

## Dr Andrew Thamboo, ENT Surgeon Maxillary Antrostomy - Surgical Teaching Video

Duration: 8 mins and 15 seconds

Hi, I'm Dr Andrew Thamboo. I'm from the St. Paul Sinus Center here at the University of British Columbia, and today we're going to talk about sinus procedures to optimize your outcomes for your sinus patients.

One of the first things to do in terms of optimizing your surgical outcomes for your patients is actually optimizing the surgical field in sinus surgery. Now, visualization in sinus surgery remains a challenge. The narrow corridors, the degree of inflammation can really affect your visualization. Now, obviously, technology has improved our visualization. We've got HD screens, 4K screens, that is making our life a little bit easier, but however, excess bleeding and sinus surgery does lead to increased operative time, difficulty of surgery and even complications.

Now, there are different ways that we can do pre, operatively and intraoperatively to optimize our surgical field. Now, one of those ways to help your bleeding is oral corticosteroids. There's definitely a trend for patients to receive oral corticosteroids before surgery. Now the evidence does show this only benefits those with polyp disease. There's very little to no evidence for those who have no polyps. The take home message here is that oral corticosteroids is good for nasal polyposis and not for no polyps, and it does decrease intraoperative time and bleeding and improves your visualization.

Another option is local injection for vasoconstrictors. Now this is a massive debate among surgeons, and the body of literature surrounding intervention is inconclusive. Now, if you are to inject, one of the key things is to make sure you don't inject into the orbit. One of the big concerns is that you go past the vertical process of the maxilla, inject into the lamina and right into the orbit. So please be sure that when you are injecting, you're injecting in the mucosa where there's bone behind.

Now one of the easy things you can do is position the patient. Placement of patient in reverse Trendelenburg reduces venous return, cardiac output and arterial pressure. Now there is some caution when doing reverse Trendelenburg and may decrease cerebral perfusion pressure. A take home message here, 15 to 20 degrees of reverse Trendelenburg is safe and highly effective in decreased bleeding in the nose.

Now one thing you could do is just talk to anesthesia. Sinonasal, mucosal bleeding is a function of mean arterial blood pressure. Now the aim is to get the mean arterial blood pressure between 50 and 70 millimeters of mercury.

There are multiple ways to alter the mean arterial blood pressure. The CDP can be manipulated by reverse Trendelenburg. The SVR can be achieved by vasodilation. And cardiac output can be decreased by decreasing the heart rate. What I tell anesthesia is the 60/60 rule. 60 mean arterial blood pressure and 60 heart rate.

Another thing you can add to your practice is hot water, saline irrigation. There are several studies that have demonstrated efficacy in controlling posterior nosebleeds with just a hot water, saline irrigation. You may ask how, when it comes to the pathophysiology, mucosal edema compresses bleeding vessels and the vasodilation decreases the intravascular pressure, inducing stasis of the blood.

There's actually been some research here at the St Paul Sinus Center at the University of British Columbia highlighting the effect and the impact of hot water, saline irrigation. This was a randomized control trial, and the outcome measurements were endoscopic field of bleeding, heart rate and mean arterial blood pressure.

And this was the setup, and a setup that can be easily done. As you can see, we have a medical grade fluid warmer, a sterile, single use drape that conforms to the body of the six liter fluid warmer, a 60 ml two meter syringe, and a long olive suction attached to the syringe. As you can appreciate from this study, the hot water saline irrigation definitely benefits as the sinus procedure goes greater than two hours. The blood loss per minute was significantly reduced in all cases with hot water, saline irrigation. Now, as you can see from here, is hot water saline irrigation worth it for short procedures? and I still say "yes", and this is why. As you can see from this video, when you have a lot of blood in the field, the red sucks up the light and it can look very dark, but soon as you irrigate that sinus cavity and wash away the red blood, you can appreciate more light in the sinus cavity. So when you're working in those narrow quarters, as mentioned before, you can see better because the blood is not sucking up the light. And this is what it would look like after irrigation. You can see much deeper into the sinus cavity.

Another thing you can do is topical nasal constrictors. As you can appreciate from the photos, the pre and post aspects, one of the things you can do is apply topical adrenaline 1/1000 into the nose. Many other people may use Otrivin, or combination of Otrivin and adrenaline, but in my hands, my preference is adrenaline, and this is because it has shown that adrenaline has a much more constrictive effect, and it can be applied over and over again to the alpha-one receptors.

So let's look at septoplasty for access. So we're looking into the left side of the nose. This is the right side, and you can appreciate the deviation. So what I tend to do is make the incision on the side of the deviation, so we chosen the left side. You can see that we use the scalpel to make the incision initially, and then we elevate the tissue and then remove the deviated cartilages and bony components of the septum. And one of the key things I'm trying to highlight here is that you want to see the axilla of your middle turbinate. By doing this, you improve the access, not just for nasal obstruction, but how you do your sinus surgery into the frontal sinus.

The next thing is relaxing incision of the middle turbinate. You really appreciate in this case, you appreciate the paradoxical nature of the middle turbinate. And what we do is we pierce through the basal lamella at the transition point between the three aspects of the middle turbinate, as you can see here.

The next thing we can do is do a turbidoplasty of the middle turbinate. What we do here is we take the microdebrider and we put it on drill mode. When you're putting it on drill mode, what you can do is thin out the conchal aspect, which is the bone aspect of the middle turbinate. Now,

historically, we were always taught never to touch that middle turbine, but the way we can do packing and stenting now and suturing of that middle turbinate, we can really now manipulate that middle turbinate with the microdebrider to optimize surgical access into the ethmoid cavity. I hope you appreciated those surgical pearls for looking for more opportunities to learn to improve your surgical outcomes for your patients, definitely look for courses across Canada.

Presenter: [Dr. Andrew Thamboo, Otolaryngologist, Vancouver, BC](#)

Local Practitioners: [Otolaryngologist](#)