Prospective Randomised Controlled Trial Comparing Fixed Versus Tailored Limb Lengths for Laparoscopic Duodenal Switch

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No Disclosures

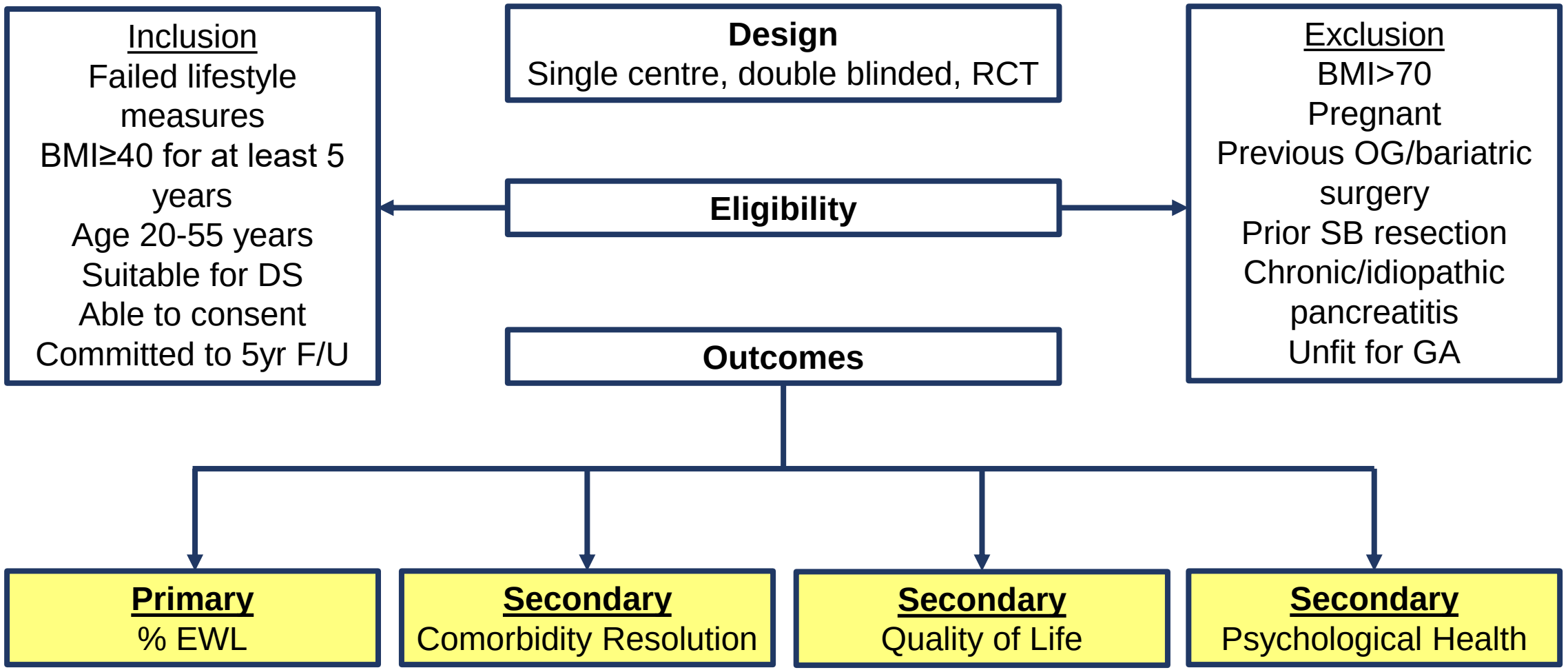
Background

Variation in technical practice
Limb length history - how long and why
Hess et al, 1998, Obesity Surgery, Marceau et al 2007, Obesity Surgery

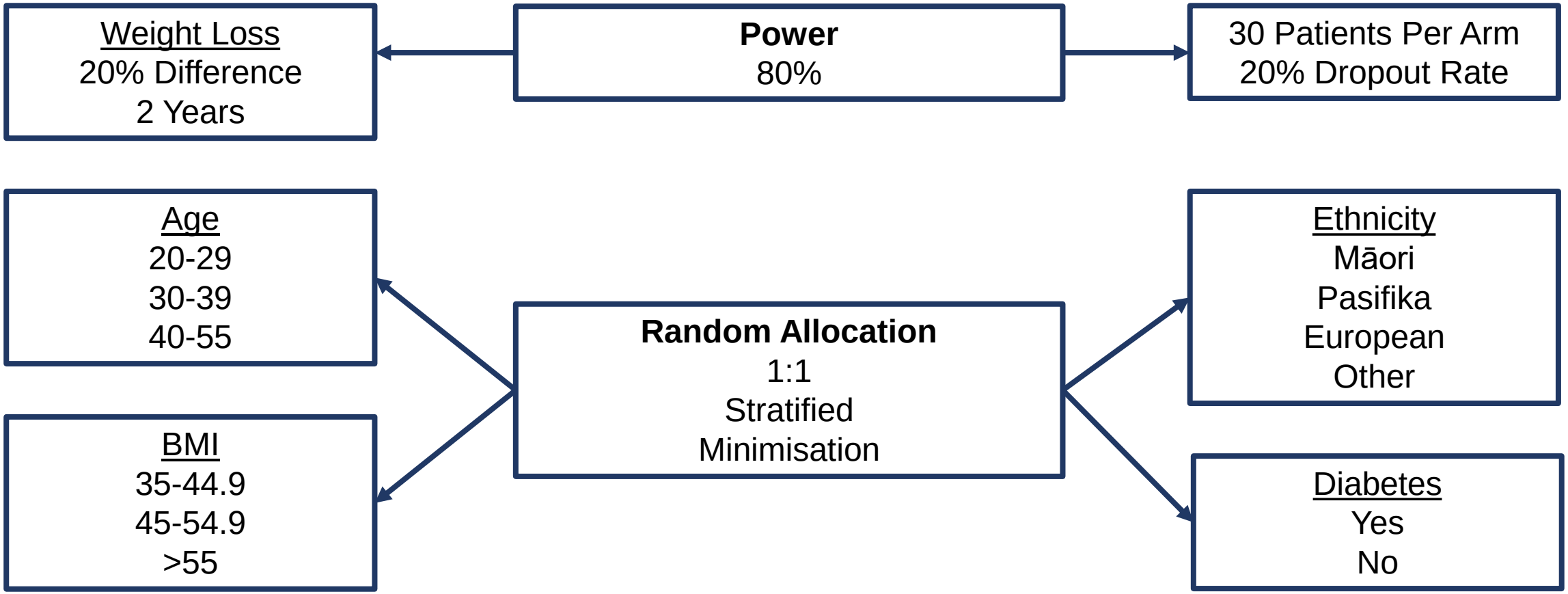
Biliopancreatic limb length matters
Cloutier et al, 2018, Surgery for Obesity and Related Diseases

