IMPLANTS
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Implant Tissue Development in the Posterior with Digital Dentistry

By Kevin Kwiecien (/spear-review/author/kevin-kwiecien/) on February 4, 2017 | (/bookmarks/bookmark/39025)

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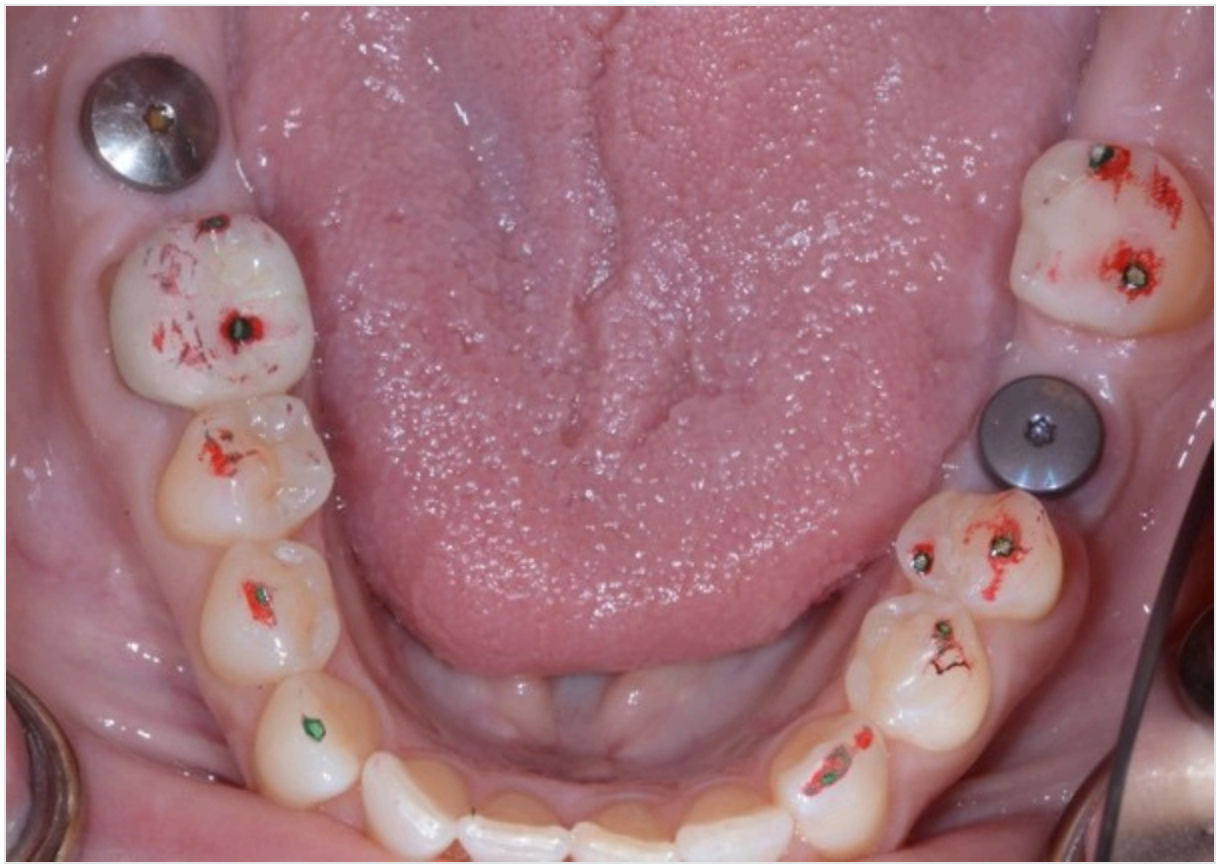
Historically, one of the most difficult esthetic (/spear-review/2013/08/evaluating-facial-esthetics-facial-profile) outcomes to predictably achieve is soft tissue support around an implant (https://www.speareducation.com/spear-review/category/implants), especially if that implant involves a front tooth. Without proper tissue architecture, one could argue the case may be a failure, so we really want it … almost need it.

So, why would we intentionally create the same expectations for soft tissue cont posterior tooth? Great question. Thank you for asking.

Said differently, if restoring a lower first molar with an implant-retained crown, trusting the flow of systematic treatment planning as taught by Spear Education (Esthetics-Function-Structure-Biology), the "Esthetics" component is easy, right? Just make it look like a tooth. The "Function" component is pretty easy, too. Make sure it doesn't have excursive interferences and has slightly lighter contact loaded axially. The "Structure" is usually some type of ceramic (screw-retained vs. cement, custom abutment vs. stock, etc). And appropriate or adequate "Biology" for the implant should have been confirmed or developed prior to placement.

