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Safe Parameters



FOR
FEVERS

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The Ill-Effects of Commonplace Medications

As proactive parents many of you have probably wondered if there are any ill-effects of commonplace medications like nurofen and panadol...

When our child has a raging fever or an acute earache we feel pressed however to act quickly. We automatically reach for paracetamol to reduce their pain and fever, to calm them down and help them sleep (*Allotey, Reidpath & Elisha, 2004*).

In 2008 the Food and Drug Administration (FDA) released some new recommendations. Their committee unanimously voted against the use of cough and cold medications in children under the age of 2, and further recommended that they should not be given to children under the age of 6 (Schaefer, 2008). In 2007, actions were voluntarily taken on behalf of drug manufacturers by the Consumer Healthcare Products Association to withdraw 14 cough and cold medications for children. The drug companies themselves later chose to write warnings on their drug labels, "Do not use in children under the age of four years" (*Bell, 2010*).



There are millions upon millions of drug prescriptions given to children every single year. *The question is:*

WHY HAVE THESE MEDICATIONS, ONES THAT HAVE BEEN USED FOR DECADES, RECENTLY BECOME RESTRICTED?

The FDA and the drug companies have had to respond for to two separate concerns:

- *First* — professional concern over the lack of evidence showing these drugs are effective in children.
- *Second* — professional and public concern over mounting evidence of serious risk associated with their use.

Cough and cold medications, most of which are over-the-counter, show especially high use in children. In 2007, the Avon Longitudinal Study of Parents and Children found that 75% of 3-4.5 year olds and 50% of 5.5-7.5 year olds had been given cough and cold medications in the past year (*Vernacchio, 2008*). In 2006, pseudoephedrine (a decongestant and a base ingredient for the street drug 'speed') and dextromethorphan (for coughs, also used as a street drug similar to ketamine and 'angel dust') were among the leading medications given to children under the age of 12 (*Schaefer, 2008*).

Numerous experts have expressed concern that there is insufficient evidence that these drugs have any benefit in children, and many have called for the products to be entirely withdrawn until more research is done (*Schaefer, 2008*). Out of the 6 randomised controlled trials done since 1985, not one showed any advantage of cough and cold medications for children over placebo (*Bell, 2010*).

Many parents may not be aware of this lack of evidence, and a great number believe these drugs are safe. In fact, 64% of parents

responding to a national survey in the US considered these drugs to be very safe or somewhat safe and 20% stated that they planned to give them to their children under 2 (*Schaefer, 2008*). Bell notes that in the past decade 750,000 calls have been made to poison control centres in regards to these drugs and that the FDA has investigated the deaths 123 children. Part of the problem is that these drugs in particular are fraught with risk of overdosing. The recommended dosage for children is not based on scientific data but is taken from data that relates to the average 60kg adult. In doing so, there has been a failure to recognise that children process drugs differently from adults, and that the colds experienced by children may not be the same. Bell states: "...the respiratory tract conditions often differ in children compared with adults, including alterations in sinus development, airway size, respiratory muscle and chest wall size, and clinical presentation".

Paracetamol is the most commonly used pain medication in children; A survey of 40 parents found that at some point in time, all had administered paracetamol to their children when the child was not feeling well, was teething or couldn't be settled (*Allotey et al., 2004*).

In the largest study ever conducted on the long-term side effects of paracetamol use in children (looking at over 200,000 children from 31 different countries), it was found:

- Use of paracetamol for fever in the first year of life was associated with an increased risk of asthma symptoms when aged 6–7 years.
- Current use of paracetamol was associated with an increased risk of asthma symptoms.
- Use of paracetamol was associated with the risk of severe asthma symptoms of between 22% and 38%.

- Paracetamol use, both in the first year of life and in children aged 6–7 years, was associated with an increased risk of symptoms of rhinoconjunctivitis and eczema.

An Australian report on paracetamol by the 7.30 Report (*ABC TV, 2002*) noted that paracetamol generates more calls to poison information centres than any other substance and that one Sydney hospital alone recorded 17 cases of liver failure in children from paracetamol from 1985-2002. Another study looking at medication 'adverse event reports' received by the Food and Drug Administration between 1997 and 2000 for infants and children under 2 years, showed that paracetamol was the 6th most common drug listed in those reports as the suspected cause of serious or fatal outcome (*Moore, Weiss, Kaplan & Blaisdell, 2002*).

