

Paracetamol

- ✚ The MHRA has updated its advice on dosing for paediatric paracetamol, with a larger number of narrower age bands and exact doses per age band.
- ✚ The most cost effective route of administration for adults and children remains the oral route.
- ✚ Paracetamol suppositories, which are listed in the BNF, are in practice often only available as extremely expensive "specials".
- ✚ The UK Department of Health is now advising that the routine prophylactic use of paracetamol or ibuprofen after childhood vaccination is no longer recommended, as there is some suggestion that this may lower the antibody response to the vaccine.

1. Paracetamol dosing in children

The aim of the updated recommendations is that all children receive the most optimal dose of paracetamol suitable for their age, and to clarify the exact doses to be given. The updated dosing is not the result of safety concerns and applies equally to prescribed and over-the-counter paracetamol. The previous recommendations contained wide bands and wide dose ranges within those bands. As a result, children who are light for their age and given the maximum recommended dose may be receiving an amount per kg body weight that differs widely from older heavier children taking the lower recommended dose within that age band.

Paracetamol products for children are expected to have the new dosage instructions by the end of 2011, and the new packs will have a suitable measuring device to assist accurate administration.

The current and updated recommendations are as follows.

Infant paracetamol suspension (120mg/5ml)

Current			Updated		
Age	Dose	How often in 24 hours	Age	Dose	How often in 24 hours
3 months to under 1 year	2.5ml	4 times	3 - 6 months	2.5ml	4 times
1 year to under 6 years	5 to 10ml	4 times	6 - 24 months	5ml	4 times
			2 - 4 years	7.5ml	4 times
			4 - 6 years	10ml	4 times

Paracetamol six plus suspension (240mg/5ml or 250mg/5ml)

Current			Updated		
Age	Dose	How often in 24 hours	Age	Dose	How often in 24 hours
6 - 12 years	5 to 10ml	4 times	6 - 8 years	5ml	4 times
			8 - 10 years	7.5ml	4 times
			10 - 12 years	10ml	4 times

2. Other formulations

Paracetamol administered orally is suitable for most clinical scenarios, it is the most convenient formulation for patients of all ages and is also the best value. Paracetamol suppositories are prescribable to patients in the community, but the rectal route is considered to be unreliable and erratic. It may also give a variable peak serum concentration, which may not be reached until three hours after the dose. The UK Drug tariff price of 10 paracetamol 240 mg suppositories is £20.51. However if the brand, Alvedon, is not available it may be necessary for the pharmacist to order and supply a much more expensive "special". This will result in avoidable delays to the patient and a large cost burden to the taxpayer.

Some feeds, unlicensed natural products and unlicensed specially formulated products accounted for a staggering 4.7% of our prescribing costs in the quarter to December 2010. Older treatments, when specially formulated, are often extremely expensive and are not identifiable via the EPACT system. Therefore please only prescribe paracetamol suppositories in cases where the use of the liquid is truly unavoidable.

3. Prophylactic antipyretics with childhood vaccination

The recommendation regarding use of paracetamol or ibuprofen after vaccination has also changed recently. Two RCTs involving total of 459 healthy infants which looked at the use of prophylactic antipyretics have reported. In the treatment arms the proportion of children with a temperature of 38 degrees C or above was lower, but so were the antibody titres. There is no evidence to date to show that rates of infections were raised as a result. The DOH Green Book has been amended to advise against the use of prophylactic antipyretics. It points out that local reactions are usually self-limiting and do not require treatment. However if the infant appears to be in discomfort and has specific symptoms, ibuprofen or paracetamol may be safely given.

All healthcare professionals need to be aware of these new recommendations. Paracetamol continues to be safe and effective for treating short-term pain and fever in adults and children, when used as recommended.

For more information on paracetamol and its role as an analgesic and antipyretic, see the NPC e-learning materials on pain management and common infections of the respiratory tract.

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References : NPC rapid review June 2011 and EPACT.net