

The Sloane Project

What we have learned

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The Sloane Project – Background and Aims

Background

- Uncertainties about natural history, invasive potential and optimal treatment.
- Clinical trials have produced conflicting results.

Aims

- To improve knowledge about the diagnosis, treatment and clinical outcomes of screen detected carcinoma in situ and atypical hyperplasias.
- To enable patients and health care professionals to make more informed choices regarding treatment in the future.

Named after the late
Professor
John Sloane



Current Status

- Project now closed for new cases of DCIS
- Continuing audit of ALH & LISN
- 12,000 cases entered 2004-2012
- Approx 50% of all DCIS in Audit
- Form completion ~ 80% across specialties

Learning Points

- Study Design
- Data Collection & Quality
- Variation in Practice
- Follow up & Recurrence

The Sloane Project

- Study design:
 - Screen-detected disease only
 - Unit participation 75%
 - Large numbers and uncommon conditions
- Opportunities:
 - Variation in practice
 - Changing practice over time e.g. large vol bx
- Missed opportunities:
 - Core biopsy data
 - Cases that drop out and why

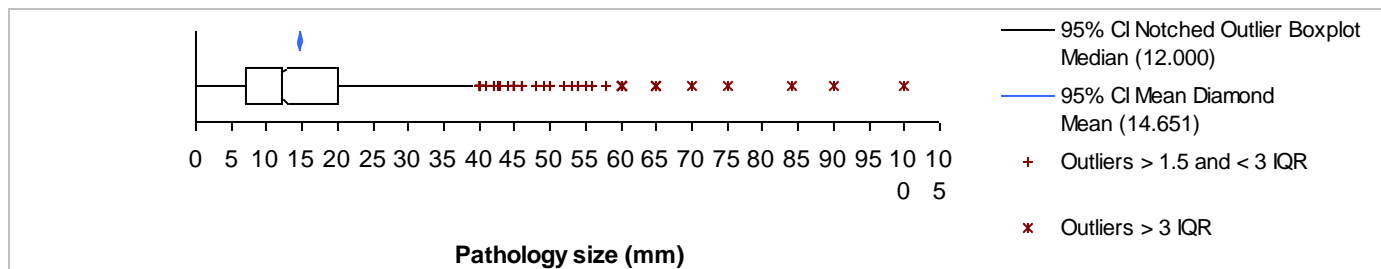
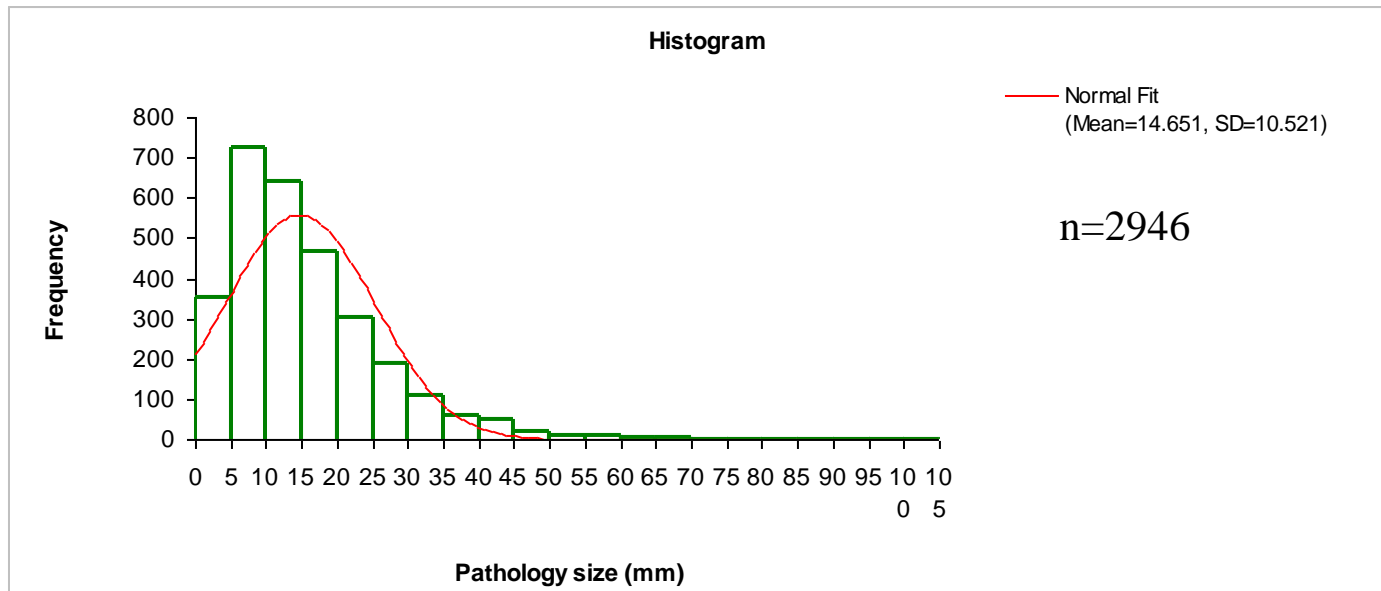
The Sloane Project

- Data collection
 - Multidisciplinary and stand-alone
 - Reflected by publications record
 - 50% real-time; 50% retrospective
 - Paper-based
 - Manual
 - Risk of data-entry delays
 - Data quality
 - Long term costs
 - Follow-up

Operation Types

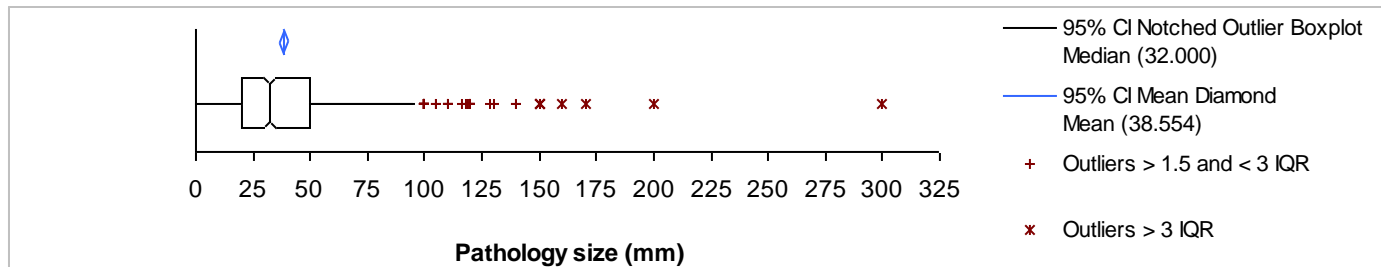
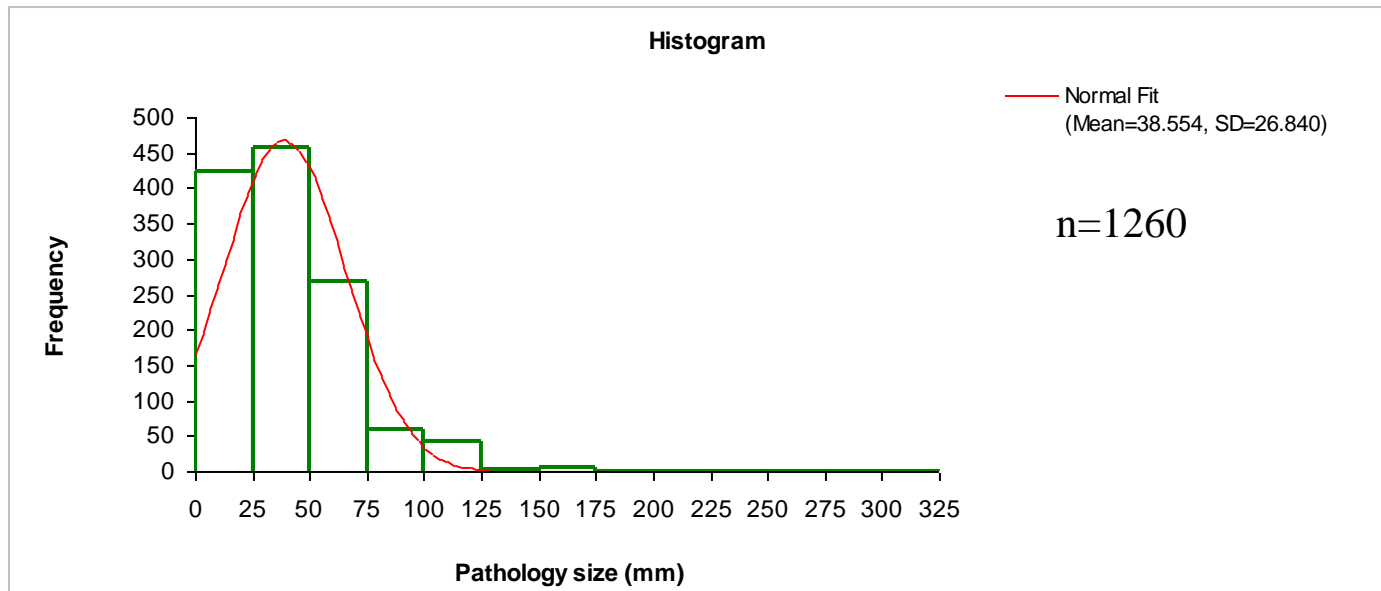
Number of ops	Type of surgery overall					
	BCS		Mx		Total	
	No.	%	No.	%	No.	%
1	3665	74	1379	65	5044	71
2	1233	25	549	26	1782	25
3	34	1	178	8	212	3
4	6	0	9	0	15	0
5	1	0	1	0	2	0
Total	4939	100	2116	100	7055	100
% of all cases		70		30		100

