



The
University
Of
Sheffield.

Level 2 Oncoplastic Surgery

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Disclosure:

- I have no conflict of interest to report

Oncoplastic surgery is tumour specific immediate breast reconstruction.

Includes both post mastectomy reconstruction and breast conservation techniques

The integration of plastic surgery techniques and breast cancer surgery to preserve aesthetic outcomes without compromising local disease control.

Level 2 oncoplasty uses therapeutic mammoplasty techniques to reshape the breast during breast conservation surgery, often with contralateral symmetrization

Shrinking Indications for Mastectomy

Adverse breast
volume to tumour
volume ratio
(20%)

Multifocal breast
cancer

Failed
conservation
surgery

>5cm DCIS

Multicentric
breast cancer

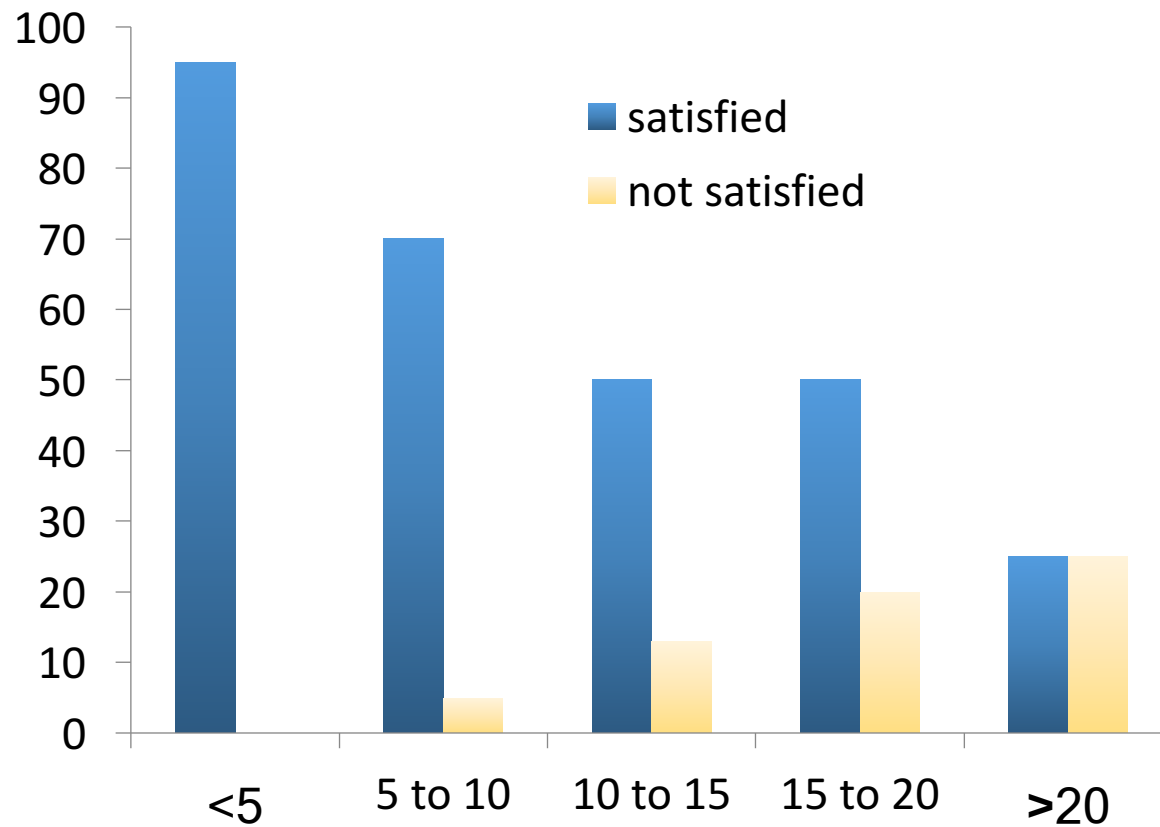
Inflammatory
Breast Cancer

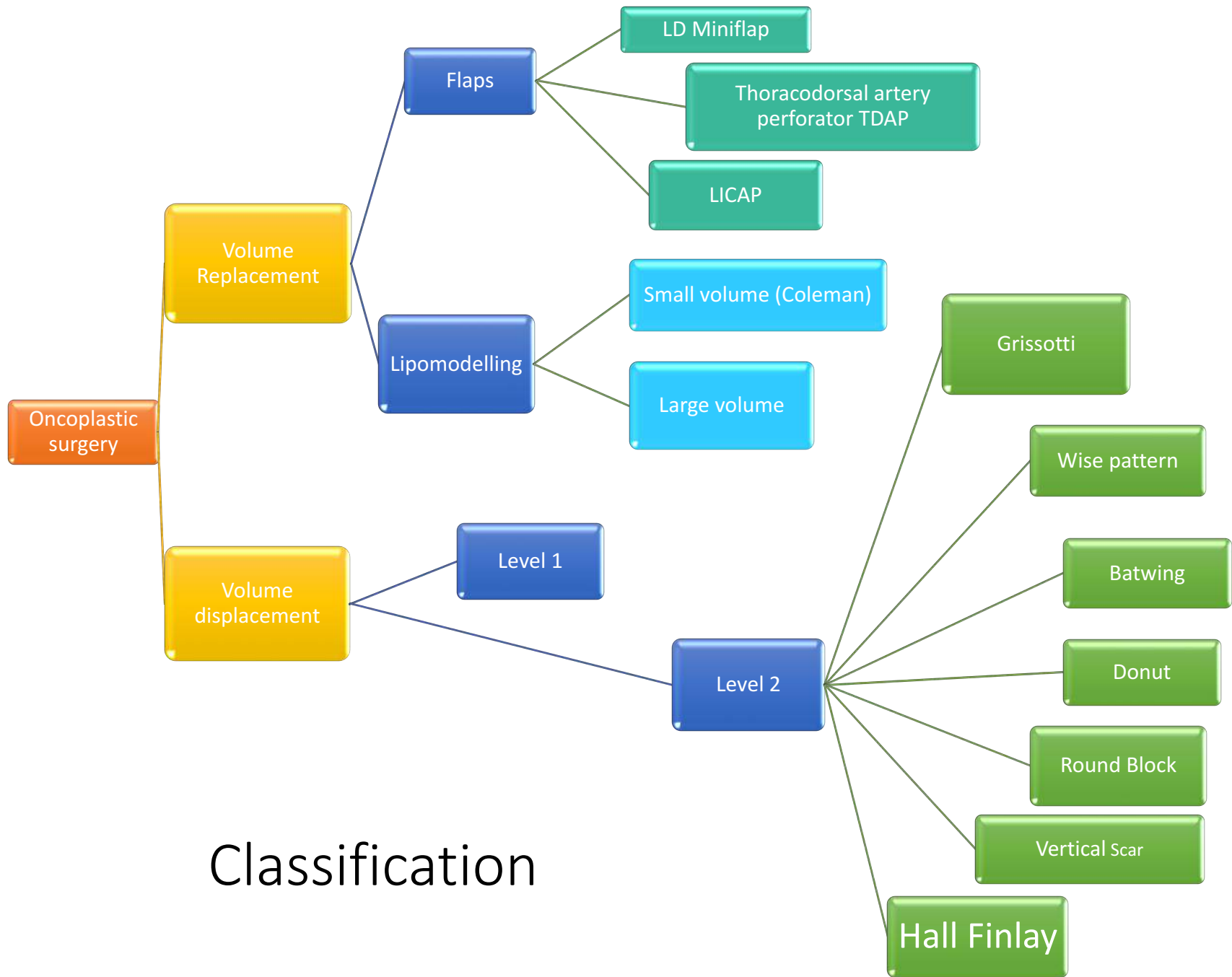
Adverse breast
tumour location

Risk reduction

Patient
preference

Breast Conservation Outcomes by percentage volume excised



