

The Canary System & COVID 19 – Accurate Caries Diagnostics with No Aerosol Production

June 1, 2020

by Quantum Dental Technologies

As dental practices start to open up to treat patients during the COVID 19 pandemic, the various regulatory bodies have provided rules and guidelines for oral health care. The focus is on eliminating and or reducing aerosols during dental procedures. Dental x-rays have been identified as a procedure that creates aerosols due to increased saliva flow and possible coughing or gagging.

A number of dental regulators have made recommendations or produced guidelines for use of radiographs with the following conditions:

“Dental Health Care Providers may use “extra-oral dental radiographs, such as panoramic radiographs or cone beam CT, and are appropriate alternatives” to intraoral dental radiographs during the outbreak of COVID-19, as the latter can stimulate saliva secretion and coughing.”

The Canary System More Accurate Than X-Rays in Detecting Interproximal Caries Beneath Restorations

	Sensitivity	Specificity
The Canary System	0.89	0.83
Bitewing Radiographs	0.38	0.80
Cone Beam CT	0.40	0.70

Sensitivity is the ability of a test to correctly identify those with the disease.
Specificity is the ability of the test to correctly identify those without the disease.

Dayo AF, Amaechi BT, Noujeim M, et al. Oral Surgery, Oral Medicine, Oral Pathology and Oral Radiology May 2020
<https://doi.org/10.1016/j.oooo.2019.09.006>



There are major issues with this recommendation:

1. The head, thyroid, and brain are exposed to radiation.
2. Extra-oral films do not have the resolution or ability to accurately detect and measure caries.

3. Cone Beam CT Scans increase radiation exposure.

The Canary System does not use radiation and provides an accurate solution for detection and management of caries. A study published in May 2020, found that The Canary System is more accurate than Bitewing Radiographs and Cone Beam CT in detecting caries on the gingival floor beneath composite restorations in interproximal regions (<https://doi.org/10.1016/j.oooo.2019.09.006>). The sensitivity and specificity data (table on the right) indicates that The Canary System could find 89% of the caries where the other devices found 40% of the lesions.

This study replicates findings from other studies by Dr. Amaechi's group at the University of Texas at San Antonio. One clinical trial found The Canary System detected 92% of proximal caries while bitewing radiographs found only 67%. The Canary System can also accurately locate cracks in teeth which is a more common problem patients are facing during these stressful times.

The Canary System provides an accurate solution for the detection, measurement, monitoring and recording of changes in tooth structure.

Visit www.thecanarysystem.com or email sales@thecanarysystem.com to request additional information.