



AORN Position Statement on Environmental Responsibility

POSITION STATEMENT

Nurses have an ethical and professional responsibility to advocate for patients' health.^{1,2} Because human health is affected by and is dependent on the surrounding environment, by extension, nurses must work to actively protect the environment by promoting and participating in initiatives that mitigate environmental impact.³

AORN endorses the *ANA's Principles of Environmental Health for Nursing Practice with Implementation Strategies*.⁴ AORN supports environmental responsibility in the perioperative setting and provides guidance for incorporation of environmentally responsible practices where applicable in the AORN recommended practices.⁵⁻⁷

AORN believes that the perioperative RN should serve as a steward of the environment by assessing for and seeking knowledge about perioperative practices that negatively affect the environment. As stewards, perioperative RNs also should actively promote and participate in sustainability practices that preserve natural resources, reduce waste, and minimize exposure to hazardous materials.

Environmentally responsible practices must be in compliance with local, state, and federal regulations, and should align with guidelines from professional organizations. Practices that can be implemented in perioperative settings include the following:

Conserve natural resources by

- advocating for Leadership in Energy and Environmental Design (LEED) certification or green building codes;
- establishing diversified facility energy portfolios that include renewable energy sources;
- installing flow-control or motion-activated fixtures on water and lighting systems;
- replacing incandescent light fixtures with energy-efficient light bulbs and lamps;
- implementing procedures to power down lights, equipment, and computers when they are not in use;
- programming heating, ventilation, and air conditioning systems and evacuation systems to save energy when ORs are idle; and
- acquiring energy-efficient, durable medical equipment and supplies (eg, washers/sterilizers, LED light sources).

Reduce waste by

- adopting environmentally preferable purchasing policies and practices;
- segregating regulated medical waste;
- considering appropriate waste receptacle placement and sizing;

- installing closed fluid management systems with reusable canisters that eliminate unnecessary exposure to bloodborne pathogens and chemical solidifiers;
- reviewing procedural packs periodically to remove unused items;
- avoiding supply overages by reducing supply purchases and maintaining an accurate inventory to reduce the number of expired supplies;
- selecting reusable equipment and materials (eg, instruments, patient monitoring equipment, sterilization containers, sharps containers, drapes, gowns, patient positioning devices) that are of a quality equal or superior to one-time use items;
- recycling clean, noninfectious material (eg, medical plastics, packaging material, paper);
- reprocessing single-use devices according to US Food and Drug Administration guidelines⁷;
- refurbishing instruments and equipment with proactive maintenance and repairs;
- investigating the feasibility of donating expired, obsolete, clean, or unused materials and equipment (eg, electronics); and
- opening only necessary sterile supplies, medical devices, and implants.

Reduce hazardous material exposure by

- eliminating materials and supplies that contain mercury or toxicants [eg, di(2-ethylhexyl)phthalate (DEHP), polyvinylchloride (PVC)] and those that produce dioxins when processed for disposal;
- evacuating smoke and laser plume;
- purchasing and using effective but safer, least-toxic cleaning chemicals, processes, and equipment;
- scavenging and capturing waste anesthesia gases;
- complying with local, state, and federal regulations; manufacturer's instructions; and health care organization policy when disposing of pharmaceuticals⁶;
- using reusable batteries where approved by biomedical engineering personnel and complying with safe disposal or recycling practices for batteries; and
- ensuring electronic equipment (eg, monitors) and related supplies (eg, printer ink and cartridges) are managed in an environmentally responsible and regulatory-compliant manner and/or are recycled at the end-of-life phase of use.

RATIONALE

Protection of the environment has been a concern of the nursing profession since the 1800s. When commenting on principles of Florence Nightingale, Sister Callista Roy, PhD, RN, FAAN, stated: "No amount of medical knowledge will lessen the accountability of nurses to do what nurses do, that is, manage the environment to promote positive life processes."^{8(p66)} Effective resource conservation and environmental management can better protect and improve environmental health.

Public health data over the past 40 years, and more recently in the past 10 years, show alarming trends in the increased incidence of chronic diseases that affect the neurologic, reproductive, and endocrine systems in humans, all of which have been

linked to exposure to toxic chemicals and industrial pollutants.⁹⁻¹¹

Health care as an industrial sector contributes 8% of US greenhouse gas emissions¹² and generates 5.9 million tons of waste per year (26 lb per staffed bed per day), one-third of which comes directly from the OR.¹³ Product packaging, single-use sterile wrap, and suction canisters are all significant contributors to the OR waste stream. Infectious waste management alone can consume as much as 20% of a hospital's annual budget for environmental services.¹⁴ Inpatient facilities spend more than \$5 billion per year on energy, more than any other type of building per square foot of space.¹⁵ Energy demands are increasing to support new and existing technology.^{15,16} Water used for sterilizing, heating, cooling, and hand sanitizing contributes to excessive consumption of this natural resource.

In addition to supporting public health and well-being, adopting best environmental practices also can reduce costs, optimize operational efficiency, and enhance patient and worker safety.¹⁵ Nurses, the largest group of health care providers¹⁷ and the most trusted of all health care professionals,¹⁸ are in a position to live up to their ethical responsibility to advocate for patient health by educating others about strategies to protect the environment and to lead by demonstrating actions that can be taken to protect the environment.

GLOSSARY

Environmentally preferable purchasing: Buying products or services that have a lesser or reduced effect on human health and the environment when compared with competing products or services that serve the same purpose.

Green building codes: Codes used during the design of buildings that require the buildings to be energy efficient and water conserving, have low environmental impact, and have high indoor air quality, among other requirements.

Infectious waste: The definition varies from state to state but, broadly defined, is waste that is capable of spreading infectious diseases (eg, blood, body fluids, sharps).

LEED status: An acronym for Leadership in Energy and Environmental Design established in 1998 by the US Green Building Council. A standardized rating system through which organizations can earn LEED credits and certifications to validate the design, construction, and operation of green buildings.

Sustainability: Business operations that meet the needs of the present without compromising the ability of future generations to meet their own needs.

Sustainable purchasing: Supply management practices that include purchase and selection of environmentally friendly products, equipment, and devices. Terminology may vary by region. Other terms include preferable purchasing and environmentally preferable purchasing.

Waste stream: Flow of discarded materials and fluids that eventually return to the land, water system, or air through sewer, landfill, or incineration.

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Editor's note: AORN has taken a stance on environmental issues for more than 20 years.

The format of the documents has changed since the original position statement was approved by the Board of Directors in September 1990. In October of 1993, the position statement was revised into a recommended practices document. In March of 2006, the content from the recommended practices was revised into a guidance statement as well as a position statement. In 2012, the content from the guidance statement was revised and consolidated into the position statement and added to online content at <http://www.aorn.org>.

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