

**RHINOPLASTY: NASAL VALVE RECONSTRUCTION
UNIVERSITY OF MARYLAND MEDICAL CENTER
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NARRATOR: Welcome to the University of Maryland Medical Center, where you are about to see surgeons perform an external rhinoplasty.

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THOMAS T. LE MD: The major reasons for rhinoplasties can be broadly categorized into traumatic, functional, cosmetic, and congenital issues.

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NARRATOR: A rhinoplasty can change the size or shape of the nose, correct a birth defect, repair an injury, or correct a breathing problem. During the next hour, surgeons will reconstruct the patient anatomy to spread out the nose, helping to alleviate a breathing problem resulting from a nasal-valve collapse. You may e-mail questions by clicking the MDirectAccess button on the screen. Doctors will answer your questions in the online forum after the webcast.

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SCOTT STROME MD: Welcome. I'm Dr. Scott Strome. Today we're in the University of Maryland Medical Center, where we're watching my colleague, Dr. Thomas Le, a facial plastic surgeon, performing a procedure called a rhinoplasty. That's a functional name for restoring the ability of the nose to breathe and also changing the cosmetic appearance of the nose. Today what we're going to do during this surgical webcast is to spend some time walking you through the different steps of a rhinoplasty so you can understand what exactly is involved and what potential benefits you can expect from this type of procedure. Right now, I'm going to introduce my colleague Dr. Tom Le and ask him to introduce the O.R. team who will be working with us today. Dr. Le, could you please introduce the O.R. team?

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THOMAS LE MD: Well, good afternoon, and – what is the time? It's good morning right now, I guess, and – so I'd just like to introduce the very great group here. First of all, my senior resident, Dr. Andy Shorp here, our scrub nurse, Mike. Rose is over there in the corner. She's our circulator. We have our anesthesiologist Kaleb here, and he has, also, an anesthesiologist around here names Sheri. Where's – is Sheri here? Okay, she stepped out. So this is all crucial to having a very functional team, to have everybody clued into our surgery. So...

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SCOTT STROME MD: Dr. Le, we're about an hour into the surgery. Could you just let us know, up until this point, what you've done so far and the kind of findings which you've experienced. And I'd also appreciate if you'd let us know a bit about this patient's problem and what brought him in to having a rhinoplasty.

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THOMAS LE MD: This gentleman is a very nice gentleman who had multiple nasal fractures. He also was born with a tall, narrow nose, which has kind of predisposed him to nasal-valve collapse, and every time you have a nose that's already predisposed to nasal-valve collapse, if you have a simple fracture, or multiple

fractures in his case, then you will inevitably get a nasal obstruction. And so he presented with severe nasal obstruction on the left side greater than the right. There's a component on the right side as well, and it's mostly related to cartilage support that is floppy both on the upper cartilages and the lower cartilages of the nose. His bone has deviated to the right, and that's the result of his prior fractures, and on the inside, his septum is crooked because of the prior injures. So up to this point, we've done what we call an external approach to this upper rhinoplasty, and there's a couple ways to do it: either inside the nose or via an incision on the outside. Because this is a more extensive reconstruction, then we choose in this case to make a small incision here in the columella and elevate up the nose to expose all the cartilages and the issues that need to be addressed.

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SCOTT STROME MD: Dr. Le, could you lift up the nasal skin for us and show us what you've done to this point, perhaps use a pointer to show the folks watching some of the anatomy and some of the interesting features of this particular nose?

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THOMAS LE MD: Yes, okay, so this is the nasal soft tissue envelope that we've raised over the cartilages. We've used a plane that is relatively bloodless in the subperichondrial plane, which is basically right underneath the lining that lines the cartilage. And so this right here is the lower lateral cartilages right here, and they form the tip of the nose. This, as you can see, is the septum. Okay, can we have two [unintelligible]

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UNKNOWN MALE: Two [unintelligible]

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THOMAS LE MD: Two [unintelligible]. Okay, as we draw the lower lateral cartilages apart, you can see the septum right here in the middle. It's deviated over toward his right. Inside – and it's going to be difficult for you to see – it was deviated. We resected off the – the crooked portions. Mike, can you show me the cartilage piece that we've taken out? Um, here's the cartilage piece that was taken out, and it was basically fractured over toward his right at the junction where the bone of the cartilage – the bone of the nose meets up with the cartilage. Here, can we have the cartilage back, please? Right here you can see the upper lateral cartilages which form – which are the upper cartilages, as I referred to, okay? They're right here. I'm kind of pulling them apart. And up higher – Alfred. Alfred, please. Alfred? Up here, you see the nasal bones in this region up here, and the nose is comprised of bone up high and cartilages down low.

