

# THE LANCET

## Gastroenterology & Hepatology

### Supplementary appendix

This appendix formed part of the original submission and has been peer reviewed. We post it as supplied by the authors.

Supplement to: Bach SP, Gilbert A, Brock K, et al. Radical surgery versus organ preservation via short-course radiotherapy followed by transanal endoscopic microsurgery for early-stage rectal cancer (TREC): a randomised, open-label feasibility study. *Lancet Gastroenterol Hepatol* 2020; published online Dec 10. [https://doi.org/10.1016/S2468-1253\(20\)30333-2](https://doi.org/10.1016/S2468-1253(20)30333-2).

## TREC supplementary tables and figures

Toxicity type	Toxicity grade	Randomised		Non-randomised	
		Organ saving (n=27)	TME surgery (n=28)	Organ saving (n=61)	TME surgery (n=7)
<b>All toxicity</b>					
	Grade 1-3	20/27 (80%)	2/3 (67%)	39/60 (75%)	-
	Grade 3	4/27 (15%)	0/3 (0%)	4/60 (7%)	-
<b>Specific toxicities</b>					
Anorectal pain	Grade 1-2	1	0	2	-
Constipation	Grade 1-2	1	0	4	-
Cystitis	Grade 1-2	6	0	11	-
Diarrhoea	Grade 1-2	11	2	21	-
	Grade 3	4	0	3	-
Nausea	Grade 1-2	5	0	7	-
Proctitis	Grade 1-2	1	0	3	-
	Grade 3	2	0	2	-
Rectal bleeding	Grade 1	1	0	5	-
Skin reaction	Grade 1-2	7	0	10	-
	Grade 3	0	0	1	-
Vomiting	Grade 1	2	0	3	-

**Supplementary table 1:** Radiotherapy toxicity by intention-to-treat using CTCAE v4.0 (reported at 3-weeks following completion of SCRT)

Treatment	1 <sup>st</sup> surgery	TNM stage 1 <sup>st</sup> surgery	R	High grade	Ly	V	2nd surgery	TNM stage 2 <sup>nd</sup> surgery	Local recurrence	Distant recurrence	Follow up time (yr)	DFS time (yr)	OS time (yr)
OP	TEM	ypT3Nx	R0	No	No	No	Declined early conversion LAR	n/a	Rectal wall (No salvage)	Para-aortic nodes	5.03	2.83	5.03
OP	TEM	ypT2Nx	R1	No	No	No	Salvaged by low Hartman [declined early conversion]	ypT0N2 (4/23)	Rectosigmoid lymph nodes (resected)	No	5.36	4.49	-
OP	TEM	ypT3Nx	R0	No	No	+	Converted APE	No residual tumour	No	Liver, lung	4.64	4.28	-
OP	TEM	ypT2Nx	R0	Yes	No	+	Converted LAR	ypT2LyV+N0R0	No	Liver & lung	4.96	2.46	-
OP	TEM	ypT3Nx	R0	No	No	No	Declined early conversion APE	n/a	Rectal wall (unfit for salvage)	No	2.57	1.75	-
OP	TEM	ypT2Nx	R0	Yes	No	+	Converted LAR	ypT2LyV+N0R1 (distal margin)	No	Liver, lung & adrenal	2.24	1.19	2.24
TME	LAR	pT2N0	R0	Yes	No	No	n/a	n/a	No	Lung	4.96	2.64	-
TME*	TEM	ypT2Nx	R0	No	No	No	Converted APE	No residual tumour	No	Liver & lung (resected)	4.08	0.35	-

**Supplementary table 2:** Characteristics of cancer recurrences in the randomised patient population. \* randomised to TME but primary treatment was OP (protocol deviation). [Key: TNM – tumour, node, metastasis; R – resection margin; Ly – lymphatic invasion; V – vascular invasion; sm – submucosal tumour stage; APE – abdominoperineal excision]

