



Breast Service of the Future

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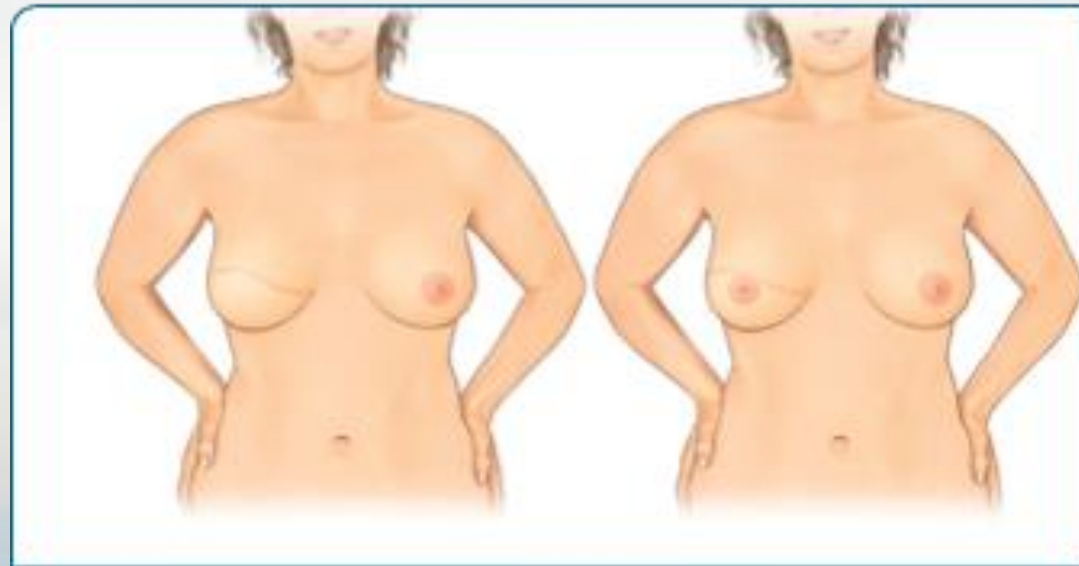
Warwickshire Breast Clinic

- Mr Stuart Robertson and Dr Penny Kechagioglou
- Private breast clinics at Warwickshire Nuffield Hospital and BMI Meriden Hospital
- Multidisciplinary Team
- Rapid access clinics covering all aspects of breast care
- High quality facilities / High quality care
- More personalised care (shared decision making / patient focussed / more time)
- Oncoplastic Breast Surgery
- Aesthetic Breast Surgery

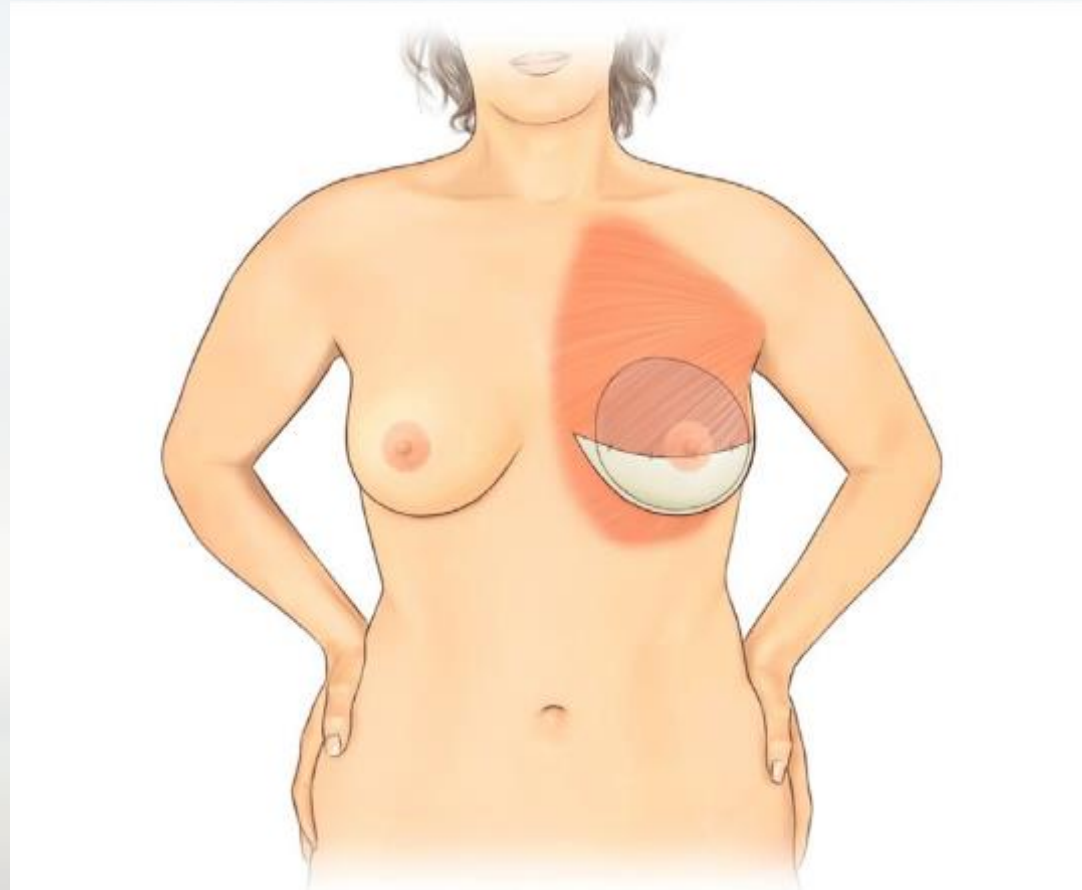
Oncoplastic Breast Surgery

- Dual trained in breast general surgery and plastic breast surgery
- National Oncoplastic Fellowship (Royal College of Surgeons)
- Mastectomy and Reconstruction
- Lumpectomy with optimisation of breast appearance
- Fat filling / perforator flaps / breast reduction / mammoplasty / nipple reconstruction / contralateral symmetrisation
- Breast aesthetic surgery (breast reduction / augmentation / breast lift / nipple eversion / gynaecomastia)