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SCOTT STROME MD: That's really a beautiful picture, Dr. Le. Can you tell us, as you keep working on the procedure, a bit about what you hope to accomplish in this particular procedure for this particular patient.

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THOMAS LE MD: Well, this individual has a collapse at this level right here, okay? And also out on the sides of his nose, where these lower lateral cartilages come out to meet his nasal bones and the rest of his cheekbones. We – we have a pre-optive photo, which is actually hanging up on the wall over here in the corner, but I think it's also on our presentation over there, and you can see that he has a very crooked nose over to the right, and it's pinched in the middle third. So this is what we're hoping to address today. He will look a little bit better after his surgery as in the nose, basically, function follows form. And so, as we restore the form, he will look better and also breathe better.

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SCOTT STROME MD: That's very interesting because I think many of our folks in our audience think that rhinoplasty is primarily for cosmetic reasons, but in fact, what you're saying is that rhinoplasty, indeed, in many cases, can be used to improve breathing, can potentially be used to help people sleep better at night. Can you maybe expand on that a bit?

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THOMAS LE MD: Correct, um – [unintelligible]. The nose is, in many ways, an underestimated organ in terms of providing a quality of life, and people who cannot breathe have basically been deprived of a natural way of getting oxygen to their brain for all their lives, and it's an extremely gratifying surgery when you provide that airway and they suddenly can think better, are less hazy. Several patients of mine have actually had migraines stop. That's actually probably some -- a study that, research-wise, I would like to conduct at some point in the future. But people do sleep a lot better after having their nasal obstruction corrected, and they sleep deeper and dream better. It's an issue when you're sleeping at night and you can't get the air in your nose down, obviously, into your windpipe, and as a result, you wake up frequently and have a light sleep.

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SCOTT STROME MD: Isn't there some cases also where folks have nosebleeds and you need to correct the septum for bleeding disorders?

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THOMAS LE MD: Yes. Basically, when you have a crooked nose – just when you think about aeronautical rules and – and physics, when air has to travel over a crooked area, it basically has to travel faster over that area as compared to an area where it's straight where you have laminar flow. And so when the air runs faster over a crooked area, then that dries the mucosa or the lining of the nose more, and then you tend to get nosebleeds in those areas. And so yes, correcting a nose can basically eradicate future epistaxes, or nosebleeds, as we call it scientifically.

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SCOTT STROME MD: So just to summarize for our audience: what you've told us today to date is that, really, rhinoplasty does several things. It allows us to improve the natural appearance of the nose and make people appear better and feel better about themselves, and it's also functional nature in the sense that we can improve breathing for them and potentially help them even in folks who have difficulty breathing at night, use devices that will help prove air flow at night, and you've also told us that there's certain medical disorders where rhinoplasty is important. For example, folks who have bleeding of their nose, what we call epistaxis. It's straightening the septum or straightening the nose – can sometimes help to alleviate those problems. Dr. Le, thanks so much. What I think we'll do now is let you work for a bit on the patient, and we will continue to go through the slide review and perhaps introduce our audience with some of the conceptual features about rhinoplasty that will allow them to understand exactly what you're doing.

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So if we could just focus on the photos for a moment. Rhinoplasty, which will be introduced by Dr. Le – can I just advance this? Thank you so much. So, really, what – what is beauty? Well, beauty is defined by all of us differently, but I think there's certain conceptual things that we all agree are beautiful. If you look at these pictures, I think we'd all agree that these represent beautiful ladies, but exactly what is it that makes them beautiful. And similarly, if we look at these men, we'd all say, well, these individuals are handsome, but what is it that actually makes them handsome? What structures do we focus on in their facial features that allow us to call these men particularly handsome versus another potential group. Well, really, it's the facial harmony that's the key to beauty.