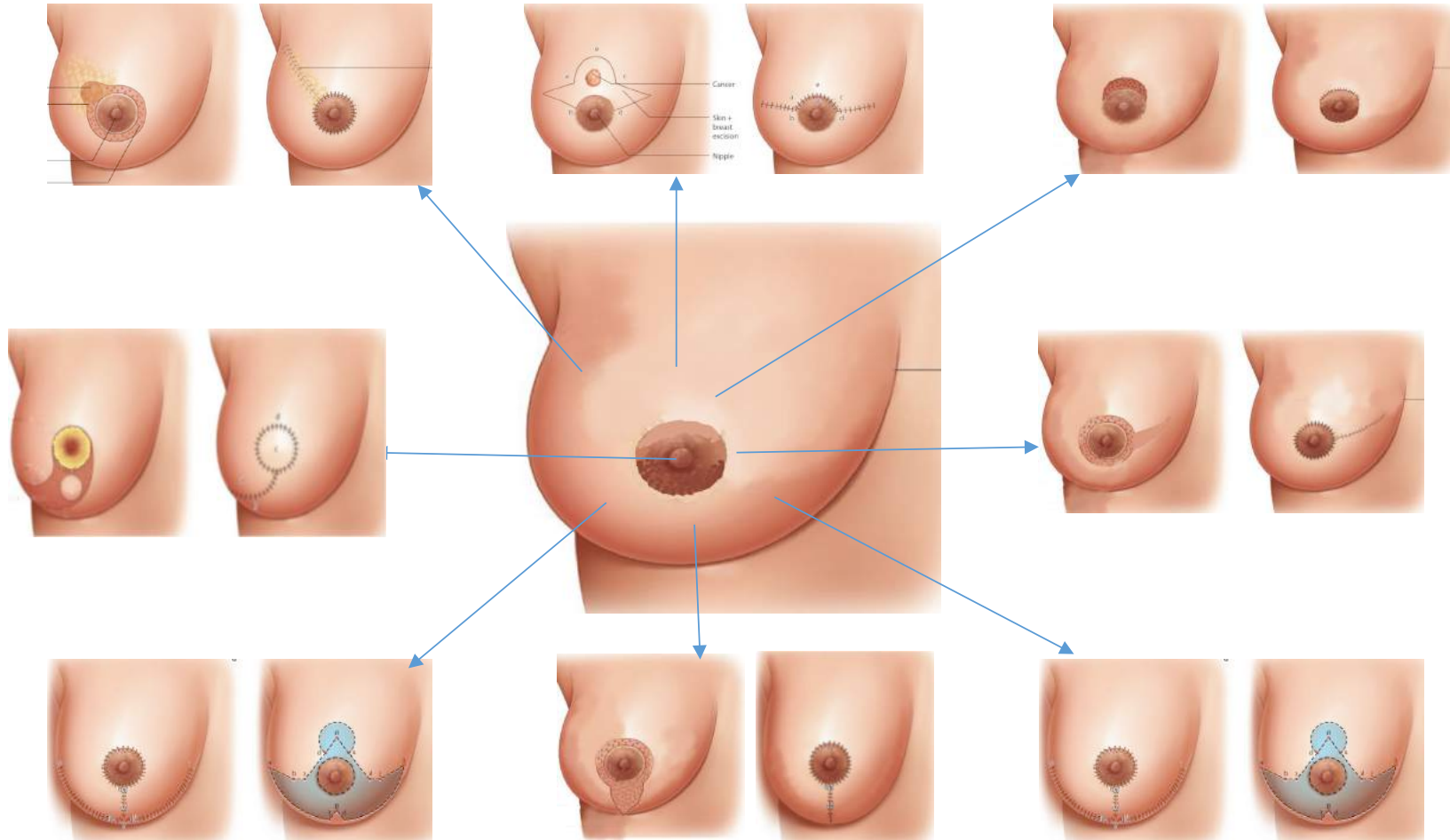


Classification

Level 2 Oncoplastic techniques: Therapeutic mammoplasty with nipple re- positioning on a pedicle.

- Many techniques available depending on which quadrant contains tumour.
- Choice also depends on the breast size, degree of ptosis and what the patient hopes to achieve.
- Techniques usually developed in the aesthetic setting and modified for use in the oncology setting.
- Choice of technique may be complex and specific training is required.

