GYSO Eps. 17 Dr. Movahed Sleep Apnea

Dr. Gould: Alrighty, everybody. Hello. Welcome. It is Wednesday and you are listening to Get Your Smile On with Dr. Joel Gould, your wellness dentist bringing you all the latest and greatest in wellness dentistry and general overall health. So, tonight, I'm very excited about my guest as usual. I get pretty excited about this stuff. We are going to be bringing on Dr. Reza Movahed very shortly. I'm going to let him tell you about his qualifications because it's pretty incredible. He is going to be speaking to us today about mixed martial arts… no, sorry – MMA. MMA is maxillary and mandibular advancement surgery. He is a dentist and a surgeon and an all-around incredible guy; researcher, he does it all.

What we're going to talk about is what surgeons do in cases where a couple of different things could happen. Number one, somebody is unhappy with their facial appearance due to their chin being further back than it should be or than they want it to be or due to their midface or their maxilla, their upper jaw, being pushed back further than they want it to be. This type of surgery where we can advance both the lower and upper jaw is really major, and it's really important because I met Dr. Movahed at one of the sleep apnea conferences that I've been to, and I've been to so many, and he was a speaker there, a really compelling speaker. I can't wait to bring him on. Are you there, Dr. Movahed. Can you hear me?

Dr. Movahed: Yes, correct, Dr. Gould. Thank you for having me.

Dr. Gould: My pleasure. Okay. So, I'm going to say right away, I'm going to call you Reza if that's okay and please call me, Joel.

Dr. Movahed: Absolutely. Absolutely.

Dr. Gould: All right. All right, great. So, I'm having a bit of a hard time hearing you. Can you hear me okay?

Dr. Movahed: I can hear you okay. I'm going to just make sure that we can have a good communication.

Dr. Gould: There you go. There you go.

Dr. Movahed: Is that better now?

Dr. Gould: Yeah. Perfect. All right, I gave you a very weak introduction because I wanted you to sort of discuss how you got to the place that you got to. Let's, I guess, start at the beginning. We met at the sleep apnea conference where I heard your lecture and I told you right away that I've seen a lot of people speak and I've seen a lot of different surgeries but the way you present to them and your material which is so well put together, I can see that this is more than just a job for you because you really are an artist. So, tell us about you. Tell us where you from and tell us about your early dental career.

Dr. Movahed: Sure. I'm actually from Saint Louis at the moment and I have a private practice in Saint Louis and also I teach for Saint Louis University. I'm a clinical assistant professor. I'm also a board certified oral-maxillofacial surgeon, also known as a Diplomat, and I'm glad to be doing what I'm doing. As you mentioned, it's very much a combination of art and science for me and that's very much what was my journey that brought me to doing the surgery.

Dr. Gould: Okay, interesting. So, how did start off your early dental career. What was your background in school? Did you know you wanted to be a dentist and and oral surgeon right from the start or how did this sort of taken place?

Dr. Movahed: Yeah. As a matter of fact, no; dentistry wasn't exactly quite under radar for me originally. So, after high school, I really would have liked to go to art school. My dad was an architect so they've kind of encouraged me to basically go for my regular bachelors. I did a combination of biochemistry and art history. After that, I really became interested in sciences.

Dr. Gould: So, hold on. Biochemistry and art history, those two don't really go together that well, do they?

Dr. Movahed: No, they don't. That is too much the opposite.

Dr. Gould: Closer anyway. Okay.

Dr. Movahed: Absolutely.

Dr. Gould: Very good. Okay, I think that a lot of dentists are frustrated artists and architects because we're building on a small scale and we're creating beautiful functional arts everyday. So, I think they go very well together hand and hand. So, dental school, was that something that you thought you would be? Were you thinking about the surgery aspect right from the start or did you say, "Okay, I'm going to go to regular dental school and see what it appeals to me?"

Dr. Movahed: Absolutely. My uncle is a dentist. He currently practices in Upstate New York and I had every intention of going to working with him. When the science aspect was not something that was interesting to me because I wanted to deal with people on a day-to-day basis, I chose the industry. It was when I was in dental school that I did a rotation in oral maxillofacial surgery. I define it as that's where I found my love which was I saw an orthognathic surgery, which is a corrective jaw surgery, which I'm sure we'll talk in detail. Basically, the whole story started from there.

Dr. Gould: Interesting. Okay. A lot of people, they have an idea, they have been watching all the shows about doctors and that. We do actually have different rotations. I remember many, many years ago back in the dark ages when there were horse-drawn carriages when I went to dental school, we did our emergency rotation. We did our surgery rotation. So, you really, in that aspect, you thought "Wow, this is it." Did you go directly into your surgery program right after dental school?

