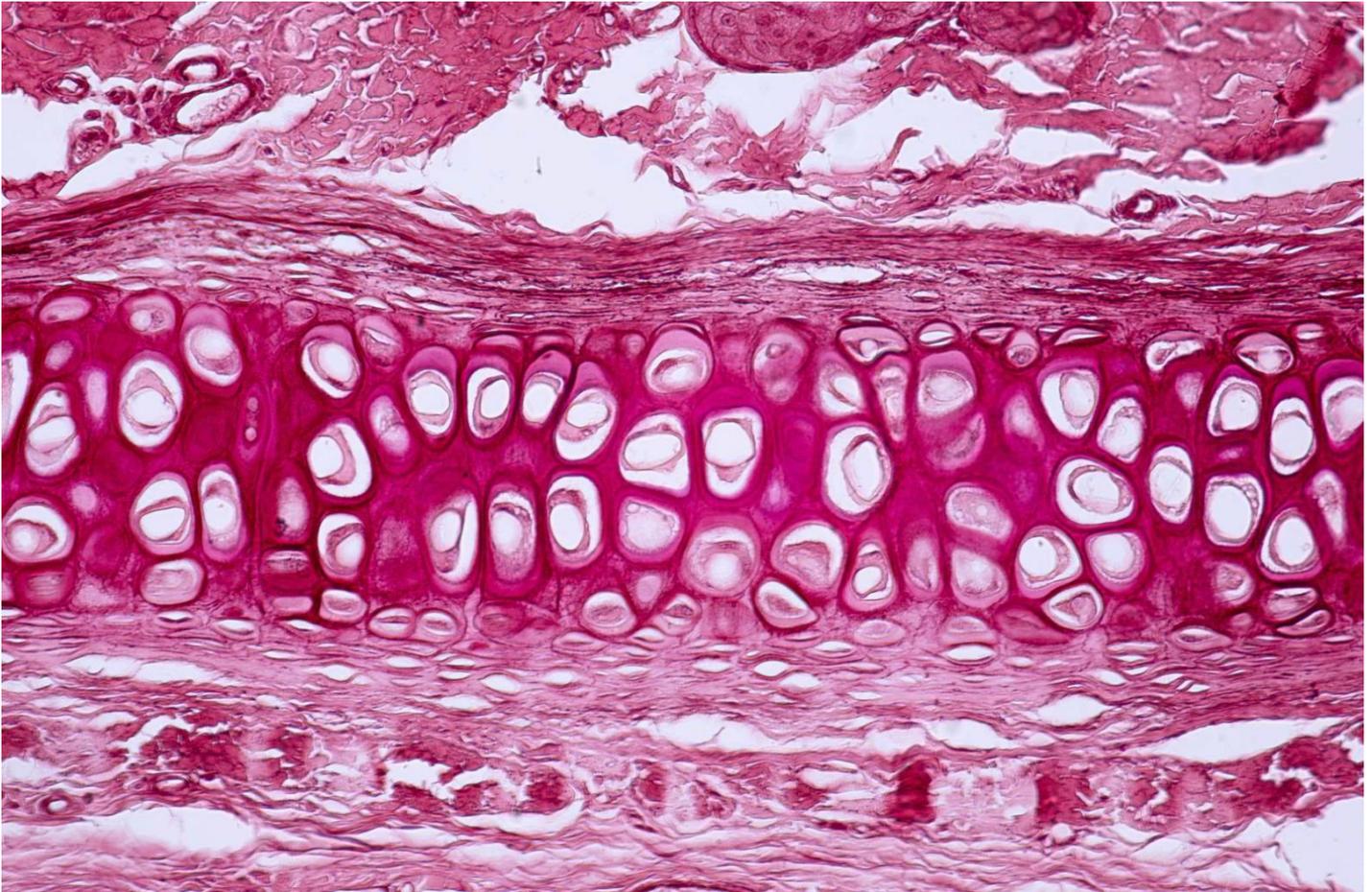


# Tissue Engineering Technology: Using Shellfish Extract To Repair Damaged Cartilage

Ecole Polytechnique de Montreal



Using a new tissue-engineering technology developed by researchers at the École Polytechnique de Montréal, physicians may soon be able to stimulate the human body to repair damaged articular cartilage.

The discovery, called BST-Gel®, was invented in the mid-1990s by a group of professors and graduate students at the engineering school affiliated to Université de Montréal, École Polytechnique de Montréal. The research was funded through several sources, including Natural Sciences and Engineering Research Council of Canada, Formation de Chercheurs et l'Aide à la Recherche, Canadian Institutes of Health Research, Canadian Arthritis Network, the Canada Research Chair Program, and École Polytechnique.

The technology was disclosed in 1996 and licensed the following year to Bio Syntech Canada Inc., a spinoff technology company created by Polyvalor, Limited Partnership (now known as Gestion Univalor, Limited Partnership) the commercial arm of École Polytechnique de Montréal.

“ One application of BST-Gel, called BST-CarGel®, brings the potential to repair damaged articular cartilage. It is a gel based on the biopolymer chitosan, which naturally occurs in the shells of crustaceans, such as shrimp.

During use, BST-CarGel® is mixed with a small volume of the patient’s own whole blood and applied surgically to the damaged cartilage area over holes that have been made into the bone marrow. Animal studies have shown that the BST-CarGel® acts as scaffold within the blood, and guides regeneration of the cartilage.

In addition, this same technology can be used to treat other orthopedics indications and is being tested as a therapy for chronic wounds.

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