

## **ORAL SEPSIS AND YOU**

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Times have changed! In the thirty five years I have been allowed to practice this honorable profession of dental surgery, I have witnessed the primary focus of the profession shift from attaining advanced skills in dental arts and sciences, thus being a better practitioner who is better equipped to assist the patient, to how to build a million dollar practice. The focus has changed. Look at what is available in the continuing education field for dentists, the professional dental journal focusing on "Looking Good," the eternal quest for a youthful white smile, the current trends in our society to amass material wealth at the cost of one's integrity, and one may readily confirm this observation. I believe, however, this too will change.

A corollary, and equally shocking matter, is that of obscenely high costs of dental care. When I graduated from the University of Michigan in 1969, the cost of a full crown--a covering of the entire tooth that protects it from damage--was \$85.00. That was a fair amount at that time. Today the cost in Honolulu ranges from \$1000.00 to \$2000.00 per tooth for a crown; and, a fixed dental bridge replacing a missing front tooth may cost as high as \$6,000.00, since this prosthesis (a device that replaces a missing part of the body such as a tooth) consists of two crowns and a false tooth fused in between the support teeth (3 x \$2,000 = \$6,000).

Yet something's have not changed. The method of cutting a tooth into a little peg so a crown or bridge may be placed on top is still used, despite the availability of new composite materials and adhesives. (Composites are a class of ceramic materials very like the tooth structures enamel and dentine.) Unfortunately, as your dentist removes most, if not all, of the outer covering--enamel--of your tooth, cutting deep into the living layer known as dentine, in preparation for that individual crown or a support tooth for your bridge, the long term result shall be quite contrary to what you may expect. An analogous situation to that of your tooth's reduction is that of stripping off the bark of a tree. The outer layer of a tree, the bark, is there for a reason, as is the enamel of your teeth. The bark protects the underlying cambium layer from external assaults such as weather, insects, bacteria, fungus and viruses, and keeps the fluids within the living tissues of the tree, maintaining its vitality.

The enamel of your teeth has an analogous reason for its existence much like the bark of a tree. The enamel covers the living portion of the dental organ (tooth) known as the dentine, keeping the external environment out of where it was not meant to be. Taking this analogy one further step, the dentine of the tooth is the equivalent of the soft tissue under the skin of your body. This layer below the skin is identified as the dermis, that which is within the epidermis, or skin. Remove the skin and one loses fluids and is subject to infection, the entrance of parasites within the core of the body. The skin, or epidermis, and enamel, a specialized structure of the skin, is the largest organ in the human body. Most do not think of the skin system as an organ, but it is so classified. It has the vital function of protection of the internal mechanisms of the human body from external agents.

Important to note, this methodology of cutting away the healthy enamel (outer layer of a tooth) was established at the beginning of the 20th century, circa 1905. This approach has been, and is, the method used today by the vast majority of dentists in the United States, approximately 144,000. So pervasive is this method in popularity, it is called the "**Enamel Peel**," and boasts a 90 second preparation of the tooth, that is, removal of all enamel in 90 seconds. Ponder that, in a mere 90 seconds a whole tooth may be reduced to a stub, yet since 1980 materials have been available that could preclude this invasive approach for tooth protection and tooth replacement.

In this short article I shall offer a new method of tooth protection and tooth replacement that does not require the extensive cutting of the dental organ, what is commonly known as a tooth. Important for clarity is the fact that each dental organ, all 32 in the human being's mouth, has its own 1) blood supply, arteries and veins; 2) nerve supply both internal and external; 3) lymphatic system; 4) other living tissue known as connective tissue within and without the identified tooth form; and, finally, 5) the odontoblasts, the living cellular elements of the pulp chamber extending their cellular protoplasm into the dentine. The dental organ is a hydraulic (water) system as is our entire body. As water is withdrawn, the body will wither and die. As one "reduces" a dental organ, or cuts it, the tooth will wither and die. Rather than reduction, one may augment a tooth and obtain results far superior to that of the old way of doing things.

As we look together at the photographs presented we see, for example, a tooth that, having had a root canal filling, a dead tooth having lost its hydration (water), must be removed due to the bone infection (Photo-A). The next photo shows the missing tooth and its surrounding teeth that will become the support for the false tooth, or pontic as it is known technically (Photo-B).

In Photo-E, one may see an example of a tooth that has been prepared in the orthodox manner for a bridge support. It literally looks like a pencil that has been sharpened to a point, does it not? With our new innovation, however, this need not be done!