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We can look at a different individual and say, Gosh, he or she has a beautiful nose or beautiful eyes or beautiful lips, and yet, what really requires us to put all of that together and develop a feeling of facial symmetry and that feeling of symmetry is what we define as beauty. So which structure of the face do we tend to focus on that's the most important for facial harmony? And many would argue that that structure is the nose. The nose is actually a very complex structure when you think about what it does. It actually allows us to breathe. It allows us to smell, and also, from a cosmetic perspective, it allows us to interact with those of our colleagues and helps, in addition, with the eyes and the mouth to convey expression.

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The anatomy of the nose is shown in this illustration and shows a number of the different anatomic structures within the nose which we use to define what is a classically beautiful nose, but obviously, as I said before, that needs to fit in the context of the surrounding structures of the face. If we take the nose and we actually start from scratch and build it from the skull, then you'd you have the nasal septum, which is the midline of the nose or the divider line between the two air passages, followed by the lateral cartilages. If we use our example of a road, those are the side gutters on the edge of a road which keep us going off track. Those also provide support for the nose, and then we have a nasal soft tissue envelope, which continues to add support for the nose and also gives it the external appearance which we see.

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So when we look and we look at what's wrong with a nose, we need to do something called nasal analysis where we can look very, very precisely at the different anatomic angles of the nose and define for an individual person what actually contexts a beautiful nose and perhaps more importantly, what constitutes a functional nose in terms of breathing? Classically, the face is divided up into thirds, and this is what I was talking about with regard to symmetry. So from the chin up until the top of the top, are really one third, one third, and one third, and then from laterally – in other words from the side of the face to the other side of the face is divided up into fifths, and we use those dimensions to create an essence official symmetry.

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We also use a triangle. So an attractive new nose in profile should really like a three, four, five right triangle, which is shown here. And then we look for nasal symmetry, and symmetry simply means "Is one side the same as the other?" If you take a circle and you bisect it in the middle and you fold it in half, one side should fold nicely over the other. If that doesn't happen, the nose is considered to be asymmetric. There's also the different lines that we use, like the brow tip aesthetic line and the nasal frontal angle, and it's important that these are at the appropriate angle so that they imply a symmetry to the nose, but you need to remember they're also important with regard to the symmetry of the rest of the face.

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And then we look at tip projection, and that's the ability of the tip of the nose to project or to have distance away from the lip and the lip structures. Same with the columellar-labial angle. That's a very similar measurement which we use in order to determine what constitutes a beautiful nose. And then what I'd like to do, Tom: could you just come in and tell us where we are at this point in the operation? And then we'll continue with our slide show.

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THOMAS LE MD: Okay, well, what I've done for this gentleman is – essentially, I've filleted his whole nose open in an attempt to isolate what are the regions that need to be addressed, and so he has a crooked nose to the right, and it's more pinched on

the left. So we're going – and that's also where his breathing issues are. So we're basically going to put a graft here made out of cartilage that we've already harvested. So the crooked part of the septum we took out, and we're actually going to recycle it to use to stent this side of the nose open. I've broken his bones over so that I can do this and – and basically de-pinch his nose. So we're going to start sewing this in very shortly now as soon as I find a nice position to have it sit in.

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SCOTT STROME MD: I see. So, Dr. Le, that graft actually sits in between the two cartilages of the nose and works to spread them. Does that change the cosmetic appearance of the nose at all?

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THOMAS LE MD: Right. Before the surgery, he was pinched, and now he's going to be a little bit less pinched, especially on the left side.

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SCOTT STROME MD: Can you tell us what you mean by "pinched" for some who folks who may not be familiar with the terminology?

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THOMAS LE MD: well, when we – one-half-inch needle, 27. One-half-inch. Do you have a one-half-inch?

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SCOTT STROME MD: Dr. Le is just getting the appropriate instrumentation to sew this graft into place, and then he'll update us on what the term "pinched nose" means. Dr. Le, when you're ready, if you could just fill us in on the different terminology.

