



8<sup>th</sup> Aarhus Workshop in:  
**Breast Surgery**



**DCIS**  
**SURGICAL TREATMENT**  
**(INCLUDING INDICATIONS FOR ONCOPLASTIC SURGERY**  
**AND SKIN-SPARING AND NIPPLE SPARING MASTECTOMY)**  
**IMAGE GUIDED SURGERY**  
**TREATMENT OF RECURRENT DCIS**

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**NOWADAYS  
DCIS SURGICAL TREATMENT  
RANGES FROM LOCAL EXCISION  
(BCS WITH POSSIBLE ONCOPLASTIC APPROACH)  
TO MASTECTOMY (STANDARD, SKIN-SPARING OR NAC-SPARING)  
IDEALLY WITH IMMEDIATE RECONSTRUCTION**

**BEFORE THE 1990s MODIFIED RADICAL MASTECTOMY WAS CONSIDERED THE GOLD STANDARD FOR THE TREATMENT OF DCIS**

**FOLLOWING MASTECTOMY THE THEORETICAL RISK OF LOCAL RECURRENCE OF A PURELY IN SITU LESION SHOULD BE ESSENTIALLY ZERO**

**HOWEVER A LOW RATE OF LOCAL RECURRENCE HAS BEEN DOCUMENTED  
10-YEAR LOCAL RECURRENCE RATE OF 2.6% (95% CI 0.8-4.5%)**

Long-term outcomes of ductal carcinoma in situ of the breast: a systematic review, meta-analysis and meta-regression analysis

Kirsty E. Stuart<sup>1,2,3\*</sup>, Nehmat Houssami<sup>4</sup>, Richard Taylor<sup>1,5</sup>, Andrew Hayen<sup>5</sup> and John Boyages<sup>1,6</sup>

Stuart *et al.* *BMC Cancer* (2015) 15:890



**MASTECTOMY WAS THOUGHT TO BE OVER TREATMENT FOR THE MAJORITY OF PATIENTS WITH DCIS AS IT CONFERRED NO BREAST CANCER-SPECIFIC NOR OVERALL SURVIVAL ADVANTAGE COMPARED WITH BREAST CONSERVING SURGERY**

**Ten-year Results Comparing Mastectomy to Excision and Radiation Therapy for Ductal Carcinoma *In Situ* of the Breast**

**M.J. Silverstein, A. Barth, D.N. Poller, E.D. Gierson, W.J. Colburn, J.R. Waisman and P. Gamagami**

*European Journal of Cancer* Vol. 31A, No. 9, pp. 1425–1427, 1995





**AFTER RCTs PROVED THAT BCS WAS EQUIVALENT TO MASTECTOMY IN WOMEN WITH INVASIVE BREAST CANCER, BCS BECAME AN ACCEPTABLE OPTION FOR EARLY STAGE DISEASE**

**ALTHOUGH THERE WERE NO RCT COMPARING RECURRENCE AND OVERALL SURVIVAL BETWEEN MASTECTOMY AND BCS IN DCIS, IN THE LATE 1980s CLINICIANS EXTRAPOLATED FROM THE FINDINGS FOR INVASIVE CANCER AND BEGAN ADOPTING BCS FOR DCIS**

**Duct Carcinoma *in situ*: 227 Cases Without Microinvasion**

**Melvin J. Silverstein, Bernard F. Cohlman, Eugene D. Gierson, Martin Furmanski, Parvis Gamagami, William J. Colburn, Bernard S. Lewinsky and James R. Waisman**

*Eur J Cancer, Vol. 28, No. 2:3, pp. 630-634, 1992.*



**DATA FROM RCTs COMPARING ADJUVANT RT OR NOT FOLLOWING BCS FOR THE  
TREATMENT OF DCIS**

**(NSABP B-17, EORTC 10853, SweDCIS AND UK/ANZ DCIS) SHOWED THAT  
RADIOTHERAPY REDUCED THE ABSOLUTE 10-YEAR RISK OF ANY IPSILATERAL  
EVENT (EITHER RECURRENT DCIS OR IBC) BY 15.2% (12.9% VS. 28.1%,  $p < 0.00001$ )**

**THIS WAS EFFECTIVE REGARDLESS THE AGE AT DIAGNOSIS, EXTENT OF BCS, USE  
OF TAMOXIFEN, METHOD OF DCIS DETECTION, MARGIN STATUS, FOCALITY, GRADE  
OR TUMOR SIZE**

**HOWEVER AFTER 10 YEARS OF FOLLOW-UP THERE WAS NO SIGNIFICANT EFFECT  
ON BREAST CANCER MORTALITY, MORTALITY FROM CAUSES OTHER THAN BREAST  
CANCER OR ALL-CAUSE MORTALITY**

**Overview of the Randomized Trials of Radiotherapy in Ductal  
Carcinoma In Situ of the Breast**

Early Breast Cancer Trialists' Collaborative Group (EBCTCG)

J Natl Cancer Inst Monogr 2010;41:162–177



**AT 15 YEARS**  
**RT POST BCS REDUCED INVASIVE IBTR BY 52%**  
**RT + TAM POST BCS REDUCED I-IBTR BY 32%**

**THE 15-YEAR CUMULATIVE INCIDENCE OF I-IBTR WAS 19.4% FOR BCS,  
8.9% FOR BCS+RT (B-17), 10% FOR BCS + RT (B-24) AND 8.5% FOR BCS+RT+TAM**

**53.7% IPSILATERAL BREAST TUMOR RECURRENCES WERE INVASIVE**

**I-IBTR WAS ASSOCIATED WITH INCREASED MORTALITY RISK WHEREAS  
RECURRENCE OF DCIS WAS NOT**

**Long-Term Outcomes of Invasive Ipsilateral Breast Tumor  
Recurrences After Lumpectomy in NSABP B-17 and B-24  
Randomized Clinical Trials for DCIS**

Irene L. Wapnir, James J. Dignam, Bernard Fisher, Eleftherios P. Mamounas, Stewart J. Anderson, Thomas B. Julian,  
Stephanie R. Land, Richard G. Margoese, Sandra M. Swain, Joseph P. Costantino, Norman Wolmark

J Natl Cancer Inst 2011;103:478–488



**DCIS IS A HETEROGENOUS GROUP OF LESIONS  
MAKING IT OBVIOUS THAT NO SINGLE APPROACH COULD BE APPROPRIATE  
FOR ALL FORMS OF DISEASE OR FOR ALL PATIENTS**

**RISK STRATIFICATION (CLINICAL AND PATHOLOGICAL CHARACTERISTICS  
(USC/VNPI, MSKCC NOMOGRAM) AND MOLECULAR PROFILING (DCIS SCORE))  
REMAINS ESSENTIAL FOR MAKING ACCURATE DECISION-MAKING BOTH FOR  
THE TREATMENT OF PRIMARY  
(EXTENT OF SURGERY AND ADJUVANT (RT AND HT) TREATMENTS)  
AND FOR RECURRENT DCIS**



**INDICATIONS FOR MASTECTOMY**

**LARGE AREA OF DCIS (>4 CM)**

**DIFFUSE DISEASE (I.E. PRESENCE OF DIFFUSE MICROCALCIFICATIONS)**

**MULTICENTRIC DCIS**

**Are We Overtreating Ductal Carcinoma in Situ (DCIS)?**

Sadia Khan, DO<sup>1,2</sup>, Melinda Epstein, PhD<sup>3</sup>, Michael D. Lagios, MD<sup>4</sup>, and Melvin J. Silverstein, MD<sup>1,2</sup>

<sup>1</sup>Hoag Breast Care Program, Hoag Memorial Hospital Presbyterian, Newport Beach; <sup>2</sup>Department of Surgical Oncology, Keck School of Medicine, University of Southern California, Los Angeles; <sup>3</sup>Department of Clinical Research, Hoag Breast Care Program, Hoag Memorial Hospital Presbyterian, Newport Beach; <sup>4</sup>The Breast Cancer Consultation Service, Tiburon, CA

**INDICATIONS FOR MASTECTOMY**

**CONTRAINDICTION FOR POST-OPERATIVE RADIATION THERAPY  
(IF NEEDED ACCORDING TO PRE-OPERATIVE RISK STRATIFICATION)  
(HISTORY OF COLLAGEN VASCULAR DISEASE (SCLERODERMA, LUPUS ERYTHEMATOSUS),  
PREVIOUS IRRADIATION TO THE BREAST OR CHEST)**

**EXPECTED POOR COSMETIC RESULT FOLLOWING BCS**

**PERSISTENT POSITIVE MARGINS AFTER REPEATED  
(MORE THAN 2) LOCAL EXCISIONS (RELATIVE CONTRAINDICTION)  
USUALLY ADDITIONAL LOCAL RESECTIONS COULD RESULT IN SIGNIFICANT BREAST DEFORMITY**

**PATIENT PREFERENCE**

**BRCA MUTATIONS**



**STANDARD OR “CONSERVATIVE” MASTECTOMY?**



**AVAILABLE EVIDENCE ON CONSERVATIVE MASTECTOMIES' ONCOLOGICAL SAFETY  
FOR DCIS TREATMENT ONLY DERIVE FROM OBSERVATIONAL STUDIES OR CASE  
SERIES  
(AS FOR INVASIVE DUCTAL CARCINOMA)**



