

Table 19: Clinical evidence profile: Comparison 1. Partial-breast radiotherapy versus whole-breast radiotherapy after breast-conserving surgery

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	RT-	RT+	Relative (95% CI)	Absolute		
Local recurrence free survival (follow-up 5 to 10 years; assessed with: Local recurrence in the ipsilateral breast as a discrete outcome)												
5	Randomised trials	No serious risk of bias	Serious inconsistency ¹	No serious indirectness	Serious ²	None	22/1741 (1.3%)	23/1666 (1.4%)	HR 0.98 (0.63 to 1.52)	0 fewer per 1000 (from 5 fewer to 7 more)	LOW	CRITICAL
Cosmesis, physician reported (follow-up 3 to 5 years; assessed with: global cosmetic scores, a cosmetic rating system for breast cancer, as well as digital photos)												
6	Randomised trials	Serious ³	Very serious ⁴	No serious indirectness	Very serious ⁶	None	309/1842 (16.8%)	294/1922 (15.3%)	RR 0.99 (0.57 to 1.72)	2 fewer per 1000 (from 66 fewer to 110 more)	VERY LOW	CRITICAL
Cosmesis, patient reported at 5 years follow-up (follow-up mean 5 years; assessed with: four-point scales)												
4	Randomised trials	Serious ³	Serious ⁵	No serious indirectness	Very serious ⁶	None	148/1041 (14.2%)	135/925 (14.6%)	RR 1.01 (0.67 to 1.51)	1 more per 1000 (from 48 fewer to 74 more)	VERY LOW	CRITICAL
Cosmesis, nurse reported at 5 year follow-up (follow-up mean 5 years; assessed with: four-point scale)												
1	Randomised trials	Serious ³	No serious inconsistency	No serious indirectness	Serious ²	None	56/171 (32.7%)	22/164 (13.4%)	RR 2.44 (1.57 to 3.81)	193 more per 1000 (from 76 more to 377 more)	LOW	CRITICAL
Acute radiotherapy (RT) skin toxicity (follow-up 0 to 90 days; assessed with: Radiation Therapy Oncology Group Common Toxicity Criteria (RTOG CTC) grade 2 or more)												
3	Randomised trials	No serious risk of bias	Very serious ⁴	No serious indirectness	No serious imprecision	None	148/927 (16%)	649/863 (75.2%)	RR 0.16 (0.08 to 0.33)	632 fewer per 1000 (from 504 fewer to 692 fewer)	LOW	CRITICAL
Late RT skin toxicity (follow-up 3 to 5 years; assessed with: Radiation Therapy Oncology Group Common (RTOG CTC) 5-point scale grade 2 or more)												
5	Randomised trials	No serious risk of bias	Very serious ⁴	No serious indirectness	Very serious ⁶	None	131/1644 (8%)	96/1531 (6.3%)	RR 0.97 (0.31 to 3.03)	2 fewer per 1000 (from 43 fewer to 127 more)	VERY LOW	CRITICAL
Breast Pain (follow-up 3 to 5 years; assessed with: Self-reported)												
3	Randomised trials	Serious ⁷	No serious inconsistency	No serious indirectness	Very serious ^{2,8}	None	74/1304 (5.7%)	79/1171 (6.7%)	RR 0.9 (0.67 to 1.2)	7 fewer per 1000 (from 22 fewer to 13 more)	VERY LOW	CRITICAL
Fat necrosis (follow-up 3 to 5 years; assessed with: Assessed with EORTC and NCI 5-point scale)												

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	RT-	RT+	Relative (95% CI)	Absolute		
3	Randomised trials	No serious risk of bias	No serious inconsistency	No serious indirectness	Very serious ^{2,8}	None	87/1010 (8.6%)	58/889 (6.5%)	RR 1.4 (0.98 to 2)	24 more per 1000 (from 1 fewer to 57 more)	LOW	CRITICAL
Health related quality of life (follow-up mean 2 years; measured with: Assessed using EORTC QLQ-C30 and BR23 module; Better indicated by lower values)												
1	Randomised trials	Serious ⁹	No serious inconsistency	No serious indirectness	Serious ²	None	105	100	-	MD 16 higher (10.99 to 21.01 higher)	LOW	CRITICAL
Overall survival (follow-up mean 5 years)												
3	Randomised trials	No serious risk of bias	No serious inconsistency	No serious indirectness	Serious ²	None	65/1562 (4.2%)	79/1485 (5.3%)	HR 0.76 (0.55 to 1.06)	13 fewer per 1000 (from 24 fewer to 3 more)	MODERATE	IMPORTANT
Disease-free survival (follow-up mean 5 years)												
4	Randomised trials	No serious risk of bias	No serious inconsistency	No serious indirectness	Serious ²	None	44/1690 (2.6%)	50/1615 (3.1%)	HR 0.93 (0.63 to 1.37)	2 fewer per 1000 (from 11 fewer to 11 more)	MODERATE	IMPORTANT
Distant metastasis-free survival (follow-up mean 5 years)												
4	Randomised trials	No serious risk of bias	No serious inconsistency	No serious indirectness	Serious ²	None	31/1690 (1.8%)	36/1615 (2.2%)	HR 0.9 (0.56 to 1.46)	2 fewer per 1000 (from 10 fewer to 10 more)	MODERATE	IMPORTANT
Treatment-related mortality												
1	Randomised trials	No serious risk of bias	No serious inconsistency	No serious indirectness	Serious ²	None	0/633 (0%)	0/551 (0%)	-	-	MODERATE	IMPORTANT

CI: Confidence interval; CTC, Common Toxicity Criteria; EORTC QLQ-30: European Organisation for Research and Treatment of Cancer Quality of Life Questionnaire; HR: Hazard ratio; NCI, National Cancer Institute; PBI: partial breast irradiation; RR: Risk ratio; RT: radiotherapy; RTOG: Radiation Therapy Oncology Group; WBRT: whole breast radiotherapy

¹ Clinical heterogeneity was substantial relating to radiotherapy dose, technique and use of quality assurance procedures.

² < 300 events.

³ Five of six studies were at high risk of bias for blinding of outcome assessors for subjective outcomes.

⁴ Very serious heterogeneity ($I^2 > 80\%$); random effects model used, no subgroup analysis accounted for heterogeneity.

⁵ Serious heterogeneity ($I^2 > 50\%$ but $< 80\%$); random effects model used, no subgroup analysis accounted for heterogeneity.

⁶ Effect estimate includes both default MID thresholds.

⁷ Blinding of participants to treatment group not possible for self-reported breast pain.

⁸ Effect estimate includes one default MID threshold.

⁹ Blinding of outcome assessors was not reported.