# Fever

Setting: Inpatient Population: Adult

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# **Clinical Description**

Care of the hospitalized patient experiencing elevated body temperature.

## **Key Information**

- Core temperature monitoring (intravascular, esophageal, bladder) is most accurate. If noncore temperature
  monitoring is used, only oral and rectal electronic measurement should be used to support clinical
  decision-making, based on current evidence.
- Fever has a protective role with infection, however, it has been proven harmful in the presence of septic shock or cerebral damage. It may be harmful for patients with heart failure, respiratory comorbidity, hemodynamic instability or neuropsychiatric disorder.
- Recommendations vary regarding temperature value at which antipyretic pharmacologic therapy or active
  cooling method should be initiated. Management should be individualized by baseline temperature and
  symptoms.
- Elderly patients, as well as those who have autonomic neuropathy, immunosuppression, sepsis or are receiving continuous renal replacement therapy, may have decreased ability to produce a fever.

### **Clinical Goals**

By transition of care

A. The patient will demonstrate achievement of the following goals:

Body Temperature in Desired Range

B. Patient, family or significant other will teach back or demonstrate education topics and points:

Education: Overview

Education: Self Management

• Education: When to Seek Medical Attention

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# **Correlate Health Status**

#### Correlate health status to:

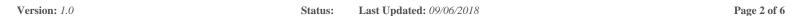
- history, comorbidity
- age, developmental level
- sex, gender identity
- baseline assessment data
- physiologic status
- response to medication and interventions
- psychosocial status, social determinants of health
- barriers to accessing care and services
- health literacy
- cultural and spiritual preferences
- safety risks
- family interaction
- plan for transition of care

## **Fever**

## Signs/Symptoms/Presentation

- diaphoresis
- irritability
- lethargic
- level of consciousness decreased
- seizure activity
- skin flushed
- skin warm to touch
- syncope

## Vital Signs





**CARE PLANNING** 

**CPG IP Fever** 

Setting: Inpatient

Population: Adult

- blood pressure increased or decreased
- core body temperature elevated
- heart rate increased
- SpO2 (peripheral oxygen saturation) decreased

### Laboratory Results

- blood culture positive
- WBC (white blood cell) count elevated

#### Hemodynamic Values

- CVP (central venous pressure) decreased
- MAP (mean arterial pressure) change

#### Problem Intervention(s)

#### **Promote Normothermia**

- Identify and address underlying cause.
- Monitor body temperature and trend; manage variability.
- Provide optimal hydration; consider increased need due to insensible loss.
- Administer antipyretic medication to reduce temperature and discomfort.
- Encourage sleep/rest to minimize oxygen and metabolic demand.
- Provide oxygen therapy if hypoxemia is present.
- Provide comfort measures; adjust environment to minimize body temperature (e.g., offer cool cloths, encourage lightweight clothing and covers, reduce room temperature, increase air circulation, decrease stimulation).
- Consider active cooling measures (e.g., external-cooling device, tepid sponge or tub bath, internal-cooling method); cool gradually to avoid shivering.

#### **Associated Documentation**

Thermoregulation Maintenance





## **General Education**

- admission, transition of care
- orientation to care setting, routine
- advance care planning
- diagnostic tests/procedures
- opioid medication management
- oral health
- medication management
- pain assessment process
- safe medication disposal
- tobacco use, smoke exposure
- treatment plan

# **Safety Education**

- call light use
- equipment/home supplies
- fall prevention
- harm prevention
- infection prevention
- MDRO (multidrug-resistant organism) care
- personal health information
- resources for support

## **Education: Overview**

signs/symptoms

# **Education: Self Management**

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- fever reduction measures
- fluid intake
- provider follow-up

### **Education: When to Seek Medical Attention**

unresolved/worsening symptoms

## References

Baird, M. S.; Bethel, S. (2011). *Manual of critical care nursing interventions and collaborative management*. St. Louis: Elsevier. [Review Articles, Expert/Committee Opinion, Core Curriculum, Position Statements, Practice Bulletins]

Broessner, G.; Fischer, M.; Pfausler, B.; Schmutzhard, E. Controlled prophylactic normothermia. Critical Care. 2012; 16(suppl 2), A10. doi:10.1186/cc11268 [Review Articles, Expert/Committee Opinion, Core Curriculum, Position Statements, Practice Bulletins]

