

Hybrid approaches to delivering dental care as we emerge from the initial phase of the COVID-19 pandemic: Teledentistry and face-to-face consultations in a new Clinical World

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Introduction

As the leadership of dental professions across the world consider how best to guide dental care providers in their return to work following the initial acute phase of the COVID-19 pandemic in the spring of 2020, there is an excellent opportunity to incorporate teledentistry in routine dental care. Used in an appropriate, evidence-informed manner, teledentistry has the potential to help dental health care professionals (DHCP) and staff manage their patients' health problems while addressing access-to-care issues. Systematic reviews of teledentistry demonstrate its potential as an effective approach to remote assessment, screening, advice, monitoring or prescriptions to patients for oral health problems, while acknowledging the need to more research in the field^{1,2,3}.

In mid-March 2020, as dental offices across Canada closed down, dental regulatory authorities across the country issued guidance on the provision of emergency dental care^{4,5,6} and some also provided guidance on the use of teledentistry^{7,8}. In this "urgent phase" of the management of the COVID-19 pandemic, the focus was in using teledentistry as part of managing emergency and urgent dental problems. As DHCPs, dental regulatory authorities (DRA) and hospital and university dental clinics plan returning to dental care beyond emergency and urgent problems, we have the opportunity to integrate teledentistry into the routine provision of dental care in a safe and evidence-based manner. As we reflect on this opportunity, the following key issues need to be considered:

- Establishing a legally appropriate health care provider/patient relationship, legal documentation and issues of consent including the technological infrastructure to establish teledentistry;
- Determining the scope and limits of providing dental care using teledentistry;
- Referring patients to dental specialists using teledentistry; and
- Using existing teledentistry, telemedicine and telehealth guidelines as we move forward.

This short document aims to highlight these important issues for consideration by dentists, dental regulators and other key decision makers as we consider re-opening dental clinics to dental care beyond emergency and urgent dental problems.

What are the principles required to integrate teledentistry in practice?

- DHCPs should be fully licensed and registered with their respective dental regulatory bodies.
- DHCPs adhere to DRAs Standards of Practice, Code of Ethics and overall expectations for care in their Province or Territory.

¹ Alabdullah, J.H. & S.J. Daniel. *A Systematic Review on the Validity of Teledentistry*. *Telemedicine and e-Health*, 2018. 24(4).

² Daniel, S.J., et al. *Teledentistry: a systematic review of clinical outcomes, utilization and costs*. *J Dent Hyg*, 2013. 87(6):345-52.

³³ Estai, M., et al. *A systematic review of the research evidence for the benefits of teledentistry*. *J Telemedicine and Telecare*, 2018. 24(3):147-56.

⁴ <http://www.odg.qc.ca/CoronavirusCOVID19/tabid/638/language/fr-CA/Default.aspx>

⁵ <https://www.rcdso.org/en-ca/rcdso-members/2019-novel-coronavirus>

⁶ <https://www.cdsbc.org/about-cdsbc/news/covid-19/covid-19-for-registrants>

⁷ http://www.odg.qc.ca/Portals/5/fichiers_publication/DossierSante/Coronavirus/ODQ_Guide%20Télédentisterie%20COVID19_vfinale_140420.pdf

⁸ <https://www.rcdso.org/en-ca/rcdso-members/2019-novel-coronavirus/covid-19---emergency-screening-of-dental-patients-using-teledentistry>

- DHCPs should utilize the technological platform recommended by their dental regulatory body where indicated due to concerns with identity verification, confidentiality, and security. Different platforms may include: Zoom, Teams, email, Skype, mobile applications, telephone and text message.

What is the patient profile in teledentistry?

Any patient can potentially interact with a DHCP using information technology and telecommunications. If that patient is not already being seen by that DHCP, they then become a patient of record and establish a formalized relationship with that DHCP with the potential for long term care. Alternatively, if the patient is consulting for emergency or urgent care only, then they may return to their habitual dentist following a teledentistry consultation.

How to establish an appropriate doctor-patient relationship and interaction by teledentistry?

- Ensure that the patient lives in the same province or territory as the licensure of the DHCP.
- Ensure that all patient interactions and information is protected and private. All participants must be identified at the start of the communication.
- Ensure to have the patient's consent for use of technology, to share information with specialists if an emergency referral is required, and to bill for examination. If the patient is a child or a person unable to provide consent, they must be accompanied by someone who can provide consent for them.
- Give clear and explicit information to the patient
- Inform patients regarding security, privacy and confidentiality of their medical information and how this will be documented.
- Take into consideration the cultural differences among patients and that teledentistry consultations may take place in the home of patients. Appropriate language translation services are encouraged to be employed for patients and families when appropriate.
- Respect processes and policies for documentation, storage and retrieval of dental records, consistent with requirements of the DRA in the relevant province or territory.

