Go Green with Green Dental Practice

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ABSTRACT

Green dentistry is a high-tech approach that reduces the environmental impact of dental practices and encompasses a service model for dentistry that supports and maintains wellness. Green dental practices use non-toxic products, reduce waste and reduce the carbon footprint. Not only are “Green dentistry” practices better for the environment, but they are also safer for patients and staff. The key concept of a green practice includes conservation of water and energy, reduction of hazardous toxins and waste which negatively affect patients and the environment. This article emphasizes the practice of eco-friendly or green dentistry in a developing country like India. It is the wave of the future.

KEYWORDS: Green dentistry, Eco-Friendly, Green Practice

INTRODUCTION

Dentistry is an extremely important and foremost a healing profession. In today’s world, with the increasing ecological disasters, it is highly obligatory to understand the paramount importance of being eco-friendly in every facet of our lives, including in dental practice, which has a huge impact on the environment. Eco-friendly dentistry is often used synonymously with the term green dentistry.

Green dentistry is a new upcoming emerging concept which is environment friendly. Green dentistry reduces waste and pollution, saves energy, water and money, incorporates high tech innovations and focuses on wellness and integrative practices. Green dentistry protects the environment and mankind from the hazards of rapid urbanization in developing countries like India.

In 2008, the Eco-Dentistry Association was co-founded by Dr. Fred Pockrass and his wife, Ina Pockrass. The Eco-Dentistry Association (EDA) provides “education, standards, and connection” to patients and dentists who practice green dentistry. The color green signifies healing power and is understood to be the most restful and relaxing color. Green can help enhance stability, vision and endurance. The color “green” denotes renewal, growth, and hope and it indicates safety in the advertising of drugs and medical products. Green dentistry meets the needs of millions of wellness lifestyle patients, and helps dental professionals protect planetary and community health, as well as the financial health of their practices. It mainly focuses on waste reduction, energy conservation, and pollution prevention.

Eco-dentistry association defines green dentistry as “a high-tech approach that reduces the environmental impact of dental practices and encompasses a service model for dentistry that supports and maintains wellness.” The purpose of this article is to discuss various ways that a dentist can choose to make the dental office “Green” and conserve precious resources with all the options available today. Green dentistry or Eco-friendly dentistry is soon becoming the standard.

THE CONCEPT OF GREEN DENTISTRY

The concept of Green dentistry is based upon the:
- Green Dentistry is High – Tech Dentistry
- Reducing Waste and Preventing Pollution
- Saving Energy, Water and Money.

MODELS OF GREEN DENTISTRY

It is based on the model of 4 R’s:
- Reduce - The easiest way to have more, and resource is to use less of it.
- Reuse - Single use items should be replaced by reusable items
- Recycle - According to the Environmental Protection Agency, more than 75% of material destined for a landfill could be recycled.
- Rethink - Rethinking the way that dentist offices are run is the initial step in trying to change the modern practice.

ECO-FRIENDLY DENTAL CLINICS

- Use re-usable cloth patient barriers.
- Choose cloth lab coats.
- To implement FDA-registered re-usable pouches and wraps for sterilization
- To reduce the use of disposable in all dental office.
- Use the Blue Bin recycling program to recycle separately the paper and plastic halves of one autoclave bag.
- Implement an eco-friendly sterilization program which eliminates the need for disposable autoclave wraps and simultaneously eliminates the need for disposable patient bibs.
- Consider using less harmful surface disinfectants in dental offices. For e.g. tea tree oil and thyme.

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• Use reusable operating room cotton towels instead of disposable patient bibs.
• Use reusable stainless steel high and low volume, surgical / endodontic suction tips as an alternative to disposable plastic.
• Convert to a waterless vacuum system.
• If traditional X rays are taken, use recycle fixer, and developer solutions.
• Use reusable stainless steel prophy cups
• Use of energy star – rated printers, computers, dishwasher etc. which helps to conserve energy.
• Use fluorescent lighting.
• Use liquid crystal display (LCD) instead of cathode ray tube (CRT) for computer monitors.
• Use linoleum as it is the environmental choice for flooring.
• Use an ultra-low volatile organic compound (VOC) paint.
• To recycle the big five: aluminum, glass, plastic, paper, and steel.
• Use biodegradable disposable cups.
• Switch off your computer when you leave the office.
• Turn off your lights when you leave the room.\(^{11}\)

GREEN DENTAL PRODUCTS

**Digital radiography, The DEXIS Platinum Sensor:** It is the newest ways to help in dental practice become more efficient with digital radiography. It provides direct USB connection, new image capture technology, and enhanced ergonomic design.

**The ECO\(^{TM}\) Tray:** It is biodegradable, renewable, and compostable, and offers the same structural integrity as petroleum-based trays.

