

**Hidden Epidemic:
Silent Oral Infections Cause
All Heart Attacks and Most
Breast Cancers**

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Congress of Medical Excellence 4.0
Las Vegas, Nevada
March 25-27, 2022**

Financial Disclosures

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Las Vegas, NV

Objectives

1. Understanding the primary pathophysiology of coronary atherosclerosis
2. How oral pathogens cause and sustain this pathophysiology
3. How oral pathogens cause breast cancer
4. The ABSOLUTE requirement to include 3D cone beam scanning of the oral cavity in the initial work-up of all heart and cancer patients

Reference Checking

Go to:

<http://www.ncbi.nlm.nih.gov/pubmed/>

In the PubMed search box, enter the seven or eight digit number, by itself, at the end of each reference in this presentation. This is the PubMed Identifier (PMID) number

Then click on “Search” and you will go directly to the Abstract of that article, or for a few articles, you will have access to the full article. If there is no PMID number, it is not available on PubMed.

The Cause of All Disease: A Unified Theory

The onset and evolution of all diseases, as well as all of the associated symptomatology, is caused by, and/or mediated by:

**Increased
Intracellular Oxidative Stress (IOS)**

The Cause of All Disease: A Unified Theory

Increased IOS exists when the ongoing exposure of new toxins (potent oxidizing agents) exceeds the body's antioxidant capacity/intake to neutralize (reduce) them, or to prevent their production in the first place.

Increased IOS always exists where there is a continued deficiency of antioxidants, a continued excess of pro-oxidants (toxins) or both [16760481]

Redox (Reduction/Oxidation)

Physiology—Toxin (Pro-oxidant)

The defining property of a toxin is its *ability to take electrons*, directly or indirectly, from biomolecules (OXIDATION). The toxin acts as an oxidizing agent.

Synonyms:

Pro-oxidant = Chemically Unstable Molecule (Free Radical) = Toxin = Poison

Redox (Reduction/Oxidation)

Physiology—Antioxidant

The defining property of a antioxidant is its *ability to donate electrons* to oxidized biomolecules (REDUCTION), restoring them to chemical/functional normalcy. The antioxidant acts as a reducing agent.

Synonyms:

**Antioxidant = Chemically Stable Molecule =
Antitoxin = Nutrient**

Redox Medicine

Principles

All disease, then, results from the relative *presence of*
and the *interactions among*:

Pro-Oxidants (Toxins)

Pathogens (MAJOR Pro-Oxidant Providers)

Antioxidants (Nutrients)

Redox Medicine

Principles

The basic redox nature of vitamin C and the pro-oxidant nature of all toxins concisely explains why vitamin C, along with many other antioxidants, has been documented to be an effective *antitoxin* against all toxins for which it has been tested, *in vitro* and *in vivo*, in plants, animals, and humans, and including clinical studies. [Levy (2002), book, *Curing the Incurable*]

Redox Medicine

Basics

A pro-oxidant and a toxin are actually **ONE AND THE SAME**, and they *have the same effect*.

An antioxidant is a true antitoxin, because it restores the electron depletion in an oxidized biomolecule induced by the toxin, *or* it reduces the electron-depleted toxin itself, making it relatively or completely inert, depending upon the toxin and its microenvironment.

All *pathogens* induce increased oxidative stress by oxidizing important biomolecules needed for normal metabolism via the production of endotoxins, exotoxins, oxidized metabolic byproducts, and the release of free iron when they die/disintegrate. They also consume antioxidant stores.

Redox Medicine

Principles

Even though there is a tremendous variety of molecular structure among all of the known toxins, they **ALL SHARE** the property of taking, or causing to take, electrons from other molecules, oxidizing them and causing a state of increased oxidative stress.

If a molecule does not cause the loss of one or more electrons from another molecule it **IS NOT TOXIC**, and it **CANNOT BE TOXIC**. Toxicity and any symptoms of toxicity cannot exist unless biomolecules are being oxidized.

Infections and Toxins: Common Denominator

Question:

What do all toxins and infections have in common?

Answer:

All infections and all toxins cause cell/tissue damage and produce symptoms by increasing oxidative stress. No exceptions.