Scope and limits to teledentistry

DHCPs are in a high exposure risk category for COVID-19 during dental care procedures. Teledentistry can be a promising alternative to reduce cross-contamination and to protect DHCPs, staff, patients, accompanying persons and the other patients in dental clinics. Outside emergency and urgent dental problems as defined by DRAs, teledentistry can be incorporated into routine care even during dental clinic shutdowns and upon reopening. Potential Teledentistry treatment scope includes:

- Triage and screening to decide if the patient will benefit from advice and education, prescriptions, referrals or an in-person clinic appointment.
- Follow-Up management of patients (e.g. Post-operative appointments), including monitoring patients until they can be seen in-person or referred to another DHCP such as a specialist.

Teledentistry can be used for:

- Store-and-forward consultations between DHCPs in which images and records are obtained from the patient and sent for review and planning later. The DHCP forms a treatment plan and/or refers the patient for further treatment services.
- Face-to-face consultations in real time by video conference between one or more DHCPs and a patient and/or a member of her/his family located in a separate, distant location.
- Remote monitoring of patients is a modality used in telehealth activities in which electronic health devices collect data in real time that is transmitted to DHCP at a distant location for review and action as needed.

Consultation and referral to specialists

During the COVID-19 pandemic, Teledentistry has been proposed for referral between the DHCP responsible for routine care of patient and DHCP specialists or other medical professionals such as pharmacists. These communications can occur in several ways including:

- A conference video call or phone conference call between the patient, the DHCP responsible for routine care and the specialist. A three-way discussion and consultation using the web-camera can support the conversation with additional information and lead to recommendations from the specialist.
- A video consultation by the DHCP responsible for routine care with the specialist, while the patient is in the dental office chair. This will enable the use of intra-oral cameras at the dental office together with other imaging tools to enrich the discussion.
- An 'after-hours' discussion between the DHCP responsible for routine care and the specialist, discussing one or several cases together using clinical photos, records and other imaging tools to support the discussion.

The ability to perform real-time consultation with specialists in various fields in dentistry and medicine, can be very useful to get initial advice and decide on the necessity and urgency of an appointment with the specialist or other health professional. This may be very helpful for patients who live in remote areas.

Using telehealth/telemedicine protocols to establish dentistry's protocols

Some DRAs have published guidance and flowcharts describing the use of teledentistry during the pandemic. This guidelines have common elements but they also have differences. To help DHCPs across Canada, it would be pertinent to reconcile these differences so that teledentistry can become a modality for the delivery of care moving forward in the post-acute phase of the COVID-19 pandemic. The existing body of literature in telehealth such as the American Telemedicine Association standards and guidelines^{9,10,11,12,13} addressing technical, administrative and clinical aspects, in addition to current guidance from DRAs^{7,8,14}, are tools for the development standard and practice guidelines in teledentistry in Canada. These guidelines could also be used for the training of DHCPs in best practices in teledentistry.

Conclusion

As has been observed many times in this pandemic, the crisis has forced us to rapidly think about how we must revise our normal practices in many elements of our lives. However, it also gives us an impetus and opportunity to integrate changes that address problems that already exist. In Canadian dental care, the problems of access are well recognized. The dental profession's rapid turn to teledentistry in the acute phase of the pandemic provides an excellent opportunity to think about establishing best practices in this field to address at least some of the longer term problems of access to dental care in Canada, as well as providing safe and secure means to provide quality care while reducing the risk of contagion.

⁹ https://www.americantelemed.org/resource_categories/practice-guidelines/

¹⁰ General medical council. Remote consultations 2020 [Available from: <https://www.gmc-uk.org/ethical-guidance/ethical-hub/remote-consultations>].

¹¹ General Medical Council. High level principles for good practice in remote consultations and prescribing 2019 [Available from: <https://www.gdc-uk.org/docs/default-source/guidance-documents/high-level-principles-remote-consultations-and-prescribing.pdf>].

¹² Hogenbirk JC, Brockway PD, Finley J, Jennett P, Yeo M, Parker-Taillon D, et al. Framework for Canadian telehealth guidelines: summary of the environmental scan. *Journal of telemedicine and telecare*. 2006;12(2):64-70.

¹³ Royal college of physicians and surgeons of Canada. Telemedicine and virtual care guidelines (and other clinical resources for COVID-19) 2020 [updated April 21rd. Available from: <http://www.royalcollege.ca/rcsite/documents/about/covid-19-resources-telemedicine-virtual-care-e>].

¹⁴ Alberta dental association and college (2020) . COVID19: Dental emergency protocol. 2020 [Available from: <https://www.dentalhealthalberta.ca/wp-content/uploads/2020/03/COVID-19-Dental-Emergency-Protocol.pdf>].