Dr. Movahed: No. actually, I did a year of internship in Brooklyn Hospital. That was to get more exposure to oral maxillofacial surgery to make sure that it is what I wanted to do. Ever since then, basically, go to the process of match and I did my residency at Nova Southeastern in Fort Lauderdale followed by a fellowship in orthognathic surgery which is the corrective jaw surgery which we're going to talk about again.

Dr. Gould: Right. Okay. Well, I guess that brings us to the position where we want to basically describe – I kind of joke in MMA, it's mixed martial arts, but why don't you just tell us sort of briefly the elevator pitch of what is MMA and let our listeners know sort of what it is exactly that you focus on.

Dr. Movahed: Sure. MMA as it's abbreviated, is maxillomandibular advancement – maxilla, the upper jaw; mandible, the lower jaw; and advancement of the jaws. It's a bit more than just advancement of the jaws because there is so much minutiae that's associated with that. What ultimately the advancement of the jaws would do for us is that it increases the airway space at the area mainly behind the palate which is the soft palate and the base of the tongue. We do a number of surgeries in combination with that to make sure that we make the airway open not only in the retropalatal (behind the soft palate) and retrolingual (behind the tongue) as well in the nose, too. So, this combination of surgeries will allow the patient with obstructive sleep apnea to have 95% success rates managing and treating their obstructive sleep apnea.

Dr. Gould: Okay. So, now, when you got into this, with sleep apnea on your radar, that you thought I would like to do this type of surgeries, because for my listeners, they've listened to me talk a lot about different sleep apnea issues, and I think that what I want to sort of just quickly define is that why we're seeing more sleep apnea these days is we're finding that people's jaws, their maxilla, their upper arch is narrower and we're seeing just smaller airways. So we're finding more people with a normal size tongue with a smaller space to put that tongue in. So, what you're doing is you're actually taking the lower jaw and making it bigger and you're taking the upper jaw and making it bigger and you're doing it exactly at the same time, same surgery, so that people can have a larger airway, and a result to that, that they'll have less sleep apnea. Is that correct?

Dr. Movahed: Absolutely. That's correct. One of the things that we usually get help from, we usually get help from orthodontics as well, too, because most of the time that we deal with this is the mismatch of the upper jaw and lower jaw. They don't fit together properly. The arch is narrow, sometimes the lower jaw is not as narrow as the upper jaw and they can expand the width of the lower jaw orthodontically and in order to sometimes match the upper jaw to it, we do a surgery called segmental surgery, basically we segment the upper jaw to be able to surgically expand it in a transverse passion and make it perfectly fit and ultimately make it perfect space for the tongue to sit because if the tongue is not going to have adequate amount of space, the relapse is unlikely a situation that we could deal with. That's as far as intraoral portion is concerned. But we look at the bigger picture as well because it's a multifactorial issue. It's not only the size of the tongue and the position of a tongue. It's also the space behind the tongue that's supposed to be open. So, that's where the advancement of the jaw is coming to play. That corrects the airway as well.

Dr. Gould: Okay. So, the other thing that you mentioned was a turbinate surgery. I haven't spent a lot of time discussing this with my listeners but basically that for breathing all good and proper breathing starts through the nose because the nose humidifies and filters the air for us. We discussed that what I've seen you do basically, you've got somebody on the operating table, you're doing this major surgery, so in addition to repositioning their jaws in a place to give them a larger airway, you're also doing a nasal surgery to make sure they have enough access through their nose to breathe. Why don't you just sort of tell us a little bit about that because I don't know there will be a lot of people have really heard that before?

Dr. Movahed: Absolutely. This is a portion of the surgery that if we don't do, in my opinion, it will miss out on the bigger picture of everything because good portion of

patients that have obstructive sleep apnea, as you mentioned, so perfectly they have the arches that are very constricted and sometimes the beginning of what cause all of this to happen was a malfunctioning airway through the nose, at the very beginning of where the air is going to enter basically. So, due to the fact that some of these patients have allergic rhinitis or breathing issues, their turbinates over the years become large; and turbinates are basically projections that come from outside aspect of nares towards the inside. Their job is to mainly humidify the air and direct the air posteriorly.

So, this anatomy that we're talking about is anatomy that gets larger and gets smaller. It shrinks and gets bigger at times basically in cyclical passion. But, we take number of x-rays and over time, I clinically look at the patient and ask him to fill out a questionnaire which is called the nose scale, nasal obstruction, system evaluation scale. From that, we assess whether they're a candidate for reduction of the turbinate at all or not, but one of the best things that have been helping us out, we can besides the clinical evaluation, we look at our cone beam scans and we see how hypertrophied or enlarged this anatomy is.

