

**SPEAKER:** So let's talk about surgery. Minimally-invasive parathyroidectomy, that's what we say to everyone. That's how we market ourselves and how people come see us. But what does minimally-invasive parathyroidectomy really mean?

Does it mean it's a smaller incision? Does it mean we're limiting our exploration to one side of the neck or the other? Are we using image guidance so that we can make the incision maybe smaller? It doesn't really even matter. The point is the incisions are on an absolute scale. They're pretty small, and they heal well. So you can see on the right side is a patient who is post-op week three from their parathyroid operation.

So there are some folks, especially the ones that are good healers, so this speak, where the evidence of surgery is actually pretty subtle. The range of incision size, again, regardless of whether you're doing a bilateral neck exploration or you're just focusing your attention on one side of the neck, is about one to 1 and 1/2 inches.

And there's no study that's demonstrated any difference in pain or recovery time between a one-inch and a 1 and 1/2-inch incision. But one note is that the scar is slightly longer, and it's in a part of the body that particularly for females, tends to be a little bit more visible.

At UCSF, we do tend to do a lot of these operations. We're probably the highest volume center on the West Coast. Generally, we do image-guided surgery if possible. It minimizes the incision size slightly. Surgery is about one to 1 and 1/2 hours long, and about 3/4 of our patients go home the same day. About one third don't require any opiates for pain relief, which is particularly relevant in our climate today with our opioid crisis.

Recovery's quite fast, and in comparison to, let's say, other operations that we may all be aware of. And most people are getting antsy. They're ready to kind of do stuff by about one to two days after their operation.

As anywhere, we do have complications. But thankfully, they're very, very low. The types of complications from any type of neck surgery here have to do with number one, recurrent laryngeal nerve injury, which is the nerve the controls your vocal cords. If that gets injured, one can get hoarse. Hypoparathyroidism, you actually do too good of a job, so their calcium levels are low, and they need to take calcium supplements.

Neck hematoma can occur. It's very, very rare. But generally, the long-term cure rate is incredibly good, and the follow-up is very straightforward, obviously just getting some calcium levels. The partnerships are really, really productive. Unlike many of the adversarial stereotypical relationships that may or may not exist among certain specialties, everyone is an equal opportunity partner in this disease.

So obviously, endocrine surgery is a big component. Endocrinologists, we have a great partnership with them with our UCSF Parathyroid Tumor Board. And then our primary care partners who are both referring our patients and we're giving advice on how to follow them as well.

So let's switch gears just a little bit, some fun stuff, maybe a little gross at first. So we just talked about a scar. So the next frontier in technical innovation in surgery is by performing surgery removing the scar entirely. So this cosmetic goal, it's of significant importance to a subset of our patients. It doesn't really matter how small. But in some folks, that's a really important thing.

It just tends to be female, younger, generally tends to have lives or careers in which they would prefer not to have a neck incision, whether for professional reasons or what have you. So there are these weird techniques that were first pioneered in Asia. And I mention Asia in particular, because they have a particular cultural emphasis on having flawless skin, particularly in this neck area. It's very important.

And so people started making incisions in weird parts of the body that are less visible, and then tunneling themselves all the way up to the neck to be able to take things out. So it started with things like making an incision in the armpit, putting some laparoscopic instruments going all the way up here, removing things. Some incisions started making stuff at the areola, and the nipple, tunneling up, taking things out.

Other people made incisions in the-- almost like a facelift incision at the hairline. We looked at those and we thought they were probably a little bit too much. But there's this new technique that did come out and has created waves in the past 1 and 1/2 years. Our group went to Thailand, where the innovator was. He's taking out thyroids and parathyroids through the front of the mouth, which basically eliminates the scar entirely.

And originally, we thought that was absolutely nuts until he published his series of 600 patients with results that were on par if not better than some of the standard open thyroidectomy or parathyroidectomy techniques. So we learned it. We've adopted it. We tried it here UCSF. UCSF is the first site west of the Mississippi to have done it.

And the patients are all pretty happy, particularly because we're really carefully selecting that subset of patients in whom this is important to them. So in any case, these are some pictures. We're basically putting in some laparoscopic ports just in front of the lower mouth, just behind the lower lip. And the incisions there actually wind up healing very, very well because it's mucosal. Those things generally tend to heal quite fast.

This is an example of a person who had had not parathyroid, because they're not generally huge, but thyroid goiters. You can see on the left was the before image of a lady who had a very large goiter. You could see it from the circle. And afterwards, that's just on post-op day 10, and she has basically no evidence that she's had an operation, which is very important for her.

So the caveat, this is brand new. It shouldn't be done-- I am sorry, but it shouldn't be done in the community. It has to be done at a high-volume probably academic center with a very, very low threshold to say no, because this is brand new, and we don't know exactly where the bar is going to be in terms of whether we're doing something a little bit too dangerous. As far as we know, this is a very new and safe technique for selected indications.