**EVEN THOUGH THE LEVEL OF THE EVIDENCE SUPPORTING CMs ONCOLOGICAL AND SURGICAL SAFETY IS LOW, THERE IS A WIDE DIFFUSION AND USE OF CMs AMONG SURGEONS ALL AROUND THE WORLD FOR THE TREATMENT OF DCIS**

**Oncological Outcomes of Nipple-Sparing Mastectomy: A Single-Center Experience of 1989 Patients**

Viviana Galimberti, MD<sup>1</sup>, Consuelo Morigi, MD<sup>1</sup>, Vincenzo Bagnardi, PhD<sup>2</sup>, Giovanni Corso, MD<sup>1</sup>, Elisa Vicini, MD<sup>1</sup>, Sabrina Kahler Ribeiro Fontana, MD<sup>1,6</sup>, Paola Naninato, MD<sup>1</sup>, Silvia Ratini, MD<sup>1</sup>, Francesca Magnoni, MD<sup>1</sup>, Antonio Toesca, MD<sup>1</sup>, Andriana Kouloura, MD<sup>1</sup>, Mario Rietjens, MD<sup>4</sup>, Francesca De Lorenzi, MD<sup>4</sup>, Andrea Vingiani, MD<sup>5</sup>, and Paolo Veronesi, MD<sup>1,3</sup>

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**Nipple-Sparing Mastectomy for Breast Cancer and Risk-Reducing Surgery: The Memorial Sloan-Kettering Cancer Center Experience**

Paulo de Alcantara Filho, MD<sup>1</sup>, Deborah Capko, MD<sup>1</sup>, John Mitchel Barry, MD<sup>1</sup>, Monica Morrow, MD<sup>1</sup>, Andrea Pusic, MD<sup>2</sup>, and Virgilio S. Sacchini, MD<sup>1</sup>

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**IS IT SAFE TO USE CONSERVATIVE MASTECTOMIES FOR DCIS TREATMENT?**

A single-center study on total mastectomy versus skin-sparing mastectomy in case of pure ductal carcinoma in situ of the breast

Margaux Lhenaff <sup>a</sup>, Christine Tunon de Lara <sup>b,\*</sup>, Marion Fournier <sup>b</sup>, Hélène Charitansky <sup>b</sup>,  
Véronique Brouste <sup>c</sup>, Simone Mathoulin-Pelissier <sup>a,c</sup>, Vincent Pinsolles <sup>a</sup>,  
Aurelien Rousvoal <sup>b</sup>, Emmanuel Bussieres <sup>a,b</sup>, Florence Chassaigne <sup>d</sup>, Sabrina Croce <sup>d</sup>,  
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European Journal of Surgical Oncology

2019 JAN

**RETROSPECTIVE STUDY ON 399 WOMEN WHO UNDERWENT MASTECTOMY (SM OR SSM) WITH OR WITHOUT IMMEDIATE BREAST RECONSTRUCTION FOR PURE DCIS OF THE BREAST**

**207 IN THE SM AND 192 IN THE SSM**

**10 YEAR FOLLOW-UP LR RATE WAS 0.97% IN THE SM AND 1.04% IN THE SSM GROUP (NS)**

**OS 92.8% FOR THE SM GROUP AND 96.8% FOR THE SSM GROUP (NS)**

# Local Recurrence of Ductal Carcinoma in Situ after Skin-Sparing Mastectomy

Grant W Carlson, MD, FACS, Andrew Page, MD, Earl Johnson, BS, Kimberly Nicholson, BS,  
Toncred M Styblo, MD, FACS, William C Wood, MD, FACS

From the Department of Surgery, Emory University School of Medicine,  
Atlanta GA.

Vol. 204, No. 5, May 2007 *J Am Coll Surg*

## RETROSPECTIVE REVIEW OF 223 PATIENTS WITH DCIS TREATED BY SSM AND IMMEDIATE RECONSTRUCTION

MEAN FOLLOW-UP 82.3 MONTHS  
LOCAL RECURRENCES IN 7 PATIENTS (3.3%)

THE INCIDENCE OF LOCAL RECURRENCE OF DCIS AFTER SSM IS SIMILAR TO STANDARD  
MASTECTOMY



**RETROSPECTIVE REVIEW OF ALL PATIENTS WHO UNDERWENT MASTECTOMY  
FOR PURE DCIS  
AT UNIVERSITY HOSPITAL OF SOUTH MANCHESTER BETWEEN 2000 AND 2010**

**199 PATIENTS**

**8 LOCAL RECURRENCES, ALL OF WHICH WERE IDC**

**ALL RECURRENCES OCCURRED AFTER SSM, WHICH WAS ASSOCIATED WITH A HIGHER 5-YEAR  
LRR OF 5.9% COMPARED TO 0% IN THE STANDARD MASTECTOMY GROUP (p= 0.012)**

**TWO FACTORS PREDICTED THE RISK OF RECURRENCE:  
YOUNG AGE AT MASTECTOMY AND CLOSE OR INVOLVED MARGINS**

**Comparison of Local Recurrence After Simple and Skin-Sparing  
Mastectomy Performed in Patients with Ductal Carcinoma In Situ**

**Simon Timbrell, Sarah Al-Himdani, Oliver Shaw, Kian Tan, Julie Morris, and Nigel Bundred**

Academic Surgery, University Hospital of South Manchester, Manchester, UK

**CASE SERIES**

**69 DCIS PATIENTS TREATED WITH NSM  
UNFAVOURABLE CORRELATION BETWEEN TUMOR SIZE AND BREAST SIZE  
MULTIFOCAL/MULTICENTRIC TUMORS  
BREAST CANCER RECURRENCE AFTER BCS**

**IMMEDIATE ONE-STAGE OR TWO-STAGE RECONSTRUCTION  
NO FROZEN SUBAREOLAR BIOPSIES**


**10 YEAR FOLLOW-UP  
11.6% LOCAL RELAPSES  
ONE PATIENT WITHIN THE NAC  
DFS 88.4%  
OS 98.6%**

**IN PATIENTS WITH DCIS THAT ARE NOT CANDIDATES TO BREAST-CONSERVING THERAPY, NSM IS  
A REALISTIC OPTION OF TREATMENT**

ORIGINAL ARTICLE

WILEY *The Breast Journal*

**Nipple-sparing mastectomy as treatment for patients with  
ductal carcinoma in situ: A 10-year follow-up study**

Víctor Lago MD<sup>1</sup>  | Vincenzo Maisto MD<sup>2</sup> | Julia Gimenez-Climent MD<sup>3</sup> |  
Jose Vila MD<sup>4</sup> | Carlos Vazquez MD<sup>5</sup> | Rafael Estevan MD<sup>3</sup>

**VALENCIA INSTITUTE OF ONCOLOGY, SPAIN 2017**





**Nipple-Sparing Mastectomy and Immediate Reconstruction  
in Ductal Carcinoma In Situ: A Critical Assessment With 41  
Patients**

*Aesth Plast Surg*

**2014; 38 (2): 338-43**

Franck Marie Leclère • Juliette Panet-Spallina • Frédéric Kolb • Jean-Rémi Garbay •  
Chafika Mazouni • Alexandre Leduey • Nicolas Leymarie • Françoise Rimareix

Department of Plastic and Reconstructive Surgery, Gustave  
Roussy Cancer Campus Grand Paris, 114 rue Edouard Vaillant,

**41 NSMs IN DCIS PATIENTS (7 TO TREAT TUMOR RECURRENCES)**

**TUMOR MORE THAN 2 CM FROM THE NAC AT PRE-OPERATIVE IMAGING**

**AT A FOLLOW-UP OF 7.1 YEARS (2-13 YEARS) 1 LOCAL RECURRENCE (5.3%)**

**DESPITE THE LOW LOCOREGIONAL RECURRENCE RATED FOR DCIS, NSM REMAINS  
CONTROVERSIAL**

**Oncological Outcomes of Nipple-Sparing Mastectomy: A Single-Center Experience of 1989 Patients**

*Ann Surg Oncol*

**2018; 25 (13): 3849-57**

Viviana Galimberti, MD<sup>1</sup>, Consuelo Morigi, MD<sup>1</sup>, Vincenzo Bagnardi, PhD<sup>2</sup>, Giovanni Corso, MD<sup>1</sup>, Elisa Vicini, MD<sup>1</sup>, Sabrina Kahler Ribeiro Fontana, MD<sup>1,6</sup>, Paola Naninato, MD<sup>1</sup>, Silvia Ratini, MD<sup>1</sup>, Francesca Magnoni, MD<sup>1</sup>, Antonio Toesca, MD<sup>1</sup>, Andriana Kouloura, MD<sup>1</sup>, Mario Rietjens, MD<sup>4</sup>, Francesca De Lorenzi, MD<sup>4</sup>, Andrea Vingiani, MD<sup>5</sup>, and Paolo Veronesi, MD<sup>1,3</sup>

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**1989 WOMEN WHO HAD A NSM IN 2003-2011 FOR INVASIVE (1711 PATIENTS) OR DCIS (278 PATIENTS)**