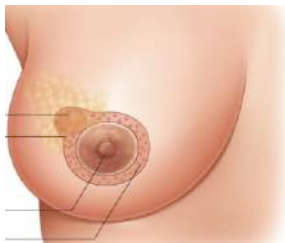
Oncology considerations



Aesthetic considerations

- Breast reduction may be needed/desired or not:
- Reduction volumes classification:
 - *Small* <200g
 - *Moderate* 2-500g
 - *Large* 500-1500g
 - *Gigantic* >1500g
- Ptosis correction may be variable:
 - *No ptosis* Nipple above IMF
 - *Pseudoptosis* Nipple above IMF but breast volume below IMF
 - *Grade 1* Nipple at IMF
 - *Grade 2* Nipple below IMF but above lowest point
 - *Grade 3* Nipple at lowest point of breast

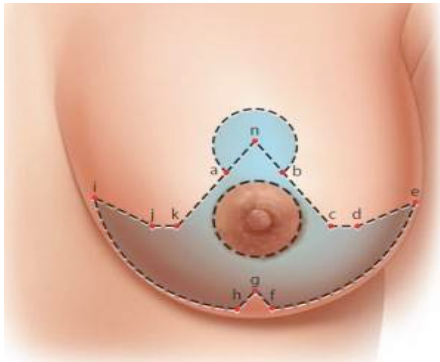
Small to Moderate: Vertical scar or round block



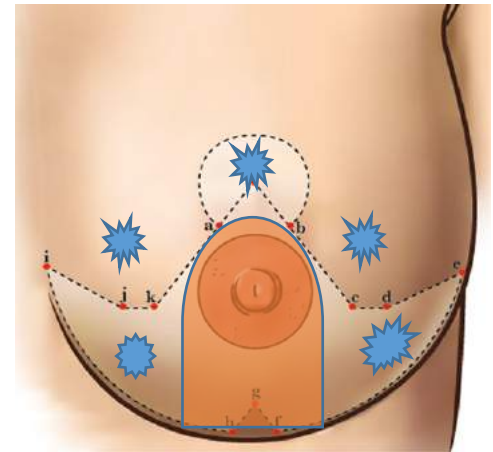
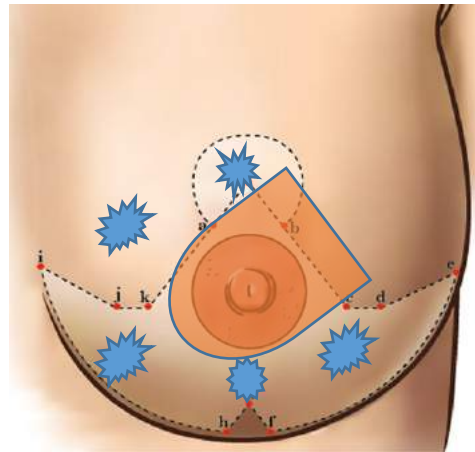
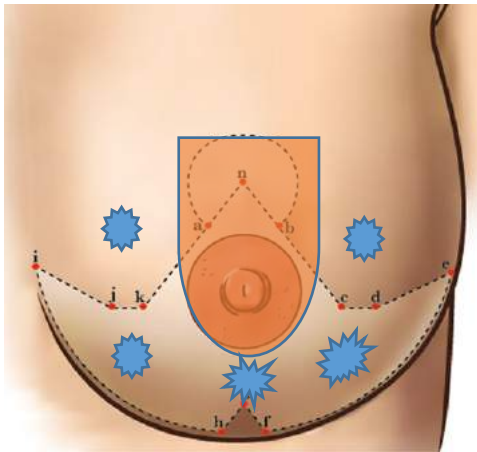
The Wise Pattern Mammoplasty



- Workhorse of oncoplastic conservation
- Suitable for tumours in many locations in the breast, suitable for moderate to very large breasts with significant ptosis
- Permits removal of large volume tumours or multiple tumours
- Pedicle position can be varied from inferior, inferomedial or lateral to supero medial or lateral depending on pedicle length and tumour position giving huge versatility.
- Excellent cosmesis



