

IMPLANTS

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Contemporary Implant Dentistry: Diagnostic Risk Management

By Hunter Dawson (/spear-review/author/hunter-dawson/) on July 2, 2019 |  (/bookmarks/bookmark/39503) SHARE

As a clinician who is passionate about providing excellent implant dentistry outcomes, I hope this article will provide a clinical decision tree to help you deliver your patients with the most predictable and quality outcomes while helping you manage foreseeable risk associated with implant dentistry.

In 2019, there is an abundance of technology and tools available to dentists that aids in all steps of implant dentistry. Diagnosis and treatment planning are arguably the most crucial and sometimes intimidating tasks that a clinician will face. Hopefully, by sharing some of the considerations and minimal diagnostic data collection that is recommended for implant planning, we can help you become less anxious over these critical decisions.

Questions we face when considering an implant as a treatment option include:

Is an implant the best option? What type of implant? Do we need grafting? Do we need additional specialists involved? Is there a systemic risk with this patient? Do they have functional/occlusion risk? Immediate vs. delayed? What type of abutment? Will we need a provisional?

Figure 1: Straumann tissue level vs. bone level comparison

One quality resource for the minimum recommended aids is the “Guidelines for the Provision of Dental Implants and Associated Patient Care” published by the Academy of Osseointegration in the International Journal of Oral and Maxillofacial Implant (Vol. 25, No. 3, 2010).

Figure 2: Article cover page

One of the most profound statements from this article is, “The need for a dental implant is a prosthodontic diagnosis and the prescription of a dental implant is part of a restorative treatment plan.”

With that, it is my belief that every restorative clinician, whether they’re completing the surgical procedure or not, should take a very active role in surgical planning phases of dental implant therapy.

The basic diagnostic data collection for any dental implant treatment would include:

- Articulated diagnostic casts
- Imaging (photography and CBCT)
- Radiographic guides (including analog or digital wax-up)
- Computerized planning software

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Figure 3: Articulated cast on Stratos articulator

Figure 4: Intraoral photo and CBCT

Figure 5: Analog vs. digital wax-up

Figure 6: CBCT overlay markers

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Figure 7: Co-diagnostics planning software

Many practices utilize intraoral scanning for acquisition of diagnostic records. If you can evaluate the occlusal plane, edentulous space or span and clinically evaluate the function, it's an acceptable alternative for straightforward cases. Comparatively, it would absolutely be necessary to fully articulate diagnostic cast with a facebow and centric relation record for cases that may fall into the advanced or complex category.

Figure 8: Intraoral scan

Following thorough diagnostics, it is our legal obligation to discuss the alternative options, the long-term survival, risks and potential complications. Most importantly is the discussion regarding maintenance expectations and long-term follow-up.

Referral indications

Along with the guidelines, the clinician should be able to recognize and provide, or refer, the patient for appropriate allied treatment and reevaluate prior to implant therapy. This ability lies in the clinician's ability to recognize complicating diagnosis and findings.

There are many resources available to aid a clinician in determining the complexity. One of my favorite and most frequently recommended tools is the ITI SAC (Straight forward-Advanced-Complex) tool.

Figure 9: ITI SAC tool

With these guidelines and tools, my hope is that we can all improve the quality of implant dentistry that patients receive and ensure that patients maintain a positive outlook of dental implant therapy as a treatment option.

Hunter Dawson, D.D.S., is a contributor to Spear Digest.