

# Home-based prehabilitation for frail patients awaiting liver transplant

Preliminary results of the Fit4Cirrhotics@home study

## Introduction



Many liver transplant candidates are frail



More complications and higher mortality



Prehabilitation can help, but adherence is often poor



Home-based, remotely monitored programs are promising

## Objective

To evaluate the feasibility and effectiveness of a bimodal home prehabilitation program (exercise + nutrition) in frail patients with cirrhosis awaiting liver transplantation.



## Methods

### Design:

- Pre-post design
- @UMCG
- Prospectief clinical trial (start Oct 2024)

### Patients:

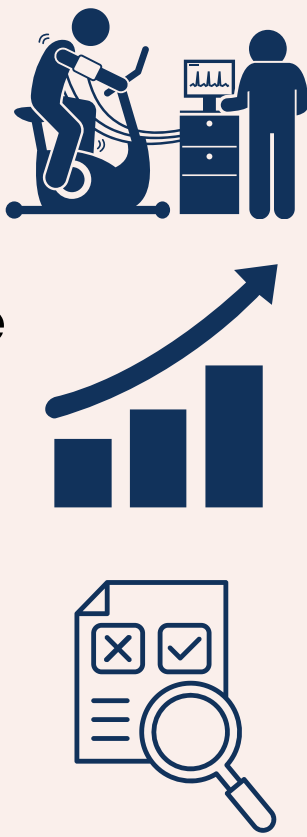
- Liver transplant candidats
- $VO_2$  threshold  $\leq 13$  or  $VO_2$ peak  $\leq 18$  ml/kg/min).

### Intervention:



### Outcomes:

- Primary:
  - Aerobic capacity
- Secondary:
  - Individual preoperative changes (e.g. sarcopenia, fatigue, biomarkers)
  - Feasibility (participation, adherence, safety)



## Results (preliminary)

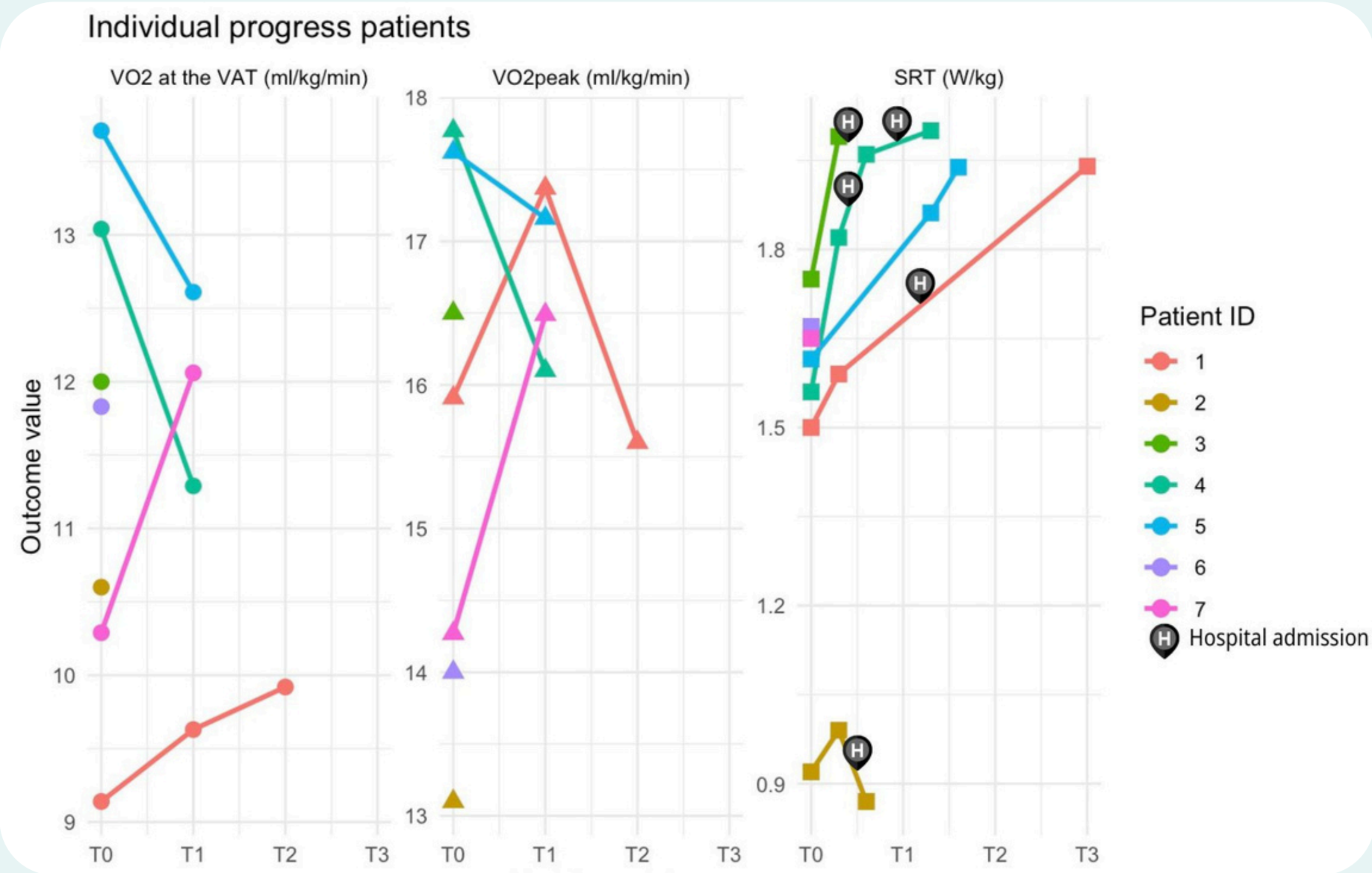
41 screened, 9 included (82% participation).  
Exclusions: adequate fitness or no cirrhosis (e.g., ADPKD).

### Status:

- 3 completed training
- 3 transplanted before reassessment
- 3 ongoing

### Findings:

- Variable CPET results, but consistent SRT improvements.
- Adherence limited by disease instability & hospitalizations.
- Safe: no intervention-related adverse events.



## Conclusion

- Feasible: Home-based, remotely monitored prehabilitation is possible in frail liver transplant candidates.
- Functional gains: Improved SRT performance, though CPET results were inconsistent due to clinical instability.
- Challenges: Research in this frail group is difficult but reflects real-world practice.
- Next steps: Recruitment ongoing (sample size: 24).
- Implication: Supports flexible, patient-centered prehabilitation for vulnerable surgical patients.

isala

Nij Smellinghe

umcg



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Protocol



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