Let's Talk About That

Dr. Patrick Turley Interviews Dr. Vince Kokich Jr.

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In this issue's Let's Talk About That, I have the pleasure of interviewing Dr. Vince Kokich Jr. Dr. Kokich Jr. lectures worldwide on the topic of interdisciplinary treatment, and in this interview, he will focus on ways to better help our patients understand and visualize the treatment that is being proposed for them.

Dr. Kokich Jr. received his dental degree from Tufts University and his master's degree in orthodontics from the University of Washington, where he teaches part time as an affiliate assistant professor in the Department of Orthodontics. He is a diplomate of the American Board of Orthodontics and a member of both the Angle Society and the American Academy of Esthetic Dentistry. Dr. Kokich Jr. lectures nationally and internationally on interdisciplinary dentistry and dental esthetics, emphasizing comprehensive treatment planning and the importance of properly sequencing orthodontic, periodontal, and restorative treatment.

Dr. Vince Kokich Jr. (VK): "When establishing value in the interdisciplinary patient, seeing is believing." As orthodontists, it's generally pretty easy for us to visualize how teeth need to move in order to facilitate future restorative treatment or implant placement. Where I think we occasionally fail is when we mistakenly assume that our patients also have this learned ability of believing without seeing. Therefore, we have to be careful not to assume that our patients always understand what we say, especially when we are so used to using our hands to illustrate proper overbite and changes in anterior tooth position.

Dr. Patrick Turley (PT): What do you mean by "establishing value" for a patient?

VK: It's basically the idea of helping patients understand the importance of orthodontics as structural in achieving their ultimate goal of ideal function and esthetics. This can be quite challenging, especially for the interdisciplinary patient, since the level of importance placed on establishing value in these patients is even higher.

PT: Why is it more difficult for the interdisciplinary patient?

VK: When you think about it, our first job when treating these patients happens even before we actually start treating them and may be the most difficult one we will face during their treatment: trying to convince them that enduring the next two to three years of orthodontic treatment, which they never wanted in the first place, is essential to the future success of their final restorative treatment. I say that a bit tongue-in-cheek, but it's true. The vast majority of adult patients are not in our offices because of what they want but because they have a basic understanding of what they need. I guess the "glass half full" perspective on this would be that they've learned enough from the referring dentist or specialist to get them through the door. However, this is where the real work of "establishing value" begins and we transform from clinician to educator.

PT: How do you establish value for the interdisciplinary patient?

VK: I frequently use the analogy of building a house: the orthodontics is the foundation that the rest of the restorative house will be built on. For the more simple, ortho-restorative cases that involve primarily incisal wear and supra-eruption, this technique works quite well. I think this is because it's easier for patients to wrap their head around the process of intruding teeth to create restorative space. However, it doesn't seem to work as well for the more complex interdisciplinary cases involving a very specifically choreographed sequence of ortho, perio, and restorative treatment. I have found that most patients respond best to visual aids. Therefore, unless we have alternative methods that allow patients to visualize the end game, our chances of establishing value for these will most likely be limited.

We've all experienced those moments during an exam when you're reviewing a complicated treatment plan with the patient and you see them

Figure 1. Illustration of the final restorative waxup prepared by the restorative dentist following completion of the diagnostic orthodontic setup

looking back at you with a blank stare—you've lost them—they aren't grasping a thing you're explaining to them. I can tell you that this still happens to me on occasion, but one of the benefits of experience is that we learn how to read and react to situations far better than when we were first in practice, which allows us to seamlessly shift gears on the fly to keep a patient engaged. When I sense this happening, I will usually suggest taking an iTERO scan and setting up a consult so that they can better visualize what I'm talking about. The hidden benefit of doing this is that, for these patients, a collaborative approach is typically required to create an optimal treatment plan, which gives me an opportunity to meet with my team prior to the patient consult. One thing to keep in mind, though, is that just because I'm meeting with my team to plan treatment, it doesn't mean that I'll be better prepared to explain the process afterward.

PT: You discuss taking an iTERO scan and scheduling a consult, which gives you an opportunity to meet with your team prior to the consult. Are you also taking full records or just utilizing the iTERO scan for the meeting?

VK: Yes, I generally always take full records at the exam appointment. This allows me to have an initial discussion with the patient reviewing their primary concerns. The records also help me to start developing a problem list, possible diagnoses, and a list of potential treatment options prior to meeting with my team. I think it's important to have photos and radiographs to more accurately illustrate the things that a ClinCheck cannot, such as tissue phenotype, angulation or inclination of teeth, and restorative concerns that may need to be incorporated into the final treatment plan.

PT: Can you describe the visual techniques that you use?

VK: I will routinely utilize visual techniques to help patients understand how teeth need to move prior to implant placement and in order for the restorative treatment to be completed. They include:

1. Diagnostic orthodontic setup with restorative waxup (Figure 1)
2. ClinCheck and PowerPoint or Keynote with tooth outline template (Figure 2)
3. Procreate app for the iPad with Apple pencil (Figure 3)

Yes, I still occasionally do diagnostic setups. However, in cases with missing and worn teeth, this doesn't generally get patients excited about the final outcome, because it often looks worse. That's why the restorative dentist needs to build up and replace teeth with wax to simulate the final restorative result. This is when you see patients start to visualize, and they begin to understand the value of the orthodontic piece in the process. The downside to fabricating a setup or waxup is that it is more work, takes more time, and generally

Figure 2. Simulation of the final maxillary anterior tooth position and the overlay template to demonstrate the final restorative change in tooth proportion

Figure 3. Illustration of the Procreate app for the iPad that can be used to create clinical simulations of proposed, final, restorative changes

involves a cost. Therefore, I tend to use options 2 and 3 more frequently than this one.