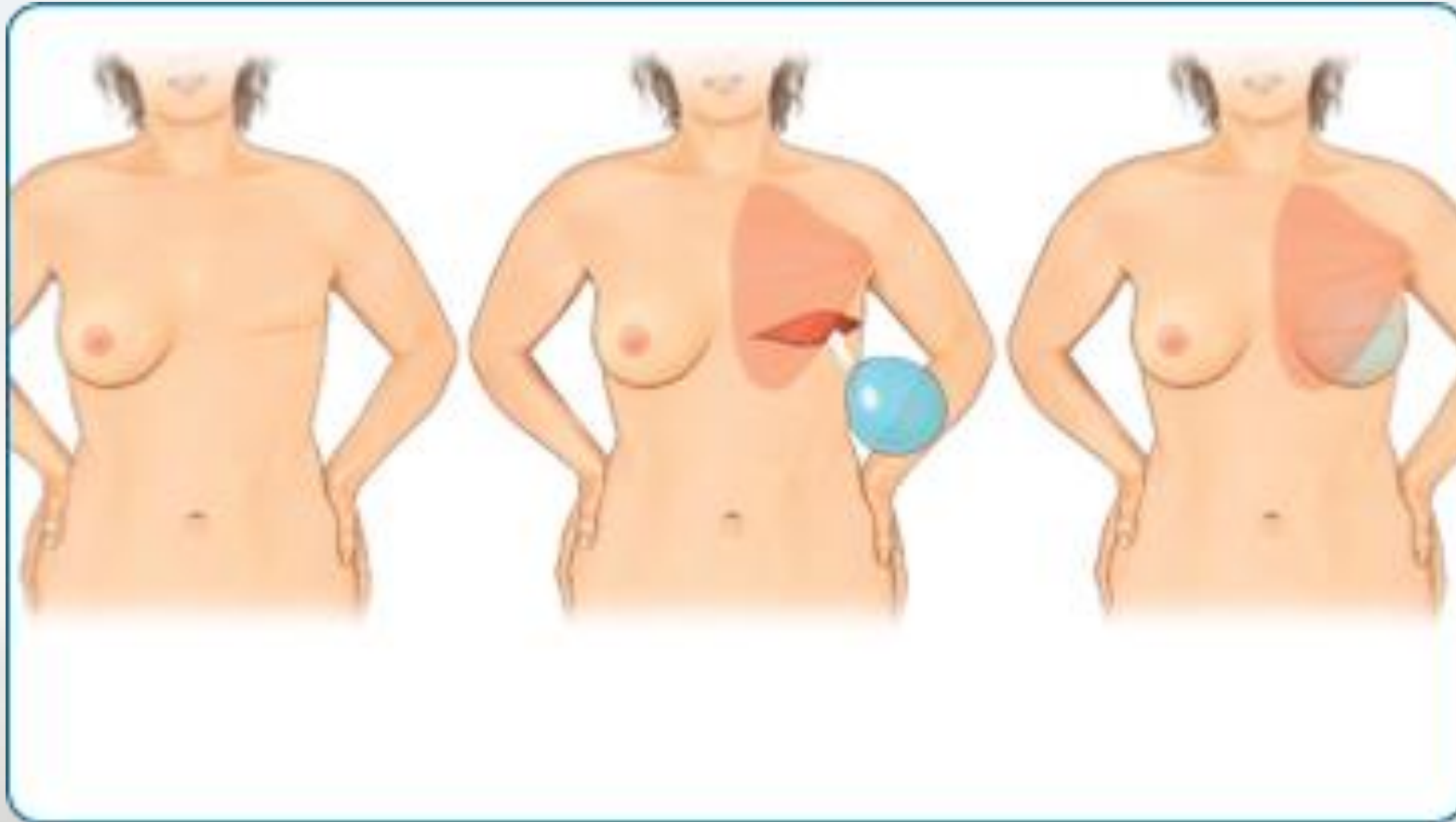
Latissimus Dorsi Reconstruction



Immediate Implant Reconstruction



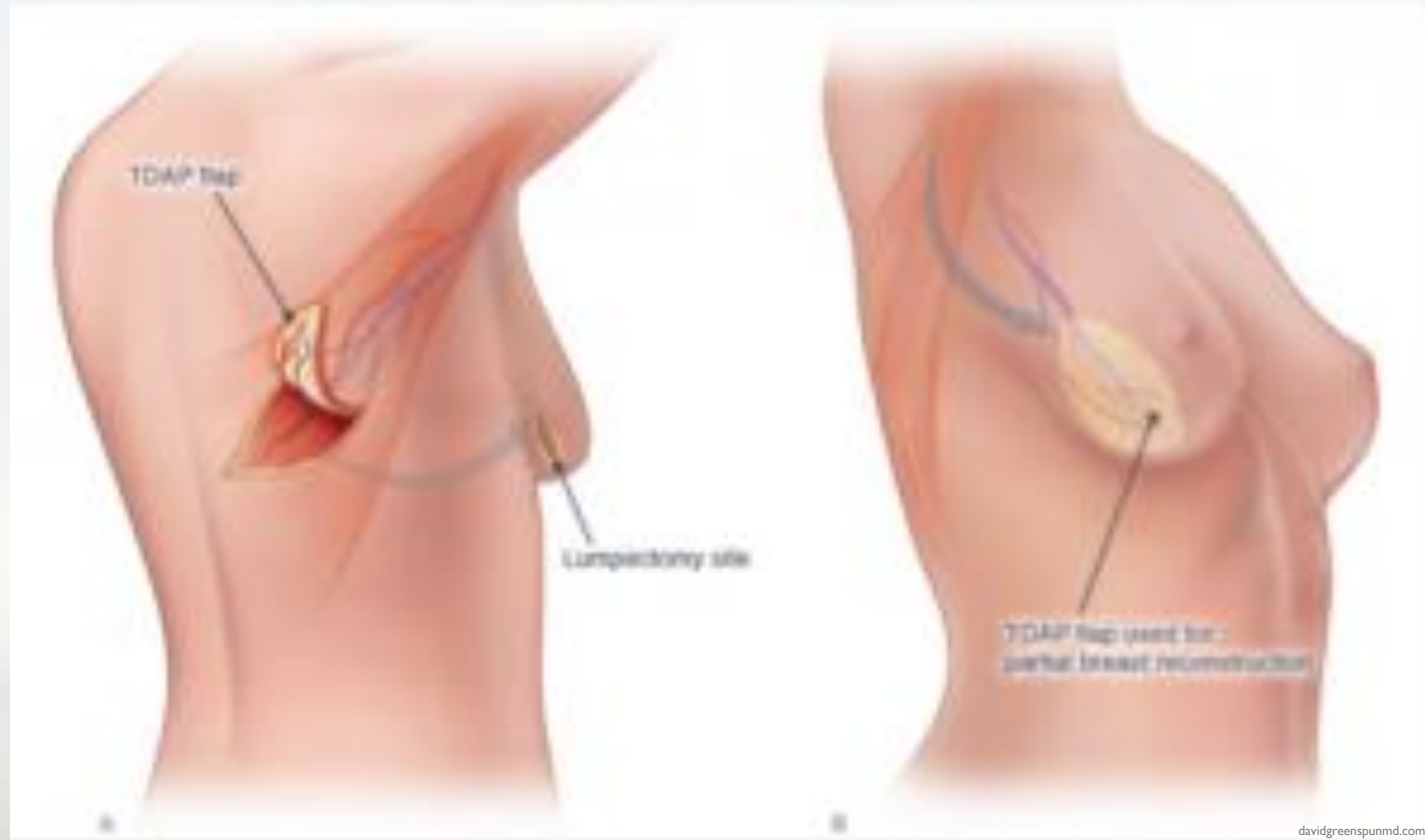
Delayed Implant Reconstruction



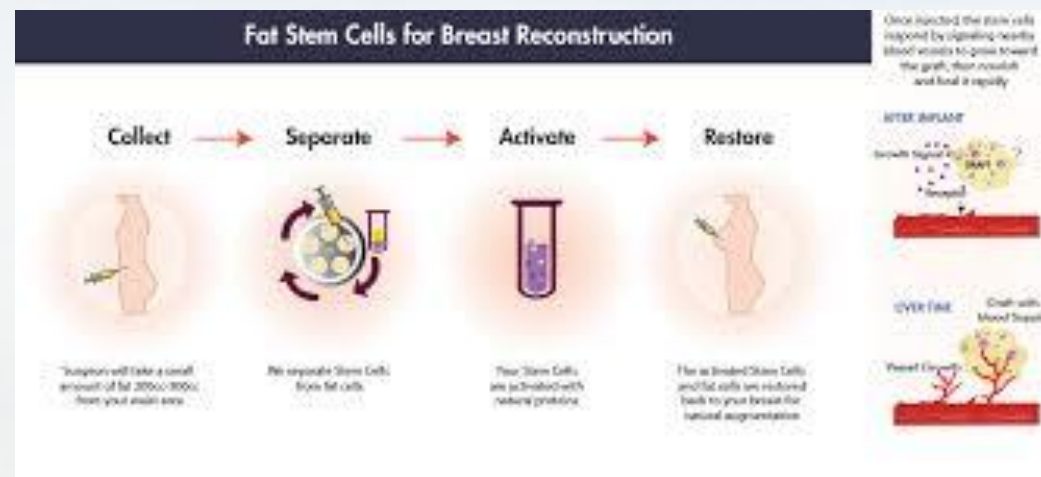
Therapeutic mammoplasty



LICAP flaps



Lipomodelling



COVID adjustments

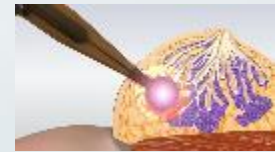
- More telecommunication (but still need F2F for full breast assessment)
- Excellent safety measures in clinics and theatres
- Masks / social distancing / hand gel / control waiting room numbers / one way system / cleaning rooms inbetween patients / PPE with visor for examination
- Theatres: shielding pre and post-op, COVID swab pre-op . Full PPE / FFP3/ laminar flow
- Some loss of theatre capacity during height of pandemic - now returning
- Patients who delayed seeking assessment - now coming forward

