

## Common over the counter Medicines and Dosages With a word about Cold Medicines

### Useful conversions

**1 teaspoon = 5 milliliters (ml)**

**1/2 teaspoon = 2.5 milliliters (ml)**

### Abbreviations

**Milligrams =mg**

**Milliliter= ml**

**Kilogram= kg**

**Pound = lbs**

**Note # 1: It is useful to have at home a syringe with milliliters measurements for liquid dosing since it provides a more accurate dose than teaspoon measurements.**

**Note # 2: utensil spoons are not accurate for dosing of medicines**

### Tylenol (Acetaminophen)

#### **Child Dose (dosing by weight preferred)**

Each dose should be 12 mg per kg of weight, every 4 to 6 hours as needed

-OR-

Each dose should be 5.5 mg per pound of weight, every 4 to 6 hours as needed

#### Example

If my child weighs 20 pounds then I need to give  $20 \text{ lbs} \times 5.5 \text{ mg} = 110 \text{ mg}$  of Tylenol

If I use Tylenol infant drops this is 110 mg divided by 80 mg x 0.8 = 1.1 ml of the infant drops

If I use Tylenol suspension this is 110mg divided by 160mg x 5ml = 3.4 ml of suspension

(0.68 tsp)

**Adult Dose:** 325–650 mg per dose every 4 to 6 hours

Maximal Adult Dose: 4 g per every 24 hours, 5 doses per 24 hours

#### Available Preparations of Tylenol

**Infant drops, solution/suspension:** 80 mg/0.8 ml

**Child suspension/syrup:** 160 mg/5 ml

**Oral liquid:** 160, 166.7 mg/5 ml

**Elixir:** 160 mg/5 ml

**Tabs:** 325, 500, 650 mg

**Chewable tabs** 80, 160 mg

**Caplet:** 160, 500, 650 mg

**Extended-release caplet/gelcap:** 650 mg

**Gelcap:** 500 mg

**Capsules:** 500 mg

**Dispersible tabs** (Tylenol Children's Meltaways): 80 mg

**Suppositories:** 80, 120, 325, 650 mg

## **Motrin (Ibuprofen)**

(milligrams =mg; milliliter= ml; kilogram= kg; pound = lbs)

### **Child Dose:**

#### **For fever or pain:**

Each dose should be 10 mg per kg of weight, every 6 to 8 hours as needed

-OR-

Each dose should be 5 mg per pound of weight, every 6 to 8 hours as needed

#### Example

If my child weighs 20 pounds then I need to give  $20 \text{ lbs} \times 5 \text{ mg} = 100 \text{ mg}$  of Motrin

If I use Motrin infant drops this is 100 mg divided by 40 mg x 1ml = 2.5 ml of the infant drops

Maximal dose: 40 mg per kg of weight every 24 hours

### **Adult Dose:**

Pain/fever/dysmenorrhea: 200–400 mg per dose every 6-8 hr; max. dose: 1.2 g/24 hr.

Joint inflammation/pain: 400–800 mg per dose every 6–8 hr max. dose: 800 mg/dose or 3.2 g/24 hr

#### Available Preparations

**Oral suspension (Children's Motrin):** 100 mg/5 ml (60, 120, 480 ml)

**Oral drops (Infant Motrin):** 40 mg/ml (7.5, 15 ml)

**Chewable tabs:** 50, 100 mg

**Caplets:** 100, 200 mg

**Tabs:** 100, 200, 400, 600, 800 mg

**Capsules:** 200 mg

## **Benadryl (Diphenhydramine)**

(milligrams =mg; milliliter= ml; kilogram= kg; pound = lbs)

