

## **Nunnally, Freeman, and Owens Position Statement Regarding Extractions and Root Canal Treated Teeth**

The decision to remove teeth is taken very seriously. Patients are provided with an extensive Informed Consent, based on the latest research, and they are informed of options and fees for restoring an extracted tooth or teeth. Should a patient prefer root canal treatment instead of extraction, our professional team will honor that request by attempting to recommend a highly trained endodontist. Our greatest concern is that our patients are given the necessary information in order to make an informed consent in the best interest of their oral and systemic health.

### **Review of Current Research Regarding Root Canal Treatment and Chronic Apical Periodontitis and Their Association with Systemic Disease**

The most current research confirms that root canal treated teeth remain infected after treatment. Seventeen cone beam studies from sixteen countries demonstrate that nearly 40% of root filled teeth (RFT) have chronic apical periodontitis (CAP) as opposed to 9% of non-root filled teeth, Levy, T. (2017)<sup>1</sup>. The current research repeatedly substantiates Weston Price's theory of focal infection. Many disease processes have a focal infection, ie, metastatic cancers, as well as bacteremias, septicemias, and toxemias originating from a primary focus. Even non-surgical endodontic therapy has been shown to cause a bacteremia in up to 54% of cases (Pessi, 2013).<sup>2</sup> The Academy of General Dentistry published in, February 2018, in *AGD Impact*:

- The correlations between oral diseases and systemic conditions are not broadly accepted by both dental and medical practitioners.
- 7 of the 10 leading causes of death reported by the CDC can be connected to inflammation and/or, microbes in the oral cavity: heart disease, cancer, chronic respiratory diseases, stroke, Alzheimer's disease, diabetes, influenza and pneumonia.
- The primary oral conditions contributing to these connections are periodontal disease and pathogens, endodontic abscesses and cariogenic bacteria.<sup>3</sup>

The current peer-reviewed endodontic literature makes it clear that RFT and CAP pose an increased risk of cardiovascular disease (CVD). According to Messing, et al (2019), significant associations have been found between the presence of endodontic pathology and a history of hypertension, myocardial infarction, cerebrovascular accident, pacemaker, congestive heart failure, heart block, deep vein thrombosis, and cardiac surgery.<sup>4</sup> The hospital based study by An and Morse (2016),<sup>5</sup> demonstrated that subjects with CAP had a 5.3 fold greater likelihood of CVD than those without CAP. With data showing that 25 million root canal procedures will be performed this year alone in the United States, a 40% rate of CAP associated with those RFT equals 10 million people who are at a 5.3 fold (530%) greater risk of CVD. Those numbers become staggering over a ten year period when 100 million people (27%) of a projected 370 million population in the United States will have dramatically increased odds of CVD. The potential for CAP to have an even greater impact exists for subjects with degenerative disease.

Lechner, (2018),<sup>6</sup> found that 323 out of 324 RFT among his patients with systemic disease had apical periodontitis (AP) and Segura(2016),<sup>7</sup> demonstrated that in diabetes, the third most prevalent medical condition among dental patients, there is a significantly higher incidence of periapical radiolucencies in endodontically treated teeth. Whether the patient is predisposed to CAP as a result of being diabetic, or whether the endodontic treatment and CAP contribute to a diabetic condition are not clearly elucidated. It appears that diabetes and a host of other systemic illnesses and CAP act synergistically and insidiously in contributing to one another.

Our review of 24, current, peer-reviewed papers that report on the connection between root canal treatment and systemic disease is summarized by Han and Wang (2013),<sup>8</sup> who state that, "Due to dental bacteremia, the oral cavity can indeed serve as a reservoir for systemic dissemination of pathogenic bacteria and their toxins, leading to infections and inflammation at distant body sites." Liljestrand (2016),<sup>9</sup> suggests, "There seems to be a paradigm shift in the field of endodontics' from a field of pain management, tooth preservation, and control of infections toward a perspective of all oral infections are risks for systemic complications".

In contrast, The Root Canal Safety Fact Sheet, which is published by the American Association of Endodontists states that the focal infection theory in endodontics has been, "long-dispelled". The Fact Sheet states, "*In the 1920s, Dr. Weston A. Price presented research suggesting that bacteria trapped in dentinal tubules during root canal treatment could "leak" and cause almost any type of degenerative systemic disease (e.g., arthritis; diseases of the kidney, heart, nervous, gastrointestinal, endocrine and other systems). This was before medicine understood the causes of such disease.*"

Now, however, medicine has a greater understanding of the cause of disease, and in fact, the current literature not only supports Price's findings, but uses similar terminology. "Dental health and 'leaky teeth' according to Gomes, et al (2018),<sup>10</sup> may be intimately linked to the etiology and cause of depression while significantly impacting quality of life". In addition, Gomes (2018), goes on to say that the potent lipopolysaccharide (LPS) endotoxin load that leaks from RFT and CAP, correlates positively with chronic fatigue syndrome (CFS) which is associated with neurocognitive deficiencies, abdominal discomfort, muscular tension and fatigue. Sousa et al, (2014),<sup>11</sup> has shown that endotoxins remain in root canal treated teeth even after chemomechanical preparation (CMP), three minutes of 17% EDTA and thirty days of Ca(OH)<sub>2</sub> plus chlorhexidine in the root canal. And Nunnally (2012)<sup>12</sup> reported that all of the high quality root canal treated teeth in his study were toxic, despite the fact that the teeth were completely asymptomatic and they demonstrated no radiographic evidence of pathology.

Furthermore in response to the documentary, "Root Cause", the ADA president, Jeffrey Cole, issued an email on February 24, 2019, in which he suggested several talking points.

Dr. Cole's first talking point, "*25 million new endodontic treatments are performed safely and effectively per year in the US*", is a precarious statement in light of the current research.

The second talking point, “ *Root canal treatment eliminates bacteria from an infected tooth*”, is unequivocally refuted in the peer- reviewed literature, including The Journal of Endodontics.

Talking point number three which infers that Weston Price’s research is invalid, has now been undeniably disproved.

Talking point number four, which states that, “*Decades of research shows that there is no valid, scientific link between endodontically treated teeth and cancer or any chronic diseases*”, is again in complete contradiction to the current peer-reviewed literature.

**The great concern is that millions of patients will unknowingly submit to, and pay for, endodontic treatments that have the potential to unleash dire systemic health consequences. For instance, how often would a patient consent to root canal therapy if he were informed that:**

- **The root canal treated tooth has nearly a 40% chance of association with an apical lesion<sup>13</sup>**
- **An apical lesion predisposes the patient to a 530% increased risk of a cardiovascular event (An and Morse, et al, 2016)<sup>14</sup>**
- **There is an increased risk of stroke (Pyysalo 2013)<sup>15</sup>**
- **There is a predisposition to a host of other degenerative diseases (Gomes, et al 2018)<sup>16</sup> including depression, chronic fatigue, cognitive decline and fibromyalgia.**

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