Increased Oxidative Stress and Disease

Increased oxidative stress (intracellular and/or extracellular) causes all diseases and causes all disease symptoms

The many variations in clinical disease expression pertain to:

1. The **areas** of the body targeted by a given toxin (intracellular organelles, cells, tissues, and/or organs)
2. The **properties** of the toxins directly causing the increased oxidative stress (solubility, size, ionic, etc)
3. The **genetic predispositions** present (metabolic deficiencies)
4. The **chronicity** of the toxin presence
5. The **degree** of toxin presence

Promoters of Chronic Degenerative Diseases

All chronic disease is the result of the following factors, singularly or in combination:

1. Infection-related toxins
2. Toxins unrelated to infections
3. Inadequate antioxidant/nutrient ingestion
4. Increased oxidative stress from compromised metabolic pathways secondary to genetic shortcomings
5. Hormonal deficiencies/imbbalances

Redox Physiology: How Does It Work?

Even though there is a tremendous variety of molecular structure among all of the known toxins, they ALL SHARE the property of taking, or causing to take, electrons from other molecules, oxidizing them and causing a state of increased oxidative stress. They also share the property of **HOLDING ON** to those electrons, and **not allowing themselves to be readily oxidized** again and passing those electrons along, as is seen with an antioxidant molecule like vitamin C.

If a molecule does not cause the loss of one or more electrons from another molecule it IS NOT TOXIC, and it CANNOT BE TOXIC. Toxicity and any symptoms of toxicity cannot exist unless electrons are being taken from other molecules (oxidation) and retained by the toxin.

Treatment Principles for All Chronic Degenerative Diseases

1. **Prevent/minimize** new daily toxin exposure (environmental, *dental*, dietary, digestive)
2. **Neutralize** existing toxins present in body
3. **Excrete** toxin stores in a non-toxic, or minimally toxic, manner
4. **Resolve** infections, and eliminate the reasons for contracting new infections
5. **Supplement/Eat optimally** to maximize the antioxidant/nutrient status of the body as completely as possible
6. **Address hormone deficiencies**, typically of testosterone, estrogen, thyroid hormone, and/or cortisol

Primary Sites/Sources of Oral Infection

1. Root canal-treated teeth
2. Other chronically infected teeth (*typically* asymptomatic, but with apical abscesses); **very high** prevalence in older population
3. Chronic pathogen colonization
4. Chronic periodontal/gingival infection/inflammation
5. Cavitational gangrene (old extraction sites and around root tips of abscessed teeth)
6. Chronically infected tonsils (draining root canals and other infected teeth)
7. Infected dental implants
8. Normal-appearing but chronically abscessed tonsils

The Root Canal-Treated Tooth

Over 5000 consecutive extracted root canal-treated teeth were examined and analyzed. 100% had pathogens and highly potent pathogen-related toxins. If there does exist a non-toxic root canal-treated tooth, it remains to be found and reported. Of note, “normal” teeth extracted for orthodontic purposes and analyzed showed no toxins or pathogens.

All root canal-treated teeth continually produce endogenous toxins as the pathogens proliferate. Root canals that have been “identified” as infected have been found to have fungi, viruses, and over 460 different types of bacteria [19828883]) Any combination from this array of microbes and pathogens, however, represents what can be found in all root canal-treated teeth.

The Root Canal- Treated Tooth

Once it is realized that all root canals are chronically infected, the mainstream dental literature provides the evidence clearly showing the wide array of pathogens and microbes that are present in these treated teeth [21155997, 23408792, 23554416]

Furthermore, this literature also documents the presence of endotoxins in these teeth. On the teeth that the researchers “acknowledged” to be infected, endotoxins were found to be present in 30 of 30 such teeth [22794210]. A similar study found endotoxins in 21 of 21 root canals acknowledged to be infected [21238796]

Another study that looked at “asymptomatic” and symptomatic root canals, the DNA of bacterial pathogens was seen in 34 of 34 patients [21846535]

The Root Canal-Treated Tooth

1. Fatally-flawed procedure, assuring chronic infection 100% of the time (clinical impact variable)
2. Immune system no longer has access to much of the tooth, or to the dentinal tubules
3. Fluid flow reversal post-procedure
4. Anaerobic environment—enormous toxicity
5. “Successful” procedure results in a pain-free, well-sealed albeit still infected, tooth; with *debulking* of infectious/toxin content (minimal CAP on 3D, CRP below 1.0)

Root Canal- Treated Tooth

6. For the molars and larger teeth, a **perfect endogenous delivery system** of pathogens and toxins into the venous blood and lymphatic drainage
7. From the draining veins, first high-pressure blood vessels to receive the pathogens/toxins: coronary arteries (and then the cerebral arteries)
8. From the draining lymphatics, a chronic to-and-fro sharing of the pathogens/toxins with the lymphatic circulation of the breast(s)

Root Canal- Treated Tooth

Always **highly** toxic, but **variably** toxic, depending on:

1. Unique pathogen flora (bacteria, viruses, fungi, protozoa) and their interactions [12764075, 15574679, 18278296]
2. The tooth involved (small incisor versus large molar)
3. Containment; the degree to which the supporting bone becomes cavitated, further facilitating dissemination
4. Genetic predisposition to different diseases
5. How long the root canal has been present
6. The quality and quantity of nutrition and supplementation
7. Hormonal status, especially thyroid
8. Age and general health of the patient

Chronic Apical Periodontitis (CAP)

“Apical periodontitis is a group of inflammatory diseases caused by microorganisms (mainly bacteria) infecting the necrotic root canal system. The process starts **after pulp necrosis** as a result of caries, trauma or iatrogenic procedures, when bacterial invade and colonize the root canal system.” [18278296]

Chronic Apical Periodontitis (CAP)

“Apical periodontitis is a sequel to endodontic infection and manifests itself as the host defense response to microbial challenge emanating from the root canal system.”

“Initially, the tooth pulp becomes infected and necrotic by an autogenous oral microflora.”
[15574679]

CAP demonstrates *characteristic radiolucencies* at the root tips, which represent both cystic and non-cystic infected lesions (basically just abscesses)

Chronic Apical Periodontitis (CAP)

The radiolucencies of CAP *always* indicate the presence of chronic infection and a necrotic tooth pulp.

The presence of microbes/pathogens is *required* for a pulp breach to develop CAP:

In germ-free rats with molar pulps exposed to the oral cavity, no CAP developed, while control rats with a conventional flora developed massive periapical radiolucencies [14342926]

Chronic Apical Periodontitis (CAP)

“Apical periodontitis (AP) is a complex multifactorial condition originating from an infected necrotic pulp or a failed endodontic treatment. AP often develops asymptotically, and the prognosis is typically less favorable when it is detected late.” [25760068]

Regular X-ray vs. 3D Digital X-ray

In root canal-treated teeth, which are all infected, **regular** X-ray shows clear chronic apical periodontitis as little as 40% of the time, largely dependent on the quality of the X-ray and the experience of the interpreting dentist. A post-mortem study also showed that digital X-ray exam was significantly better in finding lesions histopathologically documented to be CAP than regular X-ray [27063356]

Regular X-ray vs. 3D Digital X-ray

In one revealing study a careful examination was made of the same 46 root canal-treated teeth with regular X-rays and then with the 3D Digital X-rays.

Periapical radiolucencies (infection) were seen on 70% of the 2D exams and on 91% of the 3D exams [17178504]. Another study reported similar numbers with even greater accuracy for the 3D exams [26902914]. MRI imaging appears to be very comparable in accuracy and detail to 3D imaging [25594373].

Regular X-ray vs. 3D Digital X-ray

While infection is always present in root canals, apical abscesses are *very often missed* by regular X-rays, especially with less critically interpreted studies. Even though the root canal-treated tooth is always infected, apical radiolucencies indicate greater infectious load at the root tip and can more easily convince the otherwise reluctant dentist to extract the chronically infected tooth.

Regular X-ray vs. 3D Digital X-ray

Panoramic—least sensitive (40 to 50%)?

Intraoral periapical—more sensitive (60 to 70%)?

Digital better than conventional film

3D cone beam—most useful (95 to 98%)?

3D Digital X-ray (3D Cone Beam)

Remember to be absolutely clear what is being looked for on a 3D X-ray.

Specify “rule out, or looking for, any evidence of apical radiolucencies or infection, of any degree, on all teeth present”

Consider off-site comprehensive interpretation, such as: <https://www.imagenologiamedica.com/>

Also better medicolegal protection for the dentist

Root Canal and Periapical Infection



Chronic Apical Periodontitis



Chronic Apical Periodontitis (CAP)

CAP and chronic coronary artery disease:

In a study of 103 patients undergoing coronary angiography 65% had coronary artery disease and 42% had CAP. Patients with CAP had a 2.8 times higher risk of coronary artery disease. (No differentiation between CAP in teeth with root canal treatments versus those without. This indicated that CAP was independently associated with coronary artery disease in this study [24461397])

Subjects with CAP were 530% (5.3-fold) more likely to have cardiovascular disease than those without [27091354]

Inflammation and Coronary Artery Disease

Inflammation is now accepted as the *primary* cause for initiating and evolving atherosclerosis by internists and cardiologists [23357128]

Furthermore, atherosclerosis is now considered a *chronic* inflammatory disease [23430000]

But What Causes the Chronic Inflammation?