Fixed vs Tailored DS case series – no difference
Vage et al, 2011, Obesity Surgery

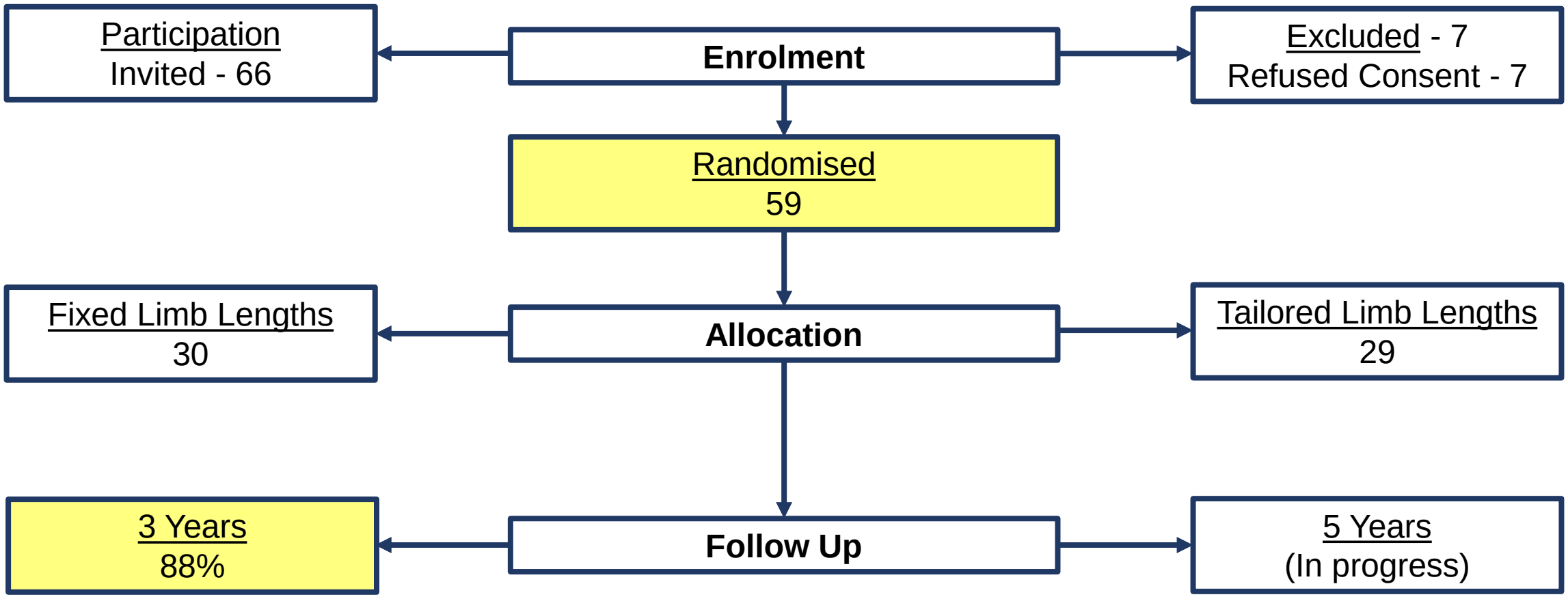
Methods


Inclusion
Failed lifestyle measures
BMI≥40 for at least 5 years
Age 20-55 years
Suitable for DS
Able to consent
Committed to 5yr F/U
Design
Single centre, double blinded, RCT
Eligibility
Outcomes
Exclusion
BMI>70
Pregnant
Previous OG/bariatric surgery
Prior SB resection
Chronic/idiopathic pancreatitis
Unfit for GA
Primary
% EWL
Secondary
Comorbidity Resolution
Secondary
Quality of Life
Secondary
Psychological Health

Methods


Weight Loss
20% Difference
2 Years
Power
80%
30 Patients Per Arm
20% Dropout Rate
Age
20-29
30-39
40-55
BMI
35-44.9
45-54.9
>55
Random Allocation
1:1
Stratified
Minimisation
Ethnicity
Māori
Pasifika
European
Other
Diabetes
Yes
No