Treatment	1st surgery	TNM stage 1 <sup>st</sup> surgery	R	High grade	Ly	V	2nd surgery	Local recurrence	Distant recurrence	Follow up time (yr)	DFS time (yr)	OS time (yr)
OP	TEM	ypT2Nx	R0	No	No	+	No	No	Lung	5.85	1.36	-
OP	TEM	ypT1sm1Nx	R0	No	No	No	No	Mesorectal nodes	Liver	1.39	1.30	1.39
OP	TEM	ypT1sm1Nx	R0	No	No	No	Salvaged by APE	Rectal wall at TEM site	No	5.70	4.83	-
OP	TEM	ypT1sm3Nx	R0	No	No	No	No	Rectal wall at TEM site	Liver & lung	3.38	1.25	-
OP	TEM	ypT3Nx	R0	No	No	No	No	No	Liver	3.55	0.74	-
OP	TEM	ypT2Nx	R0	Yes	No	No	Unfit surgical salvage	Mesorectal and extra-mesorectal lymph nodes	No	1.66	1.66	-
OP	TEM	ypT0Nx	R0	No	No	No	Unfit surgical salvage	Rectal wall at TEM site	CT scan not done	2.52	1.41	-
OP	TEM	ypT0Nx	R0	No	No	No	No	No	Liver & lung	1.17	0.99	1.17
OP	TEM	ypT1sm2	R0	Yes	No	No	Salvage APE	Rectal wall and mesorectal nodes: ypT3N1R0	No	2.32	2.11	-

**Supplementary table 3:** Characteristics of cancer recurrences in the non-randomised patient population

[Key: TNM – tumour, node, metastasis; R – resection margin; Ly – lymphatic invasion; V – vascular invasion; sm – submucosal tumour stage; APE – abdominoperineal excision]

