SITE: VCH Coastal Cerner Sites

NEURO – Acute Stroke Clinical Pathway

Instructions:

I. Review once per shift for patient care guideline only. Do not record patient care on this document.
II. Document all tasks completed and any problems, interventions, and evaluations in CERNER EHR.
III. Review previous shift documentation - unless documenting on outcomes for the first time.
IV. **Bolded Items are desired patient outcomes/required Interventions**

Within Defined Limits (WDL)

Neurological	Neurovital signs (NVS) unchanged or improved from baseline. Document any deterioration and action taken in Cerner EHR. National Institute of Health Stroke Scale (NIHSS) completed.
Respiratory	Titrate O2 to keep SP02 92% or greater,(SPO2 88-92% for COPD patient). Chest clear on auscultation.
Cardiovascular (CVS)	Blood Pressure kept between parameters with or without prn medication. Refer to Order Set (Power Plan) for BP parameters for: **Hemorrhagic Stroke** **Ischemic Stroke,** tissue plasminogen activator **(tPA**) **Ischemic Stroke** Blood Pressure (BP) Parameters: **SBP <220mmHg** **DBP < 120mmHg** Blood Pressure lowered gradually, 20% increments. Heart rate (HR) regular. Irregular rhythms reported to physician. Atrial fibrillation treated with anticoagulants to prevent second stroke. Atrial fibrillation controlled (HR 60-100). Document contraindications for anticoagulant use in Cerner EHR. Temperature 35.5-37.5. Temperatures >38 treated with acetaminophen and physician notified.

LAB/ Hematology	Baseline blood work as ordered and results within normal range Abnormal values reported to physician and documented in Cerner EHR. Low Target Heparin nomogram protocol, no boluses, followed as ordered for ischemic strokes with atrial fibrillation until International Normalized Ratio (INR) becomes therapeutic (2.0-3.0). Coumadin therapy as ordered. Physician /pharmacist notified of INR and orders for anticoagulant doses received prior to 1500 hours. Dose given at 1700 hours.
Consultations	Neurologist assessment, Neurological Institute of Health Stroke Scale (NIHSS) completed. Other physician consults as condition warrants. Physiotherapy (PT) consulted if any respiratory compromise amendable to PT, or limitations with functional mobility (bed mobility, transfers, ambulation), balance (sitting, standing), and exercise tolerance. Respiratory Therapist consulted for any oxygen or airway needs. Occupational Therapist consulted if any functional issues with Activities of Daily Living (ADL), Instrumental Activities of Daily Living (IADLs), sitting/balance issues, heel, coccyx wounds, difficulty swallowing, cognitive/ perceptual assessment. Speech Language Pathologist (SLP) consulted for any swallowing or communication needs. Non English speaking or English as a Second Language (ESL) patients referred to translation services. Orientation, Memory, Insight assessed during NVS. If cognitive impairment, formal assessment completed by appropriate allied health team member. Dietitian consulted if patient's intake less than 75% of meals, or if fluid intake less than 1000ccc 24 hours. Social Worker consulted for any case requiring psychosocial counseling, third party (Work Safe B.C., ICBC, Department of Veteran Affairs, first nations) and abuse issues. Discharge coordinator consulted during Monday to Friday discharge planning rounds for home support needs, home nursing needs, and/or long term care assessments. Physiatrist consulted / rehabilitation referral when patient medically stable and daily progress evident. Pharmacist consulted and brochures given as required for patient teaching regarding new medications (coumadin, antihypertensives, etc).
Comorbid Risk factors	Glucose levels maintained between 4 to 8 mmol/L. Sliding scale insulin as ordered for capillary blood glucose 8.1 mmol/L or greater. Physician notified if capillary blood glucose 20 mmol/L or greater. Document any episodes of capillary blood glucose less than 4 mmol/L or greater than 20 mmol/L. Referral to Diabetes Educator if new or poorly controlled diabetic once patient and/or family able to learn and retain information. **Deep Vein Thrombosis**: Prophylactic medication given as ordered by physician and/or Sequential Calf Compressors (SCDs) applied. Falls risk assessed and fall prevention strategies implemented. Swallowing continually assessed as needed. Oral care before and after all meals.