**1342 PATIENTS WITH IBC AND 197 WITH DCIS RECEIVED IORT TO THE NAC (16 Gy)  
INTRAOPERATIVE RETROAREOLAR FROZEN SECTION IN ALL CASES**

**AT A MEDIAN FOLLOW-UP OF 94 MONTHS**

**91/1711 (5.3%) PATIENTS WITH INVASIVE CANCER HAD A LOCAL RECURRENCE AND 11/278 (4.0%)  
DCIS PATIENTS HAD A LOCAL RECURRENCE  
(1.8% INVASIVE DISEASE, 2.2% IN SITU DISEASE)**

**36 (1.8%) HAD NAC RECURRENCES (9 WITH DCIS (4 INVASIVE AND 5 IN SITU RECURRENCES)) AND  
27 WITH INVASIVE DISEASE**

**OS AT 5 YEARS WAS 96.1% IN WOMEN WITH INVASIVE CANCER AND 99.2% IN WOMEN WITH DCIS**

**NSM IS ONCOLOGICALLY SAFE FOR SELECTED PATIENTS**

**Oncoplastic Breast Consortium consensus conference on nipple-sparing mastectomy**

Breast Cancer Research and Treatment

2018; 172 (3): 523-537

Walter P. Weber<sup>1,2</sup>  · Martin Haug<sup>1,2</sup> · Christian Kurzeder<sup>1,2</sup> · Vesna Bjelic-Radasic<sup>3,44</sup> · Rupert Koller<sup>4</sup> · Roland Reitsamer<sup>5</sup> · Florian Fitzal<sup>6</sup> · Jorge Biazus<sup>7</sup> · Fabricio Brenelli<sup>8</sup> · Cicero Urban<sup>9</sup> · Régis Resende Paulinelli<sup>10</sup> · Jens-Uwe Blohmer<sup>11</sup> · Jörg Heil<sup>12</sup> · Jürgen Hoffmann<sup>13</sup> · Zoltan Matrai<sup>14</sup> · Giuseppe Catanuto<sup>15</sup> · Viviana Galimberti<sup>16</sup> · Oreste Gentilini<sup>17</sup> · Mitchel Barry<sup>18</sup> · Tal Hadar<sup>19</sup> · Tanir M. Allweis<sup>20</sup> · Oded Olsha<sup>19</sup> · Maria João Cardoso<sup>21</sup> · Pedro F. Gouveia<sup>21</sup> · Isabel T. Rubio<sup>22</sup> · Jana de Boniface<sup>23,24</sup> · Tor Svensjö<sup>25</sup> · Susanne Bucher<sup>26</sup> · Peter Dubsky<sup>6,27</sup> · Jian Farhadi<sup>28</sup> · Mathias K. Fehr<sup>29</sup> · Ilario Fulco<sup>1,2,33</sup> · Ursula Ganz-Blättler<sup>30</sup> · Andreas Günthert<sup>31</sup> · Yves Harder<sup>32</sup> · Nik Hauser<sup>33</sup> · Elisabeth A. Kappos<sup>1,2</sup> · Michael Knauer<sup>34</sup> · Julia Landin<sup>1,2</sup> · Robert Mechera<sup>1,2</sup> · Francesco Meani<sup>35</sup> · Giacomo Montagna<sup>1,2</sup> · Mathilde Ritter<sup>1,2</sup> · Ramon Saccilotto<sup>2,36</sup> · Fabienne D. Schwab<sup>1,2</sup> · Daniel Steffens<sup>1,2</sup> · Christoph Tausch<sup>28</sup> · Jasmin Zeindler<sup>1,2</sup> · Savas D. Soysal<sup>1,2</sup> · Visnu Lohsiriwat<sup>37</sup> · Tibor Kovacs<sup>38</sup> · Anne Tansley<sup>39</sup> · Lynda Wyld<sup>40</sup>  · Laszlo Romics<sup>41</sup> · Mahmoud El-Tamer<sup>42</sup> · Andrea L. Pusic<sup>43</sup> · Virgilio Sacchini<sup>42</sup> · Michael Gnant<sup>6</sup> 

**THE PANEL RECOMMENDED NSM FOR EARLY BREAST CANCER AND DCIS TREATMENT (IF THE TUMOUR DOES NOT INVOLVE THE SKIN OR NAC)**



**EVIDENCE ONLY DERIVES FROM CASE SERIES ON NSM/SSM  
AND FEW RETROSPECTIVE STUDIES DIRECTLY COMPARING NSM/SSM AND SM FOR  
DCIS TREATMENT**

**COULD WE RELY ON THE EVIDENCE WE HAVE?**

**COULD WE SAFELY USE IN OUR DAILY PRACTICE CONSERVATIVE MASTECTOMIES  
FOR THE TREATMENT OF DCIS?**

**I PERSONALLY THINK WE WILL CONTINUE TO EXPAND THE INDICATIONS OF CMs EVEN THOUGH OUR SURGICAL PRACTICE WILL BE NEVER CONFIRMED BY LEVEL I STUDIES AND ONLY LONG-TERM OUTCOMES OF PROSPECTIVE SINGLE ARMS COHORTS WILL OFFER US A (LOW-EVIDENCED) ANSWER**



**PRIMARY ROLE OF ACCURATE SURGICAL TECHNIQUE**

**RISK FACTORS FOR COMPLICATIONS**

**(CO-MORBIDITIES, SMOKING, BMI)**

**DECISIONAL DRIVERS**

**TUMOR LOCATION**

**BREAST VOLUME**

**BREAST PTOSIS**

**PATIENT WISHES**

**RISK OF POSITIVE MARGINS**

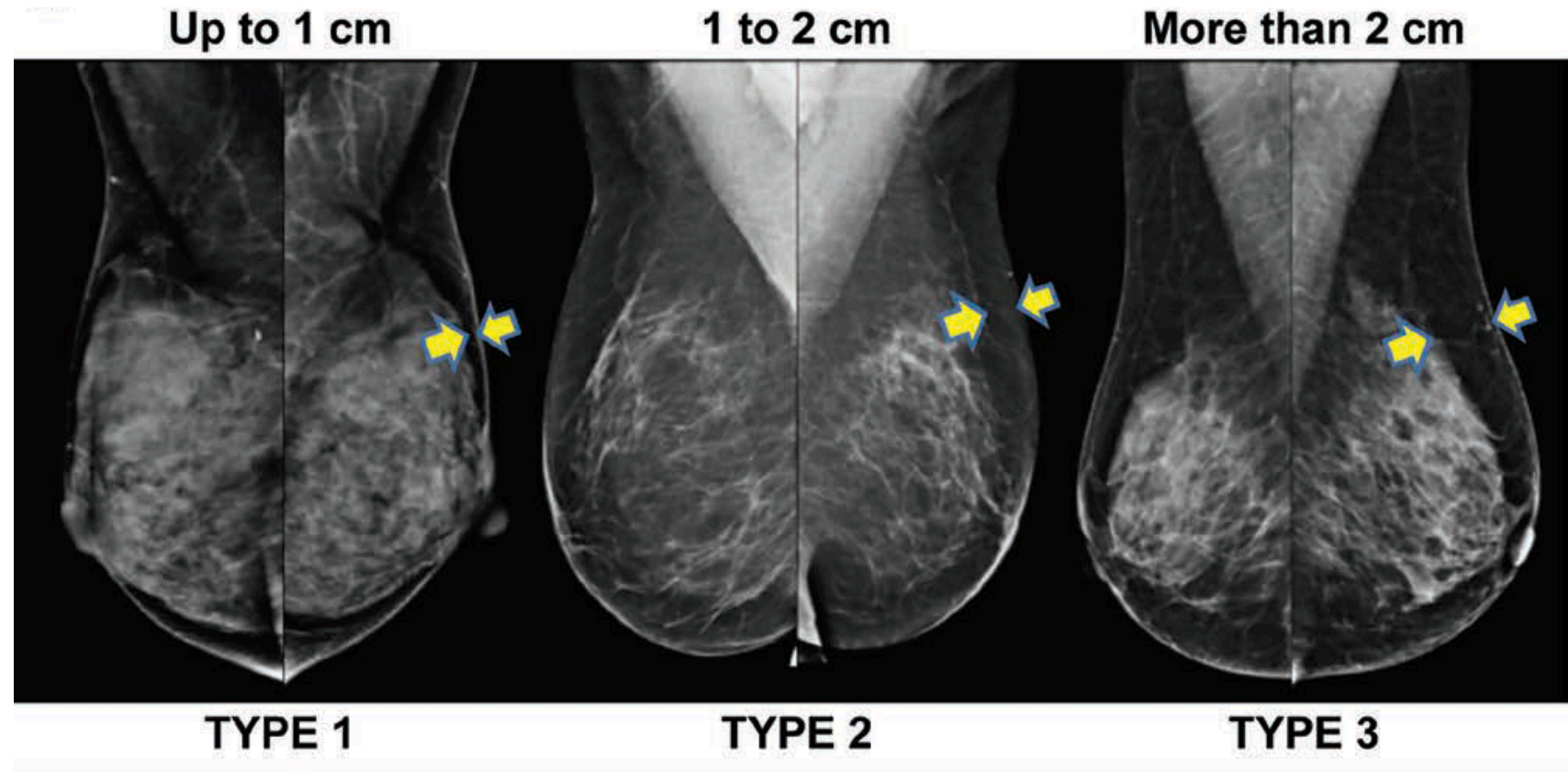




# Direct to Implant Reconstruction in Nipple Sparing Mastectomy: Patient Selection by Preoperative Digital Mammogram

PRS Global Open • 2017

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**WHEN CONSIDERING A RE-EXCISION FOR POSITIVE MARGINS IN DCIS TREATMENT FOLLOWING A CONSERVATIVE MASTECTOMY?**

