Homer Wilcox, all hospital based registrars

## LYMPHEDEMA EVALUATION & TREATMENT

Penn Therapy and Fitness