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THOMAS LE MD: Well, "pinched" is really a layman's term, I guess, and, you know, when you think about someone who's got a clothespin – a clothespin on their nose – [unintelligible]. Okay. When you think about the clothespin on your nose, that pinches it in, and that's essentially what this individual has in terms of his breathing, and so – and that's what's causing his obstruction is the pinching in that are. So we're just spreading it apart, and also, we've corrected his septum deviation. [unintelligible]

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SCOTT STROME MD: So just to review, is it fair to say that this graft will allow us to spread the int—or the front portion of the nasal passage and also widen the nose a bit?

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THOMAS LE MD: Correct, yes. And so I'm going to concentrate on his issues, which are the – first of all, the breathing. This is not necessarily a cosmetic procedure. I mean, if we were to do a cosmetic procedure, that – that would be a different issue, but he will look a little bit better from this case because it will be straighter and more filled out in the regions where it was previously pinched in.

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SCOTT STROME MD: So what you're looking at right now is Dr. Le sewing this – what we call a spreader graft into place, and what this will do is it will open up the nose and allow for easier passage of air within the region which we call the nasal valve, which is actually the region of the nose which perhaps has the greatest impetus to air flow, and it will change the breathing ability of this patient, but also, and very importantly, his appearance so that he'll, as Dr. Le mentioned, look better than he did initially in the post-operative period. Dr. Le, while you're working on this, could you just tell us a little bit about some of the risks that go with rhinoplasty and what folks maybe be able to consider this procedure for themselves.

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THOMAS LE MD: The risks of rhinoplasty are – are essentially – well, the biggest risk, of course, is that you could have recurrence in your symptoms and also a cosmetic appearance that is not to your desire. Things do not always go well in rhinoplasty, and also when you're dealing with so many factors here – cartilage, bone, soft tissue, things do not always heal as expectedly. And so the techniques in rhinoplasty have been progressing more and more over the years and more sophisticated. The biggest risks are essentially what I mentioned. Other minor risks is that you can have some bleeding and possible infection and damage to structures in the area. Obviously, we're operating near the eyes, and the nose sits, actually, under the brain. So those are possible risks, although extremely rare to have that type of surrounding-structure injury.

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SCOTT STROME MD: So really, you could say, based on what you've told us, as with any surgery, there are risks. There's risks of the anesthesia, but the risks of the surgery itself in the vast majority of patients are fairly low. Is that – is that correct?

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THOMAS LE MD: Keep both needles on. Do you have both needles on? Yes, the risks are relatively low. It's caught in the –

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SCOTT STROME MD: I see. I see. Are there any things that patients do that can possibly increase the risk of rhinoplasty? For example, smoking or any topical skin creams that folks may use that might make a person not such a good candidate for a cosmetic procedure?

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THOMAS LE MD: For a cosmetic procedure, you want to control a number of things, I guess, as in all rhinoplasty. You want to control swelling, and swelling is the one factor that potentially can cause poor results, especially in cosmetic rhinoplasty because the scar, when it heals in the wrong way, can essentially cause asymmetry. It can also cause pulling of the tip to one side or another. So in order to prevent those types of complications, I will always ask my patients to stay off of blood thinners and herbal medicines that may cause excess bleeding during a case. Other than that, there's no much preparation for them. Smoking is not a huge factor in rhinoplasty. Yes, smoking is bad for you in general for healing, but it doesn't restrict us, necessarily. I don't ask my patients to stop smoking for rhinoplasty. Can I have scissors please?

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SCOTT STROME MD: You've told us a bit about what happens pre-operatively, Dr. Le, and some of the risk factors associated with rhinoplasty and a bit about the intra-op, but what can patients expect post-operatively after the procedure. In other words, how often and for how long are they out of commission? When can they expect to go back to work? Can you give us some idea about the time frame for healing in most folks?

