Reducing uncertainty for transplant patients using the DynPG clinical tool

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- **Internship location:** Nantes University Hospital / François Viète Center

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Kidney transplantation: between a gift and a sword of Damocles

Chronic kidney disease is defined as a progressive and irreversible loss of kidney function in an individual. In its end-stage, renal replacement therapy becomes essential: dialysis or **kidney transplantation**. Today, transplantation is the standard of care, due to its significant benefits in terms of quality of life and life expectancy. However, this improvement comes with a new **form of vulnerability**. Transplant recipients face **ongoing uncertainty** regarding the survival of their graft, estimated on average at about fifteen years. This uncertainty is compounded by the need for **lifelong immunosuppressive therapy, which is demanding and restrictive.**

In this context, the patient oscillates between passive and active attitudes:

- medical factors beyond their control;
- behavioral factors that influence treatment adherence.

A study conducted in 2024 estimates that between **36% and 55% of transplant patients exhibit poor adherence**, significantly increasing the risk of graft rejection. Current standard care appears to be in need of optimization, which is where the DynPG clinical tool comes in.

DynPG: A Clinical Tool to Provide Information and Reduce Uncertainty

DynPG (Dynamic Predictive Graft) is a clinical tool capable of calculating the probability of graft survival over a five-year period. The score is updated during consultations, allowing for the integration of recent changes in the patient's health and providing a **dynamic, individualized estimate of graft survival.** Thus, DynPG makes the graft's survival trajectory more transparent—a process often perceived as uncertain by both patients and caregivers. The goal of this project is to determine **how to present this score during follow-up visits** so that the information is understood and used as a beneficial tool for the patient's overall care.

Reducing uncertainty to promote self-management

According to the **theory of uncertainty in illness** developed by **Merle Mishel**, the clarity and accessibility of information play a central role in reducing the uncertainty perceived by the patient, thereby promoting their engagement in managing their health. However, this dynamic is not guaranteed, because when information is interpreted as threatening, it can produce counterproductive effects. For example, the announcement of an unfavorable test result may be experienced as a form of condemnation, potentially leading to disengagement or even a breakdown in treatment adherence. Conversely,

Positive news is not necessarily risk-free. Indeed, a good result can induce a false sense of security, leading the patient to let their guard down, perceive themselves as "out of danger," and, consequently, reduce their involvement in follow-up care or adherence to treatment. Thus, whether negative or positive, **information always carries the potential for interpretation** that may influence the patient's behavior in an ambivalent manner.

The aim of this research is therefore to **identify the most effective communication methods** so that the score result is perceived not as a threat, but as a resource that the patient can utilize.

This issue is part of a **transformation in the medical model**, marked by the shift from a paternalistic approach to an informative model. In the former, the physician, as the holder of knowledge, prescribes and makes decisions, while the patient assumes a passive role. In contrast, the latter model—widely used today—recognizes the patient's active role in managing their own health, implying a form of shared responsibility. The doctor is therefore required to provide clear, understandable, and appropriate information, respecting the patient's values and preferences and refraining from influencing their decisions. However, this model raises specific challenges, particularly regarding the delivery of bad news: **how can it be phrased without causing adverse effects?** Similarly, there is the question of tailoring the information to the patient's level of understanding and competence, an essential condition for the information to be effectively appropriate.

Hypothesis: Appropriate communication of the DynPG score could:

- **Reduce uncertainty:** a clear explanation of the score and the patient's ownership of the result would help transform uncertainty into an opportunity and a source of strength.
- **Improve adherence:** the five-year survival estimate can act as positive reinforcement, encouraging the patient to continue treatment to maintain this score.
- **Strengthening self-management:** by understanding the impact of their involvement, patients can take an active role in their own health.

This internship therefore aims to explore **how to integrate and communicate a dynamic, predictive score into standard care**, in order to reduce the uncertainty experienced by patients and promote better self-management—a necessary condition for optimizing long-term graft survival.