- **UNLICENSED USE** Not licensed for use in children.

IMPORTANT SAFETY INFORMATION
SAFE PRACTICE
Nimodipine has been confused with amlodipine; care must be taken to ensure the correct drug is prescribed and dispensed.

- **CAUTIONS** Cerebral oedema · hypotension · severely raised intracranial pressure
- **INTERACTIONS** → Appendix 1: calcium channel blockers
- **SIDE-EFFECTS**
  - **Uncommon** Thrombocytopenia · vasodilation
  - **Rare or very rare** Bradycardia · ileus
- **PREGNANCY** Manufacturer advises use only if potential benefit outweighs risk.
- **BREAST FEEDING** Manufacturer advises avoid—present in milk.
- **HEPATIC IMPAIRMENT**
  - With oral use Manufacturer advises consider avoiding in severe impairment.
  - **Dose adjustments** With oral use In adults, manufacturer advises dose reduction—consult product literature.
- **RENAL IMPAIRMENT**
  - **Monitoring** With intravenous use Manufacturer advises monitor renal function closely in renal impairment.
- **DIRECTIONS FOR ADMINISTRATION** Avoid concomitant administration of nimodipine infusion and tablets.
  - With oral use For administration *by mouth*, tablets may be crushed or halved but are light sensitive—administer immediately.
  - With intravenous use For *continuous intravenous infusion*, administer undiluted via a Y-piece on a central venous catheter connected to a running infusion of Glucose 5%, or Sodium Chloride 0.9%; not to be added to an infusion container; incompatible with polyvinyl chloride giving sets or containers; protect infusion from light. Polyethylene, polypropylene, or glass apparatus should be used.

- **MEDICINAL FORMS** There can be variation in the licensing of different medicines containing the same drug. Forms available from special-order manufacturers include: oral suspension

Solution for infusion
- Nimotop (Bayer Plc)
  Nimodipine 200 microgram per 1 ml Nimotop 0.02% solution for infusion 50ml vials | 1 vial PoM £13.60 (Hospital only)

Tablet
- Nimotop (Bayer Plc)
  Nimodipine 30 mg Nimotop 30mg tablets | 100 tablet PoM £40.00 DT = £40.00

3 Blood clots

3.1 Blocked catheters and lines

ANTITHROMBOTIC DRUGS › TISSUE PLASMINOGEN ACTIVATORS

Fibrinolytic drugs

Overview

Alteplase below, streptokinase p. 94 and urokinase p. 94 are used in children to dissolve intravascular thrombi and unblock occluded arteriovenous shunts, catheters, and indwelling central lines blocked with fibrin clots. Treatment should be started as soon as possible after a clot has formed and discontinued once a pulse in the affected limb is detected, or the shunt or catheter unblocked.

The safety and efficacy of treatment remains uncertain, especially in neonates. A fibrinolytic drug is probably only appropriate where arterial occlusion threatens ischaemic damage; an anticoagulant may stop the clot getting bigger. Alteplase is the preferred fibrinolytic in children and neonates; there is less risk of adverse effects including allergic reactions.

Fibrinolytics

- **DRUG ACTION** Fibrinolytic drugs act as thrombolytics by activating plasminogen to form plasmin, which degrades fibrin and so breaks up thrombi.
- **CONTRA-INDICATIONS** Acute pancreatitis · aneurysm · aortic dissection · arteriovenous malformation · bacterial endocarditis · bleeding diatheses · coagulation defects · coma · history of cerebrovascular disease (especially recent events or with any residual disability) · neoplasm with risk of haemorrhage · oesophageal varices · pericarditis · recent gastro-intestinal ulceration · recent haemorrhage · recent surgery (including dental extraction) · recent trauma · severe hypertension
- **CAUTIONS** Conditions with an increased risk of haemorrhage · hypertension · risk of bleeding (including that from venepuncture or invasive procedures)
- **SIDE-EFFECTS**
  - **Common or very common** Anaphylactic reaction · angina pectoris · cardiac arrest · cardiogenic shock · chills · CNS haemorrhage · ecchymosis · fever · haemorrhage · haemorrhagic stroke · heart failure · hypotension · ischaemia recurrent (when used in myocardial infarction) · nausea · pericarditis · pulmonary oedema · vomiting
  - **Uncommon** Aphasia · mitral valve incompetence · myocardial rupture · pericardial disorders · reperfusion arrhythmia (when used in myocardial infarction) · seizure

  SIDE-EFFECTS, FURTHER INFORMATION Serious bleeding calls for discontinuation of the thrombolytic and may require administration of coagulation factors and antifibrinolytic drugs.
- **PREGNANCY** Thrombolytic drugs can possibly lead to premature separation of the placenta in the first 18 weeks of pregnancy. There is also a risk of maternal haemorrhage throughout pregnancy and post-partum, and also a theoretical risk of fetal haemorrhage throughout pregnancy.
- **HEPATIC IMPAIRMENT** Manufacturers advise avoid in severe impairment.

F above

Alteplase

15-Nov-2019

(rt-PA; Tissue-type plasminogen activator)

- **INDICATIONS AND DOSE**

Intravascular thrombosis
- BY INTRAVENOUS INFUSION
  - Neonate: 100–500 micrograms/kg/hour for 3–6 hours, use ultrasound assessment to monitor effect before considering a second course of treatment (consult local protocol).
  - Child: 100–500 micrograms/kg/hour for 3–6 hours, use ultrasound assessment to monitor effect before considering a second course of treatment; maximum 100 mg per day

ACTILYSE CATHFLO ®

Thrombolytic treatment of occluded central venous access devices (including those used for haemodialysis)
- BY INTRAVENOUS INJECTION
  - Child: (consult product literature)