



TITLE: Contact Isolation Precautions for Ambulatory Oncology Patients Positive for Antibiotic Resistant Organisms: A Review of Clinical Effectiveness and Guidelines

DATE: 2 October 2015

CONTEXT AND POLICY ISSUES

Oncology patients may represent a high risk group for bacterial colonization or infection due to the impact that cancer itself and cancer treatments, such as chemotherapy and radiation, can have on immune system function.¹ Antibiotic resistant organisms (AROs) may be challenging to treat and care must be taken to minimize the risk of transmission between patients and healthcare personnel and from patient to patient when delivering care. Ambulatory oncology patients are at risk of infection transmission when attending clinic visits, undergoing diagnostic tests or attending urgent care visits (for example, to an emergency department).¹

The Centers for Disease Control and Prevention (CDC) describe an infection control and prevention plan for outpatient oncology settings, describing fundamental principles of infection prevention including 'Standard Precautions' and 'Transmission-Based Precautions'.¹ Standard Precautions include the minimum infection prevention measures and they apply to all patient care in all settings, regardless of whether the patient has an infection or is suspected of having an infection.¹ Hand hygiene; the use of personal protective equipment such as gloves, gowns, and facemasks; respiratory hygiene and cough etiquette; safe injection practices, and procedures for the handling of contaminated equipment or surfaces are all components of Standard Precautions. Standard Precautions can be augmented with Transmission-Based Precautions (Contact Precautions [also called contact isolation precautions], Droplet Precautions, and Airborne Precautions) when the risk of transmission of an organism will not be eliminated with Standard Precautions alone and patients are known or suspected to be colonized or infected with pathogens that are highly transmittable or important epidemiologically.¹

When providing ambulatory care to oncology patients that are known to be infected or colonized with AROs, it is important that adequate precaution be taken to reduce transmission risk. It is unclear, however, if Standard Precautions are sufficient or whether additional precautions, such as Contact Precautions are required. Contact Precautions may include prioritizing placement of the patient into an exam room, use of additional personal protective equipment, additional hand

Disclaimer: The Rapid Response Service is an information service for those involved in planning and providing health care in Canada. Rapid responses are based on a limited literature search and are not comprehensive, systematic reviews. The intent is to provide a list of sources and a summary of the best evidence on the topic that CADTH could identify using all reasonable efforts within the time allowed. Rapid responses should be considered along with other types of information and health care considerations. The information included in this response is not intended to replace professional medical advice, nor should it be construed as a recommendation for or against the use of a particular health technology. Readers are also cautioned that a lack of good quality evidence does not necessarily mean a lack of effectiveness particularly in the case of new and emerging health technologies, for which little information can be found, but which may in future prove to be effective. While CADTH has taken care in the preparation of the report to ensure that its contents are accurate, complete and up to date, CADTH does not make any guarantee to that effect. CADTH is not liable for any loss or damages resulting from use of the information in the report.

Copyright: This report contains CADTH copyright material. It may be copied and used for non-commercial purposes, provided that attribution is given to CADTH.

Links: This report may contain links to other information available on the websites of third parties on the Internet. CADTH does not have control over the content of such sites. Use of third party sites is governed by the owners' own terms and conditions.

hygiene, and other precautions that extend beyond Standard Precautions. This report sought to review the current literature evaluating the effectiveness of contact isolation precautions versus routine infection prevention practices for ambulatory oncology patients infected or colonized with AROs and evidence-based guidelines regarding the use of contact isolation precautions for ambulatory oncology patients infected or colonized with AROs.

RESEARCH QUESTIONS

1. What is the comparative clinical effectiveness of contact isolation precautions versus routine infection prevention practices for ambulatory oncology patients infected or colonized with antibiotic resistant organisms (AROs)?
2. What are the evidence-based guidelines regarding the use of contact isolation precautions for ambulatory oncology patients infected or colonized with AROs?

KEY FINDINGS

No relevant literature was identified pertaining to comparative clinical effectiveness of contact isolation precautions versus routine infection prevention practices for ambulatory oncology patients infected or colonized with antibiotic resistant organisms. Similarly, no evidence-based guidelines regarding the use of contact isolation precautions for ambulatory oncology patients infected or colonized with AROs.

METHODS

Literature Search Strategy

A limited literature search was conducted on key resources including PubMed, The Cochrane Library, University of York Centre for Reviews and Dissemination (CRD) databases, Canadian and major international health technology agencies, as well as a focused Internet search. Methodological filters were applied to limit retrieval to health technology assessments, systematic reviews, meta-analyses, randomized controlled trials, non-randomized studies and guidelines. Where possible, retrieval was limited to the human population. The search was also limited to English language documents published between January 1, 2005 and August 31, 2015.

Rapid Response reports are organized so that the evidence for each research question is presented separately.

