Delivering safe stroke care at hospitals without acute stroke units during the COVID-19 pandemic

Appendix 6: Thrombolysis checklist – factors associated with a higher risk of complication and/or bleeding

This checklist needs to be completed in full. Any tick in the YES column represents key information that needs to be highlighted to the remote stroke physician. This may not necessarily be a contraindication to thrombolysis.

	Yes	No
Factors associated with higher risk of bleeding		
Significant bleeding disorder at present or within the past 6 months		
Known haemorrhagic diathesis		
Patients receiving effective oral anticoagulant treatment, e.g. warfarin sodium (INR >1.7)		
Manifest or recent severe or dangerous bleeding		
Known history of or suspected intracranial haemorrhage		
Suspected subarachnoid haemorrhage or condition after subarachnoid haemorrhage from aneurysm		
Prior stroke within the l[ast 3 months		
Any history of central nervous system damage (i.e. neoplasm, aneurysm, intracranial or spinal surgery)		
Recent (less than 10 days) traumatic external heart massage, obstetrical delivery, recent puncture of a non-compressible blood-vessel (e.g. subclavian or jugular vein puncture)		
Severe uncontrolled arterial hypertension		
Bacterial endocarditis, pericarditis		
Acute pancreatitis		
Documented ulcerative gastrointestinal disease during the last 3 months, oesophageal varices, arterial aneurysm, arterial/venous malformations		
Neoplasm with increased bleeding risk		
Severe liver disease, including hepatic failure, cirrhosis, portal hypertension (oesophageal varices) and active hepatitis		
Major surgery or significant trauma in past 3 months		
Evidence of ICH on the CT scan		
Symptoms suggestive of subarachnoid haemorrhage, even if CT scan is normal		

Administration of an anticoagulant medication within the previous 48 hours		
Platelet count <100,000/mm^3		
SBP >185 mmHg or DBP >110 mmHg, or aggressive management (intravenous pharmacotherapy) necessary to reduce BP to these limits		
Considerations based on time		
Symptoms of ischaemic attack beginning: • more than 4.5 hours prior to infusion start, or • if unknown onset, last known well more than 4.5 hours ago		
Considerations based on stroke severity		
Non-disabling neurological deficit or symptoms improved before start of infusion		
Severe stroke as assessed clinically (e.g. NIHSS >25) and/or by appropriate imaging techniques		
Additional considerations		
Seizure at onset of stroke		
Any history of prior stroke and concomitant diabetes		
Blood glucose <50 mg/dl or >400 mg/dl (<2.8 mM or > 22.2 mM)		

Alteplase dosage and administration

Use the dosing table below (www.medicines.org.uk/emc/product/898/smpc) to determine the total dose.

The recommended total dose is 0.9 mg alteplase/kg body weight (maximum of 90 mg) starting with 10% of the total dose as an initial intravenous bolus, immediately followed by the remainder of the total dose infused intravenously over 60 minutes.

Dosing table for acute ischaemic stroke

By using the recommended standard concentration of 1 mg/ml, the volume (ml) to be administered is equal to the recommended dosing value (mg)

Weight (kg)	Total dose (mg)	Bolus dose (mg)	Infusion dose* (mg)
40	36.0	3.6	32.4
42	37.8	3.8	34.0
44	39.6	4.0	35.6
46	41.4	4.1	37.3
48	43.2	4.3	38.9
50	45.0	4.5	40.5
52	46.8	4.7	42.1
54	48.6	4.9	43.7
56	50.4	5.0	45.4
58	52.2	5.2	47.0
60	54.0	5.4	48.6
62	55.8	5.6	50.2
64	57.6	5.8	51.8
66	59.4	5.9	53.5
68	61.2	6.1	55.1
70	63.0	6.3	56.7
72	64.8	6.5	58.3
74	66.6	6.7	59.9
76	68.4	6.8	61.6
78	70.2	7.0	63.2
80	72.0	7.2	64.8
82	73.8	7.4	66.4
84	75.6	7.6	68.0
86	77.4	7.7	69.7
88	79.2	7.9	71.3
90	81.0	8.1	72.9
92	82.8	8.3	74.5
94	84.6	8.5	76.1
96	86.4	8.6	77.8
98	88.2	8.8	79.4
100+	90.0	9.0	81.0

*Given in a concentration of 1 mg/ml over 60 minutes as a constant rate infusion.

- Use as few vials of alteplase as possible to draw up dose.
- Reconstitute vial using the supplied preservative-free water for injection. Do not shake the vial to expedite this process.
- The concentration of the reconstituted alteplase is 1 mg/ml.
- Bolus dose:
  - The bolus dose is 10% of total calculated alteplase dose.
  - Use a 10-ml syringe to draw up the prescribed bolus dose directly from alteplase vial. Dosing and volume should be checked by two qualified members of staff (medical or nursing).
  - Administer the bolus dose by direct IV push over 1–2 minutes.
  - Document the timing of bolus dose administration.
- Infusion dose:
  - The infusion dose is the remaining 90% of total calculated alteplase dose.
  - It should be drawn up in one or two 50-ml Luer-Lok syringes, dependent on the dose to be administered. These should be labelled according to standard policy.
  - The syringe(s) should be connected in turn to infusion tubing primed with alteplase and placed in an IV syringe pump.
  - Prior to attaching the infusion tubing to the patient, ensure the following:
    - The cannula to be used for the infusion is patent.
    - The BP cuff is attached to the other arm.
    - The pump infusion rate (ml/hr) should be set at the infusion dose over 1 hour given that the concentration of the reconstituted alteplase is 1 mg/ml.
    - Document the timing of commencement of the infusion.