S8 Administer thrombolytic treatment in acute ischaemic stroke

Diagnostician and overseeing administration of bolus

About this workforce competence

This competence is about overseeing the emergency administration of thrombolytic treatment (e.g. alteplase) for acute ischaemic stroke. It includes assessing which individuals are appropriate for treatment, the preparation and administration of drugs and the assessment of potential contra-indications. It also covers overseeing the monitoring of the effects of treatment on the individual and taking action to deal with any adverse reactions over the following 48 hours. These individuals are to be managed in a locally defined hyper-acute stroke area.

This competence is relevant to those who may be responsible for the emergency administration of thrombolytic treatment for acute ischaemic stroke, and to those monitoring and caring for the patient in the hyper-acute phase (e.g. emergency/stroke physicians). The health professional must have the ability to perform a neurological examination accurately and reliably.

Links

This workforce competence has indicative links with the Inter-professional Thrombolysis Framework

Searchable key words

Stroke, thrombolytic treatment, thrombolytic, acute ischaemic stroke

Origins

This workforce competence was developed by the Inter-professional Thrombolysis Framework Steering Group, in collaboration with the Clinical Practice Research Unit, University of Central Lancashire.
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Glossary

This section provides explanations and definitions of the glossary terms used in this competence. In competences, it is quite common to find words or phrases used which you will be familiar with, but which, in the detail of the competence, may be used in a very particular way. Within the text these terms are identified in bold text.

Thrombolytic treatment

Treatment with thrombolytic drugs, sometimes called thrombolysis, describes the use of clot dissolving drugs in people suffering from ischaemic stroke. These drugs aim to reverse the effects of a stroke by opening the blocked cerebral artery and returning the blood supply to the affected part of the brain again.

Scope

The scope is here to give you guidance on the possible areas to be covered in this competence.

Physiological parameters

Physiological parameters include:

a) level of consciousness
b) neurological assessment
c) blood pressure
d) pulse and heart rate
e) heart rhythm
f) temperature
g) blood glucose, oxygen saturation and hydration

Precautions

Standard precautions and health and safety measures including:

a) handwashing/cleansing before during and after the activity
b) the use of personal protective clothing and additional protective equipment when appropriate
c) handling contaminated items
d) disposing of waste
e) safe moving and handling techniques
f) untoward incident procedures (e.g. identification of deterioration, likely bleed, and procedures and blood products to manage intra-cerebral bleeding)
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Performance criteria

You need to:

1. check and confirm that the individual meets the criteria for a clinical diagnosis of stroke
2. check that brain imaging or report is consistent with the clinical diagnosis and does not contra-indicate administration of thrombolytic treatment
3. check and confirm that the individual meets the inclusion criteria for thrombolytic treatment in acute ischaemic stroke and has no exclusion criteria (e.g. SITS)
4. assess the potential benefit of treatment against potential risk for the individual, taking account of any known contra-indications, current medication and allergies, where possible explain the risks and benefits to the patient and their relatives
5. where possible seek agreement for thrombolytic treatment from the individual, having first explained the risks and benefits
6. measure neurological status at baseline (before administration), monitor neurological parameters, recognise deterioration, and intervene according to the national, regional and local guidance
7. check and record the individual's physiological parameters and review the 12 lead ECG at baseline and at specified intervals according to protocols
8. ensure the individual has regular and frequent physiological and neurological monitoring
9. weigh the individual, or estimate weight using recognised methods and utilising all available information to inform the dose of thrombolytic treatment for the individual patient
10. ensure the availability of the equipment required for the administration of thrombolysis
11. select, check and prepare the drug for administration in line with national, regional and local guidance
12. reassure the individual, and relatives or carers, as far as possible and explain intended actions
13. Ensure the drug is prescribed within licience i.e. stroke "treatment under specialist neurology physician only"
14. administer the drug with minimum delay after the stroke and according to national guidelines and local protocols (and within the time and recommendations of the current license)
15. take any necessary precautions to ensure the health and safety of yourself and the individual
16. complete documentation relating to the use and administration of drugs in a manner that is accurate, legible and processed according to national legislation and local protocols
17. deal with and/or report to the appropriate person any signs of adverse reaction by the individual and instigate further evaluations or investigations as appropriate

18. evaluate the effectiveness of thrombolytic treatment at the appropriate time using the agreed measurement tools
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Thrombolysis Specific

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Knowledge and understanding

You must know and understand:

Legislation, policy and good practice

K1. a critical understanding of the current European and National legislation, national guidelines and local policies and protocols which affect your work practice in relation to the administration of medication, including the use of thrombolytic treatment

Drugs and medication

K2. a critical understanding of blood products required for adverse events (e.g. cryoprecipitate, fresh frozen plasma)

Stroke and TIA

K3. a critical understanding of the main issues, debates, and policies relating to the diagnosis and treatment of stroke and TIA

K4. a critical understanding of the nature of stroke and TIA, its different types and presentations and how to diagnose stroke clinically and to exclude stroke mimics.

K5. a critical understanding of when thrombolytic treatment is an appropriate treatment

K6. a critical understanding of the causes and factors that determine stroke and TIA, and the different stages including terminal stages and the indications for palliative care

K7. a critical understanding of the anatomy and physiology of the human body and changes following a stroke and TIA

K8. a critical understanding of the short, medium and long-term effects of stroke and TIA on the individual's physical, psychological, mental and biological states and functions

K9. a critical understanding of the conditions which may present with similar symptoms to stroke and TIA

K10. a critical understanding of the drugs and interventions which are used to manage stroke and TIA, and the effects of these on the overall health and well-being of the individual

Thrombolytic treatment

K11. a critical understanding of the purpose, benefits and risks of thrombolytic treatment
K12. a critical understanding of the policy and protocols for thrombolytic treatment following stroke
K13. a critical understanding of the criteria and requirements for thrombolytic treatment with rt-PA
K14. a critical understanding of why it is important to administer thrombolytic drugs with minimum delay after the stroke
K15. an in-depth understanding of what equipment and drugs are needed to ensure thrombolytic treatment is administered in a safe environment
K16. a critical understanding of the types, properties, function and effect of thrombolytic drugs
K17. a critical understanding of the causes and manifestations of individuals’ adverse reactions to thrombolytic drugs and appropriate responses
K18. an in-depth knowledge of how to assess whether thrombolytic treatment has been effective
K19. a critical understanding of the indications for and actions needed to reverse thrombolytic treatment