	Baseline		3 months		6 months		12 months		24 months		36 months	
	OP	TME	OP	TME	OP	TME	OP	TME	OP	TME	OP	TME
<b>EORTC QLQ C30 FUNCTION: higher scores = better function (0-100)</b>												
Global health status <sup>§</sup>	83.7 (2.7; 26)	79.5 (4.8; 24)	75.5 (3.5; 18)	63.2 (4.8; 24)	80.4 (3.4; 20)	73.2 (4.1; 23)	78.3 (3.5; 20)	69.9 (4.4; 23)	76.2 (5.3; 20)	69.4 (4.6; 21)	84.5 (1.7; 14)	67.6 (5.9; 18)
Physical functioning <sup>§</sup>	88.6 (3.3; 26)	85.6 (4.5; 24)	86.0 (3.4; 19)	73.1 (5.7; 24)	85.7 (4.2; 20)	81.2 (4.2; 23)	83.9 (4.4; 20)	78.2 (5.4; 22)	80.0 (5.1; 20)	79.2 (4.4; 21)	88.7 (1.9; 13)	79.0 (5.0; 17)
Role functioning <sup>§</sup>	93.6 (2.9; 26)	83.3 (6.6; 24)	77.2 (6.4; 19)	60.4 (6.9; 24)	84.2 (6.2; 20)	71.7 (6.1; 23)	87.5 (4.2; 20)	77.3 (6.0; 22)	78.3 (6.4; 20)	76.2 (5.8; 21)	89.7 (4.0; 13)	69.4 (7.2; 18)
Emotional functioning <sup>§</sup>	85.6 (2.5; 26)	74.0 (5.8; 24)	90.3 (3.4; 18)	74.7 (5.0; 24)	90.0 (2.6; 20)	81.9 (4.8; 23)	88.8 (2.7; 20)	79.5 (5.0; 22)	85.0 (4.2; 20)	81.1 (4.5; 21)	90.5 (2.9; 14)	76.9 (6.1; 18)
Cognitive functioning <sup>§</sup>	89.7 (3.3; 26)	81.2 (5.1; 24)	89.8 (4.7; 18)	79.2 (6.1; 24)	91.7 (3.3; 20)	85.5 (4.2; 23)	90.4 (2.6; 19)	84.8 (3.6; 23)	87.5 (4.5; 20)	86.7 (4.8; 20)	95.2 (3.7; 14)	76.9 (5.7; 18)
Social functioning <sup>§</sup>	94.9 (2.4; 26)	86.1 (6.1; 24)	82.4 (5.9; 18)	60.4 (6.9; 24)	90.8 (3.9; 20)	68.1 (6.2; 23)	91.7 (2.6; 20)	71.2 (7.0; 22)	83.3 (5.9; 20)	64.2 (7.8; 20)	90.5 (4.2; 14)	62.0 (6.0; 18)
<b>EORTC QLQ C30 SYMPTOMS: higher scores = worse symptoms (0-100)</b>												
Fatigue	16.2 (4.1; 26)	25.0 (5.8; 24)	17.8 (4.7; 19)	36.6 (5.4; 24)	18.9 (5.1; 20)	27.5 (5.0; 23)	15.6 (3.7; 20)	31.3 (5.6; 22)	21.1 (5.7; 20)	30.2 (5.2; 21)	12.0 (3.9; 13)	27.8 (5.6; 18)
Nausea and vomiting	3.2 (2.6; 26)	5.6 (2.2; 24)	1.8 (1.8; 19)	10.4 (4.5; 24)	2.5 (1.8; 20)	5.1 (3.7; 23)	5.8 (3.5; 20)	7.6 (4.2; 22)	5.0 (3.0; 20)	3.3 (1.9; 20)	1.3 (1.3; 13)	13.0 (6.1; 18)
Pain	13.5 (3.9; 26)	16.7 (5.4; 24)	9.6 (4.1; 19)	26.4 (6.6; 24)	16.7 (5.8; 20)	18.1 (5.8; 23)	10.5 (4.5; 19)	19.6 (5.0; 23)	15.0 (3.6; 20)	15.9 (3.7; 21)	9.5 (3.4; 14)	25.0 (5.9; 18)
Dyspnoea	9.0 (3.9; 26)	9.7 (5.1; 24)	7.0 (4.1; 19)	16.7 (5.7; 24)	18.3 (7.0; 20)	11.6 (4.0; 23)	18.3 (5.1; 20)	16.7 (6.1; 22)	13.3 (6.1; 20)	19.0 (7.1; 21)	7.7 (4.1; 13)	16.7 (5.6; 18)
Insomnia	19.2 (4.2; 26)	29.2 (6.7; 24)	24.6 (8.0; 19)	33.3 (6.0; 24)	23.3 (4.9; 20)	27.5 (5.4; 23)	23.3 (5.5; 20)	30.3 (6.2; 22)	20.0 (6.6; 20)	29.8 (7.2; 19)	10.3 (5.8; 13)	37.0 (7.1; 18)
Appetite loss	7.7 (4.6; 26)	15.3 (6.6; 24)	5.3 (2.9; 19)	20.8 (6.0; 24)	6.7 (3.9; 20)	10.1 (4.9; 23)	5.0 (5.0; 20)	13.6 (5.2; 22)	11.7 (4.4; 20)	12.7 (4.3; 21)	2.6 (2.6; 13)	16.7 (6.7; 18)
Constipation	0.0 (0.0; 26)	16.7 (5.3; 24)	5.3 (5.3; 19)	10.1 (4.4; 23)	3.3 (2.3; 20)	14.5 (5.9; 23)	3.3 (2.3; 20)	16.7 (5.3; 22)	10.0 (4.3; 20)	17.5 (4.9; 21)	7.7 (5.5; 13)	14.8 (4.0; 18)
Diarrhoea	11.5 (3.7; 26)	18.1 (5.7; 24)	9.3 (3.6; 18)	16.7 (5.3; 22)	11.7 (4.4; 20)	23.2 (6.8; 23)	8.8 (5.0; 19)	22.2 (7.4; 21)	8.3 (3.3; 20)	17.5 (5.5; 21)	4.8 (3.2; 14)	31.5 (8.3; 18)
Financial problems	1.3 (1.3; 26)	13.9 (6.3; 24)	1.9 (1.9; 18)	22.2 (7.7; 24)	6.7 (5.2; 20)	8.7 (4.3; 23)	1.7 (1.7; 20)	15.9 (5.5; 23)	11.7 (6.1; 20)	12.3 (5.2; 19)	0.0 (0.0; 14)	22.2 (8.1; 18)

**Supplementary table 4: EORTC-QLQ C30 PRO data [mean (SD; N)] over time for randomised patients; organ preservation [OP] using SCRT and TEM versus total mesorectal excision [TME]. <sup>§</sup> Function scores: higher scores = better function.**

