

AN INTRODUCTION TO BIOLOGICAL DENTISTRY & ORAL HEALTH INTEGRATION FOR HEALTHCARE PRACTITIONERS

Created by the International Academy of Oral Medicine and Toxicology (IAOMT) to develop stronger collaboration between dentists and other healthcare practitioners. If you are a healthcare practitioner receiving this packet from an IAOMT member dentist, it means that your professional cooperation is being requested as a means of more aptly serving our patients.



WHY WE PRACTICE ORAL HEALTH INTEGRATION...

While periodontal disease is accepted by the medical community for its role in cardiovascular problems and diabetes, the impact of other dental conditions and materials on general health have yet to be extensively recognized. However, since the mouth is the gateway to the digestive tract, it should not be surprising that what happens in the oral cavity impacts the rest of the body (and vice versa).

Although it might seem obvious that dental conditions and materials can influence the entire human system, there is a clear need for the mainstream medical community, policy makers, and the public to be educated about this reality. Similarly, because other health conditions can impact the oral cavity, it is essential for dentists and other healthcare professionals to work together to benefit patients and public health in general. For this reason, many IAOMT dentists reach out to other practitioners to promote this collaborative effort.

Moreover, a number of recent reports have clearly established the urgency for oral health to be better integrated into public health. In fact, Healthy People 2020, a project of the U.S. government's Office of Disease Prevention and Health Promotion, has identified a key area of public health improvement: to increase awareness of the importance of oral health to overall health and well-being.¹

One reason for this needed awareness is that millions of Americans have dental caries, periodontal disease, cleft lip and palate, oral and facial pain, and oral and pharyngeal cancers.² The potential consequences of these oral conditions are far-ranging. For example, periodontal disease is a risk factor for diabetes, heart disease, respiratory disease, stroke, premature births, and low birth weights.^{3 4 5} Additionally, oral health problems in children can lead to attention deficits, difficulty in school, and dietary and sleep issues.⁶ Also, oral health problems in older adults can lead to disability and reduction in mobility.⁷ These are only a few examples of the known repercussions of impaired oral health on overall health.

The reality of patients enduring harmful consequences as a result of oral health being excluded from medical programming has been confirmed in reports. In a commentary published in the *American Journal of Public Health*, Leonard A. Cohen, DDS, MPH, MS, explained that patients suffer when there is no connection between the dentist and physician.⁸ Interestingly, it has been reported that patients want this connection to be made, as researchers have noted: “As interest in integrative health care and the use of complementary and alternative therapies by consumers has continued to grow, concern has increased that health professionals be sufficiently informed about integrative health [so] that they can effectively care for patients.”⁹

It is obvious that patients and practitioners mutually benefit from an integrated approach to oral health and public health. First, oral health conditions can be indicative of other health problems including nutritional deficiencies, systemic diseases, microbial infections, immune disorders, injuries, and some forms of cancer.¹⁰ Next, patients enduring adverse symptoms from oral health conditions such as infections, chemical sensitivities, TMJ (temporomandibular joint disorders), craniofacial pain, and sleep disorders can benefit from inter-professional collaboration. Such collaboration has also been called for in regard to oral complications from cancer treatments and other medications¹¹ and in regard to biocompatible materials.¹² Biocompatibility is especially crucial because dental mercury allergies can result in an array of subjective and objective health complaints¹³ and impact as many as 21 million Americans today.¹⁴ However, these figures could be even higher because recent studies and reports suggest that metal allergies are on the rise.^{15 16}

All of these circumstances and more provide evidence that oral health issues must become more prevalent in medical education and training. Because dental schools and education are completely separate from medical schools and continuing medical education, physicians, nurses, and other health care professionals are often not knowledgeable about oral health care, including recognition of oral diseases.¹⁷ In fact, it has been reported that only 1-2 hours per year of family medicine programs are allotted for dental health education.¹⁸

The lack of education and training has wide-ranging implications for public health. In addition to all of the conditions and scenarios mentioned above, other consequences might not be as obvious. For instance, most patients with dental complaints seen by hospital emergency departments (ED) are usually suffering from pain and infection, and the lack of ED knowledge about oral health has been cited as a contributor to opiate dependency and antibiotic resistance.¹⁹

Fortunately, some innovative examples of existing models and frameworks are forging a new future in the integration of oral and public health. The IAOMT is part of this new future and promotes active cooperation between dentists and other health professionals so that patients can experience a more optimum level of health.

WHO WE ARE...

The IAOMT, a 501(c)(3) non-profit, is a trusted academy of allied professionals providing resources to support new levels of integrity and safety in health care. We are also a global network of over 1400 dentists, health professionals, and scientists who share the principles of science-based biological dentistry with each other, our communities, and the world. In other words, we have been working together since our inception in 1984 to help establish the integral relation of the oral cavity to the rest of the body and overall wellness, thereby promoting public health and the concept of integrative medicine.