Unlike the traditional preparation of a tooth (Photo-E), all, or most all the natural tooth enamel is left undisturbed (Photo-C), while layers of composite are placed over the stent hiding the wound site, and adhered, or fused, to the support teeth. In about a half hour's time from this point, the false tooth (pontic) is built up, contoured, shaped, given the appropriate natural tooth color, and adjusted to its natural contours, reflecting as closely as possible an ideal replacement (Photo-D).

This newly finished long-term, fixed composite bridge, known as the Carlson Bridge, may be easily changed or repaired in the future. Unlike the traditional dental bridges composed of metal and ceramics that have been constructed in a dental laboratory under heat as high as 2100 degrees Fahrenheit, a very gentle blue light is used to fuse the composite in place. The blue light causes no harm to the teeth, and simply generates the photon energy to cause the composite to harden.

The possibility just presented is not generally known in the profession or within the public. In fact, the fixed replacement of a missing tooth without tooth reduction of its supporting associates, at the time of an extraction, is unheard of in the profession.

However, step by step the work is being communicated so that people realize that there is an alternative to the normal invasive crown or bridge approach. Besides avoiding the invasive nature of the so-called normal bridge construction, there are many other advantages. As you critically study this paper, I encourage you to keep asking the question, **What is least damaging to my teeth and body?**

### **ADVANTAGES OF NOT CUTTING YOUR TEETH**

One major advantage is one needs only one appointment to build a bridge with the new approach. If there are other appointments necessary, they are brief and not involved with the regular fitting and adjusting procedures that the old methods require.

For example, beyond the first appointment using the old method, requiring the cutting of the bridge support teeth (See Photo-E as an example of the end result of the first appointment), there is a second lengthy try-in appointment in which the metal frame is set on the cut teeth and inspected as to its fit. If problems are encountered at this try-in, new impressions must be taken and a third appointment set for another go at seeing if the metal frame fits properly. In any case, the old method of bridging often will take at a minimum of two weeks, and often six to eight weeks before the completion of the project.

Other difficulties with the old way may also be encountered. By multiple fitting appointments, repeated injections, removing and replacing the temporary bridge frequently, trauma is induced to the remaining stubs of the tooth, or teeth, increasing the likelihood of permanent irreversible damage that will lead to death of the tooth. If this should occur under a conventional bridge, a hole must be drilled in the back of the bridge to solve the problem with root canal therapy. This is like going from the frying pan into the fire. Let me explain.

A physician friend of mine has labeled what you know as a "root canal", the end product of "root canal therapy", as a "root cadaver". Shocking? Yes, because that is what a dead tooth really is! The death of a tooth, slowly or quickly, is due to loss of blood supply to the internal aspect of the dental organ and infection with parasites such as bacteria or other vermin. And this, by medical definition is gangrene, clearly and simply put. The technical name of a condition giving rise to a dead dental organ is--gangrenous pulpitis. The latter process is due to some kind of trauma to the dental organ, and in this case, due to the removal of all the enamel from the underlying living tissue, dentine.

It is conservatively estimated today that 50% to 75% of all teeth that are reduced to a pencil shape will succumb to gangrenous pulpitis, pulpal death of the tooth. As you may see, the odds are not on your side, are they? In my experience of many years, most teeth I have been called to remove are those who first had been cut radically for a crown or a bridge support, then root canalled; and, then, possibly, further surgery performed at the root tip to treat the chronic infection known as abscess, finally to be condemned as hopeless and extracted. This scenario is repeated thousands of times daily in our modern and advanced

technological society. An interesting question I have posed is how many systemic conditions are either directly or indirectly related to this so-called modern approach to saving teeth? How often do we save the tooth at all costs, only to bankrupt the patient and drive them into an early grave?

Ahhhh. The argument is brought before us: Where, Dr. Carlson, is your evidence supporting this allegation? Beyond my own research, which I shall offer in another form at a later moment in its fullness, I direct each reader to the recent book offered by a specialist in the field of endodontics, Dr. Meinig, *ROOT CANAL COVER-UP*, 1993, Bion Publishing, Ojai, California. Using the research of Dr. Weston Price regarding the toxic nature of dead teeth, the subsequent blood poisoning thereof by same, Dr. Meinig gives a compelling argument for the systemic impact of keeping dead teeth in the mouth.