Done. Why complicate it? Take an impression and put it in, right? Not so fast!

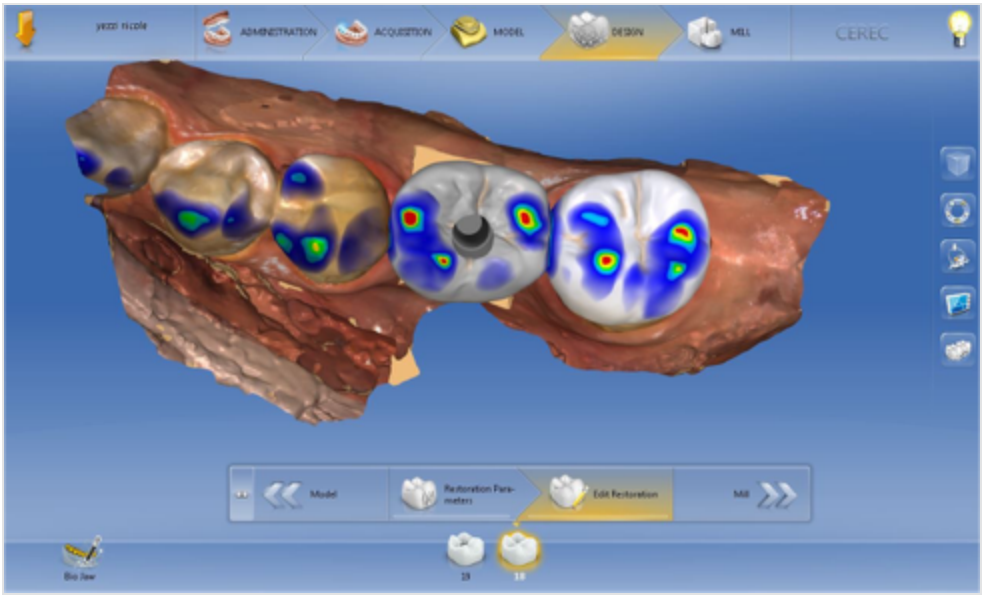


The digital world and workflow provides us with so many opportunities to make our dentistry even better with the same amount of effort and time – actually, in many cases, with less time and effort. Today, taking a bone-level impression is as simple as a scan of the implant location at the time of surgery, never needed to be taken again because the position of the implant certainly won't change. If it does, we have bigger issues to deal with than soft tissue architecture surrounding the implant.

The only thing that will change is the tissue. Yes, the same tissue that slumps and deforms when any type or viscosity or impression material barely touches it or, more likely, before we can even get the impression material into the tray. So, as opposed to suffering through this process using mostly predictable, well-documented, yet exhausting techniques, especially with a back tooth, this part of the process is actually when it gets fun for me today.

2

With the initial scan from the time of surgery, a proposal for a crown can be designed to support the anticipated tight or collapsed tissue that will be awaiting you when it comes time to load the implant. Yes, the pressure on the tissue is somewhat of a guess, but an educated one. It is a great starting point, as an acrylic crown to place on the implant and start loading it can be milled before the patient arrives in the office for uncovering.

