

STROKE

Stroke- "Brain Attack"-occurs when the brain becomes deprived of oxygen thereby causing damage to brain tissue

Two Major types of Stroke

- Ischemic 84%- clot in arteries blocks blood flow
 - Thrombus- stationary clot-slower onset
 - Embolism- moving clot - rapid onset
 - if patient received thrombolytics within 3 hrs of symptom onset, symptoms can be greatly reduced or eliminated completely
- Hemorrhagic 16%- ruptured blood vessels- rapid onset
 - No definitive care
- The only way to tell is by CT scan

Stroke in perspective

- 750,000 strokes per year
- Leading cause of adult disability
- Third leading cause of death
- In the United States an individual suffers a stroke every minute of every day
- An American dies of a stroke every 3 minutes
- Virginia is in the "Stroke Belt" thus having an increased risk of stroke

Cerebrovascular accident- "stroke, CVA" interruption of the blood flow to the brain results in loss of function

Transient Ischemia Attack (TIA, mini-stroke) cerebral ischemic attack lasting less than 24 hours without permanent neurological deficit

Signs and Symptoms

- Sudden blurred or decreased vision in one or both eyes
- Numbness, weakness or paralysis of the face, arm, or leg occurring on one (Monoplegia) or both (Hemiplegia) sides of the body
- Difficulty speaking or understanding speech
- Dizziness, loss. of balance or unexplained fall
- **Sudden** severe headache

TIA is a true emergency. A TIA patient who does not receive treatment will have a Stroke

- 51% within 1 year
- 21% within 1 month
- 28% within 2-7 years
- It is not a question of will a TIA patient have a stroke, but when Will the TIA patient have a stroke

Cincinnati PreHospital Stroke Scale-A quick test for a stroke patient

- Facial drop
- Arm drift
- Speech

Conditions that may mimic a stroke

- Seizures with persistent neurological signs
- Hypo/Hyperglycemia
- Drug overdose
- Intracranial mass
- Migraine headache with persistent neurological signs
- TIA



Care

- Maintain ABC's
- Pulse Ox if indicated
- High flow Oxygen
- Glucose level
- Elevate head of Stretcher 20°-30°
- Maintain NPO status (no oral intake)
- Treat any injuries
- Interventions should be done enroute to ED
- Rapid smooth transport
- Hypo/Hyperglycemia can worsen stroke
- Consider ALS
- Early notification of ED



All patient presenting within 3 hours **of onset** of symptoms consistent with an acute ischemic stroke should be considered for IV TPA

Overall goal is to have the patient medicated within 3 hours of symptom onset

Risk factors for stroke <u>UNCHANGABLE</u> Age Gender Race Heart Disease Prior Stroke Family history	<u>CHANGEABLE</u> High blood pressure Smoking High Lipid levels Cholesterol TIA's Drug Abuse Carotid Disease High Dose of Estrogen (birth control) Excessive alcohol use Obesity Diabetes Atrial Fibrillation
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Hypertension attributes to 90% of all strokes

- Males 48% more likely to have a stroke
 - Caused by damaged arteries
 - 6mm HG decrease in Diastolic BP = 40% reduction of occurrence of stroke

Smoking increases the risk of stroke 1-3%

Total Cholesterol <200

HDL (good cholesterol) >40

Half a million stroked in the USA could be prevented with risk factor control.

TPA - a "Clot Busting" drug that can be administered if patients eligible and presents to the hospital as soon as symptoms occur and no later than 2 hours after symptom onset.

Atrial Fibrillation-irregular heart beat causes an increased possibility of clots

Common Medications

- Aspirin
- Plavix
- Ticlid
- Aggrenox

Transportation

- Transport lying on effected side
- leaves the good side free
 - protects the airway
 - protects the affected limbs
 - cushion the backboard
 - elevate the head

CINCINNATI STROKE SCALE

Table 1. Prehospital Assessment of Possible Stroke

The Cincinnati Prehospital Stroke Scale

Interpretation: If any 1 of these 3 signs is abnormal, the probability of a stroke is 72%.

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 side

Arm Drift (patient closes eyes and holds both arms straight out for 10 seconds):

- Normal-both arms move the same or both arms do not move at all (other findings, such as pronator grip, may be helpful)
- Abnormal-one arm does not move or one arm drifts down compared with the other

Abnormal Speech (have the patient say "you can't teach an old dog new tricks"):

- Normal-patient uses correct words with no slurring
- Abnormal-patient slurs words, uses the wrong words, or is unable to speak



Normal



Abnormal