

Helping hearts, spinal cords and tendons heal themselves

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Queen's University Brian Amsden is hoping that in about 10 years a tendon, spinal cord or heart valve will be able to regenerate itself after an injury or disease.

The chemical engineering professor, along with scientists from the University of Western Ontario and University of Toronto, is currently trying to develop microscopic [polymer](#) fibers to help rebuild human tissue and speed the healing process.

While using polymers to help grow muscles may sound like something out of Frankenstein, it's actually quite natural. Dr. Amsden is trying to develop the technique where [stem cells](#) from fat are placed on a polymer prosthetic that stimulates cell growth and that is later implanted it into a person's body.

"I can't think of anything Frankensteinish about that because everything is you. The only thing that isn't you is the polymer which is biodegradable and eventually disappears, so all you have left is your own tissues," says Dr. Amsden.

Tissue engineering was first proposed in mid 1980s and using polymers to help stimulate the process came about in the early 1990s so it's a fairly new field.

The impact would be huge on Canada's aging population. Many [baby boomers](#) want to remain active as they get older and this research will

allow people in their 60s and 70s to live healthier.

More information: Dr. Amsden's findings were recently presented at the Advanced Foods and Materials Network annual conference in Halifax.

Provided by Queen's University

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