Ibuprofen

Essential medicine status ✓

Section: 22. Medicines for reproductive health and perinatal care > 22.6. Medicines administered to the neonate [c]

EMLc | ATC codes: C01EB16

Indication	Patent arterial duct ICD11 code: LA8C.4
INN	Ibuprofen
Medicine type	Chemical agent
List type	Complementary
Formulations	Parenteral > General injections > IV: 5 mg per mL (EMLc)
EML status history	First added in 2009 (TRS 958)
Sex	All
Age	Newborn (< 1 month)
Therapeutic alternatives	indometacin (ATC codes: C01EB03)
Patent information	Patents have expired in most jurisdictions Read more about patents.
Wikipedia	Ibuprofen
DrugBank	Ibuprofen

Summary of evidence and Expert Committee recommendations

The EMLc Subcommittee reviewed an application for inclusion of a separate section for essential medicines for neonates. In October 2007, the Expert Committee recommended that: 1. The Subcommittee should consider whether it would be appropriate to develop a separate section of the EMLc for neonates; 2. If a separate section is recommended, should it be retained for the "master" list; and 3. How should work in this neglected area be proritized? The Secretariat prepared the review that was considered by the Subcommittee. Expert comments were provided by Professor Noël Cranswick and Dr Gregory Kearns. The general issues noted were: — There was a paucity of high quality evidence for the use of medications in the neonatal period and the subsequent off-label and unlicensed use in this population are major problems. — A more detailed and systematic review of the available evidence for efficacy and safety of the medicines recommended for neonates may be required. — Medicines were categorized as recommended essential medicines for neonates, missing essential medicines for neonates, medicines requiring further review before a recommendation for use in neonates can be made, and medicines not recommended for neonates. The Subcommittee noted that the medicines currently missing from the EMLc, and recommended exclusively for use in neonates were: — Intravenous ibuprofen or indomethacin — injectable non-steroidal anti-inflammatory medicines for use in the management of patent ductus arteriosus in preterm infants. It was noted that there is evidence that ibuprofen and indomethacin are equivalent in efficacy for this indication (1). This meta-analysis, not included in the application, of 11 trials comparing the treatments for management of patent ductus arteriosus in the preterm infant, showed that ibuprofen was as effective as indomethacin in closing the patent ductus arteriosus. No significant differences were found in the incidence of complications, except that there was less renal impairment associated with ibuprofen. — Prostaglandin E1 or E2 injection — used to maintain patency of the ductus arteriosus when a cyanotic lesion or interrupted aortic arch presents in a newborn. No systematic reviews of the efficacy of prostaglandin in the management of patent ductus arteriosus were identified, but this therapy is recommended in most clinical treatment guidelines. — Surfactant — refer to separate recommendation from this meeting. Given that the review by the Secretariat identified only four medicines for exclusive use during the neonatal period, the Subcommittee recommended inclusion of a new section for these specific medicines. The medicines were: — caffeine citrate, already included on the Model List; — ibuprofen injection, to be included in this new section of

the EMLc, with a square box to indicate that indomethacin may be an appropriate alternative; — prostaglandin E1 or E2 injection; — surfactant. Given that caffeine citrate is recommended for use in health facilities generally and does not need to be administered in an intensive care unit, it was considered that it should remain on the Core List. The other medicines were included on the Complementary List. References: 1. Gimeno NA et al. Ibuprofen versus indomethacin in the preterm persistent patent ductus arteriosus therapy: review and meta-analysis. Anales de pediatría (Barcelona), 2007, 67:309–18.