

Guidance for Low risk febrile neutropenia pathway



TARGET AUDIENCE	Secondary Care patients in ED and Medical Assessment Unit
PATIENT GROUP	Patients with febrile neutropenia (absolute neutrophil count $\leq 0.5 \times 10^9/L$ or $\leq 1 \times 10^9/L$ after systemic anticancer therapy and infection of unclear source)

Background

Patients with febrile neutropenia (absolute neutrophil count $\leq 0.5 \times 10^9/L$ or $\leq 1 \times 10^9/L$ after systemic anticancer therapy and normally within 10 days, but can be up to 28 days) should be managed as an acute medical emergency. Neutropenic sepsis is a potentially fatal complication of cancer therapies, particularly chemotherapy, and requires immediate evaluation and treatment. However, these patients are a heterogeneous group with only a minority developing significant medical complications.^{1, 2} Identifying these low risk patients early, using a formal scoring system such as the validated MASCC score,^{1,3,4} allows timely and appropriate management in an ambulatory emergency care setting, rather than an inpatient stay, providing a much more appropriate patient journey. This process is recommended by NICE⁵ (The National Institute for health and Care Excellence), and management in an ambulatory care setting has an evidence base proving it to be a safe and effective.^{6, 7} This pathway has already been adopted by some health boards in Scotland.

The benefits of ambulatory care include admission avoidance, cost savings, reduced risk of nosocomial infections but most importantly a patient centred approach with improved patient experience and satisfaction, particularly in the current climate of prolonged trolley waits and side room shortages.¹

Clinical Guidelines Summary

Guidance for low risk febrile neutropenia

LOW Risk Febrile Neutropenia – AECU pathway

Primary inclusion criteria

Patients ≥ 18 years old

presents with febrile neutropenia +/- has a solid tumour

Fever of undefined source and neutrophils $\leq 0.5 \times 10^9$ /L or $\leq 1 \times 10^9$ after SACT (usually within 10 days but can be up to 28)

Has a MASCC score of 21 or more if oncology patient

Patients with an identified specific focus of infection should be managed according to local protocols
Pathway Excludes patients with haematological malignancy (automatically high risk), cellular therapy, Sarcoma and germ cell cancers & those with previous invasive fungal infection

Secondary inclusion criteria

NEWS ≤ 4 and patient:

- Has had temperature of $>37.5^\circ\text{C}$ or $<36^\circ\text{C}$
- Is worked up for sepsis including two sets of blood cultures, swabs and imaging as appropriate
- Gets dose of empirical intravenous antibiotic administered **within 1 hour**
- Has easily available access to an Emergency Department and has a telephone
- Has family/carer support and no other medical or social barriers to discharge

IV Antibiotic choice

- 1) **First choice**- IV Piperacillin/Tazobactam 4.5g immediate one-off dose
- 2) **Penicillin intolerance/minor Penicillin allergy**- ceftazidime 2g immediate one off dose (see empirical policy for description)
- 3) **Clear history of anaphylaxis with Penicillin or severe/true penicillin allergy**- IV vancomycin + PO ciprofloxacin 750mg + IV gentamicin stat doses using online calculators

Oral antibiotic for 7 days

Levofloxacin 500mg twice daily if high risk pseudomonas (previously colonised/infected with, recent long admission, transplant, indwelling line) or Co-Trimoxazole 960mg twice daily if low risk of pseudomonas. Consider OPAT referral if low risk and no safe swallow
Patients will need ECG for QT assessment for Levofloxacin and counselling on [MHRA guidance](#)

MASCC Risk Index Scoring System		Yes	No	score
Burden of illness (febrile neutropenia) – select only one	None/mild	5	0	
	Moderate	3	0	
	Severe or moribund	0	0	
BP $< 90\text{mmHg}$		0	5	
Patient has COPD		0	4	
Patient has solid tumour		4	0	
Patient need IV fluids for rehydration		0	3	
Patient developed fever as outpatient		3	0	
Patient is <60 years old		2	0	
TOTAL MASCC Score				
Max score is 26 – scores ≥ 21 are at low risk of septic complications				
Multinational Association for Supportive Care in Cancer Risk Score. (MASCC: https://www.mascc.org/mascc-risk-index-score)				

Prior to AECU discharge

Advise patient to complete any prophylactic G-CSF prescribed with their chemotherapy regimen but do not start G-CSF