Secondly, in May 1993 I was able to exhume from the deep entropy pile of international dental research a most remarkable piece of factual scientific evidence. While I was in dental school, a very relevant article was published in the ODONTOLOGISK REVY, VOLUME 18, SUPPLEMENT 11 1967, a Swedish Professional Journal, funded by the School of Dentistry, Malmo, Sweden. The objective of the research was to see if dental x-rays of the root tips of "root filled" teeth could be used for the purposes of predicting diseased tissue.

The Summary of this research is as follows (parenthetical inclusions added by author):

**"The investigation is concerned with a comparison of histological (cellular changes) and roentgenological (x-ray) appearances of periapical (about the root tip) changes in an attempt to find out whether and to what extent histological changes are reflected in conventional roentgenograms (x-rays). The investigation was carried out on autopsy material (cadavers) and the final analysis was based on 292 cases.**

**"Roentgenograms were taken of the upper incisors (front teeth), from which the apical (tip of the root) part of the root together with the periapical tissue was afterwards removed with a trepan (a small circular bone saw). Histological sections in the same plane as the roentgenograms were prepared by conventional methods and analyzed in detail with special reference to the root canal, the foramen (an opening), the apical and lateral periodontal soft tissue, and the periapical hard tissue, including the marrow.**

**"With the aid of the histologic details, amount and type of inflammatory cells, type of marrow in adjacent marrow spaces, and shape and width of the apical soft tissue, the material fell into three groups..."**, and then they go into details not necessary for our discussion here, for it is lengthy.

Although their primary work in this complex research project was regarding the accuracy of dental x-rays distinguishing pathology, what they observed was yes, x-rays have excellent accuracy if interpreted properly, and, bottom line, is that: **"...complete healing after root-filling occurred in only 7% of the cases..."**

Reciprocally, what this says is that **93% were not healed!** That pathology, diseased tissues, was present in the vast majority of teeth having been treated with root canal filling. Or, in

other words, 9.3 times out of 10 you may expect infected tissue at the tip or the roots of teeth having received modern endodontic therapy.

Visit any dentist, specialist or not, and he will explain that root-filled teeth are 90% to 95% successful. This is what I was taught then; and, it is still being taught today! It seems that the exact opposite is true, in fact, as reported here.

I presume, however, that "success" is in the eye of the beholder, regardless of evidence. This study, and others to follow this portion of this report, suggests that success may not be what fills our current standard, which is, for most dentist, the abatement of pain only.

A third piece of evidence from a less well known clinical researcher who pointed to and verified the systemic impact of infected teeth and gums was a physician who gave the commencement address to the graduating class of McGill University Medical School in 1911. His paper was so compelling that it was published in the *British Medical Journal*, 1912. He distinguished the concept **Oral Sepsis** which has been the albatross about the neck of the dental practitioner since. It was this one term, and its application to dentistry, that blocked the retention of dead teeth by the dentist until the 1940s and 1950s.

Dr. Hunter was the physician in charge of the London Fever Hospital. In his work with patients, he found remarkable improvements in the condition of people if only the teeth and gums were cleansed each day with carboxylic acid, a very mild solution, which brought oxygen to the dead tissue of the mouth. He very vociferously advocated the extraction of dead teeth, roots, bone, and gum tissue; and, demonstrated with his documentation the immediate improvement, if not out right cure of conditions such as colitis, esophageal reflux, gastritis, general gastro-intestinal upsets, urinary tract infections, lung congestion, sinus infections, blurring of the eyes due to mucous discharge, rashes of the face, neck, thorax abdomen and lower extremities, among others. His paper is available in medical libraries for your further review.

Another fact that is now being acknowledge by our medical doctors is that of the implications of dental infections in the systemic conditions known as blood vascular diseases. In May of this year, 2001, *SCIENTIFIC AMERICAN* reported that in about 72% of the hardened arteries of patients with arteriosclerosis (hardening of the arteries that lead to stroke and heart attacks, among other congestive challenges), the bacteria present in arterial wall that was damaged were from the mouth. Strange, I had been told repeatedly in dental school 35 years ago, and even now by the dental/medical experts in our trade organization, such as the ADA and AMA, and our Public Health Departments, there is no relationship of the teeth to the general health of human beings. Could this be the old Blood Poisoning Theory revisited, now that we have the tools today revealing actual facts pointed to long ago regarding the Focal Theory of Infection, prevalent in the early 1900s? Could it be that the disconnected theory-- or as I like to call it, the Disconnect Theory of Infection, being taught for the past sixty or seventy years was based on misperceptions of The Authorities? Could it be that a diffuse, non-specific source of infection, an entity that could not be pinned down and eradicated such as a focalized root canal tooth, or for that matter any other focal nidus of infection in the body, would lend itself more readily to the exponential growth of the new pharmaceutical industry emerging post World War II?

