

Balancing Infection Prevention and Environmental Responsibility



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Objectives:

Define environmental responsibility.

Identify ways that practices can adapt to reduce environmental impact.

Discuss the importance of disposable products in IPAC.

Evaluate the benefits of utilizing products that are biodegradable.

Investigate available biodegradable products for dentistry.

What is environmental responsibility?



- Duty to protect and improve our environment
- Environmental stewardship = reduction of:
 - Pollution
 - Waste
 - Natural resource consumption
 - Emissions - Reducing carbon footprint



Is it the same as “being green”?



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What does it take to be a green practice?



Audience Question



Does your practice/facility currently have any green strategies in place?

Yes

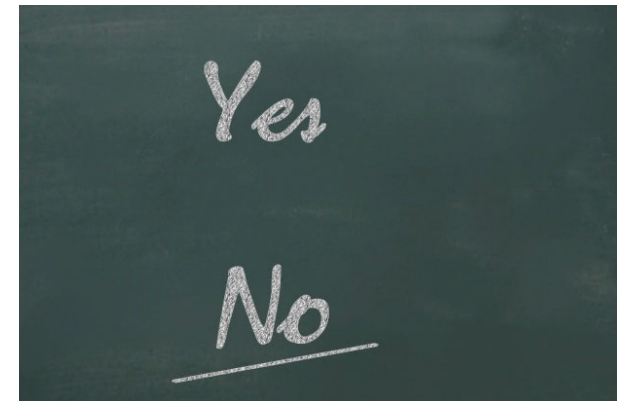
No

Not sure

Assessment



- **Do we believe it is worthwhile?**
 - What is possible?
 - What is reasonable to achieve?
 - What impact will it have on:
 - Safety – IPAC
 - Team – good work vs. more work
 - Patients - favorability
 - Overhead expenses



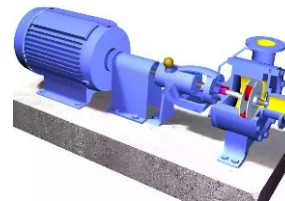
Energy, Water and Resource Conservation



- HVAC use – temperature settings
 - Set to “on” not “automatic”
- LED vs. fluorescent lighting
 - Motion activated light switches
- Window coverings to help control room temp.
- Water conservation
 - Water-less evacuation systems
- Oil-free air compressors



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Paper vs. Electronic Records/Documents



- Save documents electronically rather than printed copies
 - PDF, image, or other document file format
- Electronic charts
- Schedules, route slips – use electronic version



Recycling – How?



- **Are services available at the office?**

- Find out from local government and/or trash service
- Can items be taken to recycling center?
- What can be recycled in your area?



- **Other resources:**

- EPA <https://www.epa.gov/recycle/how-do-i-recycle-common-recyclables>
- Earth911 (app) <https://earth911.com/irecycle/>
- Recycle Nation (app) <https://recyclenation.com/>

Recycling – What?



- Shipping materials
- Paper, magazines, etc.
- Ink and toner cartridges
- Plastic containers – look for recycle symbol
- Food service containers
 - Glass, plastic, styrofoam, cardboard, boxboard, etc.
- Product containers or packaging
 - E.g., disinfectant wipe tubs, jugs from solutions

