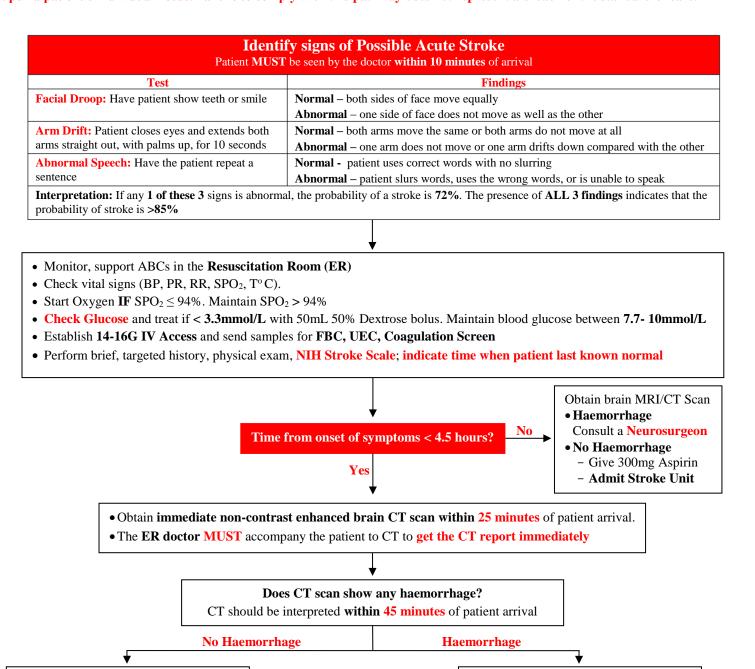# 17. Stroke Algorithm

This clinical pathway is intended to supplement, rather than substitute for, professional judgment and may be changed depending upon a patient's individual needs. Failure to comply with this pathway does not represent a breach of the standard of care.

Identify signs of Possible Acute Stroke
Patient **MUST** be seen by the doctor **within 10 minutes** of arrival

Test	Findings
Facial Droop: Have patient show teeth or smile	**Normal** – both sides of face move equally
	Abnormal – one side of face does not move as well as the other
Arm Drift: Patient closes eyes and extends both arms straight out, with palms up, for 10 seconds	**Normal** – both arms move the same or both arms do not move at all
	Abnormal – one arm does not move or one arm drifts down compared with the other
Abnormal Speech: Have the patient repeat a sentence	**Normal** - patient uses correct words with no slurring
	Abnormal – patient slurs words, uses the wrong words, or is unable to speak
Interpretation: If any **1 of these 3** signs is abnormal, the probability of a stroke is **72%**. The presence of **ALL 3 findings** indicates that the probability of stroke is **>85%**	

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- Monitor, support ABCs in the **Resuscitation Room (ER)**
- Check vital signs (BP, PR, RR, SPO_2, T° C).
- Start Oxygen **IF** $SPO_2 \leq 94\%$. Maintain $SPO_2 > 94\%$
- **Check Glucose** and treat if **< 3.3mmol/L** with 50mL 50% Dextrose bolus. Maintain blood glucose between **7.7- 10mmol/L**
- Establish **14-16G IV Access** and send samples for **FBC, UEC, Coagulation Screen**
- Perform brief, targeted history, physical exam, **NIH Stroke Scale**; **indicate time when patient last known normal**

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Time from onset of symptoms < 4.5 hours? → **No** →

Obtain brain MRI/CT Scan
- **Haemorrhage**
  Consult a **Neurosurgeon**
- **No Haemorrhage**
  – Give 300mg Aspirin
  – **Admit Stroke Unit**

Yes
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- Obtain **immediate non-contrast enhanced brain CT scan within 25 minutes** of patient arrival.
- The **ER doctor MUST** accompany the patient to CT to **get the CT report immediately**

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Does CT scan show any haemorrhage?
CT should be interpreted **within 45 minutes** of patient arrival

No Haemorrhage | **Haemorrhage**

Consult a Neurologist
See Stroke Reperfusion Checklist

Consult a Neurosurgeon

National Institutes of Health Stroke Scale (NIHSS)

1a. Level of consciousness	□ 0 = Alert; keenly responsive □ 1 = Not alert, but rousable by minor stimulation □ 2 = Not alert; requires repeated stimulation □ 3 = Unresponsive or responds only with reflex	**7. Limb ataxia**	□ 0 = Absent □ 1 = Present in one limb □ 2 = Present in two limbs

b. Level of consciousness questions:
    What is the month?
    What is your age?
	□ 0 = Both answers correct
	□ 1 = Answers one question correctly
	□ 2 = Answers both questions incorrectly
		8. Sensory	□ 0 = Normal; no sensory loss
			□ 1 = Mild-to-moderate sensory loss
			□ 2 = Severe to total sensory loss

c. Level of consciousness commands:	□ 0 = Performs both tasks correctly □ 1 = Performs one task correctly □ 2 = Performs neither task correctly	**9. Best language**	□ 0 = No aphasia; normal □ 1 = Mild to moderate aphasia □ 2 = Severe aphasia □ 3 = Mute, global aphasia
2. Best gaze	□ 0 = Normal □ 1 = Partial gaze palsy □ 2 = Forced deviation	**10. Dysarthria**	□ 0 = Normal □ 1 = Mild to moderate dysarthria □ 2 = Severe dysarthria
3. Visual	□ 0 = No visual loss □ 1 = Partial hemianopia □ 2 = Complete hemianopia □ 3 = Bilateral hemianopia	**11. Extinction and inattention**	□ 0 = No abnormality □ 1 = Visual, tactile, auditory, spatial, or personal inattention □ 2 = Profound hemi-inattention or extinction
4. Facial palsy	□ 0 = Normal symmetric movements □ 1 = Minor paralysis □ 2 = Partial paralysis □ 3 = Complete paralysis of one or both sides	**Total Score = 0 - 42**	

		LA	RA	LL	RL	Time	Total Score

5. Motor Arm
    a. Left Arm (LA)
    b. Right Arm (RA)
6. Motor Leg
    a. Left Leg (LL)
    b. Right Leg (RL)
	0 = No drift
	1 = Drift
	2 = Some effort against gravity
	3 = No effort against gravity; limb falls
	4 = No movement
		□ 0
		□ 1
		□ 2
		□ 3
		□ 4
			□ 0
			□ 1
			□ 2
			□ 3
			□ 4
				□ 0
				□ 1
				□ 2
				□ 3
				□ 4
					□ 0
					□ 1
					□ 2
					□ 3
					□ 4		