Selection Criteria and Methods

One reviewer screened citations and selected studies. In the first level of screening, titles and abstracts were reviewed and potentially relevant articles were retrieved and assessed for inclusion. The final selection of full-text articles was based on the inclusion criteria presented in Table 1.

Table 1: Selection Criteria

Population	Adult ambulatory oncology patients infected or colonized with antibiotic resistant organisms (AROs) (e.g., Methicillin-resistant <i>Staphylococcus aureus</i> , Vancomycin-resistant Enterococci, extended-spectrum β -Lactamase producing organisms, Carbapenem-resistant organisms)
Intervention	Contact isolation precautions
Comparator	Q1: Standard precautions for patients infected or colonized with AROs Q2: No comparator required
Outcomes	Q1: Clinical effectiveness (e.g., rate and risk of horizontal transmission resulting in colonization or infection); Harms Q2: Guidelines regarding the use of contact isolation precautions for ambulatory oncology patients
Study Designs	Q1: Health technology assessments (HTA), systematic reviews (SR), meta-analyses (MA), randomized controlled trials (RCTs), non-RCTs Q2: Evidence-based guidelines

Exclusion Criteria

Articles were excluded if they did not meet the selection criteria outlined in Table 1, were duplicate publications, or were published prior to 2005. As well, review articles that were not based upon a systematic literature search and clinical practice guidance documents that were not clearly evidence-based were excluded and are listed in Appendix 2.

SUMMARY OF EVIDENCE

Quantity of Research Available

A total of 548 citations were identified in the literature search. Following screening of titles and abstracts, all 548 citations were excluded with no potentially relevant reports from the electronic search being retrieved for full-text review. Ten potentially relevant publications were retrieved from the grey literature search. Of these potentially relevant articles, all 10 publications were excluded due to the population or design. Appendix 1 describes the PRISMA flowchart of the study selection. Additional references of potential interest are provided in Appendix 2.

Summary of Findings

No relevant literature was identified pertaining comparative clinical effectiveness of contact isolation precautions versus routine infection prevention practices for ambulatory oncology patients infected or colonized with antibiotic resistant organisms. Similarly, no evidence-based guidelines regarding the use of contact isolation precautions for ambulatory oncology patients infected or colonized with AROs.

CONCLUSIONS AND IMPLICATIONS FOR DECISION OR POLICY MAKING

There is an evidence gap regarding the clinical effectiveness of contact isolation precautions compared with routine infection prevention practices for practices for ambulatory oncology patients infected or colonized with antibiotic resistant organisms. Further, there were no evidence-based guidelines identified that addressed contact isolation precautions for ambulatory oncology patients infected or colonized with AROs.

PREPARED BY:

