Does Being Identified as a “Red Flag” Patient Affect Post-Operative Outcomes in Bariatric Surgery

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Introduction

- Bariatric Surgery patients undergo a rigorous, multidisciplinary preoperative work up including psychological evaluation and nutritional counseling.
- At our institution, staff members may raise concerns about a patient who enters the program for psychological or behavior reasons, designating them “Red Flag” (RF) patients.
- Patients may be “Red Flagged” for a variety of reasons, including: dietary non-compliance (most common reason), psychological issues, drug/alcohol/substance abuse issues, multiple missed visits, previously dropping out of the program, poor support system.
- We aimed to examine the progression to surgery, weight loss outcomes, and preoperative characteristics of Red Flag patients relative to the control group.

Hypothesis

Red Flag patients will be less likely to progress to surgery. Red Flag patients that do progress to surgery will have worse post-operative weight loss and will be less likely to follow up after their procedure.

Secondary Outcomes: Red flag patients are more likely to have worse pre-operative weight loss, and they are likely to take longer to progress to surgery.

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Methods

- This is a retrospective Chart Review evaluating red flag patients at a single comprehensive weight loss center from January 2013 to February 2021.
- Patients must be between 18 and 89 years old at time of initial presentation.
- Patients presenting for revisional surgery were excluded.
- Randomized patient list of all patients presenting to clinic using same inclusion/exclusion criteria who were not “Red Flagged” used as a control group.
- 217 control patients and 224 RF patients were included in the analysis.

Did Patient Progress to Surgery?

	Yes	No	% Surgery	95% CI
Red Flag	102	122	45.5%	39.0% to 52.1%
Control	140	77	64.5%	58.2% to 70.9%

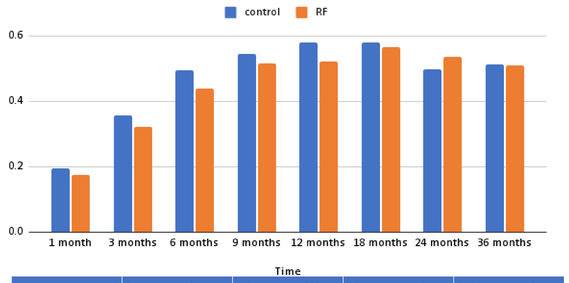
Preoperative Characteristics for RF and Control Groups

	Age	Initial Weight (lbs)	Initial Excess Weight	Initial BMI
Control	43.4	280.0	148.3	46.0
Red Flag	39.7	306.5	127.4	49.9
P-value	0.02	<0.001	<0.001	<0.001

Patient Presurgical Characteristics

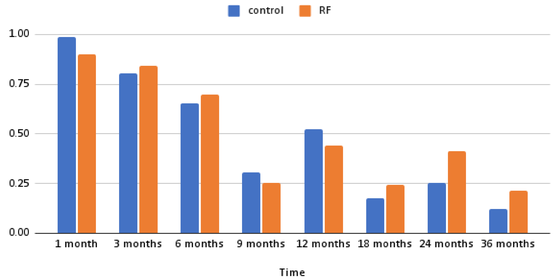
	Preop Weight Loss	Preop BMI	Time to Surgery from initial consult (Days)
Control	6.04	45.7	174.6
Red Flag	6.17	49.9	259.1
P-value	0.935	<0.001	<0.001

Excess Body Weight Loss Post Op



	6 months	12 months	24 months	36 months
Control	49.4%	58.1%	49.9%	51.3%
Red Flag	43.8%	52.0%	53.5%	51.1%
P value	0.006	.064	0.426	0.981

Post Operative Follow Up Proportion



	6 months	12 months	24 months	36 months
Control	65.2%	52.2%	25.4%	12.3%
Red Flag	69.9%	44.1%	41.2%	21.6%
P value	0.380	0.278	0.004	0.055

Results

- RF patients were significantly less likely to progress to surgery than control patients, as expected (P-value <0.001).
- In our population, 46% of red flag patients (102/224) and 65% of control patients (140/217) progressed to bariatric surgery.
- Among surgical patients, the RF group tended to be younger and have a higher BMI than control patients.
- Preoperative weight loss was similar between the RF and control groups.
- RF patients had significantly longer time from initial consultation to surgery than control patients.
- The control patients had a greater Percent Excess Body Weight Loss (EBWL) over the first 6 months, though EBWL was not significantly different at one, two, and three years post-operatively.
- There was no significant difference with regards to follow up between the groups out to three years post operatively.

Conclusions

- **Reservation on initial evaluation about patients for bariatric surgery should not prevent their progression in bariatric surgery programs as their long-term outcomes appear comparable to control patients.**
- Red Flag patients take longer to progress to surgery as they must demonstrate changes in order to qualify for surgery.
- Long term weight loss is similar for both groups.
- Both groups had less than 50% follow up past one year post-operatively.
- Post-operative data is severely lacking due to poor health system utilization – unclear the effect of COVID on this given a large proportion of patients undergoing procedures in 2017 and later.
- The practice is also located in a large military community which may affect patients’ follow up.