The other thing that you mentioned was a septum. So, septum is a cartilage that's right the very midline of the nares. Sometimes the septum is very much bowed out and deviated. Now, one of the benefits of addressing this issue during the maxillomandibular advancement is the fact that when we do the upper jaw surgery, we have full access to the full length of the structures, from the septum to the turbinates, and we can do any kind of plasty, reduction, or reforming of the structure that helps us increase the air that passes through the nose because about 80% of the air passes right around the structure of the inferior turbinates. So it is important for us to address that. I just really want to stress this – that we never do full turbinectomies. We do partial turbinectomy which is about one-half to two-thirds of the turbinates.

Dr. Gould: Okay. So, you were talking about these terms that most people are not 100% aware but basically, the basic understanding is that you're already in there. You're doing this major surgery and you have sort of unparalleled access while you're doing this, and it would be kind of silly not to take care of it at the same time.

Dr. Movahed: Joel, you put it perfectly, in the right way. The way that you think about it, it's a one-stop shop of addressing everything.

Dr. Gould: All right.

Dr. Movahed: Because we have the best opportunity, the patient is on the table; and not addressing this problem would not make sense for us.

Dr. Gould: Okay. We're actually going to have to take a quick commercial break here, and I want to come back, and the question I have for you: is this something that you're a pioneer on or the other people who do this are also doing turbinate surgery? So, hang on. I know all of you listeners are dying to hear that question answered. So, hang on one second. We'll be right back.

All right, everybody. We are back and before I continue on with Dr. Movahed. We have a number, if anyone is calling with any questions specific for this topic. It is (347) 857-3760. If you want to give us a call, we can have Dr. Movahed to answer any specific questions. Is everybody back on line? Are you there?

Dr. Movahed: Sure.

Dr. Gould: All right, so, my question was: is this something that you sort of came up with or is it known?

Dr. Movahed: Oh, no. This has been here for the past 10 to 15 years. Initial studies have been done in Stanford Clinic, Department of Ear, Nose and Throat. One of the main pioneers was Dr. Lee who is San Francisco. He started looking at the studies and working with the ears, nose and throat department and coming up with the consensus of how to approach this. They approached it differently than I do but initial study was very much done in Stanford and they came up with the Stanford protocols because whenever there was a talk of airway, corrective jaw surgery was not really on the map.

There was a number of other procedures that we are aware of that used to be done. One of the procedures that many of your listeners most likely have heard of is called UPPP. It's very much abbreviation for uvulopalatopharyngoplasty, but we don't want to talk about that because it's such a long word. It is basically reduction of the soft palate and the uvula portion of the soft palate which we found out over the years. It's not really a productive procedure in addition to the other procedures that were done.

Dr. Gould: That is the one that everyone knows about and a lot of people have had that. I actually have several patients in my practice who had that surgery and who have now relapse and now have moderate obstructive sleep apnea again. So, it wasn't a permanent solution to that.

Dr. Movahed: Yeah, absolutely.

Dr. Gould: Okay. So, I wanted to talk a little bit about the surgery and I don't want to gross out our listening audience, but it's pretty incredible. So, there are cases where you're going to advance the maxilla a lot, somebody whose midface is sort of looks like is pushed in and those cases where you're going to advance it more or less. So, can you basically give our listeners an idea of how you actually do that and then we'll just talk about… because I think that people thinks surgery, they're thinking that they're going to come out with stitches all over them but we don't leave a single stitch with this that is visible, do we?

Dr. Movahed: Absolutely. The whole procedure is done intraorally, inside the mouth. Basically, there's no removal of sutures even necessary because the sutures that are placed are all dissolvable sutures.

Dr. Gould: Okay. Tell us a little bit. One of the things that I was really impressed with you is your 3D imaging of the actual airway to show the volume and so you did before. What is the system that you used to show the actual volume?

Dr. Movahed: One of the main things, as you remember we discussed in our lecture, was how to find out where the side of obstruction is for us, and pinpointing that problem is one of the most important aspects of the surgery, and proper planning and diagnosis is necessary for good results, and that's what we have to do. So one of the things that's available to us is our cone beams and we're making use of these cone beams to three-dimensionally structure and analyze the airway.

Dr. Gould: Okay.

Dr. Movahed: Now, the more interesting thing which is what I'm studying at Saint Louis University is computative fluid dynamic studies of the airway. So, we take a three-dimensional form of the airway that we have and we turn it live through the digital algorithms, then we kind of find out where in the airway is the most probably site of collapse.