	Baseline		3 months		6 months		12 months		24 months		36 months	
	OP	TME	OP	TME	OP	TME	OP	TME	OP	TME	OP	TME
<b>EORTC-QLQ C29 FUNCTION: higher scores = better function (0-100)</b>												
Body Image <sup>§</sup>	94.7 (2.0; 25)	76.2 (6.3; 24)	93.6 (2.3; 19)	61.3 (5.6; 24)	94.7 (2.0; 20)	67.9 (4.3; 23)	94.2 (2.0; 19)	69.8 (5.5; 23)	93.3 (2.2; 20)	66.1 (7.2; 21)	92.1 (2.7; 14)	66.4 (7.0; 18)
Health anxiety <sup>§</sup>	74.7 (4.8; 25)	53.3 (5.8; 25)	82.5 (6.4; 19)	51.4 (6.3; 24)	80.0 (4.5; 20)	66.7 (5.1; 23)	71.7 (5.6; 20)	63.8 (6.3; 23)	71.7 (5.6; 20)	57.1 (7.3; 21)	78.6 (4.4; 14)	68.5 (5.0; 18)
Weight worries <sup>§</sup>	84.6 (4.2; 26)	70.7 (7.0; 25)	91.2 (3.5; 19)	70.8 (6.4; 24)	95.0 (2.7; 20)	75.4 (7.0; 23)	95.0 (3.6; 20)	75.4 (5.6; 23)	86.7 (3.7; 20)	85.7 (4.9; 21)	85.7 (5.8; 14)	79.6 (6.1; 18)
Male libido (sexual interest) <sup>§</sup>	43.1 (6.9; 17)	30.6 (9.6; 12)	25.6 (6.7; 13)	13.9 (6.4; 12)	35.7 (5.5; 14)	27.8 (9.9; 12)	31.0 (5.5; 14)	25.0 (7.3; 12)	30.8 (8.8; 13)	33.3 (9.9; 10)	21.2 (6.8; 11)	36.4 (7.0; 11)
Female libido (sexual interest) <sup>§</sup>	13.3 (13.3; 5)	12.5 (6.1; 8)	0.0 (0.0; 5)	6.7 (4.4; 10)	0.0 (0.0; 4)	16.7 (6.3; 8)	0.0 (0.0; 2)	9.5 (6.1; 7)	11.1 (11.1; 3)	23.8 (6.1; 7)	0.0 (0.0; 2)	5.6 (5.6; 6)
<b>EORTC-QLQ C29 SYMPTOMS: higher scores = worse symptoms (0-100)</b>												
Urinary frequency	25.0 (4.7; 26)	34.0 (5.3; 25)	25.0 (6.1; 18)	34.8 (6.3; 23)	25.8 (5.7; 20)	37.1 (5.0; 22)	25.8 (5.1; 20)	31.2 (5.6; 23)	30.7 (5.7; 19)	34.2 (4.9; 20)	21.4 (6.2; 14)	34.3 (5.1; 18)
Blood/Mucous in stools	16.7 (4.0; 26)	29.3 (5.9; 25)	8.8 (3.2; 19)	7.2 (3.3; 23)	6.7 (2.8; 20)	3.2 (1.9; 21)	5.0 (1.8; 20)	9.1 (3.9; 22)	5.8 (3.7; 20)	3.2 (2.2; 21)	2.4 (1.6; 14)	7.4 (2.8; 18)
Stool frequency	9.4 (2.5; 23)	13.5 (3.9; 21)	26.5 (5.2; 17)	18.8 (4.1; 23)	18.4 (4.4; 19)	39.4 (6.7; 22)	18.5 (4.0; 18)	31.1 (4.9; 22)	14.6 (3.7; 16)	26.3 (5.5; 19)	14.3 (4.2; 14)	30.6 (5.6; 18)
Urinary incontinence	3.8 (2.8; 26)	10.7 (5.0; 25)	5.6 (3.0; 18)	17.4 (5.9; 23)	5.0 (2.7; 20)	16.7 (5.7; 22)	3.5 (2.4; 19)	23.2 (6.1; 23)	14.0 (5.3; 19)	15.0 (4.5; 20)	2.4 (2.4; 14)	14.8 (4.0; 18)
Dysuria	1.3 (1.3; 26)	4.2 (4.2; 24)	0.0 (0.0; 18)	13.0 (5.4; 23)	3.3 (2.3; 20)	6.3 (2.9; 21)	3.3 (2.3; 20)	8.7 (3.8; 23)	8.3 (4.1; 20)	1.7 (1.7; 20)	2.4 (2.4; 14)	1.9 (1.9; 18)
