

**Table S1** Univariate binary logistic regression models of primary outcome: flap failure versus various predictors

Predictor	Comparison	Odds ratio <sup>†</sup>	95% CI		Comparison P value	Global P value
			Lower limit	Upper limit		
Gender	Female vs. male	2.18E-11	Did not converge			0.9999
AJCC staging	1 vs. 2	8.3E-12	Did not converge		>0.9999	<0.0001
	1 vs. 3	3.27E-12	Did not converge		>0.9999	
	1 vs. 4	1.0002	Did not converge		>0.9999	
	2 vs. 3	0.3936	0.03435	4.5106	0.4537	
	2 vs. 4	1.206E-11	1.052E-10	1.381E-12	<.0001	
	2 vs. 5	3.063E-11	3.063E-11	3.063E-11		
Smoker	Non vs. ex	0.9494	0.05833	15.4530	0.9709	0.8494
	Non vs. current	0.4810	0.02929	7.8997	0.6083	
	Ex vs. current	0.5067	0.03084	8.3249	0.6340	
Preoperative radiotherapy <sup>§</sup>						Did not converge
COPD asthma	Asthma vs. COPD		Did not converge		>0.9999	>0.9999
	Asthma vs. no asthma				>0.9999	
	COPD vs. no COPD				0.9999	
Diabetes	No vs. yes					Did not converge
Ischaemic heart disease	No vs. yes					Did not converge
Hypertension	No vs. yes	1.8447	0.1646	20.6742		0.6195
Dyslipidaemia	No vs. yes					Did not converge
Liver disease	No vs. yes					Did not converge
Age		0.9309	0.8570	1.0111		0.0895
BMI		0.8825	0.6947	1.1209		0.3056
ASA status		2.3888	0.3587	15.9083		0.3680
HbA1c						>0.9999
Operation time		1.0065	1.0010	1.0121		0.0213
Intraoperative ischaemic time		1.0207	0.9686	1.0755		0.4437
Number venous anastomoses		0.2674	0.02382	3.0022		0.2851
Post-op Hb drop		1.0106	0.9437	1.0822		0.7636
Duration perioperative antibiotics		1.2624	0.9451	1.6862		0.1146

<sup>†</sup>, modelling the probability of flap failure or compromise = yes. <sup>§</sup>, radiotherapy to operative site.

**Table S2** Univariate binary logistic regression models of secondary outcome: donor site complication versus various predictors

Predictor	Comparison	Odds ratio <sup>†</sup>	95% CI		Comparison P value	Global P value
			Lower limit	Upper limit		
Gender	Female vs. male	0.5701	0.1812	1.7936		0.3366
AJCC staging <sup>‡</sup>	1 vs. 4	0.229	0.011	4.688	0.2500	0.6432
	2 vs. 4	1.419	0.378	5.327	0.3066	
	3 vs. 4	1.423	0.354	5.714	0.3240	
Smoker	Non vs. ex	0.9452	0.3152	2.8342	0.9199	0.7678
	Non vs. current	0.6521	0.1930	2.2035	0.4913	
	Ex vs. current	0.6899	0.2039	2.3341	0.5505	
Preoperative radiotherapy <sup>§</sup>		0.5459	0.1667	1.7881		0.3173
COPD/asthma	Asthma vs. COPD	0.3667	0.03884	3.4618	0.3811	0.0822
	Asthma vs. no asthma	1.2500	0.1474	10.6038	0.8379	
	COPD vs. no COPD	3.4091	1.1608	10.0117	0.0257	
Diabetes	No vs. yes	0.5091	0.1699	1.5258		0.2280
Ischaemic heart disease	No vs. yes	0.6532	0.2015	2.1178		0.4780
Hypertension	No vs. yes	1.0175	0.3950	2.6215		0.9713
Dyslipidaemia	No vs. yes	2.9630	0.8322	10.5490		0.0936
Liver disease <sup>†</sup>	No vs. yes	0.321	0.003	30.196		0.6238
Age		1.0049	0.9657	1.0458		0.8085
BMI		0.9777	0.8955	1.0674		0.6144
ASA status		3.8191	1.5972	9.1317		0.0026
HbA1c		0.7839	0.2043	3.0076		0.7227
Flap area		1.0063	0.9903	1.0226		0.4405
Operation time		1.0010	0.9978	1.0042		0.5544
Intraoperative ischaemic time		1.0019	0.9770	1.0273		0.8839
Number venous anastomoses		0.2159	0.07813	0.5965		0.0031
Duration perioperative antibiotics		0.9059	0.7146	1.1484		0.4141

<sup>†</sup>, modelling the probability of donor site complication = yes. <sup>‡</sup>, firth correction used. <sup>§</sup>, radiotherapy to operative site.

**Table S3** Univariate binary logistic regression models of primary outcome: medical complication versus various predictors

Predictor	Comparison	Odds ratio <sup>†</sup>	95% CI		Comparison P value	Global P value
			Lower limit	Upper limit		
Gender	Female vs. male	0.6955	0.3672	1.3172		0.2651
AJCC staging final	1 vs. 2	0.6667	0.2215	2.0062	0.4707	0.3908
	1 vs. 3	0.5952	0.1919	1.8466	0.3691	
	1 vs. 4	0.4167	0.1431	1.2130	0.1083	
	2 vs. 3	0.8929	0.3675	2.1694	0.8024	
	2 vs. 4	0.6250	0.2794	1.3981	0.2526	
	3 vs. 4	0.7000	0.3003	1.6316	0.4088	
Smoker	Non vs. ex	0.4894	0.2492	0.9610	0.0380	0.0665
	Non vs. current	0.4606	0.2059	1.0306	0.0592	
	Ex vs. current	0.9412	0.4316	2.0525	0.8789	
Preoperative radiotherapy <sup>§</sup>		0.5718	0.2525	1.2948		0.1801
COPD/asthma	Asthma vs. COPD	1.2000	0.2962	4.8616	0.7984	0.0992
	Asthma vs. no asthma	2.4679	0.7204	8.4549	0.1505	
	COPD vs. no COPD	2.0566	0.9147	4.6242	0.0811	
Diabetes	No vs. yes	0.5456	0.2568	1.1593		0.1151
Ischaemic heart disease	No vs. yes	0.7552	0.3463	1.6470		0.4804
Hypertension	No vs. yes	0.6999	0.3930	1.2463		0.2255
Dyslipidaemia	No vs. yes	0.9713	0.5294	1.7819		0.9250
Liver disease <sup>‡</sup>	No vs. yes	0.186	0.002	17.585		0.4867
Age		1.0182	0.9934	1.0437		0.1522
BMI		0.9567	0.9068	1.0093		0.1052
ASA status		2.6908	1.6099	4.4977		0.0002
HbA1c		0.4499	0.1420	1.4254		0.1746
Flap area		1.0019	0.9906	1.0133		0.7457
Operation time		1.0012	0.9992	1.0033		0.2305
Intraoperative ischaemic time		1.0138	0.9984	1.0294		0.0798
Number venous anastomoses		0.6158	0.3394	1.1175		0.1108
Post-op Hb drop		0.9898	0.9725	1.0075		0.2571
Duration perioperative antibiotics		0.9254	0.8076	1.0604		0.2645
Days in ICU		1.1047	0.9894	1.2335		0.0767

<sup>†</sup>, modelling the probability of medical complication = yes. <sup>‡</sup>, firth correction used. <sup>§</sup>, radiotherapy to operative site.