Pedicle flexibility



Extreme Oncoplasty

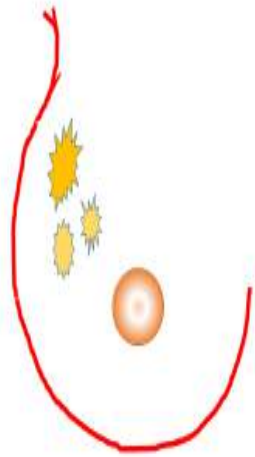
- *Patients who would normally be offered mastectomy.*
- Multifocal, multicentric or >5cm tumour
- Series by Silverstein et al, 2015, The Breast Journal.
- 83% (extreme) versus 96% (normal BCS) achieved clear margins (no tumour at ink) with 9% having re excision and 6% having a mastectomy.
- 1.5% local recurrence rate at 2 years versus 1.2% in the standard arm (P=not significant). Both slightly higher than the more usual 0.5% per year rate seen for standard BCS)



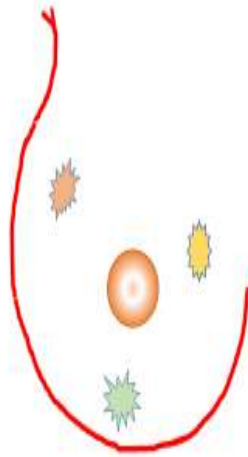
7 cm area of DCIS
Bracketted with 2 wires
and inferior pedicle wise
pattern reduction plus
contralateral immediate
symmetrization

Multicentric and multifocal disease

Biology of multifocal and multicentric disease



Approx 70% will have similar biology if multifocal and likely to be monoclonal



Multicentric more likely to differ in biology and be polyclonal

Plan pedicle position.

Pre-operative MRI

Intra-operative margin assessment (specimen X-ray, margin probes of various sorts) to avoid positive margins.

Careful recording of flaps and pedicles relative to tumour

Mark with clips for both X ray and margin re excision if needed

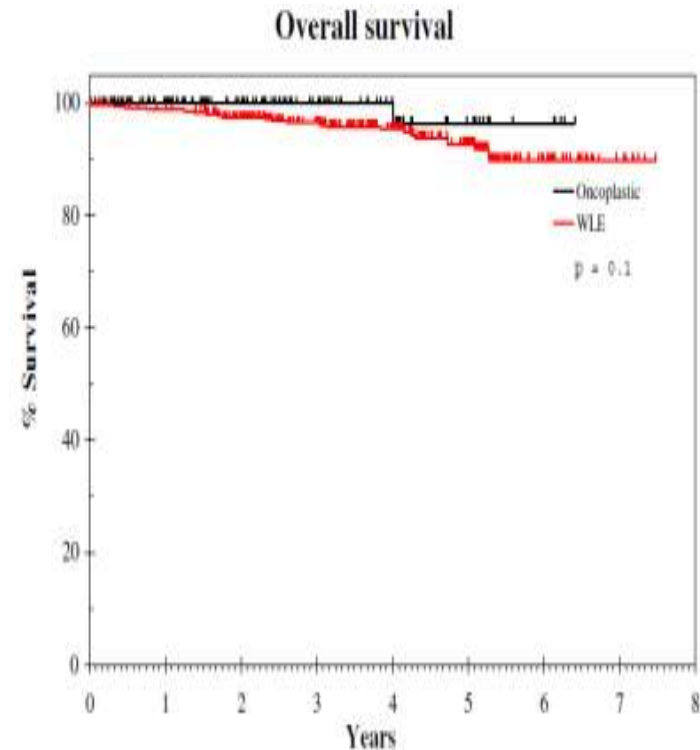
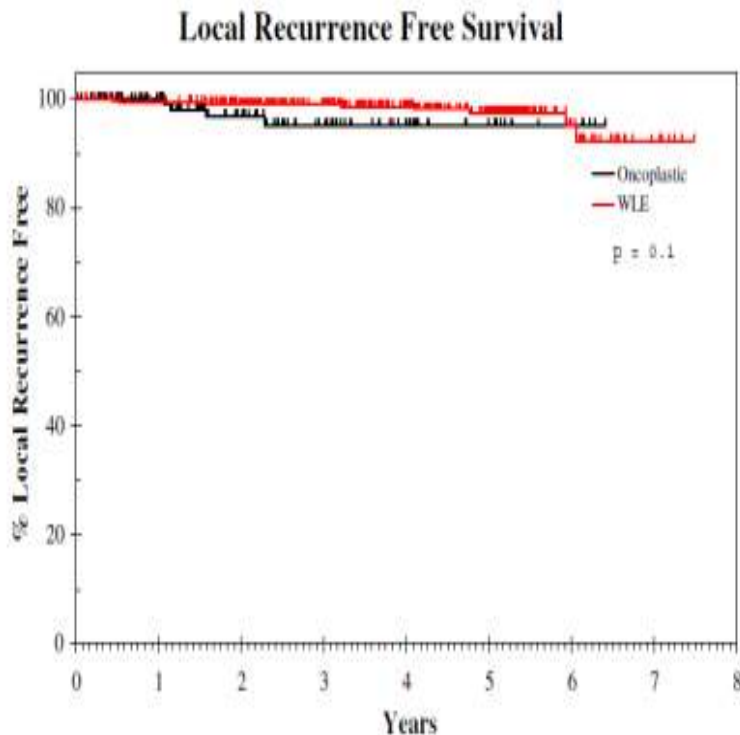
Uncharted territory if young or high risk and need dual radiotherapy boost