**ACCORDING TO THE EXTENSION OF DCIS IN THE MARGIN?  
PRESENCE OF GLANDULAR TISSUE IN THE MARGIN AROUND THE DCIS?**

**HOW TO EXACTLY LOCALIZE THE AREA TO RE-EXCISE?**

**HOW TO EVALUATE RESIDUAL BREAST TISSUE FOLLOWING MASTECTOMY?**

**IS THERE A ROLE FOR RT FOLLOWING A CONSERVATIVE MASTECTOMY WITH INVOLVED MARGINS?**



**Incidence and Consequence of Close Margins in Patients with Ductal Carcinoma-In Situ Treated with Mastectomy: Is Further Therapy Warranted?**

*Ann Surg Oncol* 2013; 20 (13): 4103-12

Elizabeth FitzSullivan, MD<sup>1</sup>, Sara A. Lari, BS<sup>1</sup>, Benjamin Smith, MD<sup>2</sup>, Abigail S. Caudle, MD<sup>1</sup>, Savitri Krishnamurthy, MD<sup>3</sup>, Anthony Lucci, MD<sup>1</sup>, Elizabeth A. Mittendorf, MD, PhD<sup>1</sup>, Gildy V. Babiera, MD<sup>1</sup>, Dallah M. Black, MD<sup>1</sup>, Jamie L. Wagner, DO<sup>1</sup>, Isabelle Bedrosian, MD<sup>1</sup>, Wendy Woodward, MD<sup>2</sup>, Sarah M. Gainer, MD<sup>1</sup>, Rosa Hwang, MD<sup>1</sup>, Funda Meric-Bernstam, MD<sup>1</sup>, Kelly K. Hunt, MD<sup>1</sup>, and Henry M. Kuerer, MD, PhD<sup>1</sup>

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**THE IMPACT OF CLOSE MARGINS IN PATIENTS WITH DUCTAL CARCINOMA IN SITU (DCIS) TREATED WITH MASTECTOMY (BOTH SM AND SSM) IS UNCLEAR**

**THIS FINDING MAY LEAD TO A RECOMMENDATION FOR PMRT**

**94 PATIENTS (11.7%) HAD CLOSE MARGINS (LESS THAN 3 MM)**

**CLOSE MARGINS OCCUR IN A MINORITY OF PATIENTS UNDERGOING MASTECTOMY FOR DCIS AND IT IS THE ONLY INDEPENDENT RISK FACTOR FOR LRR**

**PMRT IS NOT WARRANTED EXCEPT FOR PATIENTS WITH MULTIPLE CLOSE/POSITIVE MARGINS THAT CANNOT BE SURGICALLY EXCISED**

**NO HIGH LEVEL EVIDENCE EXISTS ABOUT THE EQUIVALENCE  
IN TERMS OF  
SAFETY, LOCAL AND SYSTEMIC CONTROL,  
IMPACT ON TIMING TO ADJUVANT TREATMENTS AND COST-EFFECTIVENESS  
AMONG STANDARD BREAST CONSERVING SURGERY AND OPBCS FOR DCIS  
TREATMENT (AS FOR IDC)  
BUT THERE IS A WIDE DIFFUSION OF  
ONCOPLASTIC BREAST CONSERVING APPROACH WORLDWIDE**

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

Lucy De La Cruz, MD<sup>1,4</sup>, Stephanie A. Blankenship, MD, MPH, MS<sup>2</sup>, Abhishek Chatterjee, MD<sup>3</sup>, Rula Geha, MD<sup>1</sup>,  
Nadia Nocera, MD<sup>1</sup>, Brian J. Czerniecki, MD, PhD<sup>1</sup>, Julia Tchou, MD, PhD<sup>1</sup>, and Carla S. Fisher, MD<sup>1</sup>

Ann Surg Oncol (2016) 23:3247–3258



**ONCOPLASTIC BREAST  
CONSERVING SURGERY COULD  
ALLOW WIDER RESECTIONS,  
MAKING IT POSSIBLE TO  
CONSERVATIVELY TREAT PATIENTS  
TRADITIONALLY CANDIDATE TO  
MASTECTOMY**

**DECISIONAL DRIVERS**

**TUMOR LOCATION  
BREAST VOLUME  
BREAST PTOSIS  
PATIENT WISHES  
RISK OF POSITIVE MARGINS**



**68 DCIS PATIENTS TREATED WITH  
ONCOPLASTIC LEVEL 2 MAMMOPLASTIES + RT**

**FOLLOW-UP 76 MONTHS (0-166)**

**MEAN PATHOLOGICAL TUMOR SIZE OF 34 MM  
(RANGE 2-106 MM)**

**INVOLVED MARGINS IN 10 CASES (14.7%):**

**1 (1.9%) WITH TUMOR SIZE < 50 MM**

**AND 9 (64%) WITH TUMOR SIZE > 50 MM**

**p < 0.001**

**7 MASTECTOMIES TO TREAT POSITIVE MARGINS**

**3 LOCAL RECURRENCES**

**5-YEAR CUMULATIVE INCIDENCE FOR LR WAS 5.5%**

**Van la Parra RFD, Clough KB, Lejalle-Alaeddine C, Poulet B, Sarfati I, Nos C**

**Oncoplastic Level 2 Mammoplasty for large DCIS: 5-year results**

**Annals of Surgical Oncology May 2019**



**OPS IS A SAFE SOLUTION  
FOR LARGE DCIS UP TO 50 MM  
AND CAN THUS REDUCE  
MASTECTOMY  
RATE IN THIS GROUP**

**Van la Parra RFD, Clough KB, Lejalle-Alaeddine C, Poulet B, Sarfati I, Nos C  
Oncoplastic Level 2 Mammoplasty for large DCIS: 5-year results  
Annals of Surgical Oncology 13 May 2019**





**44 PATIENTS UNDERGOING OPBCS AND RT FOR DCIS COMPARED WITH 375 PATIENTS WHO RECEIVED STANDARD BCS + RT FOR DCIS IN THE SAME PERIOD**

**THE AVERAGE ANNUAL RATE OF INVASIVE IBTR WAS 1.6% AND 1.0% RESPECTIVELY**

**SAFETY OF OPCS + RT FOR THE MANAGEMENT OF DCIS**




**52 YEAR-OLD PATIENT WITH EXTENSIVE DCIS (5 CM) AT THE INFERIOR QUADRANTS OF THE LEFT BREAST**


**De Lorenzi F, Di Bella J, Maisonneuve P, Rotmensz N, Corso G, Orecchia R, Colleoni M, Mazzarol G, Rietjens M, Loschi P, Marcelli S, Veronesi P, Galimberti V**

**Oncoplastic breast surgery for the management of ductal carcinoma in situ (DCIS): is it oncologically safe? A retrospective cohort analysis.**

**Eur J Surg Oncol 2018; 44(7):957-962.**

## Surgical treatment of multiple ipsilateral breast cancers

Z. E. Winters<sup>1</sup>  and J. R. Benson<sup>2,3</sup>, on behalf of the MIAMI (Multiple Ipsilateral breast conserving surgery *versus* mastectomy) Trial Management Group

<sup>1</sup>Surgical and Interventional Trials Unit, Division of Surgery and Interventional Science, Faculty of Medical Sciences, University College London, 1 Euston Square, 40 Melton Street, London NW1 2FD, <sup>2</sup>Cambridge Breast Unit, Addenbrooke's Hospital, Cambridge, and <sup>3</sup>School of Medicine, Anglia Ruskin University, Cambridge and Chelmsford, UK (e-mail: drzoewinters@gmail.com;  @UCLDivSurg, @CHU\_NHS)

### LESION LOCALIZATION

### IDENTIFICATION OF TUMOR BED



## **DCIS AND SURGICAL MARGINS**

**THE ASSOCIATION BETWEEN HIGHER RATES OF LOCAL RECURRENCE AND MARGIN POSITIVITY AFTER BCS FOR DCIS HAS BEEN CONFIRMED BY MULTIPLE LARGE STUDIES**

**HOWEVER THE QUESTION OF WHAT CONSTITUTES AN ADEQUATE SURGICAL MARGIN OF CLEARANCE FOR DCIS REMAINS CONTROVERSIAL**



**IN 2014, THE SOCIETY OF SURGICAL ONCOLOGY AND AMERICAN SOCIETY FOR RADIATION ONCOLOGY (SSO-ASTRO) PUBLISHED THEIR CONSENSUS GUIDELINE FOR DEFINING AN ADEQUATE MARGIN OF CLEARANCE IN INVASIVE BREAST CANCER OR INVASIVE CANCER ADMIXED WITH DCIS TO BE “NO INK ON TUMOR”**

