Vitamin A deficiency (VAD) after metabolic – bariatric surgery is best predicted by pre-operative serum levels.

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Patient cohort

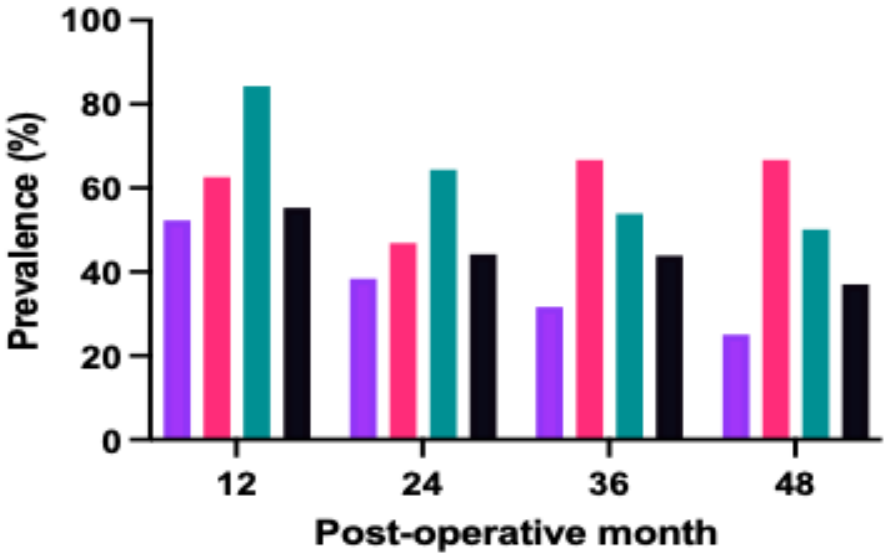
- 1246 patients
  - 711 sleeve gastrectomy (SG), 452 Roux-en-Y gastric bypass (RYGB), 83 one-anastomosis gastric bypass (OAGB)
- 82.4% female
- Mean age 43.2 (± 11.6) years
- Mean weight 118.9kg (± 22.7kg) and body max index 42.4 (± 7.1) kg/m^2

- **Vitamin A deficiency defined as serum vitamin A level ≤1.40 µmol/L**
  - World Health Organisation (WHO) definition of VAD: <0.7 µmol/L
- All patients meeting VAD criteria were advised by unit dietitians to commence oral supplementation (≥10,000 IU/day)

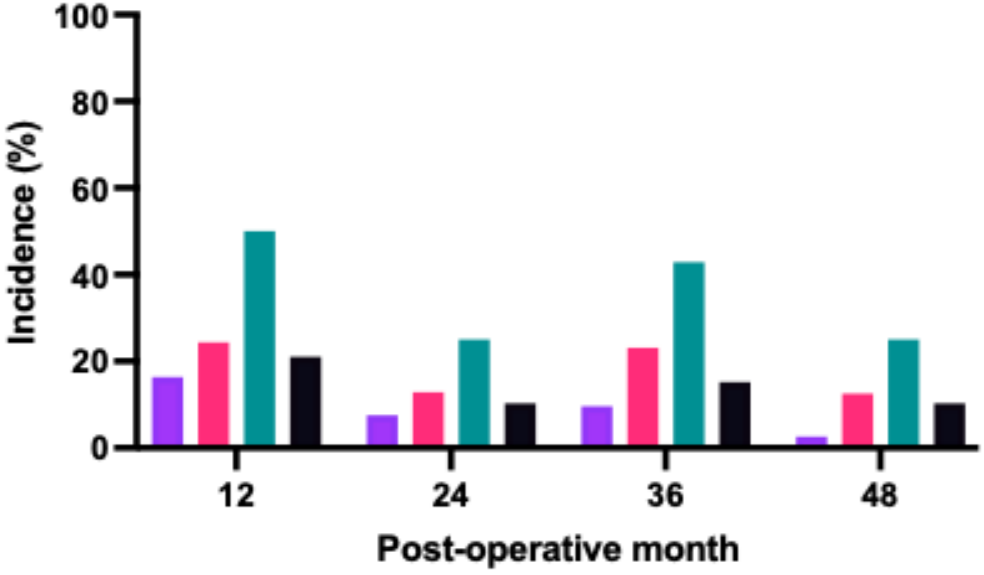
Rates of Vitamin A deficiency before and after metabolic-bariatric surgery

Pre-operative baseline prevalence of VAD (≤1.40 µmol/L) : **23.6%**

Prevalence of continued VAD post-surgery **≈ 40 - 55%**



Incidence of post-surgery de novo VAD: **21%**



Total Primary SG Primary RYGB Primary OAGB

Predictors of post-operative VAD

	SG	RYGB	OAGB
12 months	Baseline VAD Higher %TWL	Baseline VAD Younger age	Higher %TWL
24 months	Baseline VAD VAD at 12-months	VAD at 12-months	Baseline VAD
36 months	Baseline VAD VAD at 12-months VAD at 24-months	N/A	N/A
48 months	Baseline VAD	VAD at 12-months	N/A

Analysed using logistic regression. Only variables with p<0.05 are shown.

Early replacement may prevent post-surgery VAD despite weight loss

- **Rates of VAD before and after metabolic-bariatric surgery are similar.**
- **VAD after surgery is best predicted by prior diagnosis of deficiency.**
- **Oral supplementation may be sufficient to rescue pre-existing VAD despite weight loss.**