Breast Service of the Future

- Less is more
- Maximum tolerable —> minimum effective (continue this journey)
- Best cancer outcomes **and** best quality of life
- More day case surgery / less pain / intraoperative LA blocks
- More breast conservation / less mastectomies (extended indications for BCS)
- Less axillary surgery (less lymphoedema) ...Z011 study (USA)...POSNOG trial (UK)
- More neoadjuvant treatment (—>more breast conservation / TLND)
- Magseed (small magnetic localiser clips rather than wires)

Breast Service of the Future

- More oncoplastic techniques (LICAPs, mammoplasties, ?simultaneous lipofilling)
- More immediate implant reconstructions(home next day), pre-pectoral implants (less pain)
- More nipple-preserving mastectomies (selected cases / improved cosmesis / oncologically safe)
- More patient-tailored radiotherapy (Import Low / FastForward / IORT)
- Less diagnostic surgery —> more outpatient diagnostics (eg: needle suction biopsies)
- More research—> role of tumour microenvironment / immune system / immunotherapy



Questions



Breast Service of the Future

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Warwickshire Breast Clinic

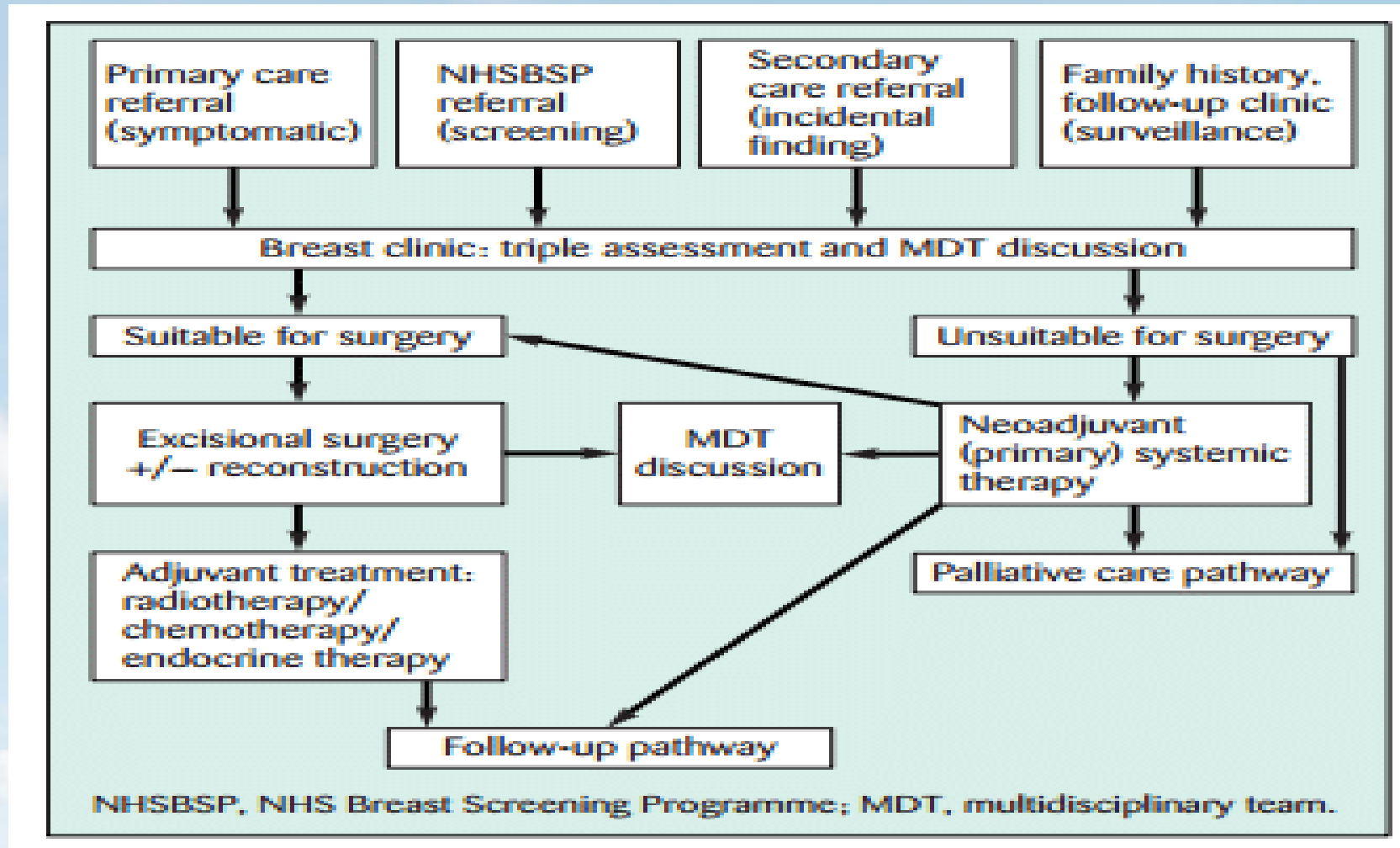
- Mr Stuart Robertson and Dr Penny Kechagioglou
- Warwickshire Nuffield Hospital and BMI Meriden Hospital
- Multidisciplinary Team – weekly Cancer MDTs at UHCW
- Chemotherapy Facility (Nuffield) – private rooms, chemo sister, cool cap x2, acute oncology service
- Immunotherapy and targeted agents
- Imaging – CT, MRI, Ultrasound, Mammography, Echo
- Joined surgical and oncology clinics – CNS support
- Lymphoedema support – Myton Hospice
- Breast Surgery

Radiotherapy centre at GenesisCare Little Aston



- Single Linac – SABR and conventional, partial breast RT
- Deep Inspiration Breath Hold (DIBH) radiotherapy
- Surface Guided RT
- Image Guided RT
- Integrative Medicine in collaboration with Penny Brohn UK

