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ON TECHNOLOGY

Covid and The Canary

by LARRY EMMOTT on AUGUST 11, 2020

in CORONA PANDEMIC, DIAGNOSTICS

Dr. Stephen Abrams is a dentist in Toronto, he is also the creator of [The Canary System](#) a revolutionary system to detect changes in the crystalline structure of dental enamel. This allows us to detect early decay, enamel dysplasia and even early fractures which are undetectable using conventional diagnostic procedures. Recently he wrote me the following regarding dentistry in the pandemic and how his device, the Canary, can help.

COVID 19 really has had an impact on the dental profession and the entire dental industry. We are just now starting to see what the “new norm” will look like as dental offices open. In Canada, US and Europe there are a wide range of restrictions in place as dental offices start to re-open.

The critical issues for Dentistry are:

- Limiting or eliminating the production of aerosols during dental procedures,
- Integration of personal protective equipment and infection control into a dental practice workflow which impacts time and increases costs
- The impact COVID 19 has had on oral health
 - Increased incidence of cracked or fractured teeth due to stress induced parafunction which can be detected by radiographs or other caries detection devices such as CariVu or SPECTRA
 - Increased incidence of white spot / ICDAS 1 or 2 lesions due to altered diets and schedules at home
- Impact of having dental offices closed for up to 3 months in some states and provinces and then slower access to booking patient appointments
- Regulatory issues with aerosol production when using intra-oral radiographs



Dental regulatory guidelines are telling dentists to avoid intra-oral radiographs and to use panoramic or CT Scans instead. These types of radiographs will not provide any information on cracks or interproximal caries.

In terms of patient needs, in our clinical practice, our patients are contacting us regarding either abscessed teeth or fractured or broken teeth or restorations. The vast majority of the e mails from

patients involve fractures. Our patients who have been diagnosed with TMJ issues and parafunction and have bite splints are fracturing teeth as well. This is no surprise as these are very stressful times. We are using The Canary System to examine the rest of the dentition to detect cracks and then developing a more comprehensive treatment plan.

We are also seeing a lot of white spot (ICDAS 1 or 2) lesions or early caries lesions when we begin seeing patients. From my discussions with our patient population, diet and regular oral hygiene has been quite a challenge especially with younger children.

The final issue is that the media and now our patients are asking about how and when we will be seeing patients. They are expecting changes in the office and I suspect may be reticent to have restorations placed.

The Canary System addresses these problems:

- Accurate caries diagnostics especially around the margins of restorations
- Accurate detection of cracks before the tooth fractures
- The ability to measure changes in lesions over time – in response to various preventive / remineralization therapies such as Curodont Repair or Fluoride Varnish
- No aerosol production since scanning can be done on teeth dried with cotton rolls or gauze
- Patient engagement
- Canary System examinations are covered under American and Canadian Dental Association caries diagnostic codes
- New revenue stream for the office which does not involve staff using extensive amounts of N 95 mask, gowns, face shields etc. since there is no aerosol production