Impact of Oncoplastic Surgery on re-excision rates, survival and local recurrence.

Author	Matched	BCS no.	LRR %	% Re-excision	OPBC no.	LRR %	% Re-excision	FU/ months
Chakravorty 2012	No. OPBC adverse	440	2.7	14.5	150	2.2	6.6	28
Niinikovski 2019	No. OPBC adverse	1189	2.7	8.4	611	1.5	9.2	75
Lee 2017	No. OPBC adverse	582	2.1	NS	170	1.8	NS	72
Mansell 2017	No. OPBC adverse	558	3.4	13.1	104	2	14.4	56

A large meta analysis (De La Cruz *et al*, 2016) confirmed that there is no LRR, DFS or OS disadvantage compared to case matched standard BCS or mastectomy

Oncological safety of oncoplastic surgery: Evidence is it is safe.



Large unmatched series (450 vs 150) larger tumours in OPS group, much lower re-excision rate.

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EJSO 38 (2012) 395–398

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The Journal of Cancer Surgery
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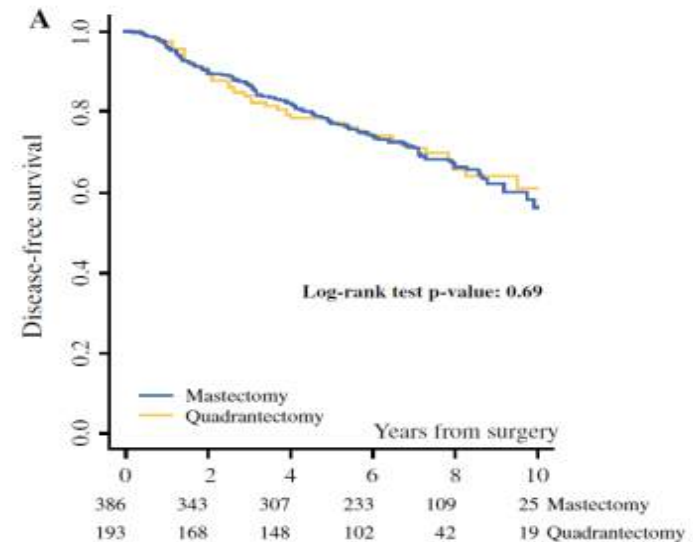
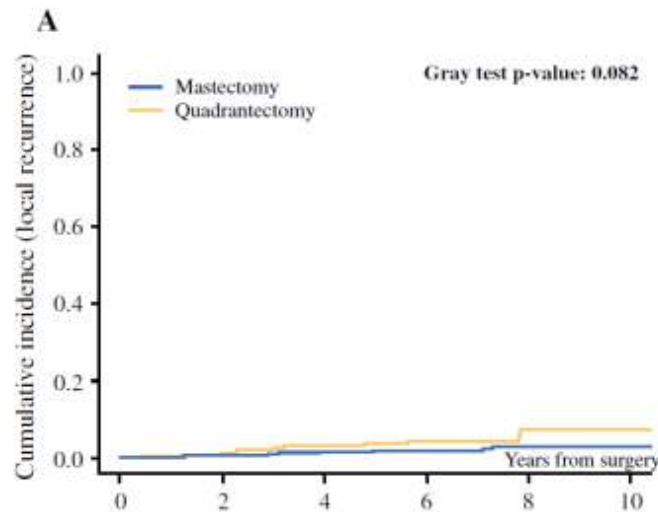
How safe is oncoplastic breast conservation?: Comparative analysis with standard breast conserving surgery[☆]