Canadian Agency for Drugs and Technologies in Health

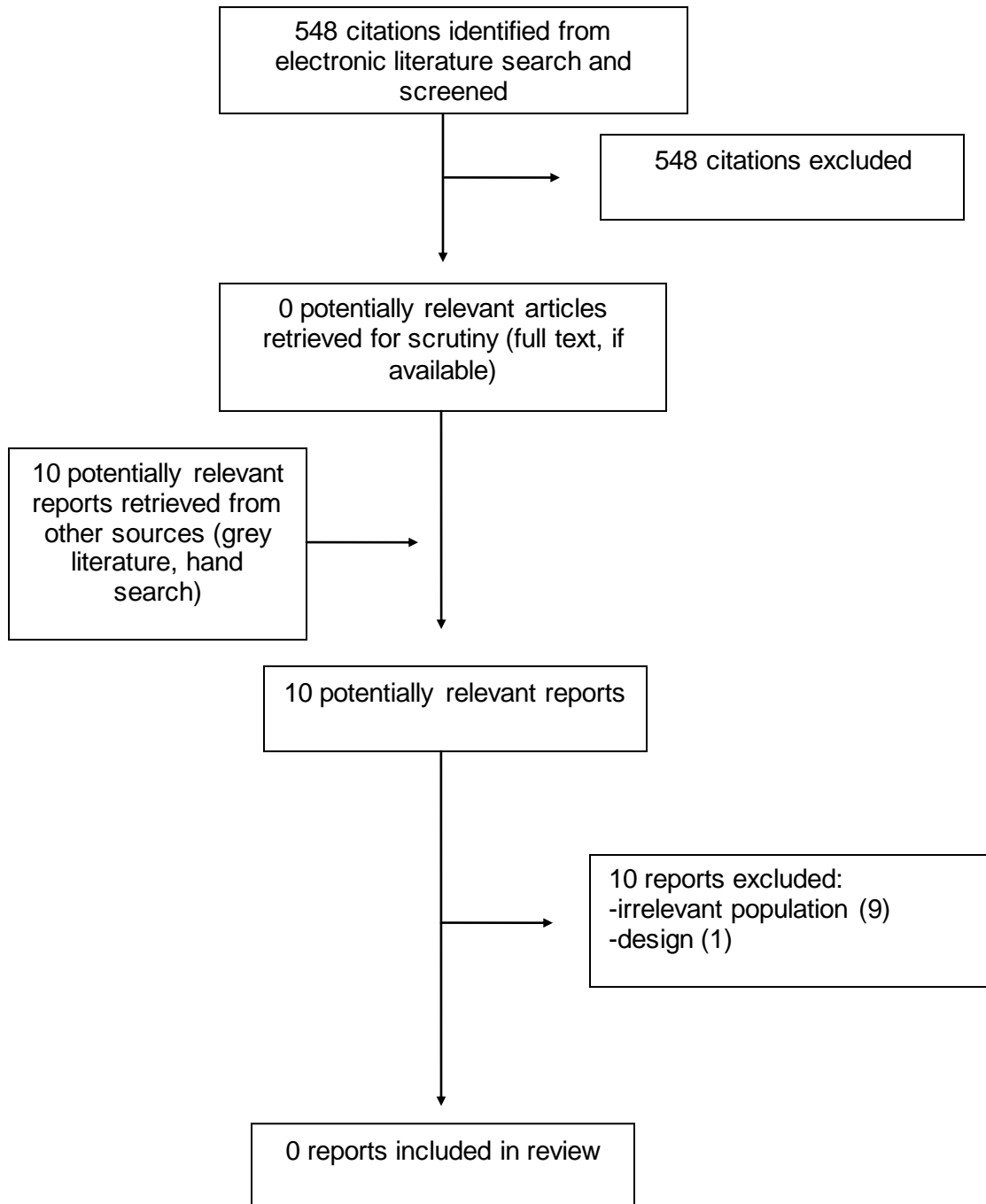
Tel: 1-866-898-8439

www.cadth.ca

REFERENCES

1. Basic infection control and prevention for outpatient oncology settings [Internet]. Atlanta: Centers for Disease Control and Prevention (CDC); 2011 Dec. [cited 2015 Sep 15]. Available from: <http://www.cdc.gov/hai/pdfs/guidelines/basic-infection-control-prevention-plan-2011.pdf>

APPENDIX 1: Selection of Included Studies



APPENDIX 2: Additional Literature - Guidelines (Not clearly evidence-based or not specific to ambulatory oncology patients)

Management of multi-resistant organisms. Guideline [Internet]. Brisbane, Australia: Queensland Government; 2014 Sep 8. [cited 2015 Sep 30]. Available from:

<https://www.health.qld.gov.au/publications/clinical-practice/guidelines-procedures/diseases-infection/governance/multi-resistant-organisms.pdf>

Routine practices and additional precautions: preventing the transmission of infection in health care [Internet]. Winnipeg: Manitoba Health; 2012 Apr. [cited 2015 Sep 30]. Available from:

<http://www.gov.mb.ca/health/publichealth/cdc/docs/ipc/rpap.pdf>

Guidelines for management of antibiotic resistant organisms across the continuum of care [Internet]. St. John's: Government of Newfoundland and Labrador; 2012 Jan 26. [cited 2015 Sep 30]. Available from:

http://www.health.gov.nl.ca/health/publichealth/cdc/infectioncontrol/aro_policy_2012.pdf

Basic infection control and prevention for outpatient oncology settings [Internet]. Atlanta: Centers for Disease Control and Prevention (CDC); 2011 Dec. [cited 2015 Sep 15]. Available from: <http://www.cdc.gov/hai/pdfs/guidelines/basic-infection-control-prevention-plan-2011.pdf>

Manitoba guidelines for the prevention and control of antibiotic resistant organisms (AROs) [Internet]. Winnipeg: Manitoba Health; 2007 Jan. [cited 2015 Sep 30]. Available from:

<http://www.gov.mb.ca/health/publichealth/cdc/fs/aro.pdf>

Provincial methicillin-resistant Staphylococcus aureus (MRSA) infection prevention and control guidelines [Internet]. Edmonton: Alberta Health and Wellness; 2007 Aug. [cited 2015 Sep 30]. Available from: <http://www.health.alberta.ca/documents/IPC-MRSA-Guidelines-2007.pdf>

Coia JE, Duckworth GJ, Edwards DI, Farrington M, Fry C, Humphreys H, et al. Guidelines for the control and prevention of methicillin-resistant Staphylococcus aureus (MRSA) in healthcare facilities. J Hosp Infect. 2006 May;63 Suppl 1:S1-44

Guidelines for prevention and control of antibiotic resistant organisms in health care settings [Internet]. Madison (WI): Wisconsin Division of Public Health. Bureau of Communicable Diseases and Preparedness; 2005 Sep. [cited 2015 Sep 30]. Available from:

<https://www.dhs.wisconsin.gov/publications/p4/p42513.pdf>