This information was up to date at the time of release to the Heads of Midwifery.
The editorial board does not accept liability for any errors or omissions following its subsequent publication.
Updating arrangements for the formulary should be decided upon and implemented at a local level.

Pethidine

Legal status (GSL, P or POM on exemption list, or PGD)	▪ POM - midwife may administer parenterally during labour as medicine is on midwives exemptions list **CD (Controlled Drug)**
Patient group	Pregnant women who have requested an opioid analgesic for pain relief during labour.
Clinical indication	Management of pain during labour.
Pharmacology (Onset and duration of action where appropriate)	Pethidine is a narcotic analgesic and intramuscular pethidine may not provide adequate relief of acute pain. There is also the potential for maternal and neonatal adverse effects from pethidine and its active metabolite norpethidine. It has a theoretically more rapid onset of action than IM morphine (that is 10-20 minutes) and shorter duration (about 2-3 hours). Absorption from IM route is poor.
Pharmaceutical form, strength, route of administration	Pethidine hydrochloride Injection BP 50mg/ml is available in 1ml and 2ml ampoules supplied in packs of 10. For intramuscular (IM) injection.
Dose, frequency and maximum number of doses or period of time for administration or supply	The dosage is tailored to the individual in accordance with local guidelines. Consider anti emetic. Pethidine up to 100mg IM. Consider a reduced dose in women ≤ 50kg. A further 2 doses of pethidine 50-100mg IM can be given every 1-3 hours if necessary. Maximum of 3 doses prior to referral to medical staff.
Contra-indications/exclusion criteria	▪ hypersensitivity to pethidine ▪ women who have refused opioid/opiate analgesia ▪ pregnant women less than fourteen years old ▪ respiratory depression or obstructive airways disease ▪ biliary colic and acute asthma ▪ concurrent use of MAOI or within 2 weeks of discontinuation of treatment ▪ cerebral oedema, head injury or raised intracranial pressure Severe renal or hepatic impairment, patients on ritonavir, patients with supraventricular tachycardia, phaeochromocytoma, comatose patients, those with paralytic ileus, and in acute alcoholism.

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Cautions and action that will be taken if a caution applies	▪ reduce dose in asthma and reduced respiratory reserves including severe obesity ▪ consider reduced dose in myasthenia gravis, reduced renal or liver function, hypothyroidism, adrenocortical insufficiency, urethral stricture, hypotension, shock, severe inflammatory or obstructive bowel disorders, severe diarrhoea, convulsive disorders, toxic psychosis, and CNS depression, ▪ it can delay gastric emptying and increase the risk of Mendelson's Syndrome ▪ severe hypotension may occur when pethidine is used in presence of blood volume depletion ▪ repeated use of pethidine may lead to tolerance and dependence and abrupt withdrawal may precipitate a withdrawal syndrome ▪ great caution in patients with a known tendency or history of substance misuse ▪ smokers may require higher doses ▪ check for and document any allergies ▪ check and document past medical and drug history and current medication to ascertain potential for overdose ▪ if a caution applies consult with a doctor ▪ document consultation in maternity record
Medicine interactions and action that will be taken if a patient is taking a medicine that may interact	▪ additive effects with other CNS depressants such as alcohol, hypnotics, anxiolytics, tricyclic antidepressants, antipsychotics and general anaesthetics and respiratory depression, hypotension, profound sedation, coma or death may result ▪ use with anti-cholinergics may cause neurotoxicity in patients with renal failure, cancer or sickle cell anaemia ▪ respiratory depression, cyanosis, serotonin syndrome, hypotension, and even coma have occurred when used with MAOIs ▪ advisable to stop MAOIs for 2 weeks before use of pethidine ▪ prochlorperazine or promethazine can enhance its effect so a lower starting dose of pethidine may be required ▪ if there is a clinically significant drug interaction, consult with a doctor before administration or supply ▪ document consultation in maternity record ▪ refer to current BNF for latest information on interactions Additionally, phenytoin and ritonavir may increase the levels of norpethidine (toxic metabolite), cimetidine increases plasma concentration of pethidine, serotonergic effects are increased in combinations with SSRIs, and pethidine may reduce effectiveness of ciprofloxacin.

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Potential adverse reactions and side effects including actions to be taken if adverse drug reaction is suspected	▪ *serious side effects are respiratory and circulatory depression, shock and cardiac arrest* ▪ *common side effects are sedation, nausea, vomiting, lightheadedness, dizziness, constipation and sweating* ▪ *anaphylactoid reactions, facial flushing, bradycardia or tachycardia, palpitations, postural hypotension and syncope can occur* ▪ *other side effects include euphoria, dysphoria, weakness, headache, tremor, agitation, confusion, convulsions, hallucinations, dependence, urinary retention, visual disturbances, dry mouth, biliary tract spasm, skin rashes, urticaria, and pruritus* ▪ *pain at the injection site and local irritation* ▪ *on labour -clinical practice suggests that it does not alter the force of contraction in established labour but it may temporarily suppresses uterine activity in early labour - it can delay gastric emptying and thereby increases the risk of Mendelson's Syndrome* ▪ *on the neonate - it rapidly crosses the placenta and the severity of side effects depends on the dose and time between the last dose and delivery - adverse effects can be reversed by naloxone* ▪ *on breast feeding - respiratory depression and drowsiness may result in poor feeding* ▪ *if a serious adverse reaction is suspected please report to the MHRA Yellow Card Scheme http://yellowcard.mhra.gov.uk/*
Overdose	▪ CNS depression with severe somnolecence, convulsions, respiratory depression, hypotension, shock, apnoae, pulmonary oedeme, circulatory collapse, cardiac arrest and coma are common causes of fatalities after overdose. ▪ intravenous fluids and other supportive measures may be required in the management of shock ▪ an anticonvulsant may be required if seizures occur ▪ immediate assessment/treatment is essential - refer to medical staff ▪ manage in accordance with established treatment guidelines or see BNF opioid overdose section ▪ for further advice contact National Poisons Centre 0344 892 0111
Action if patient declines	▪ refer to authorised prescriber or doctor ▪ document in maternity record
Additional advice and information	▪ supply the manufacturer's patient information leaflet if requested
Patient monitoring arrangements during and after treatment and follow-up required	If pethidine is ineffective or inadequate discuss alternative analgesia with a doctor. Document decision in maternity record.
Particular storage requirements	▪ Store at room temperature below 25°C. Protect from light and keep in outer container.

Pethidine

References

1. Summary of Product Characteristics. Pethidine Injection 50mg/mL and 100mg/2mL (Martindale Pharma). Text revision 5.7.2019. Accessed 16.12.2019 www.emc.medicines.org.uk
2. http://www.bnf.org