**IN THE UK, THE ASSOCIATION OF BREAST SURGERY (ABS) CONSENSUS STATEMENT ON MARGINS IN BCT FOR INVASIVE BREAST CANCER WAS MORE CONSERVATIVE WITH A MINIMUM OF 1-MM CLEARANCE**

**HOWEVER MARGIN POLICIES FOR IBC ARE NOT DIRECTLY APPLICABLE TO DCIS GIVEN THE BIOLOGICAL DIFFERENCES AND USE OF ADJUVANT LOCAL AND SYSTEMIC THERAPIES IN IBC**

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

*Meena S. Moran, Stuart J. Schnitt, Armando E. Giuliano, Jay R. Harris, Seema A. Khan, Janet Horton,  
Suzanne Klimberg, Mariana Chavez-MacGregor, Gary Freedman, Nehmat Houssami, Peggy L. Johnson,  
and Monica Morrow*

VOLUME 32 · NUMBER 14 · MAY 10 2014

JOURNAL OF CLINICAL ONCOLOGY



**STUDIES OF THE GROWTH PATTERN OF DCIS HAVE FOUND THAT MULTIFOCAL LESIONS WITH INTERVENING NORMAL DUCTAL SEGMENTS ARE RELATIVELY COMMON AND UP TO 40% OF DCIS LESIONS ARE ESTIMATED TO GROW DISCONTINUOUSLY WHERE SKIP LESIONS CAN BE SEPARATED BY A DISTANCE EXCEEDING A DESIGNATED NEGATIVE MARGIN**

**AS A RESULT, WIDER THRESHOLDS OF MARGIN CLEARANCE HAVE BEEN ADOPTED FOR DCIS COMPARED TO IBC**

**Faverly DR, Burgers L, Bult P, Holland R.**

**Three dimensional imaging of mammary ductal carcinoma in situ: clinical implications.**

**Semin Diagn Pathol 1994; 11(3):193-8.**



**A RECENT META-ANALYSIS BASED ON 20 STUDIES OF 7883 PATIENTS REPORTED THAT MINIMUM MARGINS DISTANCES ABOVE 2 MM IN DCIS WERE NOT SIGNIFICANTLY ASSOCIATED WITH FURTHER REDUCED ODDS OF LOCAL RECURRENCE IN WOMEN RECEIVING ADJUVANT RADIOTHERAPY**


**The Association of Surgical Margins and Local Recurrence in Women with Ductal Carcinoma In Situ Treated with Breast-Conserving Therapy: A Meta-Analysis**

M. Luke Marinovich, MPH, PhD<sup>1</sup>, Lamiae Azizi, PhD<sup>1</sup>, Petra Macaskill, PhD<sup>1</sup>, Les Irwig, MBBCh, PhD<sup>1</sup>, Monica Morrow, MD<sup>2</sup>, Lawrence J. Solin, MD, FACR, FASTRO<sup>3</sup>, and Nehmat Houssami, MBBS, FAFPHM, PhD<sup>1</sup>

Ann Surg Oncol (2016) 23:3811–3821



**Society of Surgical Oncology–American Society for Radiation  
Oncology–American Society of Clinical Oncology Consensus  
Guideline on Margins for Breast-Conserving Surgery with Whole-  
Breast Irradiation in Ductal Carcinoma In Situ**

Monica Morrow, MD<sup>1</sup>, Kimberly J. Van Zee, MD<sup>1</sup> , Lawrence J. Solin, MD<sup>2</sup>, Nehmat Houssami, MBBS, PhD<sup>3</sup>,  
Mariana Chavez-MacGregor, MD<sup>4</sup>, Jay R. Harris, MD<sup>5</sup>, Janet Horton, MD<sup>6</sup>, Shelley Hwang, MD<sup>7</sup>,  
Peggy L. Johnson, MD<sup>8</sup>, M. Luke Marinovich, PhD<sup>3</sup>, Stuart J. Schnitt, MD<sup>9</sup>, Irene Wapnir, MD<sup>10</sup>, and  
Meena S. Moran, MD<sup>11</sup>

Annals of  
**SURGICAL ONCOLOGY**  
OFFICIAL JOURNAL OF THE SOCIETY OF SURGICAL ONCOLOGY

**IN 2016 THE SOCIETY OF SURGICAL ONCOLOGY (SSO), AMERICAN SOCIETY FOR RADIATION  
ONCOLOGY (ASTRO) AND AMERICAN SOCIETY OF CLINICAL ONCOLOGY (ASCO)  
PUBLISHED CONSENSUS GUIDELINES ON MARGINS FOR BCS IN DCIS TO BE 2 MM**

**IN THE UK, THE NATIONAL INSTITUTE FOR HEALTH AND CLINICAL EXCELLENCE (NICE)  
ADVOCATES THE SAME PRACTICE AS DO THE EUROPEAN SOCIETY FOR MEDICAL ONCOLOGY  
(ESMO)**

**Primary breast cancer: ESMO Clinical Practice  
Guidelines for diagnosis, treatment and follow-up<sup>†</sup>**

E. Senkus<sup>1</sup>, S. Kyriakides<sup>2</sup>, S. Ohno<sup>3</sup>, F. Penault-Llorca<sup>4,5</sup>, P. Poortmans<sup>6</sup>, E. Rutgers<sup>7</sup>,  
S. Zackrisson<sup>8</sup> & F. Cardoso<sup>9</sup>, on behalf of the ESMO Guidelines Committee\*

## **THE ROLE OF IMAGE GUIDED SURGERY IN DCIS SURGICAL TREATMENT**

**BREAST CONSERVING SURGERY COULD BE A CHALLENGING TASK WHEN TREATING A DCIS, SINCE MOST LESIONS ARE NON-PALPABLE, WHICH COULD RESULTS IN HIGH RATES OF POSITIVE RESECTION MARGINS**

**IN ORDER TO IMPROVE THE SURGICAL OUTCOME, SEVERAL PRE-OPERATIVE TUMOR LOCALIZATION TECHNIQUES HAVE BEEN DEVELOPED**







**Cochrane**  
**Library**

Cochrane Database of Systematic Reviews

## Localization techniques for guided surgical excision of non-palpable breast lesions (Review)

Chan BKY, Wiseberg-Firtell JA, Jois RHS, Jensen K, Audisio RA

Chan BKY, Wiseberg-Firtell JA, Jois RHS, Jensen K, Audisio RA.

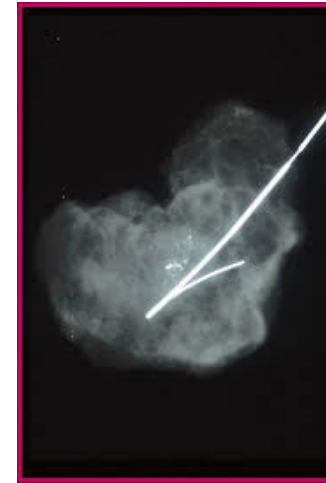
Localization techniques for guided surgical excision of non-palpable breast lesions.

*Cochrane Database of Systematic Reviews* 2015, Issue 12. Art. No.: CD009206.

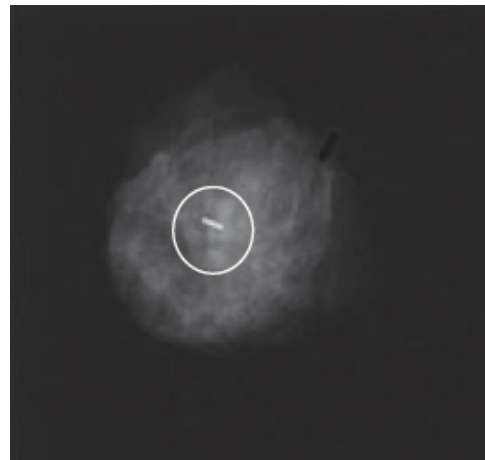
DOI: 10.1002/14651858.CD009206.pub2.