Participant Journey

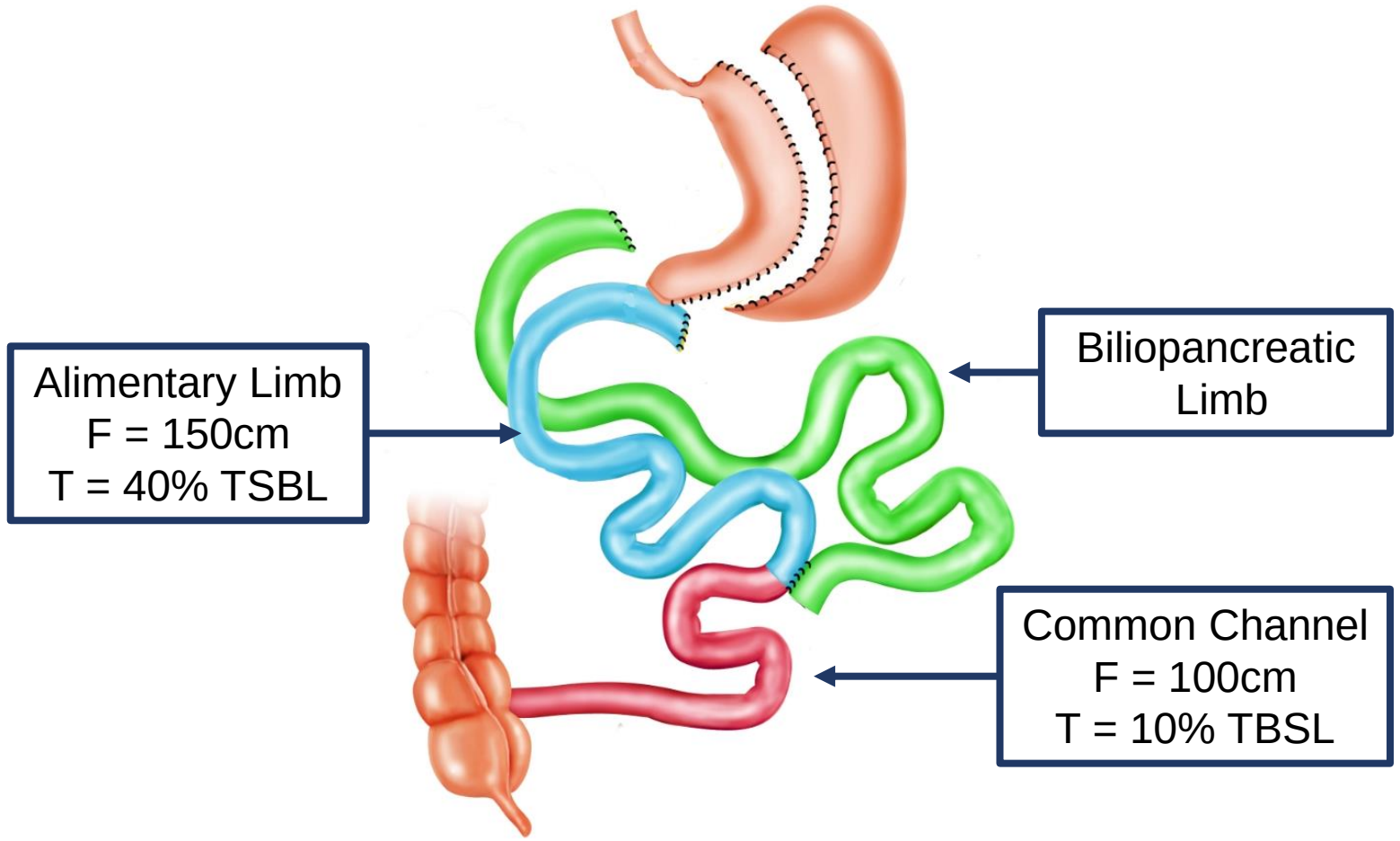


Study Groups

Fixed Limb Lengths
100cm common channel 150cm alimentary limb

Tailored Limb Lengths
10% common channel 40% alimentary limb

Calibrated laparoscopic graspers
Single surgeon measurement
Concurrent assistant double check



