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Dental Cavitations: Definition, Facts, & Myths

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Have you heard of dental cavitations? They can be big problems in your jawbone, but you may never know you have one.

What are dental cavitations?

There's a lot of misinformation out there about dental cavitations. Some patients have been "led astray" because their doctors have misdiagnosed a dental cavitation.

Also, the fact that two major dental conditions sound similar can be confusing: *dental cavitation* and *dental cavity*.

A *dental cavitation* is a term that is used to describe an area of damage in the jawbone. The dictionary defines a "cavitation" as *an empty space formed within a solid object or body*.

"Cavitation" is not a medical term, although it is used by dentists and other healthcare professionals.

A dental cavitation is an area of infection, inflammation, or necrosis within the jawbone.

If not treated correctly, it will fester, and toxic elements could spread to other areas of the body.

On the other hand, a **dental cavity** (known by dentist as “dental caries”) is an area of break down in the structure of a tooth caused by acids produced by specific bacteria. It also is known as tooth decay where infection is eating into the enamel, dentin, or the root structure of a tooth.

If you truly have a “dental cavitation” in your jawbone, this can be a serious problem. Proper treatment could lead to an expensive surgical procedure to “repair” it.

But some patients are misdiagnosed with a dental cavitation. The dentist might see an area of “demineralization” in the jawbone that is not pathologic. If this demineralized area is treated as a true dental cavitation, it could lead to unnecessary surgery and significant expense.

Since “cavitation” is not a recognized dental term or condition, there is much confusion revolving around its diagnosis and treatment. In my opinion, misdiagnosis is an error that may be understandable. Yet, overdiagnosis of dental cavitations is fraud in my opinion and could lead to unnecessary treatment, high cost, and pain.

Let’s take a deeper dive into this area. I’ll describe some facts about “dental cavitations”.

Medical Terminology

The accepted medical term for a dental cavitation is “cavitation osteonecrosis” or “ischemic osteonecrosis”.

Some professionals that are not in the “know” will classify this jawbone disease as a sham. However, it is definitely real and definitely could cause isolated as well as systemic destruction.

This type of lesion may be a hollow space surrounded by dead bone, or it may be filled with various inflammatory, toxic, or infectious elements.

One of the problems with a dental cavitation is that most of these lesions are painless. However, if there is pain, they are usually called “Neuralgia-Inducing Cavitation Osteonecrosis” (NICO).

As I mentioned, these bone lesions must be diagnosed correctly. “Cavitation lesions” that are only areas of demineralization with no pathology rarely need to be treated. A good dentist will not convince you to treat this kind of demineralization if s/he knows there is no pathology.

Diagnosis of Cavitations

As I have suggested, dental cavitations may be difficult to diagnose. It is difficult or impossible to see these lesions when viewing a regular single dental periapical x-ray or a panoramic dental x-ray.

A panoramic x-ray shows the upper and lower jaw, the teeth, and the sinus spaces. (See Figure 1, which shows a 2-dimensional periapical dental x-ray with a difficult-to-see cavitation within the red circle.)

