Abstract

The objective of the Translational excellence in Regenerative Medicine (TeRM) program is to translate national, breakthrough, proof-of-concept technology into concrete clinical trials, paving the way for the development of subsequent innovative products.

Mission

Regenerative medicine (RM) aims to rebuild original tissue function by triggering the intrinsic self-healing capacity of natural tissues. RM replaces conventional medical approaches that treat tissue-related conditions (e.g., traumatized cartilage, malfunctioning heart valves) through removal of damaged tissue or by replacing it through transplantation or implantation.

The six projects of the TeRM program will focus on the musculoskeletal and cardiovascular disease areas. The success of the projects is ensured through development and sharing of common enabling technologies: imaging, stem cell expansion and selection, bioreactors, and regulatory affairs.

The TeRM program will create societal and economic value in three ways:
Structure & Governance

The six projects of the TeRM program will focus on the musculoskeletal and cardiovascular disease areas, with a special focus on the tissues, cartilage, bone, vessels and heart.

Impact/Accomplishment

Five years of research in the six TeRM projects have resulted in exciting results, new products, clinical trials, and new treatments. At the end of the TeRM program, all companies and most university medical centers (UMCs) have been or will be participating in clinical trials focusing on the regeneration of cartilage, bone, vessels, and heart.

TeRM has provided one of the crucial stepping stones previously lacking in the Dutch RM landscape: the translation of national, breakthrough, proof-of-concept technology into actual clinical application and evaluation.

The TeRM program resulted in a better understanding of regeneration of tissues and the role of cells and materials in this process. Selecting the best cell source, stimulating (multipotent) cells into the desired lineage, understanding cross-talk between cells or the influence of materials on cells, but also choosing the right material, its composition, surface, degradability, and many more characteristics were studied.

For some applications, it became clear that in situ regeneration by implanting smart materials without cells could be a more efficient approach, whereas cell therapy was the basis for regeneration of other tissues.

TeRM is proud of the outcome. Clinicians used TeRM technology in the treatment of patients. The start-up and small to medium-sized enterprises in the consortium were successful in bringing their products and therapies to the clinic. Four new spin-off companies were established, and 14 unique patent applications were submitted.

Links/Social Media Feed
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Updated: 04/07/2016