

## Fever Management in the Acutely Ill Hospitalized Patient

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# Fever Management in the Hospitalized Adult Patient

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# PICO QUESTION

**In the adult, hospitalized patient can we provide an evidence-based decision tree for fever monitoring and treatment as compared to standard (current) practice that will positively affect patient comfort, decrease patient complications and support nursing clinical judgment with best practice interventions.**

# EVIDENCE

- “Clinical knowledge and understanding of the process of fever as an adaptive response has not resulted in changes to clinical guidelines or nursing interventions.” (Serase & Tranter, 2011, Thompson et al, 2011)
- A literature review based on improving evidence-based care for patients with fever consists of the following:
  - “Actions involving administering antipyretics and tepid sponging are not recommended” (Dougherty & Lister, 2008)
  - Jevon 2010 cautioned nurses against administering antipyretics and removing blankets as this can obstruct body’s immune response
  - “Active cooling in febrile adults did not reduce core temperature and made the participants more uncomfortable” (Lenhardt et al., 1999)
  - Holtzclaw (2002), Thompson (2005), and Outzen (2009) stated that cooling mechanisms for patient’s with fever is counterproductive unless there is brain injury involvement.
  - Kiekkas et al (2008) stated that in non-sedated patients, physical antipyretics can lead to shivering, vasoconstriction, and discomfort.

# EVIDENCE

- Literature review assessing whether practices to routinely treat fever with antipyretics or physical cooling methods are supported by research. (Carey, 2010)
  - Several trials suggest antipyretics prolong illness (especially in studies with viral illness or pneumonia) few stated that they did not affect duration. However, no studies found suggested these agents reduce illness duration.
  - Use of pharmacological agents selectively... to decrease metabolic rate in patients with coexisting cardiovascular or pulmonary disease, to prevent dehydration or decrease discomfort.
  - Administering antipyretics to patients with low grade fever may mask important clinical signs of condition.
  - External cooling methods should not be used alone. They DO NOT lower the set point. Should be used in conjunction with pharmacological methods.

# EVIDENCE

- “In the absence of protocols developed in an interdisciplinary manner nurses chose rather to rely on trial and error or individual convention.” (Thompson & Kagan, 2010, Lak et al, 2012)
- Upon review of the literature, it is apparent that there is a lack of evidence for the adult, medical-surgical patient population. Most studies relate to the critically ill or the pediatric patient population.

# Barriers & Strategies

- **Barrier:**
  - Practice differences among providers
    - Patient and nursing perception that all “fevers” are always detrimental
  - Time
    - Nursing workload implications
  - Tradition
    - Nursing “what works” approach
- **Strategy to Overcome:**
  - Education
    - Patients and providers
  - Standardization
    - Treatment, documentation, and monitoring



# Expected Outcomes

- Evidence based standardization of fever treatment within LVHN
  - Improved monitoring and communication
  - Appropriate “best evidence” based selection to fever management strategies in heterogeneous patient populations
  - Support interdisciplinary management of the febrile patient utilizing a best practice approach
- Increased nurse satisfaction with respect to fever management
  - Improve patient care and lessen nurse stress
- Increased patient satisfaction with respect to fever management
  - Improve patient comfort and lessen patient stress
- Define patient comfort and identify appropriate assessment strategies to determine when intervention implementation is necessary



# Survey Format

## ■ Surveys consisted of:

- **Providers:** 9 questions utilizing various question types such as multiple choice, short answers and utilization of the Likert scale which focused on fever assessment and communication with nursing staff. There were 9 professional respondents with a cross section of Medical, Surgical, Oncology and Infectious Disease.
- **Nursing:** 27 questions utilizing various question types such as: multiple choice, short answer and utilization of the Likert Scale which focused on fever assessment and RN beliefs/comfort on fever management. Survey was sent to RNs on 7C, 5T, and the float pool at both sites with a response received from 46 nurses.
- **Unlicensed:** 10 questions using various question types such as multiple choice, short answers and utilization of the Likert scale which focused on fever management strategies and beliefs/comfort with nursing communication and workload. Survey was sent to unlicensed technical partner staff on 7C and 5T with a response received from 46 TPs.