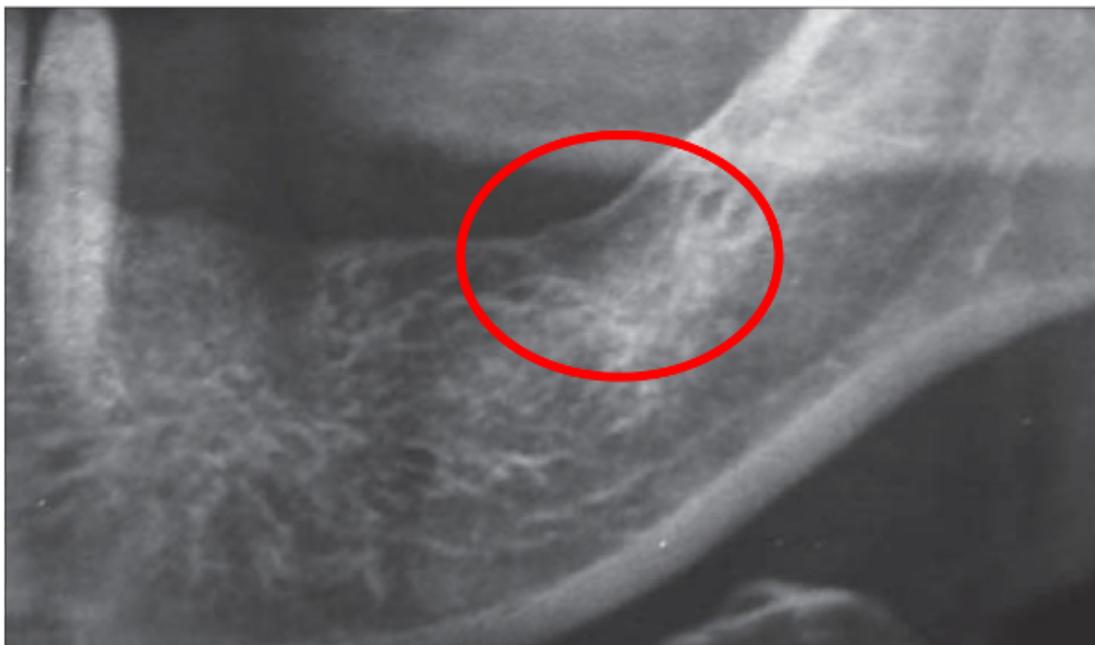


Figure 1 Cavitation Osteonecrosis in lower jaw (within red circle)

Most dental x-rays are 2-dimensional pictures of specific areas of your jaw and teeth. However, the jaw and teeth are three-dimensional structures. So, a 2-dimensional x-ray flattens the 3-dimensional object into a picture that shows minimal detail. More detail is required to identify potential areas of cavitation osteonecrosis.

To see this lesion in detail, the dentist should have the patient receive a 3-dimensional picture of the jaw. This can be done with a Cone Beam CT Scan (CBCT) of the potential lesion.

But before any x-ray is taken, the dentist must review the dental and medical history of the patient to determine the possible causes of the bone lesion before making the diagnosis.

Causes of Dental Cavitations

Dental cavitations in the jawbone could be the result of a variety of insults to the bone. Here are 5 possible causes:

- Some type of trauma to the bone causing a blockage of blood flow could cause bone cells to die, thereby creating a hollow space within the bone.
- Following an improperly performed procedure to extract a tooth could leave infection or debris in the bone socket, which could result in a dry socket and eventually a dental cavitation.
- Overheating the bone during a dental procedure using cutting drills could cause the bone to die, leading to cavitation osteonecrosis.
- A tooth abscess penetrating into the bone and becoming isolated within the bone could form a bone lesion.
- Continuing infection at the base of a tooth root, which has a failing root canal, could be the culprit.

Linking Dental Cavitations to Chronic Disease

When harmful bacteria and toxic substances accumulate in the hollow space in a bone lesion, the immune system is activated via the **mouth-body connection**. Various biologically active chemicals are produced which can travel along nerve sheaths, through bone spaces, within lymph, and into the systemic bloodstream.

These biological chemicals and toxic substances can affect other cells and organs in the body — creating chronic systemic inflammation, chronic diseases, and chronic pain.

It is important to realize that pain and chronic disease could occur a distance from the jawbone lesion. This is another reason why it may be difficult to understand that the dental lesion caused an area of pain and chronic disease somewhere else in the body.