Inflammation = Oxidative stress; for coronary artery disease, this always comes from the seeding of pathogens and their toxins from **focal oral infections** into the coronary endothelium. When the seeding does not stop, the immune inflammatory response becomes chronic, and it **provokes the disease it was designed to prevent.**

**As Hal A. Huggins, DDS, MS, the founder
of Biological Dentistry, put it:**

**“You can’t dry off while
you are still in the shower.”**

But What Causes the Chronic Inflammation?

Pathogens, along with their associated toxins, are now accepted as causing the chronic inflammation (aka **chronically increased oxidative stress**) at all stages of atherosclerosis [22556042]

But What Causes the Chronic Inflammation?

100% of plaque specimens removed by atherectomy (“roto-rooter”) in 38 coronary artery disease patients had a broad variety (>50 different species) of bacterial signatures!!
(normal—NO pathogens ever present)
[16490835]

But What Causes the Chronic Inflammation?

Periodontal disease has long been clearly “linked” (now shown to be cause-and-effect relationship) to the presence and evolution of atherosclerosis [21375559, 22313976].

Periodontal disease has long been recognized as an *independent risk factor* for coronary artery disease [18807098].

Infected Teeth and Atheromas

Consistent with the atherectomy specimens studied, the DNA of oral pathogens *typical* for root canal and gum infection flora, not just “bacteria in general” has consistently been identified in coronary atherosclerotic plaque [11063387, 16277580, 20657096]

Infected Teeth and Atheromas

DNA of pathogens typical for periodontal infection and endodontic (root canal) origin were present in the blood clots aspirated from patients with acute myocardial infarction. [23418311]

101 patients: endodontic (root canal-treated tooth) origin—78%; periodontal origin—35%

Total amount of DNA found in the clots was *16 times higher* than was present in just the arterial blood

Chronic Apical Periodontitis (CAP)

Furthermore, it appears clear that the asymptomatic CAP-afflicted tooth will be expected to have an even greater negative impact on the coronary arteries and on chronic degenerative disease than the competently root canal-treated tooth, as many root canal-treated have lower apical infectious bulk. Statistically, both are bad, but asymptomatic CAP would appear to be worse.

How Common is Chronic Apical Periodontitis (CAP)?

In a study using standard panoramic X-rays, 4,617 teeth in 206 adults were examined. 6.6% of all teeth demonstrated CAP, and 40.4% of root canal-treated teeth showed CAP. (De Moor, 2000 [11307451])

The improved resolution of 3D X-ray, not utilized in this study, would indicate that higher quality X-ray would be expected to find CAP in *10 to 15% of all teeth examined*.

This examination for CAP was done on asymptomatic teeth, and does not include data on the many teeth that are symptomatic and painful secondary to the infection.

This should not be a surprise, since most root canal-treated teeth (>90%) have variable degrees of CAP, and are completely asymptomatic. (Garcia, 2007 [18059244])

How Common is Chronic Apical Periodontitis (CAP)?

A Nigerian study looked at routine full mouth dental X-ray examination in 285 patients, ages ranging between 18 and 60.

Apical periodontitis was found in 74% of these patients, at an average of 2.8 per patient with this finding. This number did include teeth that had root canal treatments.

87% of patients from 40 to 49 years of age had apical periodontitis. (Oginni, 2015 [26259158])

How Common is Chronic Apical Periodontitis (CAP)?

Regular X-ray (panoramic) found CAP in 9% of 120,635 teeth in 5,335 patients. 39% of root canal-treated teeth showed CAP [26919266]. Similar numbers in a large Brazilian study [25760068]

Compared with similar studies comparing 2D and 3D X-ray teeth examinations, this implies CAP is present in as many as 20% of teeth examined.

Overall, then, the current literature indicates somewhere between 7 and 20% of teeth in adult population, not root canal-treated, have CAP.

Even the 7% figure is *astronomical* in terms of public health impact.