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THOMAS LE MD: The healing for most folks is about – essentially a period of two to three weeks where you have to kind of get used to use your nose. Initially, you go home with a dressing, which is in place for about a week, and – and then that splint comes off. The splint is on the outside and possibly on the inside. I do not pack nose unless there's severe bleeding, and that only occurs out of maybe one out of a hundred patients. And essentially, for the first week, you're going to be a little congested in the nose. That's because of the fact that we've instrumented the nose. There's the splints on the inside of the nose. And then after that, you're restricted from – from heavy physical activity for a period of like two to three weeks just

because we don't encourage more swelling where it's supposed to swell in the first place. And that allows things to heal faster with less scarring.

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SCOTT STROME MD: I see. What about post-operative pain or black eyes that we all hear so often about? Is that really a problem? What can folks expect, Dr. Le?

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THOMAS LE MD: In terms of pain, this is a very painless surgery. I usually give a few narcotic pain medicines to go home on, but patients really never take it. Maybe they may take one or two pills. It's not extremely painful but rather the discomfort is the discomfort is the congestion that you may get from the surgery and the fact that you may feel like you're stuffed in the head and so on because you can't breathe because of the – of the swelling that has occurred on the inside of the nose.

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SCOTT STROME MD: I see. The surgery at this point looks almost bloodless. Is that typical for a rhinoplasty to have very little bleeding?

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THOMAS LE MD: Yes. In terms of if you have the right plane, you will have relatively less bleeding, and I try to stay in a plane that is devoid of major blood vessels, and therefore, you see it's a relatively drier picture.

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SCOTT STROME MD: Yeah, it really looks beautiful at this point. Can you just update us as to where you are?

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THOMAS LE MD: I'm in the middle of placing the spreader graft on the patient's left side, and it is going now. Let me turn this toward me.

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SCOTT STROME MD: And that's that piece of cartilage to the left of your picture there. I see. Wonderful.

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THOMAS LE MD: And this is oftentimes a very tedious procedure and a lot of small suturing. A little micron here and there can make a big difference in the nose if you think about Bernoulli's Principle and laws of physics. Basically – or – and even Poiseuille's Law. A change in the radius of the nose by just a little bit is squared and basically has an effect on a cross-sectional area. And therefore, we try to be extremely exact in the way we place these grafts and make sure that the nose is completely straight.

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SCOTT STROME MD: Well, it certainly looks very meticulous and looks like you're doing an absolutely wonderful job for this patient. Perhaps we could return to our Powerpoint presentation for a bit and just let you work for a little bit, and then we'll rejoin you once we're a little bit further along. So if we could just focus back on the Powerpoint for a little bit, remember, we ended up looking at the different ratios which we use to define what a beautiful nose is and as importantly, what's important for function. We ended up – and we – we're now looking at the tip-defining point, which is the point which actually, just as it sounds, tells us where the nasal tip ought to be. And then we look at the ratio when we look from below, and we'd like to the columella, which is that area which you can see from the base of the nose up to essentially where the nostrils end of about two-thirds of the nose, and then one-third for the area which we call the lobule, which is that soft area on the top which you may think of as the nasal tip.

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And then there's some other angles which we use, and I think the point at this juncture is really just that there's a lot of different measurements which we use to

define the nose which we use to define the nose, which are important in really making and trying to fit in all of this with your facial structure, and that's where the art comes along because despite all of these different numbers and measurements which we do on patients, really, then, the art is fitting that into the contour of your face and defining beauty. And that's what Dr. Le and our team here at the University of Maryland does so well. Well, let's look a little bit at the different types of techniques for rhinoplasty because different folks require different things.

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There's two different types of approaches, one which is called an endonasal approach. What that means is just – we do everything inside the nose so there's no external scarring. But all incisions are made inside the nose. The second approach is what's called an external approach, which Dr. Le is doing today where we make a small incision on that area which I told you was the columella, and remember that's the central, dividing strip of the nose. We use that to elevate, and that allows us to see a bit better. The external rhinoplasty incisions which we use are shown here. As you can see, it's a very, very minute incision which in most folks heals very, very well to the point where you can barely see that incision or tell that folks had an external rhinoplasty, obviously, which is the goal of surgery particularly done for cosmetic reasons.