Inform the acute oncology nurses of entry on to low risk ambulatory pathway to allow clinical follow up, assessment and results review daily either by phone or in AECU

Add patient to virtual ward for Doccla monitoring

Ensure that the patient has access to 24-hour specialist oncology telephone advice line
Ensure the patient knows the signs and symptoms that should trigger them to seek medical assessment and know when they should return to the hospital

Created and designed by Dr Nicholas Holt, Acute medicine consultant, University Hospital Monklands 2025

Lead Author	Dr Nicholas Holt	Date approved	Nov 2025
Version	1	Review Date	Nov 2028

Uncontrolled when printed - access the most up to date version on www.nhsguidelines.scot.nhs.uk

Guidance for low risk febrile neutropenia

Guideline Body

References/Evidence

- 1) T Cooksley, M Holland & J Klastersky, Ambulatory Outpatient Management of patients with low risk febrile neutropaenia *Acute Medicine* 2015; 14(4): 178-181
- 2) Lynn J, Chen K, Weng Y, Chiu T. Risk factors associated with complications in patients with chemotherapy-induced febrile neutropenia in emergency department. *Hematol Oncol* 2013; 31: 189-96.
- 3) Klastersky J, Paesmans M, Rubenstein E *et al.* The Multinational Association for Supportive Care in Cancer Risk Index: A Multinational Scoring System for Identifying Low-Risk Febrile Neutropenic Cancer Patients. *J Clin Onc* 2000; 18: 3038-51.
- 4) Paesmans M, Klastersky J, Maertens J *et al.* Predicting febrile neutropenic patients at low risk using the MASCC score: does bacteremia matter? *Support Care Cancer* 2011; 19: 1001-1008.
- 5) NICE Guideline. Neutropenic sepsis: prevention and management of neutropenic sepsis in cancer patients. September 2012.
- 6) Carstensen M, Sorensen J. Outpatient management of febrile neutropenia: time to revise present treatment strategy. *J Support Oncol* 2008; 6: 199-208.
- 7) Teuffel O, Ethier M, Alibhal S *et al.* Outpatient management of cancer patients with febrile neutropenia: a systematic review and meta-analysis. *Ann Oncol* 2011; 22: 2358-65.

Lead Author	Dr Nicholas Holt	Date approved	Nov 2025
Version	1	Review Date	Nov 2028

Uncontrolled when printed - access the most up to date version on www.nhsguidelines.scot.nhs.uk

Guidance for low risk febrile neutropenia

Appendices

1. Governance information for Guidance document

Lead Author(s):	Dr Nicholas Holt, Consultant Physician Acute and General Medicine, Acute Clinical Lead, Clinical Lead Trainer, FAMUS supervisor, Honorary Clinical Lecturer University of Glasgow, University Hospital Monklands
Endorsing Body:	NHSL ADTC
Version Number:	1
Approval date	Nov 2025
Review Date:	Nov 2028
Responsible Person (if different from lead author)	Nick Holt lead author

CONSULTATION AND DISTRIBUTION RECORD	
Contributing Author / Authors	Tracey Laird (acute oncology lead nurse), Gordon McNeish (Associate Medical Director and Consultant Emergency Medicine)
Consultation Process / Stakeholders:	Monklands Site HMT, NHSL Oncology, Acute, Microbiology and pharmacy teams MDTs, Antimicrobial Committee, FNC+ and Doccla, FNC business analyst

Lead Author	Dr Nicholas Holt	Date approved	Nov 2025
Version	1	Review Date	Nov 2028

Uncontrolled when printed - access the most up to date version on www.nhslguidelines.scot.nhs.uk

Guidance for low risk febrile neutropenia

Distribution	Lanarkshire wide
---------------------	------------------

CHANGE RECORD

Date	Lead Author	Change	Version No.
21/11/25	N Holt	Made the adjustments required from ADTC meeting in removing Latin abbreviations, changing review date and adding a word to the opening paragraph.	1
			2
			3
			4
			5

2. You can include additional appendices with complimentary information that doesn't fit into the main text of your guideline, but is crucial and supports its understanding.

e.g. supporting documents for implementation of guideline, patient information, specific monitoring requirements for secondary and primary care clinicians, dosing regimen/considerations according to weight and/or creatinine clearance

Lead Author	Dr Nicholas Holt	Date approved	Nov 2025
Version	1	Review Date	Nov 2028

Uncontrolled when printed - access the most up to date version on www.nhsguidelines.scot.nhs.uk