

AT A GLANCE

Implementing Environmental Marking Audits for Environmental Cleaning in Five Steps

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Background

Environmental marking audits help identify if staff are following best practice. It is one of three types of audits used to measure, evaluate and improve the effectiveness of a setting's environmental cleaning practices. This document is part of The Environmental Cleaning Auditing series and its companion products. The steps in this document are a continuation of [Introduction to Implementing Environmental Cleaning Auditing](#).

Objectives

The purpose of this document is to provide considerations for health care settings to develop or improve the auditing portion of their environmental services department's quality control program. It provides:

- an overview of the implementation steps of an environmental cleaning audit process to support infection prevention and control (IPAC) best practices,
- environmental cleaning best practices, and improvement initiatives;
- guidance on how to use a 5 step approach to implement visual assessment environmental cleaning audits within an organization.



Step 1: Plan

Prior to using this guide ensure you have completed Step 1 in [Introduction to Implementing Environmental Cleaning Auditing](#).

Step 2: Audit

To start auditing, use the [Environmental Cleaning Environmental Marking Audit Tool](#) or your organization's own form(s).

Audit content

The form contains 16 surfaces that organizations should consider. Organizations can use these surfaces or add/remove surfaces as required. The form contains five additional blank spaces that can be used to add items. Your setting's audit committee should determine the surfaces to be included in the audit and should take into consideration the area and issues faced by your setting. Surfaces should be:

- the responsibility of environmental services to clean
- frequently present in the setting
- non-textured so that the fluorescent marker is easily removed
- able to be marked in a consistent manner

When first implementing an audit program it may be useful to mark as many surfaces as possible in each area.¹ This will allow your setting to immediately identify potential areas for improvement¹⁻² and establish a baseline for your organization from which meaningful change can be detected. Once a program is established, the number of surfaces marked can be reduced. Depending on the area being audited, it may be advisable to mark between 5-10 surfaces.^{1,6}

Surfaces should be marked in a consistent manner so that results can be standardized. They should be marked in an area where patients, residents, and health care workers are likely to touch the object. Suggested marking locations can be found in [Appendix 1: Suggested Environmental Marking Audit Locations](#).

Conducting the Audit

The [Environmental Cleaning Environmental Marking Audit Tool](#) is used to identify surfaces that may be missed by environmental staff when cleaning an area. This tool is used to ensure that environmental marking audits are being performed in a consistent manner. The tool allows an opportunity for on-the-spot feedback to the individuals as well as data collection to help create immediate and long-term improvements. Staff should be aware that environmental marking audits are being conducted but not which rooms have been marked or what targets have been marked.

A random sampling of room types, shifts, and cleaning types (e.g., daily clean, discharge clean, etc.) should be selected to ensure audits are representative of the organization as a whole.

Prior to cleaning, a mark should be placed on each surface in accordance with the manufacturer's instructions for use. This can be done in advance of the next scheduled cleaning. After cleaning, the auditor will use a revealing agent to determine which surfaces still have marker remaining. Surfaces which still have all or some of the marker visible will be deemed "not cleaned". The auditor should use a disinfectant wipe on any surface deemed "not cleaned" to determine if the marker will wipe off. If the marker cannot easily be removed, it will be recorded as "N/A" and the auditor will record it in the comments section.

The comments section can be used to note any difficulties, describe the issues identified, or list any concerns from the auditor or staff members. Feedback is then given to the environmental services staff or supervisor.

Acceptable result

Determine what an acceptable result for an audit is. An acceptable result may vary based on what the risk associated with an area is. Appendix 21 of [PIDAC: Best Practices for Environmental Cleaning for Prevention and Control of Infections in all Health Care Settings, 3rd Edition](#) can be used to determine risk.^{7,8} For example, you may choose to create a goal for an Intensive Care Units that is more stringent than for an orthopedic ward.

Timing and frequency

Environmental marking audits need to be performed frequently enough to provide meaningful information to stakeholders. Based on the risk associated with the area being audited, audits may need to be conducted monthly, quarterly, or at a different frequency based on the organization's specific needs. Appendix 21 of [PIDAC: Best Practices for Environmental Cleaning for Prevention and Control of Infections in all Health Care Settings, 3rd Edition](#) can be used to determine risk.^{7,8}

A sufficient number of audits will need to be performed in each round in order to detect meaningful changes in cleaning practice.¹ The number of audits performed should be based on the size of the organization. Large organizations with >100 beds may decide to only audit a small percentage of their beds (5-15%) while small organizations may need to audit every available room.^{1,9} A minimum number of audits should be determined regardless of organization size. Some jurisdictions have set a minimum of 15 rooms per audit cycle.¹ If a percentage of an area is audited in one session, consider auditing different rooms/areas in the next audit session (i.e., do not repeatedly audit the same 15 rooms).

Step 3: Analyze and Strategize

Once the audits have been performed, the information collected should be reviewed and analyzed to determine what is working well and what needs to be improved. Prioritize action items based on safety risk and available resources.

