

FAST Phase III RCT of Radiation Therapy Hypofractionation for Treatment of Early Breast Cancer: 10-Year Results (CRUKE/04/015)

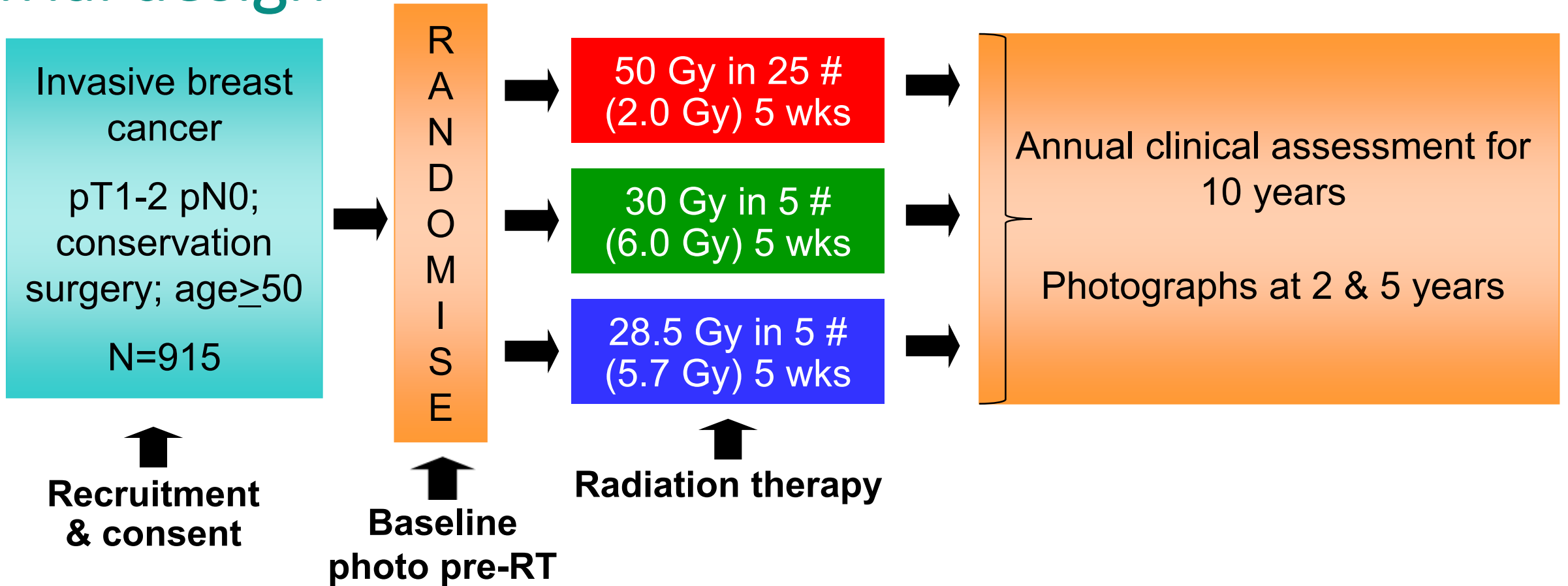
A. M. Brunt¹, J. Haviland², M. Sydenham², H. Algurafi³, A. Alhasso⁴, P. Bliss⁵, D. Bloomfield⁶, M. Emson², A. Goodman⁷, A. Harnett⁸, H. Passant⁹, Y. M. Tsang¹⁰, D. Wheatley¹¹, J. Bliss², and J. Yarnold¹

¹University Hospitals of North Midlands and Keele University, Stoke-on-Trent, United Kingdom, ²The Institute of Cancer Research, Sutton, United Kingdom, ³Southend Hospital, Southend, United Kingdom, ⁴Beatson West of Scotland Cancer Centre, Glasgow, United Kingdom, ⁵Torbay General Hospital, Torbay, United Kingdom, ⁶Royal Sussex County Hospital, Brighton, United Kingdom, ⁷Royal Devon and Exeter Hospital, Exeter, United Kingdom, ⁸Norfolk and Norwich University Hospital, Norwich, United Kingdom, ⁹Velindre Hospital, Cardiff, United Kingdom, ¹⁰Mount Vernon Cancer Centre, London, United Kingdom, ¹¹Royal Cornwall Hospital, Truro, United Kingdom

Disclosure for Dr. Brunt

- Dr. Brunt is employed as a Consultant Clinical Oncologist at University Hospitals of North Midlands, Stoke-on-Trent, UK
- Dr. Brunt has no conflicts of interest to disclose.