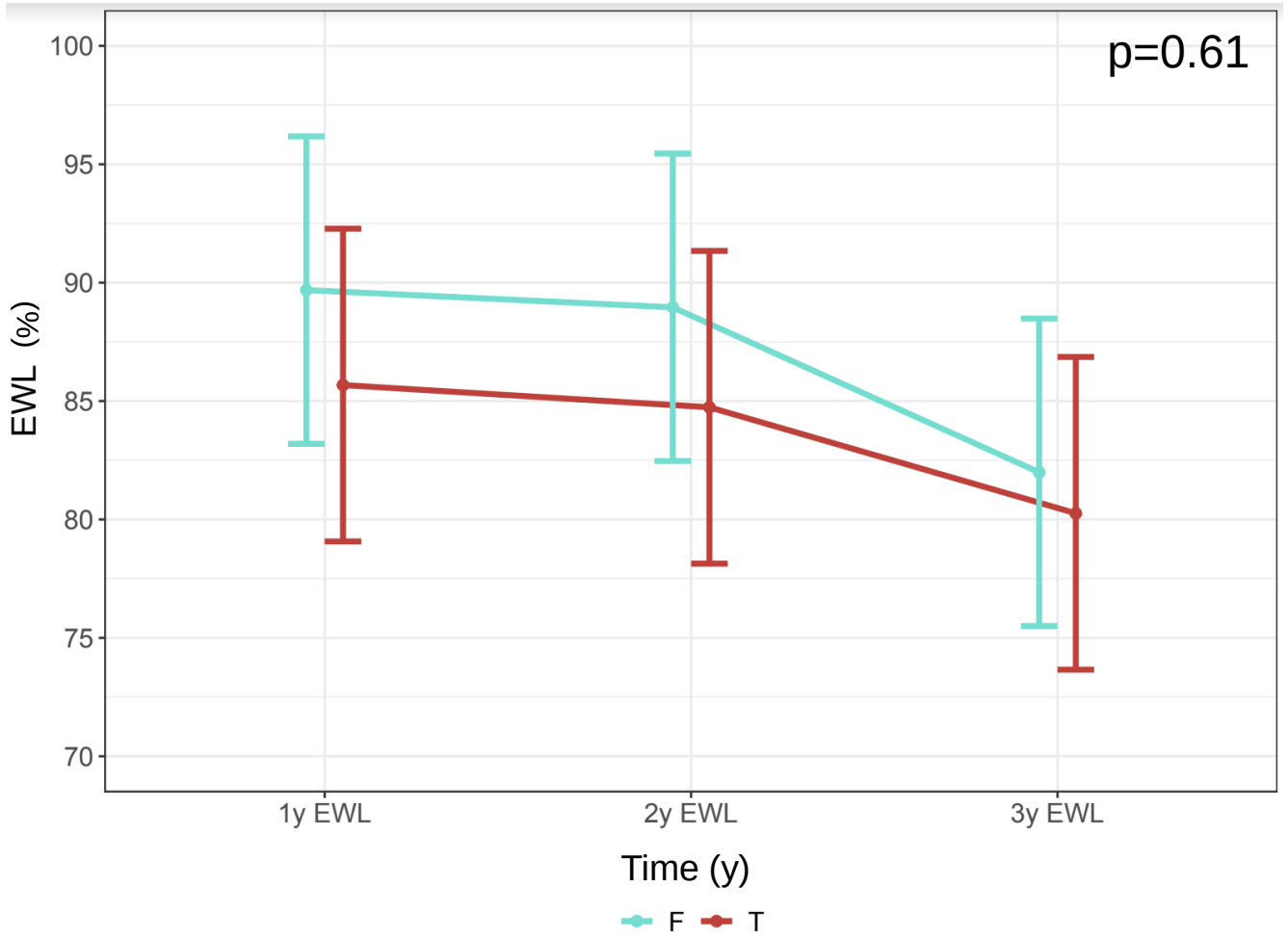
Baseline Information

	Fixed (n=30)	Tailored (n=29)
Age, years (SD)	44.1 ± 9.19	45.2 ± 8.27
Gender (male), n (%)	7 (23.3)	4 (13.8)
Ethnicity, n (%)		
NZ European	20 (66.7)	21 (72.4)
Maori	4 (13.3)	3 (10.3)
Pasifika	1 (3.00)	1 (3.00)
Other	5 (16.7)	4 (13.8)
BMI (kg/m^2), median [IQR]	50.5 [3.78]	50.1 [6.55]
Excess weight (kg), median [IQR]	67.5 [10.6]	67.7 [10.8]
Total SB length (cm), n (SD)	730 ± 106	808 ± 189
Conversion to open	1	1

