



Greening the OR

Introduction

Between 20 and 30% of a hospital's waste stream may be generated in just one department-- Surgical Services. Greening the OR™ is a Practice Greenhealth program focused on providing concentrated sustainability support and assistance to a department that generates a significant portion of the hospital's environmental footprint. The Greening the OR™ program aims to improve worker and patient safety, increase efficiency, and reduce cost while concurrently reducing waste, energy and environmental impact. Practice Greenhealth is looking forward to learning about your programs in this important department.

Practice Greenhealth recognizes leading hospital OR departments with its stand-alone **Greening the OR Recognition Award** that recognizes a baseline set of achievements in reducing the environmental impact of the surgical department. Any Practice Greenhealth member health care facility with **operating rooms** – whether acute inpatient hospital or ambulatory surgery center – is eligible for and considered for this award by completing this page.

Practice Greenhealth will continue to recognize the (one) outstanding performer in Greening the **Operating Room** with its **Greening the OR Leadership Award** and the top 10 performers through its **Greening the OR Circle of Excellence**.

1. Does your facility have **operating rooms**/procedure rooms or perform a significant amount of surgery?

- ☒ Yes
☐ Not Applicable

This page intends to gather information on facilities performing surgical procedures. If your facility only performs minor procedures on rare occurrences, then please select "Not Applicable" and provide a brief explanation.

If your facility does not have **operating rooms**/does not perform surgical procedures, please move on to the next page (leaving the rest of this page blank).

2. Does your facility have a sustainability champion in the OR?

- ☒ Yes
☐ No

This question is asked "new" each year, as champions can come and go--and Practice Greenhealth wants to understand who was influencing the OR work over the course of 2019.

2.a Name of sustainability champion or leader in the OR:

2.b Title of sustainability champion or leader in the OR:

2.c Email of sustainability champion or leader in the OR:

Waste Segregation & Management

Proper waste management is critical to any successful environmental stewardship program, but it is especially important within the **operating room**. **The OR can account for 30% of a facility's overall waste and more than half of its regulated medical waste.** There are strategies to reduce the amount of waste generated by the OR, but it's also important for facilities to ensure that the waste is being properly segregated to maximize **recycling** and reduce cost. Please use this section to highlight the waste segregation strategies implemented by the surgical department.

You may leave a requested data point blank, but please **do not enter zeros. Enter savings as a positive number.**

3. Please select which processes the facility has in place to reduce and divert waste in the **operating room**:

- ☒ Diverts **pre-incision (prior to case)** waste from **regulated medical waste stream** into solid waste or recycling stream
☒ Segregates non-infectious solid waste from the regulated medical waste stream **during the procedure**
☒ Segregates non-infectious solid waste from the regulated medical waste stream **after the procedure**
☒ Recycles clinical/medical plastics in the OR

☐ None - the facility is not segregating waste in the OR at this time.

3.a Please select all clinical/medical plastics being recycled in the operating room:

- ☐ Basins
- ☐ Blister packs/shrink wrap
- ☐ Blue wrap
- ☐ Corrugated respiratory tubing
- ☐ Irrigation bottles
- ☐ IV bags, tubing and outer plastic wrap
- ☐ Light handle covers
- ☐ Medication vials and caps
- ☐ Overwraps
- ☐ Oxygen tubing
- ☐ Peel pouches
- ☐ Perfusion tubing
- ☐ Respiratory face masks
- ☐ Rigid inserts
- ☐ Skin prep solution bottles
- ☐ Syringe casings
- ☐ Trays
- ☐ Tyvek
- ☐ Urinals/Bedpans
- ☒ Other

3.a.a Please describe **other** plastics being recycled in the OR in 2019:

4. Does the facility utilize a fluid management system that **does not use** disposable suction canisters as a means of collecting and disposing fluid medical waste (i.e., mobile cart, reusable canister systems, or direct-to-drain system)?

- ☒ Yes
☐ No

4.a Please briefly describe the fluid medical waste disposal system being utilized:

4.b Is this system being utilized for fluid management in more than 75% of ORs?

- ☐ Yes
☐ No

Medical Device Reprocessing

Reprocessing of medical devices goes beyond the operating room and includes many other patient care areas. To simplify, Practice Greenhealth is asking all questions pertaining to SUD reprocessing on the Greening the OR page. Please enter all SUD reprocessing data below.

5. Has the facility implemented a medical device reprocessing program with an FDA-approved third party reprocessor?

Yes

5.a Please indicate which elements of a medical device reprocessing program your facility engages in:

- ☐ The facility **collects** medical devices for reprocessing by an FDA-approved third party reprocessor.
- ☐ The facility **purchases** medical devices that have been reprocessed by an FDA-approved third party reprocessor.

Waste Reduction in the OR

Identifying opportunities to eliminate unnecessary waste from the operating room waste stream can help facilities reduce upfront purchase costs as well as avoid waste disposal costs, and reduces the amount of waste requiring disinfection/treatment. Please highlight any strategies or projects the facility has utilized to reduce the amount of waste leaving the OR, including reducing unnecessary supplies, better inventory tracking, using reusable or reprocessable equipment, and more.

6. Does the facility **reformulate custom procedure packs**--removing supplies not typically used--to reduce purchase and disposal fees for excess supplies, and decrease the environmental impact of manufacture and disposal of those supplies?

