- **PREGNANCY**
  - When used by inhalation Use if potential benefit outweighs risk.
  - With intravenous use Manufacturer advises avoid—toxicity in *animal* studies.
- **BREAST FEEDING** Manufacturer advises avoid—no information available.
- **HEPATIC IMPAIRMENT** Manufacturer advises caution (risk of increased exposure).
  Dose adjustments
  - When used by inhalation Manufacturer advises initial dose reduction to 2.5 micrograms at intervals of 3–4 hours (max. 6 times daily), adjusted according to response—consult product literature.
  - With intravenous use Manufacturer advises initial dose reduction in severe impairment, consider half the normal dose.
- **MONITORING REQUIREMENTS**
  - With intravenous use Manufacturer advises monitor blood pressure and heart rate at the start of the infusion and at every dose increase.
- **DIRECTIONS FOR ADMINISTRATION**
  - With intravenous use For *intravenous infusion* dilute to a concentration of 200 nanograms/mL with Glucose 5% or Sodium Chloride 0.9%; alternatively, may be diluted to a concentration of 2 micrograms/mL and given via syringe driver.
  - When used by inhalation To minimise accidental exposure use only with nebulisers listed in product literature in a well ventilated room.
- **PRESCRIBING AND DISPENSING INFORMATION**
  - When used by inhalation Delivery characteristics of nebuliser devices may vary—only switch devices under medical supervision.
  - With intravenous use Concentrate for infusion available on a named patient basis from Bayer Schering in 0.5 mL and 1 mL ampoules.
- **HANDLING AND STORAGE** Manufacturer advises avoid contact with skin and eyes.
- **PATIENT AND CARER ADVICE**
  Driving and skilled tasks Manufacturer advises patients and carers should be counselled on the effects on driving and performance of skilled tasks—increased risk of dizziness.
- **NATIONAL FUNDING/ACCESS DECISIONS**
  Scottish Medicines Consortium (SMC) decisions
  SMC No. 219/05
  The *Scottish Medicines Consortium* has advised (December 2005) that iloprost (*Ventavis*®) is accepted for restricted use within NHS Scotland in patients in whom bosentan is ineffective or not tolerated, and should only be prescribed by specialists in the Scottish Pulmonary Vascular Unit.

- **MEDICINAL FORMS** There can be variation in the licensing of different medicines containing the same drug.

Solution for infusion

EXCIPIENTS: May contain Ethanol

- **Iloprost (Non-proprietary)**
  Iloprost (as Iloprost trometamol) 100 microgram per 1 ml Iloprost 100micrograms/1ml solution for infusion ampoules | 1 ampoule PoM ₹
  Iloprost 50micrograms/0.5ml concentrate for solution for infusion ampoules | 1 ampoule PoM £75.00 (Hospital only) | 5 ampoule PoM £300.00 (Hospital only)

Nebuliser liquid

EXCIPIENTS: May contain Ethanol

- **Iloprost (Non-proprietary)**
  Iloprost (as Iloprost trometamol) 10 microgram per 1 ml Iloprost 10micrograms/1ml nebuliser liquid ampoules | 30 ampoule PoM £300.00 | 160 ampoule PoM £1,700.00
- **Ventavis** (Bayer Plc)
  Iloprost (as Iloprost trometamol) 10 microgram per 1 ml Ventavis 10micrograms/ml nebuliser solution 1ml ampoules | 42 ampoule PoM £560.27 | 168 ampoule PoM £2,241.08
  Ventavis 10micrograms/ml nebuliser solution 1ml ampoules with Breelib | 168 ampoule PoM £2,241.08
  Iloprost (as Iloprost trometamol) 20 microgram per 1 ml Ventavis 20micrograms/ml nebuliser solution 1ml ampoules | 42 ampoule PoM £560.27
  Iloprost (as Iloprost trometamol) 20 microgram per 1 ml Ventavis 20micrograms/ml nebuliser solution 1ml ampoules with Breelib | 168 ampoule PoM £2,241.08

4.2 Hypotension and shock

Sympathomimetics

Inotropic sympathomimetics

Shock

Shock is a medical emergency associated with a high mortality. The underlying causes of shock such as haemorrhage, sepsis, or myocardial insufficiency should be corrected. The profound hypotension of shock must be treated promptly to prevent tissue hypoxia and organ failure. Volume replacement is essential to correct the hypovolaemia associated with haemorrhage and sepsis but may be detrimental in cardiogenic shock. Depending on haemodynamic status, cardiac output may be improved by the use of sympathomimetic inotropes such as adrenaline/epinephrine p. 236, dobutamine p. 235 or dopamine hydrochloride p. 199. In septic shock, when fluid replacement and inotropic support fail to maintain blood pressure, the vasoconstrictor noradrenaline/norepinephrine p. 200 may be considered. In cardiogenic shock peripheral resistance is frequently high and to raise it further may worsen myocardial performance and exacerbate tissue ischaemia.

The use of sympathomimetic inotropes and vasoconstrictors should preferably be confined to the intensive care setting and undertaken with invasive haemodynamic monitoring.

See also advice on the management of anaphylactic shock in Antihistamines, allergen immunotherapy and allergic emergencies p. 291.

Vasoconstrictor sympathomimetics

Vasoconstrictor sympathomimetics raise blood pressure transiently by acting on alpha-adrenergic receptors to constrict peripheral vessels. They are sometimes used as an emergency method of elevating blood pressure where other measures have failed.

The danger of vasoconstrictors is that although they raise blood pressure they also reduce perfusion of vital organs such as the kidney.

Spinal and epidural anaesthesia may result in sympathetic block with resultant hypotension. Management may include intravenous fluids (which are usually given prophylactically), oxygen, elevation of the legs, and injection of a pressor drug such as ephedrine hydrochloride p. 286. As well as constricting peripheral vessels ephedrine hydrochloride also accelerates the heart rate (by acting on beta receptors). Use is made of this dual action of ephedrine hydrochloride to manage associated bradycardia (although intravenous injection of atropine sulfate p. 1404 may also be required if bradycardia persists).