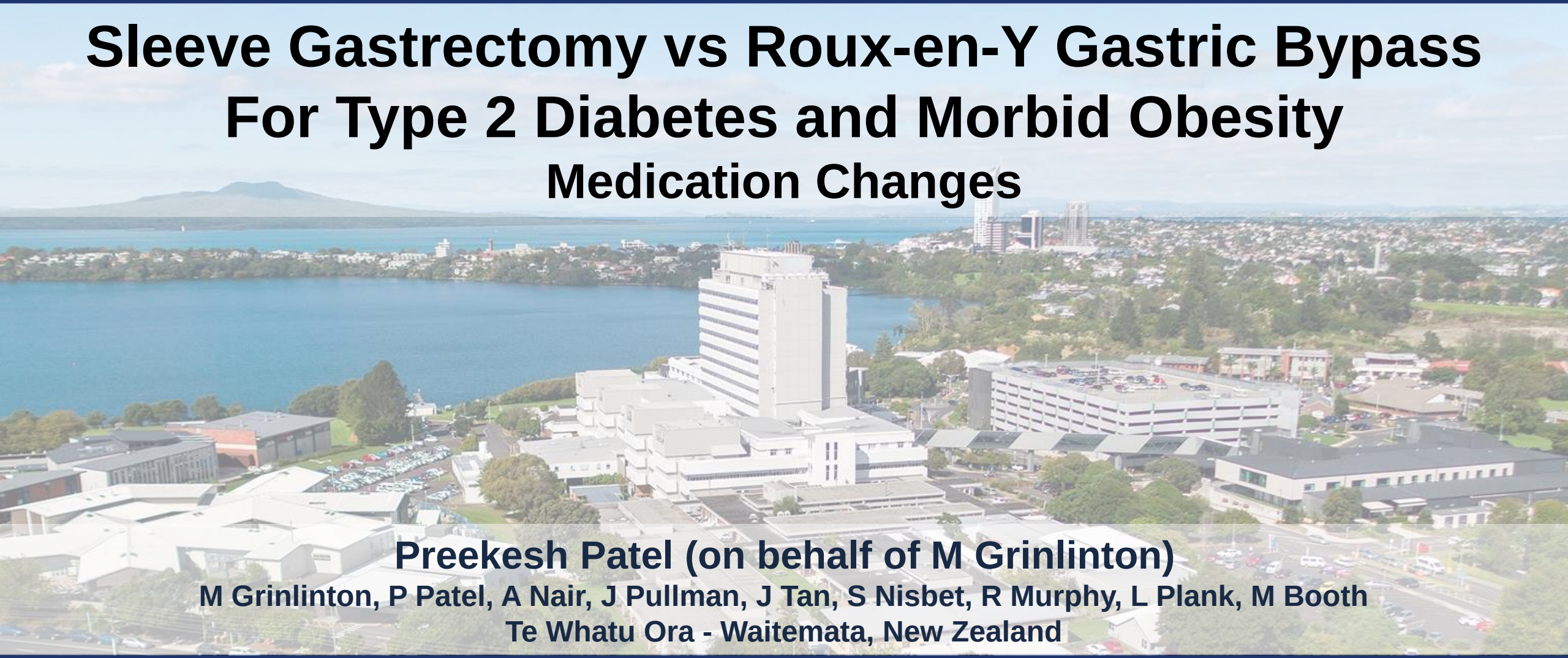
Sleeve Gastrectomy vs Roux-en-Y Gastric Bypass For Type 2 Diabetes and Morbid Obesity

Medication Changes



Preekesh Patel (on behalf of M Grinlinton)

