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# **INCIDENCE LEVELS AND CHRONIC HEALTH EFFECTS RELATED TO CAVITATIONS**

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## What Are Cavitations?

A cavitation is a hole in the bone, often where a tooth has been removed and the bone has not filled in properly. In the last several years, the term cavitation has been used to describe various bone lesions which appear both as empty holes in the jawbones and holes filled with dead bone and bone marrow (5). Dead, cavitational areas, which produce pain, are now called NICO (Neuralgia Inducing Osteonecrosis) lesions (6). Cavitations are often a result of either ischemic osteonecrosis, due to poor blood flow in the marrow, or a traumatic bone cyst.

In his book on oral pathology, Dr. G.V. Black, one of the early experts on cavitations, suggested surgical removal of these dead bone areas. Other less traumatic measures are now first used and surgery with curetting is used primarily where the patient has significant health effects not resolved by other means. When a tooth is being extracted, in what has been normal dental procedure, the surrounding periodontal membrane is usually left behind.

Theoretically, when a tooth has been pulled, the body will eventually fill in the space in the bone where the tooth once was. But when the membrane is left behind, an incomplete healing commonly takes place which leaves a hole or a spongy place inside the jaw bone. Experts speculate that perhaps this is because the bone cells on either side sense the presence of the periodontal membrane and "think" that the tooth is still there. This appears to be one common cause of cavitations (1, 2, 3, 4, 5, 16, 17, 18, 19, 20, 21, 22, 29, 30, 31, 32, 45).

Ondodontic cysts are also commonly occurring usually in the gums at the tip of a tooth, that have pockets of bacterial infection that can cause inflammation and pain in some cases similar to cavitations (33, 48, 49). Bacterial infections are also known to have systemic effects.

A cavitation can form in any bone in the body, not just in the jaw bones. There are also other reasons that cavitations form, some of which are localized traumas, poor circulation to the area, clotting disorders, and the use of steroids.

On X-ray of an extracted tooth site, this membrane can form an image that appears to be a shadow of a tooth. Almost always, this is indicative of a cavitation. Most dentists are aware of this phantom tooth image, but they do not recognize it as a site of potential problems. Other means of locating or identifying cavitational areas include sonic imaging (CAVITAT) (3, 68), local anaesthesia, Spect Scan (65), pressure to determine trigger points, Computer Electro Dermal System (67), etc. While

positive Spect Scans were found in 19 of 20 patients with jaw pain, several control patients with no pain also had positive scans- often finding previous jaw pathoses. Thus the Spect Scan was not sensitive at differentiating painful from non-painful conditions. Some of the other methods had more success at such differentiation.

## **What's Hiding Inside?**

Inside a cavitation, bacteria flourish and deviant cells multiply. Cavitations act as a breeding ground for bacteria and their toxins. Research has shown these bacterial waste products to be extremely potent (7, 8). Cavitations can also cause blockages on the body's energy meridians and can exert far-reaching impact on the overall system. Investigation has revealed that some cavitations are reservoirs of huge amounts of mercury and other toxic substances. Cavitations may be a source of low level or high level stress on the entire body. (1 - 73)

## **How Toxic Are Cavitations And What Type Of Effects Are Caused By Cavitations?**

The results of recent research of Dr. Boyd Haley (former Chairman, Department of Chemistry, University of Kentucky) show that ALL cavitation tissue samples he's tested contain toxins, which significantly inhibit one or more of the five basic body enzyme systems necessary in the production of energy (7, 8). These toxins, which are most commonly likely to be metabolic waste products of anaerobic bacteria (bacteria which don't live in oxygen), may produce significant systemic effects, as well as play an important role in localized disease processes, which negatively affect the blood supply in the jawbone.

There are indications that other types of toxins also accumulate in cavitations, and when these toxins combine with certain chemicals or heavy metals (for example, mercury), much more potent toxins may form (5-15).

High levels of mercury are commonly found in some cavitations and in general in the jawbone of those with mercury amalgam fillings and to have significant local and systemic effects (79). Mercury is known to be extremely toxic and to commonly cause chronic adverse local and systemic health effects (70). Yeast and fungi have also been found to accumulate in cavitations, and to have significant systemic effects (10 - 14).

Accurate tests for cavitation-related bacterial toxins have been developed by the Affinity Laboratory in Kentucky, based on research by Chemists from the University

of Kentucky Department of Chemistry (7, 8). The toxins released by anaerobic bacteria in cavitations have been found to be extremely toxic, and to have major effects on necessary body enzymes and the immune system.

## **Cavitations Are Very Common**

One study (1, 20) of cavitation incidence involved an analysis of 112 randomly selected dental patient charts who had been tested for cavitations, with patient age ranging from 19 to 83 years among 40 males and 72 females. The cavitations were tested for using exploratory drilling. Cavitations were found at approximately 75% of all extraction sites examined.

