

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.

Adrenaline (Epinephrine) 1 in 1000	
Legal status (GSL, P or POM on exemption list, or PGD)	<ul style="list-style-type: none">▪ POM - midwife may administer as medicine is on midwives exemptions list
Patient group	Antenatal and postnatal women having an anaphylactic reaction.
Clinical indication	Management of anaphylaxis in the absence of a medical practitioner.
Pharmacology (Onset and duration of action where appropriate)	<p>Adrenaline is a direct-acting sympathomimetic which naturally occurs in the body and is secreted in response to stress. Its major effects include increased speed and force of cardiac contraction. It relieves bronchial spasm and gives symptomatic relief of allergy. Its strong vasoconstrictor action counteracts the vasodilatation which occurs in anaphylactic shock.</p> <p>It has a rapid onset of action within minutes.</p>
Pharmaceutical form, strength, route of administration	<p>Sterile solution of injection of adrenaline 1 in 1000 (1mg/ml) as acid tartrate.</p> <p>For deep intramuscular (IM) administration.</p> <p>Preferred site is the anterolateral aspect of the middle third of the thigh.</p> <p>Avoid IM injections of adrenaline into the buttocks because of the risk of tissue necrosis.</p>
Dose, frequency and maximum number of doses or period of time for administration or supply	0.5ml of adrenaline 1 in 1000 solution by intramuscular injection, repeated after 5 minutes if there is no clinical improvement.
Contra-indications/exclusion criteria	<ul style="list-style-type: none">▪ known hypersensitivity to any component of the medicine▪ adrenaline should not be used in fingers, toes, ears, nose or genitalia owing to the risk of ischaemic tissue necrosis

Adrenaline (Epinephrine) 1 in 1000

Cautions and action that will be taken if a caution applies	<ul style="list-style-type: none">▪ administer slowly and with caution to patients with organic or ischaemic heart disease or cardiac dilatation, arrhythmias, hypertension, diabetes mellitus, narrow angle glaucoma, hyperthyroidism, phaeochromocytoma, hypokalaemia, hypercalcaemia, severe renal impairment, cerebrovascular disease, organic brain damage or arteriosclerosis, in patients with shock (other than anaphylactic shock) psychoneurosis, long-standing bronchial asthma and emphysema who have developed degenerative heart disease▪ anginal pain may be induced when coronary insufficiency is present▪ must not be administered by the intravenous route - accidental intravascular injection may result in cerebral haemorrhage due to the sudden rise in blood pressure▪ 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 as soon as possible after administration▪ document consultation in maternity record
Medicine interactions and action that will be taken if a patient is taking a medicine that may interact	<ul style="list-style-type: none">▪ none that will affect or prevent the use in an emergency situation however the woman may require ongoing monitoring and symptomatic support▪ effects of adrenaline potentiated by tricyclic antidepressants, monoamine oxidase inhibitors, linezolid, some antihistamines and thyroid hormones▪ adrenaline may cause severe hypertension and bradycardia in those receiving beta-blockers▪ women taking non-selective beta-blockers may not respond to adrenaline<ul style="list-style-type: none">• May reduce the effect of antihypertensive medicines by increasing blood pressure.▪ digoxin and fluorohydrocarbons increase the risk of cardiac arrhythmias▪ oxytocin and ergot alkaloids can enhance the vasoconstrictor and pressor actions of adrenaline▪ hypokalaemia potentiated by other drugs that cause potassium loss, including corticosteroids, potassium depleting diuretics, aminophylline and theophylline.▪ adrenaline-induced hyperglycaemia may lead to loss of blood sugar control in diabetic patients treated with insulin or oral hypoglycaemic agents▪ if there is a clinically significant drug interaction, consult with a doctor before administration or supply

Adrenaline (Epinephrine) 1 in 1000

<p>Potential adverse reactions and side effects including actions to be taken if adverse medicine reaction is suspected</p>	<ul style="list-style-type: none"> ▪ <i>anaphylaxis, anxiety, tremor, tachycardia, arrhythmias, chest pain/angina, headache, cold extremities, hypertension (risk of cerebral haemorrhage, hemiplegia and pulmonary oedema), nausea, vomiting, sweating, weakness, dizziness, hyperglycaemia, hypokalaemia, metabolic acidosis, difficulty in micturition, urinary retention, tissue necrosis, hallucinations, mydriasis and dyspnoea.</i> ▪ <i>in dosage sufficient to reduce uterine contractions, the drug may cause a prolonged period of uterine atony with haemorrhage.</i> ▪ <i>if used during pregnancy, adrenaline may cause anoxia of the fetus</i> ▪ <i>adrenaline should only be used during pregnancy if the potential benefits justify the possible risks to the fetus</i> ▪ <i>on labour - inhibits spontaneous or oxytocin induced contractions of the pregnant human uterus and may delay the second stage of labour</i> ▪ <i>on the neonate - fetal tachycardia, cardiac irregularities, extrasystolies</i> ▪ <i>on breast feeding - nil</i> ▪ <i>if a serious adverse reaction is suspected please report to the MHRA Yellow Card Scheme http://yellowcard.mhra.gov.uk/</i>
<p>Overdose</p>	<ul style="list-style-type: none"> ▪ symptoms of overdose are a rapid rise in blood pressure which may result in cerebrovascular haemorrhage or other haemorrhages and hemiplegia may result. ▪ transient bradycardia followed by tachycardia and other arrhythmias which may be fatal, and myocardial necrosis ▪ pulmonary oedema, kidney failure, metabolic acidosis and cold white skin may occur ▪ may occur after inadvertent intravenous administration of an IM/SC dose ▪ requires supportive treatment ▪ immediate assessment/treatment is essential - refer to medical staff ▪ manage in accordance with established treatment guidelines ▪ for further advice contact National Poisons Centre 0344 892 0111
<p>Action if patient declines</p>	<ul style="list-style-type: none"> ▪ refer to authorised prescriber or doctor ▪ document in maternity record
<p>Additional advice and information</p>	<p>-</p>
<p>Patient monitoring arrangements during and after treatment and follow-up required</p>	<p>Inform a doctor immediately if a severe allergic or anaphylactic reaction is suspected. A member of staff not involved in the immediate resuscitation of the patient should take responsibility to do so.</p> <p>Monitor the patient as soon as possible (pulse, blood pressure, ECG, pulse oximetry) in order to assess the response to adrenaline.</p> <p>Document details in the maternity record.</p>

Adrenaline (Epinephrine) 1 in 1000

Particular storage requirements

Store in original container to protect from light. Store below 25°C.

References

1. Summary of Product Characteristics
<http://www.medicines.org.uk> Adrenaline (Epinephrine) injection BP 1 in 1000 (Hameln pharmaceuticals Ltd).
Text revision 8.3.2019. (Martindale Pharma) Text revision 24.9.2019. Accessed 16.12.2019
2. [http:// www.bnf.org](http://www.bnf.org)