Current Breast Cancer Pathways



Why challenge status quo in Breast Cancer Care

- Variable Radiotherapy treatment access and quality → reduced fractionation (5 from 15) and centralised dosimetry to speed access to treatment
- One size does not fit all → personalised treatments according to genetic and tumor risk factors
- Technique evolution → whole breast to partial breast, conformal to arc therapy to reduce normal tissue toxicity and cover target more accurately
- Right sided as well as left sided DIBH → reduce dose to lungs, heart and liver (COVID-19)
- Patient reported outcome measures → Real World Data
- Multi-disciplinary approach to decision-making, and radiotherapy planning → virtual MDT & peer review
- Integrative Oncology Care – HOPE course, @Yestolife, Exercise medicine, lymphoedema service (Myton Hospice)

Breast Cancer burden is increasing, access to timely Breast Radiotherapy is critical

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Original Article

The Effect of Waiting Times for Postoperative Radiotherapy on Outcomes for Women Receiving Partial Mastectomy for Breast Cancer: a Systematic Review and Meta-Analysis¹

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Abstract

Aims: To determine the effect of delay in postoperative radiotherapy on local recurrence and overall survival in women receiving partial mastectomy for breast cancer.

Methods and results: This was a systematic review and meta-analysis of published literature. Relevant reports were identified from MEDLINE, EMBASE and Cochrane Register of Controlled Trials in all languages from 1976 to April 2016. In addition, authors were invited to submit reports of major radiotherapy conferences from 2009 to 2011. Reference lists were hand searched for additional relevant reports and PubMed, Medline, Embase, Cochrane and other relevant papers identified in the primary search. Studies were included if they met the following criteria: (1) patients received partial mastectomy and radiotherapy; (2) delay from surgery to radiotherapy was reported and (3) one or more of local control, distant relapse or overall survival were reported. Distant relapse and overall survival data were included if studies included patients with breast disease were included if studies were classified as high quality if they adequately controlled for bias in terms of the association with the outcomes of interest. Only quality studies were included in the primary analysis. Delay was defined as a median wait time and the relative risk of local recurrence and overall survival at 5 years were reported. The study protocol was published using a fund of research.

Results: Thirty-four relevant publications including 14,436 patients were identified in the systematic review. Ten high-quality publications reported on local recurrence (1,391 patients) and five high-quality studies reported on overall survival (2,047 patients). The relative risk of local recurrence per week of delay was 1.03 (95% confidence interval 1.03–1.04). The relative risk of death per month of delay was 1.09 (95% confidence interval 1.05–1.13).

Conclusions: Delay in postoperative radiotherapy was associated with a significant increase in the risk of local recurrence. We recommend that waiting times for radiotherapy should be kept as short as reasonably achievable.

Keywords: Breast cancer; radiotherapy; waiting times

Introduction

Breast cancer is one of the most common malignancies in the US and around the world, with most cases detected at an early stage [1]. Multiple randomized trials and meta-analyses have shown that breast-conservative therapy (BCT), consisting of partial mastectomy followed by postoperative radiotherapy, provides long-term survival equivalent to that of total mastectomy in women with early breast cancer [2]. Although mastectomy alone remains an

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EM consulte

Article original

Impact pronostique du délai d'induction de la radiothérapie adjuvante dans le cancer du sein

Pronostic impact of breast cancer adjuvant radiotherapy delay

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Introduction

Le cancer du sein est la première cause de mortalité par cancer chez la femme. Le traitement standard de référence du cancer du sein est la chirurgie suivie de la radiothérapie adjuvante. L'impact pronostic du délai d'induction de la radiothérapie adjuvante a été étudié dans plusieurs études cliniques randomisées. Les patients avec un délai d'induction de la radiothérapie adjuvante de plus de 90 jours ont une survie globale inférieure à celle des patients avec un délai d'induction de la radiothérapie adjuvante de moins de 90 jours. Ces données suggèrent que le délai d'induction de la radiothérapie adjuvante a un impact pronostic négatif sur la survie globale. Cependant, l'impact pronostic du délai d'induction de la radiothérapie adjuvante sur la survie globale n'a pas été étudié dans une étude clinique randomisée. L'objectif de cette étude est d'évaluer l'impact pronostic du délai d'induction de la radiothérapie adjuvante sur la survie globale dans une population de patients avec un cancer du sein.

Matériel et méthodes

Cette étude est une revue systématique et une méta-analyse de la littérature scientifique. Les données ont été recueillies à partir de PubMed, Embase, Cochrane et de conférences nationales et internationales de radiothérapie. Les études ont été incluses si elles ont évalué l'impact pronostic du délai d'induction de la radiothérapie adjuvante sur la survie globale chez des patients avec un cancer du sein. Les données ont été analysées à l'aide de la méthode de méta-analyse de DerSimonian et Laird. Les résultats ont été exprimés en termes de risque relatif (RR) et de intervalle de confiance à 95%.

Résultats

Un total de 14 436 patients ont été inclus dans l'analyse. Le délai médian d'induction de la radiothérapie adjuvante était de 103 jours. Le RR de récurrence locale par semaine de délai était de 1,03 (intervalle de confiance à 95% : 1,03–1,04). Le RR de mortalité globale par mois de délai était de 1,09 (intervalle de confiance à 95% : 1,05–1,13).