Abdominal pain	5.1 (3.6; 26)	13.9 (4.4; 24)	3.5 (2.4; 19)	18.8 (5.1; 23)	3.3 (2.3; 20)	9.1 (3.9; 22)	5.0 (2.7; 20)	14.5 (4.1; 23)	6.7 (3.1; 20)	15.9 (4.4; 21)	4.8 (3.2; 14)	16.7 (5.6; 18)
Buttock pain	3.8 (2.1; 26)	13.9 (5.3; 24)	14.0 (5.9; 19)	26.1 (6.3; 23)	10.0 (4.3; 20)	16.7 (5.3; 22)	5.0 (2.7; 20)	20.3 (5.8; 23)	13.3 (4.5; 20)	20.6 (5.4; 21)	7.1 (3.8; 14)	18.5 (6.2; 18)
Bloating	11.5 (3.7; 26)	18.7 (5.8; 25)	8.8 (3.5; 19)	26.4 (6.0; 24)	13.3 (3.7; 20)	16.7 (4.2; 22)	11.7 (4.4; 20)	26.1 (6.6; 23)	6.7 (3.9; 20)	11.7 (4.4; 20)	7.7 (4.1; 13)	22.2 (5.4; 18)
Dry mouth	11.5 (4.5; 26)	21.3 (6.0; 25)	8.8 (4.3; 19)	22.2 (5.6; 24)	13.3 (5.1; 20)	24.6 (7.3; 23)	13.3 (4.5; 20)	23.2 (6.4; 23)	20.0 (6.6; 20)	17.5 (5.5; 21)	14.3 (4.6; 14)	20.4 (7.2; 18)
Hair loss	1.3 (1.3; 25)	1.3 (1.3; 25)	7.0 (3.2; 19)	9.7 (4.2; 24)	3.3 (2.3; 20)	12.1 (5.2; 22)	0.0 (0.0; 20)	3.0 (2.1; 22)	1.7 (1.7; 20)	3.3 (2.3; 20)	4.8 (4.8; 14)	7.4 (5.8; 18)
Taste change	2.6 (1.8; 26)	8.0 (4.8; 25)	0.0 (0.0; 19)	15.3 (5.3; 24)	1.7 (1.7; 20)	7.6 (3.0; 22)	3.3 (2.3; 20)	13.0 (5.0; 23)	6.7 (3.9; 20)	9.5 (4.7; 21)	2.4 (2.4; 14)	3.9 (2.7; 17)
Flatulence	23.2 (4.9; 23)	35.0 (6.6; 20)	29.2 (7.4; 16)	33.3 (4.9; 22)	21.1 (6.4; 19)	42.0 (4.8; 23)	29.6 (6.0; 18)	42.4 (6.6; 22)	31.2 (6.4; 16)	40.0 (5.7; 20)	33.3 (7.8; 14)	40.7 (6.9; 18)
Faecal incontinence	2.9 (2.0; 23)	5.0 (2.7; 20)	17.6 (7.6; 17)	24.6 (5.2; 23)	15.8 (6.4; 19)	30.3 (5.8; 22)	17.6 (7.1; 17)	15.9 (4.4; 21)	12.5 (4.2; 16)	19.3 (6.4; 19)	19.0 (5.8; 14)	25.9 (8.8; 18)
Sore skin	4.3 (3.2; 23)	7.9 (3.2; 21)	19.6 (7.6; 17)	27.5 (5.4; 23)	19.3 (6.9; 19)	34.8 (6.4; 22)	7.4 (3.4; 18)	22.2 (5.3; 21)	8.3 (4.8; 16)	19.3 (6.4; 19)	7.1 (7.1; 14)	24.1 (5.3; 18)
Embarrassment about bowel function	5.8 (2.7; 23)	11.7 (5.6; 20)	17.6 (8.1; 17)	34.8 (6.8; 23)	12.3 (5.8; 19)	36.2 (7.2; 23)	16.7 (6.2; 18)	31.7 (7.1; 21)	10.4 (5.9; 16)	33.3 (7.3; 20)	7.1 (3.8; 14)	38.9 (7.3; 18)
Impotence	31.4 (7.8; 17)	21.2 (10.3; 11)	36.4 (11.4; 11)	25.0 (11.7; 12)	42.9 (8.1; 14)	55.6 (13.8; 12)	51.3 (10.4; 13)	48.5 (12.2; 11)	48.1 (14.8; 9)	51.9 (16.8; 9)	48.5 (13.8; 11)	53.3 (14.2; 10)
Dyspareunia	0.0 (0.0; 4)	0.0 (0.0; 5)	8.3 (8.3; 4)	11.1 (11.1; 3)	0.0 (0.0; 2)	16.7 (16.7; 2)	0.0 (0.0; 2)	11.1 (11.1; 3)	22.2 (22.2; 3)	11.1 (11.1; 3)	0.0 (0.0; 2)	13.3 (8.2; 5)