WHAT WE DO...

Biological dentistry is not a separate specialty of dentistry, but a thought process and an attitude that can apply to all facets of dental practice and to health care in general: to always seek the safest, least toxic way to accomplish the goals of modern dentistry and of contemporary health care and to recognize the essential connections between oral health and overall health. The tenets of biological dentistry can inform and intersect with all topics of conversation in health care, as the well-being of the mouth is an integral part of the health of the whole person.

Biological dentists encourage the practice of mercury-free and mercury-safe dentistry and aim to help others understand what these terms actually mean in clinical application:

- “Mercury-free” is a term with a wide-range of implications, but it typically refers to dental practices that do not place dental mercury amalgam fillings.
- “Mercury-safe” typically refers to dental practices that use innovative and rigorous safety measures based on up-to-date scientific research to limit exposure, such as in the case of removing previously existing dental mercury amalgam fillings and replacing them with non-mercury alternatives.
- “Biological” or “Biocompatible” dentistry typically refers to dental practices that utilize mercury-free and mercury-safe dentistry while also considering the impact of dental conditions, devices, and treatments on oral and systemic health, including the biocompatibility of dental materials and techniques.

In addition to consideration for the safety and biocompatibility of dental materials (including the utilization of allergy and sensitivity testing), biological dentistry further addresses heavy metals detoxification and chelation, nutrition and oral cavity health, oral galvanism, health risks of topical and systemic fluoride exposure, the benefits of biological periodontal therapy, the influence of root canal treatments on patient health, and the diagnosis and treatment of neuralgia inducing cavitation osteonecrosis (NICO) and jawbone osteonecrosis (JON).

Within our membership, IAOMT dentists have varying levels of training in mercury-free, mercury-safe, and biological dentistry. General members have access to all of our resources, SMART-certified members have completed a training course in the safe removal of dental mercury fillings, Accredited members have completed a comprehensive seven unit course on biological dentistry, and Masters and Fellows have completed 500 hours of additional research, including conducting and composing a scientific review.

Patients and others can search for an IAOMT dentist/health professional at our online directory, which specifies the level of education the member has accomplished within the IAOMT. Our directory page was viewed over 18,000 times during one month alone in 2023 and is located on our website at <https://iaomt.org/search/>.

HOW WE DO IT...

We achieve our mission of protecting public health by funding and promoting relevant research, accumulating and disseminating scientific information, investigating and promoting non-invasive scientifically valid therapies, and educating medical professionals, policy makers, and the general public. IAOMT members have been expert witnesses about dental products and practices before the US Congress, the US Food and Drug Administration (FDA), Health Canada, the European Commission Scientific Committee on Emerging and Newly Identified Health Risks, and other government bodies around the globe. The IAOMT is an accredited member of the United Nations Environment Programme's Global Mercury Partnership, which led to the 2013 Minamata Convention on Mercury. We also continually offer outreach programming to dentists, healthcare professionals, the public, and others.

EXAMPLES OF RELEVANT TOPICS AND RESOURCES FROM THE IAOMT...

IAOMT members have access to educational programs about a variety of topics, and the IAOMT has been officially recognized as a designated provider of continuing dental education by the Academy of General Dentistry (AGD)'s Program Approval for Continuing Education (PACE) since 1993. Many of our member dentists are willing and prepared to apply their expertise about these dental topics while collaboratively working with other healthcare practitioners to achieve an increased level of well-being for patients. *Included for you below are some IAOMT resources that are free to the public to help them learn about some of the topics in which our dentists can achieve educational training.*

Dental Mercury

All silver-colored fillings are dental amalgams, and each and every one of these fillings is comprised of 45%-55% mercury. In 2013, the United Nations Environment Programme formalized [a treaty to reduce mercury usage](#), which includes initiatives to phase down the use of dental mercury. However, these fillings are still used on about 45% of direct dental restorations worldwide, including in the United States.

Concerns have been raised not only about the placement of dental mercury fillings, but also about the mercury exposure that occurs when the fillings are removed. In addition to promoting education about specific health risks that have been associated with dental mercury, the IAOMT works to raise awareness about the vital need for our Safe Mercury Amalgam Removal Technique (SMART), which mitigates mercury exposure to patients, dentists, and dental staff members during the removal of mercury fillings.

