

New clinical & biological insights at long-term follow up of the TARGIT-A randomised trial of risk-adapted single dose targeted intraoperative radiotherapy during lumpectomy (TARGIT-IORT) for breast cancer

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Radiotherapy during lumpectomy for breast cancer is better for patients #RCT

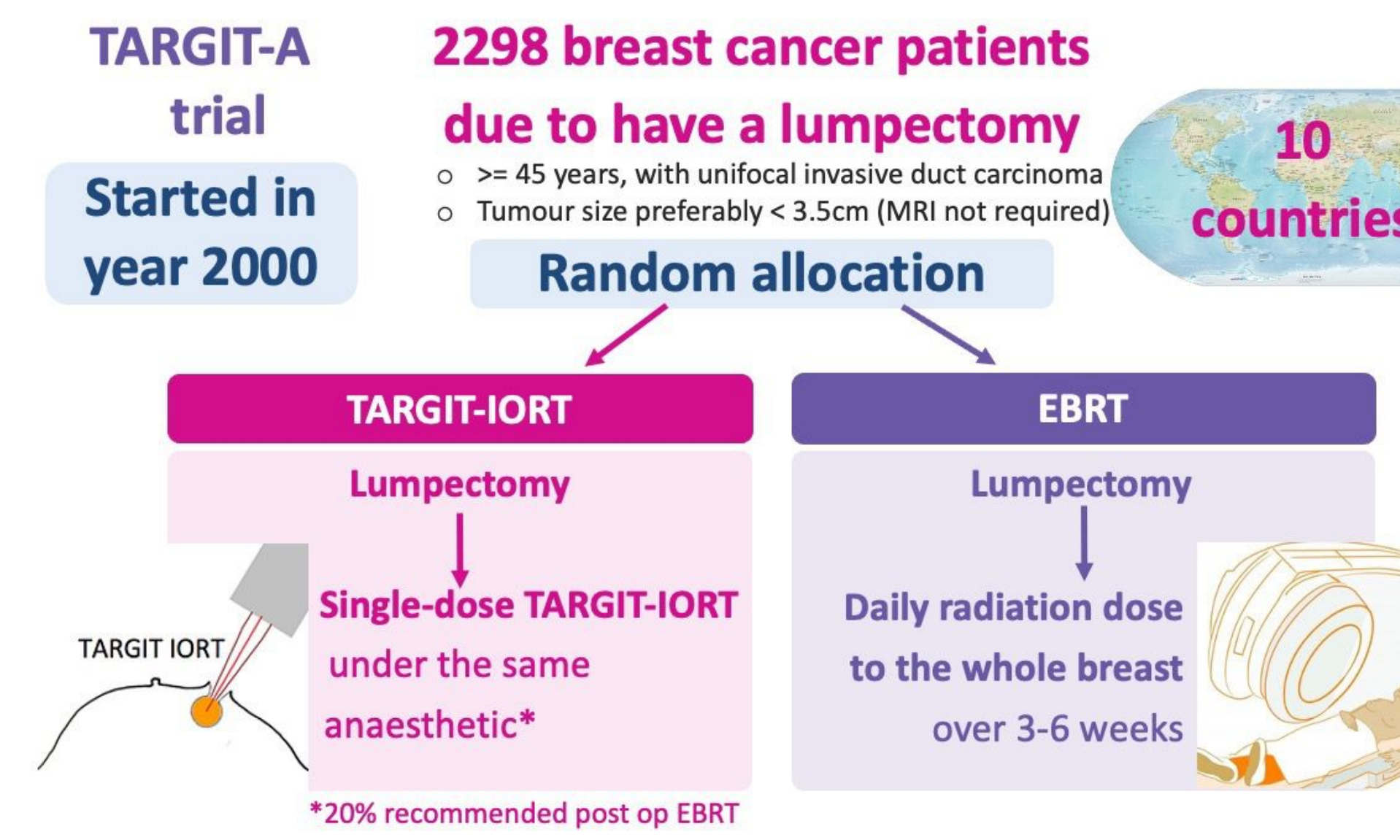
- ✓ As effective as whole breast radiotherapy for breast cancer control
- ✓ Substantially fewer deaths from cardiovascular causes and other cancers
- Non-breast cancer mortality reduced from 9.9% to 5.4% at 12 years

- ✓ Surgery & radiotherapy completed at the same time
- ✓ Less pain
- ✓ Less travel
- ✓ Less time off work or play
- ✓ ↑ Access to breast conservation
- ✓ Improved cosmetic outcome
- ✓ Fewer complications
- ✓ Lower toxicity
- ✓ Lower cost