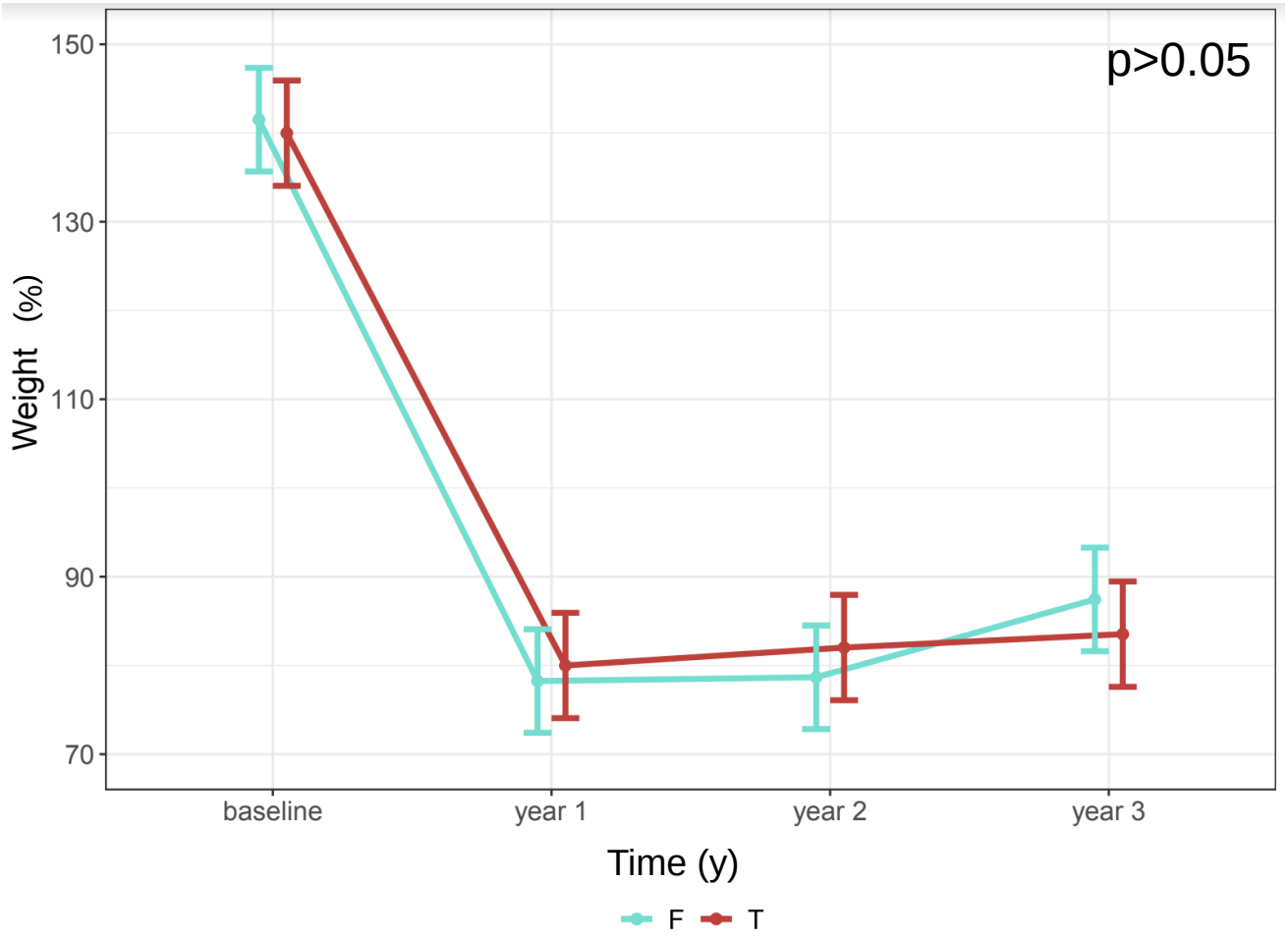
Baseline Information

	Fixed (n=30)	Tailored (n=29)
Comorbidities, n (%)		
Diabetes	9 (30.0)	10 (34.5)
OSA	8 (26.7)	10 (34.5)
Hypertension	10 (33.3)	15 (51.7)
Dyslipidaemia	15 (50.0)	16 (55.2)

