Personalized skin grafts to treat skin defects – Status quo within the Wyss Zurich denovoSkin project

After severe wounding, human skin fails to regenerate and physiologically heals by scar formation. Worldwide, millions of people suffer from severe skin defects or diseases requiring surgical interventions to restore skin function. Existing therapies frequently leave these patients with permanent, painful, disfiguring, and debilitating scars. Today, standard of care consists in harvesting a thin layer of healthy patient’s skin, which contains the epidermis but only remnants of the dermis.

In 2001, a team of the University-Children's Hospital Zurich led by Professor Reichmann pursued the vision of bio-engineering personalized dermo-epidermal skin grafts, using patients’ own cells. One of the developed products, denovoSkin, is the result of fifteen years of research. A first-in-man safety study was completed with denovoSkin with very promising results. denovoSkin has obtained Orphan Drug Designation for a treatment of burns (by Swissmedic, EMA, and FDA). With the support of the Regenerative Medicine Technology Platform of Wyss Zurich, the team is now advancing the product development, testing denovoSkin’s efficacy in pivotal phase II multicentric studies and preparing for market authorization in terms of regulatory and reimbursement activities.