A. Chakravorty^{☆,*}, A.K. Shrestha, N. Sannugalingam, F. Rapisarda, N. Roche, G. Querci della Rovere, F.A. MacNeill

Academic surgical unit, The Royal Marsden Hospital, London SW3 6JJ, UK

Accepted 27 February 2012
Available online 20 March 2012

A Matched cohort analysis. 193 versus 386 matched cases: OPS vs Mx



Ann Surg Oncol (2016) 23:1852–1859
DOI 10.1245/s10434-016-5124-4

Annals of
SURGICAL ONCOLOGY
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ORIGINAL ARTICLE – BREAST ONCOLOGY

Oncoplastic Breast-Conserving Surgery for Tumors Larger than 2 Centimeters: Is it Oncologically Safe? A Matched-Cohort Analysis

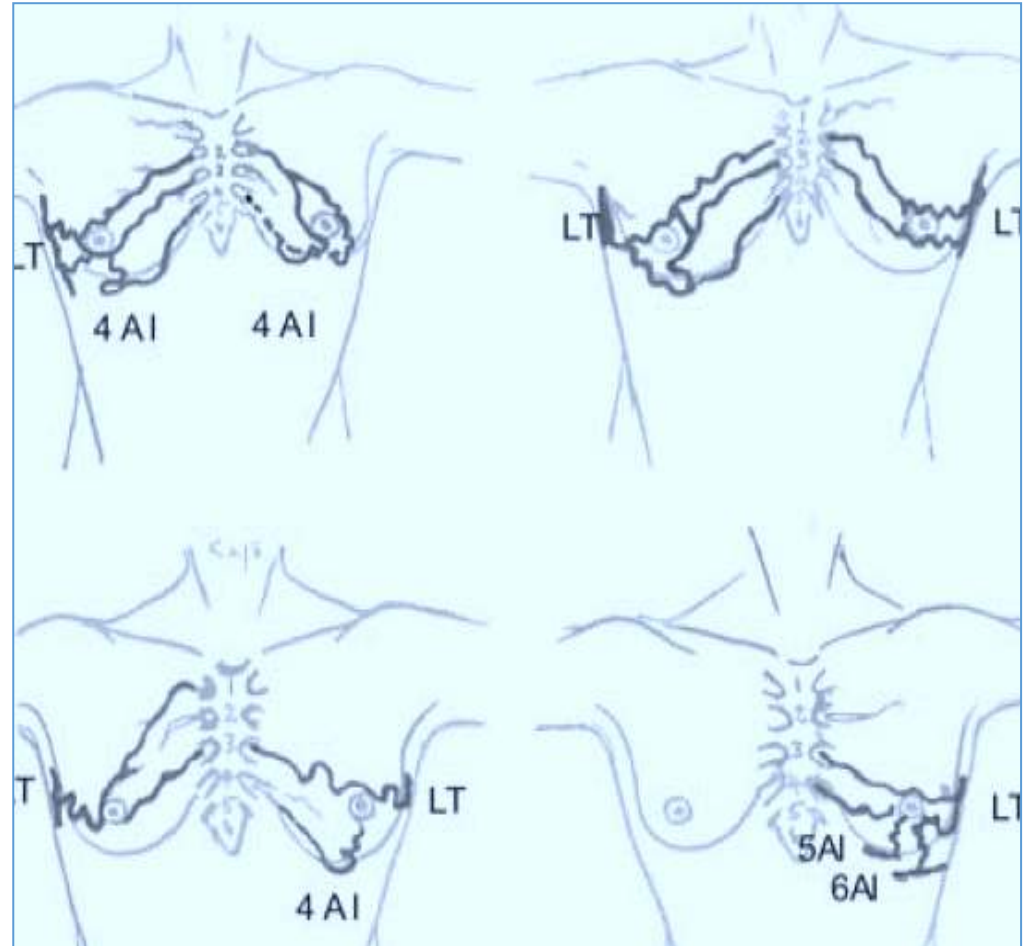
Francesca De Lorenzi, MD, PhD¹, Pietro Loschi, MD¹, Vincenzo Bagnardi, PhD^{2,3}, Nicole Rotmensz, MSc², Gabriel Hubner, MD¹, Giovanni Mazzarol, MD¹, Roberto Orecchia, MD¹, Viviana Galimberti, MD⁴, Paolo Veronesi, MD⁴, Marco Angelo Coltoni, MD², Antonio Toesca, MD², Nickolas Peratze, MD⁵, and Rietjens Mario, MD, PhD¹