Excess Weight Loss



Absolute Weight Loss

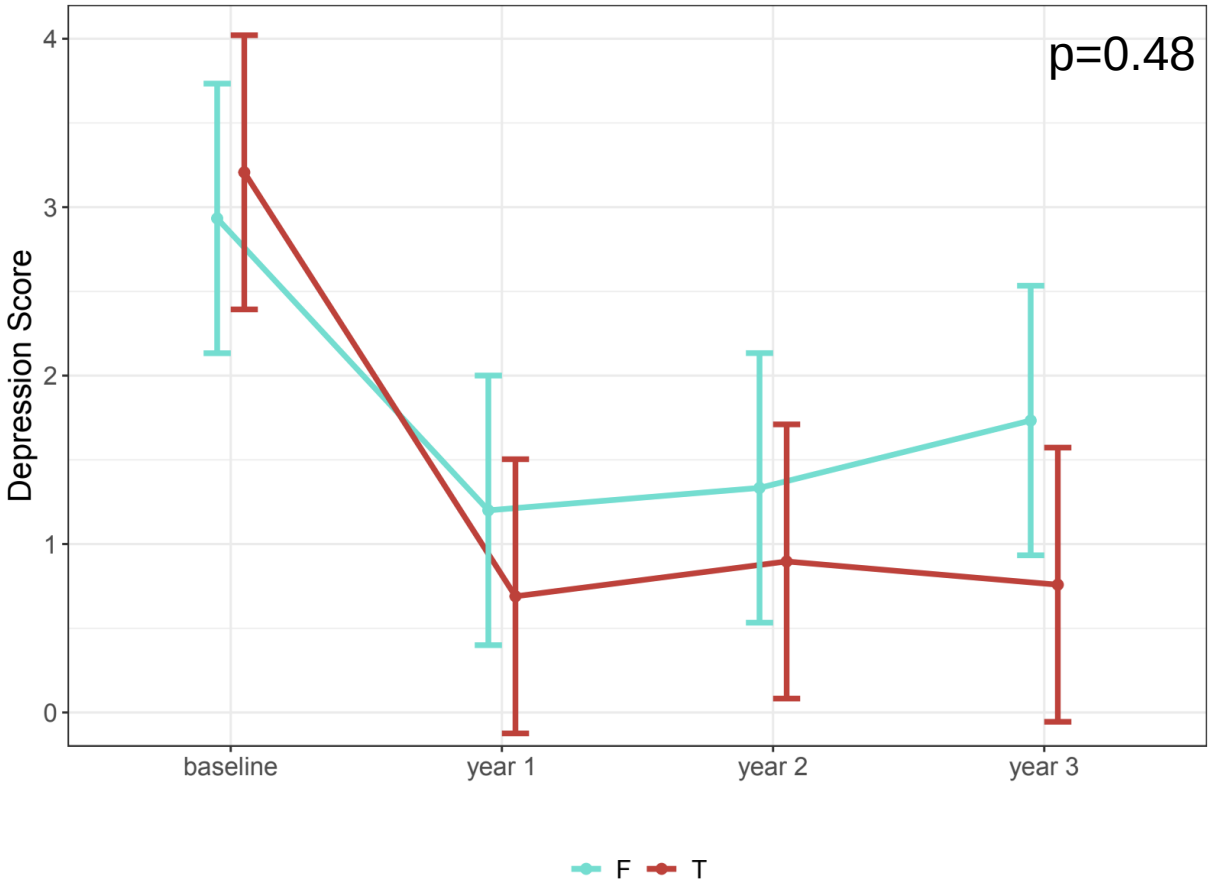


Comorbidity Resolution

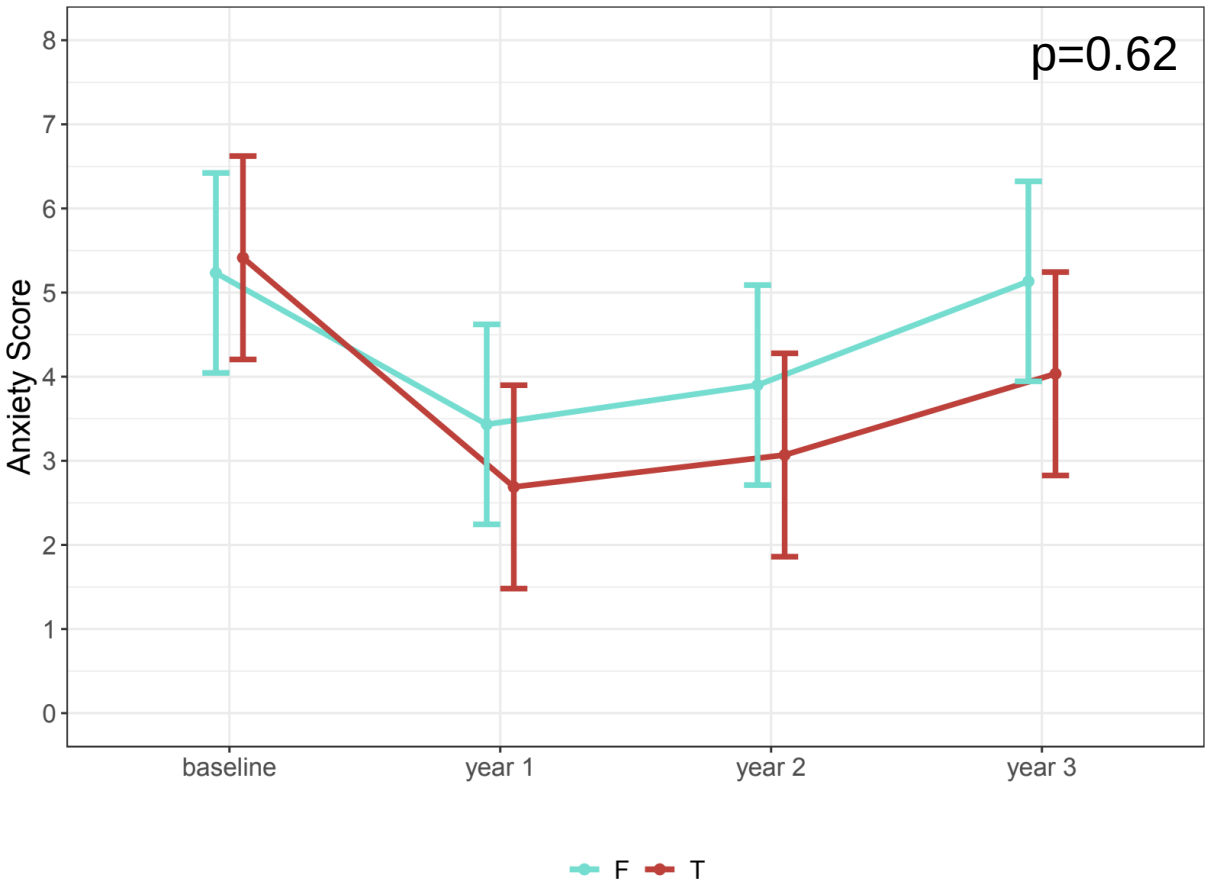
	Fixed (n=30)	Tailored (n=29)	p-value
Comorbidities, n (%)			
Diabetes	9/9 (100)	10/10 (100)	1.00
OSA	7/8 (87.5)	10/10 (100)	0.908
Hypertension	8/10 (80.0)	12/15 (80.0)	1.00
Dyslipidaemia	14/14 (100)	16/17 (94.1)	1.00