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Disclosures

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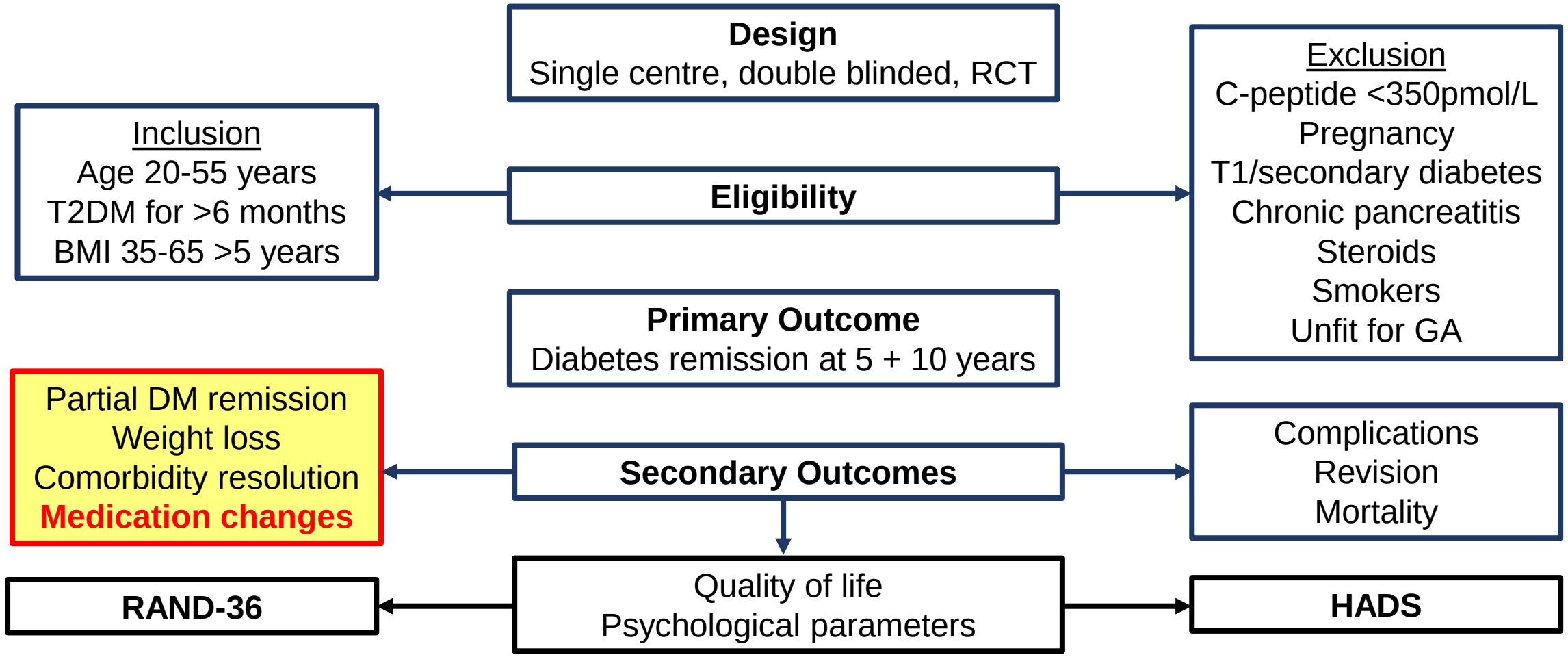
Methods