Oncoplastic Outcomes

- Adverse events may include
 - Nipple necrosis, partial or complete
 - Fat necrosis: may cause concern about recurrence and delay adjuvant therapies
 - Skin necrosis
 - Assymetry: may worsen with time due to impact of radiotherapy
 - Wound breakdown
 - Haematoma
 - Loss of sensation
 - Infection: may delay adjuvant therapies
- Risk factors include smoking, diabetes, obesity, extreme breast ptosis and larger sizes

Nipple vascular supply variability!

- 48% of arteries supplying the NAC arise from the internal thoracic.
- 24% from the anterior intercostals
- 27% from more laterally sited sources (lateral thoracic, axillary, post intercostal)



Aesth. Plast. Surg. 27:393-398, 2004
DOI: 10.1007/s00266-003-7113-9

Aesthetic
Plastic
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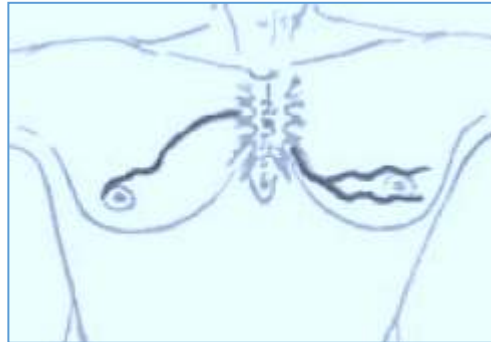
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The Blood Supply to the Nipple-Areola Complex of the Human Mammary Gland

Petrus V. van Deventer, M.B.Ch.B., Hons.B.Sc., M.Med.Sc., M.Med.Plast. & Rekons
Tygerberg, South Africa

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High Risk Anatomic Variants



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DOI: 10.1007/s00266-003-7113-9

Aesthetic
Plastic
Surgery

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Quality of life

- Quality of life is not necessarily just influenced by cosmesis and patients perceptions of subjective cosmesis may vary from objective assessments.
- Results from studies comparing standard BCS with OPBC are variable with most studies being retrospective and most results are non significant or use sub-optimal QoL tools
- Studies in progress to prospectively assess QoL in Oncoplastic versus standard BCS include COSMAM in the Netherlands.
- Compared to mastectomy and IM, OPBC QoL is usually better.

Summary

- Need to modify and tailor the operative approach to the patient:
- Patient factors: fitness, preference, ptosis and volume
- Contralateral symmetrisation may be required at the same time or later with many techniques
- Tumour position considerations may mandate modifications of techniques
- *Training and experience essential*

Thank You