In the journal *Paediatrics* (*Finkelstein 2000*), which reported that half of a group of 161 paediatricians surveyed about fever management reported that they regularly advise parents to alternate between acetaminophen (Tylenol) and ibuprofen (Advil or Motrin). This is particularly alarming since the authors of the study report that there is presently no scientific evidence that this is safe or achieves faster resolution than either agent alone. The frequently recommended practice of alternating doses of acetaminophen with ibuprofen has never been studied; in fact, this practice may lead to parental confusion and overdosing of medication. (*Mayoral 2000*) The study showed that parents interviewed perceived acetaminophen as a safe drug, and were unaware of its potential consequences of allergic reactions and liver damage when given incorrectly.

As *Derasse, Klein and Weiser (2005)* note, the risk of paracetamol overdose in children may be due to the narrow window between a medically active dose and a toxic dose — often narrower still when multiple doses are given, in which case the harmful dose may be only just greater than the recommended maximum dose.

ARE THERE BENEFITS TO HAVING A FEVER OR CATCHING A COLD?

Advertising has given us the perception that the natural thing to do when our child is ill is to give them medication, creating powerful images that associate medication use with compassion for our children. Many of us are familiar with the message that we can help our child to “soldier on” by giving medication and “turn a sick day into a work day” (*Craig, 1992*). These messages were so successful in Australia that in the space of four years, from 1992–1996, more over-the-counter medication was sold and used than in the entire preceding decade (*Allotey et al., 2004*).

It is important to understand that whilst uncomfortable, fever actually plays an important healing role. Fever may shorten the duration of illness and improve survival by killing bacteria and viruses and enhancing the immune response (*Blatteis, 2003*).

Are There Safer Alternatives to Drugs?

A proactive approach to fevers and coughs and colds is to focus on comforting our child rather than directly trying to reduce their symptoms or their temperature. This includes making sure our children consistently eat a range of the high quality foods (preferably organic fresh produce), that they get ample sleep, filtered water, sweaty exercise, a loving home environment and that their nervous system is fully functioning to govern immune and digestive strength.

There is no doubt that a very high fever can impair the immunological response. Interestingly, however in her book *Integrative Medicine for Children* Dr Loo MD says that “in the absence of hyperthermic insults (e.g. dehydration, being in a closed, hot automobile) and in neurologically normal children, the body

does not allow fever to rise to a potentially lethal level by producing cryogens that act as natural antipyretic substances to keep temperature in a homeostatic balance. Without a hyperthermic insult, a child's temperature very rarely exceeds 41.1° C (106° F)".

The American Academy of Pediatrics recommends Nasal Saline Solutions over cough and cold drugs. These are available as solutions, sprays, and irrigations, and can be used for both infants and children to help relieve the symptoms of upper respiratory tract infections (Bell, 2010). One trial showed that they improve the acute symptoms of colds, reduce the recurrence of symptoms, and reduce the need for other medications for fever or congestion (as cited in Bell, 2010). Honey can also be used as an anti-cough agent, and this is supported by research trials (Paul, 2001).

In her book *Integrative Medicine for Children (2009)*, Dr Loo, MD, references a number of studies that demonstrate...

“there is ample evidence that the chiropractic adjustments positively affects the immune system. The chiropractic adjustment influences natural killer cell production and autonomic balance, B-cell lymphocyte count, polymorphonuclear neutrophils and monocytes, and even CD4 counts”.

She adds...

“...the chiropractic adjustment is not applied as an antipyretic but instead as a balancing influence to the autonomic nervous system, (and) it is not unusual for the fever to drop several degrees within 20 minutes of the chiropractic adjustment.”

Further Suggestions:

- **Acupuncture** has been shown to have antipyretic effects by correcting disturbances to the overall balance in the body, and the use of acupressure can be used for fever management at

home (Loo, 2009)

- **Homeopathy** offers a wealth of different remedies for fever that are specific to your child.
- **Omega-3 fatty acids** have an anti-inflammatory effect on the body and that Vitamin C can also be used to manage the inflammatory effects of fever. Echinacea and goldenseal have the ability to boost immunity, garlic has antimicrobial properties and peppermint tea or oil may be helpful to assist fever reduction naturally (Loo, 2009).

Certainly none of us enjoy feeling run down and unwell and it can be especially difficult to see our little ones this way. But we need to remember that colds and flu actually help to build our children's immunity. A good fever will help your child fight the infection more effectively. As a society we hand out so many pills to our babies and children, believing they are effective and safe. In the case of cough and cold medications and fever reducing medications — this simply isn't true. Knowing this we can ask ourselves whether or not the treatments we offer them will support their immune-building process or hinder it. This gives us confidence that we are bringing our children lifelong health.

Safe Parameters For Fevers

Some parents have great anxiety about their child experiencing a fever. Perhaps they have had a child who has had a seizure or they have seen another child have a seizure and they have genuine concerns about preventing a high fever. With this in mind I wish to discuss how we as parents can safely monitor and judge fevers (using medical text guidelines) and also present some important discussion points relating to the benefits of fevers.