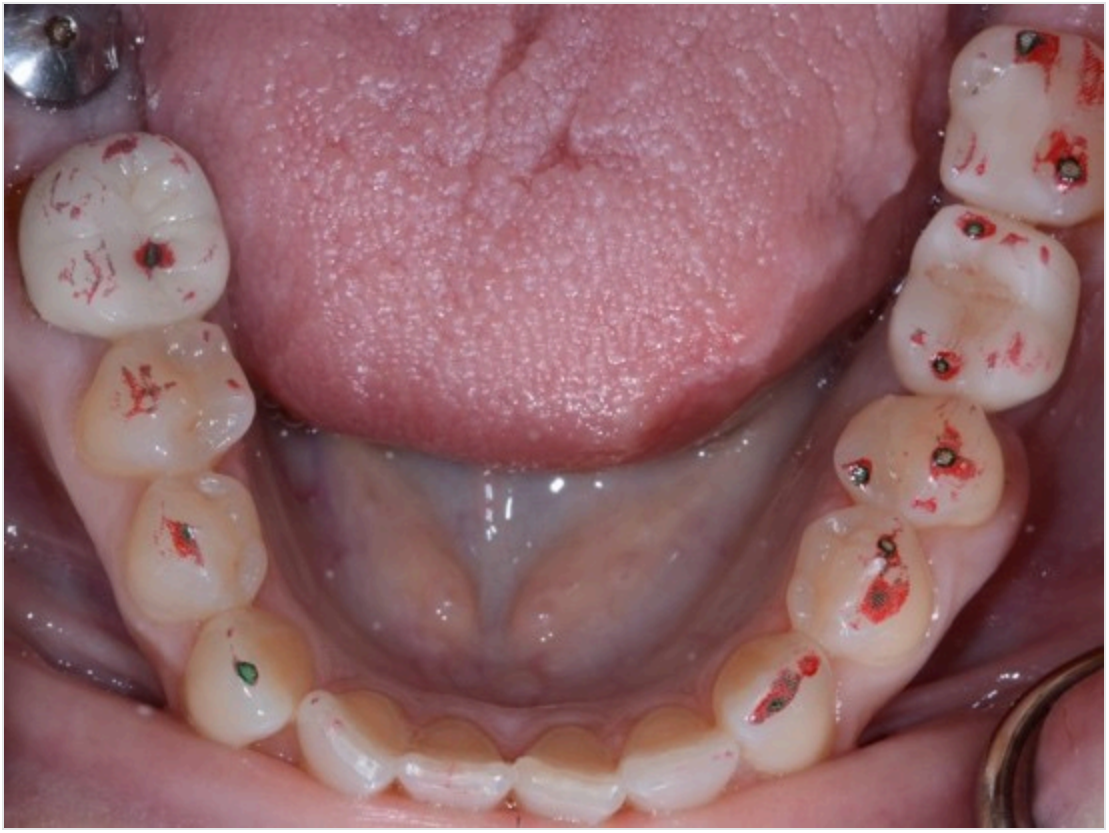


The tissue from the original scan can also be digitally “cut out” from the original scan, the healing cap can be removed, and the current location of the tight tissue can be scanned and “stitched in,” a more accurate starting point to design a provisional crown to adequately push and support the tissue. This process literally takes less than a minute to capture the new tissue position. The crown can then be designed and milled while the patient waits. The additional benefit to this workflow is that the occlusion can be designed with intention and adjusted, if necessary, which I have found to be a rare occurrence.

When delivering the provisional crown, there is no surprises when the tissue blanches exactly where the crown was designed to support and push the tissue. If it blanches too much, remove some material from the crown. If more is needed, add some acrylic or composite; however, more often than not, it will be

exactly as it was designed, both buccal and lingual. Not only is the occlusion right on, but the whole process is frankly amazing.

2



2

I know, I know, but that's not the final crown. The tissue still needs to be captured after it adapts. Another "impression" is needed. It will collapse just like it always does when the provisional crown is removed. This part was easy, but it was a waste of time, right?

Wrong.

In the clinical case shown, the day we prepared the second molar for an onlay – and subsequently needed an "impression" for the onlay and the implant crown – the process was almost too easy and also, dare I say, lots of fun. Once the onlay was prepared, the tissue from the previous scan (taken when fabricating the provisional crown) was digitally "cut out." The very second that the provisional crown (with the perfect tissue around it!) was removed, the tissue was scanned and "stitched in." Done.

Using the new scan of the arch, the permanent crown is designed to perfectly support the tissue. One design option is to scan the provisional before removing it, with the great contours and occlusion, and mill the permanent crown to copy the provisional ("biocopy"). Another is to quickly design a new crown with any minor alterations or improvements needed noted with the provisional crown. But even then, it is done with intention and efficiently with predictable results.

2

The implant position was scanned one time. The surrounding tissue was scanned quickly and easily two – exactly two – times after the initial surgery, taking only seconds each time, capturing the tissue before slumping or moving at all. The crown was then designed intentionally to predictably move and support the tissue.

The digital world is not a slacker's way to do dentistry today. The digital world is a way to practice comprehensive dentistry, increasing efficiency, patient experience and predictability. So, why wouldn't we develop the tissue around a posterior implant? If it's a routine that you follow for anterior teeth, this should be the same protocol for posterior teeth.

(Click this link for more dentistry articles by Dr. Kevin Kwiecien (https://www.speareducation.com/spear-review/author/kevin-kwiecien/).)

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IMPLANTS - THE SURGICAL/RESTORATIVE CONNECTION

SEMINAR: Implants - The Surgical/Restorative Connection 2

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