# Survey Result: What is a Fever?

Summary of results in percentage replies:

	P	RN	U
<b>What temperature elevation do you consider a fever?</b>			
– 99 – 100	0	7	8
– 100.1 – 100.3	11	22	60
– 100.4 – 101	44	35	12
– >101	44	37	8

**Intervention for temperature elevation control other than antibiotics should occur if the patient has a temperature of:**

– <100 (pt might state some discomfort)	0	13
– 100.1-100.4	11	17
– 100.5-101	33	26
– 101.1-102	33	37
– >102	22	7

# Survey Results-Provider

## ■ Summary of results:

- I believe the following interventions (excluding antibiotics) are most effective in managing fever:
  - **Incentive spirometer, ambulation, deep breathing, Acetaminophen**
  - **Acetaminophen, NSAIDS**
  - **Tylenol, covers off, IVF**
  - **Ice packs if very elevated**
  - **Antipyretics, ice packs only if not responsive to antipyretics**
- 100% of providers agreed that they should be informed if the patient is febrile and not on antibiotics
- 89% of providers agreed that they should be informed if the patient is febrile and on antibiotics
- 66% of providers agreed fever reduction interventions should be implemented primarily to improve patient's comfort.

# Survey Results-Nursing

## ■ Summary of results:

- 100% of nurses agree that provider should be informed if pt has elevated temperature and is NOT on antibiotics.
- 82% of nurses agree that provider should be informed if pt has elevated temperature and is on antibiotic therapy.
- Although 92% of nurse respondents agreed that temperature elevation is an important part of the body's defenses against infection, 83% agreed successfully reducing a temperature elevation improves the patient's condition and 43% agree that failing to reduce a temperature elevation will prolong the patient's illness. 89% agreed that reduction interventions should be implemented to primarily IMPROVE pt comfort.
- 48% of respondents agreed that giving Tylenol to a pt with a temperature above normal but below 100.5 is an appropriate technique for temperature reduction.

# Survey Results-Nursing

## ■ Summary of results:

- 71% of nurses agree that Acetaminophen is more effective at temperature reduction than cooling modalities such as ice packs, cool cloths, etc.
- When planning interventions 100% believed pt discomfort should be considered and 78% agreed that the patient's family's perception of temperature elevation should be considered.
- 63% of nurses agreed that if a patient has a temperature and are shivering, blankets should be minimal and the room temperature should be decreased. 52% agreed ice packs on pulse points is an appropriate technique.

## ■ What cooling modalities do you routinely use other than antipyretics?

- Cold compress, remove blankets, ice packs, decrease room temperature, bath, turning up AC, iced water drinks, Incentive spirometry

# Survey Results-Unlicensed

- Summary of results:
  - **88% of Technical Partners stated that they report the temperature elevation to the RN immediately**
  - **90% of TPs agreed that documenting how they obtained a patient's temperature is important**
  - **If a patient has a fever:**
    - **38% stated that blankets should be removed**
    - **62% stated that the temperature of the room should be decreased**
    - **55% stated that ice packs are a good way to decrease the patient's temperature**



# Survey Results

- **Who goes under the bus?**
  - 56% of providers agreed nurses are inconsistent in how they manage fevers.
  - 74% of nurses agreed that providers are inconsistent in their belief of how nurses should manage temperature elevation in patients.
  - 48% of TPs agreed that all nurses do not treat fevers the same.



# Survey Results

- **Do we need a new paradigm for the care of patients with fever?**
  - 70% of nurses agreed managing a patient with a temperature adds to their workload.
  - Although 98% of nurses agree they have the appropriate knowledge and resources available to care for a patient with a temperature elevation, 54% agreed that it causes them stress and anxiety.
  - 94% of nurses in the survey agreed that an evidence based tool, such as a decision tree, would help to alleviate that anxiety..

# Discomfort Scale

## ■ Our Goal

- Develop a scale to assess the patient's symptoms associated with the fever and guide the nurse utilizing best practice to implement appropriate interventions.

## ■ The Discomfort Scale will assess:

- Anxiety
- Diaphoresis
- Chills
- CAM (Confusion Assessment Method)

# Next Steps

- Pilot the Discomfort Scale on the febrile patients on 5T and 7C
- Gather the data, analyze the results, and begin developing a decision tree to guide nursing practice towards a standardized approach to fever management.

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# Questions?

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