Psychological and psychosocial considerations in nasal reconstruction toward optimized perspectives in both biomechanical insights, clinical treatment and patient integration to address facial amputation.

The DiPsyRen study- A Mixed-Methods Research Protocol

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Psychological and Ethical Dimension of Nasal Reconstruction

Improved understanding of psychological and psychosocial responses to nasal amputation can help clinicians to:

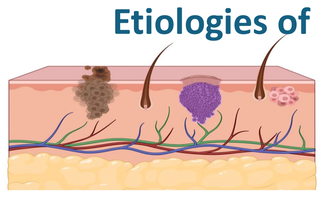
- Anticipate patient needs and support shared decision-making
- Adapt reconstructive strategies accordingly
- Integrate psychological assessment into the care pathway to enhance treatment adherence, satisfaction with outcomes, and long-term social reintegration
- Reinforce interdisciplinary collaboration between patients, surgeons, prosthetists, psychologists, and biomedical engineers.

An ethical understanding of the challenges of nasal reconstruction relies on :

- Respect for patient autonomy
- Informed consent
- Transparency regarding biomaterials and surgical options
- Consideration of identity, embodiment, and self-perception
- Alignment of patient expectations with realistic outcomes
- Patient-centered and interdisciplinary decision-making

Redefining Nasal Reconstruction

Etiologies of Nasal Amputation



1st Oncologic resection

2nd Trauma :

- Bite (human or animal)
- Road traffic accident
- Explosion…





Other : infections, congenital malformations, immune diseases, vascular malformations…

Nose:

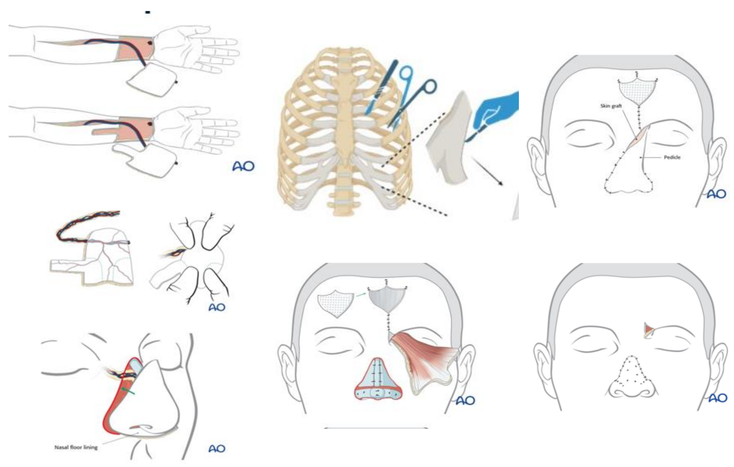


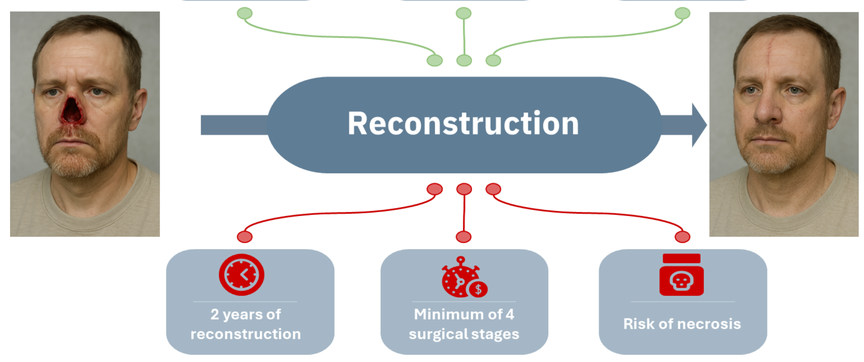
Critical component of the upper airway & Central feature of facial identity



Demands reconstructive approaches that address both form and function.

Gold Standard (C. Burget, F.J. Menick)



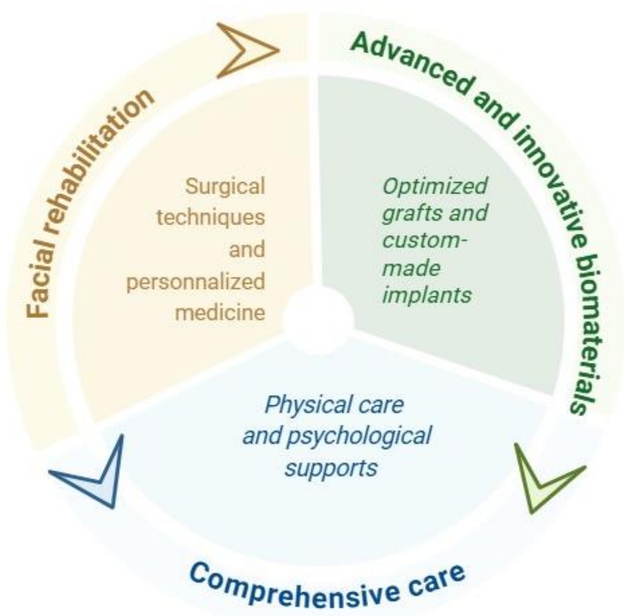




Limitations :
- Highly complex, multistage surgery
- No anatomical guidance for surgeons
- Reconstructed nose ≠ original nose

Background

The nose is a central facial structure combining critical physiological functions such as respiration, olfaction and immune defense, with a strong symbolic role in facial identity and social interaction. Nasal amputation, whether partial or total, disrupts both functional capacities and self-perception, leading to profound psychological and psychosocial consequences that are often underestimated in routine clinical care as identity questioning, alteration of body image, isolation, misesteem, anxiety, depression, intimate relationship, traumatism, etc.



Objectives and Perspectives

This research aims to characterize psychological trajectories following nasal amputation, identify patient needs throughout reconstructive decision-making, and support interdisciplinary collaboration between clinicians, biomedical engineers, researchers, and patients. The goal is to promote ethically grounded, patient-centered reconstructive strategies integrating psychosocial care as a core component of treatment.

Methods: DiPsyRen Studies

DiPsyRen study follows a mixed-methods design integrating *qualitative semi-structured interviews with quantitative psychometric assessments*. Interviews explore illness experience, care pathways and therapeutic proposals, psychological, physical (pain, olfaction, breath, appearance), and social impacts (relatives, work, avoidance of certain situations, etc.); personal resources (resilience, life drive), relational support, and the effects of the epithesis or the reconstruction. Standardized questionnaires include BFI, Rosenberg Self-Esteem Scale, DAS-24, SF-36, HADS (and PCL-5 when post-traumatic symptoms are identified).

Clinical and Ethical Challenges

Facial prostheses (epithesis) provide a rapid aesthetic solution but require daily maintenance and impose lifestyle constraints that may reinforce feelings of dependency or artificiality. Emerging reconstructive techniques using advanced biomaterials raise ethical questions regarding patient's sense of identity (e;g. in relation to the new synthetic and/or animal-derived biomaterials used), informed consent, transparency of information, and the alignment between patient expectations and achievable surgical outcomes.