



Guideline 12-15

A Quality Initiative of the
Program in Evidence-Based Care (PEBC), Cancer Care Ontario (CCO)

Approach to Fever Assessment in Ambulatory Cancer Patients Receiving Chemotherapy

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An assessment conducted in December 2023 deferred review of Guideline 12-15. This means that the document remains current until it is assessed again next year. The PEBC has a formal and standardized process to ensure the currency of each document ([PEBC Assessment & Review Protocol](#))

Guideline 12-15 is comprised of 5 sections. You can access the summary and full report here:

<https://www.cancercareontario.ca/en/guidelines-advice/types-of-cancer/1376>

- Section 1: Guideline Recommendations
- Section 2: Recommendations and Key Evidence
- Section 3: Guideline Methods Overview
- Section 4: Systematic Review
- Section 5: Internal and External Review

For updated guidance on prevention and management of febrile neutropenia, please see GL-C50-27 <https://www.cancercareontario.ca/en/guidelines-advice/types-of-cancer/38561>

Report Date: November 27, 2015

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PEBC Report Citation (Vancouver Style): Krzyzanowska MK, Walker-Dilks C, Atzema C, Morris A, Gupta R, Halligan R, Kouroukis T, McCann K. Approach to fever assessment in ambulatory cancer patients receiving Chemotherapy. Toronto (ON): Cancer Care Ontario; 2015 Nov 27 [Requires Updating 2020 Jan]. Program in Evidence-based Care Guideline No.: 12-15.

Journal Citations (Vancouver Style):

Krzyzanowska MK, Walker-Dilks C, Atzema C, Morris A, Gupta R, Halligan R, Kouroukis T, McCann K. Approach to fever assessment in ambulatory cancer patients receiving chemotherapy: a clinical practice guideline. *Curr Oncol.* 2016 Aug;23(4):280-5.

Krzyzanowska MK, Walker-Dilks C, Morris AM, Gupta R, Halligan R, Kouroukis CT, McCann K, Atzema CL. Approach to evaluation of fever in ambulatory cancer patients receiving chemotherapy: A systematic review. *Cancer Treat Rev.* 2016 Dec;51:35-45.

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Approach to Fever Assessment in Ambulatory Cancer Patients Receiving Chemotherapy

Section 1: Recommendations

This section is a quick reference guide and provides the guideline recommendations only. For key evidence associated with each recommendation, the systematic review, and the guideline development process, see the Full Report.

GUIDELINE OBJECTIVES

- To provide advice regarding the assessment of fever in cancer patients in the community who are receiving chemotherapy, given the potential for serious complications that is associated with it.
 - To investigate whether there are predictors that are associated with a poor outcome; to determine where and how quickly the assessment should take place for these patients and who can/should perform the assessment; and what advice, information, or education should be provided to patients receiving chemotherapy in the community should they develop a fever.

NOTE: For updated recommendations on febrile neutropenia, follow the 2021 guidance in [Prevention and Outpatient Management of Febrile Neutropenia in Adult Cancer Patients: Clinical Practice Guideline](#).

TARGET POPULATION

The target population includes adult patients with cancer (i.e., solid tumours or lymphoma) receiving chemotherapy in an outpatient setting who have a fever at home. Emergency department, in-hospital, and outpatient management of febrile neutropenia or serious infection are beyond the scope of the guideline (Table 1-1). There is abundant advice on managing patients after the diagnosis of febrile neutropenia is made (1-5). Patients who have had hematopoietic stem cell transplantation or who have acute leukemia or myelodysplastic syndrome are excluded secondary to the pathophysiologic differences in prognosis in the setting of fever.

Table 1-1: Summary of Target Population

Adult patients with cancer receiving chemotherapy experiencing a fever	
Including	Not including
<ul style="list-style-type: none"> • Solid tumour • Lymphoma/Myeloma/Chronic lymphocytic leukemia • Living at home • Unknown neutrophil count 	<ul style="list-style-type: none"> • Hospital inpatients • Patients in the emergency department • Already diagnosed with febrile neutropenia • Hematopoietic stem cell transplantation, acute leukemia, myelodysplastic syndrome

INTENDED USERS

Family physicians, emergency physicians and nurses, medical oncologists, hematologists, pharmacists, chemotherapy and community nurses, and health system administrators.

RECOMMENDATIONS

- 1) **Temperature:** Cancer patients in the community receiving chemotherapy who experience a fever should be assessed. While fever is not a reliable predictor of unfavourable outcomes such as febrile neutropenia, infection, or death, it is a serious symptom.
 - a) A fever is defined as an oral temperature of $\geq 38.3^{\circ}\text{C}$ or sustained temperature of 38.0°C lasting more than one hour.
 - b) Tympanic temperature measurement is a viable option and should be measured according to manufacturers' specifications.
- 2) **Assessment:** Patients with fever should seek urgent assessment. Insufficient evidence exists to make specific recommendations with respect to the timing, location, or personnel involved in the assessment of fever in the target population.
 - a) If fever occurs outside of clinic hours, the current practice of referring patients who have developed a fever to the emergency department is the only tenable option in many communities.
- 3) **Education:** Cancer patients receiving chemotherapy in the outpatient setting should be provided with standardized information about fever and fever-associated infection.
 - a) Patients should be informed about how to measure their temperature and how to recognize when assessment by a healthcare provider is recommended.
 - b) This information should be delivered at the time of chemotherapy initiation and may be provided in conjunction with other self-assessment education, and reinforced with take-home written material and communication with healthcare providers.

Qualifying Statements

- *There is a lack of quality primary evidence to inform the definition of fever; thus, the consensus definition from existing guidelines on febrile neutropenia was recommended.*
- *There is wide variation in temperature readings across thermometer types.*
- *Administration of antipyretic medication may mask the presence of fever and should be avoided if possible.*
- *Some patients may be receiving growth factors to decrease the risk of febrile neutropenia. Their risk for poor outcome in the setting of fever may be lower, and fever may be a side effect of the growth factors themselves. The evaluation of fever in chemotherapy patients who also receive growth factors to prevent febrile neutropenia was outside the scope of this guideline, but no obvious citations that address this issue were identified during the literature review to inform management of this subgroup.*