

## The End Of The iPSpine Journey... For Now

The iPSpine project started 5 and a half years ago with the goal of developing a therapy that could one day eliminate lower back pain, the leading cause of disability world wide. Affecting more than 700 million people across the globe, lower back pain not only reduces quality of life for sufferers, it also imposes a huge economic burden that costs Europe nearly 240 billion euros a year.



With the expertise of 22 partners from 9 different countries, the project set out to develop an advanced therapy to tackle this problem. By combining the latest developments in stem-cell research and smart biomaterials, iPSpine's main aim was to produce a new medicinal product that could target the degenerated spinal discs responsible for inducing lower back pain. With the project's culmination, major advancements are on the horizon, potentially bringing a newtherapy for lower back pain within reach.



#### A Thank You From Our Project Lead: Prof. Marianna Tryfonidou

"It is hard to believe that iPSpine started 5.5 years ago back in 2019. We are reaching the formal end of this incredible journey and I have been and remain grateful to all Partners for their strong

commitment and exceptional contributions.



Working together on this project has been a transformative experience – the collaborative spirit, resilience and dedication of the iPSpine team sets a remarkable example for everyone to follow. We have harbored the next generation of scientists, worked hard, and also had a lot of fun together. I am incredibly proud of what we have achieved together.

A lot has been said during the final Consortium meeting where we appreciated and discussed the scientific results of iPSpine. Each of you brought unique insights, expertise, and energy that collectively drove iPSpine to new heights ... and there is a lot more to come! We will continue to work together to bring what we have started to completion and see to the continued impact of our efforts.

Thank you for making iPSpine a success!"

#### **Final Consortium Meeting**



The project's final consortium meeting was held from the 22-24th of May. It was a fantastic moment for the consortium to celebrate and reflect on the work done in the past five years.

✓ A jam-packed couple of days saw the project dive deep into its findings. From the development of stem cells and smart biomaterials to the ethical considerations and regulatory frameworks that make research possible, not a stone was left unturned. Complemented with fascinating topic talks diving deep into many of the journeys that it took to get to where we are now, our final consortium was a big success!

### **Our Latest Results**



- Automatic grading of intervertebral disc <u>degeneration in lumbar dog spines - PMC</u> (nih.gov)
- In vitro and in vivo models define a molecular signature reference for human embryonic notochordal cells -
- ScienceDirect • The Injection of Gels Through an Intact **Annulus Maintains Biomechanical** Performance without Extrusion Risk -

PubMed (nih.gov)

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## **Patient Involvement**

Patient engagement was at the forefront of the iPSpine project. As lower back pain sufferers, their unique perspectives could have a profound impact on the research being conducted in the iPSpine project.



With the primary goal of assisting the consortium in aligning project outcomes with patient needs, a Patient Advisory Board (PAB) was formed in month 3 of the project. By participating in a wide range of activities such as telling their own patient story, attending science cafés and in-person meetings, and providing first-hand input in key project output like the animation, our PAB provided their invaluable expertise to allow our project to connect with patients in a way we never could have without them.

# Read more about our PAB



66 On several occasions, I was caught in the middle of a movement, like getting up from a seat, and could not get either further up or back into the seated

Nikola Skoro

To give the patients a face and voice for the project, PAB members were asked to write their own patient stories, a recollection of their own personal experience with chronic lower back pain. The goal of these stories were to provide support to other sufferers by reading through shared experiences, and also to highlight the relevance of iPSpine's research and hope the project provides.

Read all our patient stories

# **Patient Symposium 2024**



The iPSpine PAB journey culminated with a patient symposium held on the 16th of April 2024, in the Netherlands. Alongside the PAB's patient advocates, other lower back pain sufferers, researchers, and professionals came together to discuss the project's latest findings, and other recent advancements in therapies targeting lower pack pain.

Read more

# **iPSpine Educational Materials**

- Regulatory courses Biomaterials training
- Biomaterials courses ✓ iPSC Courses



# Thank You To All Involved!



All in all the culmination of the 66 months of work on the project is a great sense of pride for all. While it is sad to end a project for which so much was accomplished, the work is not done yet. The iPSpine consortium hopes to see a world in which lower back pain is not the debilitating issue facing society today. For that to be achieved more research will be done with each of the consortium members engaging their own sectors and stake holders.

The last 5 years have been rewarding and at times challenging. This consortium has pushed forward the science of stem cell research and spinal injuries that effect millions of people world wide. Like with all research, the work is not done. Members of the iPSpine consortium however can go on to the next project knowing the work done in this group was a big step in the right direction.



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