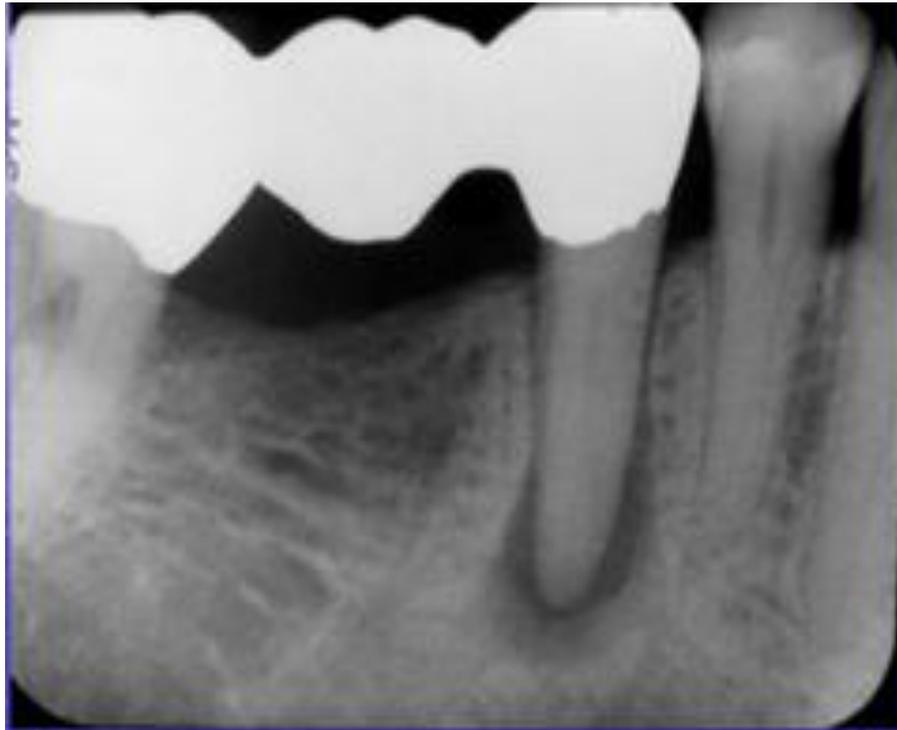
How Common is Chronic Apical Periodontitis (CAP)?

Abutment teeth are teeth roots used to anchor permanent bridges, and sometimes dentures and implants. Such teeth have had extensive removal of enamel and dentin in their preparation.

In 1,000 adults 46.5% of 986 abutment teeth that had root canal treatment showed CAP.

25.3% of 3,670 abutment teeth that were not root canal-treated showed CAP [24451397]

CAP, Abutment Tooth



How Common is Chronic Apical Periodontitis (CAP)?

Based on the accuracy of regular X-ray versus 3D X-ray in other studies, it would appear that roughly 40 to 50% of abutment teeth properly examined by 3D X-ray would reveal CAP. As abutment teeth are often some of the primary teeth involving in extensive chewing, this is a very large figure with regard to body-wide toxicity and the seeding of focal infection throughout the body.

Inflammation, Focal Infection, and Pathogens

Consistent with the seeding of coronary atheromas with oral pathogens of root canal, CAP, and periodontal origin, it appears that the *same thing* occurs in cerebrovascular arteries. Bacteria of endodontic origin were found in a majority of patients with ruptured and unruptured intracranial aneurysms. [23761916, 26777430]

Inflammation, Focal Infection, and Pathogens

Similar to the pathogens of endodontic and periodontal origin accumulating in acute MI thrombi, the pericardial fluid post-mortem of coronary artery disease patients was examined. A sizeable majority of the fluid specimens had oral pathogen-specific DNA detectable by PCR (polymerase chain reaction) testing, and the worse the coronary artery disease was, the greater the total amount of pathogen DNA was found in the fluid. [25412607]

Infected Teeth and Cancer

In addition to the cause-and-effect relationship that is now established between infected teeth and atherosclerosis, a strong link has also long been noted between such teeth and cancer.

In the 1950s when very few root canals were being done, relative to today, Dr. Josef Issels found that 98% of his adult advanced cancer patients had, in his words, “between two and ten dead teeth.” Dr. Issels categorized a root canal as a dead tooth. [Issels (2005) *Cancer: A Second Opinion*, Garden City Park, NY: Square One Publishers, Inc.] Issels always extracted these teeth first, and his cancer survival rates were quite phenomenal.

“Dead” teeth represent the sum total of root canal-treated teeth and asymptotically infected teeth (apical radiolucencies)

Infected Tonsils and Coronary Disease

However, Dr. Issels also found that many patients had heart attacks during the treatment program. This was virtually completely eliminated when he include tonsillectomy as a routine part of his treatment protocol. He asserted that 100% of the extracted tonsils appeared morphologically normal externally, but were *extensively infected and abscessed* on pathological examination after extraction.

Detecting Infected Teeth

A regular Panorex mouth X-ray misses a lot of pathology. 3D digital X-rays of the mouth need to become part of the initial routine baseline evaluation of any chronic degenerative disease patient, especially heart disease and cancer. Remember that teeth with apical abscesses are asymptomatic. And you will never know such a tooth is present if you don't look for it. You don't know someone has diabetes until you measure their blood sugar.