**Medicon SafeGauze Green:** It is 100% natural and biodegradable which is made from two natural fibers.

**Dental EZ’s everLight:** The everLight\(^{TM}\) LED operatory light provides color-corrected lighting and precise light pattern. It provides energy-efficient features simply not possible using traditional halogen lighting.

**EARTH CARE\(^{TM}\):** It includes reusing all packing materials, recycling or reusing all shipping containers, and recycling or reusing all fax and copy paper.

**Green Business Lift:** It provides biodegradable or recycled products by the Green Business Lift company.

**Ecotex products:** It includes natural, biodegradable, and recycled materials.

**AeroPure Vacuum and Compressor Accessories:** AeroPure’s oil-less dry regenerative blower technology is described by Pelton & Crane as the greenest in its class.

**Midmark Integra dental cabinetry:** The casework is primarily constructed of steel and medium density fiberboard (MDF), both materials consisting of a high-recycled content. Integra MDF panels are made of NFA board, no formaldehyde added, for improved indoor air quality.

**Sani-Treet Green:** Enzyme Industries has created a multipurpose enzyme concentrate (sani-treet GREEN) that is a nontoxic, noncaustic, foam-fighting, biodegradable cleaner that uses the enzymes instead of dangerous chemicals.

**PureLife:** It is the first environmentally friendly and socially responsible dental supply company. With a motto of “supplies for a cleaner tomorrow”.

**The Eco-Dentistry Association:** The association was formed by Dr. Fred and Ina Pockrass.\(^{12}\)

GREEN DENTISTRY: THE FUTURE OF DENTISTRY

Dentistry is the quintessential curative profession that our efforts should always aim toward the betterment of the society.\(^3\) Green dentistry is a whole-Earth care approach to tooth care that eliminates the environmental impact of dentistry and creates a caring environment for patients which is based on the model of four R, i.e., rethink, reduce, reuse, and recycle.\(^6\) By the use of high technology, we can be a part of green dentistry which is clean, green, and Highly profitable future.\(^7\) “Eco – friendly or Green dentistry” reduces supply costs by the use of latest techniques and increases productivity by efficient time use, reducing waste, and preventing pollution. Ultimately, patients get benefitted by quality treatment with a reduction in treatment costs. The concept of green dentistry involves water conservation and energy, reduction of waste and hazardous toxins and use of nontoxic products that negatively affect patients and the environment and promote “Green” dental products.\(^{13}\) Green is no longer just a color.\(^4\) Green dentistry is an innovative way of dental practice which reduce the environmental impact from dental practice. It is overwhelming evidence of global climate changes and dentistry has a definite impact on the planet’s ecosystem. The future of green or eco – friendly dentistry rests in the hands of the younger dental graduates, there upon the Dental Council of India must include the concept of green or eco – friendly dentistry in the existing curriculum to bring out this transformation in the field of dentistry to create a, greener, cleaner planet for future.\(^8\) According to Ray Kroc “As long you are green, you are growing. As soon you are ripe, you start to rot.” So let us go green today and save mother earth from biohazards for a better tomorrow.\(^6\)

GREEN DENTISTRY IS WELLNESS-BASED DENTISTRY

Each branch of medicine is moving toward wellness-based model concept that is centered on early detection, prevention and less invasive treatment procedures. The 10 wellness-based modalities are part of...
dentistry’s green future.

- Use of laser diagnostic tools for e.g. early caries detection.
- Use of oral cancer diagnostics tool, for e.g. VELscope technology.
- Salivary testing to determine genetic predisposition to periodontal disease and identify pathogenic bacteria
- Laser treatment of periodontal disease.
- Aroma therapy, to help dental patients relax naturally.
- Homeopathic modalities like Arnica, which promote reduced swelling and bruising after dental procedures, with no drug interaction.
- Hand or foot massage to relax patients.
- Live, green plants in the operatory.
- HEPA UV germicidal, in-operatory air purifiers to remove particulates from the air.
- Nutrient coenzyme such as CoQ10 antioxidant can be used to for general well-being of health.4,8

**BENEFITS OF GREEN DENTISTRY**

It is recommended that the dentist should take the initiative to practice better environmental management now.4 Dental practices that have gone green incorporated technologies that improve their practices and procedures and make them more eco – friendly. Benefits include:

1. Less Radiation, Better diagnostic.
2. Less chemical contamination, Fewer disposables.
3. More natural – looking restorations, less heavy metal waste.6

**CONCLUSION**

Green dentistry is an intellectual way of dental practice which is environment friendly, and at the same time conserves the time and money by reducing waste, decreasing pollution and conserving energy. The concept of green dentistry or eco – friendly dentistry involves a person, family or group because more conscious about the hazardous of the environment and help to reduce waste and become energy more efficient. Thus, it is an ethical duty of all dentists in the world to play a primary role in developing sustainable solutions.

**REFERENCES**