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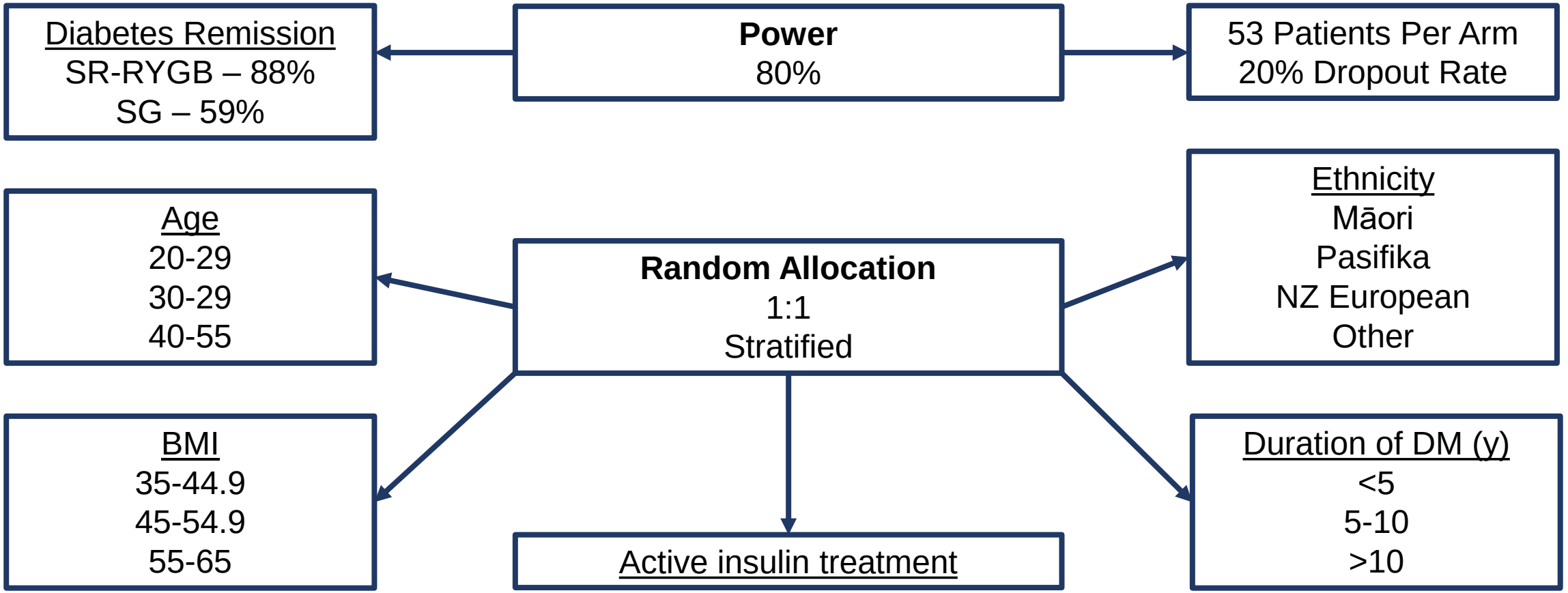
Methods



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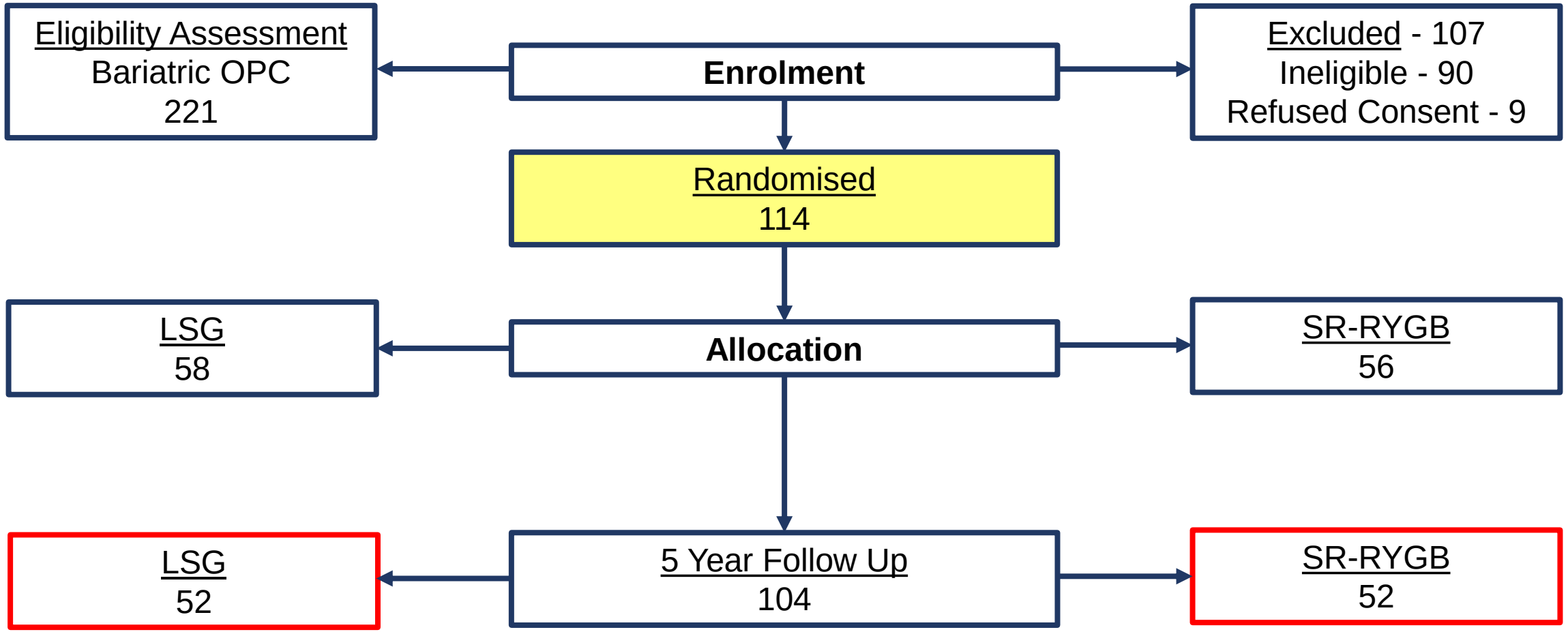
Participant Journey



