



## **Green Dentistry: - A Reformation towards Better Future**

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### **ABSTRACT**

*The Green dentistry is an environmental favorable approach in dentistry. It includes various techniques and apparatus for reducing waste, to conserve energy and also helps to decrease pollution. It is safer than any other dental approaches. The safety of the patient is the main concern for green dentistry. It is an ingenious way in dentistry that is generous for our environment and also helps in conservation of energy, decreasing pollution with the use of latest techniques.*

*The article emphasizes on the implementation of environment-favorable green dentistry in the countries like India which are not developed yet, so we need to preserve resources and contribute in making the environment safer and healthier.*

**Keywords:** Eco-friendly dentistry, green dentistry, developing country

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### **INTRODUCTION**

The green color has the potential to heal and is considered as the most resting and relaxful color. The green color plays an important role in enhancing vision, stability and endurance. The green color also indicates the safety in advertisement and publicity of drugs and other medical products. The color green is also related to many more like renewal, growth and hope. The dental practices and environmental conservation are combined together to work as a unit in green dentistry [1].

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Dentistry generates lots of biomedical waste which include sharps, any unrequired items, contagious waste like blood-drenched cotton, dressings etc. Elements like mercury, lead is also generated which are hazardous in nature. The chemicals used in film developers, fixers and disinfectants also come in biomedical waste. Latex gloves, plastic pouches, plastic suction tips are also generated as disposable items [2].

Thus, the green dentistry act as a high-tech way which helps in reducing the hazardous impact on environment via dental practices and also act as a circumscribed version of dentistry that supports and maintains wellness and health of the patients along with environment [5, 6].

### **Components of Green Dentistry:**

1. Reduce dental waste
2. Pollution prevention
3. Conservation of water, energy, and money
4. Hi-tech dentistry [2].

### **How to reduce dental waste?**

6 ways to reduce dental waste are: -

1. Digital imaging can be a good alternative of traditional methods.
2. An amalgam separator can be used.
3. Reusable sterilization items can be introduced.
4. We can combine the orders to reduce the packaging waste.
5. The old instruments should be recycled and reused.
6. Non-toxic, biodegradable surface disinfectants and cleaners can be used [2].

### **Conservation of water, energy and money**

1. The star-rated printers, computers should be used which will further help in conserving the energy.
2. Motion sensors can be used which will automatically turn off the lights.
3. Waterless hand sanitizers can be used which are eco-friendly.
4. All electrical items should be powered off at night.
5. The LED sensors can be used as an emergency indicator.
6. Esthetic restorations should be preferred [2].

### **Hi-Tech Dentistry**

#### **It includes the following:**

1. The Digital imaging system
2. The CAD/CAM systems
3. There should be separate sharps disposal equipment in the office that renders sharps inert.
4. Elimination of the chemicals can be done by using steam sterilizers.
5. Patient charting, scheduling, and billing can be digitalized.
6. Patient- dentist communication system should be digital paperless such as E-mail appointments and reminders.
7. Diode lasers can be used instead of packing cords.
8. In promoting and marketing, the use of website should be preferred.
9. The patient record should be maintained in electronic format.
10. The compressors should be used which are oil free [2].

### **Why green dentistry?**

1. **Safer for us:** It is safer than other dental methods. The safety of the patient is main concern in green dentistry. Digital x-rays help in reduction of exposure to about 80-90 %. Mercury, the controversial element is never used in green dentistry due to its hazardous nature.
2. **Safer for environment:** Due to digitalization, no chemicals are used for the processing of the films, also the amount of paper used is very less. So, we can say that like any other businesses our dentistry can also contribute to save our environment.
3. **Stronger and more natural:** Metals are not used in any restorative material in a green dentistry. The dentists go for ceramic and composite restorations which are also esthetically proven and looks so natural [4].
4. **Chemicals are less and disposables:** Instead of using the reusable items and synthetic materials or chemicals daily, green dentists used to lessen the disposables to reduce hazardous waste and instead they use advanced autoclaves and sterilization techniques which cause less harm to the environment.
5. **Green dentistry is here to stay:** Nowadays majority of dental clinics are becoming more efficient in conserving energy and concerned about the safety of patient. Like other businesses and industries which take ecofriendly options, dentistry is also going to contribute in protecting our mother earth [3].

### **Green Directions:**

#### **Green dentistry recommends the following:**

- A newer sterilization program should be implemented which is an eco-friendly program, it will simultaneously eliminate the requirement of disposable autoclave wraps.
- A separate method or technique should be used to reprocess the paper and the plastic content of autoclave bags separately.
- The wet vacuum pump should be replaced with a dry one.
- Digital radiograph should be installed rather than traditional film-based X rays.
- The fixer and developing solution should be recycled, & also reprocess the foil which is made up of lead.
- The surface disinfectants should be used which are eco-friendly such as tea tree oil or thyme.
- The use of disposable plastic or paper barriers should be minimized.
- The halogen lighting should be replaced by fluorescent.
- The cathode ray tube should be replaced by liquid crystal for computer monitors.
- Linoleum should be preferred to clean the floor. The compound which is ultra-low volatile should be used as a paint [2].

### **Conclusion**

GREEN dentistry is the upcoming and ongoing approach to protect the environment from any kind of hazardous effect arising from dentistry. The word green not only signifies color but also has become the symbol of growing. The whole world is engaged in making the green movement successful. Green

dentistry is beneficial to patient in both the ways like in quality treatment along with the cost effectiveness. A single dental office will not be able to fulfill the commitment so combined efforts will be needed. Thus, it is a responsibility of all the dentists around the world to contribute in making the environment greener by adapting to green dentistry.

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