



DOCTORS USE ULTRASOUND WAVES TO STOP HAND TREMORS

Bursts of focused ultrasound waves allow 'brain surgery without cutting the skin'

The Ohio State University Wexner Medical Center

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SUGGESTED TEASE	STILL TO COME, DOCTORS GOT RID OF THIS MAN'S HAND TREMOR.. BY BURNING HIS BRAIN CELLS. MORE ON THIS REMARKABLE THERAPY, NEXT IN HEALTH NEWS.
ANCHOR LEAD	IMAGINE THE FRUSTRATION OF LIVING WITH HANDS THAT SHAKE UNCONTROLLABLY – MAKING EVEN SIMPLE THINGS LIKE WRITING OR EATING A CHALLENGE. THAT'S A REALITY FOR ABOUT 10-MILLION AMERICANS WHO LIVE WITH A CONDITION KNOWN AS ESSENTIAL TREMORS. ¹ MOST SIMPLY HAVE TO LEARN TO COPE WITH IT - BUT A NEW NONINVASIVE PROCEDURE COULD CHANGE THAT. AS CLARK POWELL SHOWS US, DOCTORS ARE TESTING A NEW THERAPY THAT REGAINS CONTROL OVER THE TREMORS BY BURNING BRAIN CELLS.
	(Nats - Stephen on computer) :02
CG: Courtesy: The Ohio State University Wexner Medical Center Shots of Stephen on computer / shot of his hands / writing on paper	SINCE HE WAS A TEENAGER, STEPHEN PALOVCHIK (puh- LO -chick) HAS SUFFERED FROM HAND TREMORS MAKING EVERYDAY ACTIVITIES LIKE WORKING AND EATING A CHALLENGE AND WRITING NEARLY IMPOSSIBLE. BUT AFTER DECADES THE TREMORS ARE GONE. :11
CG: Stephen Palovchik Suffered from hand tremors	"My right hand is basically rock solid as you can see. Which is pretty amazing since it's almost two weeks and a day, I think, from when I had the procedure." :10
Shots of procedure Shots of doctors around monitors	THE PROCEDURE IS KNOWN AS M-R GUIDED FOCUSED ULTRASOUND. BASICALLY, TO STEADY STEPHEN'S HAND, DOCTORS USED ULTRASOUND WAVES TO MAKE A TINY LESION IN HIS BRAIN AND SHORT CIRCUIT THE AREA CAUSING HIS TREMORS. :11
CG: Dr. Ali Rezai Ohio State's Wexner Medical Center	"This is brain surgery without cutting the skin. So, non-invasively, the ultrasound waves are delivered and converge into part of the brain that's malfunctioning, causing the tremor." :12
Shots of doctors	DOCTOR ALI REZAI (AL -ee ruh- ZYE) AND HIS TEAM