Murphy et al 2018 Obesity Surgery

Participant Journey

Surgery

Medications ceased

Multivitamin + PPI started

Endocrinologist review

F/U (months)
3, 6, 9, 12, 18, 24, 36, 48, 60

Endocrinologist review

Electronic records

Baseline Information

Characteristic	Laparoscopic Silastic Ring Roux-en-Y Gastric Bypass (n = 52)	Laparoscopic Sleeve Gastrectomy (n = 52)
Age – year	47.9 ± 5.8	46.5 ± 6.4
Female sex – no. (%)	31 (60)	25 (48)
Ethnicity – no. (%)		
NZ European	31 (60)	37 (71)
Māori	10 (19)	8 (15)
Pacific Island	6 (12)	1 (2)
Other	5 (10)	6 (12)
BMI (kg/m^2) – no. (%)		
35-44.9	41 (79)	37 (71)
45-54.9	7 (13)	13 (25)
55-65	4 (8)	2 (4)

Medication Class	Laparoscopic Silastic Ring Roux-en-Y Gastric Bypass (n = 52) no. (%)	Laparoscopic Sleeve Gastrectomy (n = 52) no. (%)
Oral anti-diabetic	47 (90)	43 (83)
Insulin	15 (29)	10 (19)
All Cardiovascular	46 (88)	46 (88)
Anti-hypertensive	39 (75)	36 (69)
Anti-platelet	19 (37)	19 (37)
Lipid lowering	37 (71)	31 (60)
All Psychiatric	10 (19)	8 (15)
Anti-depressant	10 (19)	8 (15)
Proton Pump Inhibitors	10 (19)	12 (23)
Analgesics	5 (10)	3 (6)
Gout	6 (12)	5 (10)
Nutritional Supplementation	13 (25)	16 (21)

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10 Year Overall Results

	Remission of Type 2 Diabetes			Mean % Total Weight Loss		
	LSG (%)	SR-LRYGB (%)	P value	LSG	SR-LRYGB	P value
1 year	38	43	0.56	27.1	32.2	< 0.001
5 Year	33	47	0.009	16.3	26.9	< 0.001
7 Year	30.8	46	0.013	13.4	26.2	< 0.001
10 year	16.7	29.8	0.080	19.5	27.2	0.003