PLASTIC RECYCLING CHART						
1	2	3	4	5	6	7
PET	HDPE	PVC	LDPE	PP	PS	OTHER
POLYETHYLENE TEREPHTHALATE	HIGH DENSITY POLYETHYLENE	POLYVINYL CHLORIDE	LOW DENSITY POLYETHYLENE	POLYPROPYLENE	POLYSTYRENE	OTHER PC POLYCARBONATE
COSMETIC CONTAINERS FOOD JARS JELLY AND JAM CONTAINERS MULTILAYER BOTTLES FRANKY BUTTER CONTAINERS PLASTIC BOTTLES PREPARED FOOD TRAYS SALAD DRESSING BOTTLES SINGLE USE WATER BOTTLES SOFT DRINK BOTTLES SPORT DRINK BOTTLES	AGRICULTURAL PIPES DETERGENT BOTTLES EXTRUDED PIPE GROCERY BAGS ICE CREAM TUBS MILK JUGS JUICE JUGS OIL TYPENAR BOTTLES PAULS PLUMBING EQUIPMENT SHAMPOO BOTTLES SHIPPING CONTAINERS	BLISTER PACKS BLOOD BAGS CABLE BRACKETING CARPET BACKING FLOOR TILES GARDEN HOSE MEAT WRAP MEDICAL TUBING OUTDOOR FURNITURE WINDOW FRAMES WIRE INSULATION	6-PACK RINGS BRAGG BAGS DRY CLEANING BAGS GARBAGE BAGS HEAVY DUTY BAGS MOLDED LABORATORY EQUIPMENT PLASTIC FOOD WRAP MEAT WRAP RECYCLING BINS REUSABLE BOTTLES TOYS	BOTTLE CAPS CEREAL LINERS COTTAGE CHEESE CONTAINERS HINDED LUNCH BOXES KETCHUP BOTTLES MARSHMALLOW CONTAINERS MEDICINE BOTTLES MICROWAVE OVENWARE PACKING TAPE POTATO CHIP BAGS RUBBERMAID CONTAINERS STRAWS TOYURT CONTAINERS	CAFETERIA TRAYS 10 AND 20 OZ CANS DISPOSABLE HOT OR COLD DRINK CUPS & PAPER PLATES DRINKING GLASSES EGG CARTONS FAST FOOD CLAMHELLS FISH PACKING HINDED BAKERY CONTAINERS PACKING PEANUTS PLASTIC CUTLERY STYROFOAM TOYS YOGURT CONTAINERS	BABY BOTTLES CAR PARTS FIREGLASS LARGE WATER BOTTLES HALOGEN BOTTLES BPPY CUPS TUPPERWARE WATER COOLER BOTTLES

Are plastics biodegradable?



- Some, but not all are biodegradable
 - Ability to break down into water, CO₂, and biomass in a given time frame
 - Plastics that are:
 - Starch, bacteria, soy, cellulose, lignin-based, and natural fibers reinforced by plastic
- Remember that many plastics can be recycled into other usable products and materials



Image Source: Tipa-Corp

Recycling – What?



- Batteries
 - Use rechargeable when possible
 - Recycle single use batteries
- X-ray supplies from analog systems
 - Solutions and lead foil
- Electronics
 - Computers, monitors, printers, etc.
 - Items with memory must have memory (hard drives) removed or destroyed for HIPAA compliance



IPAC Products/Items and the Environment



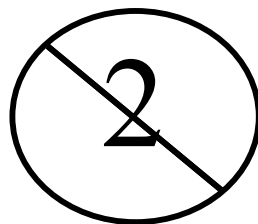
Use of disposables

No need to clean and sterilize or disinfect
Saves time
Adds to environmental waste