**WIRE-GUIDED  
LOCALIZATION (WGL)**



**RADIOGUIDED OCCULT LESION LOCALIZATION (ROLL)  
LIQUID RADIOACTIVE TRACER (99mTc)**



**RADIOACTIVE IODINE  
(I125) SEED LOCALIZATION  
(RSL)**

**11 RANDOMIZED CONTROLLED TRIALS**

**6 RCTs COMPARED ROLL VS. WGL**

**2 RCTs RSL VS. WGL**

**1 CAL VS. WGL**

**1 IOUS VS. WGL**

**1 RCML VS. WGL**

**THE PARTICIPANT POPULATION VARIED CONSIDERABLY BETWEEN INCLUDED TRIALS,  
CONSIDERING PARTICIPANTS WITH BOTH NON-PALPABLE BENIGN AND MALIGNANT LESIONS  
AND VARIED IN DEFINING CLEAR MARGINS**

**CRYO-ASSISTED TECHNIQUES (CAL)  
INTRAOPERATIVE ULTRASOUND GUIDED RESECTION (IOUS)  
MODIFIED ROLL TECHNIQUE IN COMBINATION WITH  
METHYLENE DYE (RCML)**



**THERE IS NO CLEAR EVIDENCE TO SUPPORT ONE GUIDED TECHNIQUE FOR SURGICALLY EXCISING A NON-PALPABLE BREAST LESION OVER ANOTHER**

**THE COCHRANE REVIEW SUPPORTS THE CONTINUED USE OF WGL AS A SAFE AND TESTED TECHNIQUE THAT ALLOWS FOR FLEXIBILITY IN SELECTED CASES WHEN FACING WITH EXTENSIVE MICROCALCIFICATIONS**



**ROLL AND RSL COULD BE OFFERED TO PATIENTS AS A COMPARABLE REPLACEMENT FOR WGL  
AS THEY ARE EQUALLY RELIABLE**

**OTHER TECHNIQUES (IOUS, RCML, CAL) ARE OF ACADEMIC INTEREST, BUT RECOMMENDATION  
FOR ROUTINE USE IN THE CLINICAL ENVIRONMENT AND ONCOLOGICAL OUTCOMES REQUIRE  
FURTHER VALIDATION**

**MORE FULLY POWERED RCTs TO EVALUATE THE BEST TECHNIQUE WITH A MORE CONSISTENT  
AND STANDARDIZED APPROACH IN OUTCOME REPORTING ARE NEEDED**



**NO INFORMATION ABOUT PATIENT-REPORTED OUTCOMES**

**ROLL SUPPORTERS CLAIM A MUCH HIGHER FLEXIBILITY OF THIS TECHNIQUE, WHICH ALLOWS APPROACHING ALL BREAST QUADRANTS THROUGH COSMETIC INCISIONS**

**THIS DIFFERS FROM WGL WHICH INEVITABLY HAS TO RELY ON THE TRACK OF THE WIRE INSERTED BY THE RADIOLOGIST**





Review

Systematic review of radioguided surgery for non-palpable breast cancer<sup>☆</sup>

P.J. Lovrics<sup>a,\*</sup>, S.D. Cornacchi<sup>a</sup>, R. Vora<sup>a</sup>, C.H. Goldsmith<sup>a,b,c</sup>, K. Kahnamoui<sup>a</sup>

<sup>a</sup> Department of Surgery, McMaster University, Hamilton Health Sciences and St. Joseph's Healthcare Hamilton, Hamilton, ON, Canada

<sup>b</sup> Department of Clinical Epidemiology and Biostatistics, McMaster University, Hamilton, ON, Canada

<sup>c</sup> Biostatistics Unit, St. Joseph's Healthcare Hamilton, Hamilton, ON, Canada

**5 RCTs INVOLVING ROLL AND RSL TOGETHER VS. WGL , WITH ADDITIONAL ANALYSES INVOLVING 7 NON-RANDOMIZED COHORT STUDIES**

**THE COMBINED ROLL AND RSL GROUP WAS SUPERIOR TO WGL FOR SURGICAL MARGINS (OR 0.389, 95% CI 0.197-0.768) AND RE-OPERATION RATES (OR 0.347, 95% CI 0.126-0.954) WHEN ANALYSING RCTs ALONE**

**WHEN INCLUDING NON-RANDOMISED COHORTS, THE SUPERIORITY OF ROLL AND RSL OVER WGL IN SURGICAL MARGINS AND RE-OPERATION RATES WAS MORE SIGNIFICANT**

**THERE WAS NO DIFFERENCE IN OPERATIVE TIMES**



**REVIEW**

**Comparison of Radioguided Occult Lesion Localization (ROLL) and Wire  
Localization for Non-Palpable Breast Cancers: A Meta-Analysis**

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MUHAMMAD S. SAJID, MBSS, MBA, MSc, FRCS,\* UMESH PARAMPALLI, MRCS,  
ZISHAN HAIDER, FRCR, AND RICARDO BONOMI, FRCS  
*Department of Breast and Oncoplastic Surgery, Worthing Hospital, Worthing, West Sussex BN11 2DH, UK*

**J SURG ONCOL 2012; 105 (8): 852-8**

**4 RCTs COMPARING ROLL VS. WGL**

**STATISTICAL DIFFERENCE IN FAVOUR OF ROLL OVER WGL IN POSITIVE MARGINS, LOCALIZATION  
DURATION, SURGERY DURATION, WHILE NO DIFFERENCE WAS DEMONSTRATED WHEN  
COMPARING LOCALIZATION RATE, COMPLICATION RATE, RE-OPERATION RATE AND WEIGHT AND  
VOLUME OF EXCISED BREAST TISSUE**





**WGL RETAINS ITS ROLE IN CLINICAL PRACTICE AS A SAFE  
AND TESTED TECHNIQUE, WITH THE FLEXIBILITY OF BEING  
ABLE TO PLACE SEVERAL WIRES WHEN FACING WITH  
EXTENSIVE MICROCALCIFICATION**

**IMPLANTATION OF MULTIPLE IODINE SEEDS AT THE DCIS EDGES  
(MULTIPLE SEED RSL)  
COULD BE AN ALTERNATIVE LOCALIZATION TECHNIQUE TO BRACKET LARGE AREAS OF  
DCIS**

**Janssen NNY, van la Parra RFD, Loo CE, Groen EJ, van den Berg MJ, Oldenburg HSA, Nijkamp J, Vrancken Peeters MTFD**

**Breast Conserving surgery for extensive DCIS using multiple radioactive seeds**

**Eur J Surg Oncol. 2018; 44(1):67-73**

**Antoni van Leeuwenhoek Hospital, Amsterdam, The Netherlands**



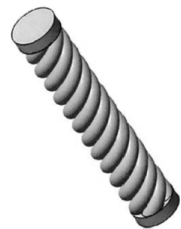
**NEW IMAGING GUIDED SURGERY TECHNIQUES**

## MAGSEED

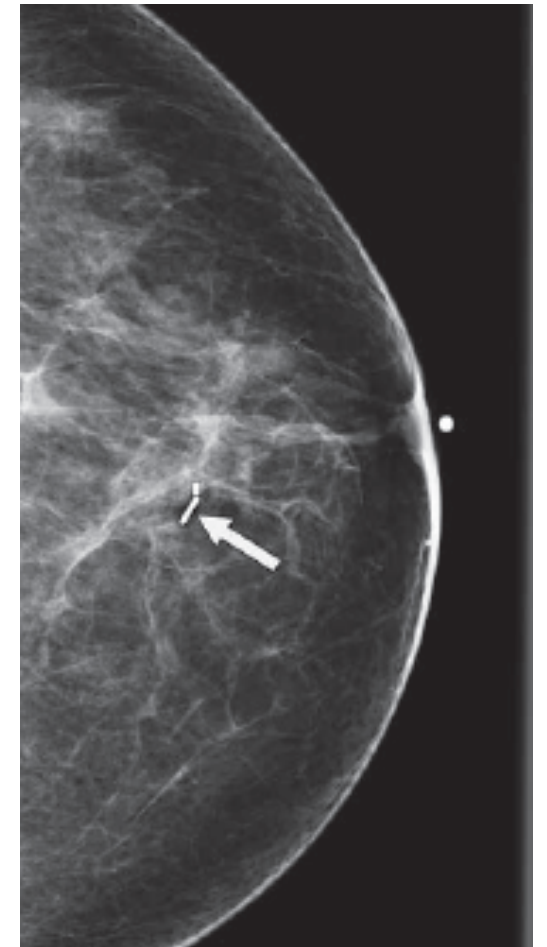
MAGNETIC SEEDS ARE A FEASIBLE AND SAFE METHOD OF BREAST LESION LOCALIZATION

THEY CAN BE ACCURATELY PLACED, DEMONSTRATED NO MIGRATION

FURTHER CLINICAL STUDIES ARE REQUIRED TO EVALUATE THE SEEDS EFFECTIVENESS IN LOCAL EXCISION OF NON PALPABLE BREAST LESIONS



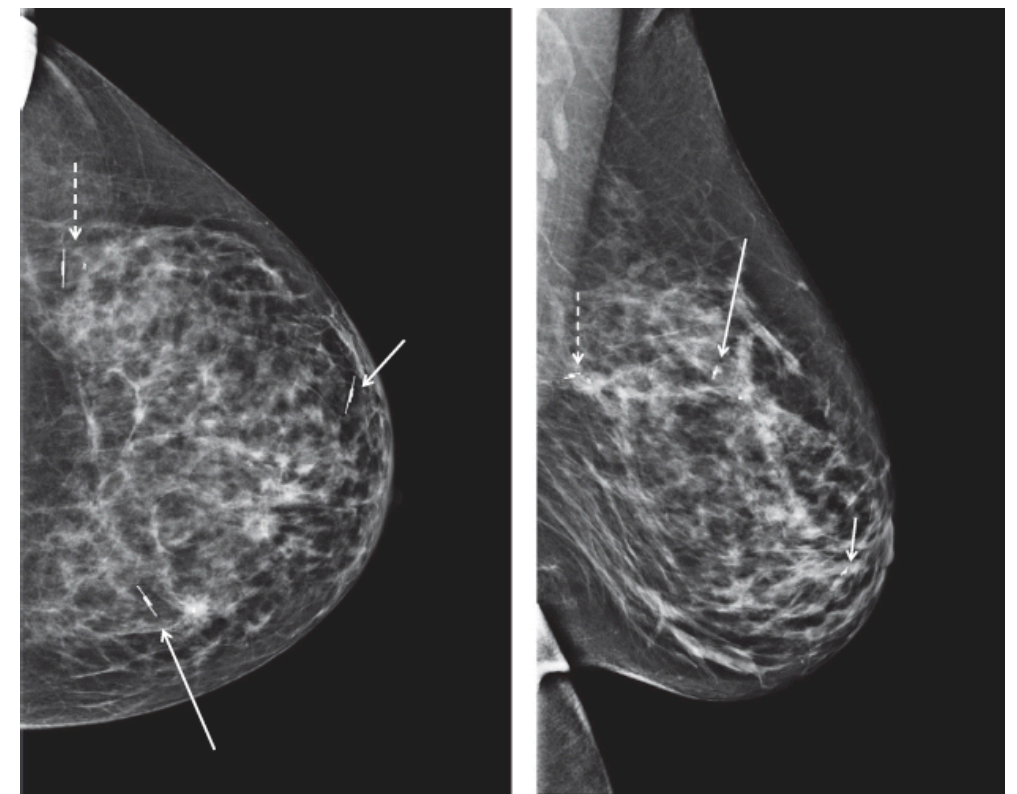
MAGSEED (ENDOMAG)  
CONSISTS OF A 5 X 1 MM  
PARAMAGNETIC STEEL BAR-  
SHAPED CLIP



