AutoCRAT

Cellular Robot-Assisted Technologies for translation of discovery-led research in Osteoarthritis

AutoCRAT is an EU Horizon 2020 Project focused on:
– delivering new cell and cell-derived therapies for osteoarthritis and cartilage repair using sustainable sources of cells and
– developing an automated pipeline to enable future production of therapeutic cell / cell-derived products.

What is Osteoarthritis?
Osteoarthritis (OA) is a degenerative disease of the joints and is one of the most significant causes of disability worldwide. It is associated with severe pain and loss of function. OA can have a profound impact on quality of life for those with the condition and also affects families, employers, economies and society as a whole.

How Is OA Treated?
Treatment options for OA involve palliative measures (reducing pain without curing the cause of the pain), and include pain management, intra-articular injections and joint replacement surgery.

Joint replacement surgery does not always provide a complete solution in the long term and surgery carries associated risks and expenses. Non-surgical options may involve the long-term use of non-steroidal anti-inflammatory drugs and/or the use of opioids in pain management. While some people manage to live well with OA, for many there is a real need to develop new therapeutic approaches.

How Will AutoCRAT Help?
Treating OA with mesenchymal stromal cells (or MSCs) has yielded promising results in studies undertaken to date. However, we need to know more about how this treatment works.
In AutoCRAT we aim to deliver new therapies to repair cartilage, to help prevent the development of OA and to treat the condition once established. AutoCRAT will build on existing knowledge to identify the cells, secreted factors and cell products that can be used most effectively.

As part of our work we will generate economically sustainable and reproducible therapeutic cell sources. We will also build the AutoCRAT Regenerative Medicine Factory (ARM-F), which will enable automated production of the chosen therapeutic agents economically, at scale and within the regulatory framework.

The AutoCRAT Project will run for 4 years from 1 January 2020 to 31 December 2023, when we will publish our final results.

Who Will Benefit?
We aim to develop new cell-based therapies and production methods for therapeutic products to address the unmet needs of people with OA. We hope that our results will also have application to other diseases and conditions. In addition, our work will help increase the strength and depth of the Regenerative Medicine sector.

AutoCRAT therefore aims to benefit people with OA and their families, clinicians, health service providers, employers, industry and wider society as a whole.

Prof Mary Murphy (NUI Galway) Coordinator of AutoCRAT

MEET THE TEAM

The AutoCRAT consortium is composed of leading European scientific teams in regenerative medicine, osteoarthritis (OA), preclinical efficacy and safety demonstration, GMP- and GAMP-compliant manufacturing of MSCs, clinical trials for OA, regulatory affairs and health economics analysis. The Project is led by the National University of Ireland Galway (NUIG).

For further information visit the Project website
https://www.autocrat.eu/
You can also follow us on:
Twitter: https://twitter.com/AutoCRAT2020 and
Facebook: https://www.facebook.com/AutoCRAT2020/