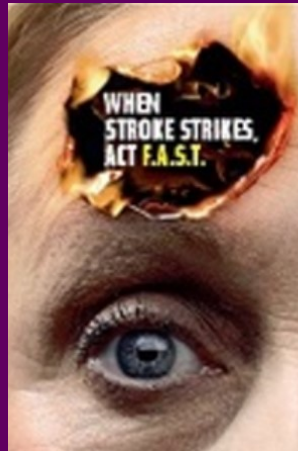




Shortages of Alteplase and Tenecteplase



Stocks must be conserved for patients where no other pharmacological/ interventional/surgical option exists e.g. Patients with **acute ischaemic stroke** Alteplase can also be used for massive / high risk **pulmonary embolus (PE)** with **haemodynamic compromise** or **cardiac arrest**

- **Minimise wastage** of Alteplase by selecting appropriate dose & vial sizes (consider rounding down to the nearest whole vial)
- **System/Trust-wide engagement** e.g. between local pharmacy services, ED, acute medicine, stroke medicine, critical care, will help develop appropriate plans
- Ensure **VTE prevention** is robust e.g. appropriate thromboprophylaxis for lower limb immobilisation

Haemodynamic compromise in PE [1]

- **Systolic BP <90 mmHg or systolic BP drop ≥40 mmHg for >15 min** (or vasopressors required to achieve a BP ≥90 mmHg)
- **Not caused by new-onset arrhythmia, hypovolaemia, or sepsis**
- **AND end-organ hypoperfusion** (altered mental status, cold & clammy skin, oliguria/anuria, increased serum lactate)

Massive / High risk PE with Haemodynamic Compromise [2]

Standard dose regime:

Alteplase (rt-PA) 10mg IV bolus over 1-2 mins, 90mg IV over 2 hours

If <65kg do not exceed 1.5mg/kg total dose

Cardiac Arrest [3]

Either:

IV **Alteplase** 50mg over 2 minutes (consider repeat bolus after 15mins)

Or:

IV **Tenecteplase** as a single bolus:

<60 kg	30 mg	6mls
60-69kg	35 mg	7mls
70-79kg	40mg	8mls
80-89kg	45mg	9mls
≥90 kg	50 mg	10mls

[1] Konstantinides SV, Meyer G, Becattini C, et al. 2019 ESC Guidelines for the diagnosis and management of acute pulmonary embolism developed in collaboration with the European Respiratory Society (ERS); The Task Force for the diagnosis and management of acute pulmonary embolism of the European Society of Cardiology (ESC), European Heart Journal, Volume 41, Issue 4, 21 January 2020, Pages 543–603, <https://doi.org/10.1093/eurheartj/ehz405>

[2] <https://bnf.nice.org.uk/drugs/alteplase/#indications-and-dose>. Accessed 17.08.2022

[3] RCUK Quick Reference Handbook, Resus Council. <https://www.resus.org.uk/sites/default/files/2022-07/RCUK%20QRH%20complete%20March%202022%20-%20final.pdf> Accessed 10.08.2022

For the Shortage of alteplase and Tenecteplase injections NPSA see:

<https://www.cas.mhra.gov.uk/ViewandAcknowledgment/ViewAlert.aspx?AlertID=103211>

For Safety Alerts and RCEM issued Safety Flashes see: <https://rcem.ac.uk/safety-3/>