AHCA/NCAL Infection Preventionist Hot Topic Brief

MDRO Transmission Outside of Resident Rooms, Implications for Therapy Services and Enhanced Barrier Precautions

The spread of multidrug-resistant organisms (MDROs) in nursing homes is well documented and studies have indicated transmission often occurs between resident and healthcare worker interactions as well as during environmental and high-touch surface interaction.[1,2,3] Lesser known is the risk of MDO transmission during therapy services, such as those involving physical therapy, occupational therapy, and/or speech therapy. A recent publication, focused on MDRO transmission, including MDROs acquired during therapy services, and found that MDRO colonization and new acquisition is common, and that one in six physical interactive visits between health care professionals and staff (including rehabilitation therapy visits) resulted in MDRO transmission.[4]

Background and Scope

Multidrug-resistant organisms (MDROs) are a known problem in long-term care settings and impact the health and quality of life for residents who live there. It is estimated that at least 50% of residents in nursing homes may be colonized with a MDRO.[5] Contact Precautions have long been the answer for a healthcare facility to isolate patients or residents who have a MDRO, but this type of precaution creates a challenge in long-term care settings with trying to balance the risk of MDRO transmission with social isolation.

In response to this challenge, the Centers for Disease Control and Prevention (CDC) introduced the recommendation for Enhanced Barrier Precautions (EBP) in nursing homes in 2019 EBP was most recently updated in 2022 with the guidance “Implementation of Personal Protective Equipment (PPE) Use in Nursing Homes to Prevent Spread of Multidrug-resistant Organisms (MDROs)”[5] and the Centers for Medicare and Medicaid Services (CMS) began to regulate EBP in April 2024.[6]

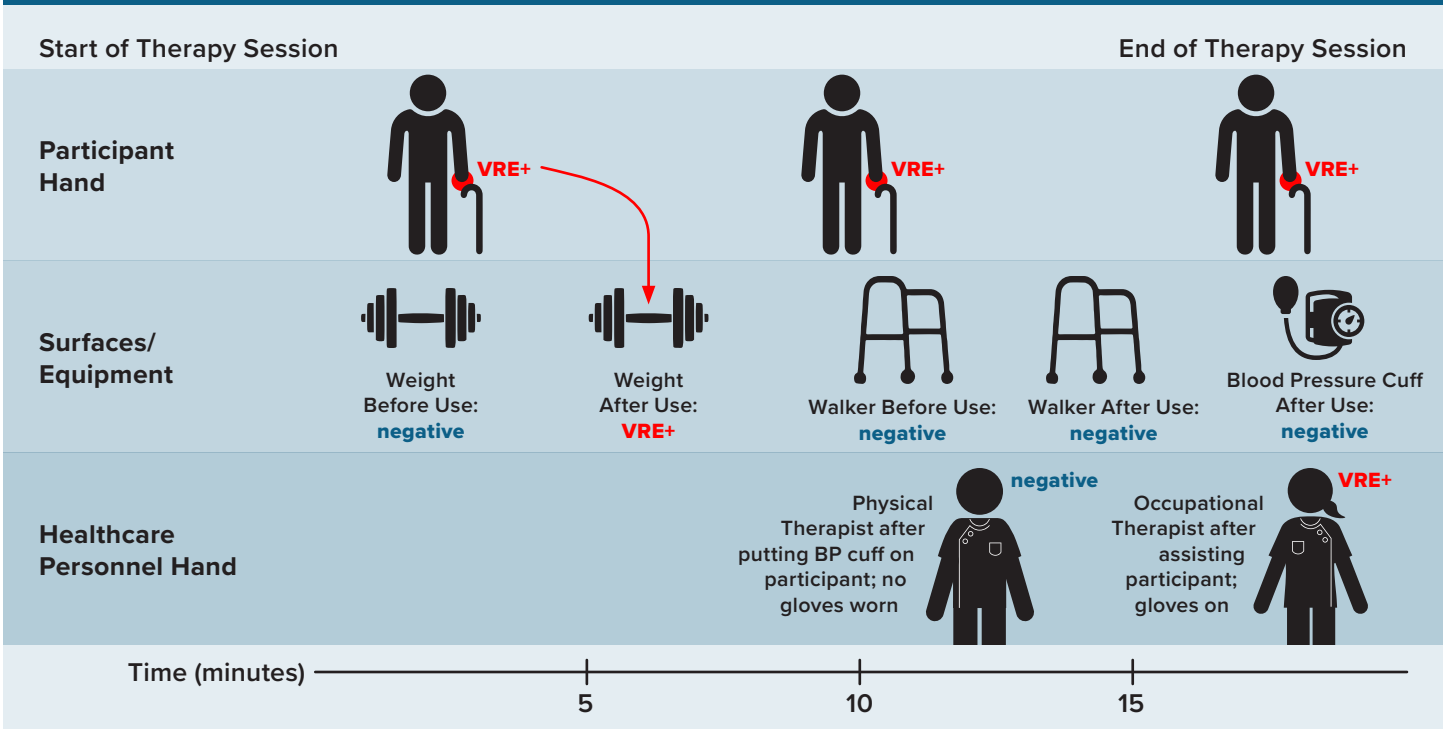
MDROs can be transferred from colonized resident by either healthcare workers' hands or clothing during high contact care activities or touching/using other equipment. (See CDC list) Nursing home residents with wounds and indwelling medical devices are particularly vulnerable to both acquisition and colonization with MDROs.[5] The practice of EBP requires the use of gloves and gown, to reduce the risk of transmission via the hands and clothing of the healthcare workers specifically during the high contact are activities. This also includes proper hand hygiene before donning gloves and after removal as well as cleaning surfaces and equipment used by residents.