Trial design



Primary endpoint:

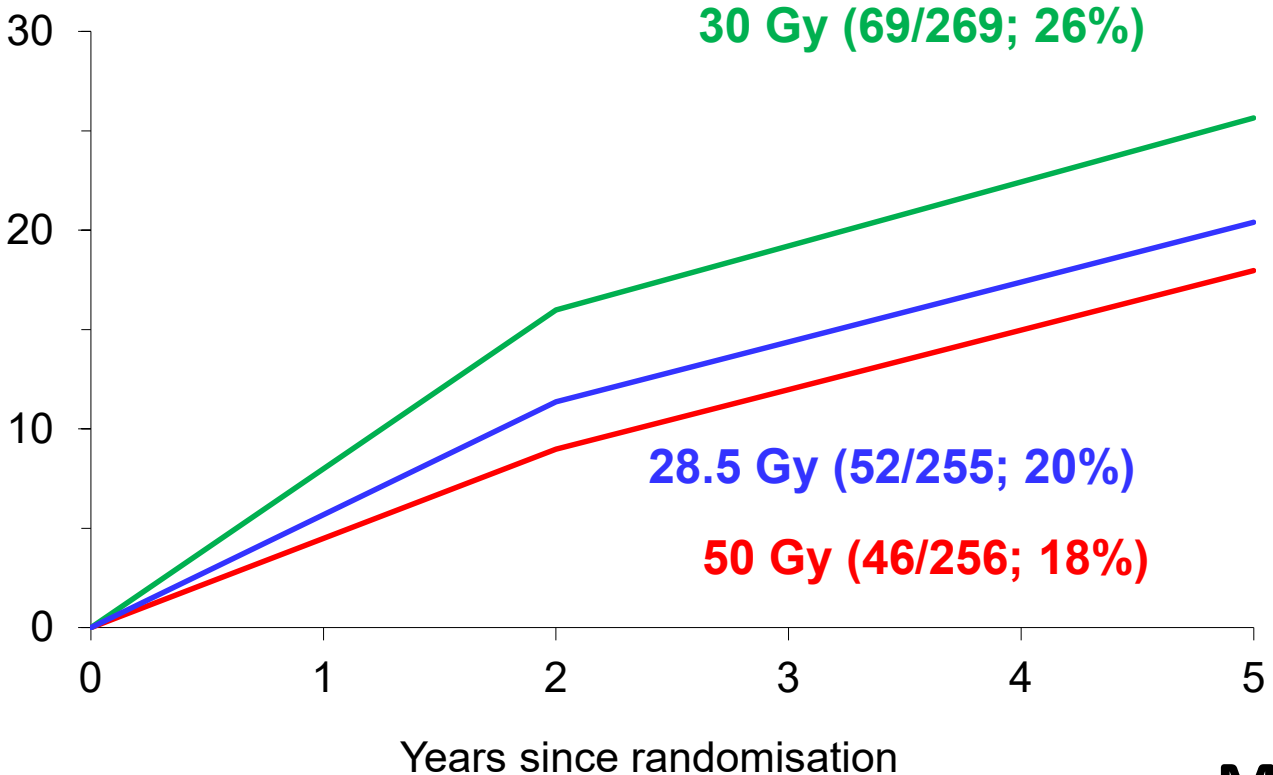
2-year change in photographic breast appearance

Secondary endpoints:

5-year change in photographic breast appearance
clinical assessments of late adverse events
ipsilateral local tumour control

Photographic assessment of overall change in breast appearance by 5 years

% with mild / severe change in breast appearance



Difference (95%CI)