**Supplementary table 5: EORTC-QLQ C29 PRO data [mean (SD; N)] over time for randomised patients; organ preservation [OP] using SCRT and TEM versus total mesorectal excision [TME].<sup>§</sup> Function scores: higher scores = better function.**

EORTC QLQ C30	Baseline	3 months	6 months	12 months	24 months	36 months
<b>FUNCTION ITEMS</b>	<b>Percentage probability of benefit of OP vs TME surgery</b>					
Global health status <sup>§</sup>	73.5	98.6	93.8	95.8	94.6	94
Physical functioning <sup>§</sup>	81.7	93	75.1	89.5	85.7	81.7
Role functioning <sup>§</sup>	82.7	98.8	95.7	95	69	95
Emotional functioning <sup>§</sup>	98.4	99.7	97.3	99.3	95.9	97.3
Cognitive functioning <sup>§</sup>	95.8	95.3	85.8	92.3	82.3	98.2
Social functioning <sup>§</sup>	92	99.7	99.8	100	99.4	99.7
<b>SYMPTOMS ITEMS</b>						
Fatigue	93.7	99.5	88.3	99.5	87.1	89
Nausea and vomiting	74	96.6	75	74.3	41.4	97.7
Pain	73.3	97.6	51.5	88.6	52.1	80.9
Dyspnoea	63.1	88.6	21.5	54.2	77	72.8
Insomnia	94.9	82.8	75.6	87.4	92	97
Appetite loss	90.2	98.8	80.3	97.5	58.2	93.3
Constipation	99.8	78.6	96.7	99.6	88.7	81.8
Diarrhoea	89.6	85.1	93.6	97.8	92.3	99.4
Financial problems	98.6	99.8	66.9	99.1	75.8	99

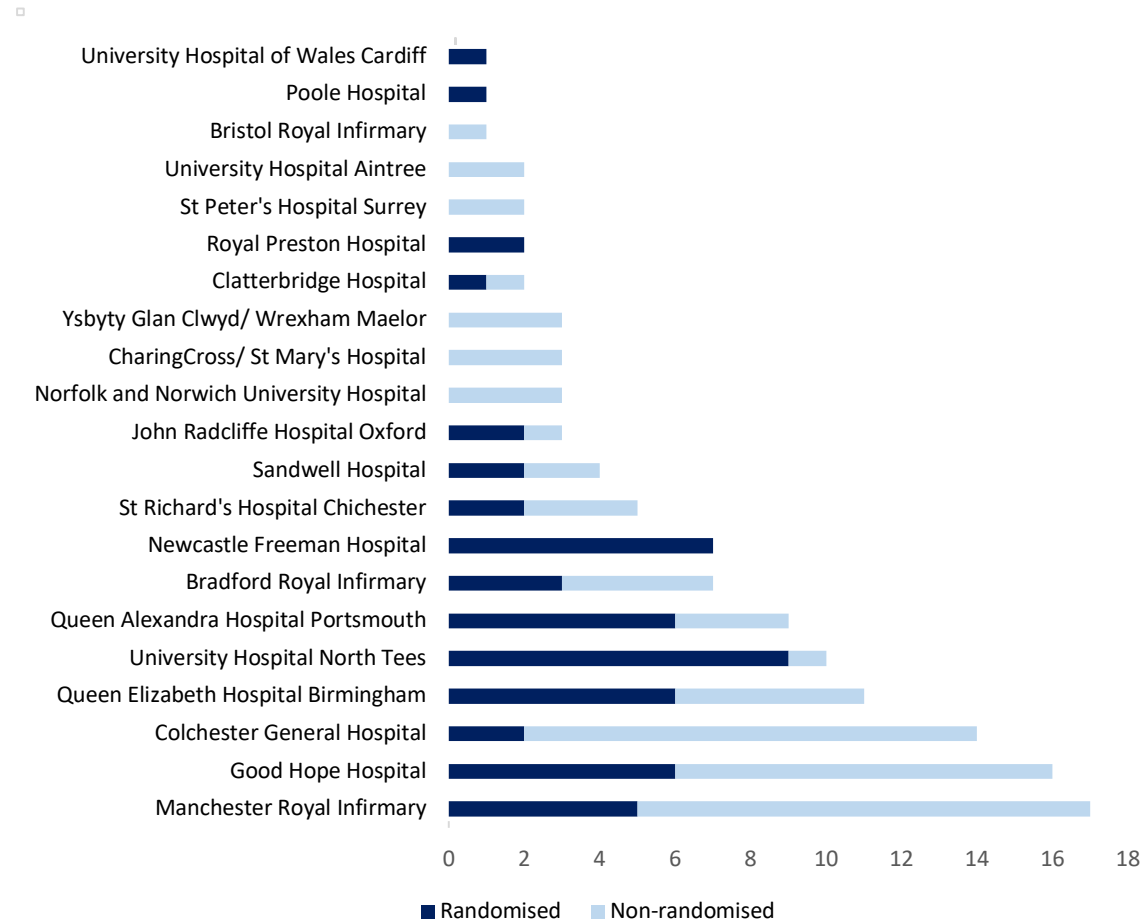
**Supplementary table 6:** Bayesian model analysis of EORTC QLQ C30 for randomised patients. <sup>§</sup> Function scores. FUNCTION: Probability that the mean score under SCPRT + TEMS is greater than that under radical surgery (adjusted for assessment timepoint and patient baseline value). SYMPTOMS: Probability that the mean score under SCPRT + TEMS is less than that under radical surgery (adjusted for assessment timepoint and patient baseline value). Note analysis not possible for female libido or dyspareunia items.

