

**There is no U.S. coordinated effort to cure breast cancer. For DCIS mastectomy (or lumpectomy plus radiation) is recommended. Silverstein's results suggest his technique should be adopted as the standard of care for <1cm DCIS tumors, but further study is needed.**

Note: Mortality due to cardiovascular disease in women over age 50 is 53%. Breast cancer mortality is 4%.  
Lifetime risk of invasive cancer for all women is about 1 in 7 or 14%.

**DCIS - Lumpectomy with greater than 1 cm margins**

Trial	Total Recurrence	DCIS Recurrence	Invasive Recurrence	Total No. Patients	
Nottingham Group - <b>No Radiation</b> <sup>1</sup>	11%*	4%*	7%*	256	86 months (7.2 yrs) mean follow-up - prospective
Wong, et.al. - Prospective <b>No Radiation</b> <sup>2</sup>	12%**	9.2%**	3.7%**	158	5-yr actuarial rate. Closed early, exceeded recurrence trigger.
Silverstein Retrospective - <b>No Radiation</b> <sup>3</sup>	2.15%***	NA	NA	93	8 yr rate: 93 (of 469) had margins 1 cm or greater
Silverstein Retrospective - Radiation <sup>3</sup>	2.50%	NA	NA		

NA means not available

\* 28 recurrences, of which 24 occurred in the 46 patients who underwent reexcision. Suggests initial technique is not comparable to Silverstein's.

\*\* Estd. 5-yr rate **No patient had positive axillary nodes at recurrence or subsequent metastatic disease.**

\*\*\*\* Mean follow-up time for unirradiated patients was shorter, and surgical technique included excision of skin and pectoralis fascia.  
Pathology is specific to Silverstein's team and not standardized across U.S. Results are comparable to mastectomy.

**DCIS - Lumpectomy with less than 1 cm margins**

Trial	Total Recurrence	DCIS Recurrence	Invasive Recurrence	Total No. Patients	Tumor Size	Recurrence
<b>Silverstein Retrospective - No Radiation</b> <sup>3</sup>	18.6%	NA	NA*	124	1 mm to 1 cm	23 of 124 recurred
Silverstein Retrospective - Radiation <sup>3</sup>	15.00%	NA	NA*	100	1 mm to 1 cm	15 of 100 recurred
Silverstein Retrospective - <b>No Radiation</b> <sup>3</sup>	33.3%	NA	NA*	39	Less than 1 mm	13 of 39 recurred
Silverstein Retrospective - Radiation <sup>3</sup>	28.8%	NA	NA*	73	Less than 1 mm	21 of 73 recurred

\* Invasive recurrence tends to be around half of total recurrence.

NA means not available

NSABP Trial B-17: DCIS	Total Recurrence	DCIS Recurrence	Invasive Recurrence	Total No. Patients	
Lumpectomy Alone (various tumor sizes)	26%	13%	13%		Rate at 8 years - <b>margins unknown</b>
Lumpectomy plus Radiation (various tumor sizes)	12%	8%	4%		Rate at 8 years - <b>margins unknown</b>

NSABP Trial B-17: DCIS <sup>4</sup>	Total Recurrence	DCIS Recurrence	Invasive Recurrence	Total No. Patients	
Lumpectomy Alone (various tumor sizes)	31.7%				Rate at 12 years - <b>margins unknown</b>
Lumpectomy plus Radiation (various tumor sizes)	15.7%				Rate at 12 years - <b>margins unknown</b>

<b>EORTC Trial 10853: DCIS by Histologic Type (differentiation)<sup>5</sup></b>	<b>Total Recurrence</b>	<b>DCIS Recurrence</b>	<b>Invasive Recurrence</b>	<b>Distant Metastasis</b>	<b>Death</b>	<b>Total No. Patients</b>	
Lumpectomy Alone - Well	13%	4%	9%	1%	1%	147	Margins not available
Lumpectomy plus Radiation - Well	14%	9%	5%	0%	1%	137	Margins not available
Lumpectomy Alone - Intermediate	20%	14%	6%	1%	1%	99	Margins not available
Lumpectomy plus Radiation - Intermediate	18%	11%	7%	3%	1%	99	Margins not available
Lumpectomy Alone - Poor	28%	14%	13%	5%	4%	134	Margins not available - 18 had invasive recurrence
Lumpectomy plus Radiation - Poor	14%	8%	6%	5%	6%	159	Margins not available - 9 had invasive recurrence

Note: Median follow-up of 5.4 years

**Other Notes:**

Studies have not yet identified a DCIS subgroup to adequately treat with excision alone, but "Silverstein" requires further study for <1 cm. tumors.

Studies suggest radiation reduces recurrence by 40-50%.

Retrospectively, on estrogen receptor positive tumors, Tamoxefin reduced recurrence by 60%.

AstraZeneca claims Anastrozole (Arimidex) lowers recurrence risk 18% compared to Tamoxefin and an absolute difference of 2.9% at the end of 4 yrs.

Surveillance, Epidemiology, and End Results data show 8-yr rate of invasive local recurrence after lumpectomy reduced from 6.2% to 2.7%.

No study of DCIS shows that adding radiation or Tamoxefin improves overall survival.

**Stage 1 & 2 Cancers**

<b>NSABP Trial B-17: Stage I &amp; 2 4 cm or less in diameter</b>	<b>Recurrence in same breast</b>	<b>Disease Free Survival</b>	<b>Overall Survival</b>	<b>Total No. Patients</b>	
Total Mastectomy			47%		20 years after surgery
Lumpectomy & No Radiation	39.2%	35.0%	46%		20 years after surgery
Lumpectomy with Radiation	14.3%	36.0%	46%		20 years after surgery

1,851

Note: All women had lymph node dissection: 62% negative; 26% one or more positive; 12% four or more positive

<b>Milan Study Small Cancers Less than or equal to 2 cm</b>	<b>Recurrence in same breast</b>	<b>Died of Breast Cancer</b>	<b>Overall Survival</b>	<b>Total No. Patients</b>	
Radical Mastectomy	2.30%	24.3%	41.2%		20 years after surgery
Lumpectomy plus Radiation	8.8%	26.1%	41.7%		20 years after surgery

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Note: All women had lymph node dissection, women with positive lymph nodes also had chemotherapy (CMF).

## Bibliography

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