PROJECT FIRSTLINE

Infection Control Case Study:

Bathing the Medically Complex Patient

Getting Started

Overview:

To facilitate student engagement and promote critical thinking, students will practice identifying infection risks in a realistic case study and propose appropriate actions to mitigate risks in a team-based environment. Drawing on the case study and associated references, students will gain experience in applying knowledge of infection reservoirs and pathways to the scenario. This learning activity includes Learning Activity Instructions, a Learning Activity Handout, and Instructor's Notes.

Course Type Recommendation: Courses for clinical healthcare students

Underlying Principle: Keeping patients, workers, and visitors safe from infections in healthcare settings requires recognizing risk and taking action.

Learning Objectives:

- Assess the risk of germ spread from environmental reservoirs in a clinical setting.
- Identify necessary infection control actions to reduce the spread of harmful germs.

Key Terms:

- ***Reservoir:*** places on and in our bodies and in the environment where germs live and grow
- ***Pathway:*** how germs spread or get from one place to another

Key Resources:

Project Firstline | Project Firstline | CDC
Infection Control in Health Care: An Overview | Project Firstline | CDC

Recommended Rubric(s) for Assessment:

VALUE Rubrics - Critical Thinking | AAC&U
VALUE Rubrics - Integrative Learning | AAC&U

Learning Activity Instructions

1. **Case Study Presentation:** Present the infection control case study to students as noted in the learning activity handout. Explain the context, the goals of bathing a medically complex patient, and the multidisciplinary teams involved, adapting as needed to align with your course needs. You may wish to draw on the references and resources provided below to further enhance student learning.

2. **Case Study Discussion:** Assign students to groups of 2 to 4 people. Have groups discuss the questions noted in the learning activity handout. You may choose to assign each group to focus on a particular healthcare role in addressing these questions or alternatively, have all groups answer questions across all healthcare roles.

3. **Group Presentation:** Each group should choose a spokesperson to present their findings and recommendations to the class. Encourage students to provide practical solutions and strategies for infection control. As teams present, invite other classmates to take notes on the similarities and differences in approach across the presentations.

4. **Discussion and Feedback:** As a class discuss:
   - What stands out as similar across the teams' presentations?
   - Where do the teams' presentations differ?
   - What can we learn about recognizing risks and being proactive to prevent the spread of infections?

5. **Instructor Follow Up:** As needed, draw on the instructor's notes on the following pages to further engage students on these topics, clarify recommended actions, or answer questions.

6. **Extension Activity Scenario Role-play:** If desired, consider challenging students to take their learning a step further. Invite them to regroup in the same teams and act out this scenario, drawing on their original responses as well as the class discussion and other teams' presentations.

Each group member should have a role to play (e.g., respiratory therapist, physical therapist, physician, nurse, and patient), and together their skit should demonstrate a bathing plan for a medically complex patient while adhering to infection control measures.

Once the scenario role-playing activity is done, have students discuss and reflect on what they learned. Students should compare their responses from the original activity to their responses in the role-play scenario activity. If needed, remind students that role-plays can help us internalize our learning and better prepare us for our future role as healthcare workers, so it is important to take this role-play practice seriously.

Learning Activity Handout

Bathing the Medically Complex Patient

Scenario:

Healthcare workers at a skilled nursing facility serve medically complex patients ages six months to 18 years. These patients often have tracheostomies and feeding tubes. The current practice is to transport the patient to a bathing area on a specialized stretcher designed for bathing, also sometimes called a shower trolley. A portable ventilator is maintained in the shower area in case the patient needs ventilation during bathing. Suction equipment is also available in the bathing area. Your task is to conduct an infection risk analysis related to bathing these patients.

Discussion Questions:

- What reservoirs might be encountered while bathing medically complex patients?
- What are the potential infection risks of bathing a medically complex patient?
- Identify potential pathways that might allow germs to spread while bathing a ventilated patient.
- Create a detailed plan for bathing that describes how these pathways will be interrupted to stop the spread of harmful germs:
  - Before transferring the patient to the shower trolley
  - While the patient is in the shower area
  - After taking the patient back to their room
  - Cleaning and disinfecting all equipment between each patient or resident
- How can interdisciplinary healthcare teams work together to reduce the risk of infectious germs spreading in the healthcare setting?

Instructor's Notes

Bathing the Medically Complex Patient

The following talking points are intended to assist you in guiding students through the questions in Step 2 and Step 5 of the corresponding learning activity. Use or adapt as needed.

Case Study Scenario Questions:

1. What reservoirs might be encountered during bathing of medically complex pediatric patients?

- Skin – the activity requires close contact
- Blood/body fluids – patients will likely have invasive devices
- Respiratory system – endotracheal (ET) tubes may become dislodged; tracheostomies may become disconnected or spray around the trach
- GI system – Percutaneous endoscopic gastrostomy (PEG)/gastrostomy (G) tube dressings may become saturated or require cleaning/changing
- Dry surfaces – including gait belts and walkers
- Wet surfaces – including the shower trolley and the ventilator circuit and humidifier
- Devices/shared medical equipment – ventilator equipment

2. Identify various pathways that might allow infectious germs to spread.

- Touch – close contact between the patient and healthcare worker is anticipated
- Breathing in – coughing, exposure to germs in the air
- Splashes and sprays – coughing, suctioning, bath water

3. Create a detailed plan for bathing that describes how these pathways will be interrupted.

What design elements should be seen in the shower area?

- Handheld shower devices – should be stored without dependent loops but should not touch the floor of the shower

What equipment should be located near the shower area?

- Clean bath blankets and towels – stored covered and in an area dedicated to clean supplies
- Any ventilator supplies that may be needed, any suction supplies

How should equipment be arranged within the shower area?

- Store the ventilator and associated equipment away from wet areas.
- Ensure instructions for cleaning and disinfection are accessible to those charged with cleaning the equipment. Personnel who perform this cleaning and disinfection should have demonstrated competency.
- Ensure that someone is assigned to clean all equipment that enters the bathing area after each use.

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Before transferring the patient to the shower trolley

- All personnel should clean their hands upon entering the patient room.
- According to Standard Precautions, gowns and gloves should be worn due to close personal contact and potential contact with body fluids.
- A mask with eye protection may be needed if the patient is expected to cough.
- Prior to transport, consider having the nurse cover the patient with a clean bath blanket.
- Clear the ventilator circuit of water buildup from humidifiers.
- Watch carefully to make sure all tubing remains free while the patient is being transported to the shower area.

While the patient is in the shower area

- Consider having one member of the team designated to remain "clean". This person will not have direct patient contact and will not wear gloves or a gown. They are responsible for moving anything that blocks the hallway, opening doors, or bringing along additional clean equipment.

After taking patient back to their room

- The shower area, the stretcher used to transport the patient (e.g., shower trolley), and any other reusable equipment should be cleaned and disinfected after each bath or shower.
- Clean and disinfect the shower area from top to bottom.
- Clean and disinfect the shower trolley, making sure that all areas of the trolley are cleaned, including the underside of mattresses.
- Ensure all equipment used for mechanical ventilation is discarded if not reusable. All reusable equipment should be cleaned and disinfected after each use. This may require returning the equipment to Respiratory Therapy.
- Store equipment, including wheelchairs, trolleys, and ventilators in areas with humidity levels that allow for drying of the equipment (e.g., not in the shower stall).
- Store reusable shower trolley mattresses on a side edge so that both the bottom and top of the pads can dry.
- Remove and discard PPE, and then clean your hands.
- Use new gloves while cleaning and disinfecting dry surfaces like gait belts and walkers.
- Clean your hands immediately after removing your gloves.

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