Panorex X-Ray (2D)



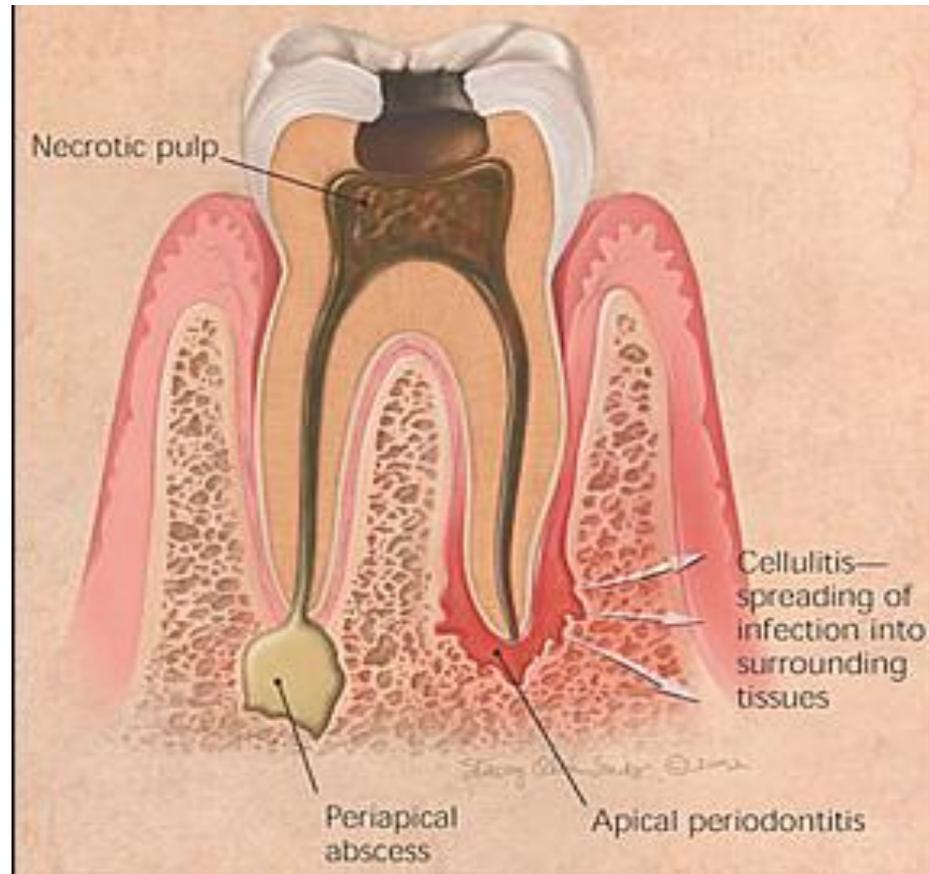
Maxillary Root Canal and Chronic Sinus Infection (3D)