Since I typically obtain an iTERO scan at the exam appointment for these patients, I will simulate the orthodontic movement even if it's not going to be an Invisalign case. Sometimes, just showing the patient the ClinCheck is all you have to do. However, when you think about it, this really isn't much different than showing the patient an orthodontic setup without the waxup. I've found that a more powerful way to illustrate treatment possibilities is to take frontal screen shots of the final simulated tooth position and import them into either PowerPoint or Keynote. Once in the presentation program, you can create a tooth outline template/layer for the anterior teeth, demonstrating an ideal clinical crown proportion (Figure 2). Also, since this is a two-dimensional image of the anterior teeth from a frontal perspective, it's important to consider the golden proportion in the fabrication of your tooth outline template. Once it's created, you can layer this template over clinical photos as well. It enables you to not only show the patient the movie of the prospective tooth movement but also the planned change in tooth shape with the tooth outline template layered on top of the ClinCheck screen shot. This is an efficient and inexpensive tool to help patients realize the value of the pre-restorative orthodontic treatment.

PT: Could you elaborate further on "to consider the golden proportion in the fabrication of your tooth outline template"?

VK: The golden proportion generally has a poor application in dentistry as a way to appropriate space for missing or malshaped lateral incisors, because it can be quantified only two-dimensionally from a direct frontal perspective on a photograph. Therefore, it's a perceived value that affects the esthetic balance for tooth arrangement and creation of an esthetic smile. This utilization of ClinCheck is essentially extracting a still, two-dimensional, frontal image from the final alignment simulation and importing it into your presentation software (PowerPoint or Keynote). This is followed by overlaying a tooth outline template with ideal tooth shape over top of the ClinCheck screenshot (Figure 2). Not only will this demonstrate the proposed orthodontic changes, but it will also highlight the future restorative goals to be completed after orthodontic treatment is completed. In my opinion, this is really the only reasonable application for golden proportion in dentistry, as it allows patients to visualize the ideal anterior tooth arrangement according to the desired esthetic balance.

PT: Do you request that Invisalign simulate the orthodontic tooth movement, or do you do the tooth movement yourself?

VK: I will typically give Invisalign some basic instructions. However, I always spend a consider-

able amount of time personally finalizing tooth position according to where I think they need to be for the future restorative treatment. Then, following our team's treatment-planning meeting, I will make further alterations to the tooth position based on what was discussed and what the restorative and/or surgical goals are.

PT: How do you create the tooth outline for the anterior teeth demonstrating ideal clinical crown proportion? Are you drawing each one from scratch?

VK: This is a great question. Unfortunately, it's much easier to show than describe, but I will do my best. For those who don't already have a template given to them by a colleague or a treatment planning course, you will have to create one from scratch. It's not that difficult if you know your way around PowerPoint or Keynote. The first thing you should do is pick an ideal intraoral photo that has been taken from a direct frontal perspective at the proper angle relative to the occlusal plane anteroposteriorly. This will be used as your template to create the outline. From here, you will import it into your presentation program and then use the custom line drawing tool to individually trace around the clinical crowns of the maxillary central, lateral, and canine. This allows you to alter a line to have both sharp and curved points. This step can be repeated for as many teeth as you would like to include in the template. You're basically creating different individual outline layers that you can group together once you're happy with the shape and proportions of all the teeth. Keep in mind, this only needs to be done for one-half of the arch because you will be able to duplicate these for the contralateral side. Once your initial three outline drawings (i.e. maxillary central and lateral incisors, and canine) have been finalized and arranged ideally over the clinical template photo, select all three of them at the same time and "group" them; now you have a group of three outlines that you can copy, paste, and flip horizontally to get a mirror image to use for the opposite side. After this side has been positioned properly, it can be grouped again with the first side to create the final outline template. This overlay can be saved and used for other patients. It can also still be easily customized to fit differing tooth shapes and proportions by ungrouping the outlines, making the shape changes, and then regrouping after the alterations are completed.

PT: Do you have a standard outline that you make smaller or larger to adapt to the teeth you're working on?

VK: Yes, but it's a template that I created according to the instructions listed in the answer to the previous question. Like I mentioned earlier, this template can be easily adjusted for different tooth sizes, shapes, and proportions. The grouped template can be altered two different ways: either with constrained proportions or without. When you choose to constrain the individual outline proportions, you basically maintain the W:L proportion of the selected group, as it is made smaller or larger. However, if the alterations are made without constraining the proportion, then width and length can each be adjusted separately depending on your goals for that specific patient.

In the next issue, I will review the technique I use most often: the Procreate app on my iPad (Figure 3). It's an amazingly powerful way to effectively engage, motivate, and educate patients on the value of orthodontics in interdisciplinary dentistry. Stay tuned. ◈