Does One Size Fit All: A Comprehensive Review of Discontinuing Contact Precautions for Patients with a History of MRSA

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Background

In 2006, the Center for Disease Control (CDC) released a document outlining the policies and standards for contact precautions (CP) regarding Methicillin-Resistant Staphylococcus Aureus (MRSA). At that time, a panel decided by vote that CP should be used for patients who were diagnosed with MRSA. However, no decision had been made on what action should be taken once the infection was no longer present. Since then, much research has been conducted on this topic.

Currently at UMBWMC, patients are placed on CP during the admission in which the MRSA infection was diagnosed. Thereafter, the patient remains on CP for future admissions regardless of treatment. To date, there is no guideline in place at UMBWMC addressing discontinuation of CP once the infection is no longer active.

Expenses

Mean direct costs of Contact Precautions (CP) in one facility in the literature were $158.90 per patient day including costs of additional materials, extra workload, and one-off isolation activities (Roth et al., 2017).

UMBWMC spends ~ $200,000 on isolation gown per year. This cost accounts for gowns only.

Studies showed that contact precautions resulted in 25% to 50% fewer patient–clinician interactions and were associated with less patient satisfaction and other adverse outcomes. Recent evidence also suggests that other strategies, such as aggressive hand hygiene and chlorhexidine bathing, may be more important in reducing transmission (Welsh, 2015).

Methods

Databases/Websites: OVID, nih.gov, shea-online.org,
Criteria: Scholarly Articles <5 years
Keywords searched: discontinuing history of MRSA, contact precautions, algorithm, patient satisfaction rate
All articles were appraised using the Johns Hopkins Nursing Evidence-Based Practice appraisal tools.

The evidence fell into 4 categories:
- Level I - 2 Randomized Controlled Trial (RCT)
- Level II - 3 Quasi-experimental studies
- Level III - 1 Non-experimental study
- Level IV - 3 Clinical Guidelines/expert opinion

References available upon request

Algorithm for Discontinuation of Contact Precautions for History of MRSA*

Would the implementation of an algorithm for discontinuation of contact precautions in patients with a history of MRSA decrease cost of supplies, increase staff compliance, & increase patient satisfaction in the inpatient setting?

Patient with a history of MRSA

- Has the patient been swabbed on this admission?
  - Yes
    - Negative for MRSA?
    - Yes
      - Contact Infection Prevention Department and discontinue isolation
    - No
      - Patient off of antibiotics for at least 3 days?
        - Yes
          - Follow up culture w/PCT swab:
            - Nasal
            - Axillary
            - Gran
            - Wound
          - Continue Contact Precautions
        - No
          - Continue Contact Precautions
    - No
      - Keep on contact precautions
      - If patient meets high risk criteria ***

- No
  - Keep on contact precautions

***High risk criteria: Confirmed MRSA infection <6 months ago
Open wound
Indwelling device (PEG, tracheostomy, central line, Foley, etc.,
LTC or nursing home resident
Hospitalized within the last 6 months
Hemodialysis
Current IV drug abuser
Household member with MRSA in the last 6 months

Summary of Evidence

Studies show that discontinuation of CP did not show an increase in infection rate. Discontinuation of CP for MRSA history can be safely accomplished, particularly in hospitals with a strong horizontal infection prevention strategy (daily CHG baths), including high levels of compliance with hand hygiene (Shenoy, 2016).

No difference was found in the effectiveness of contact precaution vs. standard precaution in the spread of MRSA in one unit (Renaudin, 2017).

A single polymerase-chain reaction (PCR) resulted in >50% reduction in total MRSA contact isolation days and potential annual cost avoidance of >$1 million when compared to studies without CP discontinuation strategy (Webster, 2014).

Summary of Evidence

A targeted program for discontinuation of MRSA CP in patients who are no longer colonized is a practical and cost-saving approach (Shenoy, 2016).

The Society for Healthcare Epidemiology of America (SHEA) recommends implementing a discontinuation policy for MRSA patients (Banach et al., 2018).

Recommendations & Next Steps

- Collaborate with potential stakeholders to review possible contact precautions discontinuation algorithms to determine feasibility and effectiveness.
- Review pre & post contact precaution compliance reports
- Review supply utilization and cost to measure benefits and improvements
- Review infection rates
- Analyze patient satisfaction scores

Potential Stakeholders

- Infection Prevention
- Quality Improvement
- Nurse Manager
- Materials Management

Acknowledgments

We would like to express our sincere gratitude to:
- Karen Allcock, MS, RN, Clinical Educator
- Jaime Van Allen, MSN, RN-BC, Clinical Educator
- Iskra Jones, MSN, RN, Nurse Manager
- Heidi Holdren, MSN, RN-BC, Nurse Manager
- Gayle Walsh, RN, CIC, Director of Infection Prevention
- Vanessa Santiago-Miranda, MS, MT(AMT)
- Laura Coutin, Clinical Data Analyst

References available upon request