30Gy vs 50Gy
 +7.4% (0.3, 16.7)
 p=0.03

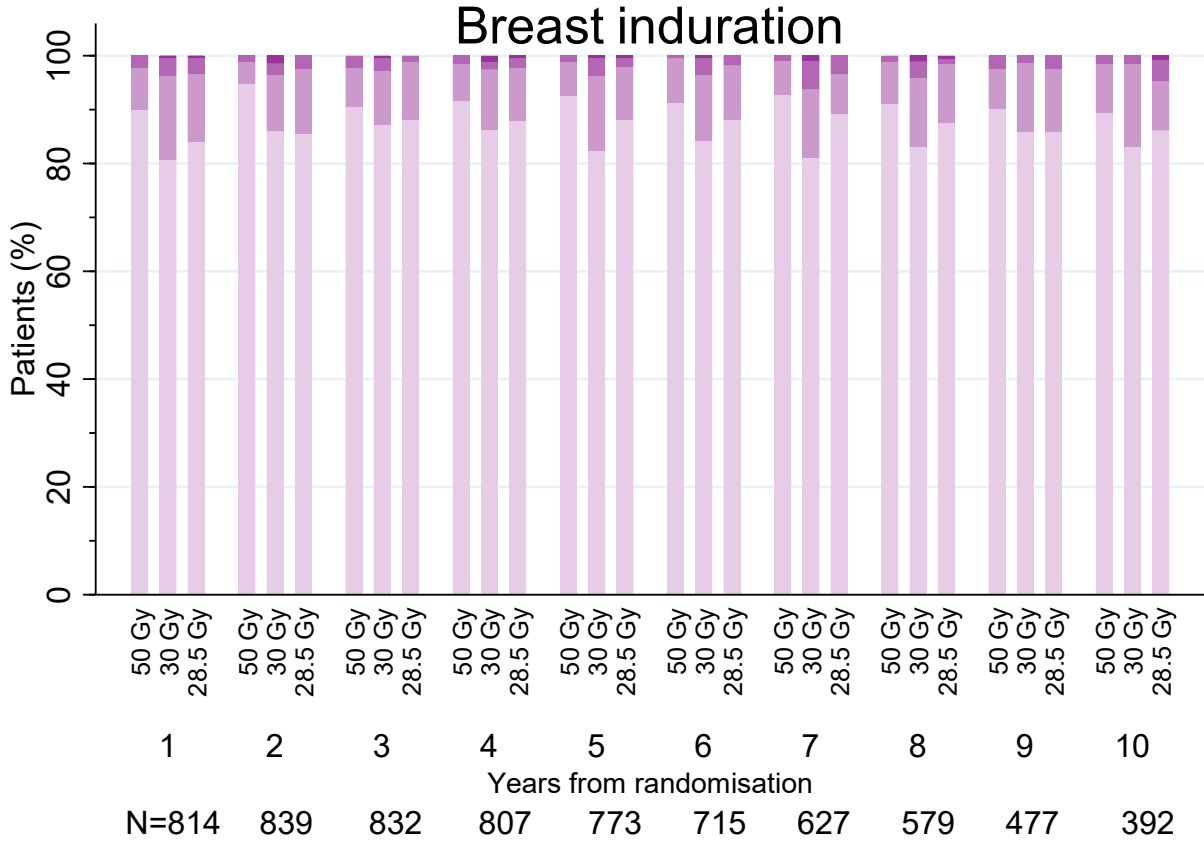
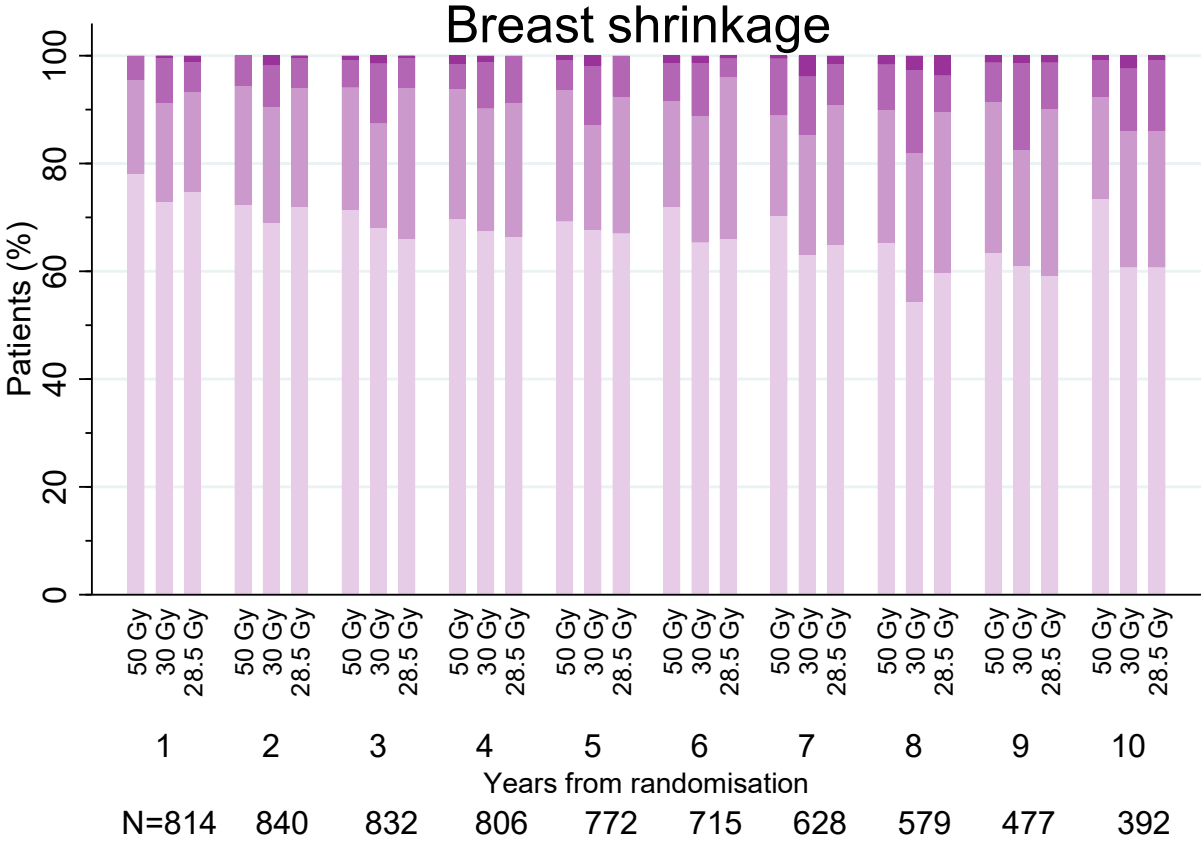
28.5Gy vs 50Gy
 +2.4% (-3.8, 10.8)
 p=0.47