Sloane BCS Cases DCIS Size distribution

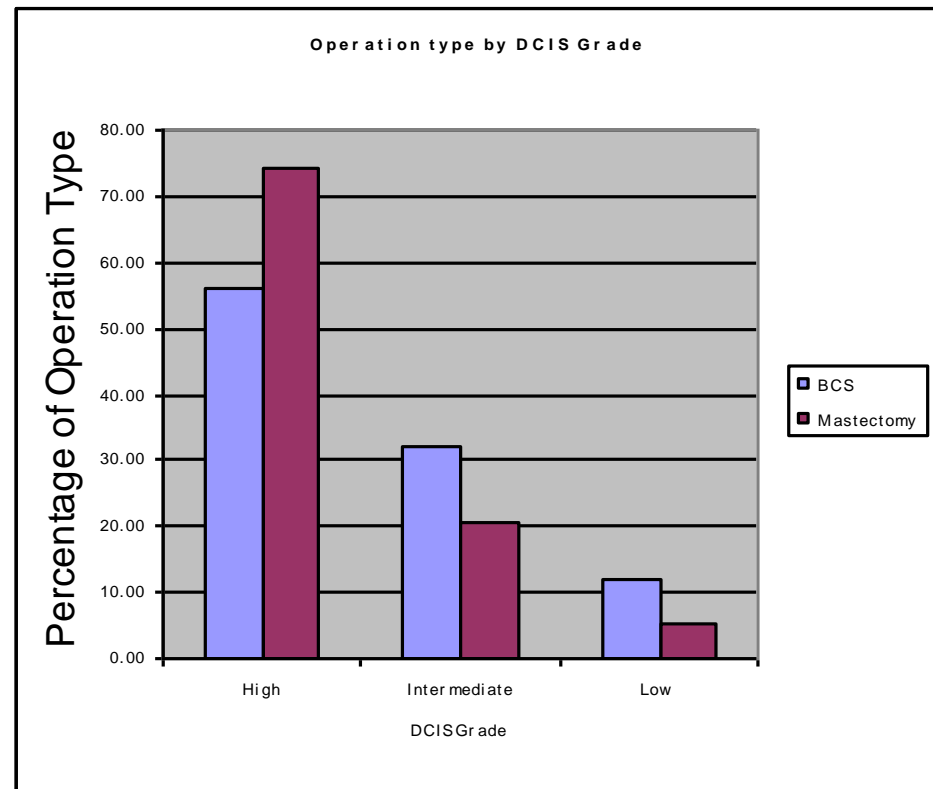
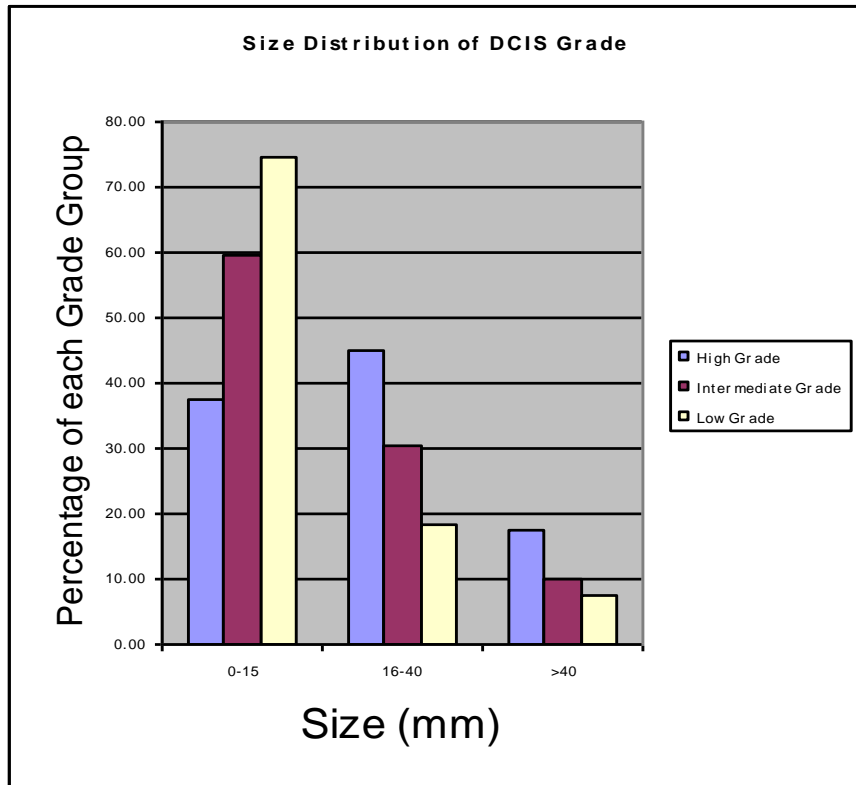