Dr. Gould: All right. So, this would be like when you see they do the wind tunnel with cars, with automobiles, and they want to see the aerodynamics. It's sort of similar type of thing then.

Dr. Movahed: Absolutely aeronautics, aerodynamics of the cars. It's the same physics very much applied to our airway. It's like a pipe. The longer the pipe is, the narrower that it is, there's more effort necessary to move the air; but the shorter and the wider that it is, there's less effort necessary.

Dr. Gould: All right. And that in a nut shell is the whole explanation of how we want to treat sleep apnea – open the airway, make it a lot bigger.

Dr. Movahed: Absolutely.

Dr. Gould: So, this type of surgery. I know that you do it. I guess, probably my listeners aren't 100% aware that a lot of things these days are done by computer-guided surgery. So, do you use the computers to pre-set up your whole surgery?

Dr. Movahed: Absolutely. When I started, the technology was just coming about. Most of my research, initial research, was concentrated on virtual surgical planning (VSP). So, clinically, I look at the patient and from our radiographs and three-dimensional study of the airway, I look at the patient and figure out how much it is that the upper jaw and the lower jaw are supposed to be move forward, and we replicate the same thing on the computer. Previously, we used to have our dental models and casts and there was a lot of error that was involved in it. Now, we're in the 0.1 millimeters of where exactly want the upper jaw and lower jaw positioned to be, and we're able to position it exactly where it is in our planet. It has absolutely changed our life in terms of doing this corrective jaw surgery. It's been a quantum relief for us very much.

Dr. Gould: Wow. It brings me to the next point. Who are your patients? How do they find you and do they get sent you specifically for the airway or you're getting people who are looking for different things? What's your average patient and how you get them?

Dr. Movahed: Joel, I got to tell you. I'm going to talk about the number of people that send us these patients but orthodontists, I think most of my referrals come from dentists because we look in the mouth more than anybody else does it. So, we kind of can recognize when the patient does basically is a candidate for having sleep apnea. But in general, we have sleep centers that refer to us, general dentists who care about the airway such as yourself, orthodontists and also word of mouth, it's a common problem. So if a family member had a surgery done, they're going to know people in their family or friends who had the issue, and they're going to recommend us to them.

Dr. Gould: All right, I think a lot of people really qualify – I'm one of those people that would probably greatly benefit from having that type of surgery, but I'm certainly not. I saw some of the cases that you presented and they were definitely little more extreme than myself. So, could you sort of explain how does somebody get to the point where they're ready to have it and it's a major surgery although your patients look like they recovered so quickly? What are the conditions? Someone has some sleep apnea and all of a

sudden, how they need surgery? What are the chief factors that make somebody more of a candidate than somebody else?

Dr. Movahed: Sure. There are a number of things that I would say. The number one problem would be the fact that the patient has diagnosed and they're under CPAP therapy, they're intolerant of their CPAP or the patient does not want that lifestyle of using a CPAP, and the patients that also use a dental appliance, and the dental appliance does not work for them. If the dental appliance is not a successful treatment factor then, MMA or maxillomandibular advancement is the answer for them. Also, additionally, I would say one of the things that we always have to think about is that lot of obstructive sleep apnea patients have a lot of comorbidities.

Dr. Gould: Okay. Hold on. Hold on. What's comorbidity?

Dr. Movahed: Basically, they have severe hypertension, high cholesterol, issues with their hearts, so we want to basically our model is do no harm. So, if we find a patient, that undergoing a six-hour surgery for them is dangerous, we outright tell them that it's not something that can be done. But, so far, we haven't had any issues and most of patients are good candidates. We do the surgery often enough. In a predictable passion, we are able to get the patient from the operating room to the ICU for the first night and ultimately get them to stay in the hospital in two or three days that we're out of a hospital. And the general recovery is about – I tell a patient is a month, and that's being generous. We have patients that within two weeks, they were under treadmills, they had extensive lot of energy and they moved on with their life, and everybody heals differently basically.

Dr. Gould: Right. Okay. So, part of what you do, you basically cut the jaw into various pieces and slide it forward. The one thing that I'm always thinking about that a lot of people had jaw surgery is what are the complications? Do you ever get any numbness?

