BENEFITS AND COSTS OF FEVER
A BRIEF UPDATE

BENEFITS

For the normal child in a normal paediatric setting fever is a friend. However, to a critically ill child, fever is an enemy and can compromise them severely.

The many beneficial effects of fever highlight its critical role in the body’s defence system. They also highlight the rationales for not suppressing fever.

Fever:
- Improves immune function
- Stimulates the release of exogenous pyrogens and triggers a set of neurologic, endocrinologic, metabolic and immunologic alterations called the acute/cold phase response
- Stimulates the production of T-lymphocytes and B-lymphocytes (responsible for antibody production)
- Increases production of interferon, the body’s own virus-fighting substance
- Enhances infection fighting abilities through increased phagocytic activity at temperatures between 38°C and 40°C
- Conserves energy needed to fight the infection; slow-wave sleep patterns are produced reducing energy requirements
- Reduces levels of free iron levels causing a resultant increase in ferritin – inhibiting the growth and development of many viruses and bacteria and
- Mild temperature up to 39°C has no detrimental effects

COSTS

Fever is a stressor. It is important to recognise children who could be at risk of developing problems from fever, including those with underlying cardiac, respiratory, renal and metabolic problems. Febrile, critically ill, children should receive treatment, antipyretic therapy, to reduce fever. Caregivers must determine when to introduce fever management techniques when caring for otherwise healthy children with a febrile illness. Nurses must use their clinical judgment in this area of nursing; there are no hard and fast rules in fever management.

Effects of fever that may have an adverse effect include:
- Increased metabolic rate - approximately 13% for every 1°C increase
- Increased heart rate, 16-20 beats per minute, for each 1°C increase above normal
- Increased oxygen demand – a concern in children with cardiac and pulmonary problems
- Increased cardiovascular demands
- Increased demands on pulmonary system
- Precipitates febrile convulsions in children aged 3 months to 5 years
- Makes child uncomfortable and irritable making it difficult to assess underlying illness and
- High fever:
  - ≥40°C does not enhance the immune process and
  - Should be avoided in debilitated/weak patients

Paediatric Fever Management: An Educational Program for Nurses
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