Sloane Mx Cases

DCIS Size distribution

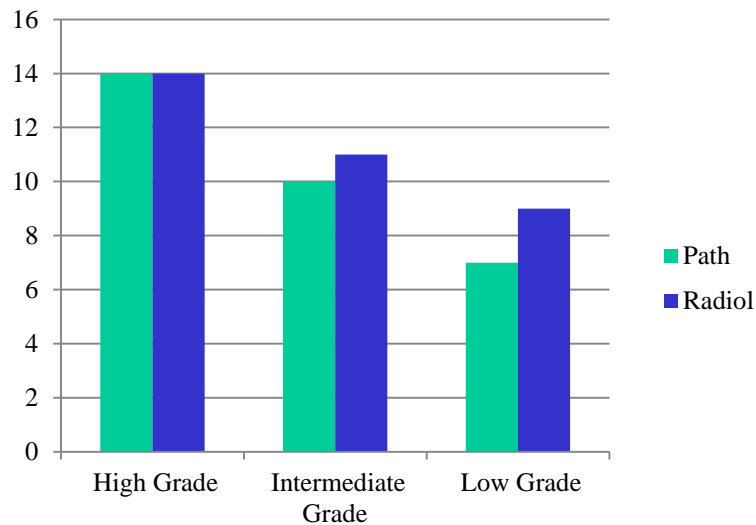


Grade/Size/Op type Distribution

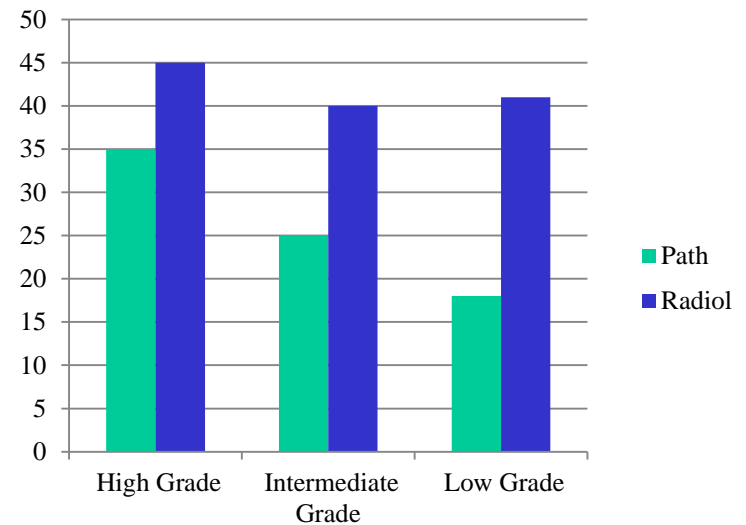


1 Op – Pathology v Radiology Size (mm)

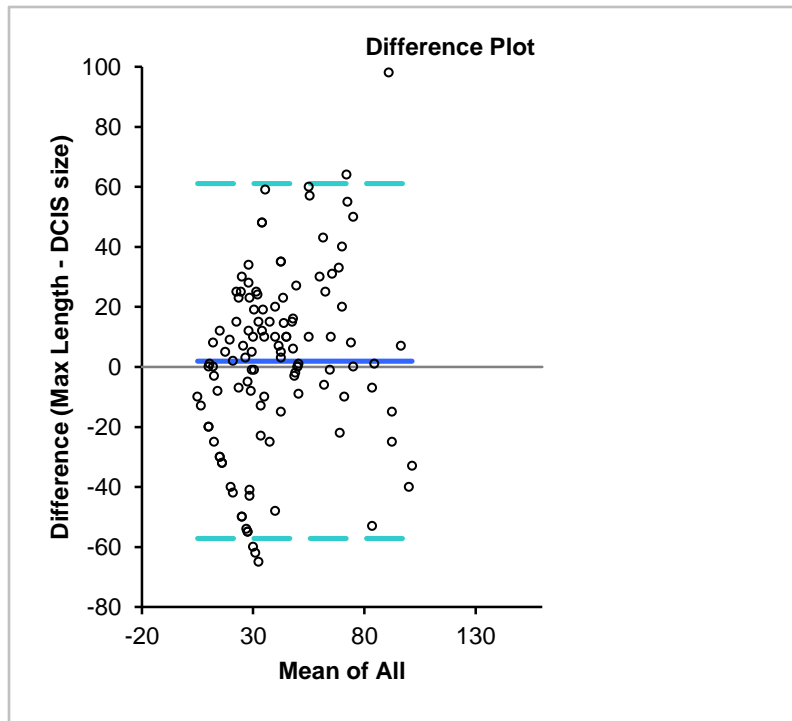
Breast Conservation 1866 Cases



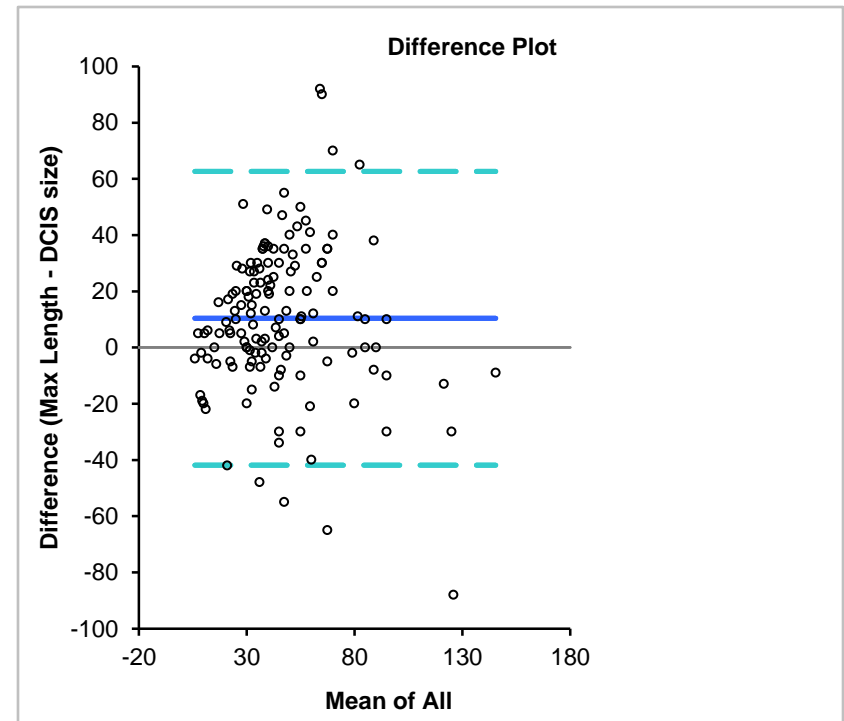
Mastectomy 689 Cases



Pathology/Radiology Agreement

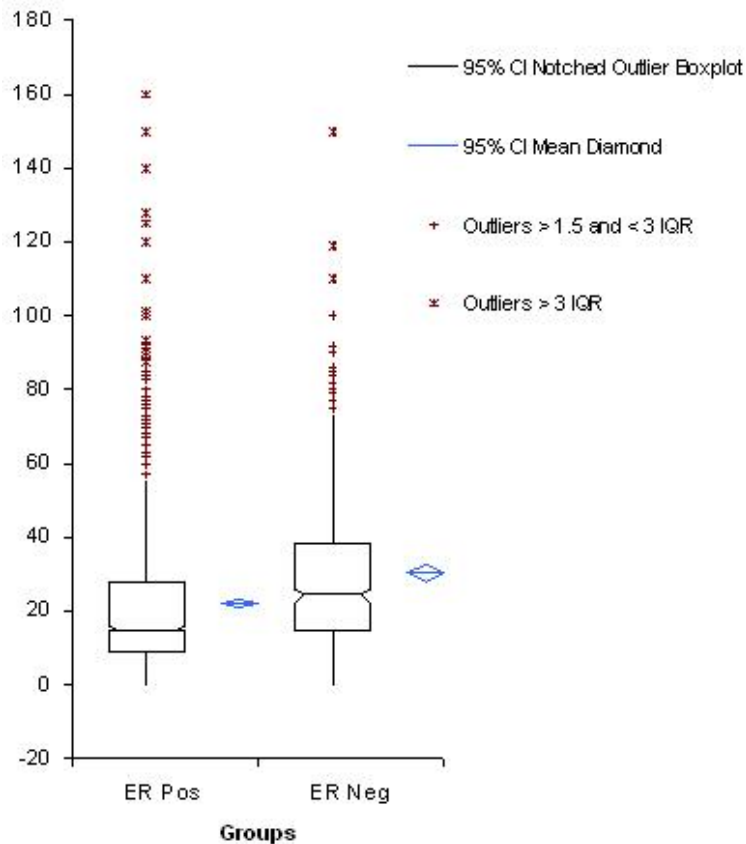


Mastectomies – Hi Grade - X Ray



Mastectomies – Hi Grade – No X Ray

DCIS Size and ER Status



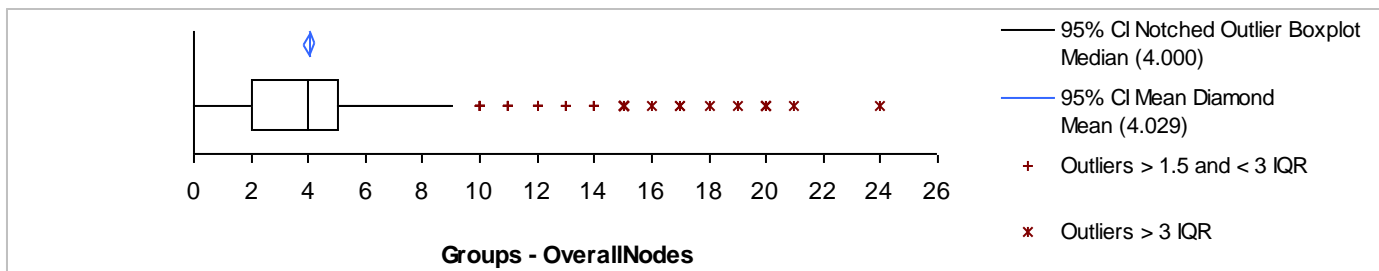
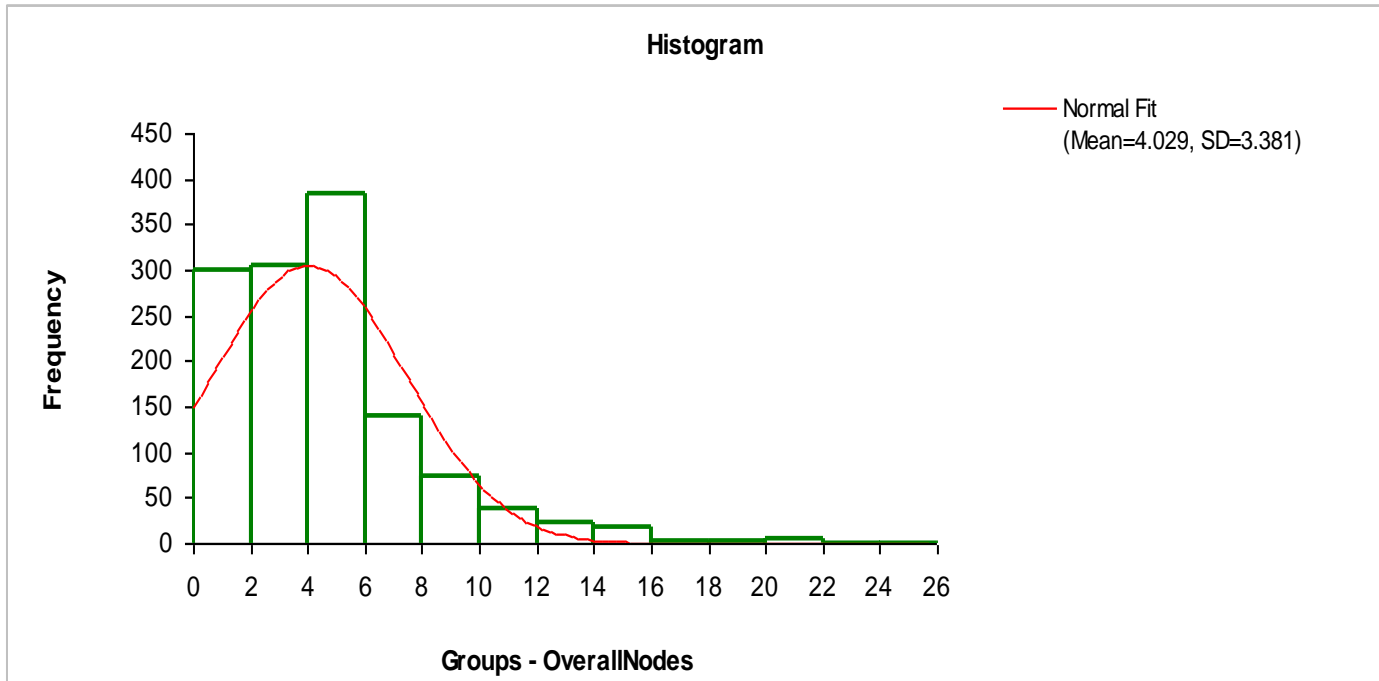
Groups	n	Mean	95% CI
ER Pos	1397	21.913	20.882 to 22.944
ER Neg	376	30.434	28.133 to 32.734