EORTC QLQ C29	Baseline	3 months	6 months	12 months	24 months	36 months
<b>FUNCTION ITEMS</b>	<b>Percentage probability of benefit of OP vs TME surgery</b>					
Body Image <sup>§</sup>	99.7	100	100	100	100	99.6
Health anxiety <sup>§</sup>	99.9	100	98	94.2	97.7	92.9
Weight worries <sup>§</sup>	94.8	96.9	99.7	100	58.3	69.5
Male libido (sexual interest) <sup>§</sup>	92.5	98	71.2	82	56.4	22.3
<b>SYMPTOM ITEMS</b>						
Urinary frequency	93.5	76.9	72	56.2	48.3	68.1
Blood/Mucous in stools	96.1	11.7	4.5	49.5	15.7	78.8
Stool frequency	89.7	27.7	99.9	98.9	98.2	96.6
Urinary incontinence	96.5	94.5	94.5	100	64.8	96.4
Dysuria	67.9	100	79.2	89.4	8.4	40.8
Abdominal pain	99.4	99.9	92.2	96.5	96.7	93.3
Buttock pain	97.2	93.5	80.2	98.5	83.8	68.3
Bloating	88.5	98.9	76.7	98.1	79.3	93.5
Dry mouth	92.2	97.9	90.2	96.5	42.7	47.7
Hair loss	36.1	43.9	84.7	99.1	55.2	31.9
Taste change	90.2	100	95.5	97.9	80.3	67
Flatulence	97.4	73.7	99.1	92.3	89	51.6
Faecal incontinence	93.3	81.8	96.2	67	83.6	51.5
Sore skin	95.3	91	97.4	99.7	96.6	99.9
Embarrassment about bowel function	98.8	98	99.4	98.9	99.8	99.9
Impotence	5	13.4	47.1	24	48.3	55.7