Published Research

Researchers have uncovered some facts you need to know. Most published articles use the terms of “cavitation osteonecrosis” and “NICO”:

- In this **2010 peer-reviewed paper**, the authors discussed 22 patients with NICO in the jawbone. They described the progression of the disease and treatment for this bone lesion.
- In a paper **published in 2012** in the National Journal of Maxillofacial Surgery, the clinicians described their diagnosis and treatment for a patient, whom they diagnosed with an isolated lesion of NICO in the lower jawbone.
- The authors of this 2015 study **evaluated 15 patients** with unusual facial pain and trigeminal neuralgia. Their research suggested that the jawbone lesions, described as “cavitations” and “NICO”, might be the cause of the jaw pain as a result of the inflammatory cytokines that these lesions produced.
- In this 2017 article published in **Implant Dentistry**, the surgeons covered their treatment for 34 patients who experienced dental cavitations in the area where dental implants were to be inserted. The dentists explained how these lesions were treated prior to placing the dental implants.

These articles are important because they discussed human case studies exhibiting these jawbone lesions and their potential threat to patient’s health. Most of the general public and many dental practitioners are unfamiliar with these lesions or have previously been misinformed.

Treatment of Dental Cavitations

Treatment of cavitation osteonecrosis consists of entering the lesion and cleaning it out thoroughly. The fluid and tissues removed from the lesion should be sent to pathology to be identified.

The dental surgeon may use a laser to decontaminate and debride the lesion. S/he may place a biologically active material into the bone space to enhance its healing.

In addition to surgically treating the bone lesion, it is important to support the patient’s immune system. There should be an integrative approach including a non-inflammatory nutrient-dense diet and various spore-based probiotics to support a diverse and abundant garden of healthy microbes in the gut.

Sometimes, it will be necessary to determine if any toxic substances already exist in the body like heavy metals, which may need to be reduced or eliminated.

My Final Thoughts

While the medical and dental professions are not completely convinced cavitation osteonecrosis exists, the few published research papers reveal it is true.

These lesions go undetected because they usually do not develop immediately after the bone insult.

And most importantly, various diseases and pain can manifest in areas of the body other than the jawbone. The medical literature needs more documented cases from researchers to wake up the healthcare professionals who are the ones to diagnose and treat this problem.

Dr. Al Danenberg is the leading nutritional periodontist in the United States and is available for online appointments. Schedule an online consultation with him [here](#).

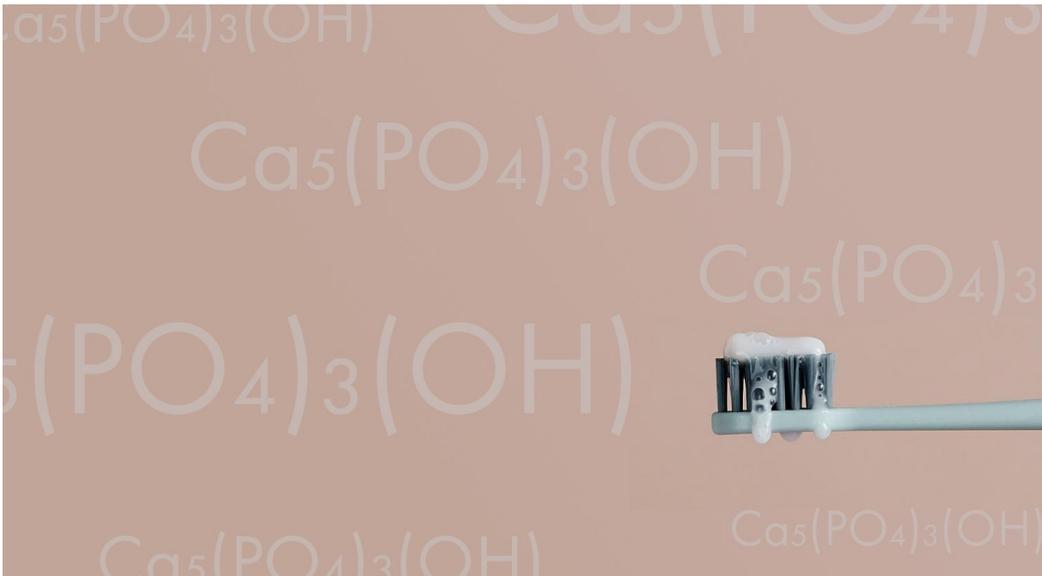
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