Early nutritional support in patients undergoing major surgery:
A pilot perioperative nutrition protocol

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Description of the initiative

- **Background / context:** Malnutrition is highly prevalent in patients undergoing major surgery and is associated with increased postoperative complications, prolonged hospital stay, and impaired recovery (J Clin Med, 2025).Despite strong evidence supporting perioperative nutritional care, its implementation remains inconsistent and often nutritional interventions are frequently introduced late in the clinical course.
- **Rationale for the initiative:**In Romania, clinical nutrition care is often fragmented, with limited integration of dietitians into surgical teams, lack of standardized protocols, and minimal implementation of perioperative nutrition strategies. This project addresses this gap by introducing a structured, dietitian-led perioperative nutrition pathway, integrated into routine surgical care. The protocol will be initially implemented in the Thoracic Surgery Department, with the aim of creating a scalable model applicable to other surgical specialties.
- **Objectives and scope:** primary objective: Implementation of a standardized perioperative nutrition pathway through dietitian–surgeon collaboration. Secondary objectives:Early identification of nutritional risk using GLIM criteria, delivery of targeted dietary counseling and oral nutritional supplementation.Monitoring of nutritional status, muscle-related parameters, and functional outcomes, evaluation of feasibility, adherence, and integration into clinical practice

Planned activities & deliverables

- **Outline the key steps of the project management plan:** Development of a standardized perioperative nutrition protocol.Implementation through coordinated dietitian–surgeon workflow. Nutritional assessment including portable muscle ultrasound, handgrip strength, and calf circumference, with CT-based muscle evaluation used when available. Preoperative optimization through immunonutrition and individualized counseling. Early postoperative nutrition support and follow-up according to the established protocol.
- **What are the concrete deliverables of the project?** Standardized perioperative nutrition protocol (screening → intervention → follow-up).Clinical toolkit (assessment forms, counseling guides, ONS algorithms).Prospective dataset (nutritional + functional + muscle parameters).Implementation model for replication.Dissemination through scientific conferences and publications.
- **Achievements:** 2026:protocol development, 2027: project implementation & data collection, 2028: data analysis and publication of the results

Resources & enablers

- A multidisciplinary team, centered on close collaboration between the clinical dietitian and thoracic surgeon, will assess and manage patients within the Thoracic Surgery Department of Bistrița County Emergency Hospital according to the established protocol.
- The project requires personnel(project coordination, clinical implementation)-20 000€,Nutritional assessment, counseling, and patient education resources (including ultrasound integration)-18 000€ and dissemination resources 2 000 €.
- The project will be considered successful if the protocol is effectively integrated into routine surgical practice, demonstrates feasibility and patient adherence, and provides measurable improvements in postoperative complications, length of stay, and muscle-related and functional outcomes.

Results, expected outcomes & impact

- **How will the findings be implemented?** The protocol will be integrated into routine clinical practice through close collaboration between the clinical dietitian and the thoracic surgeon, ensuring alignment between nutritional and surgical care.It will be embedded into:surgical admission, peoperative evaluation postoperative care pathways.This multidisciplinary approach ensures feasibility, continuity and sustainability.
- **How will this project advance nutritional care in clinical practice in one or more of the following areas of clinical nutrition:** This project proposes a scalable, dietitian-led model for integrating perioperative nutrition into routine surgical care in developing clinical nutrition system.It will support earlier recognition of nutritional and muscle depletion, allow more individualized nutritional interventions, and strengthen the practical role of the dietitian within the surgical team. The project also creates a model for combining functional, anthropometric, and muscle imaging data in routine perioperative care.
- **Is the project transferable to other care settings / geographical regions?** This pilot will serve as the first structured perioperative nutrition protocol led by a dietitian in this setting, with the potential to be scaled and adapted to other surgical departments and hospitals across Romania with potential for national implementation.

☑ **Please tick to confirm the PEN letter of endorsement is attached. Incomplete submissions will not be considered.**