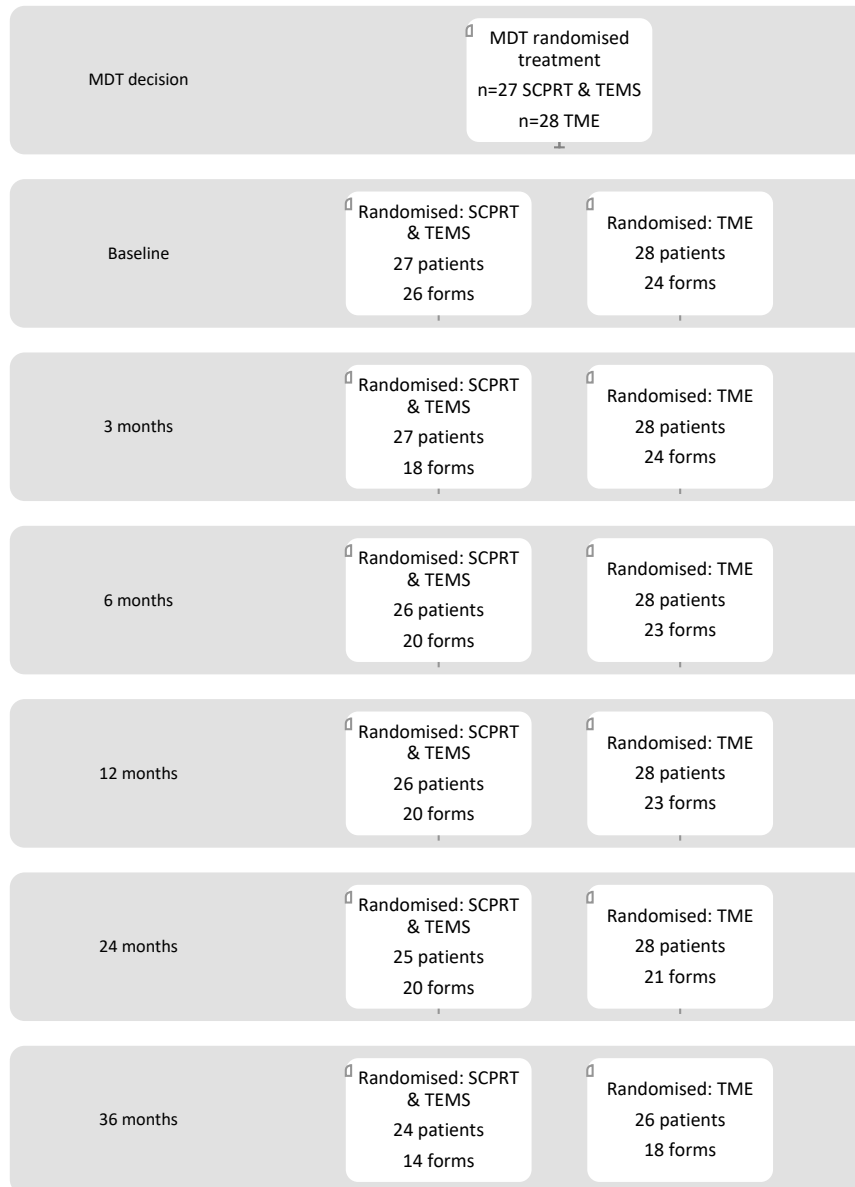
**Supplementary table 7:** Bayesian model analysis of EORTC QLQ CR29 for randomised patients. <sup>§</sup> Function scores. FUNCTION: Probability that the mean score under SCPRT + TEMS is greater than that under radical surgery (adjusted for assessment timepoint and patient baseline value). SYMPTOMS: Probability that the mean score under SCPRT + TEMS is less than that under radical surgery (adjusted for assessment timepoint and patient baseline value). Note analysis not possible for female libido or dyspareunia items.



**Supplementary figure 1:** cumulative recruitment of randomised and non-randomised (registered) patients according to site.



**Supplementary figure 2:** CONSORT diagram of study patients and complete PRO forms. MDT: Multidisciplinary team; SCPRT: Short course pre-operative radiotherapy; TEMS: Transanal endoscopic microsurgery; TME: Total mesorectal excision



## **TREC Collaborative Group**

**Chief Investigator:** Simon Bach (University Hospital Birmingham NHS Foundation Trust)

### **Trial management committee:**

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**Independent patient advocate:** Ann Russell

**University of Birmingham Clinical Trials Unit:** Peter Antonio, Manjinder Kaur, Laura Magill, Alex Vince, (trial management); Nick Hilken, Chakanaka Sidile, Adrian Wilcockson (programming); Kelly Handley, Natalie Marchevsky (statistics).

**Data Monitoring and Ethics Committee:** Richard Peto (Chair), Tom Crosby, Brendan Moran, Julie Olliff.

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