2-tailed $p < 0.0001$

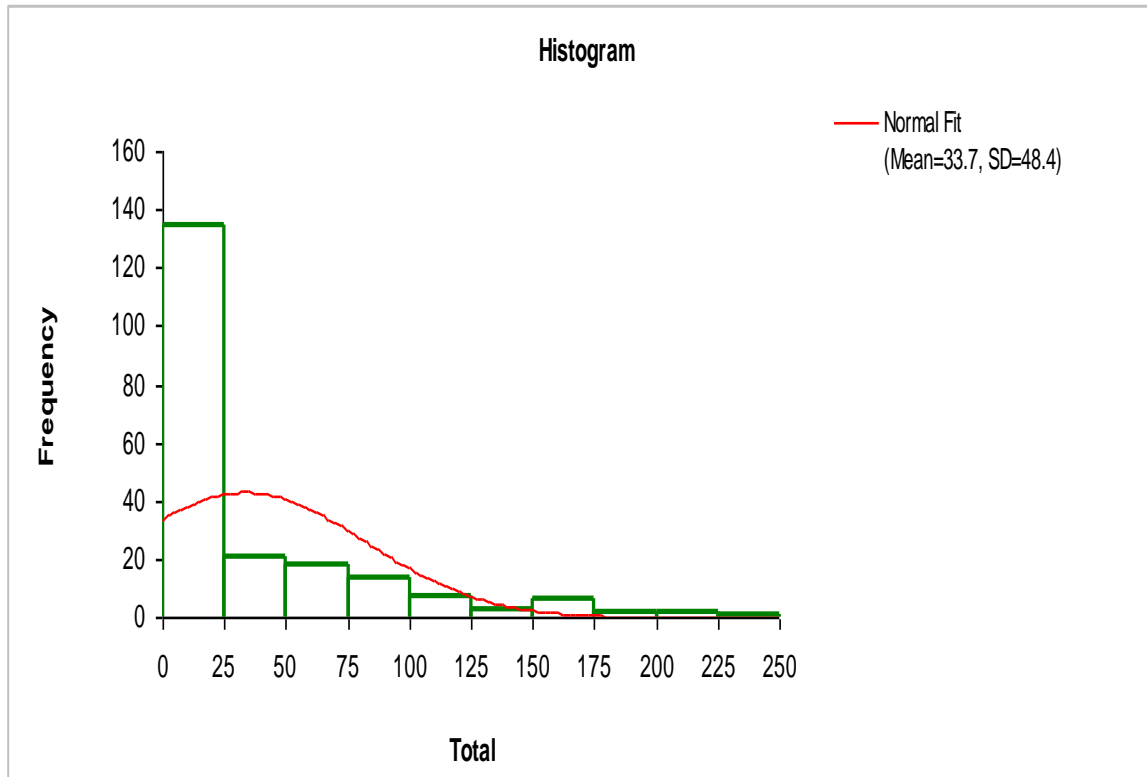
Variation in Practice Across UK

- Radiology
- Surgery
 - Approach to margins – cavity shaves etc
 - A “clear” margin
 - Lymph nodes
- Radiotherapy
- Pathology
 - Specimen handling
 - Receptors and cut points
 - Grading

Lymph Nodes



Grading DCIS Sloane Data 2012



No of Labs = 209

No of Cases = 7051

Median = 9 Cases

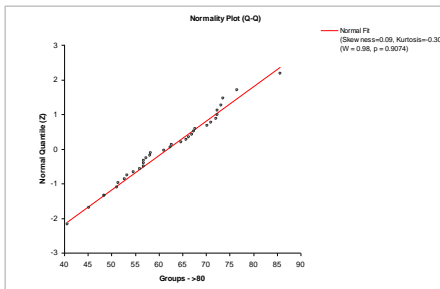
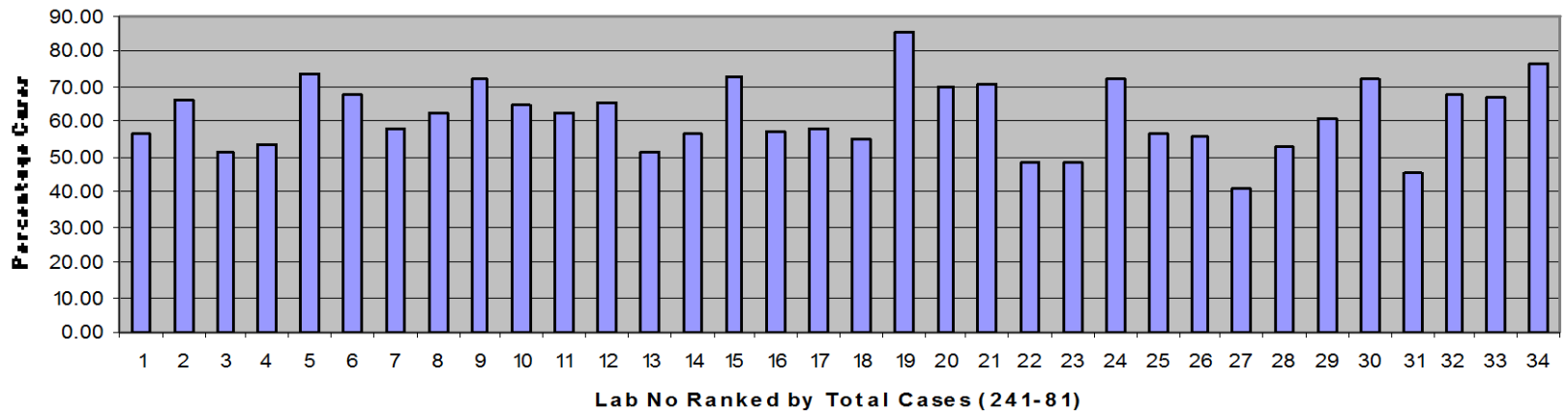
Mean = 34 Cases

Grading DCIS

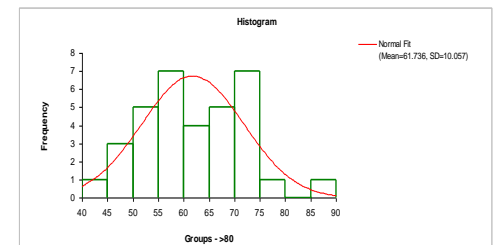
Sloane Data 2012

n=4245

Percentage High Grade DCIS - Labs >80 Cases



	>80 Cases
Median	62
Mean	62
Range	41-83
CV	16.30%

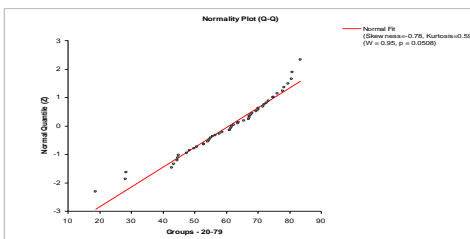
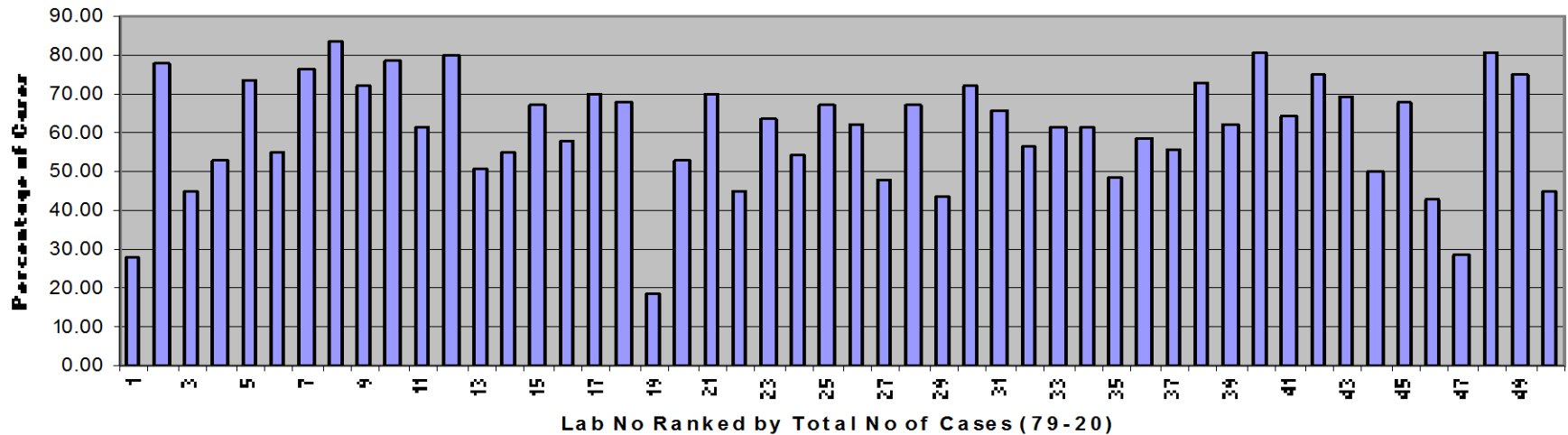