What is so strange, then, with finding bacteria in the walls of our arteries, say in our kidneys, lungs, or legs for that matter? To begin with, bacteria, viruses, and fungus within the human body are termed infection. An infection is: out-of-place vermin. If one has bacteria culturing in the abdominal cavity around the intestines, one has peritonitis, a very dangerous condition, that if not treated successfully leads to death.

Well then, what is so dangerous about having a root canal (remember, root cadaver) done? Simply, the dead tooth is a perfect nesting site for vermin (bacteria, virus, fungus, and other toxic chemicals), for one cannot sterilize a dead tooth no matter how hard one tries or how hard one tries to avoid the topic! And, this now leads me to my own experience for the past 20 years.

My dental research records go back to about 1983 when I first heard of these issues about dead teeth and dental gum infections being implicated with general body health problems. In 1965, at the School of Dentistry, University of Michigan, we had been taught, as I have said before, that there was no relationship between the two, the teeth and body. I surmised that concept was probably not true, but did not have the disposition to do the independent research on the subject, clarifying the issue. Frankly, I was chasing the golden egg, having fun in the sun, and growing a family during the years just after dental school, the 1970s.

So, the research I started in the 1980s was structured as follows: after the extraction of a tooth, be it normal or root canalled, I would send it to the Medical Pathology Laboratory here in Honolulu for a look see, or more technically, histo-pathology study by medical doctors called pathologists. I have many case studies upon which to draw, but I'll only focus on the past year to date in this manuscript.

In this short time span, January 2001 until September 2001, I have removed about 17 teeth which had been treated with modern endodontic therapy, or, root canalled. In most cases there were no clear local clinical problems such as swelling or pain in the mouth, the prime standards for what the profession calls success. But, most all patients had general systemic problems such as cancer, dermatitis, lumps in the neck, urinary tract infections, pain in remote areas such as the shoulder, upper back, or lower back pain--typical I feel of blood poisoning, since the kidney is the master filtration organ, and general systemic tiredness. One chap had bad breath, and had been sent by his wife, who had had three infected root canal teeth removed in early 1998.

In all cases the reports from the hospital pathology (the study of the way of disease) laboratory revealed the presence of pathology: abscess, granuloma, fibrosis, cyst formation, reactive bone changes to inflammation, dead bone, osteitis, chronic osteomyelitis and, the presence of actinomyces, the bacterium directly implicated with lumpy jaw or dental abscess.

Remember now, the tissue at the tip of the tooth's root, deep inside the bone, is bathed by the lymph and blood, vital fluids of the body. This same blood that nourishes the dead or living tooth also nourishes the brain, lungs, heart, liver, kidney, eyes, ears and other body parts.

