



3-D MODEL TESTS SURGERY OUTCOME BEFORE DOCS CUT

Like a videogame, surgeons do multiple test runs on delicate surgery for chronic sinusitis

The Ohio State University Wexner Medical Center

Produced by: MediaSource www.mediasourcetv.com	To download broadcast-quality video and other multimedia elements: bit.ly/1R9IJ3S
Package Length: 1:40	Content provided by: The Ohio State University Wexner Medical Center

SUGGESTED TEASE	STILL TO COME, USING HIGH-TECH TOOLS TO MAP OUT SINUS SURGERY. WE'LL SHOW YOU HOW DOCTORS COULD HAVE YOUR SURGERY DOWN PAT, BEFORE YOU EVEN GO UNDER, NEXT IN HEALTH NEWS.
ANCHOR LEAD	<p>THIS IS OFTEN THE WORST TIME OF YEAR FOR SINUS INFECTIONS. BETWEEN THINGS LIKE VIRUSES AND INDOOR ALLERGIES, 37 MILLION PEOPLE WILL SUFFER A SINUS INFECTION THIS YEAR.¹</p> <p>FOR SOME, IT'S A CHRONIC PROBLEM, AND WHILE SURGERY MAY BE NECESSARY, IT'S NOT ALWAYS EASY. COMPLICATIONS FROM SINUS SURGERY CAN BE SEVERE AND PERMANENT.</p> <p>TO CUT DOWN ON THOSE RISKS, SCIENTISTS USING 3-D COMPUTER MODELING TO KNOW THE OUTCOME OF A PATIENT'S OPERATION BEFORE THEY EVER GO UNDER THE KNIFE. CLARK POWELL HAS DETAILS.</p>
	(Nats - Brian cooking) :02
<p>CG: Courtesy: The Ohio State University Wexner Medical Center</p> <p>Shots of Brian cooking / handing plates to children</p>	<p>FOR YEARS, BRIAN KIRK HAS COOKED DINNER FOR HIS FAMILY BUT MISSED OUT ON ALL THE SAVORY SMELLS THAT FILL THE KITCHEN.</p> <p>BRIAN HAD CHRONIC SINUS PROBLEMS - AND WHETHER HE WAS COOKING, RUNNING OR SLEEPING, HE STRUGGLED TO BREATHE. :11</p>
<p>CG: Brian Kirk Had sinus surgery</p>	<p>"It was pretty bad, the doctor said I don't really know how you're able to breathe the way you do, but I guess your body kind of finds a way." :07</p>
<p>Shots of surgery</p> <p>Close up of surgeon</p>	<p>EVENTUALLY, BRIAN UNDERWENT SURGERY TO CLEAR HIS SINUSES - A PROCEDURE THAT TAKES PLACE ABOUT EVERY 40 SECONDS IN THE U.S.²</p> <p>AND WHILE IT'S COMMON, SINUS SURGERY IS OFTEN VERY COMPLEX. :11</p>
<p>CG: Dr. Alex Farag Ohio State's Wexner Medical Center</p>	<p>"It is high price real estate, the sinuses are surrounded by the brain and the eyes and so you have to be very, very precise within millimeters" :06</p>

<p>Wide shot of OR - <i>graphic</i> Rare complications: -Loss of smell or taste -Nerve damage -Empty nose syndrome Dr. Farag with images on computer</p>	<p>THOUGH LONG-TERM COMPLICATIONS OF SINUS SURGERY ARE EXTREMELY RARE, THEY CAN BE SEVERE AND INCLUDE LOSS OF SMELL OR TASTE, NERVE DAMAGE AND EMPTY NOSE SYNDROME, WHERE THE AIR PASSAGES ARE WIDE OPEN BUT PATIENTS CONSTANTLY FEEL CONGESTED. :14</p>
	<p>(Nats - sinus exam) :01</p>
<p>Sinus exam Shots of Zhao on computer Color image overlaid with skull</p>	<p>TO TRY AND ELIMINATE COMPLICATIONS, RESEARCHERS AT THE OHIO STATE UNIVERSITY WEXNER MEDICAL CENTER ARE DESIGNING 3-D CUSTOMIZED MODELS. KAI ZHAO (kye jow) IS AN ENGINEER AND MEDICAL RESEARCHER WHO'S USING COMPUTATIONAL FLUID DYNAMICS TO DEVELOP NOVEL SOFTWARE, SO DOCTORS CAN TEST THE OUTCOME OF A PATIENT'S SINUS SURGERY BEFORE STEPPING INTO THE O-R. :18</p>
<p>CG: Kai Zhao, PhD Ohio State's Wexner Medical Center</p>	<p>"Like playing a videogame - to remove some of the tissues and then we can back compute what is this effect on the nasal airflow." :06</p>
<p>Dr. Farag (CG'd earlier)</p>	<p>"We also use CT navigation, which is like GPS for your head. It allows us to be within a fraction of a millimeter in terms of accuracy." :09</p>
<p>Shots of 3-D printer Shots of Brian taking plates from the stove to his kids</p>	<p>THE TEAM WILL ALSO ANALYZE 3-D PRINTED MODELS OF THE PATIENT'S SINUS CAVITY TO GIVE DOCTORS EVEN MORE DETAIL BEFORE SURGERY - BECAUSE PATIENTS HAVE TO LIVE WITH THE RESULTS FOREVER AFTER. AT OHIO STATE'S WEXNER MEDICAL CENTER, THIS IS CLARK POWELL REPORTING. :14</p>
<p>ANCHOR TAG</p>	<p>RESEARCHERS ARE NOW TESTING THEIR PRE-SURGICAL MODELS TO SEE IF IT HELPS DOCTORS TO BE MORE PRECISE DURING OPERATIONS. IT'S ESTIMATED NEARLY 12-MILLION PEOPLE SUFFER FROM CHRONIC SINUSITIS,³ THOSE WHO GET INFECTIONS 4-5 TIMES A YEAR OR MORE. IF YOU'RE ONE OF THEM AND YOU NO LONGER RESPOND TO MEDICATIONS LIKE ANTIBIOTICS OR STEROIDS, YOU MAY WANT TO SEE A SPECIALIST TO TALK ABOUT SURGERY.</p>
<p> Share it! Suggested tweet:</p>	<p>Because sinus surgery is so complex, doctors @OSUWexMed are developing 3-D models to simulate surgery results before cutting: bit.ly/1R9IJ3S</p>
<p> Suggested post:</p>	<p>About every 40 seconds someone has surgery to treat chronic sinus infections. While they're common, sinus surgeries are complex. To minimize the risk of serious and permanent complications after surgery, researchers at The Ohio State University Wexner Medical Center are developing 3-D models to simulate surgery outcomes before patients go under the knife. Details: bit.ly/1R9IJ3S</p>