### **Child Dose**

Each dose should be 1.25mg per kg of weight, every 6 to 8 hr as needed

-OR-

Each dose should be 2.5mg per pound of weight, every 6 to 8 hour as needed

Max. dose: 300 mg per 24 hour period

### **Adult Dose**

25–50 mg per dose every 4 – 8 hours

Max. dose: 400 mg per 24 hour period

#### Available Preparations

**Elixir:** 12.5 mg/5 ml

**Syrup:** 12.5 mg/5 ml

**Oral suspension:** 25 mg/5 ml

**Oral liquid/solution:** 12.5 mg/5 ml

**Caps/Tabs:** 25, 50 mg

**Tabs, orally disintegrating:** 12.5 mg

**Strips, orally disintegrating:** 12.5, 25 mg

**Chewable tabs:** 12.5 mg, 25 mg

## **Naproxen/ Aleve:**

### **Child Dose for Pain (children greater than 2 years of age)**

Each dose should be 5–7 mg per kg of weight every 8–12 hours

-OR-

Each Dose should be 15 mg per pound of weight every 8 – 12 hours

### **Adult Dose for Pain**

Immediate-release forms: 250–500 mg per dose twice a day

Delayed-release tabs (EC-Naprosyn): 375–500 mg per dose twice a day

Controlled-release tabs (Naprelan): 750–1000 mg per dose once a day \

maximal dose: 1500 mg per 24 hours

Dysmenorrhea Doses:

500 mg × 1, then 250 mg Q6–8 hr PO; max. dose: 1250 mg/24 hr.

Available preparations (Note that some are Over-the-Counter while others may be Prescriptions

Tabs: 250, 375, 500 mg

Delayed-release tabs (EC-Naprosyn): 375, 500 mg

Oral suspension: 125 mg/5 ml

Aleve Tabs and others 220 mg

Anaprox: 275 mg, 550 mg

Controlled-release tabs (Naprelan): 412.5 mg (375 mg base), 550 mg (500 mg base)

## **A Note about Cold Medicines in Children**

A panel of government advisors recommended in 2007 that popular over-the-counter cold and cough medicines not be used in children who are 2 to 5 years old.

The committee concluded that cold medicines have no effective use in children. Reports of potentially dangerous side effects led drugmakers several weeks ago to stop marketing cold and cough medicines for use in children under 2. The panel voted 13-9 to recommend that cold medicines not be used in children over 2 years old but under 6 years old.

Over-the-counter cold medicines should not be used in children "given that there's no evidence of efficacy of the drugs and there's evidence of harm of the drugs."

There are hundreds of over-the-counter cold medicines using different cough and pain relievers alone and in varying combinations.

Pediatricians have long complained about the potential risk for the plethora of cough syrups, cold remedies, and other nostrums containing nasal decongestants, antihistamines, cough suppressants, and expectorants. These medications are sold over-the-counter and are frequently given to children as young as 2 years old. Most alarmingly, a recent study of hospital emergency department cases seen between 2004 and 2005, conducted by the US Centers for Disease Control and Prevention. The CDC found that at least 1519 children under 2 years of age experienced serious health problems after being dosed with common cough medicines and remedies.

One of the major problems observed was overdose of the nasal decongestant, pseudoephedrine, which can play a role in causing arrhythmias and, in particularly high doses, hypertension and stroke. There are also concerns about other common cold remedy ingredients, such as dextromethorphan, guaifenesin, and phenylephrine.

When a small child is miserable with fever, cough, congestion, and runny nose, the overwhelming majority of parents (myself included) want to do something to "make the monster go away." Many of these nostrums have the so-called "benefit" of inducing sleep in a suffering toddler because of the addition of antihistamines and alcohol. However, when you consider that the average child suffers 6-10 colds a year -- a number far greater than healthy adults -- the risks for overdoses, incorrect doses, and adverse drug events only increase. Experts estimate every month that more than one third of all American 3-year-olds were given an over-the-counter cold or cough medication.

The conventional wisdom is that these remedies might suppress coughs or "un-stuff" a stuffy nose for a short period of time, although there are a growing number of studies in children that find no significant difference in symptomatic relief when compared with placebos. More troubling is that despite their wide use and sales, there is simply no good evidence to suggest that these agents do anything to actually cure colds or coughs.

While most doctors acknowledge that cough and cold remedies in recommended doses are generally safe, there is a mounting concern about the risks for overdoses and the potential for adverse drug interactions that can result when taking more than 1 of these medications.

There is much work to be done by the FDA and others who study the interactions and potential risks for these medications. However, a good first start has been made in the agency's commitment to reviewing the problem. Perhaps an even more important part of this crusade to "do no harm" is one that all pediatricians and children's health professionals need to embark upon immediately: teaching our patients and their parents about the risks and benefits of these so-called soothing nostrums and the importance of substituting them for the best cure for colds (albeit one that few of us really likes to accept) -- a tincture of time.