

Dentistry



"Eco-friendly" and "green" are terms that are widely used today and can indicate several things, such as renewability, sustainability, energy efficiency, nontoxicity, being minimally invasive, having a reduction in carbon footprint, and having a reduction in CO₂ emissions. These concepts have taken root within many industries. Green health care has been an established initiative and goal for many years now within the medical community and is finally evolving into mainstream implementation. This new model of health care is based on the understanding that human and environmental health are inextricably linked. In this model, health professionals serve as environmental educators, advocates, and stewards. Green and eco-friendly health care takes us beyond the Hippocratic oath, calling upon all health professionals to "do more good." By focusing more on prevention, precaution, education, and wellness, we can significantly contribute to improving the health of our patients, the community, and the environment. The broad concept of green health care encompasses green building and design of hospitals and offices, as well as sustainable and eco-friendly practices.

Why focus on the building sector?

- The construction and use of buildings in the United States alone consumes more than 3.5 billion tons of raw materials annually and generates a vastly significant amount of waste — approximately 25% to 40% of municipal solid waste is from construction and demolition alone, 50% of CFCs, 30% of CO₂ production, and also substantial toxic emissions.
- As early as 1984, a World Health Organization report on Sick Building Syndrome (SBS) suggested that up to 30% of new and remodeled buildings worldwide may be linked to symptoms of SBS.
- Sick building syndrome is a combination of ailments associated with an individual's place of work or residence. Most of SBS is related to poor indoor air quality. Syndrome causes are frequently pinned down to flaws in the heating, ventilation, and air conditioning (HVAC) systems. Other causes have been attributed to contaminants produced from the off-gassing of some types of building materials, volatile organic compounds (VOC), molds, light industrial chemicals used within an office or home, or improper fresh-air intake location/lack of adequate air filtration.

Why focus on the health-care sector?

- Almost every health-care setting worldwide — hospitals, extended-care facilities, urgent-care facilities, medical offices, and dental offices — utilize PBT (persistent bio-accumulative toxins) such as mercury, lead, PVC, DEHP, VOCs (volatile organic compounds), PBDEs (polybrominated diphenyl ethers) and HBCDs (hexabromocyclododecanes), and other harmful chemicals and elements, which with exposure can adversely affect the health of team members, patients, and the environment.
- Health-care facilities and offices spend more than \$8.5 billion dollars on energy annually to meet patient needs.
- Within the health-care industry, actual documented medical waste generation from the WHO (World Health Organization) for North America alone is approximately 6 lbs. per person per year, which is an astounding 1,108,000 tons per year and exponentially growing.
- As early as 1994, the U.S. Environmental Protection Agency identified medical waste incineration as the leading source of dioxin, a potent carcinogen (dioxin is one of 12 chemicals targeted for elimination under a new United Nations treaty on persistent organic pollutants).
- The U.S. ranks the health-care sector as the fourth largest source of mercury air emissions due to their contribution via medical/dental waste incinerators.

Given these facts, it becomes an inherent duty and obligation for the entire dental community to follow suit as integral members of the health-care community. This is where Eco-Friendly Dentistry™ has emerged. The term Eco-Friendly Dentistry has been coined and trademarked by the founders of ORA Dental Studio™, the nation's first green group dental practice, Dr. Goran Kralj, DDS, Dr. Steven Koos, DDS, MD, and Mladen Kralj, DMD.

So how is Eco-Friendly Dentistry defined?

- Eco-Friendly Dentistry is a newly evolving practice of dentistry, which encompasses a simultaneous devotion to sustainability, prevention, precaution, and a minimally invasive patient-centric as well as global-centric treatment philosophy.
- Eco-Friendly Dentistry, through green design and operations, protects the immediate health of patients and team members, the health of the surrounding community, and the health of the global community and natural resources.

The implementation of eco-friendly practices in the dental office involves an extensive list of protocols, procedures, materials, state-of-the-art equipment and methods, but does not have to be a daunting endeavor and can be accomplished with small, incremental steps. A good place to start the process is through the EDA™ (Eco-Dentistry Association) at www.ecodentistry.org. Going green can also mean saving green, as in dollars. Nearly every eco-friendly innovation is also friendly to the bottom line.



Steven Koos, DDS, MD, specializes in oral, maxillofacial, and implant surgery. He is one of a select few board-certified, dual-degreed oral and maxillofacial surgeons in the nation who has obtained both dental and medical degrees. Dr. Koos graduated from Northwestern University Dental School in 1996 and also obtained a medical degree from Case Western Reserve University in 2000. He furthered his training and education through a five-year intensive residency program focused in general surgery and oral and maxillofacial surgery at University Hospitals of Cleveland, Rainbow Babies and Children's Hospital, Mt. Sinai Hospital, and MetroHealth Hospital of Cleveland. Dr. Koos has proudly created the nation's first fully "green" oral surgery facility — ORA Oral Surgery & Implant Studio in Chicago, Ill. His integrative, globally holistic treatment philosophy began with the comprehensive design of a sustainable facility that strictly followed LEED (Leadership in Energy and Environmental Design®) guidelines, and continues with his practice of green health care through GGHC (Green Guide For Health Care) and EDA (Eco-Dentistry Association™) protocols and recommendations. Dr. Koos is on the advisory board of the EDA and has partnered and collaborated with many authoritative organizations such as the WHO (World Health Organization), HCWH (Health

Care Without Harm), and the U.S. EPA (Environmental Protection Agency). Dr. Koos is also a graduate of the "Leadership in Green Health Care" curriculum at the Teleosis Institute and is striving to bring the concept of practicing ecologically sustainable medicine and dentistry to private practitioners throughout the United States.