Grading DCIS

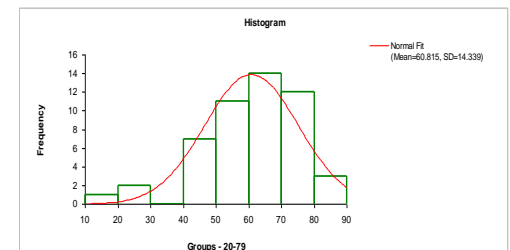
Sloane Data 2012

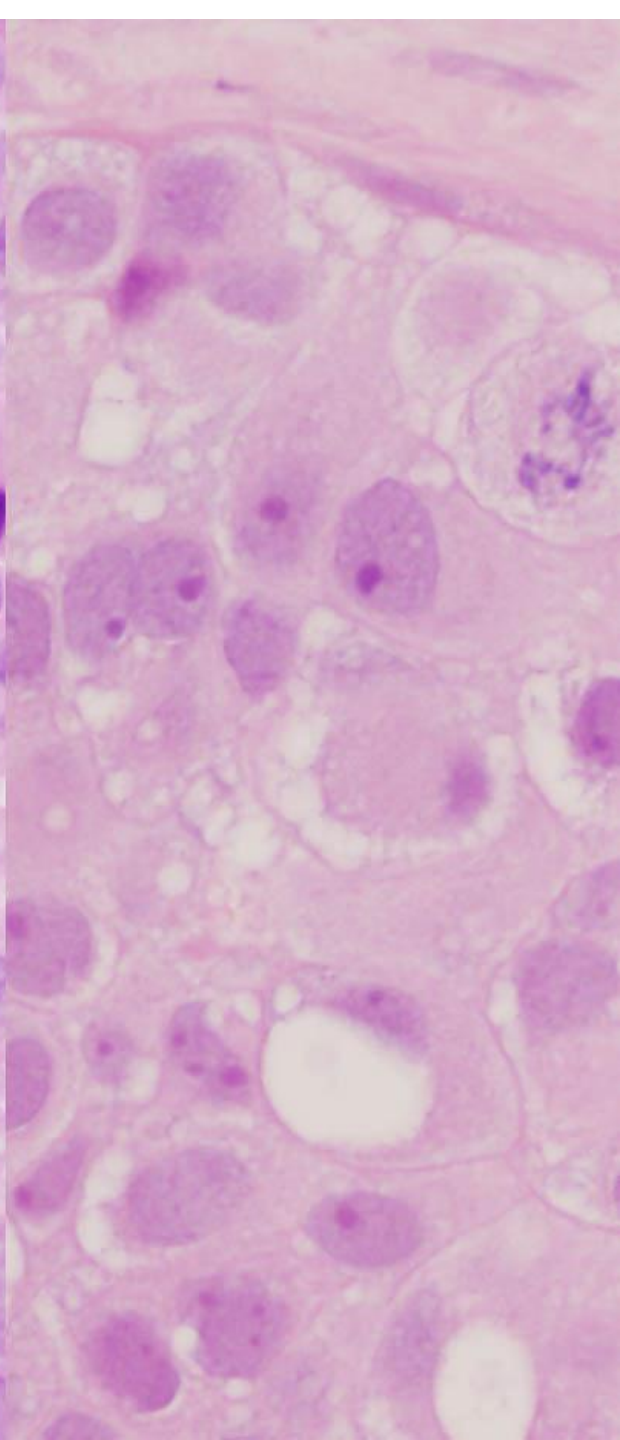
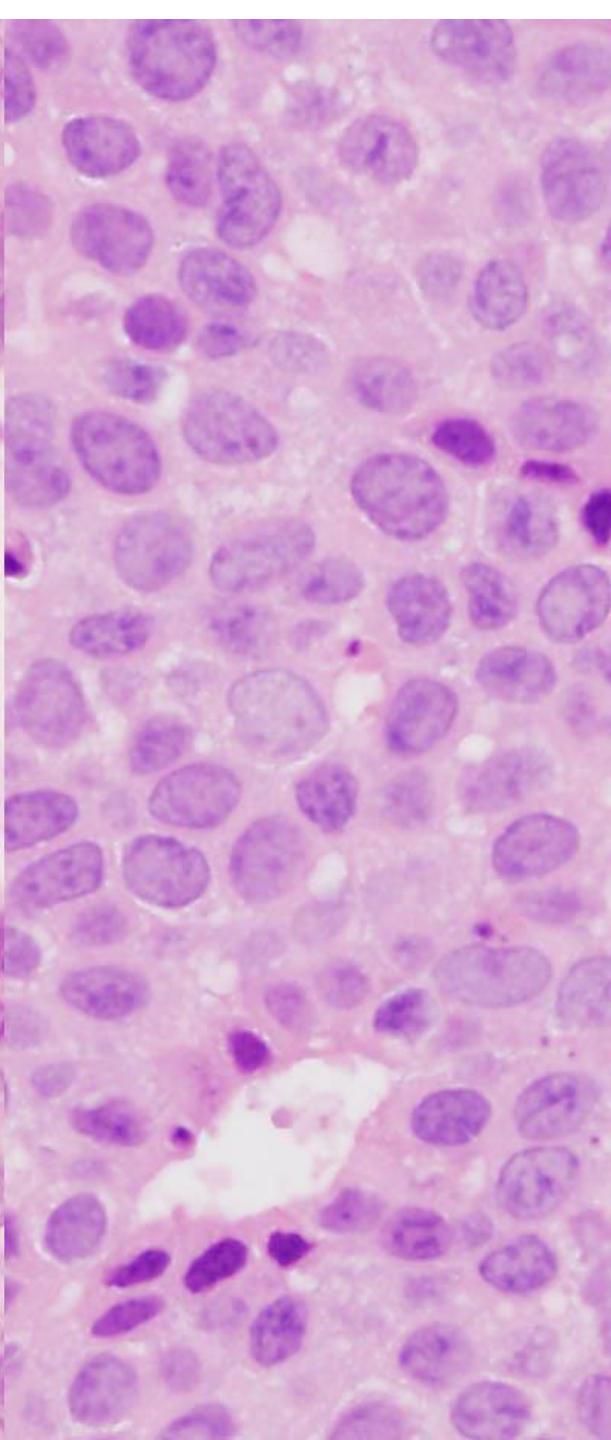
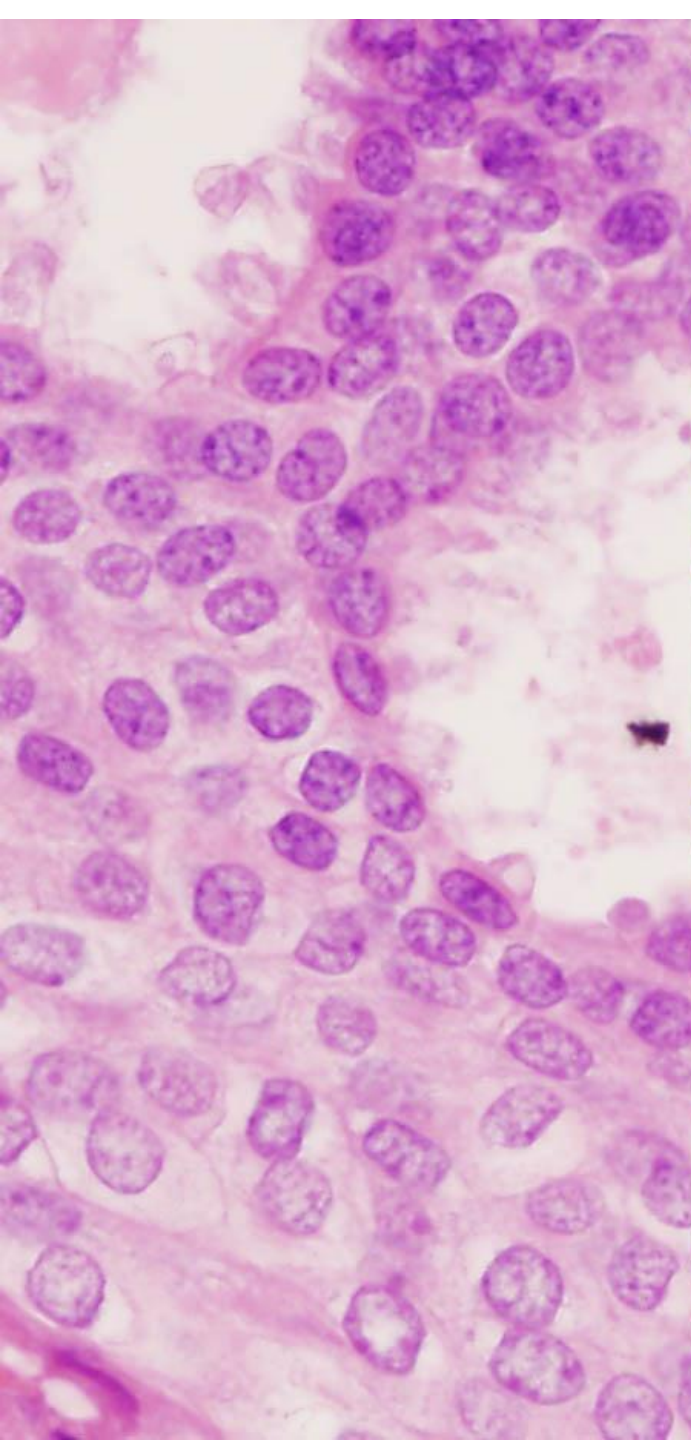
n=2228