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And then we elevate that flap, as we're showing you in this illustration and as you say Dr. Le doing. Now, in folks who have a hump, you'll remember we talked about the cartilaginous structure of the nose, but the top part of the nose actually has a bony structure, and that nasal bone is very small. It is not a large bone, despite what people think. And you can have a bony hump as well as a cartilaginous hump. Well, as you can imagine, we need to get rid of that hump in folks who have a large nose, and what we do is a chisel technique where we simply remove the top part of the nose, as you see in this illustration. Well, as you can imagine, if we remove that part of the nose, you have an opening within the top part of the nose. It's like if you have a house and you take the roof off of the house, you're still going to be looking inside of all the rooms.

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But a person doesn't have – want to have those wide walls on the side. So we then make a second set of incisions within the nose and use those to collapse the bony structure in to actually narrow the nose appropriately, and this just shows you what those narrow bone or nasal bone osteotomies are that allow us to close the nose so that we can actually achieve appropriate symmetry and the appropriate – the appropriate width of the nose. Now, Dr. Le also showed you today a bit about nasal spreader grafts. That's what we use for folks who have difficulty breathing in nasal valve collapse, and actually, as we talked about before, that's where we widen the midline of the nose and improve air flow through the nose, but what we're also doing while we do that is we're widening the width of the nose, which changes its cosmetic appearance.

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And then the other thing that we use in order to do that are what's called alar-batten graft. For those who sail, who named those for stiffening sails, and actually, that's exactly what we're doing. We put grafts along the side of the cartilages along the lateral or the side aspects of the nose, and those are just stiffening grafts, just like you'd do in a sailboat where you'd put those battens in the sail to make that the sail doesn't flop around. Well, these do exactly the same thing. They prevent the lateral walls of the nose from flopping in just like in our sailboat example. And then we work on reconstructing the nasal tip. You'll remember the nasal tip is defined partially by

the septum but also by those lateral cartilages on the side of the nose, and we saw that today in Dr. Le's example, and we'll go back and look again in a moment.

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Post-operatively, we talked a little bit about the different appearances that folks may have. They're initially pretty swollen, but gradually, that comes down over weeks, and the bandages come off. There's not a whole lot of pain, as Dr. Le mentioned to us, and it's a safe procedure in folks who have been appropriately pre-screened. This is one example of an individual who's had a rhinoplasty, and then you can see post-operatively the different pre-op and post-op change that's occurred as a result. And we take all different views. So you can see from the base of the nose how his columella – which, again, is the central divider line – in that nose is much straighter. You can see how his nostrils are more symmetric, which allows him to breathe easier, and I think we'd all agree that the cosmetic appearance of his nose is also much improved.

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And then I spoke to you before about the scars from an external incision. This is a mature columellar scar, and you can see that it's barely noticeable. So I think us folks would agree that – that if you have – or you choose to have an external rhinoplasty, in the vast majority of cases, it would be hard to actually appreciate that an incision had been made on your nose. It just heals wonderfully well. So let's now take a little bit of a break from our slide presentation and ask Dr. Le where he is in the procedure and to update us on exactly what he's doing. Dr. Le, could you update us on where you are?

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THOMAS LE MD: Okay, well, I've got the spreader graft in, and it's secured with a bunch of sutures. It's important to kind of keep it secure or else it drifts, and – can I have the scissors, please? And we're hoping that this can be the only graft that we have to place. A lot of rhinoplasty is a lot of pre-operative planning and diagnosis, and then we sit down – I actually have the patients visit with me multiple times, at least twice to kind of go over their nose and their expectations and what we can and cannot achieve. And we planned out that we needed these grafts, and now we're basically executing it, but there is also a component in surgery where I will be oftentimes surprised by the complexity of the fractures that the patient may have, and we have to adjust our approach a little bit. And so right now, we've got one graft in, and at this point, I'm going to assess what it's done to his nose, whether it's filled out the areas that I want it to, and then we'll reassess and potentially place more grafts.

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SCOTT STROME MD: I see. It certainly looks great up until this point. Dr. Le, we've talked a little bit and showing our audience some of these alar-batten grafts and some of these tip grafts. Could you maybe show us on this patient where those would go?