- ✓ TARGIT-IORT found effective in all ductal subtypes
- ✓ Effective despite many high-risk cases, 488 (22%), 443 (20%) grade 3, node+, 426 (19%) ER/PgR neg
- ✓ Improved overall survival if grade 1 or 2, reducing overall mortality from 15.1% → 10.7% at 12 years
- ✓ A decision-aid for adding EBRT <https://targit.org.uk/addrt>
- ✓ Unlike EBRT, the hazard of breast cancer death is not increased with local relapse after TARGIT-IORT
- ✓ TARGIT-IORT reduces non-breast cancer mortality even when additional EBRT is given



The TARGIT-A international randomised controlled trial



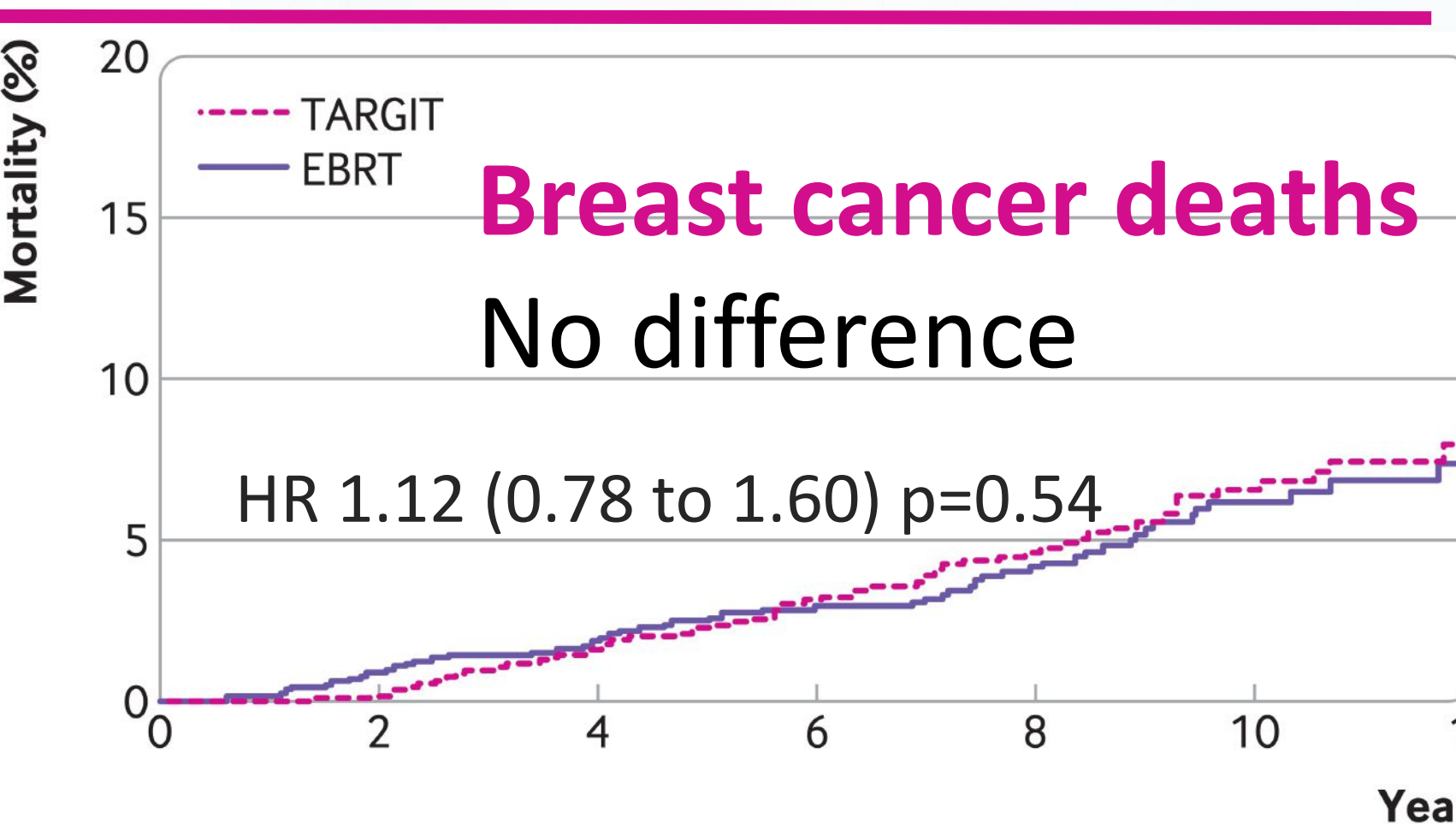
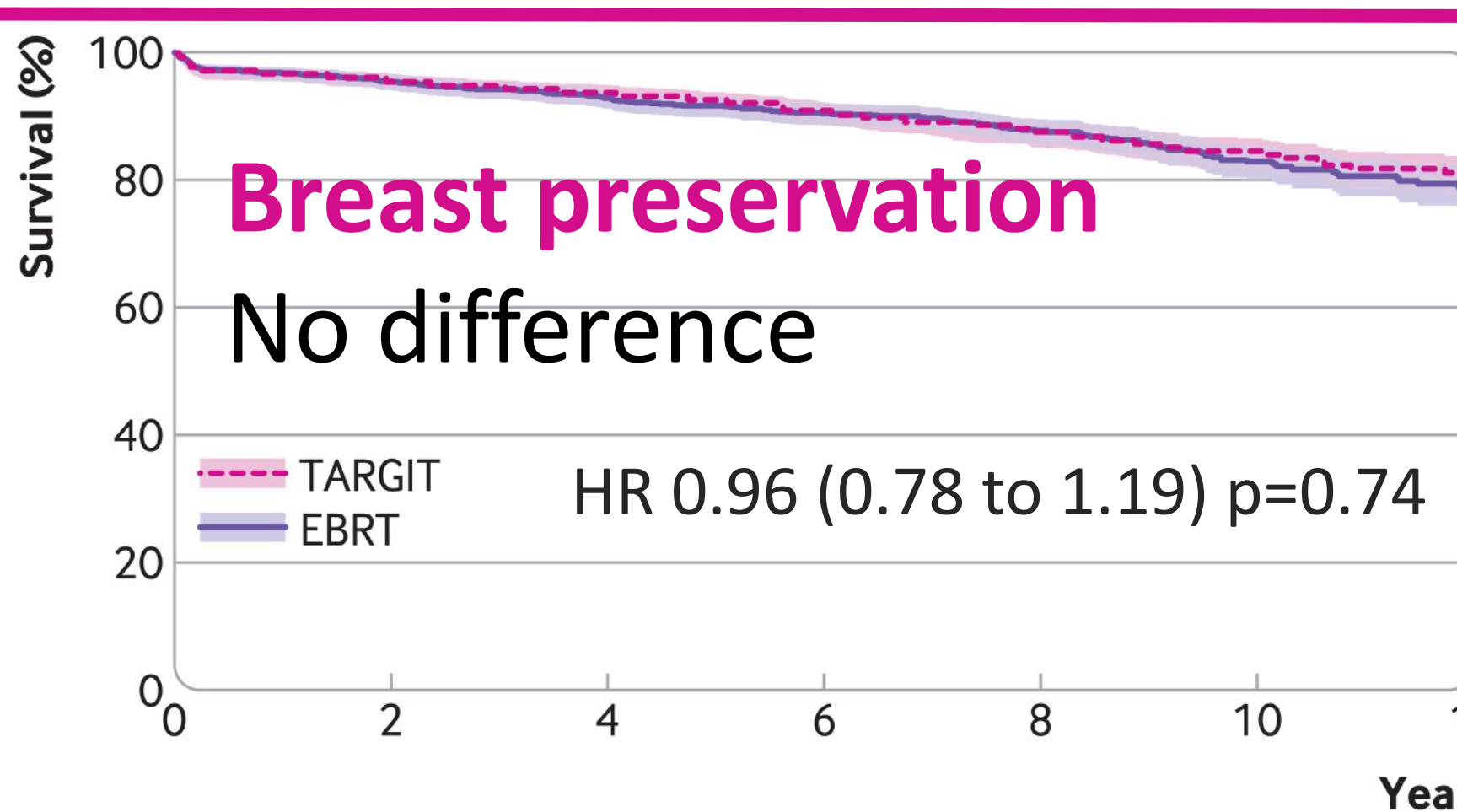
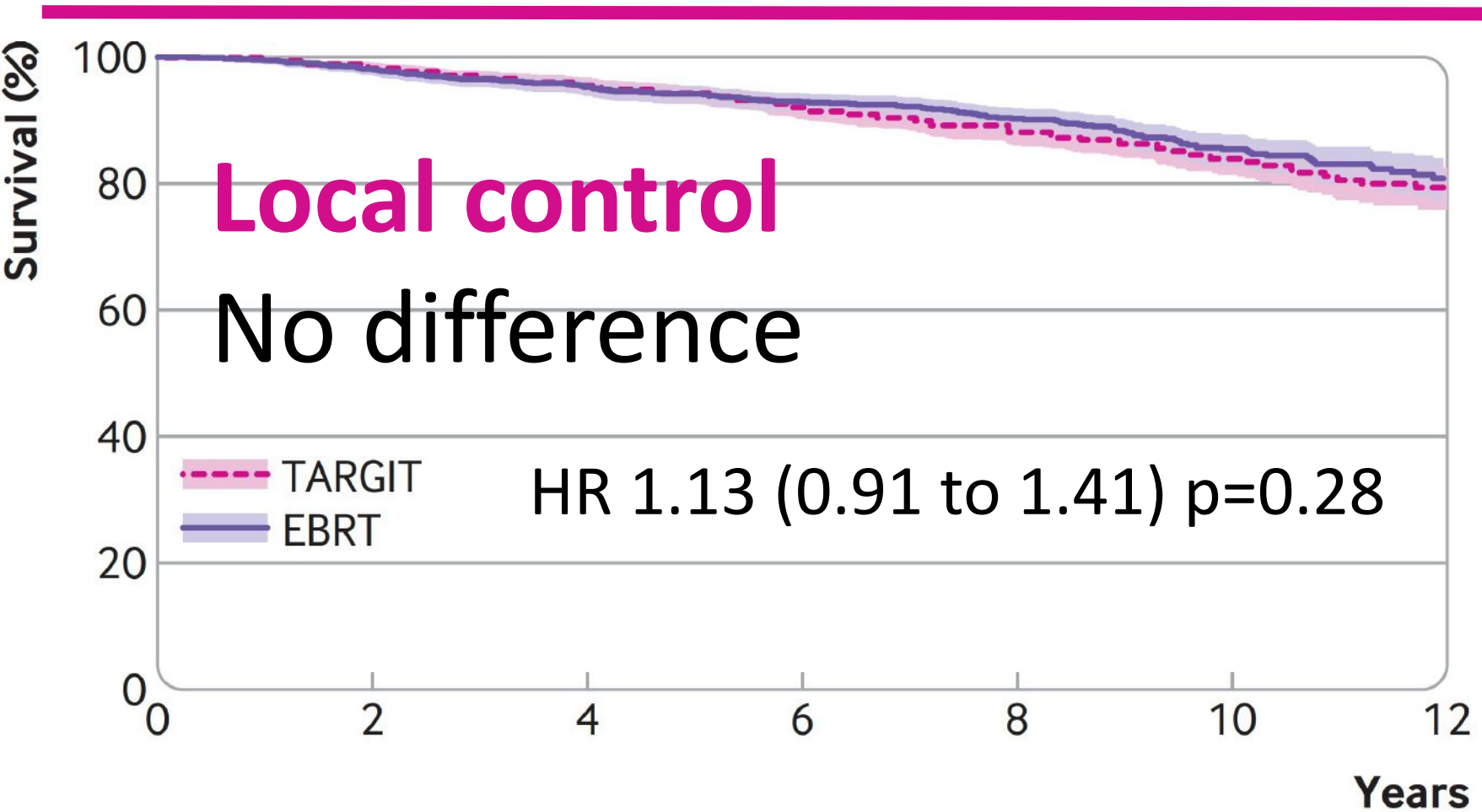
2298 patients from 32 centres, 10 countries
 The first patient randomised – 24 Mar 2000
 Data lock for long-term outcomes – 3 Jul 2019
 95% patients had at least 5-year follow up AND
 90% patients had either 10-year follow up or had been seen within previous year

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First results 2010

THE LANCET

“For selected patients with early breast cancer, a single dose of radiotherapy delivered at the time of surgery by use of targeted intraoperative radiotherapy should be considered as an alternative to external beam radiotherapy delivered over several weeks.”



Fewer Non-breast cancer deaths

TARGIT-IORT better
 HR 0.59 (0.40 to 0.86) p=0.005

Improved overall survival if Grade 1 or Grade 2, n=1797

Overall mortality reduction
 HR 0.72 (0.53 – 0.98) p=0.0361
 15.1% (EBRT) vs 10.7% (TARGIT)

