

Codeine: Restricted use in children and adolescents for cough and cold

The use of codeine* to treat coughs and colds in children and adolescents under 18 has been restricted after an EU review by the EMA's Pharmacovigilance Risk Assessment Committee (PRAC). This followed the 2013 PRAC review of codeine use as an analgesic in children. The 2013 review was triggered by reports in children who received codeine for pain control after certain surgeries for obstructive sleep apnoea and who developed rare, but life-threatening adverse events, including death. This most recent review concluded that there is limited evidence that codeine is effective for treating cough and cold symptoms in children.

Codeine is converted into morphine (which is responsible for its pharmacological effects) by the cytochrome P450 enzyme CYP2D6. There are many genetic variations of CYP2D6, which affect the extent of this conversion in individuals. Different plasma morphine concentrations in patients' blood leads to a variable and unpredictable risk of side effects due to morphine's action on the brain and respiratory centre. Although morphine-induced side effects may occur in all ages, the current evidence suggests that children under 12 years of age are at special risk of life-threatening respiratory depression with codeine. There also seems to be a particular risk in those paediatric patients who might already have compromised airways. It was also noted by PRAC that cough and colds are generally self-limiting conditions and the evidence that codeine is effective at treating these conditions is limited.

Advice to Healthcare Professionals

- Although morphine-induced side effects may occur at all ages, the current evidence suggests that children under 12 years of age are at special risk of life-threatening respiratory depression with codeine. There also seems to be a particular risk in those paediatric patients who might already have compromised airways.
- Codeine for the treatment of cough and cold is now contraindicated in children below 12 years and not recommended in children between 12 and 18 years with compromised respiratory function.
- Codeine is contraindicated in patients of any age who are known to be CYP2D6 'ultra-rapid metabolisers'.
- Use of codeine is contraindicated in breastfeeding women due to an increased risk for the child if the mother is an ultra-rapid metaboliser.
- Patients and/or carers should be made aware of the symptoms of morphine toxicity (somnolence, reduced levels of consciousness, lack of appetite, nausea and vomiting, constipation, respiratory depression and 'pin-point' pupils) and advised to stop codeine and seek medical attention immediately.
- The product information for codeine-containing medicines will be updated to reflect this information.

Key message

- Use of codeine to treat cough and colds is contraindicated in children below 12 years old, in those known to be CYP2D6 ultra-rapid metabolisers and in breastfeeding women.
- Use of codeine is no longer recommended in children between 12 and 18 years with compromised respiratory function.

**Codeine-containing products marketed in Ireland include Nurofen Plus, Migraleve, Kapake, Solpadeine. Further details available on www.hpra.ie and www.ema.europa.eu*

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