Alteplase Intravenous for Adults

Who can administer

Alteplase for SYSTEMIC use: Doctor only

Actilyse Cathflo: May be administered by registered competent doctor or nurse/midwife

Important information

- This monograph covers the use of alteplase in **acute stroke, acute PE with haemodynamic instability and acute MI**
- For use in **Catheter-directed Thrombolysis**- see separate monograph
- For use in **PE (low dose for intermediate/high risk)- unlicensed-**see separate monograph
- With the exception of MI or stroke 'protocols', or central venous catheter clearance, the decision to thrombolyse should be made by a **Consultant**
- In **myocardial infarction,** the regimen will depend on time between onset of symptoms and treatment time
- **Record brand name, batch number, and expiry date** of preparation in patient's notes

Available preparations

Use	Preparation to use
Unblocking central venous catheters	Actilyse Cathflo **2mg vial (overage contained in vial- see reconstitution details)**
All other uses	Actilyse **10mg** vial (with 10ml **Water for Injection** provided) Actilyse **20mg** vial (with 20ml **Water for Injection** provided) Actilyse **50mg** vial (with 50ml **Water for Injection** provided)

Reconstitution

Final concentration required	2mg vial	10mg vial	20mg vial	50mg vial
1mg per ml	Add 2.2mL **Water for Injection**, to produce a 1mg/ml solution. May be further diluted with Sodium Chloride 0.9% up to a maximum volume of 10ml, if lumen volume is more than 2ml	Add 10ml of solution provided	Add 20ml of solution provided	Add 50ml of solution provided
2mg per ml		Add 5ml of solution provided	Add 10ml of solution provided	Add 25ml of solution provided

- For the 10mg vial size, a syringe may be used to transfer the required volume of diluent to the

vial
- For the 20mg and 50mg vial, a transfer cannula is provided
- **AVOID VIGOROUS SHAKING OF THE PRODUCT- as foaming may occur**

Infusion fluids

- Can be used without further dilution once reconstituted as above
- If required, it can be diluted further with **Sodium chloride 0.9% ONLY** to a concentration NOT less than 0.2mg/ml (i.e. at least 20mg drug in 100ml)

Methods of intravenous administration

The choice of route (bolus injection vs infusion depends on the indication - see under 'dose' below)

Intravenous injection [ref 1]

- Administer required dose over 1 to 2 minutes (Pulmonary embolism)
- Administer required dose over 3 to 5 minutes (Myocardial infarction)

Intermittent intravenous infusion (administer using an electronically controlled infusion device)

- No need for further dilution
- Administer required dose over time specified under 'dose' below
- The residual volume in the infusion line must be flushed through at the same rate to avoid significant underdosing

Dose in adults

- Assuming all contraindications etc have been checked the following doses may be used.
- Carefully select the correct indication below

1: Thrombolytic treatment in acute myocardial infarction: 90 minutes (accelerated) dose regimen

(for patients in whom treatment can be started **within 6 hours** of symptom onset)

Weight = 65kg or more	Weight less than 65kg
15mg iv bolus, followed by (see below)	15mg iv bolus, followed by (see below)
50mg infused over 30 minutes, followed by (see below)	0.75mg/kg (max 50mg) infusion over 30 minutes, followed by (see below)
35mg over 60 minutes (max total dose =100mg)	0.5mg/kg (maximum 35mg) over 60 minutes

2: Thrombolytic treatment in acute myocardial infarction: Three hour dose regimen (for patients in whom treatment can be started **between six and twelve hours** after symptom onset)

Weight = 65kg or more	Weight less than 65kg
Give 10mg as intravenous bolus injection	Give 10mg as intravenous bolus injection

Immediately followed by 50mg as an infusion over the first hour Immediately followed by 40mg infusion over 2 hours	Immediately followed by an infusion over 3 hours up to a maximum total dose of 1.5mg/kg
Total dose 100mg	Total dose: max 1.5mg/kg

3: Thrombolytic treatment in acute massive pulmonary embolism with haemodynamic instability (specialist use only)

- A total of 100mg should be given in two hours, as follows:
- Give 10mg as a bolus intravenous injection
- Follow with an infusion of 90mg over two hours
- **Maximum total dose of 1.5mg/kg** for patients weighing less than 65kg
- After treatment with alteplase, **heparin therapy** should be initiated (or resumed) when aPTT values are less than twice the upper limit of normal - see green Heparin prescription sheet

4: Fibrinolytic treatment of Acute ischaemic stroke

- Acute Stroke, Thrombolysis and Thrombectomy pathway on HCI

5: Catheter-directed thrombolysis by an interventional radiologist (must be consultant authorised)- see separate monograph

6. Central venous catheter clearance

Method (Use Actilyse Cathflo preparation)

- Instil the appropriate dose into the blocked catheter **after prescribing the treatment on the drug chart**
- For catheters with an internal volume of 2ml or less - use the reconstituted Actilyse Cathflo (2mg in 2ml)
- For catheters with an internal volume of greater than 2ml- dilute up the product further with **Sodium chloride 0.9%**- eg if the catheter volume is 2.7ml, dilute up the Actilyse Cathflo to 2mg in 2.7ml (maximum allowable dilution is 2mg in 10ml)
- After 30 minutes of dwell time, assess catheter function by attempting to aspirate blood
- If the catheter is still not functional, leave the Actilyse Cathflo in the catheter for a further 90 minutes (total dwell time 120 minutes), and then try and aspirate blood
- If catheter function is still not restored, a second dose (same amount as first dose), can be instilled. Again, leave this 30 minutes before trying to aspirate blood, and if still not working, then another 90 minutes, as before)
- If it is still not functional, consider device replacement
- If catheter function has been restored (at any point during the above sequence), aspirate 4 to 5ml blood, to remove Actilyse Cathflo and residual clot, and gently irrigate the catheter with Sodium Chloride 0.9%
- Maximum dose 4mg (2 x 2mg) for any one occasion

Monitoring

- Specialist monitoring required

Storage

Actilyse 10mg, 20mg, 50mg vials: Store below 25^{0}C

Actilyse Cathflo 2mg vials: Store between 2 and 8^{0}C

References

Actilyse 10mg, 20mg, 50mg vials: SPC September 2024

Actilyse Cathflo SPC Oct 2024

1. Injectable Medicines Guide Medusa, downloaded 04/06/2026

Therapeutic classification

Antithrombotic agent

BNF
Myocardial ischaemia