Percentage High Grade DCIS - Labs 79-20 Cases



	20-79 Cases
Median	62
Mean	61
Range	18-83
CV	23.60%

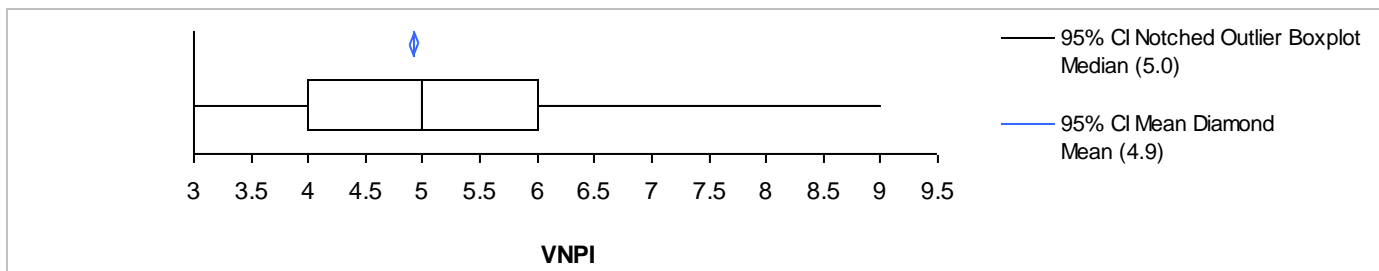
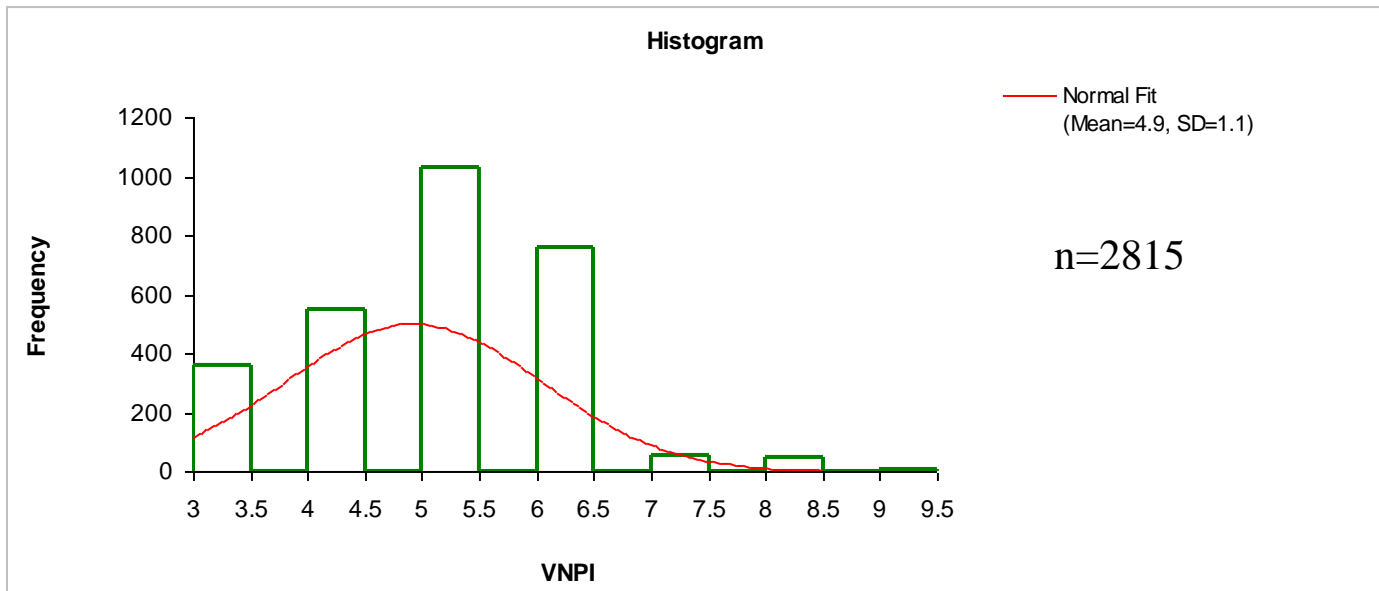




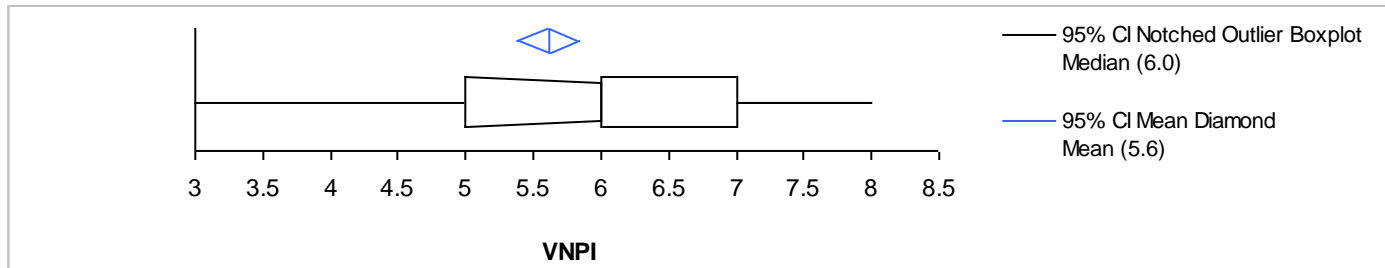
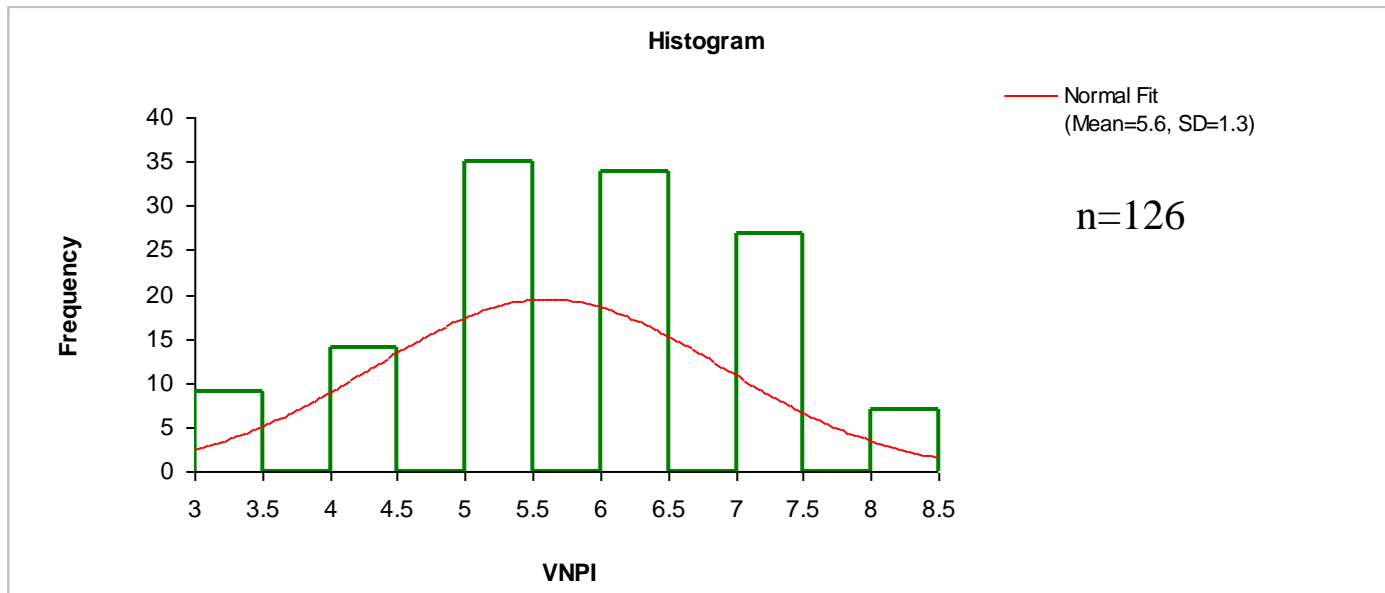
Van Nuys Scoring of DCIS

VNPI scoring system	1	2	3
Tumor size (diamter in mm)	less or equal to 15	16-40	greater or equal to 41
Margin width (in mm)	> or equal to 10	1-9	< 1
Pathologic Classification	non-high grade, (nuclear grades 1 and 2) no necrosis	non-high grade, (nucelar grades 1 and 2)with necrosis	high grade(nuclear grade 3) with or without necrosis
Overall VNPI score	3 or 4	5-7	8 or 9
8 year local recurrence-free survival rate.(statistics from the original study, not a prediction)	97%	77%	20%
8 year breast-cancer specific survival rate.(statistics from the original study, not a prediction)	100%	97%	100%

