

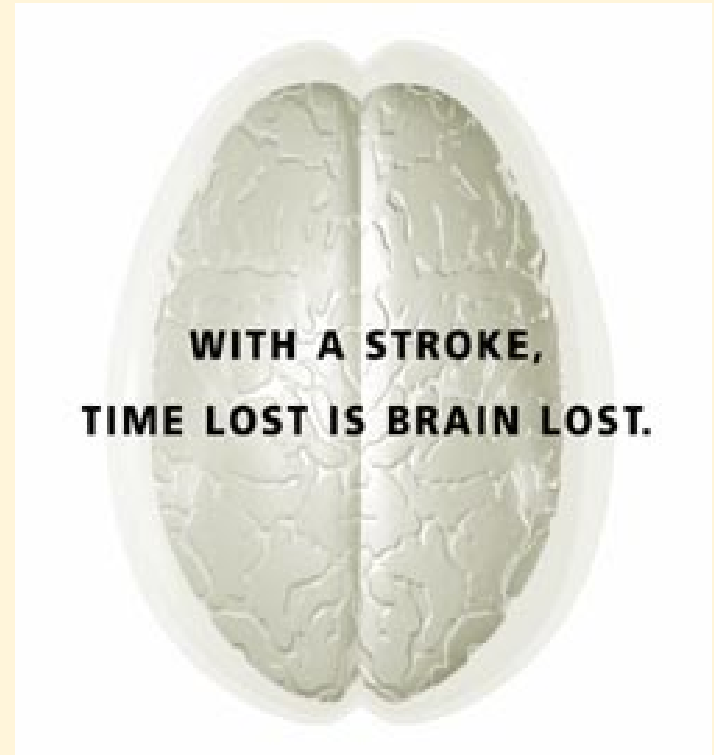
Management of suspected stroke or TIA

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Barriers to timely assessment

- patient or family not recognising symptoms of stroke (delay seeking help)
- patient or family calling general practitioner (GP) first
- incorrect triage
- delays in neuroimaging
- delays in following in-hospital pathways
- delay in obtaining consent
- physician unfamiliarity with recombinant tissue plasminogen activator (rt-PA) use



Barriers to timely assessment

- Public awareness of the symptoms of stroke should be increased
- People should be advised to contact the emergency medical services immediately if they suspect they may be having a stroke

(Good practice points)

3.1 Systems of care

Emergency medical services should be redesigned to facilitate rapid access to specialist stroke services (Grade B)

Patients with suspected stroke should have:

- ambulance priority (blue light) in appropriate cases
- rapid triage on arrival at hospital
- immediate access to specialist stroke services
- rapid brain imaging
- rapid specialist assessment

3.2 Pre-hospital assessment

- Standard assessment scales based on face, arm and speech impairments are simple tools to improve the speed and accuracy of diagnosis in patients with suspected stroke, although there is a small risk of wrong diagnosis.
- The three signs most diagnostic of stroke (facial paresis, arm drift, abnormal speech) are assessed by FAST (face arm speech test)

3.2.1 Pre-hospital assessment

- Standard assessment scales such as FAST or MASS are recommended for pre-hospital assessment to:
 - increase the accuracy of the initial stroke diagnosis
 - assist with more rapid diagnosis
 - speed up consideration for treatment
 - assist with more rapid referral to specialist services

(Grade C)

FAST assessment

Face Arm Speech Test

Facial Palsy

affected side

Arm Weakness

affected side

Speech Impairment

SPINAL BOARD	<input type="checkbox"/>	CERVICAL COLLAR	
R.E.D.	<input type="checkbox"/>	ORTHO. STRETCHER	
VACUUM MAT	<input type="checkbox"/>	OTHER	
11. STROKE (FACE ARM SPEECH TEST)			
SPEECH IMPAIRMENT	YES <input checked="" type="checkbox"/>	NO <input type="checkbox"/>	
FACIAL PALSY	YES <input checked="" type="checkbox"/>	NO <input type="checkbox"/>	
AFFECTED SIDE	L <input checked="" type="checkbox"/>	R <input type="checkbox"/>	
ARM WEAKNESS?	YES <input checked="" type="checkbox"/>	NO <input type="checkbox"/>	
AFFECTED SIDE	L <input checked="" type="checkbox"/>	R <input type="checkbox"/>	
12. CANNULATION			
SIZE	14g <input type="checkbox"/>	16g <input type="checkbox"/>	18g <input type="checkbox"/>

93% paramedic admitted strokes have FAST deficit
Paramedic training packages available

3.3.1 In-hospital assessment

- Standard assessment scales such as ROSIER are recommended for emergency department staff to:
 - increase the accuracy of the initial stroke diagnosis
 - assist with more rapid diagnosis

(Grade C)

Date/time of symptom onset _____

GCS E = M = V = BP *BM

** If BM < 3.5 mmol/l treat urgently and reassess once blood glucose normal*

Has there been loss of consciousness or syncope?

Y(-1) N(0)

Has there been seizure activity?