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THOMAS LE MD: The alar-batten grafts would basically be placed along these lower lateral – these lower lateral cartilages right here and would extend over to his nasal bones and cheekbones, same thing on the other side. And we determined that pre-operatively, he did have this – these cartilages that tended to collapse when he breathed in, and you can see – I'm kind of pushing in. You see just a little bit of sniff and it just falls in and blocks off his airway. So we decided that we were going to use some cartilage for that. And so that's basically where we stand now. And I've filled out this left side, and I don't think I need to put a spreader graft on the other side because his breathing, actually, on the right side, although it was diminished, wasn't

terribly bad, and it seemed to be mostly related to the external valve, which is the region controlled by this – this lower lateral cartilage here, so...

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SCOTT STROME MD: I see. Well, if a patient comes in and they have questions about rhinoplasty, particularly for cosmetic reasons, is there a way that you can give them some idea of what they're going to look like post-operatively?

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THOMAS LE MD: Yes, I – well, first, I have a very frank discussion about exactly – if it's a cosmetic patient, exactly what they want, and we try to address the issues that they – that they would like to have addressed. Obviously, we don't want to give anybody a nose they don't want, and also, we don't want to give someone an unnatural look. So we want to make it look like – that they're basically more refreshed, and oftentimes, the best compliments are where a patient – patient's coworkers or family says, "Hey, have you had something done? Did you cut your hair? Did you lose weight?" But they never focus on the nose, and that's what the nose operation does is we have to do it in such a natural way that it – it basically causes a harmony in the face that is unnoticeable but simply makes the patient more alive and – and more attractive. And so I have a frank discussion with them, and I also will take some photographs of them and also run those photographs through some computer simulations, and I use the computer simulations as basically a – a teaching tool for them so they can see what I'd like to achieve. And we basically, in many ways, are ordering a work of art, like commissioning a work of art. And so we sit down, and we talk about it, and then we see what we can and cannot achieve. And then we devise a plan, and then we execute. Basically like ordering a nose from the factory.

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SCOTT STROME MD: So I see. So basically, when a patient comes into the office, you can take some pictures of their nose, run them through a computer, and make changes to their nose that you would propose from doing your operation, and once that's done, you can actually show the patient so they can get a realistic expectation of where their nose is going to look like post-operatively. Is that correct?

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THOMAS LE MD: That's correct, and that's for the cosmetic patients, and it requires a lot of planning on my part as I will take the pictures and have them come back later. If they live far away, we try to do it on the same day, but the – and basically, they would come back, and I will spend some time, sometimes up to a couple of hours, looking at their nose and seeing what would be best for their face.

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SCOTT STROME MD: Wow, Dr. Le, you know, there's a lot of folks who do facial plastic surgery and a lot of folks who do facial reconstructions, but you're uniquely suited to do this type of work. Can you tell us a bit about your background and what type of training, as an ear-nose-and-throat surgeon and a facial plastic surgeon, gives you the special ability to be able to do this type of work both safely for cosmetic reasons and for functional reasons, which some folks – other folks may not have?

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THOMAS LE MD: Well, rhinoplasty's arguably the most difficult procedure in facial plastic surgery, and as I eluded to earlier, there's many factors involved. You have all these cartilages, bones, all these nuances that you deal with, and basically a surgery of microns. And so understanding the nasal function is first and foremost the biggest requirement in doing a rhinoplasty, and most facial plastic surgeons are trained initially in ear, nose, throat, head, and neck surgery, or they spend five to six years training in all aspects of the head and neck with particular specializations in

the nose and the structures inside the nose as well, such as sinus surgery. There are many pathologies that can occur in the nose, from cancers to tumors, to little, you know, papillomas, and all these things can affect nasal breathing. And therefore, when you have a rhinoplasty, you should have a very comprehensive nasal exam from the inside and the outside so that you can address the – all the issues without making new ones after – you know, from surgery, and it's very possible to make new – new problems after a rhinoplasty. So my training was initially in ear, nose, throat, head, neck surgery, and I subsequently did a fellowship in facial plastic surgery, which basically focuses only on the face. So in total, it's six to seven years of training that is basically focused solely on head and neck structures and the nose and the rest of the face.