Murphy et al 2018 Obesity Surgery, Pullman et al 2023 Obesity Surgery

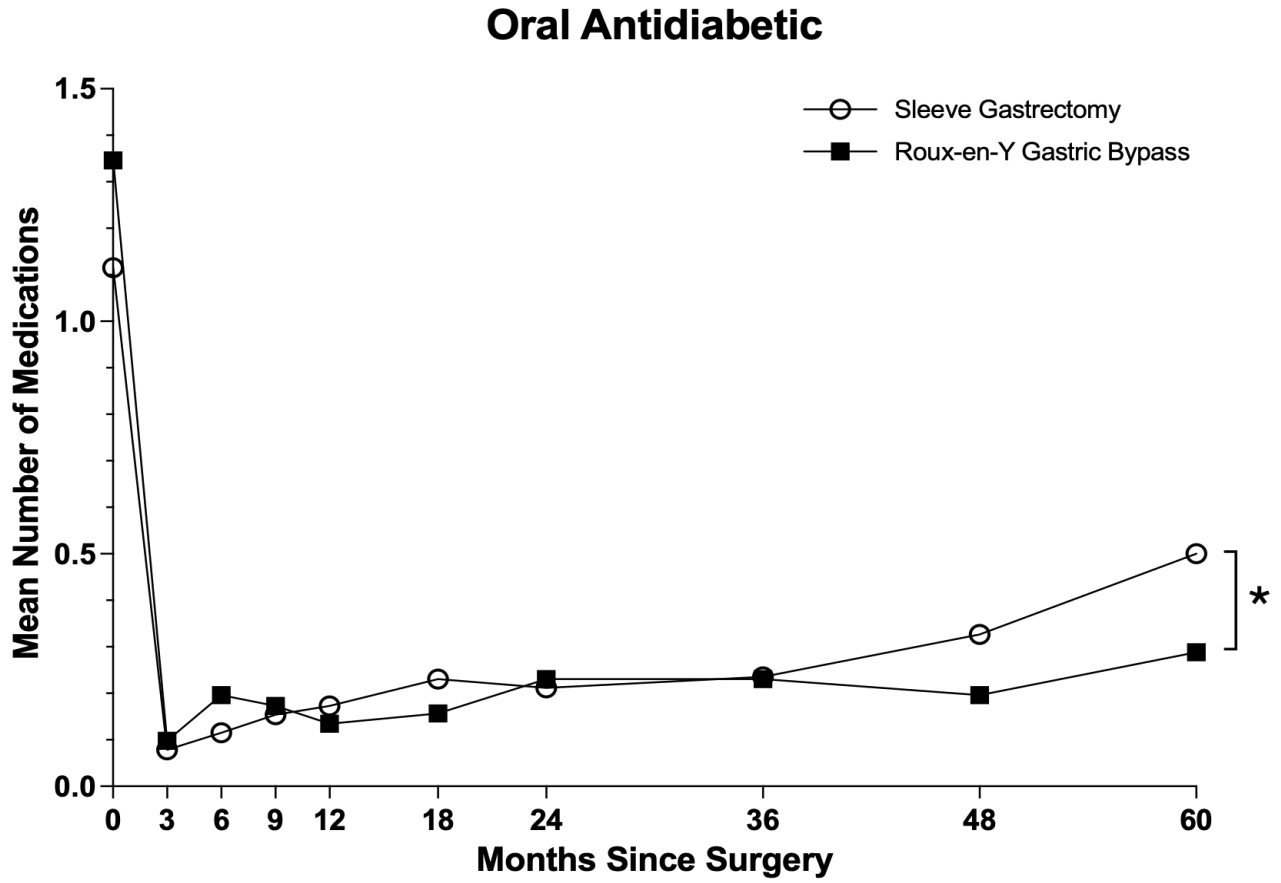
5 Year Results

Medications	Baseline	3 months	5 years	P value
Total (mean)	5.0	3.1	4.5	0.66
Oral glucose-lowering	1.2	0.1	0.5 (LSG), 0.3 (RYGB)	0.036

Medications	Baseline	3 months	5 years	% +/-
Insulin	0.31	0.05	0.09	-72
Cardiovascular	2.2	0.6	1.0	-56
Analgesia	0.10	0.06	0.15	+50
Nutritional supplements	0.36	1.24	1.33	+273
PPI	0.21	0.50	0.39	+81
Psychiatric	0.23	0.22	0.54	+133