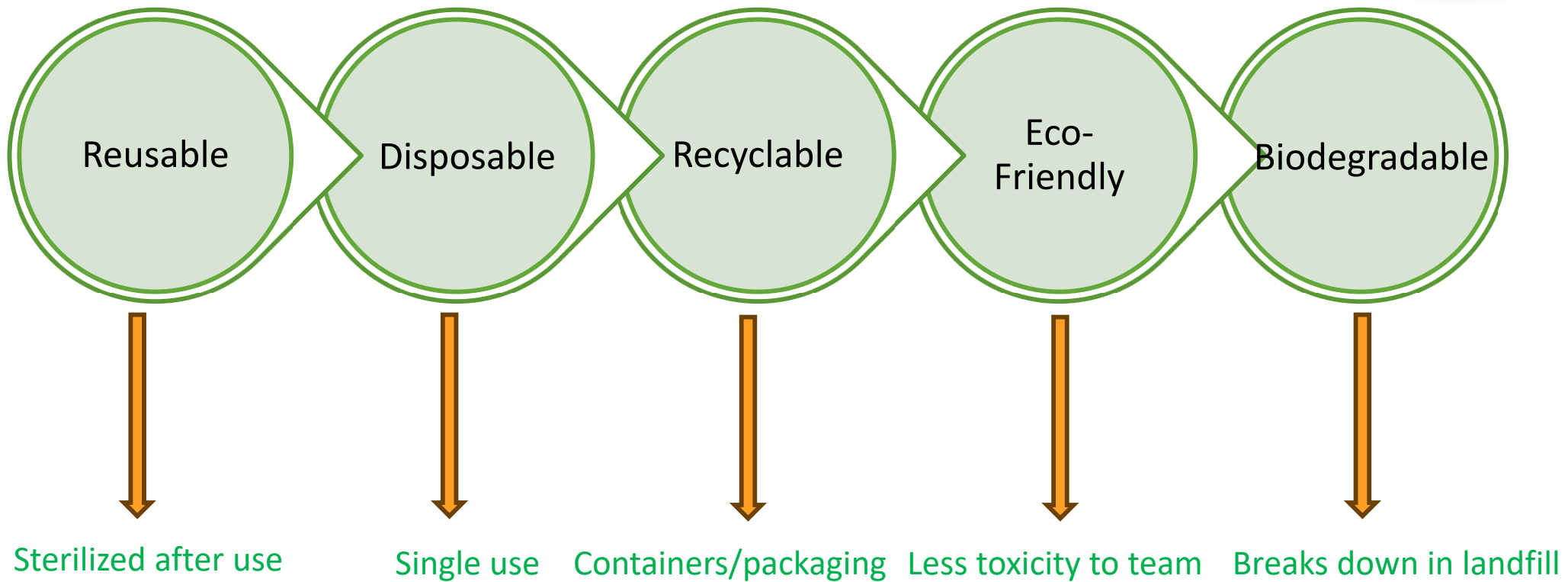


Can an item be safe for reuse?

Cleaning
Disinfection or sterilization
Is it designated as a single use item by the FDA?



The Balance Between the Environment and Infection Control



Single Use Items – cannot be reused



- Face masks
- Gloves
- Paper/plastic sterilization pouches
- Disposable suction tips
- Disposable prophylaxis angles – cups, brushes, etc.
- Burs – including diamonds

Reusable Items



- Cleaning
- Sterilization or High-Level Disinfection
- Is item heat stable?
- Is there a heat stable alternative?
 - E.g., cheek retractors
- Always follow manufacturer's instructions for use.

What is an Eco-Friendly Product/Item



- Marketing term
 - Products, items/devices
 - Manufactured of materials that can break down or be recycled into other items
- Designed to have little or no damaging effect on the environment
 - E.g., disinfectants
- Can also refer to individual actions
 - Using public transportation, carpooling
 - Walking, riding bicycle



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What does it mean if something is biodegradable?



- The material breaks down naturally into smaller components.
 - Into sugars and gases
 - Bacteria and fungi are the mechanism – come from the soil
 - Food waste, paper waste, biodegradable plastics



- Aluminum cans (8 to 200 years)
- Tin cans (50-100 years)
- Ziplock/grocery bags (1,000 years)
- Straws (400 years)
- Wrap (1,000 years)
- Bottles (10 to 1,000 years)
- Coated milk cartons (5 years)
- Six-pack plastic rings (up to 450 years)

Source: Webstaurant Supply

Are there other biodegradable materials in dentistry?



- Yes
 - A/W syringe tips, evacuation tips, cups
 - Prophy angles
 - Face masks
 - Toothbrushes
 - Exam gloves

What about all the gloves we use?



- Latex
 - Made from natural rubber
 - Concerns over latex sensitivity



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- Nitrile
 - Synthetic rubber
 - Fit and flexibility of latex gloves



Can gloves be biodegradable?



- Latex
 - Natural rubber
 - Biodegradable in ~5 years
- Nitrile
 - Not all are biodegradable – some may take >200 years
 - Not all biodegradable are medical grade gloves
 - Beware of purchasing online from sellers not associated with dentistry and medicine

Biodegradable Nitrile Gloves



- Bio Nitrile[®] - Cranberry
 - Meets/exceeds ASTM standard D6319 standard for nitrile gloves
 - Fit, strength, flexibility, etc.
 - Studies show that gloves are 80% biodegradable in 1.5 years



GREEN LEADER INITIATIVE



American Association of Dental Office Managers (AADOM)

<https://www.dentalmanagers.com/membership/recognition/green-leader/>



- Use of Green Products in the Practice
- Use of Green Practices
- Environmental mindset around your dental practice
- Sets example for his/her dental team
- Current AADOM member and Office Manager
- Must be present at AADOM Conference

Eco Dentistry Association



<https://ecodentistry.org/>



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QUESTIONS?