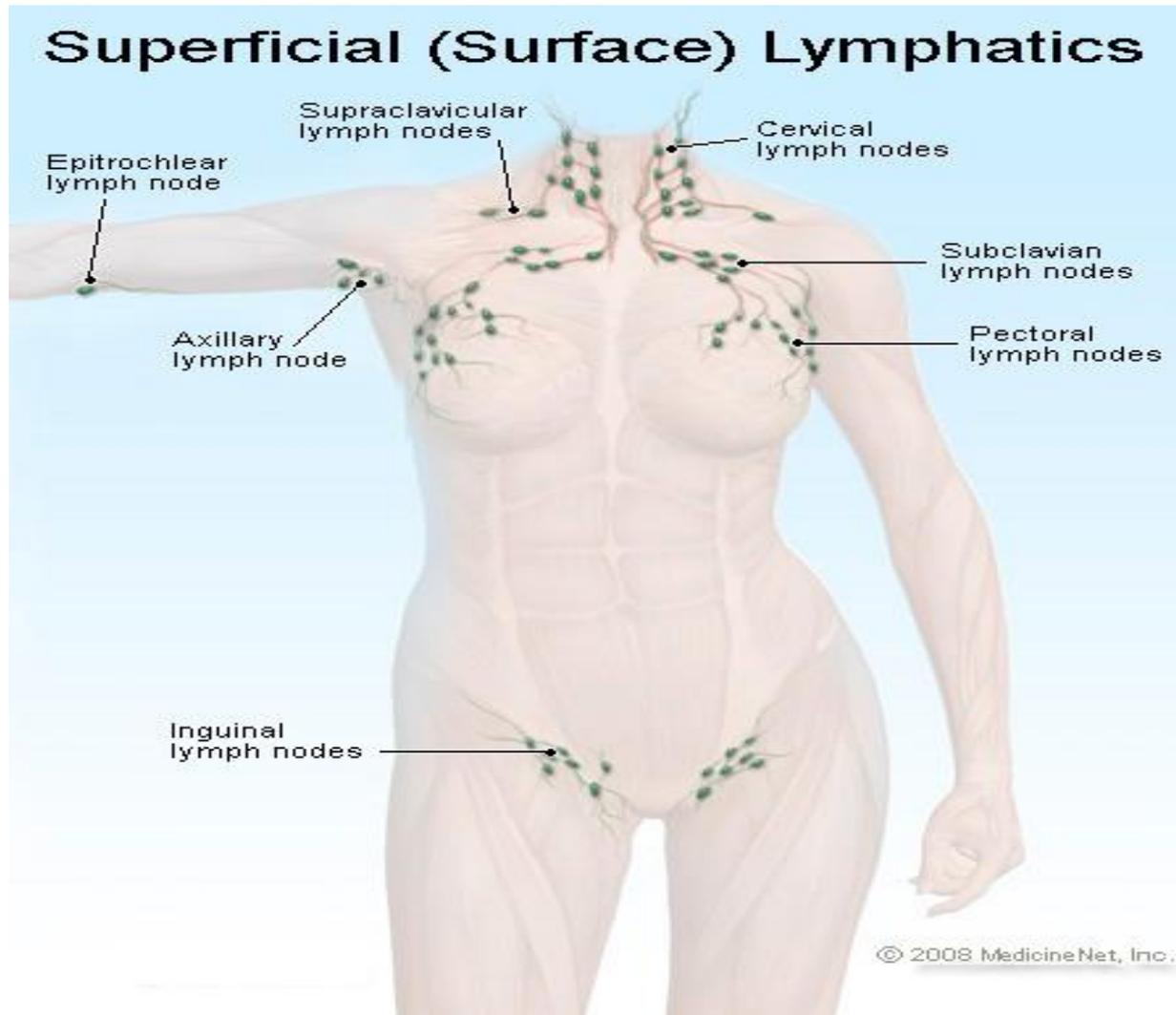
CAP without Root Canal Treatment & Chronic Sinus Pathology (3D)



CAP, Diagram



Lymphatics, Neck and Chest



Lymphatics, Neck and Chest

While the lymphatic system is designed to flow in only one direction, inflammation (as would be seen with the chronic presence of oral pathogen toxins in the lymph) can eventually result in retrograde lymphatic flow as well. This effective “sharing” of lymphatically-drained pathogens and toxins makes the head, neck, and chest especially sensitive to the antioxidant depletion caused by infected teeth, and it is a major factor in the causation of cancer in the head, neck, chest, and **especially the breasts.**

Infected Teeth and the Tonsils

The root canal and other infected teeth “trash” the tonsils.

Tonsils “manage” dental infections, but chronic infections like root canals overwhelm the tonsil, especially the ipsilateral one, and it morphs from an infection “manager” to a site of chronic infection that remains unresolved until surgically removed (or given a **sequence of ozone injections**, with a long-term maintenance schedule). Virtually always, such infected tonsils continue to inflict a significant degree of chronic toxicity indefinitely after the root canal(s) or other infected teeth are gone, harboring many of the pathogens previously contained in the root canal (or the infected gums). Issels proved this after extracting the tonsils routinely in his cancer patients and eliminating subsequently heart attacks that had often occurred before.

Lymphatics, Neck and Chest

Any treatment plan in a patient with a brain tumor or breast cancer that does not include the removal of root canals and other infected teeth along with ozone tonsil treatments is missing the *most consistent and reliable way* to both get a tumor remission and a maintenance of that remission, without relapse or the appearance of a new malignancy. *The cause of a cancer must be eliminated along with the cancer itself in any complete cancer treatment protocol.*

Chronically Infected Teeth, Heart Disease, and Cancer

CAP teeth, both with and without root canal treatments, due to its extraordinary ability to *deplete antioxidants and promote chronic inflammation* in affected tissues and organs, can be considered:

- 1. The single most important cause of atherosclerosis and heart attacks, and**
- 2. The single most important cause of cancer of the head, neck, and chest.**

Currently, about 25 million root canal procedures are performed every year. These infected teeth are in addition to the enormous number of asymptomatic CAP teeth.

Infected Teeth and Chronic Degenerative Disease

The infectious and toxic nature of the abscessed tooth with no history of previous root canal treatment has, *at the least*, an equivalent negative impact on the development of coronary heart disease, which the root canal-treated tooth has been proven to cause. Also, *any study linking simple periodontal disease (PD) and chronic disease can logically be applied to its more infected and toxic forms: CAP and the root canal-treated tooth.*

Therefore, all the studies looking at CAP or uncomplicated periodontitis with chronic disease can be applied to the root canal-treated tooth.