Marked changes: 2%, 4%, 2%



Clinical assessments of late AE in breast

None Mild Moderate Marked



OR for moderate/marked shrinkage (95%CI)

30Gy vs 50Gy 1.88 (1.32, 2.67), p<0.001

28.5Gy vs 50Gy 1.11 (0.76, 1.64), p=0.59

OR for moderate/marked induration (95%CI)

2.39 (1.31, 4.35), p=0.004

1.67 (0.89, 3.16), p=0.11

Fractionation Sensitivity (α/β estimates)

Photographic change in breast appearance

$$\alpha/\beta = 2.4\text{Gy (95\% CI 0.4–4.3)}$$

Breast shrinkage (clinician assessment)

$$\alpha/\beta = 2.4\text{Gy (95\% CI 1.3–3.5)}$$

If $\alpha/\beta = 2.4\text{Gy}$,

28.5Gy in 5# \equiv 52.5Gy in 2.0Gy fractions

30.0Gy in 5# \equiv 57.3Gy in 2.0Gy fractions

27.7Gy in 5# \equiv 50.0Gy in 2.0Gy fractions (calculated)

Relapse and survival at median 10 years' follow-up

	50Gy/25# N=302	30Gy/5# N=308	28.5Gy/5# N=305	Total N=915
Local relapse	3	4	4	11
Regional relapse	2	0	3	5
Distant relapse	17	15	15	47
Death (breast cancer)	30 (7)	33 (8)	33 (10)	96 (25)

Estimate of 10-year local relapse rate: 1.3% (95%CI 0.7, 2.3%)

Conclusions

- Severe changes to normal breast tissue were rare
- Late adverse events (AEs) after 28.5Gy/5# over 5 weeks similar to 50Gy/25#
- Little change in prevalence of AEs between 5 & 10 years
- Local tumour relapse rate extremely low in all schedules
- Once-weekly 5# schedule may be considered when daily visit for 3 or 5 weeks not acceptable
- UK FAST-Forward trial is testing 5# delivered in 1 week