The most commonly extracted teeth, the third molars ("wisdom teeth"), produced CVs that were found by clinical exploration in 313 out of 354 extraction sites (88%). Cavitations were found in 35 of 50 second molar extraction sites (70%), and for first molars, 60 of 73 extraction sites showed cavitations (82%). They were found in 441 of the total number of 517 molar extraction sites explored (85%). For the maxillary non-molars, CVs were found in 72 of 123 extraction sites (58%), and for mandibular non-molars, 23 of 51 extraction sites were affected (45%). For all non-molars, the cavitation rate was 55%, representing 95 of 174 extraction sites. Note that the cavitations found were not all related to pain or known chronic conditions, and dental patients who had been tested for cavitations is not the same as the general population, so the general population likely has a somewhat lower cavitation incidence.

Bob Jones is the inventor of the CAVITAT – an ultrasound instrument designed to detect and image cavitations that has been approved for testing for cavitations by the FDA after undergoing FDA clinical trials (2b). He found cavitations of various sizes and severity in approximately 94% of several thousand wisdom teeth sites scanned (2a). He also found cavitations under or located near over 90% of root canal teeth scanned in both males and females of various ages from several different geographic areas of the United States. Note again that the population being tested for cavitations in these trials is not the same as the general population, which might have a somewhat lower incidence of cavitations. But its clear that the occurrence is very common.

Confirmation of cavitation necrosis and toxicity is commonly by 2 or the leading labs in the U.S. with technology for performing such tests, the Maxifillial Center in West Virginia and the Affinity Laboratory in Kentucky.(5-8). Analysis typically finds clear evidence of chronic intraosseous inflammation – often with dense marrow fibrosis or

non-resorbing necrotic bone flakes with very little healing or new bone formation (6). It has also been found that these lesions often spread to other areas to initiate further cavities.

## Root Canals And Cavitations

Research has demonstrated that virtually all root canals result in residual infection due to the imperfect seal that allows bacteria to penetrate. The most commonly used material in root canals is gutta percha, which is soaked with chloroform and heated. But when the chloroform evaporates and the gutta percha cools, there is significant shrinkage in all such root canal fillings, which allows entrance of bacteria (18, 19, 20, 21, 22, 50). A condition that commonly occurs with root-canal teeth is a radicular or periapical cyst or apical periodontitis, which is a pocket of bacterial inflammation that often forms in the gums at the tip of root-canal teeth (48, 49, 52, 53) due to bacteria inhabiting the tooth. These are the most common type of cysts that form in the gums and can also be a factor in formation of cavitations in the neighboring jawbone.

Once established, non-mutans streptococci, enterococci and lactobacilli appear to survive commonly following endodontic root-canal treatment of teeth with clinical and radiographical signs of apical periodontitis (51). Large scale tests found cavitations under or located near approximately 90% of root canal teeth scanned in both males and females of various ages from several different geographic areas of the United States (2). The general population could be somewhat different from this sample as the sample was not a random sample. In tests of 745 randomly chosen root-canal teeth at a dental school, done at least 1 year prior to test, 33% were found to have apical periodontitis (53).

The toxins given off by these bacteria are often even more toxic than mercury (7, 8, 9, 10). The bacterial toxins from root-canal teeth and associated cavitations can cause systemic diseases of the heart, kidney, uterus, immune, nervous and endocrine systems (see later).

A useful and commonly used test to assess the cause of toxic related chronic health conditions is the urinary fractionated porphyrin test, which measures the degree that toxic exposures have blocked digestive enzymatic processes necessary to the function of the body, by looking at the level of various waste porphyrins in the urine caused by these blockages. The level of such toxic related porphyrins in the urine of people with chronic conditions including Parkinson's have been found to decline in some patients after cavitation treatment (or amalgam removal) (20). This is also

been found for many cases of Lupus and MS (38, 78). Lupus symptoms are often associated with blockage and resulting high levels in urine of Uroporphyrin, while MS is more commonly associated with high Coproporphyrin.

## **Cavitation Treatment Usually Results In Significant Pain Improvement**

Cavitations commonly cause adverse health effects, and many thousands of cavitations have been treated. They are commonly tested or biopsied by labs having the expertise to provide these services, and virtually all that have been tested or biopsied were found to be associated with dead, necrotic tissue and extreme toxicity (3, 5, 6, 7, 8, 9). The types of conditions that cavitations have been most commonly related to are atypical facial neuralgia, trigeminal neuralgia, chronic sinusitis, phantom toothache pain, and headaches including migraines.

Dr. Briener, DDS, and others recommend two primary methods of treatment for their patients (33, 40, 54, etc.). First is a procedure where special homeopathic medications called Sanum remedies are injected into the cavitation site, and then a modified form of infrared light or low level laser light therapy is applied to the area. In some cases the light therapy alone has been sufficient to resolve the problem (54). This is often successful in cases related to smaller cavitations with primarily poor blood flow or bacterial toxin effects. Cavitations have also been treated successfully using oxygen/ozone therapy (74). Although cavitations are very common, they should only be treated surgically if there is indication of a relation to pain or chronic health effects not resolved by other means. There are various ways to assess this.

