

# SAFE USE OF PARACETAMOL IN CHILDREN

Paracetamol is a safe medication for children when used appropriately. However, liver toxicity can occur with inappropriate use. For example, sustained high doses for a sick child under the age of two years can lead to toxicity within days.<sup>1</sup> In 2006, New South Wales Health released a mandatory policy directive on the use of paracetamol following a death related to paracetamol toxicity.<sup>2</sup>

## Indications for paracetamol use

Paracetamol is a useful medication for symptomatic pain relief in known painful situations, such as pain following injury or an operation, migraine headaches in older children or reducing the discomfort that may be associated with fever.

Paracetamol also has a role when there is a combination of respiratory distress and fever, such as in croup, bronchiolitis or pneumonia. Fever increases the metabolic rate and oxygen requirements in these situations.

However, continued use of paracetamol for pain or fever of unknown causes is inappropriate and can lead to delays in diagnosis of conditions, which would benefit from earlier treatment.

## Recommended doses of paracetamol for children of normal or average body build

The dose of paracetamol is based on lean body weight. The total body weight of an obese, anorectic or malnourished child is not their lean body weight. *Download a paracetamol dosage calculator (including BMI and LBW) from [www.bpac.org.nz](http://www.bpac.org.nz)*

The recommended doses of paracetamol for children of **normal or average build are:** 15 mg/kg four to six hourly, up to a maximum daily dose of 60 mg/kg/day.

If it is difficult for clinicians to calculate these doses, it is often so much harder for parents. Careful attention to labelling advice is needed.

For children older than one month with acute pain, this may be increased to a daily maximum of 90 mg/kg/day for a maximum of two days but this is usually only in the hospital setting.

## Calculating the paracetamol dose for obese children

In most situations clinicians will use a rule of thumb and err on the side of caution, remembering that the dose is based on lean body weight (LBW), not actual weight.

## Paracetamol dose must take into account paracetamol as an ingredient of other medications being taken concurrently

Paracetamol is an unexpected ingredient of many over-the-counter medications and must be taken into account when calculating paracetamol doses.

Paracetamol is present, for example, in preparations of:

- Codral
- Coldrex
- Dimetapp
- Lemsip
- Orthoxicol
- Sinutab
- Sudafed

## Ibuprofen is not a safer alternative in children

Ibuprofen appears to be as safe as paracetamol in short term use but we do not yet have the same length of experience with using ibuprofen as we do with paracetamol. The well known risks of NSAID use are at least as great in children as in adults.

There is no evidence for the safety or efficacy of combining or alternating paracetamol and ibuprofen use in children.

## References

1. Graudins L, Gazarian M. Promoting safe use of paracetamol in children. *J Pharm Pract Res* 2006; 36:297-300.
2. Kruk R. Paracetamol use. 2006 Policy Directive, NSW Health.