MDAnderson Cancer Center

Neutropenic Fever¹ Outpatient Treatment For Solid Tumor Patients (Age ≥ 18 years)

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Making Cancer History®

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Patient presents with suspected or proven neutropenia and fever

- History and physical exam
- IV hydration
- CBC with differential, basic metabolic panel, lactic acid
- Blood cultures (collected from each lumen simultaneously if CVC present and 1 from peripheral site)
- Other diagnostics (*e.g.*, MRSA nasal swab, sputum culture, respiratory viral PCR panel, urinalysis with reflex culture) only if clinically indicated
- Imaging (chest x-ray, abdominal x-ray, etc.) or other tests as clinically indicated
- Calculate MASCC Risk Index score (see Appendix A)

Assess if patient is considered low risk: MASCC Risk Index score ≥ 21 and no other complicating factors present) and meets all of the following criteria for outpatient treatment:

- Solid tumor
- Able to tolerate oral medications
- Able to tolerate fluids
- Does not use feeding tube as primary route for nutrition and medications
- No confirmed focus of infection
- Resides within 1 hour travel time of MD Anderson
- Has a 24-hour caregiver

- Has access to transportation and telephone at residence
- Age \geq 18 years old
- No fluoroquinolone allergy for oral egimens
- No fluoroquinolone-resistant or multi-drug resistant organism colonization
- No history of non-compliance
- Not currently on antibiotics

• First dose of each antimicrobial should be given STAT in the Acute Cancer Care Center (ACCC) or Urgent Symptom Clinic (USC) for all febrile neutropenic patients

Consider the following when selecting antibiotics: recent culture and sensitivity results:

- Consider the following when selecting antibiotics: recent culture and sensitivity results, history of recent gram negative organisms or colonization, and antimicrobial allergies
- First line therapy²:
 - o Ciprofloxacin 750 mg PO twice daily **plus**
- o Amoxicillin/clavulanic acid 875 mg PO twice daily each for 7 days
- First line therapy² if serious documented serious beta-lactam allergy (anaphylaxis, hives, or serious non-IgE mediated drug reaction³):
 - o Ciprofloxacin 750 mg PO twice daily plus
 - o Clindamycin 600 mg PO three times daily each for 7 days
- Second line therapy²:

Levofloxacin 750 mg PO daily for 7 days

• Patient should be observed ≥ 4 hours after initial dose of antimicrobial prior to discharge

Tolerates therapy and no longer febrile?

No
Refer to Neutropenic Fever Inpatient Adult Treatment (Solid Tumors) algorithm

Schedule patient for outpatient follow up⁴

No
Refer to Neutropenic Fever Inpatient Adult Treatment (Solid Tumors) algorithm

¹ Criteria:

Does

patient meet

criteria?

• Absolute neutrophil count (ANC) ≤ 0.5 K/microliter <u>and</u> a temperature either ≥ 38.3 °C or ≥ 38 °C for 1 hour or longer <u>or</u>

• ANC \leq 1 K/microliter and an expected decline to \leq 0.5 K/microliter over 48 hours <u>and</u> a temperature either \geq 38.3°C or \geq 38°C for 1 hour or longer

→ Refer to Neutropenic Fever Inpatient Adult Treatment (Solid Tumors) algorithm

² Doses indicated are for patients with normal renal/hepatic function. Refer to institutional renal dosing guide (internal only) or tertiary dosing references (e.g., Lexicomp) for renal dosing recommendations.

³ Examples of non-IgE mediated drug reactions include Stevens-Johnson syndrome, toxic epidermal necrolysis, and drug reaction with eosinophilia and systemic symptoms (DRESS)

⁴ See Appendix B: Outpatient Follow up

Yes

No

MASCC = Multinational Association of Supportive Care in Cancer MRSA = methicillin-resistent *Staphylococcus aureus*

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APPENDIX A: Multinational Association for Supportive Care in Cancer (MASCC) Risk Index Score

	MASCC Score
Characteristic	Weight
Burden of illness: no or mild symptoms	5
No hypotension	5
No chronic obstructive pulmonary disease	4
Solid tumor	4
No dehydration	3
Burden of illness: moderate symptoms	3
Outpatient status	3
Age < 60 years	2
 "Burden of illness" not cumulative Patients with score ≥ 21 are considered low risk 	

APPENDIX B: Outpatient Follow Up¹

- Schedule outpatient visit for Days 2, 3 and 7; and video visit follow-up for Days 4, 5, and 6
- Day 2: CBC with differential; repeat creatinine if baseline > 1.2 mg/dL
- Day 3: CBC with differential, repeat creatinine
- Day 7: CBC with differential, repeat creatinine

CDU = Clinical Decision Unit

¹Refer to ACCC/CDU Neutropenic Scheduling Orders or if in the USC, refer to the AMB USC Fever/Febrile Neutropenia (Express Lane)



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SUGGESTED READINGS

- Freifeld, A. G., Bow, E. J., Sepkowitz, K. A., Boeckh, M. J., Ito, J. I., Mullen, C. A., . . . Wingard, J. R. (2011). Executive summary: Clinical practice guideline for the use of antimicrobial agents in neutropenic patients with cancer: 2010 update by the Infectious Diseases Society of America. *Clinical Infectious Diseases*, 52(4), 427-431. https://doi.org/10.1093/cid/ciq147
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- Zimmer, A. J., & Freifeld, A. G. (2019). Optimal management of neutropenic fever in patients with cancer. *Journal of Oncology Practice*, 15(1), 19-24. https://doi.org/10.1200/JOP.18.00269



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DEVELOPMENT CREDITS

This practice consensus statement is based on majority opinion of the Neutropenic Fever experts at the University of Texas MD Anderson Cancer Center for the patient population. These experts included:

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