Fever can at times precipitate febrile seizures (fitting associated with a fever) in the susceptible child between 6 months and 5 or 6 years of age. There is however interestingly no evidence that antipyretics (medications used to reduce fevers) can prevent febrile seizures even in children with a history of febrile convulsions. When febrile convulsion occurs, paediatricians in general reassure parents that they are benign (non serious) and self-limiting and that long-term prognosis in the vast majority of cases is good.¹



TREATMENT OF FEVER IS INDICATED:

1. in children with cardiovascular or pulmonary diseases, because febrile illnesses increase oxygen consumption and these children may already have an increase in carbon dioxide production;
2. in a seriously ill child with diminished oral intake, such that the marked increase in insensible water loss and increase in cellular energy expenditure predisposes the patient to dehydration and utilization of substrates contained within body tissues¹; (3) in immunocompromised children in whom fever may indicate more serious illness; (4) in children younger than 3 months. Hyperpyrexia (>41° C) indicates greater risk of severe infection, hypothalamic disorders, or central nervous system (CNS) hemorrhage and should always be treated with antipyretics.¹

In the case of children and fever, research shows there is a high degree of parental fear and uncertainty. Zomorodi and Attia² state that 'fever phobia' causes both health care providers and parents to overtreat fevers, placing children at risk of medication toxicity, needless repeat temperature readings, and parental panic.

Reassuringly, recent studies show that life-threatening complications almost never occur with temperatures below 41.7°C, and that most fevers in children that are caused by infections rarely reach this temperature. Additionally, febrile seizures only occur in 4% of fever patients and most are without any long term consequences². In fact the most common problems associated with fever are reversible discomfort and mild dehydration.

What About Fitting?

For a small minority of children, fevers can be serious since there may be a risk of 'fitting' or convulsing. It is important to know the danger signs to look out for.

CONSIDER THE FOLLOWING WHEN A FEVER OCCURS:

- The speed at which a temperature rises should be slow, whereas a spiking temperature (i.e. marked variations in measured temperatures) can be problematic.
- According to medical texts, a fever itself is not harmful until it reaches a level of 41.5°C. If your child's temperature is moving toward this level, you will need to obtain expert help quickly. In his medical text General Practice, Dr Murtoogh says that, "Febrile convulsions are triggered by a rapid rise in temperature rather than its absolute level."³

Fever Classification

GRADE	°C	°F
Low-grade	38-39	100.4-102.2
Moderate	39-40	102.2-104.0
High-grade	40-42	104.0-107.6
Hyperpyrexia	>42	>107.6

In the event of a high grade fever seek medical advice.

Carers should be aware that temperatures in excess of 42°C are considered a medical emergency.⁴

Fight Fever With Knowledge

- A temperature will be highest at night and should, over a 12-hour period, start to decline. Generally a child will not have a temperature the following morning. If the fever persists, it could be problematic and you will need to seek advice from your health practitioner.
- Lymph nodes will generally be enlarged and tender—particularly those found above the collar bone, such as those behind the ears, in the neck or near the jaw. If lymph nodes are also enlarged in the lower body, such as in the arm pits or groin, the problem may be more severe and again you will need to seek advice.
- Tiredness and nausea are normal signs. Let your child sleep, but continue to monitor their temperature.
- Complete lethargy, unresponsiveness or twitching are not good signs and you should seek emergency medical advice.
- Keep your child hydrated, as mild dehydration can be a complication of a fever. In certain scenarios, particularly at night, your child may be very tired and resistant to drinking and you may then have to be forceful. You may need to use an eye dropper if they refuse to drink. With a baby, repeatedly offer a bottle of water.
- Keep food to a minimum. You can offer a manuka honey and lemon drink (for energy) at any time.
- Focus on comforting your child rather than directly trying to reduce the temperature.
- Remember, fever is a normal response and a sure sign that the body's natural defences are helping to fight an infection. A good fever will help your child fight the infection more effectively.

- If you wish to sponge your child down, do so with lukewarm water over the wrists and back of the neck.
- Have your child adjusted by their chiropractor as soon as possible.

Many parents have concerns that a fever may indicate meningitis—a viral or bacterial infection of the brain meninges. There are specific signs indicative of this life-threatening illness including⁶:

- stiffness of the neck,
- listlessness,
- poor appetite,
- vomiting,
- inconsolable crying,
- irritability and
- headache.

Certainly if you suspect meningitis, seek medical help immediately.

RESOURCES & REFERENCES

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