SUMMATION: ROOT CANAL REPORTS FROM HAWAII PATHOLOGIST LAB

- 1) Male, age 52, lung cancer: tooth #3 had a) Inflamed granulation tissue, b) Fibrosis, c) Reactive bone changes to infection, d) Chronic inflammation, e) Actinomyces bacteria.
- 2) Female, age 31, urinary tract infections: Tooth #10 had a) Granuloma, b) Cyst, c) Marked acute and chronic inflammation, d) Actinomyces bacteria.
- 3) Male, age 58, cancer: Tooth #18 had a) Abscess, b) Granuloma, c) Reactive bone changes to the infection, d) Marked acute and chronic inflammation.
- 4) Female, age 58, mobile arthritic pain and tiredness: Tooth #9 had a) Granuloma, b) Necrotic (dead) bone, c) Actinomyces bacteria, d) Marked acute and chronic inflammation.
- 5) Female, age 58, mobile arthritic pain and tiredness: Tooth #7 had a) Granuloma, b) Necrotic (dead) bone, c) Marked acute and chronic inflammation.
- 6) Female, age 56, chronic urinary tract inflammation and infection: Tooth #9 had a) Granuloma, b) Partially Devitalized Bone (dead bone), c) Actinomyces bacteria, and d) Chronic inflammation.
- 7) Male, age 51, overweight and chronically fatigued: Tooth #4 had a) Granuloma, b) Cyst, c) Actinomyces bacteria, d) Chronic inflammation.
- 8) Female, age 31, abnormal menstrual cycles, could not get pregnant: Tooth #14 had a) Granuloma, b) Reactive bone changes to the infection, c) Chronic inflammation.
- 9) Female, age 47, general tiredness and urinary tract problems: Tooth #5 had a) Granuloma, b) Fibrosis, c) Marked acute and chronic inflammation.
- 10) Female, age 54, cancer of the lung: Tooth #19 had a) Granuloma, b) Scar, c) Marked acute and chronic inflammation.
- 11) Female, age 53, severe facial and cervical skin disorder: #13 had a) Granuloma, b) Cyst, c) Fibrosis, d) Marked acute and chronic inflammation, e) Actinomyces bacteria.
- 12) Female, age 53, severe facial and cervical skin disorder: #4 had a) Abscess (Granuloma and Abscess are essentially the same!), b) Granuloma, c) Marked acute and chronic inflammation, d) Actinomyces bacteria.
- 13) Female, age 50, sever sinusitis and ear drainage: #29 had a) Necrotic (dead) bone, b) inflamed granulation tissue, c) Fibrosis.
- 13) Female, age 50, sever sinusitis and ear drainage: #3 had a) Periapical granuloma, b) Cyst, c) Actinomyces bacteria.

14) Female, age 50, sever sinusitis and ear drainage: #4 had a) Periapical granuloma, b) Cyst, c) Actinomyces bacteria.

15) Female, age 78, migraine headaches and general tiredness: #4 had a) Periapical granuloma, b) Cyst, c) Necrotic (dead) bone, d) Actinomyces bacteria.

16) Female, age 54, breast cancer: #14 had a) Inflamed granulation tissue, b) dead bone.

17) Male, age 62, Bad breath according to wife: #18 had a) Periapical granuloma, b) reactive bone changes due to infection, c) Actinomyces bacteria.

The samples given are isolated to teeth that had been treated with modern endodontics, each patient having been referred by an attending physician to remove dental foci (dental infections). The teeth had not given the patients any particular problem such that one would have sought out dental care. But, upon removal of the dead teeth, direct confirmation was established concerning the infected nature of the teeth.

Moving to more recent evidence, we are advised in a recent article from AP, 9/10/01 Singapore: "NAVY OXYGEN TANKS SAVE MAN WITH FLESH-EATING BACTERIA--SINGAPORE (AP)--A man who almost lost his life to so-called flesh-eating bacteria was saved after Singapore navy doctors used oxygen tanks to cure him, a news report said yesterday. Ahmad Dari, 61, had flesh-eating bacteria in his neck and was close to death before receiving the oxygen therapy that helped kill the necrotizing fasciitis, a rare disease which can be fatal. Doctors say the bacteria may have **ENTERED DAIR'S NECK THROUGH AN INFECTED TOOTH.** The Republic of Singapore Navy allowed doctors to put Dari in their hyperbaric oxygen chambers and treat him with 100-percent pure oxygen at pressures two to three times the normal atmospheric pressure."

It must be borne in mind as we consider this issue, that the deep tissue response, apical periodontitis, is an endodontic immunological reaction that may be delineated thusly: 1) Inflammation; 2) Tissue granulation of fibrosis; 3) Wound suppuration (oozing of pus) or bleeding; 4) Sinus or cyst formation; and 5) Wounds infected with vermin. Endodontically treated teeth, "root canals," are foreign bodies that elicit the above local tissue reactions within the bone of the jaw.

The response of the tissue is due to the tooth, the whole tooth, and nothing but the tooth. Remote reactions through systemic blood poisoning such as organ dysfunction or damage, headache, neck aches at the base of the skull, shoulder ache or mid to lower back ache may be related to the **septicemia**, toxins in the blood, from the **ORAL SEPSIS!**

In some instances with dead tooth removal, miraculously, these signs and symptoms may clear, most do. The physical body (one aspect of the Holy-Trinity of i. *Spiritual cell body*, ii. *Mental cell body*, and iii. *Physical cell body*) may then avail itself of its full healing capacity that is designed for its survival and full-self expression by The Creator. From this researcher's perspective, it is unwise to leave dead teeth within the body.

