LRI ED prescribing and administration aid for streptokinase for thrombolysis when alteplase or tenecteplase unavailable

Notes

- There is currently a global shortage of alteplase and tenecteplase. A National Patient Safety alert (NatPSA/2022/006/DHSC) has been issued, directing Trusts to preserve stock for stroke thrombolysis.
- Repeated use of streptokinase more than 5 days and less than 12 months after a previous dose, and use in patients with recent streptococcal pharyngitis, acute rheumatic fever and acute glomerulonephritis, may be ineffective due to the likely presence of antistreptokinase antibodies. **Use alteplase instead**.
- Adverse reactions are common (1 in 10 to 1 in 100 patients). Pre-treatment with antihistamines and steroids may prevent some of the below; give chlorphenamine 10mg IV and hydrocortisone 100mg IV.
  - **Hypotension** (likely due to a reduction in total peripheral resistance) and arrhythmias (particularly bradycardia) especially at beginning of the infusion. Consider IV crystalloid bolus / vasopressors.
  - **Anaphylactic reactions** - eg rash, itching, urticaria, bronchospasm, angioedema and shock.

    Manage moderate or mild allergic reactions as appropriate. If a severe allergic reaction occurs, stop the infusion immediately and give appropriate treatment including adrenaline IM. Consider continuation of lysis therapy with alteplase once reaction has been controlled.
  - Nausea & vomiting, diarrhoea, epigastric/back/MSK pain, headache, chills, fever and malaise
  - Haemorrhage at the injection site and bruising
- If patient receiving UFH (usually in massive PE), stop heparin infusion before commencing thrombolysis.
- CPR for patients in cardiac arrest from suspected PE should potentially be continued for the full duration of the streptokinase infusion (2h) while also duly considering frailty and other poor prognostic features.
- If serious haemorrhage (e.g. intracranial) occurs, stop streptokinase infusion and follow UHL guideline on 'Thrombolysis therapy in pulmonary embolism' – see section 2.6 on page 4. Further advice will be available from duty haematologist.

High-risk ('massive') PE *use in conjunction with the UHL PE thrombolysis guideline*

Streptokinase example prescription

Date	Infusion fluid		Additions to infusion		IV or SC	Line	Start Time	Time to run or ml/hr	Fluid Batch No.	
	Type/strength	Volume	Drug	Dose						Prescriber
DD/MM/YY	Sodium chloride 0.9%	100mL	Streptokinase	1.5 million units	IV		HH:MM	over 2h = 50mL/h		Dr.'s Name

STEMI *use in conjunction the ED STEMI guideline*

Streptokinase example prescription

Date	Infusion fluid		Additions to infusion		IV or SC	Line	Start Time	Time to run or ml/hr	Fluid Batch No.	
	Type/strength	Volume	Drug	Dose						Prescriber
DD/MM/YY	Sodium chloride 0.9%	100mL	Streptokinase	1.5 million units	IV		HH:MM	over 1h = 100mL/h		Dr.'s Name

Preparation and administration notes

If 1.5 million unit vial available

- Remove 5mL from a 100mL bag of NaCl 0.9%
- Use it to reconstitute 1 vial of drug
- Swirl gently but avoid foaming
- Add reconstituted drug to the bag

If only 250.000 unit vials are available

- Remove 30mL from a 100mL bag of NaCl 0.9%
- Using 5mL each per vial, reconstitute 6 vials of drug
- Swirl gently but avoid foaming
- Add reconstituted drug to the bag

Alert clinician immediately if features of allergic reaction, hypotension, bradycardia or arrhythmias are observed