This guideline is tailored for healthcare professionals in the in-hospital stroke patient care at both essential and advanced stroke centers. The format of this guideline prioritizes actionable, evidence-based recommendations. Hospitals aiming to implement this checklist must meet specific prerequisites, including access to a CT scan, laboratory facilities, a well-equipped Emergency Department, an ICU, the potential for acute thrombolytic therapy and endovascular treatment and a demonstrated proficiency in stroke care. For healthcare facilities with a lower level of stroke care, immediate transfer of suspected stroke patients to the nearest stroke-ready hospital is recommended.

Patient name: ___________ Patient Date of birth: ___________
Date of presentation: ___________ Time of presentation: ___________

A – General measures in hyperacute stroke care

- Suspected stroke / pre-notified stroke: Activate stroke code or inform stroke team if possible / when available (neurologist, emergency physician, radiologist, nurse)
- Perform brain imaging without delay upon hospital arrival!
- Perform the following tasks in parallel by physicians and nurses according to a fixed protocol:

Airway and breathing:

- Measure oxygen saturation: ___________
- Provide supplemental oxygen to maintain saturation >94%.
- Tracheal intubation (with ICU team consultation if/when needed) is indicated for a compromised airway (reduced level of consciousness? GCS ≤8?) or insufficient ventilation (respiratory rate ≤ 6/minute?)

Circulation:

- Measure blood pressure: ___________
- Correct hypotension and hypovolemia with crystalloid infusion.
- Treat hypertension when required by comorbidities.
  - In patients with hypertension >220/120mmHg, it’s reasonable to lower BP by 15% during the first 24 hours after stroke onset.
  - Lower BP in patients who are eligible for thrombolysis or thrombectomy to <185/110 before the procedure.
**Lab diagnostics:**

- Establish IV access (2 large bore cannulas)
- Check blood glucose: ___________
  - Treat hypoglycemia (<60mg/dl or 3.3mmol/L) with IV dextrose.
  - Treat hyperglycemia with a target of 140-180mg/dl (avoid hypoglycemia)

**Neurological examination:**

- Do a focused examination using a stroke severity scale (NIHSS): _______/42.

| 1a. Level of Consciousness (LOC) Instructions: | 0 = Alert; keenly responsive.  
1 = Not alert; but arousable by minor stimulation  
2 = Not alert; requires repeated stimulation to attend,  
3 = Responds only with reflex motor or autonomic effects or totally unresponsive, flaccid, and areflexic. |
|-----------------------------------------------|------------------------------------------------------------------------------------------------------------------|
| 1b. LOC Questions: | 0 = Answers both questions correctly.  
1 = Answers one question correctly.  
2 = Answers neither question correctly. |
| 1c. LOC Commands: | 0 = Performs both tasks correctly.  
1 = Performs one task correctly.  
2 = Performs neither task correctly. |
| 2. Best Gaze: | 0 = Normal.  
1 = Partial gaze palsy.  
2 = Forced deviation. |
1 = Partial hemianopia.  
2 = Complete hemianopia.  
3 = Bilateral hemianopia. |
| 4. Facial Palsy: | 0 = Normal symmetrical movements.  
1 = Minor paralysis.  
2 = Partial paralysis.  
3 = Complete paralysis of one or both sides. |
| 5. Motor Arm: | 0 = No drift.  
1 = Drift.  
2 = Some effort against gravity.  
3 = No effort against gravity; limb falls.  
4 = No movement. |
| 6. Motor Leg: | 0 = No drift.  
1 = Drift.  
2 = Some effort against gravity.  
3 = No effort against gravity; limb falls.  
4 = No movement. |
| 7. Limb Ataxia: | 0 = Absent.  
1 = Present in one limb.  
2 = Present in two limbs. |
| 8. Sensory: | 0 = Normal.  
1 = Mild-to-moderate sensory loss.  
2 = Severe to total sensory loss. |
| 9. Best Language: | 0 = No aphasia; normal.  
1 = Mild-to-moderate aphasia.  
2 = Severe aphasia.  
3 = Mute, global aphasia. |
| 10. Dysarthria: | 0 = Normal.  
1 = Mild-to-moderate dysarthria.  
2 = Severe dysarthria. |
| 11. Extinction and Inattention: | 0 = No abnormality.  
1 = Visual, tactile, auditory, spatial, or personal inattention.  
2 = Profound hemi-inattention or extinction to more than one modality. |
### History - Obtain information about:

- **Symptom onset / time last seen well:**
- **Current medication (if any):**
  - Anticoagulants: __________________________________________ last time of drug intake: ______
- **Absolute contraindications for thrombolytics:**
- **Premorbid modified Rankin- Scale:** _______/6.