Tan et al 2024 NZ Medical Journal

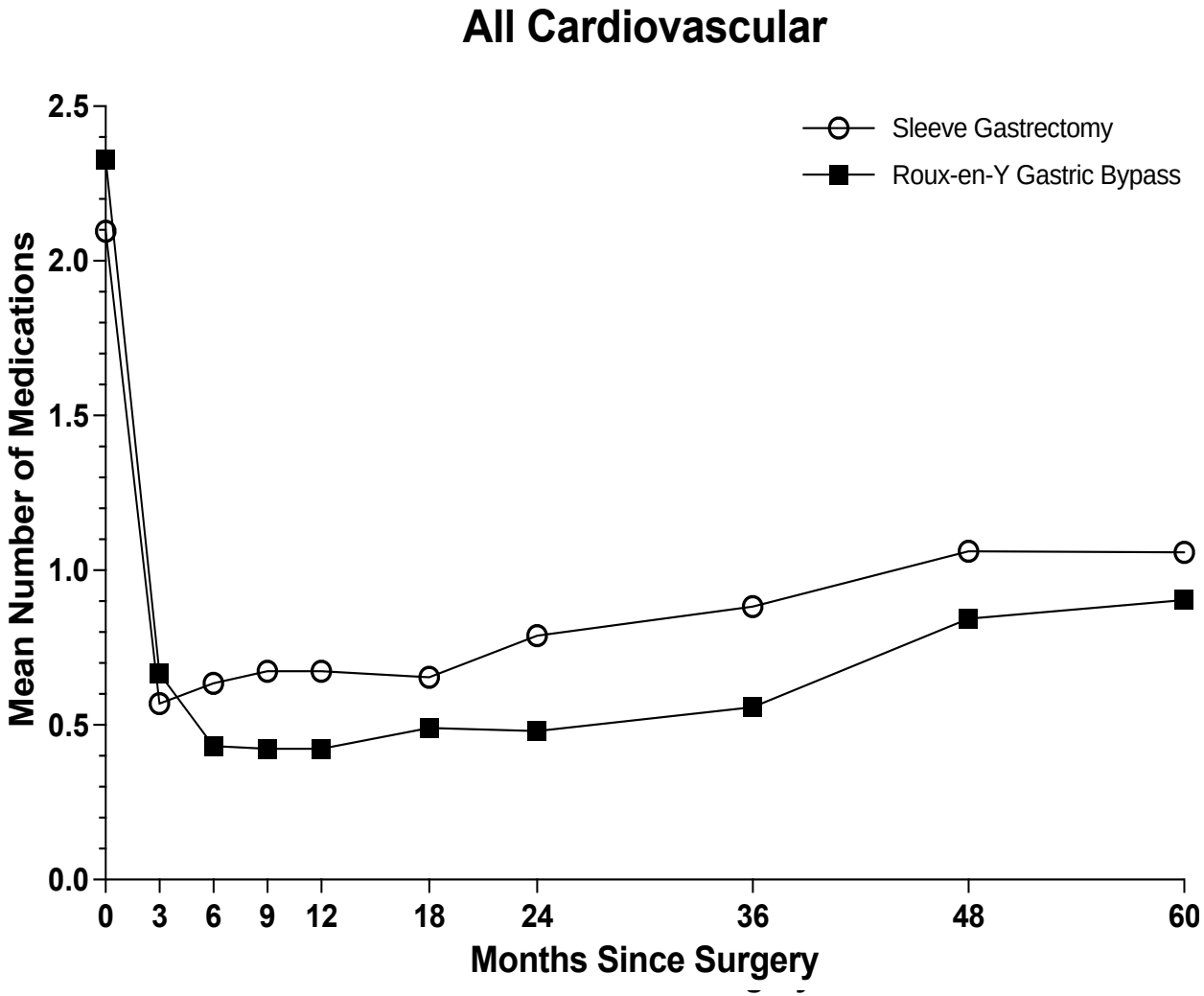
5 Year Results

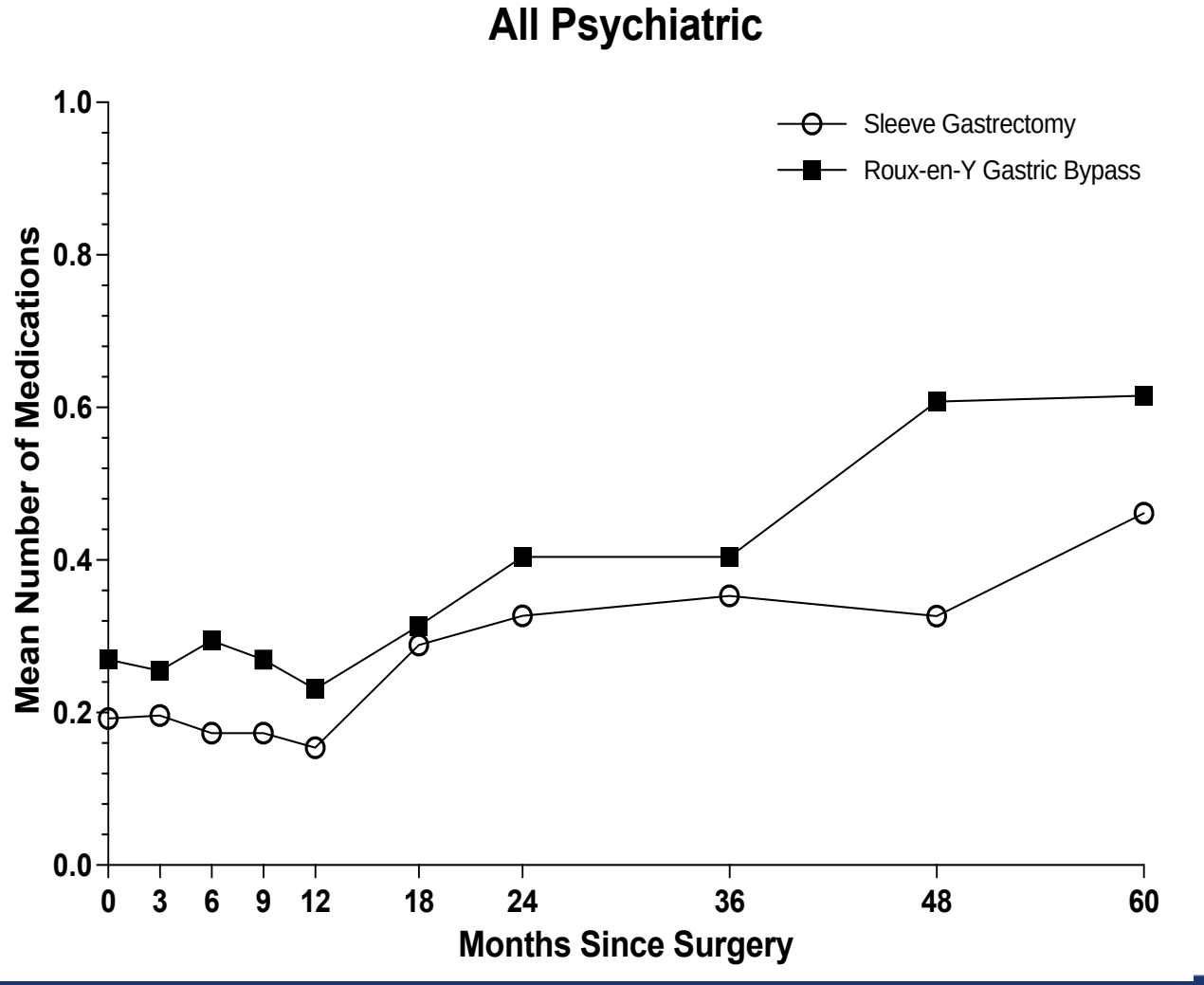


*Bypass>sleeve
p=0.036

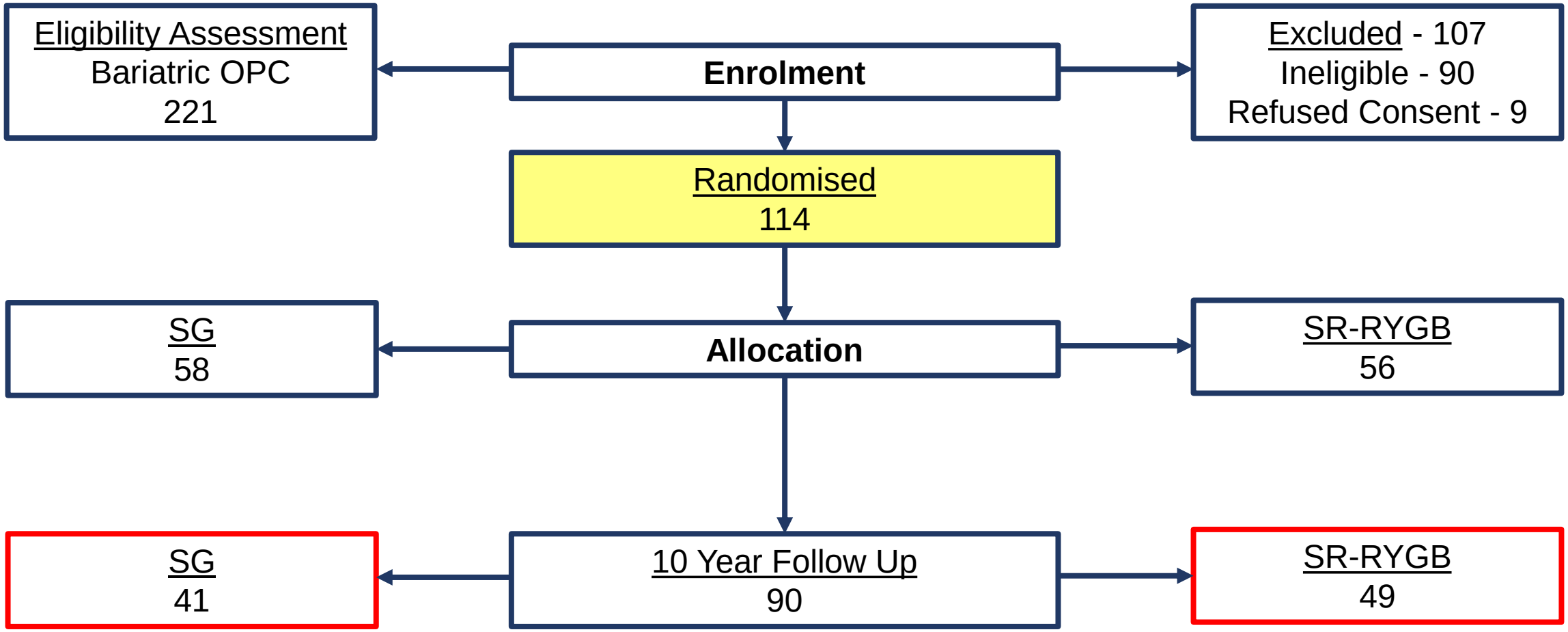
Improvement over time
LSG p=0.008
RYGB p=0.0002

5 Year Results





Participant Journey



Murphy et al 2018 Obesity Surgery

10 Year Results

Medications	Baseline	3 Months	5 Years	10 Years	P value
Total (mean)	5.0	3.1	4.5	**5.0**	**0.16**
Oral glucose-lowering	1.2	0.1	-55% (LSG), -79% (RYGB)	**-37% (LSG) -64% (RYGB)**	**0.009**

Medications	Baseline	3 Months	5 Years	10 Years	% +/-
Insulin	0.31	0.05	0.09	0.10	**-67**
Cardiovascular	2.2	0.6	1.0	2.13	**-3**
PPI	0.21	0.50	0.39	0.37	**+174**
Psychiatric	0.23	0.22	0.54	0.42	**+82**
Analgesia	0.10	0.06	0.15	0.33	**+328**
Nutritional supplements	0.36	1.24	1.33	0.70	**+93**

Summary

At 5 years

↓ Oral glucose-lowering medications in SR-LRYGB (79%) > LSG (55%)

↓ Total, insulin and cardiovascular medications

↑ Analgesia, psychiatric medications and PPIs

At 10 years

↓ Oral glucose-lowering medications in SR-LRYGB (64%) > LSG (37%)

Total medications remained the same

↓ Insulin, cardiovascular medications

↑ Analgesia, psychiatric medications and PPIs

Conclusion

There is significant improvement in diabetic control and weight loss when comparing bypass to sleeve

Minimal difference in medications between groups at 10 years
(Except oral hypoglycaemic agents)

Substantial increase in analgesics and psychiatric medication over time for the entire cohort

References

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