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# Stroke

= focal neurological deficit of vascular origin lasting >24h; also

- Sudden onset
- Sx maximal at onset
- Usually –ve Sx

Cf. TIA, RIND

3<sup>rd</sup> commonest cause of death

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## Primary prevention

### Modification of cardiovascular risk factors

All risk factors cause atherosclerosis (large vessels); HT also causes lipohyalinosis (small vessels).

### Treat AF

Cardioversion vs. anticoagulation + rate control

### Treat carotid stenosis?

Suggested by ACAS (Asymptomatic Carotid Artery Stenosis study) and ACST (Asymptomatic Carotid Stenosis Trial)

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## Survival after event

Prompt Mx in specialist stroke units improves survival and independence of survivors.

### First-line Ix

BP

Bloods

CXR

ECG

CT = cornerstone Ix

- Vasoocclusive (80%)
  - Aspirin 150mg
  - Heparinisation not recommended
  - Thrombolysis remains to be established (rt-PA/alteplase)
    - NINDS<sup>1</sup>, 1995: 30% ↓dependence
    - EMEA conditional license for administration within 3h, as efficacy declines<sup>2</sup>
      - For review in 2006
      - ECASS III (European Cooperative Acute Stroke Study): phase 3 RCT (3-4h)
      - SITS-MOST (Safe Implementation of Thrombolysis in Stroke Monitoring Study): phase IV safety study (0-3h)
    - Cochrane review<sup>3</sup>
      - ↑risk of haemorrhage x4
      - ↓risk of death or dependency (from ca. 60% to 50%)
    - But too early for widespread introduction
      - 3h target derives largely from single trial (NINDS)
      - Evaluated population: few >80, few lacunar strokes
      - Unclear which subgroups benefit most

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<sup>1</sup> *NEJM* (1995) **333**:1582-7.

<sup>2</sup> *Lancet* (2004) **363**:768-74.

<sup>3</sup> WARDLAW, J.M. ET AL. (2000): Thrombolysis in acute ischaemic stroke. *Cochrane Database Syst Rev* CD000213. Mentioned in WARLOW, C. & WARDLAW, J.M. (2003): Therapeutic thrombolysis for acute ischaemic stroke. *BMJ* **326**:233-4.



- Social services

**Secondary prevention**

Ix: echo, carotid Doppler

If vasoocclusive: aspirin ± clopidogrel ± dipyridamole, anticoagulation ineffective unless otherwise indicated

BP control (PROGRESS trial: combination of perindopril and indapamide reduces risk even if no HT)

AF (warfarin if AF+TIA)

Risk factor modification

- Cardiovascular risk
- Carotid stenosis
  - Endarterectomy with shunt/cerebral Doppler if >70% (ECST, NASCET)