The disconnect theory enters at this point, being heretofore unresolved, and begs clarity. In further corroboration of the systemic impact of periodontitis as acknowledged in the *SCIENTIFIC AMERICAN* reference cited earlier, I offer another authoritative piece from *THE COLGATE ORAL CARE REPORT*, issued July, 2001. Within this summary journal of advances in dentistry and oral health care as it is presented to the dental professional, we find a growing trend among medical people to acknowledge the reciprocal impact of dental infection upon the body, and organ maladies upon the dental health picture. This growing awareness among professionals is amazing and most welcome. Two years ago this information was not available for the consumption of the traditional doctors, Md.'s and D.D.S.s, but only for consumption of the so-called medical fringe, the "**quack doctors**" as they were characterized by the traditionals.

Let me quote from this article: The Oral Disease--Systemic Disease Link... "The fact that systemic diseases are reflected in the oral cavity is well established. For example, we know that HIV/AIDS and many other conditions can be manifested in the oral tissues. The more important and complex issue we are now trying to clarify, however, is the reverse--whether oral disease can lead to systemic pathology."

Curious! The well documented oral-systemic relationship between invasive dental procedures and extractions of teeth with bacterial endocarditis, a severe and mortal condition brought on by those with a weakened heart valve, is not arguable in the professions. Every dentist is taught again and again about the need to use antibiotics systemically for those patients who will receive invasive oral surgery procedures, so that they may be protected from bacteria in the blood colonizing upon the heart valves. This condition most often leads to the demise of the patient, we are told. This is old-hat for the dentists.

But new-hat is the emergence of new findings, which are quite old in fact, but have gained new ears and eyes. Further in this journal we have spelled out for us the reciprocal links between periodontal disease, infection about the ligament of the tooth, and diabetes. The traditionals have become bold enough to state: "The interrelationship between periodontitis and diabetes is a significant one, and dental professionals should be familiar with the symptoms and treatment of diabetes as there are yet many undiagnosed patients." Good for us!

A final note from the Authority of the Authorities, the *Journal of ENDODONTICS & DENTAL TRAUMATOLOGY*, Volume 16, Number 2, April 2000. In this scientific study the authors were dealing with the long standing controversy regarding the presence of bacteria in the root canal filled tooth, the surrounding tissue known as the perio-(around) dental-(tooth) tissue, and the deeper jaw tissues connecting like super highways to the entire human body.

Their statement of Background and Purpose is quite revealing in light of their specific findings. To quote the BACKGROUND AND PURPOSE:

**"The presence of microbial activity within Periapical tissue affected by apical periodontitis has been debated. Micro-biological sampling has been routinely performed to determine if microorganisms can be recovered from the Periapical lesion following ineffective endodontic treatment of apical periodontitis. Although several**

**studies have suggested that bacteria maintains a presence in asymptomatic Periapical lesions, this theory has not been universally accepted..." (They surely don't!).**

So, above is their statement, but here follows their results:

**"A total of 30 patients were referred for surgical endodontic treatment of teeth with apical periodontitis. The participants were asymptomatic and participation was limited to patients who did not demonstrate the presence of sinus tracts or lesions that required endodontic or periodontal treatment. In Group 1...73% (11 of 15 patients) demonstrated bacterial growth within the Periapical lesion... in Group 2... 10 samples (67%) of the Periapical lesions evaluated demonstrated bacterial contamination."**

Seems quite clear to me. About 3 out of 4 demonstrated bacteria in the underlying bone and tissues of the root filled teeth. In my study, surprisingly, the results show similarity. Eleven of seventeen dead teeth showed presence of bacteria in the bone and granulomas under the teeth, which is 65%. But, beyond this, there were 7 out of 17, or 41% that had **dead bone!** This dead bone finding should be enough to convince anyone of the infectious nature of the root canal filled teeth, or **root cadavers!**

The only conclusion I shall draw is to let you chose for yourself. What may be modern may not be so modern; and what may be common sensical, logical and reasonable, may be the better wisdom in this issue. If I were permitted to leave you with one parting thought, the thought I would impart is what I offer those of my patients seeking the truth about the issue of root filled teeth, and that is:

**IF IT IS DEAD, IT SHOULD BE OUT OF YOUR HEAD!!**

Thank you for your time and listening.  
May God protect and bless you in Light.

Dr. Ronald S. Carlson, Honolulu, Hawaii, 9/20/01