Collect and analyze data

The results of the audits can be tabulated in a simple spreadsheet or table, such as PHO's Excel-based [Environmental Cleaning Environmental Marking Audit Analysis](#). Compliance rates can be calculated by dividing the number of surfaces that were cleaned by the number of surfaces that were observed. See [Appendix 2](#) for examples of compliance rates generated by the Environmental Marking Analysis Template.

Identify barriers

The purpose of environmental cleaning auditing is to assist staff in providing a safe environment for patients/clients/residents and not to penalize staff. In addition to collecting and analyzing the environmental marking audit data, organizations should also identify potential barriers that may be interfering with cleaning best practices. This may be done through observations and discussions with staff. Organizations should review if:

- cleaning responsibilities have clearly been communicated to staff.
- staff are adequately trained.
- there have been changes in the area that might be impeding the ability of staff to properly clean certain surfaces.

- sufficient time is being allocated for staff to do a thorough job.
- there have been changes in the equipment staff are using to clean.
- environmental services is adequately staffed.
- the frequency and timing of cleaning is appropriate.

Develop an Action Plan

Settings should develop an action plan with strategies based on the results and identified barriers. Collaborate with staff to identify solutions that best meet their needs. Collaboration with staff includes discussing barriers and participating in shared goal setting for improvement. The next section: Step 4: Implement Strategies, identifies potential strategies to include in your action plan.

Table 1: Example of an Action Plan

Area for Improvement/Barrier	Strategy/Action	Responsibility	Timeline	Action Complete
Call bell consistently not being cleaned. EVS staff felt this was a nursing responsibility.	Responsibility to clean this item will be reinforced at staff huddles.	Supervisor	Within 1 week	(Mark progress/completion)
Audits on one of the floors are consistently below the organizational average for all surfaces.	Audits on this floor will be temporarily increased.	IPAC Lead/shift change lead, manager	Sep 30, 2023	(Mark progress/completion)

Step 4: Implement Strategies

Strategies used to address action items identified from the audits can be implemented in different ways depending on the organization’s culture and resources. Involving staff in the implementation process will help to achieve more sustainable results.

The following are examples of improvement strategies that may be implemented based on audit results.

Strategy A: Deliver training to staff

Education and training should be targeted to the audience and help achieve the goals set by the team. Consider the following strategies for delivering education and training to staff:

- hold educational sessions to review best practices and to target the gaps identified from the audits.
- have staff re-visit online learning modules that are relevant to the issues identified.

- include training during staff huddles. The [Huddle Resource for Environmental Cleaning](#) can assist with this.
- distribute educational materials ensure materials are appropriate to the audience (e.g., consideration for level of education, language barriers, literacy).
- ensure that training is consistently made available to staff.
- vary the information delivery methods to cater to different learning styles and work contexts, and make the training interactive.
- provide ways for individuals to directly observe or shadow experienced people.
- use a train-the-trainer approach.
- assign new staff, or staff that are struggling, to a mentor.

Strategy B: Reminders of key practices

Reminder systems can provide an immediate prompt to staff to follow best practices. Consider the following strategies for providing reminders to staff:

- Develop or use existing reminder systems or prompts designed to help individuals recall information and/or prompt them to follow a practice such as posters, cart resources, or lanyard cards.
- If staff are open to feedback or reminders, identify a signal word that one staff could say to another to remind them of missed or incorrect practices.

Strategy C: Structure the environment

The way a workplace is organized and the work is structured can be adjusted to help facilitate best practices. Consider the following environmental factors:

- Evaluate the current configurations/flow and adapt as needed (e.g., adjusting the order that rooms are cleaned in).
- Evaluate the environment for barriers such as obstructions by carts, furniture, or clutter.

Strategy D: Adjust resources as required

The resources that need to be dedicated to environmental cleaning can change based on a number of factors. Consider factors that may be increasing the required level of resources, including:

- changes in practice or cleaning requirements
- an outbreak or change in the number of patients or residents on additional precautions

Strategy E: Increase Audit frequency

Temporarily increasing the frequency of auditing can lead to improvement. Some of the benefits of an increased auditing frequency include:

- helping staff ensure they are cleaning all the required items.

- giving staff an opportunity to demonstrate their improvement.
- addressing issues with staff not adhering to organizational policy.

Step 5: Improve and Sustain

Once an auditing system is established, it is important to continue conducting audits on a regular basis in order to identify any new gaps and to ensure previous gaps are not reoccurring. Integrating environmental cleaning audits, feedback, and action plans into the IPAC program will help lead to sustained improvement. The following are some strategies to support the sustainability of improvements.

Engage staff in a Start-Stop-Continue Exercise

Communicate and involve staff as much as possible in the process. Ensure that the language used and atmosphere are non-punitive and non-judgemental. Use qualitative feedback to review what is and isn't working along with quantitative results.

When making decisions about what to do next, consider a "Start-Stop-Continue" exercise with the team.

