



MAN'S CARTILAGE GROWN IN LAB, IMPLANTED INTO KNEE

Doctors: the harvest, grow, implant procedure could change approach to knee injuries

The Ohio State University Wexner Medical Center

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SUGGESTED TEASE	STILL TO COME, GROWING NEW CARTILAGE IN THE LABORATORY - TO FIX INJURED KNEES. HOW THIS SMALL PIECE OF TISSUE COULD MEAN BIG CHANGES IN THE FUTURE, NEXT IN HEALTH NEWS.
ANCHOR LEAD	IT MAY SOUND LIKE SOMETHING OUT OF A SCIENCE FICTION NOVEL, BUT IT'S ACTUALLY HAPPENING. DOCTORS ARE TESTING A NEW APPROACH TO FIXING DAMAGED CARTILAGE IN THE KNEE - BY USING HUMAN TISSUE GROWN IN A LABORATORY. WITH MORE ON HOW THIS REMARKABLE TECHNOLOGY WORKS AND WHAT IT MIGHT MEAN FOR THE FUTURE, HERE'S CLARK POWELL.
	(Nats - Taylor lifting weights) :02
CG: Courtesy: The Ohio State University Wexner Medical Center Shots of Taylor working out Close-up of weights	IRONICALLY, IT WAS HIS COMMITMENT TO STAYING ACTIVE THAT ENDED UP COSTING TAYLOR LANDGRAF A FEW WEEKS ON THE COUCH. HOPING TO GET IN A QUICK WORKOUT RECENTLY, HE BORROWED A ROOMMATE'S SKATEBOARD TO GET TO THE GYM - AND ENDED UP IN URGENT CARE. :13
CG: Taylor Landgraf Tore cartilage in his knee	"Started going down a hill that was probably a little bit too steep for a beginner, and wiped out going down the hill and I ended up tearing my meniscus and tearing cartilage in my knee as well." :10
Shots of Taylor lifting Close-up of Taylor's face	IT MAY HAVE ONLY SIDELINED TAYLOR FOR A FEW WEEKS, BUT DOCTORS SAY WITH MOST INJURIES TO KNEE CARTILAGE, THE EFFECTS CAN LAST FOR DECADES. :07
CG: Dr. David C. Flanigan Ohio State's Wexner Medical Center	"Unfortunately cartilage, once it's injured, it's really difficult to repair. We don't have an intrinsic healing potential for it." :07
Shots of Taylor working out / close-up of his knee Close-up of cartilage in OR -Animation-	IN OTHER WORDS, THE CARTILAGE DOESN'T HEAL OR REGROW ON ITS OWN - AT LEAST NOT INSIDE THE BODY. SO DOCTORS ARE TESTING THIS - HUMAN CARTILAGE THAT WAS GROWN IN A LAB. SIX WEEKS AGO, DOCTORS TOOK CARTILAGE CELLS FROM

Start with freeze frame @ 1.00.40 Dissolve to animation between 01.01.19 - 01.01.28	A HEALTHY PART OF TAYLOR'S KNEE AND SENT THOSE CELLS TO A LABORATORY WHERE SCIENTISTS BEGAN GROWING THEM. :20
Dr. Flanigan (CG'd earlier)	"They'll take that cell line and they'll just keep replicating and replicating and replicating until they have millions of cells." :05
Shot of cartilage (still?) Wide shot of doctor cutting cartilage -Animation - 1.01.48 - 1.01.53 Shots of doctor operating	THE RESULT IS A PIECE OF LIVING CARTILAGE ABOUT THE SIZE OF A QUARTER. ONCE IT WAS BIG ENOUGH, DOCTOR DAVID C. FLANIGAN OF THE OHIO STATE UNIVERSITY WEXNER MEDICAL CENTER SIZED IT, CUT IT AND, USING A SPECIAL ADHESIVE, ESSENTIALLY GLUED IT TO THE DAMAGED PART OF TAYLOR'S KNEE. THERE, DOCTORS EXPECT THAT IT WILL GROW INTO EXISTING CARTILAGE AND COMPLETELY HEAL THE WOUND. :22
Dr. Flanigan (CG'd earlier)	"What's really exciting is that if this actually can help improve function, improve outcomes for patients, it may be really the future of how we address cartilage." :09
Shot of Taylor finishing up lifting	AT OHIO STATE'S WEXNER MEDICAL CENTER, THIS IS CLARK POWELL REPORTING. :03
ANCHOR TAG	DOCTORS ARE STILL TESTING THE PROCEDURE, BUT IF IT PROVES EFFECTIVE, IT COULD GIVE DOCTORS A NEW TREATMENT OPTION THEY DESPERATELY NEED. EACH YEAR NEARLY A QUARTER OF A MILLION PEOPLE IN THE U.S. HAVE SURGERY TO REPAIR DAMAGED KNEE CARTILAGE ¹ - THAT'S UP NEARLY 40 PERCENT OVER THE LAST DECADE. ¹
 Share it! Suggested tweet:	Doctors @OSUWexMed are implanting cartilage grown in the lab to see if it can fix damaged knees: bit.ly/1fmNOVy
 Suggested post:	Doctors at The Ohio State University Wexner Medical Center are testing a novel approach to knee surgery. They take healthy cartilage cells from patients, use those cells to grow new cartilage in the lab, then implant it back into the patient's injured knee to see if it can repair it. Cartilage does not heal or regrow in the body naturally and new therapies are badly needed. Details: bit.ly/1gAK3MV
References -	¹ <i>Trends in the surgical treatment of articular cartilage lesions in the United States: an analysis of a large private-payer database over a period of 8 years</i> , The Journal of Arthroscopic & Related Surgery, Volume 30, Issue 2 , February 2014. Online: http://www.ncbi.nlm.nih.gov/pubmed/24485115
	Extra Bites
CG: Dr. David C. Flanigan Ohio State's Wexner Medical Center	<i>Dr. Flanigan talks about the design of the scaffold -</i> "It's a three dimensional almost honeycomb scaffold. And that's what they put the cells in and they grow those cells within the scaffold so it starts making cartilage." :09

<p>CG: Dr. David C. Flanigan Ohio State's Wexner Medical Center</p>	<p><i>Dr. Flanigan talks about the uniqueness of this approach -</i> "What's really unique about this is that you can actually paste this implant in and it's brand new cartilage for the patient." :07</p> <p><i>Dr. Flanigan talks about the importance of the 3D scaffold -</i> "And that three dimension is really important so it's already filling up the defect, so what we really need to do is get that cartilage to adhere and to start expanding and growing." :09</p>
<p>CG: Taylor Landgraf Tore cartilage in his knee</p>	<p><i>Taylor talks about the idea behind this approach -</i> "They were going to grow those cells, outside of my body, and then reimplant them about six weeks later and then those cells will be, actually, just cartilage cells." :10</p> <p><i>Taylor talks about the damage to his knee after his injury -</i> "My knee wouldn't move before. It was kind of locked up and would move about 30 or 40 degrees." :05</p> <p><i>Taylor talks about his expectations for the future -</i> "I'm just excited about this, and excited to see where it goes and looking forward to being back to full health." :04</p>
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