Study: When You Injure Your Knee, It Changes Your Brain

Researchers say we rely more on vision after injuries, suggest a new approach to rehab

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The Ohio State University Wexner Medical Center

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NEWS PACKAGE

SUGGESTED TEASE	STILL TO COME, WHAT HAPPENS TO YOUR *BRAIN*.. AFTER YOU INJURE YOUR *KNEE*. DETAILS OF A FASCINATING NEW STUDY, NEXT IN HEALTH NEWS.
ANCHOR LEAD	IF YOU'VE EVER TORN AN A-C-L, YOU KNOW IT CAN TAKE MONTHS FOR YOUR KNEE TO GET BACK TO NORMAL. BUT A NEW STUDY SUGGESTS THAT IT'S NOT JUST YOUR KNEE THAT'S AFFECTED BY THE INJURY - YOUR *BRAIN* IS AFFECTED, AS WELL. SCIENTISTS HAVE DISCOVERED CHANGES IN HOW THE BRAIN WORKS AFTER AN INJURY - AND IT COULD ALTER THE WAY WE APPROACH REHAB. CLARK POWELL HAS DETAILS.
(PACKAGE START) ----------	
CG: Courtesy: The Ohio State University Wexner Medical Center **:00 - :03** Shots of Scott running	(Nats - Sound) :02 THOUGH IT'S BEEN SEVERAL YEARS SINCE SCOTT MONFORT TORE HIS A-C-L PLAYING LACROSSE, HE STILL THINKS ABOUT IT TODAY - NO MATTER WHAT TYPE OF EXERCISE HE'S DOING. :08
CG: Scott Monfort **Tore his ACL** **:08 - :17**	"Even if it's, you know, just playing like a rec football game or something like that, you know, much more I feel like in tune or aware of how my knee is feeling." :10
Shots of Scott in exam Shots of Dr. Onate looking at knee	THAT'S NOT UNCOMMON. IN FACT, A NEW STUDY FROM THE OHIO STATE UNIVERSITY WEXNER MEDICAL CENTER SHOWS THAT FOLLOWING AN A-C-L INJURY, OUR BRAINS LITERALLY CHANGE AND OUR MOVEMENTS ARE MODIFIED. :11
CG: Jimmy Onate, PhD **Ohio State Wexner Medical Center** **:27 - :37**	"Like walking in the dark. You don't walk as fast, you don't move as confidently. Well, these individuals may, at a smaller sense, be doing the same thing - not moving as confidently." :08

Shots of experts looking at MRIs Shots of people getting MRIs Shots of people moving legs	TO UNDERSTAND WHY, RESEARCHERS LOOKED AT THE BRAIN ACTIVITY IN SEVERAL ATHLETES. WHILE LYING IN AN M-R-I MACHINE, THEY HAD VOLUNTEERS MOVE THEIR LEGS - AND NOTICED A SURPRISING DIFFERENCE BETWEEN THOSE WHO HAVE HAD KNEE INJURIES AND THOSE WHO HAVEN'T. :13
CG: Dustin Grooms, PhD **Ohio University** **:50 - :59**	"We found that a very simple knee movement that wasn't very complex at all, the brain changed immensely if you've had this anterior cruciate ligament, ACL tear." :09
Shots of 3-D MRI images Shots of soccer practice Shots of putting on glasses Shot of glasses on camera Shot of rehab with glasses	AFTER AN INJURY, IMAGES SHOW OUR BRAINS RELY ON VISION MORE THAN INSTINCT WHEN MOVING OUR KNEES. THAT CAN BE DISTRACTING, AND IN ATHLETES, MAY PUT THEM AT RISK FOR FURTHER INJURY. TO HELP PREVENT THAT, ATHLETIC TRAINERS ARE USING SPECIAL GLASSES IN REHAB THAT HAVE A STROBE EFFECT. THE IDEA IS TO PREOCCUPY A PATIENT'S EYES SO THEY USE THEIR KNEES MORE INSTINCTIVELY. :19
CG: Dustin Grooms (CG'd earlier)	"If we can knock down visual processing, we think we can force the brain to use the sensory system it was meant to use and then hopefully lower the risk of injury after they go back to play and improve their rehabilitation." :11
Shots of Scott in rehab Shots of Scott with glasses	WHICH MAKES SENSE TO SCOTT WHO SAYS IT'S HARD TO MOVE FORWARD FROM INJURY AS LONG AS HIS KNEE IS IN THE BACK OF HIS MIND. AT OHIO STATE WEXNER MEDICAL CENTER, THIS IS CLARK POWELL REPORTING. :09
(PACKAGE END) ---------- **ANCHOR TAG**	EXPERTS SAY BY USING STROBE GLASSES IN REHAB THE BRAIN MAY BE ABLE TO BE REWIRED SO PATIENTS ONCE AGAIN LEARN TO TRUST THEIR KNEE MOVEMENTS WITHOUT THE FEAR OF BEING REINJURED.

SOCIAL MEDIA

Share it! Suggested tweet:	New study @OSUWexMed shows when you injure your knee, it changes your brain. Details: http://bit.ly/2dh5x1U
Suggested post:	A new study shows that when you injure your knee, it changes your brain. Using MRI, researchers at The Ohio State University Wexner Medical Center examined several volunteers and noticed differences in the brain scans of those who've had ACL injuries and those who

	haven't. See how their brains changed and check out special strobe glasses athletic trainers are testing in rehab to correct the problem: http://bit.ly/2dh5x1U

EXTRA BITES

CG: Jimmy Onate, PhD **Ohio State Wexner Medical Center**	Onate talks about the hypothesis of the study - *"Do these individuals use their visual systems differently than those individuals who have not had an ACL tear? And what we saw was, when they had to move their leg, we saw visual uptake in the brain."* Onate talks about brain changes in ACL injury patients - *"What they're doing is they're using their vision to move in a very simple pattern, when they really don't need it."*
CG: Dustin Grooms, PhD **Ohio University**	Grooms talks about the changes in ACL injury patients - *"Their brain had fundamentally changed how it processes that information. So, we think that's playing a big role in why people don't trust their knee."* Grooms talks about the brain changes after injury - *"The brain rewired to use vision for movement as opposed to using sensory feedback."* Grooms talks about approaching rehab differently - *"Clinicians, physical therapists, athletic trainers, physicians, they're not really addressing these problems. We tend to focus on strength of the joint, or stability of the joint in surgery but we're not really thinking about the brain."*
CG: Scott Monfort **Tore his ACL**	Monfort talks about the moment he injured his knee - *"I kind of knew instantly, it was a big pop. It was kind of a little bit of a blur, I went down on the ground, I kind of knew what happened."* Monfort explains the psychological changes after injury - *"I noticed that I was much more conscious of how my knee felt and whether -- I would always wear a brace just whether or not that was really helping or doing anything I think it was more of a kind of a comfort thing."* Monfort says he agrees with the premise of the study - *"I believe it I mean from first hand experience I mean it's hard to decouple those, the human body is a very complicated system and you know things are I think probably more integrated than we even know at this point."*

References

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