VNPI Profile of Sloane BCS DCIS Cases

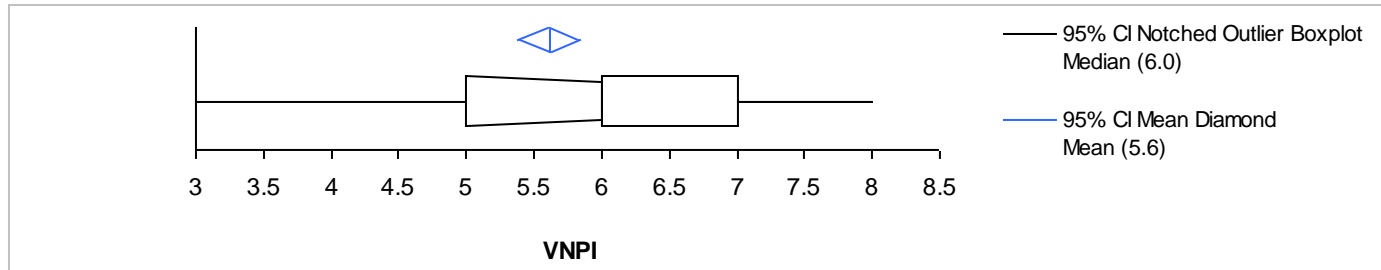


VNPI Profile of Sloane Recurrence Cases



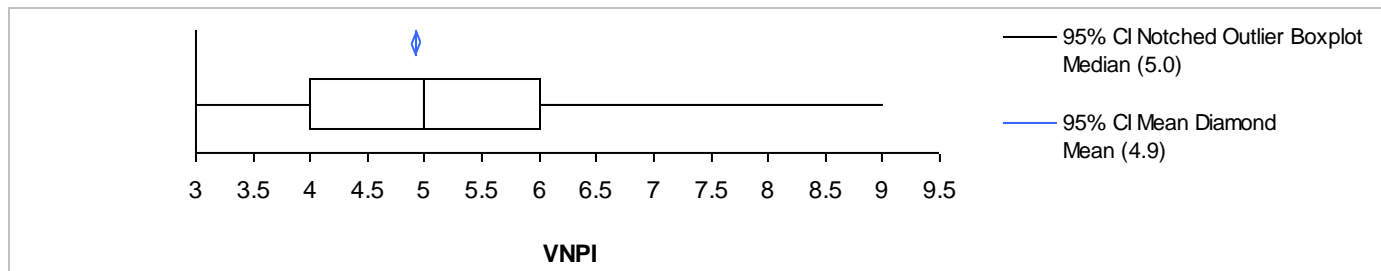
Comparison of VNPI Profiles

Recurrences

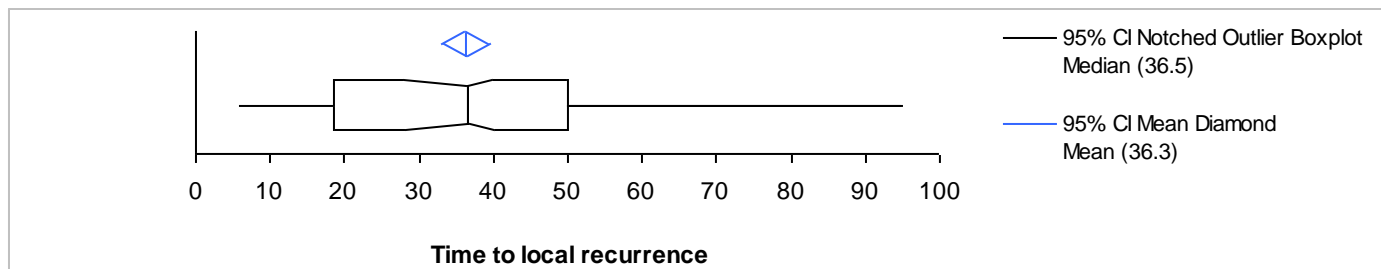
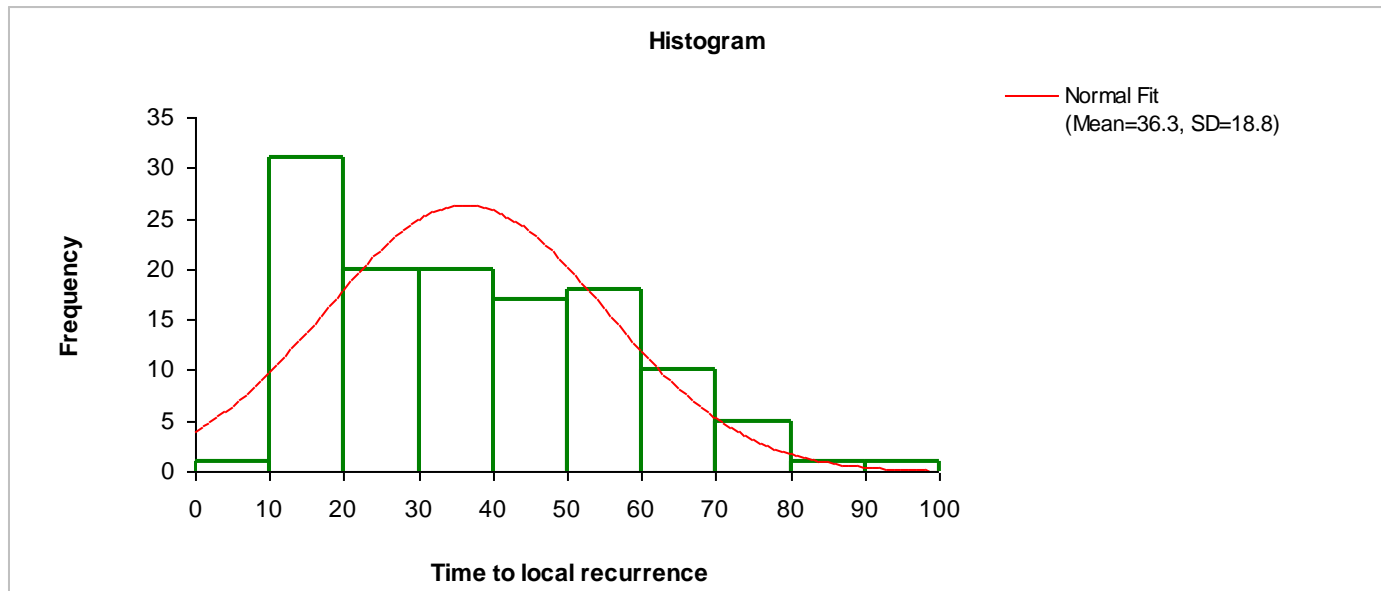


P=<0.0001

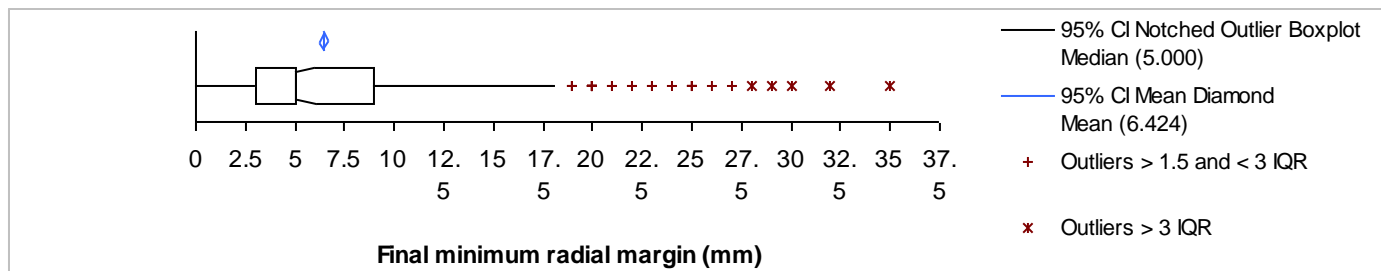
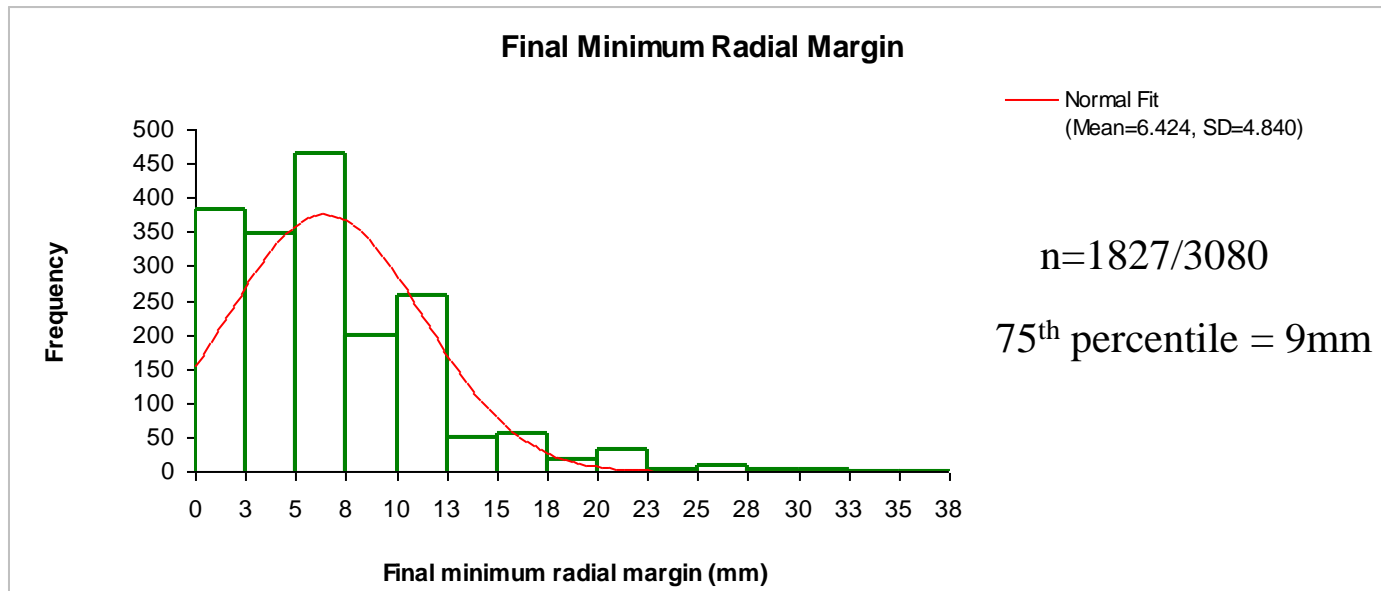
All cases