## SAVI SCOUT

THE SAVI SCOUT SURGICAL GUIDANCE SYSTEM IS AN ACCURATE AND RELIABLE METHOD FOR LOCALIZATION OF NON-PALPABLE BREAST LESIONS, BRACKETING AND AXILLARY LYMPH NODES

A NON RADIOACTIVE INFRARED-ACTIVATED ELECTROMAGNETIC WAVE REFLECTOR IMPLANTED UNDER IMAGING GUIDANCE



Clinical Imaging 52 (2018) 280–286



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Contents lists available at ScienceDirect

Clinical Imaging

journal homepage: [www.elsevier.com/locate/clinimag](http://www.elsevier.com/locate/clinimag)



Breast Imaging

SAVI SCOUT® localization of breast lesions as a practical alternative to wires: Outcomes and suggestions for trouble-shooting<sup>☆</sup>

Shannon Falcon<sup>\*</sup>, R. Jared Weinfurtnner, Blaise Mooney, Bethany L. Niell

H. Lee Moffitt Cancer Center, 12902 Magnolia Drive, Tampa, FL 33612, USA




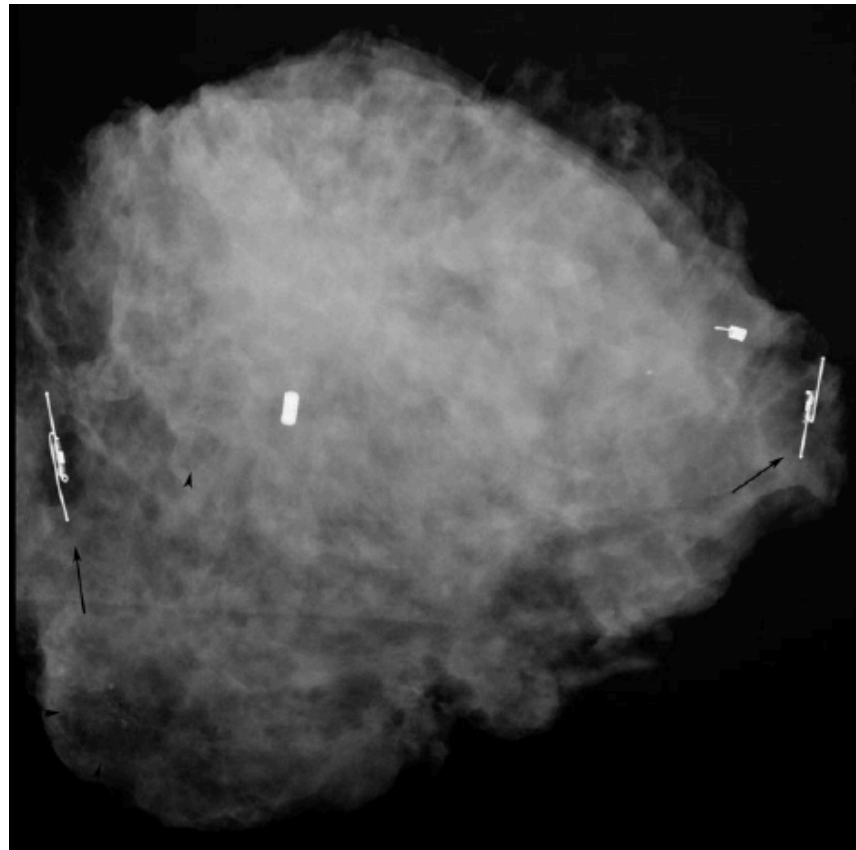
## THE ROLE OF IMAGE GUIDED SURGERY IN DCIS SURGICAL TREATMENT

Utilization of multiple SAVI SCOUT surgical guidance system reflectors in the same breast: A single-institution feasibility study

*The Breast Journal*

2018; 24 (4): 531-534

Priya H. Jadeja MD<sup>1</sup>  | Victoria Mango MD<sup>2</sup> | Sejal Patel MD<sup>3</sup> | Lauren Friedlander MD<sup>3</sup> | Elise Desperito MD<sup>3</sup> | Everick Ayala-Bustamante MD<sup>3</sup> | Ralph Wynn MD<sup>3</sup> | Margaret Chen-Seetoo MD<sup>1</sup> | Bret Taback MD<sup>1</sup> | Sheldon Feldman MD<sup>4</sup> | Richard Ha MD<sup>3</sup>



**THE USE OF MULTIPLE SAVI SCOUT REFLECTORS FOR LOCALIZING MULTIPLE LESIONS IN THE SAME BREAST OR BRACKETING LARGE LESIONS IS FEASIBLE AND SAFE**

**TWO SAVI REFLECTORS  
BRACKETING TWO BIOPSY CLIPS  
WHICH YELDED IDC/DCIS AND  
RESIDUAL CALCIFICATIONS  
(ARROW HEAD)**




**RADIOFREQUENCY IDENTIFICATION LOCALIZATION SYSTEM  
RFLS**

**RESEARCHERS FROM THE UCLA EVALUATED A  
RADIOFREQUENCY IDENTIFICATION (RFID) LOCALIZATION SYSTEM (RFLS)  
AS A WIRE-FREE, NON-RADIOACTIVE ALTERNATIVE FOR TARGETING NON-PALPABLE BREAST  
LESIONS FOR SURGERY**

**PILOT STUDY ON 50 PATIENTS SUGGESTED THAT RFLS IS AN EFFECTIVE LOCALIZATION SYSTEM  
FOR NON-PALPABLE BREAST LESIONS INTENDED FOR SURGICAL REMOVAL**

**Microchipping the breast: an effective new technology for localizing  
non-palpable breast lesions for surgery**

Maggie L. DiNome<sup>1</sup>  · Amy M. Kusske<sup>1</sup> · Deanna J. Attai<sup>1</sup> · Cheryce P. Fischer<sup>2</sup> · Anne C. Hoyt<sup>2</sup>

**RADIOFREQUENCY IDENTIFICATION LOCALIZATION SYSTEM  
RFLS**

**PLACEMENT OF THE RADIOFREQUENCY TAG BY BREAST RADIOLOGIST, EITHER BY  
MAMMOGRAPHIC OR SONOGRAPHIC GUIDANCE WITHIN 30 DAYS OF SURGERY**

**UNLIKE THAT WITH THE MAGSEED AND SAVI SCOUT SYSTEMS, THE RFID SURGICAL PROBE IS  
THE SIZE OF A PENCIL AND THE READER IS PORTABLE, HANDHELD AND USED IN STERILE  
FASHION ON THE OPERATING FIELD**

**MOREOVER THE LOCALIZER PROBE DETECTS DISTANCE FROM THE TAG  
THIS FEATURE MAY HAVE CONTRIBUTED TO THE LOW POSITIVE MARGIN RATE (3%)**





## RECURRENT DCIS SURGICAL TREATMENT

**THE TREATMENT OF A LOCAL RECURRENT DCIS WILL BE IN THE HALF OF CASES  
THE TREATMENT OF AN IBC**

### **Long-Term Outcomes of Invasive Ipsilateral Breast Tumor Recurrences After Lumpectomy in NSABP B-17 and B-24 Randomized Clinical Trials for DCIS**

Irene L. Wapnir, James J. Dignam, Bernard Fisher, Eleftherios P. Mamounas, Stewart J. Anderson, Thomas B. Julian,  
Stephanie R. Land, Richard G. Margolese, Sandra M. Swain, Joseph P. Costantino, Norman Wolmark

J Natl Cancer Inst 2011;103:478–488



**SALVAGE MASTECTOMY IS CONSIDERED AS THE GOLD-STANDARD TECHNIQUE FOR  
INVASIVE LOCAL RECURRENCES  
(IF BCT HAS BEEN ALREADY PERFORMED FOR THE TREATMENT OF PRIMARY DCIS)**