Dr. Movahed: Sure. Sure. We're still going to talk about the complications. There was a meta-analysis study, which is study of all studies, that was done and complication rate as far as the major complication rate was about 1.3% and the minor was about 3%. The minor one, I would be mentioning, some of them are because of the fact that we move the jaws forward a lot; there are nerves that are inside the bone that we move the jaws forward. The number one nerve that usually gets affected by 30%-40% of the time is inferior alveolar nerve, or let me just put it simply, the nerve that goes in the lower jaw and provides sensation to the lower lip and lower chin. That is one of the

easiest numbnesses for patients to get used to. Otherwise, all the other nerves usually stay perfectly fine without any issues.

One of the other complications that we deal with which is about 3%, that's the maximal rate, is hardware failure. What is that? We use plates and screws to stabilize the jaws in the final position that we like them to be. Sometimes, after certain period of time which would be probably four to five months and sometimes later within a year, there's a chance that the screws or plates will get infected. If they get infected, it's an outpatient surgery, in our clinic, that we take out the plates and screws that are infected and we simply do without them because they've already done their job. The bones have healed and there's no necessity for them anymore. So of the top complications that we deal with, those are the ones that are common.

Dr. Gould: Okay. We discussed that there's no scarring or anything. One of the things that I really noticed, your surgeries are based on expanding the airway and what people who don't know somebody who's suffering from sleep apnea or don't know how serious of a disease it is, this is really life-changing to people, but what I noticed was that there's a cosmetic component to this that is completely mind-blowing so I know that you and I have talked about it before. So, the people are coming to you primarily because they have an airway issue but at the same time, the ones that you see seemed to actually have a physical, not deformity, but something that's really noticeable. Can you sort of tell us a little bit about what you look for and maybe this is something that a lot of patients are saying, "Hey, am I going to look better or different?"

Dr. Movahed: Absolutely. So, the main topic of what we addressed is dental facial deformity originally. That was what maybe interset in corrective jaw surgery. To me, obstructive sleep apnea gave it a whole dimension of care and importance because now I can basically manage and treat something of such magnitude that is affecting a little lot of people. It's kind of funny, Joel, we were making fun of the situation that when we walk in the room, we can almost pinpoint individuals that would have obstructive sleep apnea by just looking at their faces. Yeah.

Dr. Gould: Yeah.

Dr. Movahed: And it is a problem because you're all the time scanning people, which is probably not a good thing.

Dr. Gould: Yeah.

Dr. Movahed: But however the case, the individuals that have the upper jaw and lower jaw that are retruded, majority of time, are the individuals that have smaller airway.

Dr. Gould: Right.

Dr. Movahed: You'll be surprised it's not always the individual that are overweight.

Dr. Gould: Yeah.

Dr. Movahed: A lot of times the individuals that have the upper jaw and lower jaw that are backed, that are thin, are also the ones that could have obstructive sleep apnea.

Dr. Gould: Interesting. Okay. Well, how would somebody, if they want to look you up, what's the best way to get a hold of you?

Dr. Movahed: Sure. Our website, which is new and still we're basically adding more cases on there, is movahedoms.com and also you can call our office and [] later, our number is (314) 878-6725.

Dr. Gould: Perfect. Okay. Well, I'm looking forward to a time in my life when we meet, you're like, "I'll do the surgery on you," and I was like, "Hey, wait a second, you don't even know me yet. You don't know that I have obstructive sleep apnea." But, I absolutely do. I have some other health issues that me and my listening public are working through my Crohn's disease symptoms which are disappearing and at some point in the future, I would actually love to have that surgery. I know that it sounds ridiculous, but of course, only if I needed. But I have a feeling maybe one of those people in 10 or 20 years that they might need that so I'm looking forward to it.

Dr. Movahed: Absolutely, Joel. We're looking forward to it. We're looking forward to having you in Saint Louis.

Dr. Gould: All right, excellent. Okay. So I want to thank you so much for bringing up this MMA. I love this MMA part because it's just so much easy to remember for mixed martial arts. Thank you. You're an incredible speaker and I look forward to hearing you basically lecturing to dentists, letting them know what are the amazing things we can do for people through jaw surgery. Fantastic. All right, thank you, sir.

Dr. Movahed: Absolutely. Thank you so much for having me.

Dr. Gould: My pleasure. Have a great night.

Dr. Movahed: Thank you so much.

Dr. Gould: Okay. Bye.

All right, everybody. So, that was Dr. Reza Movahed and his information, we'll post it on our website. If you check out his website, it's pretty incredible. He does such a great job of showing before and after photos and the different surgeries and this is so completely life-changing for so many people. I'm rarely been impressed to my entire life. So, until next week when we'll have another interesting topic to discuss on Get Your Smile On. Thank you very much to my producer, the incredible Maria DiGiovanni. We will see you next week. Thank you.