CARDP Roundtable - Digital Services in the Dental Practice

Participants

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The Benefits of Digital Dentistry

- More efficient workflows in the practice.
- Improvement in quality of care.
- Certain aspects of reconstructive dentistry are not possible without the integration of technology.
- Digital provides for a broader "menu" of care.
- Assists with communicating diagnosis and treatment recommendations to patients.
- Enhanced ability to consult with referring doctors and share x-rays.
- Facilitates peer study groups.
- Enhances access to care.
- Increased patient satisfaction.
- An excellent learning tool, given the ability to expand and critique the image of a restoration.

Treatments suited to Digital Dentistry

- Basic Level:
  - Diagnostics
  - Single Units
  - Small Reconstructions
- Advanced Level:
  - Digital Facebows
  - Acquisition of Facial Contours
  - Digital Articulation

- Comprehensive Aesthetic Planning
- Guided Surgery for Implants
- Full Mouth Rehabilitations

Limitations of Digital Dentistry

- Some cases of removable prosthodontics.
- Certain cases of fixed prosthodontics.
- Optical limitations – some margins of prepared teeth still require the viscosity and compressive aspect of a PVS impression material to capture the margin.
- Limited access to the mouth – e.g. for some patients it is easier to take a mold than to capture the distal of the molar.
- Shiny surfaces can be a problem.
- Certain types of full-mouth reconstruction on implants.

Printing Models

- 2 ways to make models:
  - Printing – additive method where layer by layer is added
  - Milling – start with a block of material and make model using reductive strategy
- For diagnostic models, most printers that are Health Canada approved or FDA approved will do a good job. These printers will also be good for single restoration by conventional means where you print the model.
- For more complex restorations, a more industrial-type printer is required.
- The limitation of the printer is how the data is conveyed to the printer and what the printer produces as a result.

Implants – Accuracy and Trueness

- Two considerations:
  - Trueness – the result from measuring an object is close to the real dimension of the object
  - Precision – repeated measurement of the same object will yield the same result
- When looking at the clinical application of a digital system, you want both trueness and precision. So if you take three scans of the same tooth, you should
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not be picking one scan because it is “better”. In a good system, all three scans will be workable.

- Implants are very adaptive to digital technology.
- A three-unit bridge is pretty safe with any intra-oral scanner in use today.
- Beyond 30mm of distance between two implants is when you start to get loss of accuracy.

Considerations for Going Digital in the Dental Office

- What type of practice do you have? What kind of restorative dentistry are you doing?
- Be sure of the accuracy of the system – for single unit restoration, most systems are okay.
- How versed is your lab technician with digital technology?
- Will digital dentistry promote your practice? If so, it might be a way to grow the practice and justify the investment in the technology.
- Invest in an open system – it is important to be able to export data into management software to design and refine the restoration.
- Find the system that most suits your practice.
- Important to consider whether you will manage and design the restoration yourself or delegate to a team member.
- Going digital does not compensate for shortcomings in dentistry. The same level of accuracy, if not greater, is required to produce results from a clinical standpoint.