Key Findings

Key findings from Mody et al included:[4]

- 36.8% of residents swabbed were colonized with an MDRO at baseline.
- The proportion of residents with any MDRO at any time during the study was twice that of baseline. (65.4% vs 36.8%)
- Residents frequently acquired an MDRO after admission (40.9%) with an average time to new acquisition being 14.7 days from admission.
- Specific to interactive visits outside the room (lasting on average 32 minutes):
  - 16.7% of PT or OT visits resulted in a MDRO transmission event
  - 18.6% of dining room visits resulted in a MDRO transmission event
  - 25% of dialysis visits resulted in a MDRO transmission event
  - 37.5% of radiology visits resulted in a MDRO transmission event
  - 10.0% resulted in transmission to a surface
  - 6.6% resulted in transmission to the hands
- Equipment was a site of transmission 17% of the time. This included:
  - Arm bike handle
  - Pulley
  - Stairs
  - Mat table

A Representative Interactive Visit that Results in a Transmission Event



Implications for Practice and Resources[4]

The findings of this publication and previous studies suggest transmission and acquirement of MDROs is frequent in LTC settings with transmission to residents, staff hands and clothing, and/or high touch surfaces and shared equipment happening frequently. The findings support the use of EBP, frequent and appropriate hand hygiene (with alcohol-based hand sanitizer or with soap and water) and frequent cleaning and disinfection of surfaces and equipment touched or used by residents with a hospital-grade disinfectant product. It is also imperative for Infection Preventionists and healthcare providers to focus on situations and practices to help reduce the risk of transmission of MDROs.

- Commonly shared areas (such as resident rooms or therapy gyms) are high-risk locations for MDRO transmission and require frequent cleaning and disinfection of high touch surfaces and shared equipment.
- Monitoring and providing just-in-time feedback for hand hygiene practices to healthcare workers before and after interacting with a resident or the resident's environment (either inside or outside the resident's room i.e., therapy gym, hallway) and before and after using PPE (if applicable).
- Including training, monitoring, and feedback for infection prevention and control methods to reduce the risk of MDRO transmission to all staff involved in therapy activities with residents.
- Infection preventionists should also focus on providing training, monitoring, and feedback for consistent cleaning and disinfection practices with appropriate disinfectant products on high touch areas and shared therapy equipment.

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