HADS

Depression Scores



Anxiety Scores

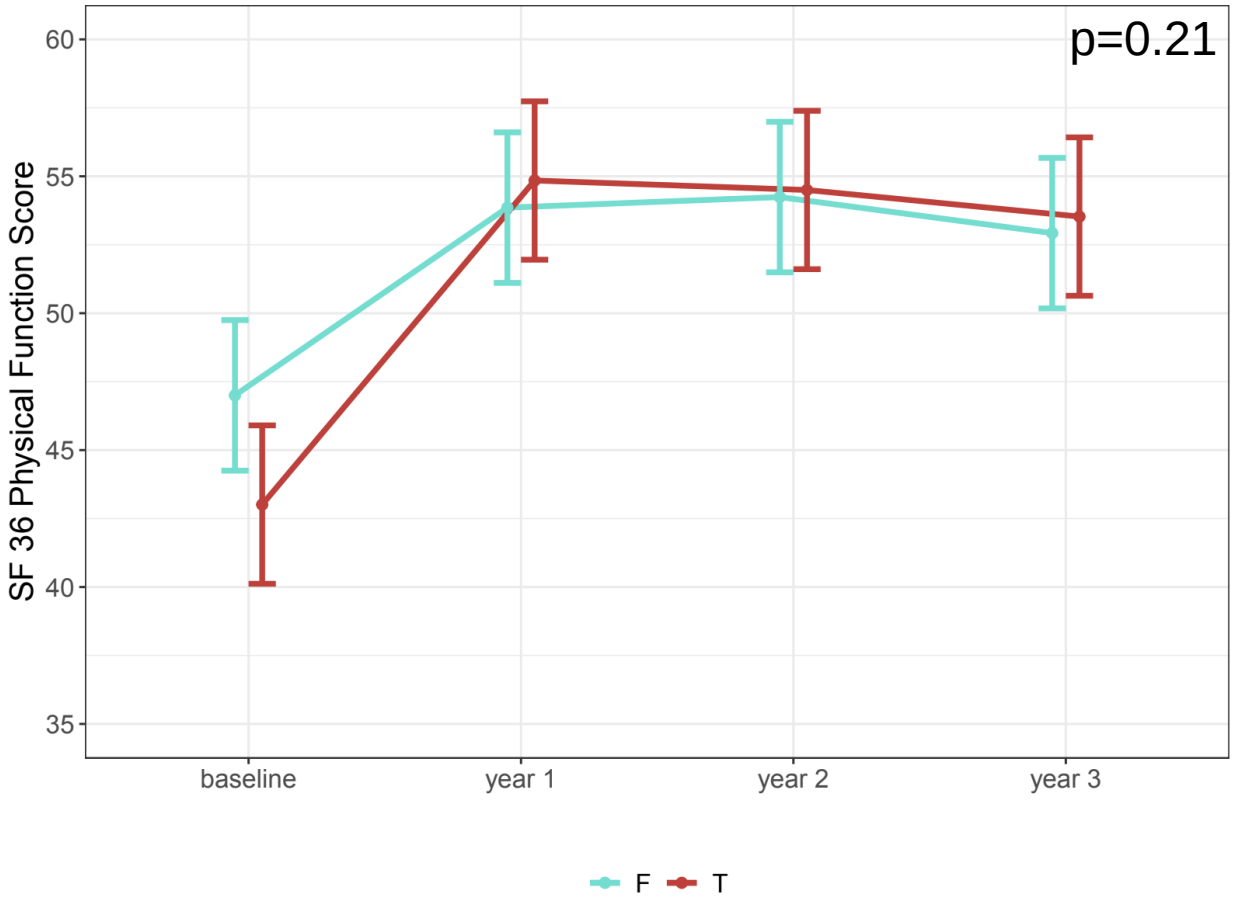


HADS

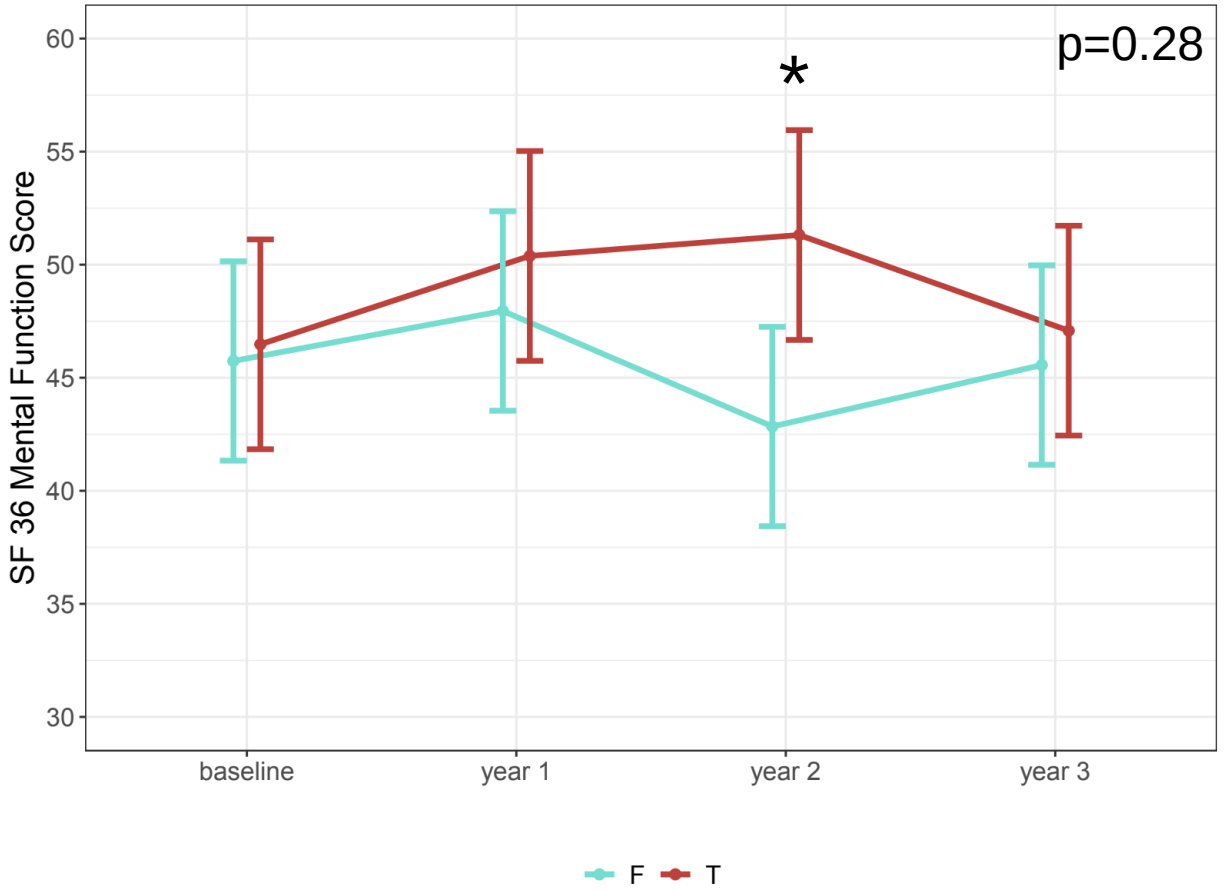
	Fixed (n=30)			Tailored (n=29)			p-value
	Baseline	3 Years	Difference	Baseline	3 Years	Difference	
Anxiety Symptoms Score ≧8 n (%)	3 (10.0)	4 (13.3)	+1	5 (17.2)	2 (6.90)	**-3**	0.110
Depressive Symptoms Score ≧8 n (%)	2 (6.60)	2 (6.60)	0	3 (10.3)	0 (0)	**-3**	0.185