### Consider Doing:

- Delay nasogastric tube and bladder catheter, if the patient can be safely managed without.
- Obtain other blood tests (CBC, electrolytes, creatinine, INR, pTT, troponin when indicated) but do not delay the initiation of reperfusion therapy.
- Do ECG but do not delay initiation of reperfusion therapy.

### DON'T DO:

- Blood pressure lowering in patients with ischaemic stroke and not receiving reperfusion therapy unless blood pressure is very high (>220/120 mmHg) or blood pressure lowering is indicated for other reasons.
- Systolic blood pressure should not be reduced more than 90 mmHg in acute ICH to prevent kidney injury.
- Do not use antiepileptic drugs for primary prevention of seizures.
# B - Imaging and recanalization for acute ischemic stroke

## ACUTE IMAGING AND RECANALIZATION ALGORITHM

### Time since onset 0 – 4.5h (known time window)

**Plain CT for IVT:**
- Exclude bleeding
- Thrombolysis (NINDS & ECASS 3)

### Time since onset 4.5-9h (known time window)

**Penumbral imaging for IVT**
- CT and CT Perfusion OR MRI & MR-Perfusion
- IVT is indicated if:
  - Core <70ml
  - Hypoperfused/Core ratio >1.2
  - mismatch volume >10ml
  (=EXTEND criteria)

### Unknown onset >4.5 h from LSW

**Penumbral imaging OR FLAIR-DWI-Mismatch for IVT:**
- MRI
  - DWI pos/ FLAIR (neg) –mismatch (WAKE-UP) (MRI preferable in minor strokes/ lacunas etc)

### >9 - < 24 hours

**NO Thrombolysis!**

### CT – Angio for MT:
- LVO?
- Thrombectomy (MR-CLEAN, EXTEND-1A, ESCAPE, REVASCAT, SWIFTPRIME)

### CT – Angio or MR-Angio: Detect Large Vessel Occlusion (LVO)?
- < 6 hours since onset: EVT
- > 6 hours: Penumbral imaging / clinical-core mismatch for MT: CT-Perfusion/ MR-Perfusion

**EVT is indicated if one of the following criteria sets is fulfilled:**

### DEFUSE-3:
- 6 to 16 hours since time last known well:
  - Age ≤90 years and NIHSS ≥6: infarct core volume <70 ml and penumbra volume >15 ml and penumbra volume/core volume >1.8

### DAWN:
- 6 to 24 hours since time last known well:
  - Age <80 years: infarct core ≤30 ml if NIHSS ≥10; infarct core ≤51 ml if NIHSS ≥20.
  - Age ≥80 years: infarct core ≤20 ml and NIHSS ≥10

### SELECT-2
- LVO and ASPECTS 3-5 or core >50ml
- ANGEL – ASPECTS
  - LVO and ASPECTS 3-5 or core 70 -100ml
  - LVO (incl M2)
  - collateral flow >0% (grade 1-3)

### MR CLEAN-LATE (CT and CTA only):
- LVO (incl M2)

## C - Thrombolysis and Thrombectomy

### Door - to - imaging time: __________ MIN (TARGET < 30 MIN!)

### Door - to - needle time: __________ MIN (TARGET <30 min, SHOULD/MUST be <60 min!)

### Door - to - groin time: __________ MIN (TARGET < 90 MIN!)

### Administration:

#### Alteplase:
- Total dose: ___kg*0.9mg/kg = _____ (max dose 90mg).
- Bolus dose (10%) = ____mg (IV push over 1 minute): Starting time: ____________
- Infusion dose over 1 hours = _____mg

#### Tenecteplase:
- Total dose: ___kg*0.25mg/kg = _____ Starting time: ____________
- Blood pressure at thrombolysis: __________ mm/Hg

### Absolute Contraindications:
References:

Abbreviations:
IVT : intravenous thrombolysis
EVT: endovascular treatment / mechanical thrombectomy