

# Multimodal Prehabilitation Supported by Instrumented Functional Testing Improves Surgical Recovery in High-Risk Patients

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## BACKGROUND



Although overall surgical mortality is low, roughly 80% of postoperative complications occur in high-risk patients with advanced age, comorbidities and frailty.



At **Ospedale di Circolo Varese ASST Settelaghi - Italy**, a **multimodal prehabilitation program** combining muscular and respiratory exercises, nutrition, cognitive training and psychological support to improve functional capacity has been developed.



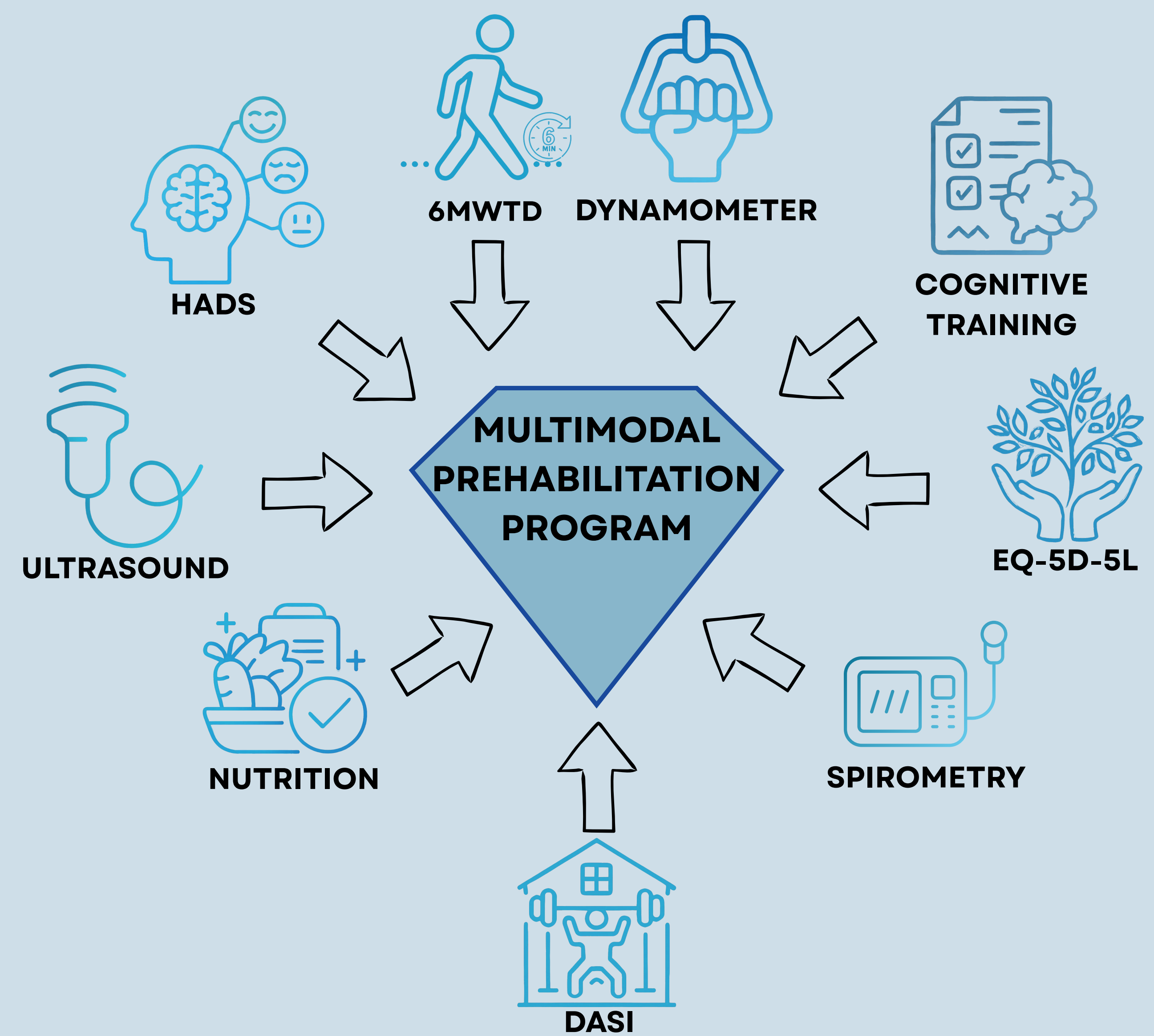
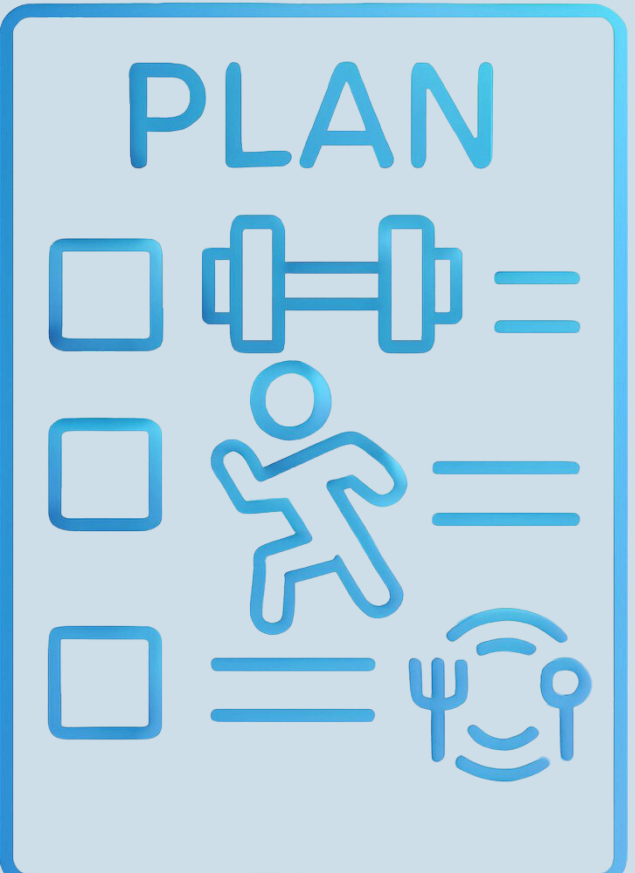
This strategy aims to:

- minimize surgical delays;
- optimize resource use;
- strengthen patients' functional capacity;
- reduce length of hospital stay;
- improve postoperative outcomes and recovery.

## METHODS/RESULTS

| PRIMARY OUTCOME                |
|--------------------------------|
| ↑ 6MWT by 10%                  |
| SECONDARY OUTCOMES             |
| ↑ EQ-5D-5L Index<br>↓ POC, LOS |

The **multimodal prehabilitation program** targets major abdominal surgery patients, aiming to enhance resilience and optimize perioperative outcomes, combining aerobic/resistance training, respiratory exercises, nutritional and cognitive support over 4 weeks. Functional and patient-reported outcomes are assessed through:



## CONCLUSIONS

The **multimodal prehabilitation program** enhances cardiorespiratory fitness, muscle strength, and psychological readiness, thereby potentially reducing postoperative complications and accelerating recovery. This initiative exemplifies a proactive, multidisciplinary approach to perioperative care, shifting the focus from reactive management to **preventive optimization**.



## REFERENCES

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