SF-36

Physical Functioning



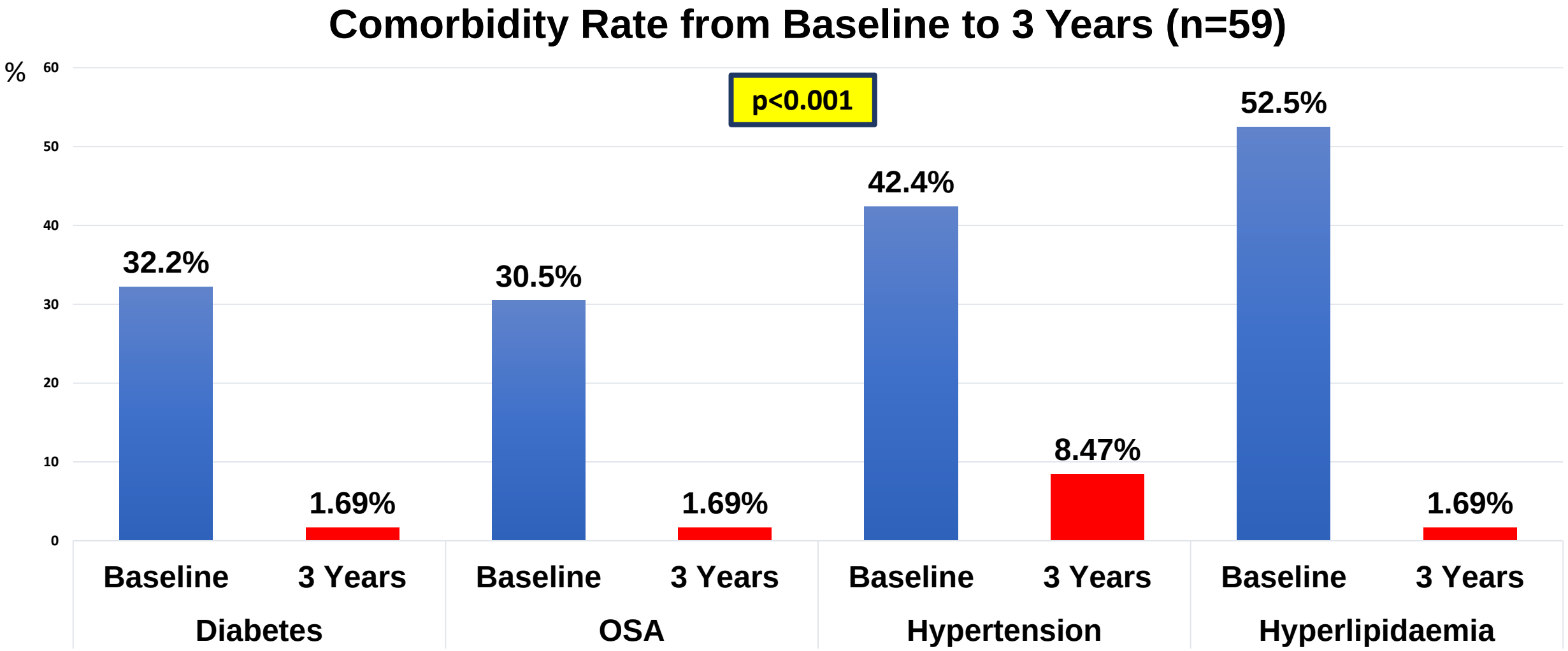
Mental Functioning



Duodenal Switch Outcomes

n=59	Baseline	3 Years	Difference	p-value
Weight Change				
Excess Weight Loss (%)	-	81.1%	81.1%	-
Weight (kg)	140.8	82.7	58.1	**<0.0001**
HADS				
Depression Score	3.07	1.25	1.82	**0.052**
Anxiety Score	5.32	4.58	0.73	0.261
SF-36				
Physical Functioning	45.0	53.2	8.22	**<0.000002**
Mental Functioning	46.1	46.3	-0.22	0.960

Duodenal Switch Outcomes



Conclusion

Standardised vs tailored DS limb lengths
No significant difference – possible link to mental health

DS overall
Effective MBS

Future endeavours
5-year data analysis and nutritional biochemistry

References

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4. Våge V, Gåsdal R, Laukeland C, Sletteskog N, Behme J, Berstad A, et al. The Biliopancreatic Diversion with Duodenal Switch (BPDDS): How Is It Optimally Performed? Obesity Surgery. 2011 Aug 28;21(12):1864-9.