For more information, click on the following links:

[Human Health Risks from Dental Amalgam Mercury Fillings](#) (One page fact sheet)

[Symptoms of Elemental Mercury Vapor Exposure](#) (Two page fact sheet)

[Comprehensive Review on the Toxic Effects of Mercury in Dental Amalgam](#)

[IAOMT Position Paper against Dental Mercury Amalgam](#) (Extensive research)

[Free Online Learning Mercury 101](#) and [Free Online Learning Mercury 102](#)

[IAOMT's Safe Mercury Amalgam Removal Technique \(SMART\)](#) (with supporting science)

[The SMART Choice](#) (IAOMT's campaign for Safe Mercury Amalgam Removal)

[Free Online Learning Safe Mercury Amalgam Removal](#)

Biocompatibility and Oral Galvanism

The IAOMT recognizes the fact that individuals vary in their biochemical and immunological responses. So, the IAOMT has researched biochemical individuality and sound methods of immunological testing to help determine the least reactive dental materials to use with each individual patient. The more a patient suffers from allergies, environmental sensitivity, or autoimmune diseases, the more important this service becomes.

For more information, click on the following link:

[Free Online Learning Biocompatibility and Oral Galvanism](#)

Clinical Nutrition and Heavy Metal Detoxification

While most dentists are not nutritional therapists themselves, the IAOMT recognizes that an appreciation of the impact of nutrition on all phases of dentistry is essential to biological dentistry so that oral health can be better viewed in the essential context of nutritional status. In particular, nutritional status impacts all aspects of a patient's ability to heal, and biological detoxification depends heavily on nutritional support, as does periodontal therapy or any wound healing. This is especially important since some patients of biological dentists have specific health needs in regard to chemical sensitivities and exposures and, in some cases, detoxification from heavy metals.

For more information, click on the following links:

[Free Online Learning Nutrition](#)

[Free Online Learning Heavy Metal Detoxification](#)

Fluoride

Other than its natural existence in minerals, as well as in soil, water, and air, fluoride is also chemically formulated for use in community water fluoridation, dental products, fertilizers, pesticides, and an array of other consumer items. Unfortunately, all of these applications were introduced before the health risks of fluoride, safety levels for its use, and appropriate restrictions were adequately researched and established. Fluoride is known to impact the cardiovascular, central nervous, digestive, endocrine, immune, renal, respiratory, and skeletal systems, and exposure to fluoride has been linked to Alzheimer's disease, cancer, diabetes, heart disease, infertility, and many other adverse health outcomes.

The IAOMT recognizes that the need to update previously established fluoride guidelines is extremely urgent. We have worked and will continue to work to offer updated appraisals of the risks of fluoride exposure based on scientific findings and even regulatory documents.

For more information, click on the following links:

[Fluoride Facts](#) (Webpage)

[Free Online Learning Fluoride](#)

[2017 IAOMT Position Statement against Fluoride](#) (Extensive research)

Biological Periodontal Therapy

The IAOMT offers resources that revisit the dentinal tubule and the periodontal pocket from the perspective of biological dentistry. Like the rest of the body, the oral cavity contains many microhabitats such as tooth surface, tongue, buccal mucosa, and periodontal pockets with its associated soft tissue. The oral cavity is an area that can host both anaerobic and aerobic bacteria. It is becoming clear that the individual's oral microbiome could directly promote a healthy or a disease-inducing environment, which can result in, for example, caries of dentition and/or periodontal disease.

The goal of biologically based periodontal therapy is to integrate safe and effective therapies to support positive ecologic changes in the oral cavity. This is done by elimination of pathogenic microbial forms and by supporting the patient's own inherent healing process, not just eliminating the tooth structure.

For more information, click on the following links:

[Free Online Learning Biological Periodontics](#)

Root Canals and Jawbone Osteonecrosis

The potential presence of populations of microbes in the dentinal tubules relates as to whether or not endodontic techniques adequately disinfect root canals and keep them disinfected. The IAOMT works to examine how bacteria and fungal organisms can turn anaerobic and produce highly toxic waste products that diffuse out of the tooth, through the cementum, and into circulation, which is pertinent to a satisfactory assessment of endodontic treatment.

Furthermore, recent work in the field of facial pain syndromes and Neuralgia Inducing Cavitation Osteonecrosis (NICO) has led to the realization that the jawbones are a frequent site of ischemic osteonecrosis, also known as aseptic necrosis. As a result, many extraction sites that appear to have healed have actually not healed completely and can trigger pain in other parts of the face, head, and distant parts of the body. Even though most of these sites actually present with no symptoms at all, pathological examination reveals a combination of dead bone and slowly growing anaerobic pathogens in a soup of highly toxic waste products where we would otherwise think there has been good healing.

For more information, click on the following links:

[Free Online Learning Hidden Pathogens](#)

[IAOMT Position Paper on Human Jawbone Osteonecrosis](#) (Extensive research)

IN SUMMARY

Understanding the biological concept gives us a better appreciation for the influences dental conditions and materials can have on the human body. It also reminds us of the fact that the microbiome of the oral cavity is a reflection of the entire human organism. Thus, when dentists and other healthcare practitioners work together, an understanding between these connections within the body is firmly established. This, in turn, offers the patient the opportunity to achieve a higher quality of health care, as well as the potential for an increased level of well-being.

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