- Start: What should the team start doing?
- Stop: What should the team stop doing?
- Continue: What should the team keep doing?

Celebrate and recognize success and improvements!

Be sure to recognize success and staff contributions. Talk with the team and revisit the action plan to understand what is leading to these successes and if there were any barriers to getting there that could be planned for differently next time.

Regularly reassess the Program

The auditing program should be reassessed periodically. Determine if the form meets the setting's needs. Make changes to existing forms to align them with the setting goals and create new forms as required. Determine if the setting is ready to expand its auditing program to include additional audits.

Appendix 1: Suggested Environmental Marking Locations

Items appear in the same order as the Environmental Marking Tool.

Room surfaces

Door handle- On a round door knob, the mark is best placed as close to the middle of the face of the door knob as possible. If the knob has a locking mechanism, place the mark on the circular door plate that surrounds the handle. Lever-type handles can be marked on any easily cleanable surface somewhat where direct hand contact would be most frequent. Door push plates should be marked in the middle of the smooth part of the plate.

Light switch- Mark should be placed on the plate portion of the light switch.

Chair arm- Mark should be placed on the arm of the chair.

Bed rail – If the bed rail incorporates bed controls, the mark should be placed slightly away from the control buttons. If the rails do not have a controls, the mark should be placed on the smooth inner surface in an area easily accessible to cleaning.

Bedside table- Mark should be placed on the inside of a drawer handle if available. Mark should be placed on a corner on the top of the table otherwise.

Call bell- Mark should be placed on the back mid portion of the call bell.

Telephone – Mark should be placed on the back side of the hand-held portion of the telephone near the top of the phone.

Room sink faucet- Mark should be placed on the centre of the faucet handle if available or on the top of the faucet if the sink is touchless or foot operated.

Room sink basin- Mark should be placed on the rim at the rear of the sink to avoid water splashes.

Bathroom surfaces

Door handle- On a round door knob, the mark is best placed as close to the middle of the face of the door knob as possible. If the knob has a locking mechanism, place the mark on the circular door plate that surrounds the handle. Lever-type handles can be marked on any easily cleanable surface somewhat where direct hand contact would be most frequent. Door push plates should be marked in the middle of the smooth part of the plate.

Light switch- Mark should be placed on the plate portion of the light switch.

Bathroom sink faucet- Mark should be placed on the centre of the faucet handle if available or on the top of the faucet if the sink is touchless or foot operated.

Bathroom sink basin- Mark should be placed on the rim at the rear of the sink to avoid water splashes.

Handrails- Mark should be placed next to the textured surface where the rail curves towards the wall.

Toilet seat- Mark placed on the back of the toilet seat in an area readily accessible.

Toilet flush handle- Mark should be placed on the top of the handle approximately 2/3 away from the end of the handle.

Appendix 2: Examples of compliance rates generated by the Environmental Marking Audit Analysis

PHO's Excel-based [Environmental Cleaning Environmental Marking Audit Analysis](#) includes a Data Entry tab to record audit results. Compliance scores are automatically calculated as Aggregate Scores in a third tab and may be used as part of an Environmental Services Report.

The following examples of tables have been generated in the Environmental Cleaning Environmental Marking Audit Analysis.

Table 1: Compliance score for environmental marking audit of patient room

				Patient Room								
				Door Handle	Light Switch	Chair Arm	Bed Rail	Bedside Table	Call Bell	Telephone	Room Sink Faucet	Room Sink Basin
# of Targets Cleaned				6	4	4	4	3	3	1	2	4
# of Targets Marked				6	6	5	6	4	3	3	4	5
% of Targets Cleaned				100.00%	66.67%	80.00%	66.67%	75.00%	100.00%	33.33%	50.00%	80.00%
Category: Total # of Targets Cleaned				31								
Category: Total # of Targets Marked				42								
Category: % of Targets Cleaned				73.81%								

Table 2: Compliance score for environmental marking audit of patient bathroom

				Bathroom Surfaces						
				Door Handle	Light Switch	Bathroom Sink Faucet	Bathroom Sink Basin	Handrails	Toilet Seat	Toilet Flush Handle
# of Targets Cleaned				2	2	3	2	3	3	3
# of Targets Marked				4	4	5	3	4	4	4
% of Targets Cleaned				50.00%	50.00%	60.00%	66.67%	75.00%	75.00%	75.00%
Category: Total # of Targets Cleaned				18						
Category: Total # of Targets Marked				28						
Category: % of Targets Cleaned				64.29%						

Table 3: Compliance score for visual assessment of equipment

				Other		
				Keyboard	Blood pressure cuff	ECG Machine
# of Targets Cleaned				2	2	3
# of Targets Marked				4	4	4
% of Targets Cleaned				50.00%	50.00%	75.00%
Category: Total # of Targets Cleaned				7		
Category: Total # of Targets Marked				12		
Category: % of Targets Cleaned				58.33%		

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