

# Slowing kidney disease with weight loss: A randomised controlled feasibility study

## SLOW-CKD Feasibility Study

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### Background

- Low energy diets (LEDs) (800 to 1000 kcal/day) can lead to 10-15kg weight loss and diabetes remission.<sup>1</sup>
- No randomised controlled trials have examined LEDs in chronic kidney disease (CKD) limiting their use.
- **Aim:** To test the feasibility and safety of a low energy diet and weight management program in individuals with obesity and CKD.

### Results

- Median age 51yrs, BMI 39kg/m<sup>2</sup>, eGFR 59ml/min/1.73m<sup>2</sup>, 57% male.

#### Primary outcomes: Safety and feasibility (Table 1)

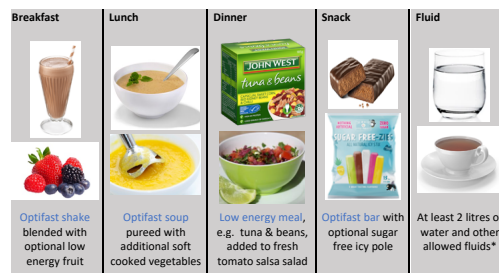
- Two hospital admissions in each group, attributed to hypoglycaemia and acute kidney injury.
- Hyperkalaemia (≥5.5 mmol/L) was the most common adverse event, (4 episodes in each group).

### Methods

- 49 adults from Brisbane Australia, with stages 1 to 3b CKD + BMI ≥30kg/m<sup>2</sup> + proteinuria, randomised (1:1).

- LED group** = 3-month LED with meal replacements and low-calorie foods, + dietitian support, followed by 3-month maintenance phase (healthy eating + exercise support).
- Usual care group** = Optional weight loss support through usual kidney clinic.

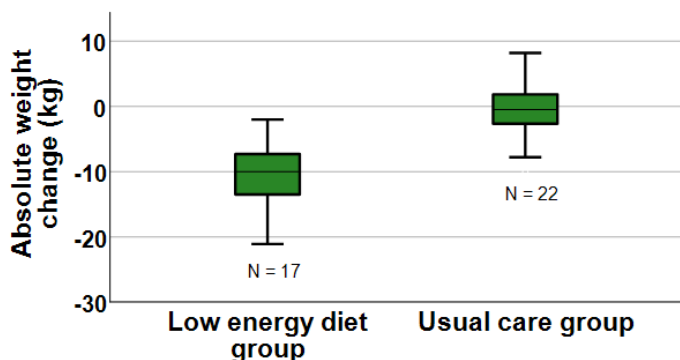
Figure 1. Sample LED plan consisting of a combination of meal replacement and low energy food items.



Primary outcome	Pre-specified criteria	Result	Criteria met
<b>Safety</b>	The proportion of study-related serious adverse events in both groups is similar	2 in the both groups	<b>Yes</b>
<b>Feasibility</b>			
Recruitment rate	≥ 25 % of all eligible patients who can be contacted are recruited	46% (n=49/107) were recruited	<b>Yes</b>
Retention rate	≥ 75% of recruited LED group retained at 6 months	67% (n=16/24) were retained	<b>No</b>
Weight loss	≥ 30% of LED group with ≥ 10kg weight loss at 3 months	46% (n = 11/24) achieved ≥ 10 kg	<b>Yes</b>

Table 1. Safety and feasibility outcomes against pre-specified criteria. Feasibility met if safety and two or more of recruitment, retention and weight loss criteria achieved.

Figure 2. 3-month weight change (kg) by treatment group



### Conclusions

- LEDs are safe and feasible under professional guidance and show promising efficacy as a treatment option for obesity in adults with CKD.
- A definitive RCT exploring the use of LEDs to improve clinical outcomes and slow progression of CKD is warranted.

#### Acknowledgements

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