Y(-1) N(0)

Is there a NEW ACUTE onset or on awakening from sleep

Asymmetric facial weakness Y(1) N(0)

Asymmetric grip weakness Y(1) N(0)

Asymmetric arm weakness Y(1) N(0)

Asymmetric leg weakness Y(1) N(0)

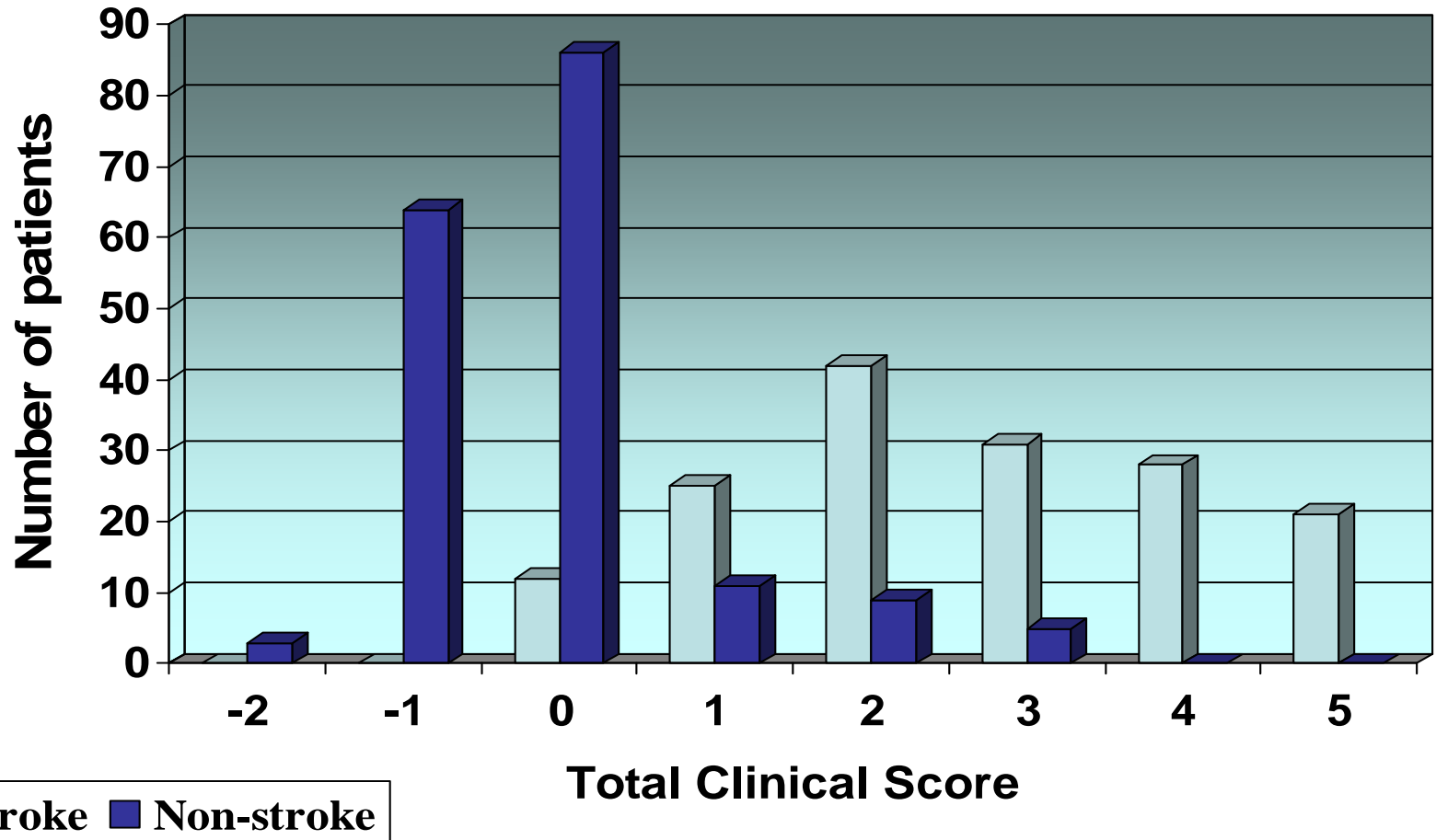
Speech disturbance Y(1) N(0)

Visual field defect Y(1) N(0)

** Total Score _____ (-2 to +6)

***Admit to Acute Stroke Unit / Refer to stroke team if total score > 0 (score between 1 and 6)*

Internal Validation of Rosier Score



Sensitivity=92%, Specificity=86%, PPV=85%, NPV=93%
With cut-off score of >0

3.3.2 In-hospital care

- **Stroke patients requiring admission to hospital should be admitted to a stroke unit staffed by a coordinated multidisciplinary team with a special interest in stroke care (Grade A)**
- Patients with TIA and minor stroke, who are at high risk of early recurrence, should undergo specialist assessment and begin treatment promptly (Good Practice Point)

3.3.3 Integrated care pathways

- One systematic review of three randomised controlled trials (RCTs) and 12 observational studies found that the routine application of an integrated care pathway did not substantially improve patients' outcomes in terms of survival or independence compared to standard multidisciplinary care **B**
- **The routine implementation of care pathways for acute stroke management or stroke rehabilitation is not recommended where a well organised multidisciplinary model of care exists (Grade B)**

3.3.4 Telemedicine consultation

A systematic review of five observational studies concluded that telemedicine systems can be feasible, acceptable and technically and diagnostically reliable in acute stroke management, and that telemedicine consultations were associated with improved delivery of rt-PA



3.3.4 Telemedicine consultation

In areas without a local stroke specialist, telemedicine consultation should be considered to facilitate treatment in patients eligible for thrombolysis (Grade B)



3.1 Systems of care

- There is a paucity of evidence describing the best systems of care to allow efficient and rapid assessment and treatment of patients with suspected stroke
- The availability of effective acute treatment for stroke necessitates rapid transfer to hospital (*see sections 5, 6 and 7*)
- Two systematic reviews and one Health Technology Assessment (HTA) identified seven barriers to timely assessment of patients with suspected stroke

Systems of care to address barriers

- education programmes to improve the general public's recognition of symptoms of stroke
- training paramedics to diagnose stroke more accurately and decrease time to hospital
- helicopter transfer
- training emergency medical staff in acute stroke care
- reorganisation of hospital systems
- multifaceted interventions (including telemedicine systems)