Conclusions

Le délai d'induction de la radiothérapie adjuvante a un impact pronostic négatif sur la survie globale. Nous recommandons que les délais d'induction de la radiothérapie adjuvante soient maintenus aussi courts que possible.

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Introduction

The main aim is to evaluate access to adjuvant radiotherapy for women with breast cancer and to study impact on prognosis.

Methods – A systematic literature search in the leading hospital of Toulon between January 2007 and 31st December 2015. All reports regarding an invasive breast cancer during this period were included with inclusion of women with breast cancer who received postoperative radiotherapy. Data between surgery and radiotherapy were recorded. Overall survival and recurrence free survival were used to evaluate the impact of delays on prognosis.

Results – Of the 14,436 women with an invasive breast cancer, 10,446 had an adjuvant radiotherapy with breast-conservative therapy. The median waiting time for radiotherapy was 103 days. The relative risk of local recurrence per week of delay was 1.03 [1.03–1.04]. The relative risk of overall survival per month of delay was 1.09 [1.05–1.13].

Conclusions – The delay of adjuvant radiotherapy had a negative impact on overall survival. We recommend that waiting times for radiotherapy should be kept as short as reasonably achievable.

Results

Of the 1855 women with an invasive breast cancer, 904 (48.7%) had an adjuvant radiotherapy without chemotherapy.

90 day delay

= Independent factor negatively impacting recurrence free survival HR = 2.12 [1.03–4.36] p = 0.04

70 day delay

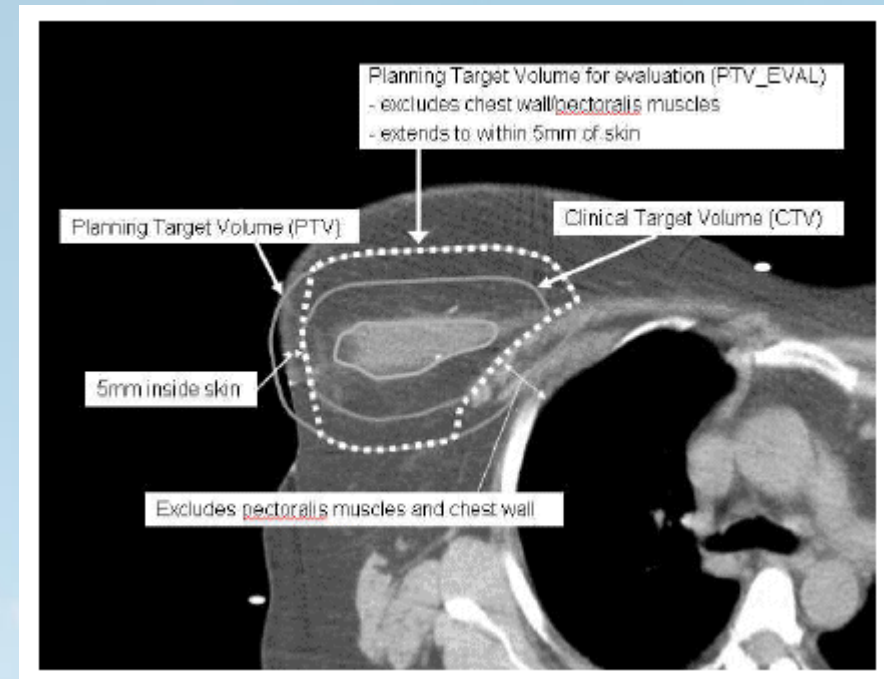
= Independent factor negatively impacting Overall survival HR 3.41 [1.005–11.62], p = 0.04

65 day delay

= Independent factor negatively impacting recurrence free survival HR = 2.29 [1.16–4.54], p = 0.02

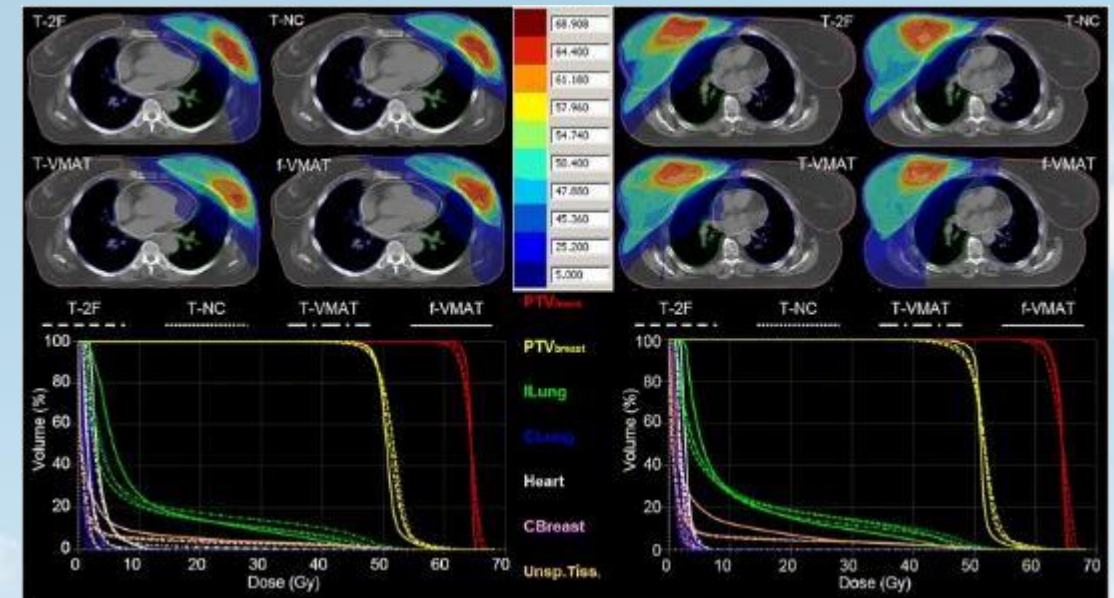
(Accelerated) Partial Breast Radiotherapy

- Adjuvant PBI should be offered to all eligible patients using 40Gy/15# or 26Gy/5# using DIBH ideally.
- UK consensus statement for PBI: to be considered for patients ≥ 50 y, G1-2, ≤ 3 cm, ER+/Her2-, N0, ≥ 2 mm margins (DCIS), ≥ 1 mm margins (invasive).
- APBI 30Gy/5# alternate days (Florence trial 10y data \sim 40Gy/15# conventional RT).
- Patients should be informed of choices.