<p>Animation of rays burning brain</p> <p>Shots of doctors during procedure</p>	<p>PERFORMED THE PROCEDURE AT THE OHIO STATE UNIVERSITY WEXNER MEDICAL CENTER.</p> <p>ALSO KNOWN AS HIGH INTENSITY FOCUSED ULTRASOUND OR HIFU (hi FOO), MORE THAN A THOUSAND ULTRASOUND RAYS CONVERGE IN THE BRAIN, GRADUALLY HEAT UP TO 150-DEGREES AND PRECISELY BURN CERTAIN CELLS. THE EFFECT IS IMMEDIATE, AND LASTING. :20</p>
<p>Dr. Vibhor Krishna Ohio State’s Wexner Medical Center</p>	<p>“There is some healing that happens, but complete rewiring or complete regeneration is not possible in brain. So we take advantage of that part. :08</p>
<p>Animation of water helmet</p> <p>Shots of team holding paper as Stephen writes</p>	<p>TO KEEP STEPHEN’S SCALP FROM BURNING, THE RAYS PASS THROUGH A HELMET OF COOLED WATER.</p> <p>THE MRI VERIFIES WHERE DOCTORS SHOULD TARGET AND MONITORS PROGRESS IN REAL TIME.</p> <p>AND SEVERAL TIMES DURING THE PROCEDURE, DOCTORS TESTED STEPHEN’S HANDWRITING TO SEE IF IT WAS IMPROVING. EVEN IN THE MIDST OF ALL THIS – HE KNEW IT WAS. :18</p>
<p>Stephen (CG’d earlier)</p>	<p>“If anybody saw me after the procedure, I mean I was literally in tears. Because it’s been almost a life-long ordeal.” :08</p>
<p>Cover with exam shots</p>	<p>“It was just, to me, a gift from heaven.” :03</p>
<p>Shots of Stephen in exam</p>	<p>AT OHIO STATE’S WEXNER MEDICAL CENTER, THIS IS CLARK POWELL REPORTING. :03</p>
<p>ANCHOR TAG</p>	<p>THE TECHNOLOGY WAS DEVELOPED IN ISRAEL BY A COMPANY CALLED INSIGHTEC AND IS NOW BEING TESTED IN THE UNITED STATES AT SIX CENTERS.</p> <p>DOCTORS SAY IT MIGHT NOT ONLY HELP PATIENTS WITH ESSENTIAL TREMOR, BUT MAY BE ABLE TO HELP WITH CONDITIONS LIKE PARKINSON’S DISEASE, OBSESSIVE COMPULSIVE DISORDER, EPILEPSY AND DEPRESSION.</p>
<p> Share it! Suggested tweet:</p>	<p>Doctors @OSUWexMed stop hand tremors by burning brain cells without cutting the skin. See the results: bit.ly/1PVVwmB</p>
<p> Suggested post:</p>	<p>Life for about 10 million Americans who suffer from essential tremor can be frustrating. Simple tasks like writing or eating can be challenging with hands that shake constantly and involuntarily. But thanks to a therapy being tested at The Ohio State University Wexner Medical Center, there’s new hope for these patients. Neurosurgeons burn selected cells deep inside a patient’s brain that cause the tremors. See how the technology works and hear from one of the first patients to undergo this type of therapy: bit.ly/1PVVwmB</p>
<p>References -</p>	<p>¹<i>Essential tremor</i>, Genetics Home Reference, United States National Library of Medicine, National Institutes of Health, Sept.</p>

	2015. Online: http://ghr.nlm.nih.gov/condition/essential-tremor
	Extra Bites
CG: Dr. Ali Rezai Ohio State's Wexner Medical Center	<p><i>Dr. Rezai talks about the technology behind this approach -</i> "It allows us to send these ultrasound waves that converge, a thousand of them, on a pinpoint area of the brain and stop the abnormal function of that part of the brain." :12</p> <p><i>Dr. Rezai talks about real-time adjustments possible with this procedure</i> "Live, at the same time as the ultrasound waves are going in, we were looking at the brain changing. And that really is a very powerful technology that's completely non-invasive, no cutting of the skin.":11</p> <p><i>Dr. Rezai talks about future uses for this technology -</i> "If the results are sustainable, as they have been in the past, then this will become a routine therapy for the future, and tremor is just one area, we hope to use this technology once it's FDA approved for other indications as well." :12</p>
CG: Dr. Vibhor Krishna Ohio State's Wexner Medical Center	<p><i>Dr. Krishna talks about the cause of essential tremors -</i> "In tremor patients there are areas in the brain which are hyperactive. They shouldn't be working at the rate that they are, or they are firing at a high rate." :12</p> <p><i>Dr. Krishna explains how this procedure helps -</i> "With the help of this therapy we are able to go to those areas, and in a controlled fashion burn the cells so that the activity in these areas is decreased." :11</p> <p><i>Dr. Krishna talks about the power and number of beams that are used -</i> "We deliver at an energy of 1,000 watts with the ultrasound so it's a very powerful energy. All the beams coming together, in Steve's case there were 940 of these rays which were active." :13</p> <p><i>Dr. Krishna explains the role of the "water helmet" -</i> "That water also cools down the skin, because ultrasound can heat up the skull and the skin and so it helps in that way as well." :06</p>
CG: Stephen Palovchik Suffered from hand tremors	<p><i>Stephen talks about the challenge of writing checks (pre-op interview) -</i> "I think I used to average about 40 checks a month, just for various, sundry things. Now I'm down to maybe I write two. And that's enough." :11</p> <p><i>Stephen talks about the changes he's seen post-operatively -</i> "I think it's made a big difference in the tremor I had in my right hand. It's virtually gone." :06</p> <p><i>Stephen talks about the writing tests performed during the procedure -</i> "By the time we got down to the end it was still relatively illegible, in my opinion, but I could get everything on one line. So my script got much smaller in size, which says I got more control of that right hand movement." :15</p>

	<i>Stephen sums up his feelings after getting this procedure - "The high frequency ultrasound. It was just to me a gift from heaven." :06</i>
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