**Diagnosis:**

- Bed rest

**I & V**

- Bed rest if dense hemiparesis, 1 LOC inability to transfer OR
- Bed rest with bedside commode and passive ROM

**CBC**

- Follow up ALL ABNORMAL labs
- Assess need for further diagnostic tests (ex, Cartoid duplex, CT, MRI, echo angliogram) VII

**PT, PTT**

- Follow up PT / PTT if on anticoagulant therapy

**U/A if Indicated**

- Follow up ALL ABNORMAL labs

**Pulse Ox**

- Follow up ALL ABNORMAL labs

**TSH if indicated**

- Follow up ALL ABNORMAL labs

**HDL if indicated**

- Follow up ALL ABNORMAL labs

**VDRL if indicated**

- Follow up ALL ABNORMAL labs

**NPO**

- NURSE OBSERVES FIRST MEAL. Puree diet & have nurse observe. Order dysphagia Tray if indicated VI

**NURSE OBSERVES**

- Advance as tolerated

**FIRST MEAL**

- Advance as tolerated

**If NPO consider enteral feedings**

- Advance as tolerated VI

**Aspirin 325 mg po once a day OR alternative anti-platelet therapy**

- B/P control II

**Aspirin 325 mg po once a day OR alternative anti-platelet therapy**

- B/P control II

**Heparin 5000 units SQ q 12 hr**

- B/P control II

**Heparin 5000 units SQ q 12 hr**

- B/P control II

**B/P control II**

- B/P control II

**For Ambulatory patients, D/C prophylactic anticoagulants**

- B/P control II

**Consider Coumadin**

- B/P control II

**SUPER SCRIPT** (ex □ B P control II) I, II, thru VII - see Guidelines attached

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# CLINICAL PATHWAY

**Stroke w/out Thrombolytic Therapy**

### TREATMENTS
- □ Pneumatic compression device
- □ Incontinence mgmnt
- □ Pressure Ulcer Prevention or mgmnt
- □ O2 21 N.C. if Pulse Ox < 92% on R.A.
- □ Fall Protocol

### CONSULTS
- □ Neurologist
- □ Stroke Team
- □ Psychiatrist

### IVS
- □ Saline Lock
- □ IV fluids if indicated

### VITAL SIGNS
- □ Neuro checks q ___ hr
- □ VS q 4 hrs (Call H.O. if B/P >200/100 or <100/60; HR>120 or HR <60; RR >24 or RR<8; Chest Pain, SOB, HA)
- □ I/O q shift

### CASE MANAGEMENT / DISCHARGE PLANNING
- □ Stroke Team consult

### SUPER SCRIPT
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**PART OF THE MEDICAL RECORD**
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### STROKE GUIDELINES

**I. TELEMETRY:**
If a patient is suspected of having an occult, intermittent arrhythmia or an occult MI, telemetry may be a useful diagnostic tool for 24 hours. If the patient has atrial fibrillation, telemetry is only useful if you are trying to rapidly titrate antiarrhythmic therapy to control the rate for a chronic a-fib.

**II. HYPERTENSION MANAGEMENT:**
Patients with stroke often have high BP both as a risk factor and also in response to the neurologic damage. Lowering blood pressure too rapidly following stroke may cause further neurologic damage.

For persistent BP>220/120 along with systemic organ failure – lower by no more than 15%-20% using titratable agents in a monitored setting. Reasonable choices include Labetalol, Esmolol (beneficial effects of cerebral blood flow), Nitroglycerin, or Nitroprusside (watch for cyanide toxicity, especially in patients with renal insufficiency). For persistent BP>220/120 with no organ failure – reduce BP by no more than 10%-15% over 72 hours. Reasonable meds include oral ACE inhibs, Cardizem, diuretics, beta blockers. Avoid vasodilator, as they may decrease cerebral blood flow (e.g., no short acting Procardia !)

For persistent BP>160/100, >220/120 – No antihypertensive therapy for 72 hours, then start treatment aiming for BP no lower than 160-170/90-100 for 7-10 days following stroke.

**III. DVT PROPHYLAXIS:**
Patients with lower extremity involvement, or who are unable to ambulate >50 feet for any reason, should receive subcutaneous heparin (unless they have evidence of bleeding on CT scan or have a sensitivity to heparin). Venodynes should be used for those who cannot take heparin. Low molecular weight heparin is more expensive and carries no advantage over regular heparin for this purpose.
IV. INCONTINENCE MANAGEMENT

BOWEL AND BLADDER TRAINING AS INDICATED

- **Functional incontinence** (from inability to get out of bed): Adult diapers or bedside commode should be considered. Texas catheters increase risk of infection over adult diapers, are more expensive, and have similar nursing requirements.
- **Ure incontinence** (neurogenic bladder): and **Overflow incontinence** (from urinary retention secondary to conditions like BPH): Consider q6h straight catheterization, some patients will require Foley catheter insertion, but attempt to minimize the length of time of indwelling catheters. Once of the leading causes of morbidity/mortality in stroke patients is urosepsis from urinary retention or from Foleys.

V. PRESSURE ULCER PREVENTION:

RISK ASSESSMENT TOOL

Skin Care Protocol Initiated

Pressure Ulcer Risk Assessment completed every 24 hours and Pressure Ulcer Prevention Protocol implemented as indicated for **BRADEN > 17**

Patients with limited mobility or who are bed-bound are at risk for pressure ulcers. Prevention measures: General Skin Care, Pressure / shear reduction, Nutrition, Activity/ Mobility should be assessed. Patients with Pressure Ulcer: Pressure Ulcer Protocol Treatment Algorithm implemented.

VI. ASPIRATION PREVENTION AND NUTRITION:

All patients with altered level of consciousness, severe dysarthria, evident brain stem stroke, weak cough, wet speech, bilateral strokes, or abnormal 3 oz water test (cough or wet voice after swallowing) should have a formal swallowing study prior to taking p.o. If patient is NPO > 24hrs, insert NGT for feeding. Consider consult for PEG placement if prolonged swallowing disorder, but first try changing the consistency of the good given. (Pt may be able to handle thicker liquids, for example). It is controversial whether PEGs actually confer any protection against aspirations.

VII. ADDITIONAL STUDIES:

2-D Echocardiogram

Most patients with suspected cardiogenic stroke have an obvious source of emboli (a-fib, valvular heart disease, dilated cardiomyopathy, recent MI) at presentation. The patients do not need echo for neurologic purposes. The study has greater utility in searching for the occult source of emboli in the few patients who have no clinical risk factors for stroke. Patients with lacunar syndromes generally do not need echo. Patients for whom anticoagulation is contraindicated may not need echo.

Repeat Neuroimaging

Only if major clinical deterioration occurs, or the Dx of stroke is still uncertain due to atypical clinical features, or to rule out hemorrhagic transformation in cardiogenic strokes prior to initiating systemic anticoagulation. CT with contrast is preferable, but carries IV contract risk; MRI is most sensitive, but is more costly and patients need to be able to hold still for prolonged periods.

Evaluation of Arterial Patency

Carotid duplex scanning or carotid MRA: needed only if their information would lead you to consider endarterectomy. (Criteria -- recent ischemic symptoms such as TIA or minor stroke, proven ipsilateral stenosis or 70%-90%, surgical risk < 5%, five year life expectancy > 50%) MRA is same cost, gives same information about carotids in the neck as duplex scanning, and is less operator dependent. However, duplex is more useful in patients who cannot lay still.

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