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SCOTT STROME MD: That's really specialized training and really requires a lot of commitment on your part but clearly pays off for the patient, that specialized type of training in both ear-nose-and-throat surgery and as a member of the facial plastic surgery group within our country. Let's just finish off the Powerpoint presentation if we could go away from Dr. Le for just a moment. So what are the reasons to have rhinoplasty? Well, as we've talked about, there's a lot of different reasons: cosmetic, traumatic, functional, congenital – that means defects that you were born with, and then I think what we'll do given our limited time is skip to the end of the presentation, and we'll just show you the references that you can use for your personal review if you would like. Dr. Le, is there anything else, as we conclude the presentation, that you'd like to say about the procedure or anything else that you'd like to tell us?

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THOMAS LE MD: Well, basically, we're going to continue working here, and I anticipate that I'm going to place the alar-batten grafts on the side, which involves some more dissection out in this region here to get over to the cheekbones. And then I'm going to sew some more grafts up here to even out the filling in this area and make sure his nose is strong. Then eventually, we're going to reconstruct the tip because the approach we're using here is essentially taking the whole nose apart and then putting it back together again, and we're going to reconstruct the tip in order to put everything back the way it was and even better. So – and then he'll have basically a splint on the outside of his nose, a dressing, and we'll have the splint on the inside, and the anesthesiologist will subsequently assume care after we're finished with the patient, and he'll be returned to the post-anesthesia care unit, where he'll be watched for a little bit and eventually be able to go home later tonight or possibly this afternoon.

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SCOTT STROME MD: Dr. Le, thank you so, so much. Your comments – your surgery is really beautiful, and your comments have certainly been insightful in helping our audience to understand some of the detailed parts of a rhinoplasty procedure, some of the reasons for doing a rhinoplasty procedure and the risks and benefits our patients can expect. We're very fortunate here to have a very vibrant department of otorhinolaryngology, which is referred to in popular terms as "ear, nose, and throat." Our specialty is multidisciplinary, and we have fellowship-trained individuals who takes care of folks of ear problems, specifically problems of balance, problems with hearing, even going so far as a technique called cochlear implantation, where folks who cannot hear at all are implated with a device which allows them to hear.

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That's a very, very specialized procedure which is done here at the University of Maryland School of Medicine. The other thing that our department does is we take care of folks with all different diseases of the head and neck, particularly cancers of

the head and neck, and we have several surgeons who are specialized in treating disorders of the head and neck. Importantly, this is a part not just of surgery but also as a multidisciplinary team with members from medical oncology and members from radiation oncology who are all part of a global group under the title of the Greenenbaum Cancer Center. And then finally, we have folks who do professional voice who just deal with folks who have problems with their voice, and this doesn't need to be restricted to people who have troubles who are singers and actors but can be used for folks who just use their voice in everyday situations: schoolteachers, stockbrokers, folks who use their voice for their work, and we consider that part of our professional voice.

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We also have a vibrant program in general otolaryngology, where we treat all types of sinus-nasal disorders; that's folks who have v sinus disease, et cetera. And we're growing our program in pediatrics – pediatric otolaryngology. We have several generalists who do that right now. In addition to the clinical practice, we also have a very vibrant research program which focuses on the treatment of specific – the development of specific treatments for head and neck cancer. And then finally, I think you'll find here that although we're a large university medical center, we really treat our patients more like they're from a family practice. We get to know our patients. We know each of them by name. We know their referring physicians, and each of our physicians is really ready to teach, but also, more importantly, to take care of individuals -- not disease processes, but individual patients and cater our therapy to their needs.

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Every single patient who walks through our door is very special to us, and we're very. Very thankful to have the privilege to take care of so many special folks. Thanks so much for being with us today. I think we'll conclude at this point, and please feel free to type in on the interactive webcast so that we can answer your questions as they come up. Also, you're welcome to call any of us at any time, and we look forward to hear from you. Thank you.

00:48:13:00

NARRATOR: This has been a webcast of an external rhinoplasty from the University of Maryland Medical Center in Baltimore, Maryland. To obtain more information or to make an appointment or a referral, please click the buttons on your screen.