Chan, E.; Chen, W.; Assam, P. External cooling methods for treatment of fever in adults: A systematic review. JBI Database of Systematic Reviews and Implementation Reports. 2010;6(12), 793-825. [Metasynthesis, Meta-analysis, Systematic Review]

Egi, M.; Morita, K. Fever in non-neurological critically ill patients: A systematic review of observational studies. Journal of Critical Care. 2012;27(5), 428-433. doi:10.1016/j.jcrc.2011.11.016 [Metasynthesis, Meta-analysis, Systematic Review]

Geijer, H.; Udumyan, R.; Lohse, G.; Nilsagrd, Y. Temperature measurements with a temporal scanner: Systematic review and meta-analysis. BMJ Open. 2016;6(3) doi:10.1136/bmjopen-2015-009509 [Metasynthesis, Meta-analysis, Systematic Review]

Hammond, N. E.; Boyle, M. Pharmacological versus non-pharmacological antipyretic treatments in febrile critically ill adult patients: A systematic review and meta-analysis. Australian Critical Care. 2011;24(1), 43207. [Metasynthesis, Meta-analysis, Systematic Review]

Kiekkas, P.; Aretha, D.; Bakalis, N.; Karpuhtsi, I.; Marneras, C.; Baltopoulos, G. I. Fever effects and treatment in critical care: Literature review. Australian Critical Care. 2013;26(3), 130-135. doi:https://doi.org/10.1016/j.aucc.2012.10.004 [Metasynthesis, Meta-analysis, Systematic Review]

Kiekkas, P.; Stefanopoulos, N.; Bakalis, N.; Kefaliakos, A.; Karanikolas, M.. Agreement of infrared temporal artery thermometry with other thermometry methods in adults: Systematic review. Journal of Clinical Nursing. 2016;25(7-8), 894-905. [Metasynthesis, Meta-analysis, Systematic Review]

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- Niven, D. J.; Gaudet, J. E.; Laupland, K. B.; Mrklas, K. J.; Roberts, D. J.; Stelfox, H. T. Accuracy of peripheral thermometers for estimating temperature: A systematic review and meta-analysis. Annals of Internal Medicine. 2015; 163(10), 768-777. doi:10.7326/M15-1150 [Metasynthesis, Meta-analysis, Systematic Review]
- Niven, D. J.; Stelfox, H. T.; Laupland, K. B. Antipyretic therapy in febrile critically ill adults: A systematic review and meta-analysis. Journal of Critical Care. 2013;28(3), 303-310. doi:10.1016/j.jcrc.2012.09.009 [Metasynthesis, Meta-analysis, Systematic Review]
- O'Grady, N. P.; Barie, P. S.; Bartlett, J. G.; Bleck, T.; Carroll, K.; Kalil, A. C.; Linden, P.; Maki, D. g.; Nierman, D.; Pasculle, W.; Masur, H.; American College of Critical Care Medicine; Infectious Diseases Society of America. Guidelines for evaluation of new fever in critically ill adult patients: 2008 updated from the American College of Critical Care Medicine and the Infectious Diseases Society of America. Critical Care Medicine. 2008;36(4), 1330-1349. doi:10.1097/CCM.0b013e318169eda9 [Metasynthesis, Meta-analysis, Systematic Review]
- Potter, P. A.; Perry, A. G.; Stockert, P. A.; Hall, A. M. (2017). *Fundamentals of nursing*. St. Louis: Elsevier. [Review Articles, Expert/Committee Opinion, Core Curriculum, Position Statements, Practice Bulletins]
- Ryan-Wenger, N. A.; Sims, M. A.; Patton, R. A.; Williamson, J.. Selection of the most accurate thermometer devices for clinical practice: Part 1: Meta-analysis of the accuracy of non-core thermometer devices compared to core body temperature. Pediatric Nursing. 2018;44(3), 116-133. [Metasynthesis, Meta-analysis, Systematic Review]
- Serpa Neto, A.; Pereira, V. G.; Columbo, G.; Scarin, F. C.; Pessoa, C. M.; Rocha, L. L. Should we treat fever in critically ill patients? A summary of the current evidence from three randomized controlled trials. Einstein (Sao Paulo, Brazil). 2014;12(4), 518-523. doi:10.1590/S1679-45082014RW2785 [Review Articles, Expert/Committee Opinion, Core Curriculum, Position Statements, Practice Bulletins]