- ☒ Yes
☐ No

Please fill in **Table C**. Please enter the number of **types** of kits the facility uses (e.g., 32 different types of custom kits, of which, 28 types were reviewed).

Table C. OR Kit/Custom OR Procedure Pack Reformulation Waste and Supply Savings

Total number of Custom OR Procedure Pack Types	6.a <input type="text"/>
Number of Pack Types Reviewed	6.b <input type="text"/>
Percent of OR Custom Pack Types Reviewed	6.c 0 <input type="text"/>
Optional:	
Avoided Purchase Cost of Unnecessary Supplies	6.d <input type="text"/>
Avoided Waste Disposal Savings (\$)	6.e <input type="text"/>
Other Savings	6.f <input type="text"/>
Total Savings	6.g 0 <input type="text"/>

7. Does the facility purchase and use **reusable surgical items** where environmentally and clinically preferable?

Select an option... ▾

8. Does the facility utilize **reusable sterilization containers** for surgical instrumentation and reduction of disposable sterile wrap?

☒ Yes

☐ No

Please fill in Table E. (E.g., the facility used 6250 total instrument trays in 2019; of those, 4688 instrument trays were sterilized in reusable containers for a total of 75% trays in reusable sterilization containers)

Table E. Savings from Reusable Sterilization Containers in the OR

Total number of instrument trays used	8.a <input type="text"/>
Number of instrument trays used in reusable sterilization containers	8.b <input type="text"/>
Percent of instrument trays utilizing reusable sterilization containers	8.c 0 <input type="text"/>
Optional:	
Avoided purchase cost (\$ saved) of bluewrap	8.d <input type="text"/>
Avoided waste disposal (tonnage)	8.e <input type="text"/>
Avoided waste disposal fees	8.f <input type="text"/>
Other comments or savings	8.g <input type="text"/>

Total savings	8.h 0

Energy Management

The **operating room** is a significant user of energy, with high demand from life-saving medical equipment, high air change per hour requirements, lighting, and more. As a result, strategies to reduce energy consumption in the **operating room** can derive considerable cost and energy savings. Please highlight any energy efficiency projects or strategies in the **operating room**.

ASHRAE 170 requires a certain number of air changes per hour to ensure patient safety and reduce the risk of surgical site infections in the OR. Some facilities assume that more air exchanges (exceeding code) equals better patient safety despite little clinical evidence to support it.

For more information on HVAC Setback Programs for the **Operating Room**, please see the American Society for Healthcare Engineering **OR HVAC Setback Monograph** available [here](#).

9. Has the facility **programmed the HVAC system to reduce air changes per hour** (HVAC setback) when the **ORs** are **unoccupied** to reduce energy consumption?

☒ Yes

☐ No

9.a What mechanism(s) does the facility use to control HVAC setback?

☐ Occupancy sensors

☐ Mushroom button

☐ Scheduling system

☐ Building Automation System

☒ Other

9.a.a Please describe other mechanisms used for control of HVAC setback:

Table F1. HVAC Setback in the OR

How many ORs have implemented an HVAC setback program?	9.b <input type="text"/>
Operating Rooms (ORs):	9.c <input type="text"/> From your Facility Profile.
Your facility utilizes HVAC setback in this percent of your ORs, based on above information:	9.d 0 <input type="text"/>
What is the rate of air exchanges per hour (ACH) when the OR is occupied ?	9.e <input type="text"/>
What is the rate of air exchanges per hour (ACH) during unoccupied/setback mode ?	9.f <input type="text"/>

10. Does the facility utilize **LED surgical lighting**?

☒ Yes

☐ No

Table G1. LED Surgical Lighting in the OR

How many ORs are equipped with LED surgical lighting?	10.a <input type="text"/>
Operating Rooms (ORs):	10.b <input type="text"/>

Your facility utilizes LED surgical lighting in this percent of your ORs, based on above information:	10.c 0

11. Does the facility set back or turn down ambient lighting to reduce energy consumption when the OR is unoccupied and not in use?

- ☐ Yes
☐ No

Anesthesia Use

Leading hospitals are re-evaluating the anesthesia care regime for environmental stewardship opportunities that align with patient safety and/or cost reduction. Choice and management of anesthetic gases is important to the facility's overall greenhouse gas (GHG) emissions and climate impact. The volatile anesthetic agents used for patient care in an **operating room** or procedural setting are often vented directly into outside air. Even intravenous anesthetic agents, which don't generate greenhouse gases, have an impact on the environment and must be incinerated rather than contaminate land and water supply. And with severe drug shortages, it is even more critical to be sure the facility is carefully managing their use. Tracking and evaluating the use of the different anesthetic agents that are both clinically effective and environmentally preferable is indicative of culture change within the clinical practice.

12. Has the facility provided or held **anesthesia staff education** on environmental impacts of inhaled anesthetics and reduction strategies for clinicians?

- ☒ Yes
☐ No

12.a Please describe anesthesia education or strategies:

13. Please describe any additional work the facility has done around anesthesia strategies:

Other Greening the OR Program Successes

Please describe any other innovative Greening the OR programs or successes at the facility this past year (not mentioned above) that you would like to share in the spaces below. Please feel free to provide commentary and/or attach a file.

14. GOR Success 1: Please describe

15. Please attach any additional documentation (optional) for GOR Success 1:

16. GOR Success 2: Please describe

17. Please attach any additional documentation (optional) for GOR Success 2:

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