<p style="text-align: center;">References -</p>	<p>¹<i>Sinus Pain: Can Over-the-Counter Medications Help?</i> American Academy of Otolaryngology. Online: www.entnet.org/content/sinus-pain-can-over-counter-medications-help</p> <p>²<i>Balloon Sinusplasty</i>, cited by MedScape. Online: http://emedicine.medscape.com/article/1574031-overview</p> <p>³<i>Chronic Sinusitis</i>, Centers for Disease Control and Prevention, Jan 2015. Online: http://www.cdc.gov/nchs/fastats/sinuses.htm</p>
	<p>Extra Bites</p>
<p>CG: Dr. Alex Farag Ohio State’s Wexner Medical Center</p>	<p><i>Dr. Farag talks about sinus surgery -</i> “The point of surgery is not to take everything out. The point of surgery is to complement your normal physiology. It’s there to aid your anatomy to work a little more correctly, a little more easier, a little better or more improved for medications to be delivered.”</p> <p><i>Dr. Farag talks about employing high-tech tools in sinus surgery -</i> “We have implemented technology to a high degree so now we don’t do the aggressive packing that used to be done that is commonly associated with sinus surgery.”</p> <p><i>Dr. Farag talks about patients who are candidates for sinus surgery -</i> “It’s usually patients who start to fail to respond to medical treatment, the antibiotics or nasal steroids or rinses, and they’re starting to have very frequent sinus infections, they’re having four, five, six, plus infections in a year and they’re not able to get over that hump.”</p>
<p>CG: Kai Zhao, PhD Ohio State’s Wexner Medical Center</p>	<p><i>Zhao talks about causes of sinus blockage -</i> “Some patients get it from allergies, some is fungus, some is bacteria, some is just inflammation.”</p> <p><i>Zhao talks about issues diagnosing “empty nose syndrome” -</i> “You ask patient hey which side do you feel blocked? Sometimes patient would point to the more open side and say that I feel blocked on this side. So, this is very baffling even for the patient themselves and for the surgeon who wants to treat them.”</p> <p><i>Zhao talks about using high resolution imaging preoperatively -</i> “This approach is based on a CT scan. We have done ways to modify the CT scan to reflect the surgery and then can look at pre- and post-surgery virtually.”</p>
<p>CG: Brian Kirk Had sinus surgery</p>	<p><i>Brian talks about the symptoms of his chronic sinus problems -</i> “It’s always been that way for me because I noticed some snoring going on, which I thought that was normal. But after some tests the doctor recommended me to see a specialist and I was recommended for surgery.”</p> <p><i>Brian talks about life after sinus surgery -</i> “Once the surgery was done I was able to breathe through my nose, my mouth, everything equally and there was just a big improvement.”</p>

Producers & Reporters

To download scripts, video and photos go to:
<http://osuwmc.multimedianewsroom.tv>

For viewer information on this story contact:

The Ohio State University Wexner Medical Center: 1-800-293-5123

Log onto <http://wexnermedical.osu.edu> - click on "Media Room"

Produced by:



1800 West 5th Ave.

Columbus, Ohio 43212

Phone: (614) 932-9950 Fax: (614) 932-9920

www.mediasourcetv.com

**Video content provided by: The Ohio State University Wexner Medical Center
Media Relations Department: (614) 293-3737**