Simultaneous Integrated Boost Radiotherapy

- Total dose 48Gy/15# to the boost area and 40Gy/15# to the whole breast at the same time.
- The boost area gets a 'hot dose' as this is the area of highest risk for local recurrence.
- Patients eligible for boost: <50y old and/or positive excision margins.
- Shorter treatment times (3 weeks rather than 4+ weeks), well tolerated and better dose distribution than 2-phase treatment.
- Ideally offered with DIBH, SGRT and IGRT.



Aly et al Radiation Oncology (2015) 10:139

Neoadjuvant radiotherapy in breast cancer

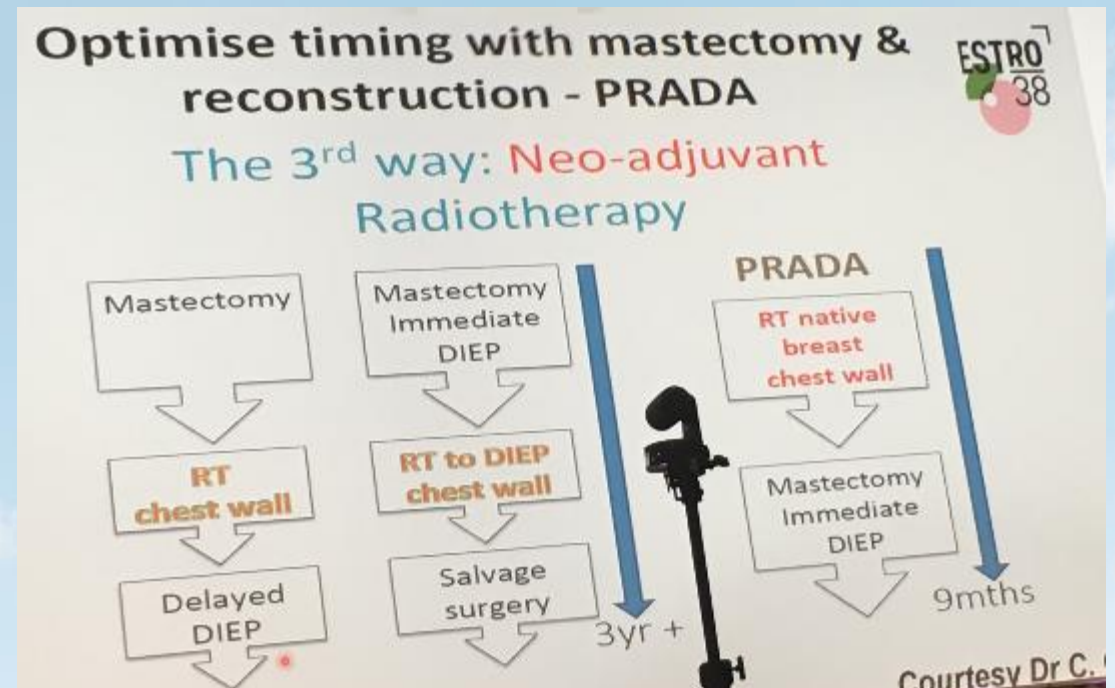
Pre-operative RT in France 1990s - good outcomes: 89% control rate at 25 years

Neoadjuvant concurrent chemo-RT (S14 trial) with surgery 6 weeks later

- 34% cCR, 27% pCR
- Acceptable toxicity

Why revisit pre-op RT?

- Some tumours respond poorly to pre-op systemic therapy
- Easier to delineate tumour volume
- Combinations with novel molecules can be explored
- Downstaging may help breast conservation surgery
- Optimise timing with mastectomy and reconstruction
- Avoid delays to RT from healing problems



Radiotherapy after breast reconstruction

EBCTCG overview shows RT improves OS

Steady increase in immediate implant reconstruction rates over recent years

Danish trial ongoing immediate vs delayed reconstruction

Complication	Delayed reconstruction (%)	Immediate reconstruction (%)
Mild capsular contracture	30	37
Severe capsular contracture	25	32
Major complications	18	31
Minor complications	49	39
Reconstruction failure	19	20
Successful implant reconstruction	83	80

Reirradiation in breast cancer

Amsterdam experience

For locally recurrent inoperable breast cancer undergoing reirradiation:

Response rate = 80% (often durable 2-3 years)

Ulceration = 40%

Fibrosis = 21%

Recommendations:

Consider reirradiation for patients with macroscopic inoperable disease

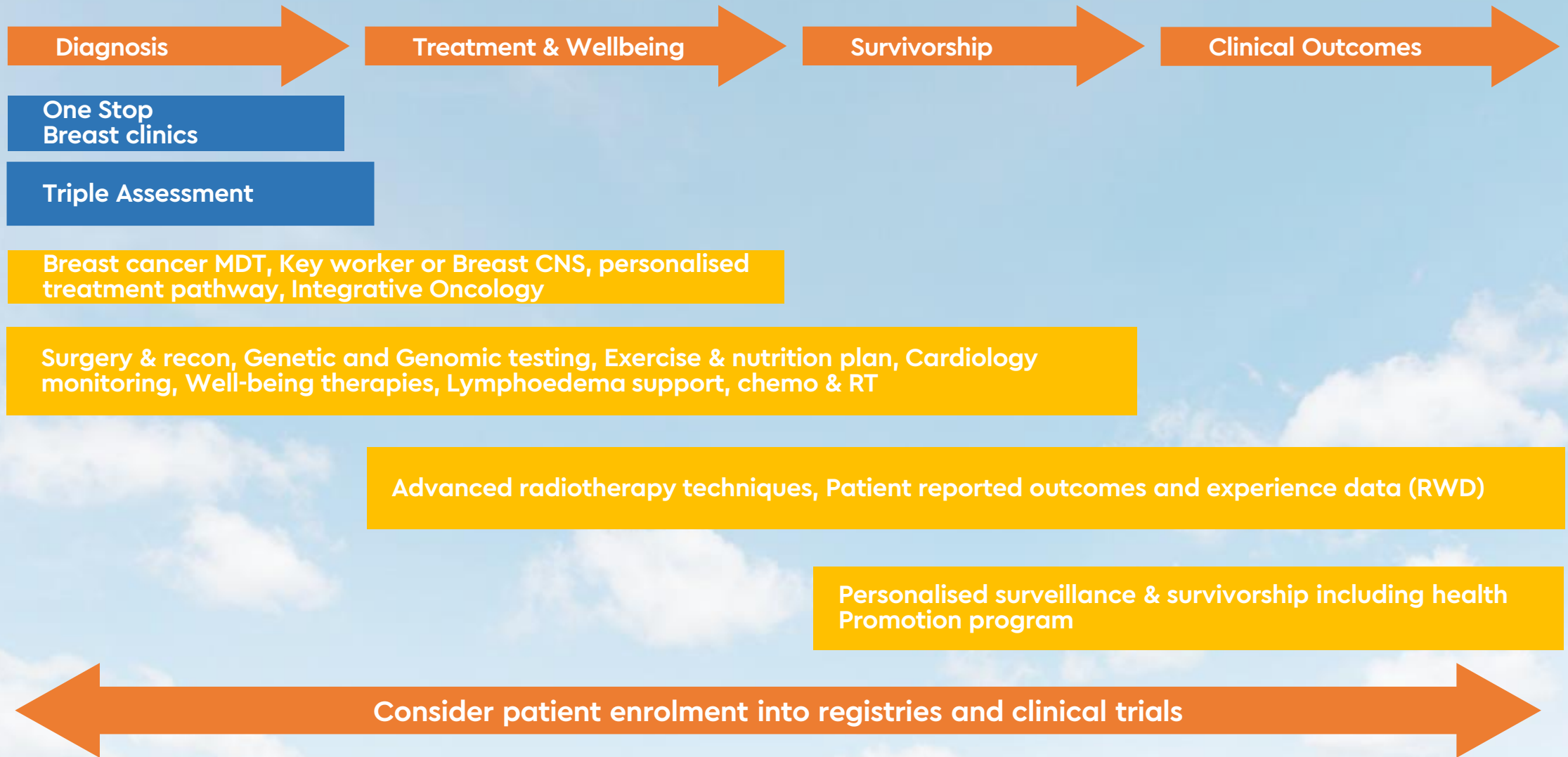
Complete resection and low risk = no RT

Complete resection with risk factors = consider reirradiation

Incomplete resection = strongly consider RT

Balance risks vs benefits

Breast Service of the Future – Care Excellence



Breast Cancer Care during Pandemic

www.warwickshirebreastclinic.com

COVID adjustments

- Telemedicine and Virtual clinics
- Genomic testing to choose patient for adjuvant chemotherapy
- Bridging endocrine therapy for low risk ER+ patients who can have delayed surgery
- Hypofractionated radiotherapy to reduce hospital footfall
- DIBH access crucial to reduce dose to heart and lungs
- Risks & Benefits of treatment 'first do not do harm'
- Treat the +ve well patients end of day with careful monitoring for complications

New Radiotherapy protocols and processes – COVID 19

Centralised radiotherapy planning and dosimetry

Hypofractionated radiotherapy regimens

Whole breast or prostate RT in 5 sessions instead of 15 and 20 respectively

Rectal cancer RT in 5 sessions and delay surgery for up to 12 weeks

Neoadjuvant radiotherapy (breast, sarcoma, rectum, upper GI)

Definitive radiotherapy for head/neck, bladder and cervical cancer

Stereotactic radiotherapy and radiosurgery

Live Questions on patient surveillance

• Case 1

36y old patient with Her2+ breast cancer presents 6m after Herceptin completion with headaches to your clinic. What do you do?

Choose one Answer:

- Send her home with analgesics, likely migraine
- Refer her for an urgent MRI scan of head and make an urgent referral to her oncologist
- Refer her back to her breast surgeon

• Case 2

54y old lady with past ER+ breast cancer presents to your clinic c/o ipsilateral breast pain but no lump felt. What do you do?

Choose one Answer:

- Do nothing, she has a mammogram due in 3 months
- Refer her back to her oncologist as it's likely Tamoxifen induced breast pain
- Refer her back to her breast surgeon for a clinical exam and further tests

Questions