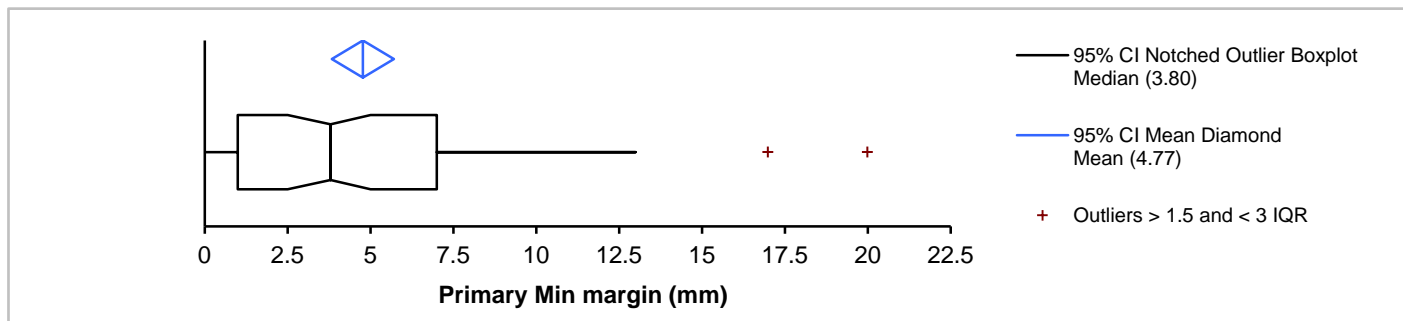
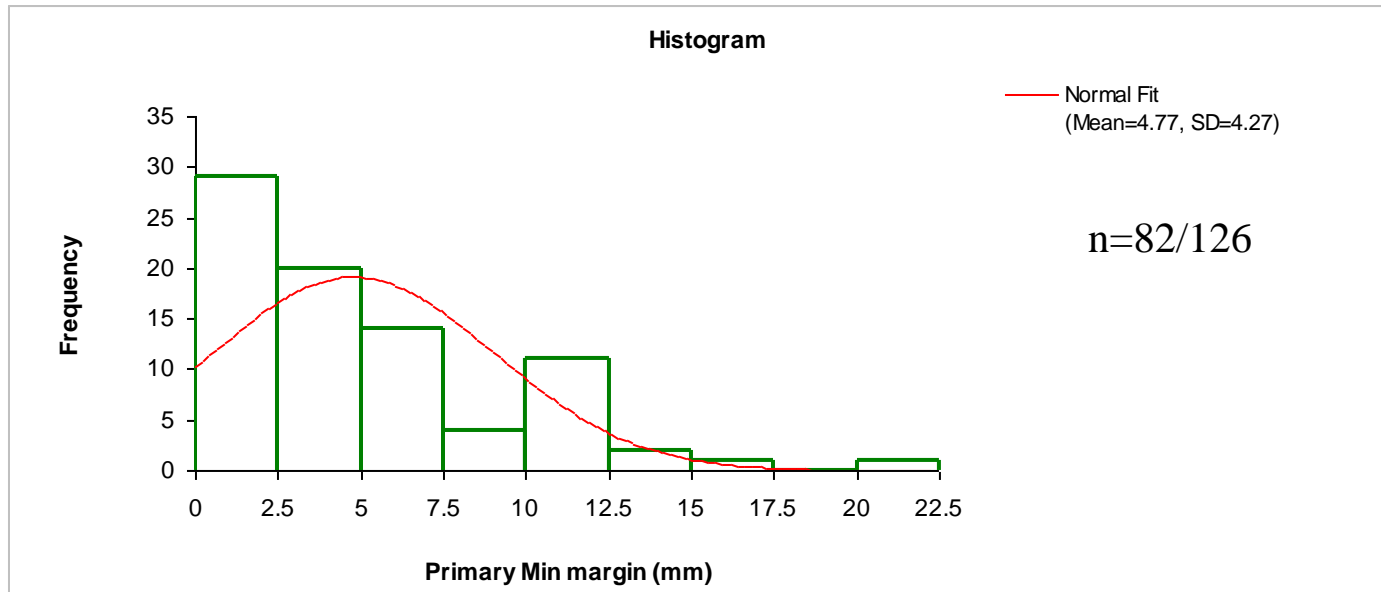
Time to Local Recurrence (months)



Sloane BCS cases – Final Margin

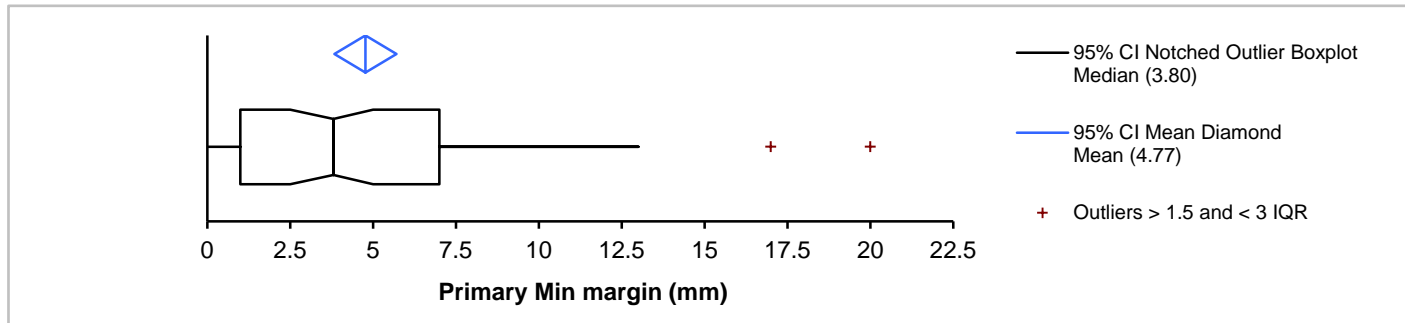


Sloane Rec cases – Final Margin



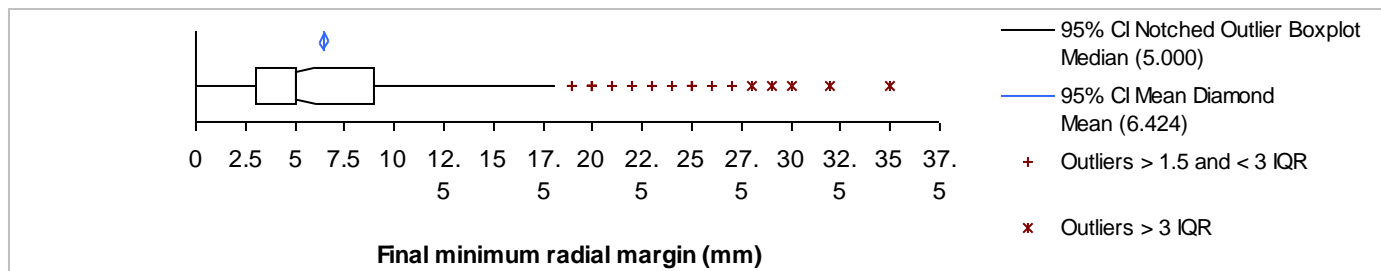
Comparison of Margin Profiles

Recurrences



All cases

P=<0.0024



The Future of Sloane

- Short term – completing all forms
- Medium to long term
 - Follow up/recurrence
 - Tissue collection – outcome predictors

Publications

Evans A, Clements K, Maxwell A, et al **Mammographic bi-dimensional product: a powerful predictor of successful excision of ductal carcinoma *in situ*.** [Clinical Radiology](#) 2007; **62**: 787-791

Dodwell D, Clements K, Lawrence G, et al **Radiotherapy following breast-conserving surgery for screen-detected ductal carcinoma *in situ*: indications and utilisation in the UK. Interim findings from the Sloane Project.** [British Journal of Cancer](#) 2007; **97**: 725-729

Thomas J, Hanby A, Pinder S, et al **Implications of Inconsistent Measurement of ER Status in Non-Invasive Breast Cancer: A Study of 1,684 cases from the Sloane Project.** [The Breast Journal](#) 2008; Vol 14 (1): 33-38

Maxwell A, Evans A J, Carpenter R, et al **Follow-up for screen-detected ductal carcinoma *in situ*: Results of a survey of UK centres participating in the Sloane Project.** [European Journal of Surgical Oncology](#) 2009; **35**: 1055-1059

Thomas J, Evans A, Macartney J, et al **Radiological and pathological size estimations of pure ductal carcinoma *in situ* of the breast, specimen handling and the influence on the success of breast conservation surgery: a review of 2564 cases from the Sloane Project.** [British Journal of Cancer](#) 2010; **102**: 285-293

Evans A, Clements K, Maxwell A, et al. **Lesion size is a major determinant of the mammographic features of ductal carcinoma *in situ*: findings from the Sloane Project.** [Clinical Radiology](#) 2010; **65**: 181-184

Acknowledgements & Thanks

- Karen Clements and WMCIU
- Julietta Patnick and NHSBSP
- Pfizer UK
- Hugh Bishop & Alastair Thompson
- The Sloane Project Steering Group
- Contributing Units
- Patients