

MechaGel

Offering patients with cartilage damage the opportunity to live an active and fulfilling life, free of pain

In a nutshell

Around 7% of people will suffer from cartilage damage in their lifetime – more than half a billion people worldwide. Cartilage is a strong, flexible tissue that protects joints and bones, acting a bit like a shock absorber. Cartilage can become damaged through injury, age, or disease. Cartilage damage does not heal and so can lead to swelling, difficulty in moving, and chronic pain. While there are ways of repairing cartilage, they tend to be ineffective. They often fail as the “scaffolds” (the structure used to support the growth of new tissue) used don’t provide sufficient integration with the original cartilage resulting in ineffective healing.

To combat this challenge, the MechaGel team have developed an adhesive hydrogel technology that can be injected directly into the patient. The gel sticks to the existing cartilage and enhances tissue repair.

Why is our technology important?

MechaGel has created a hydrogel-based technology to address the problem of traditional cartilage repair. Through a minimally invasive procedure, the biodegradable gel is injected directly into the damaged cartilage area. It is then cured using light. With its exceptional adhesive properties, the gel integrates with the existing tissue. This prevents further degeneration and secures the implant in place, promoting natural healing. The gel degrades over time, allowing the patient’s cells to move to the site and heal the damaged area naturally.

The benefits of our solution

MechaGel provides a reliable and effective treatment option, allowing individuals to regain mobility, reduce pain, and experience the joy of unrestricted movement. Some of the benefits our novel hydrogel technology include:

- Natural cartilage healing, improved joint function, and range of motion
- Integration with existing tissue which preserves healthy cartilage and prevents further degeneration
- Biocompatible material with no negative immune reactions or side effects
- Minimally invasive approach
- Conducted in one single surgery

We believe this is just the start. Through our technology we want to create a world where everyone can pursue their dreams, reach their full potential, and experience the joy of unhindered movement, regardless of their cartilage condition.

Keywords

Knee cartilage, hydrogel, tissue repair, injectable scaffold

Founding Team

Peyman Karami: [linkedin.com/in/peyman-karami](https://www.linkedin.com/in/peyman-karami)