Periodontal Disease (PD)

As noted earlier, periodontal disease has now been well-established to be an independent risk factor for coronary artery disease [18807098, 19165177, 20367093, 23730671, 23676848, 23713486]

Not surprisingly, periodontal disease features the **same array** of pathogens and toxins, and the anaerobic environment, as CAP and root canal-treated teeth. Advanced periodontal disease and advanced tooth decay are often the reasons that a tooth becomes infected and leads to the root canal procedure being performed in the first place.

CAP (or the Root Canal), PD, and Chronic Degenerative Disease

CAP, PD linked to cardiovascular disease

[27091354, 26011008, 23713486, 20367093,
18807098]

PD linked to cirrhosis [26770799]

CAP linked to pre-term, low-birth-weight births
[25576210]

CAP linked to diabetes [27055847, 25670246]

PD linked to hypertension [23676848]

PD linked to metabolic syndrome [24688553]

CAP lesion size linked to inflammation [26666260])

Focal Infection, Thyroid Hormone and Atherosclerosis

Although 90%+ of all patients with CAD and heart attacks have dental infection/toxicity, maintaining a EUTHYROID status strongly protects against sustaining a myocardial infarction, seemingly regardless of dental status and other heart disease risk factors.

Broda Barnes reported on 1,569 patients that he treated with dessicated thyroid, most over a 20-year period. Only four men had heart attacks during this period. For a group of this size and age, the Framingham study established that 72 individuals should have sustained heart attacks during a comparable period of time.

Thyroid Hormone and Atherosclerosis

Very amazingly, no one was asked to stop smoking or modify any of their dietary or exercise habits during this period of time. 62% of the men in the study group were smokers. Barnes also noted that at least 30 fatal heart attacks occurred in those who stopped thyroid therapy and dropped out of the study. (Barnes and Galton, 1976, *Hypothyroidism: The Unsuspected Illness*)

Intracellular Hypothyroidism

Most adults are at least mildly hypothyroid; standard thyroid blood tests do not reliably reflect this. Rather, they reflect hyperthyroidism fairly well, as well as severe hypothyroidism.

Much of the reason for this is that most mildly hypothyroid individuals have intracellular rather than glandular hypothyroidism.

Roughly 80% of the T4 produced by the thyroid is converted to T3 outside of the thyroid gland throughout the cells of the body, making many cells *de facto* “mini-thyroid glands.” Routine blood testing reflects the normalcy of thyroid gland activity but not the ability of the cells in the body to effectively convert T4 to T3, which is where most of the functional thyroid hormone metabolism takes place.

Thyroid Status and Infections

Thyroid Hormone

While it is reasonable to try to correct a low thyroid status in anyone, it would appear especially important to do so in the patient with known cardiac disease. Many individuals have cellular hypothyroidism, and a proper ratio of free T3 to reverse T3 (18 to 21/1) needs to be achieved to have proper thyroid function clinically. As with sex hormone replacement, thyroid administration should be low and slow.

Painless Infected Teeth: The Hidden Pandemic

Root canal-treated teeth are now established as a *direct* cause of acute myocardial infarctions.

Periodontal disease has long been an established risk factor for coronary artery disease.

Asymptomatic chronic apical periodontitis is the most *undiagnosed*, yet *most important direct cause of heart disease*, along with all other chronic degenerative diseases.

Painless Infected Teeth: The Hidden Pandemic

THEREFORE:

All patients with suspected or established coronary heart disease *must* have a baseline 3D Digital X-ray of all teeth and jawbone areas. If the test is negative and clinical decline is noted after a period of stability, the test must be repeated. Not doing this test is missing the opportunity to make the single most substantive intervention in slowing, stopping, or even reversing a patient's heart disease. *Make sure the interpreting dentist or physician knows what you are looking for.*

Painless Infected Teeth: The Hidden Pandemic

While the evidence indicates that 3D Digital X-ray of the mouth needs to be a mandatory part of the cardiac patient's evaluation, an argument of nearly equal strength can be made for any cancer or chronic degenerative disease patient.

Furthermore, the prevalence of CAP indicates that older age is not an important precondition to obtaining this X-ray evaluation. Many root canals and deeply carious teeth are seen in the very young now.

Final Note

You can download a complimentary copy of *Hidden Epidemic: Silent oral infections cause most heart attacks and breast cancers* here:

www.hep21.medfoxpub.com

Your comments, questions, or thoughts regarding what was presented are welcome. Please feel free to contact me at:

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