If this method is not successful, the alternative is to surgically open the area and clean the remaining ligament and resultant debris from the bone. Every biopsy of bone material he has collected from cavitation surgeries has shown osteonecrosis, or dead bone material. In all studies reviewed, the majority of those undergoing surgery for NICO pain had significant pain relief after surgery [3(Table 1), 40, 42, 43, 44, 45, 55, 56, 57, 58, 59, 60, 61, 62, 63, 70, 71, etc.).

Clinical experience indicates that delays in treatment can lead to further infections (44), and the majority of patients have long term pain relief (45). However as much as 30% may have reoccurrence or new cavitations that lead to reoccurrence of pain. Prior to bone marrow biopsy the average NICO patient has been in pain for 6 years (up to 32 years), usually diagnosed as atypical facial neuralgia/pain, but also diagnosed as trigeminal neuralgia, chronic sinusitis, phantom toothache/pain, and

various headaches, including migraine headache (3). However treatment has also been successful at eliminating rheumatoid arthritic pain (18, 26, 27, 43).

French and German oral surgeons have developed an alternative method of minimally invasive cavitation surgery (41).

Due to the nature of the mechanisms related to cavitation formation, it is not uncommon for cavitation sites that are treated to become re-infected or to accumulate other toxins that can cause a relapse of symptoms. Such cases may require retreatment using either surgery or other options.

## **Chronic Health Conditions Other Than Pain Related To Cavitations And Oral Bacteria Levels**

Many researchers today believe that NICO lesions, like periodontal disease, is the focus of various infections which may spread throughout the body and have systemic effects. In the last few years, some of the most surprising medical news has been the discovery that bacteria from the mouth appear to be very influential in causing various heart, liver, kidney, and immune problems (68).

Researchers from New York University found that certain bacteria from the mouth may be related to preterm delivery and low birth weight according to a study in the Journal of Periodontology (JOP) (68b). The presence of specific bacteria and combinations of bacteria in periodontal pockets also appears to be responsible for the relationship between periodontal disease and acute coronary syndrome (ACS), according to a new study published in the Journal of Periodontology (68c).

Dr. Weston Price was a prominent dental researcher leading a medical research team on the relation between root-canal teeth and chronic health conditions (70). Through a long series of well documented clinical cases and experiments his team found that root-canals accumulate bacteria that give off extreme toxins sufficient to cause serious health conditions, including cancer (22, 25, 28, 29, 36, 37, 38, 46, 47, 70, etc.), cardiovascular conditions (19, 20, 21, 22, 29, 36, 38, 70, 72, 73), arthritis (22, 27, 29, 36, 38, 43, 70, etc.), neurological conditions (3, 5, 42, 56, 70, 71, 72, etc.) kidney conditions, etc. Dr. Meinig, one of the founders of the endodontic association has reviewed the research of Dr. Price and others and is in agreement with their findings (18, 20, 26).

Many doctors and dentists through their experience with patients have reached similar conclusions (18, 19, 20, 21, 22, 23, 24, 25, 26, 28, 29, 32, 33, 34, 35, 36, 37,

38, 39, 45-65, 71, 73). They have had large numbers of patients who have had such health conditions significantly improve after treatment of root canals or cavitations along with other detoxification measures. A collaborative study by the North Carolina Institute of technology using advanced tests developed by Affinity Laboratory has demonstrated the mechanisms by which cavitations can cause cancer (47).

Modern experiences also support this theory. Dr. Issels, a German physician, recommends extraction of root canal teeth as part of his protocol for terminal cancer patients. Over the last 40 years with 16,000 patients, he has observed a 24% total remission rate (25, 46).

Dr. Florian Kubitzek, a physician and dentist in Munich, Germany, uses the CT scan to study the teeth and jaw. His scanning technique has been invaluable in diagnosing jaw abscesses below the teeth that have been inadequately treated by standard dentistry. Conventional dental X-rays have entirely missed the jaw abscesses known as cavitations. Kubitzek treats many cancer patients who have dental cavitations as a collaborative approach in the overall treatment of metastatic and primary cancer (37).

Dr. John Diamond (MD) says that all patients with breast cancer that he has tested had root canals on the tooth related to the breast area on the associated energy meridian." (25)

Other clinics that treat cancer have similarly found that most of their patients with cancer have root-canal teeth or cavitations and that treating these is an important part in success at treating cancer (38, 39).

Research and clinical cases have found cavitations to be related to many chronic health conditions which have improved after cavitation treatment, including cancer, congestive heart failure and other cardiovascular problems, lupus, rheumatoid arthritis, and autoimmune conditions- perhaps related to cavitations major effects on the immune system.

If you have a joint implant or mitral valve prolapse, your dentist must prescribe an antibiotic before any dental treatment. Why? Because bacteria from the mouth can spread through the blood to cause serious problems elsewhere in the body. There is growing evidence that the toxins from NICO lesions do the same.

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