**Salvadori B, Marubini E, Miceli R, et al.**

**Reoperation for locally recurrent breast cancer in patients previously treated with conservative surgery.**

**Br J Surg 1999;86:84e87.**



**THE RATE OF SECOND LOCAL RECURRENCE IS CLOSE TO 10% AFTER SALVAGE MASTECTOMY (3-22%) AND 26% (RANGE 4-50%) AFTER REPEATED BCS WITHOUT RT**

**RE-IRRADIATION AFTER SECOND BCS MAY DECREASE THE CHANCE OF 2ND LR BUT THE RE-IRRADIATION OF THE WHOLE BREAST WITH THE SUFFICIENT DOSE IS CONSIDERED INAPPROPRIATE DUE TO THE HIGH RISK OF SERIOUS LATE SIDE EFFECTS**

**IN SELECTED CASES, MULTICATHETER INTERSTITIAL BRACHYTHERAPY (iBT) HAS BEEN SUCCESSFULLY USED AS PARTIAL BREAST IRRADIATION AFTER BCS**



ELSEVIER

Brachytherapy ■ (2019) ■

BRACHYTHERAPY

Second breast-conserving surgery and interstitial brachytherapy vs. salvage mastectomy for the treatment of local recurrences: 5-year results

Viktor Smanyakó<sup>1,\*</sup>, Norbert Mészáros<sup>1,2</sup>, Mihály Újhelyi<sup>3</sup>, Georgina Fröhlich<sup>1</sup>, Gábor Stelczer<sup>1</sup>, Tibor Major<sup>1,2</sup>, Zoltán Mátrai<sup>3</sup>, Csaba Polgár<sup>1,2</sup>

<sup>1</sup>Centre of Radiotherapy, National Institute of Oncology, Budapest, Hungary

<sup>2</sup>Department of Oncology, Semmelweis University, Faculty of Medicine, Budapest, Hungary

<sup>3</sup>Department of Breast and Sarcoma Surgery, National Institute of Oncology, Budapest, Hungary



G.R.E.T.A.

GROUP FOR RECONSTRUCTIVE AND THERAPEUTIC ADVANCEMENTS

**THE GERMAN SOCIETY OF RADIATION ONCOLOGY EXPERT PANEL GUIDELINES (2016) HAVE SUGGESTED SELECTION CRITERIA FOR A SECOND BREAST CONSERVING APPROACH**

**AN ISOLATED, UNIFOCAL, <3 CM RECURRENCE IN A PATIENT AGED > 50 YEARS, A LONG INTERVAL BETWEEN THE PRIMARY TREATMENT AND RECURRENCE (> 48 MONTHS) AND THE PATIENT'S PREFERENCE OF A SECOND BCT**

**WITH THESE CONDITIONS, MULTICATHETER iBT IS THE RECOMMENDED METHOD, WHEREAS REPEATED EXTERNAL-BEAM PBI OR INTRAOPERATIVE RT IS ACCEPTABLE ONLY IN A CLINICAL TRIAL**

Strahlenther Onkol (2016) 192:199–208  
DOI 10.1007/s00066-015-0939-7



REVIEW ARTICLE

**DEGRO practical guidelines for radiotherapy of breast cancer  
VI: therapy of locoregional breast cancer recurrences**

Wolfgang Harms<sup>1</sup> · W. Budach<sup>2</sup> · J. Dunst<sup>3</sup> · P. Feyer<sup>4</sup> · R. Fietkau<sup>5</sup> · W. Haase<sup>6</sup> ·  
D. Krug<sup>7</sup> · M. D. Piroth<sup>8</sup> · M.-L. Sautter-Bihl<sup>9</sup> · F. Sedlmayer<sup>10</sup> · R. Souchon<sup>11</sup> ·  
F. Wenz<sup>12</sup> · R. Sauer<sup>5</sup> · Breast Cancer Expert Panel of the German Society of  
Radiation Oncology (DEGRO)



**BCS (IF BCT HAS BEEN ALREADY PERFORMED FOR THE TREATMENT OF PRIMARY DCIS) COULD BE CONSIDERED FOR THE TREATMENT OF IN SITU RECURRENCES IF LOW RISK WITHOUT THE NEED OF RE-IRRADIATION FOR PREVIOUSLY IRRADIATED PATIENTS (AND IF FEASIBLE IN TERMS OF COSMETIC OUTCOMES)**



Brachytherapy ■ (2019) ■

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**BRACHYTHERAPY**

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Second breast-conserving surgery and interstitial brachytherapy vs. salvage mastectomy for the treatment of local recurrences: 5-year results

Viktor Smanyakó<sup>1,\*</sup>, Norbert Mészáros<sup>1,2</sup>, Mihály Újhelyi<sup>3</sup>, Georgina Fröhlich<sup>1</sup>, Gábor Stelczer<sup>1</sup>, Tibor Major<sup>1,2</sup>, Zoltán Mátrai<sup>3</sup>, Csaba Polgár<sup>1,2</sup>

<sup>1</sup>Centre of Radiotherapy, National Institute of Oncology, Budapest, Hungary

<sup>2</sup>Department of Oncology, Semmelweis University, Faculty of Medicine, Budapest, Hungary

<sup>3</sup>Department of Breast and Sarcoma Surgery, National Institute of Oncology, Budapest, Hungary



# WIDE EXCISION (WITH OR WITHOUT RT) COULD BE CONSIDERED AS A TREATMENT OPTION FOR IN SITU OR INVASIVE RECURRENCES FOLLOWING A MASTECTOMY PERFORMED TO TREAT A PRIMARY DCIS



Brachytherapy ■ (2019) ■

BRACHYTHERAPY

Second breast-conserving surgery and interstitial brachytherapy vs. salvage mastectomy for the treatment of local recurrences: 5-year results

Viktor Smanyakó<sup>1,\*</sup>, Norbert Mészáros<sup>1,2</sup>, Mihály Újhelyi<sup>3</sup>, Georgina Fröhlich<sup>1</sup>, Gábor Stelczer<sup>1</sup>, Tibor Major<sup>1,2</sup>, Zoltán Mátrai<sup>3</sup>, Csaba Polgár<sup>1,2</sup>

<sup>1</sup>Centre of Radiotherapy, National Institute of Oncology, Budapest, Hungary

<sup>2</sup>Department of Oncology, Semmelweis University, Faculty of Medicine, Budapest, Hungary

<sup>3</sup>Department of Breast and Sarcoma Surgery, National Institute of Oncology, Budapest, Hungary



**NSM (WITH IMMEDIATE BREAST RECONSTRUCTION) MAY BE PERFORMED IN CAREFULLY SELECTED PATIENTS WITH RECURRENT BREAST CANCER, DESPITE PRIOR IPSILATERAL SURGERY AND RADIATION WITH SUCCESSFUL PRESERVATION OF THE NAC AND AN ACCEPTABLY LOW COMPLICATION RATE**

**NO SHORT-TERM ADVERSE EFFECT OF NSM ON ONCOLOGIC OUTCOMES**

Nipple-sparing Mastectomy for the Management  
of Recurrent Breast Cancer

Brittany L. Murphy, Judy C. Boughey, Tina J. Hieken

Department of Surgery, Mayo Clinic, Rochester, MN



## **DCIS IS A HETEROGENOUS GROUP OF LESIONS**

**RISK STRATIFICATION AND MOLECULAR PROFILING  
REMAINS ESSENTIAL FOR MAKING ACCURATE DECISION-MAKING BOTH FOR THE  
TREATMENT OF PRIMARY (EXTENT OF SURGERY AND ADJUVANT (RT AND HT)  
TREATMENTS) AND FOR RECURRENT DCIS**

**A FINE-TUNED RISK STRATIFICATION COULD ALSO MAKE ACTIVE SURVEILLANCE A  
REASONABLE OPTION FOR LOW GRADE DCIS**







**CHARITY FOUNDED BY MAURIZIO BRUNO NAVA IN APRIL 2017 WITH THE AIM OF CONTINUING THE RESEARCH AND TEACHING ACTIVITIES OF “SCUOLA OCR”**

**G.RE.T.A. AIMS TO GATHER SPECIALISTS FROM DIFFERENT DISCIPLINES DEDICATED TO TREATMENTS AND INNOVATIONS IN THE FIELD OF BREAST CANCER TREATMENT**

**G.RE.T.A. WAS CONCEIVED TO OFFER EDUCATIONAL PROGRAMS THROUGHOUT THE INTERNATIONAL NETWORK CREATED BY MBN ALL OVER THE WORLD DURING THE LAST 30 YEARS**

**G.RE.T.A. IS ALSO DEDICATED TO SUPPORT INNOVATIVE RESEARCH PROJECTS IN COOPERATION WITH ACADEMIC AND INDUSTRIAL PARTNERS**

# NAPLES LATE SPRING INTERACTIVE COURSE 2019

The hands of the surgeon on medical  
treatment of breast cancer

18/19 MAY 2019  
NAPLES (Italy)



**MBN** : 2019



# ONCOPLASTIC BREAST MEETING

Milan • 2019  
11<sup>th</sup> / 14<sup>th</sup> December



**MBN** :2019

**Presidents**  
Maurizio Bruno Nava, Alberto Rancati

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