Gastrointestinal (GI)/ Nutrition	Swallowing safety monitored- feeding assist as needed Patient tolerating at least 75% of meal trays. Fluid intake at least 1000 cc/24 hours. Document bowel movements.
Genitourinary (GU)	Urinary Tract Infection Prevention (UTI) and Bladder retraining. Catheter use avoided.
Pain	Pain <4/10 using patient's report or facial grades.
Mobility/ Musculoskeletal **Activities of Daily Living (ADL)**	Head of bed elevated 30 degrees at all times, unless ordered otherwise by physician, to promote venous return. Head of bed elevated 90 degrees for 30 minutes after meals to promote digestion. Head of bed lowered after 30 minutes to 30 degrees to prevent sheer injuries. Affected limb protected by positioning as per guidelines posted by physiotherapist. Patient mobilized within 24 hours of admission unless medically unstable. Document if patient unable to mobilize. Necessary bedside safety equipment (oxygen, suction, bed/chair check, etc.) checked at beginning of each shift. Patient seen daily by allied health team Monday- Friday and weekends as per priority intervention.
Integument/ Skin	Braden scale on admission and repeated twice weekly if <15. Pressure ulcer prevention as per Braden scale protocol Turning/repositioning schedule implemented
Psychosocial	Delirium protocol initiated for any sudden episodes of confusion or behavior change. Complete PHQ2 test (depression screening) on day 14 and contact physician for treatment as needed. Patient and family given time to vent emotional needs/stressors. Individualized patient / family needs communicated through discharge planning rounds.
Education	Provide "My Stroke Journey" pamphlet to patient and/or family. Daily discussions with patient/family regarding stroke information, individualized plans of care, and treatment options. Family and patient education session on Thursdays. Medic Alert phone number (1-800-668-1507) given if patient has had a seizure or was started on anticoagulants.
Discharge Planning	Pre-admission status assessed and documented on Admission Assessment. Monday to Friday daily discharge planning discussion of outstanding medical goals, functional goals and discharge needs/plans. Discharge coordinator (DCC) consulted during rounds as necessary for home support needs, home nursing needs, and/or long term care assessments. Discharge Planning initiated, as necessary before medical goals reached. Consider pre or post discharge home OT assessment.

STROKE CLINICAL PATHWAY: Acute Care		
Date	**Symptom Onset to 4.5 hours**	**First 24 hours**
NEURO	Refer to Code 77 Protocol	NIHSS NVS q4h WDL
RESP No aspiration pneumonia		Chest Ausc SPO2 } WDL
CVS		**BP management WDL** # PRN BP Meds Cardiac Monitor Atrial fib managed } WDL
Diagnostics		
Laboratory/ hematology		
Consults		**PT/ OT/ SLP/ RT/ SW/ Dietician/ Pharmacy/ Other** (Circle referrals made)
Comorbid/ Risk Factors No DVT No injuries		**Glucometer QID WDL** DVT prophylaxis Falls risk **Swallowing assessment** Nicotine Replacement initiated prn
GI / Nutrition		Bowel Care WDL
GU No UTI		**Bladder Retraining WDL**
Pain		**Pain WDL**
Mobility/ musculoskeletal ADLs **Mobilized within 24 hours**		Head of Bed WDL **Mobilization plan initiated** **Affected limb protected** ADL plan followed
Integument/ Skin No pressure ulcers		Braden Scale WDL **Repositioning** WDL
Psychosocial **No Delirium/ Depression**		Delirium WDL Monitor for Depression
Education		**Stroke Resource Guide given**
DISCHARGE PLANNING		Pre-Admission status
Variances		

STROKE CLINICAL PATHWAY: Acute Care		
Date	**Day 2**	**Day 3 and onward**
NEURO	NVS WDL **NIHSS Daily**	NVS WDL **NIHSS Daily**
RESP No aspiration pneumonia	Chest auscultation/ 0_2Sats WDL	Chest auscultation/ 0_2Sats WDL
CVS Hypertension controlled Cardiac causes stroke indentified and treated	**BP management WDL** # PRN BP Meds HR management WDL Temperature WDL	**BP management WDL** # PRN BP Meds HR management WDL Temperature WDL
Diagnostics	CT 24 hr post tPA	
Laboratory/ hematology	PTT/INR	PTT/INR
Consults	**PT/ OT/ SLP/ RT/ SW/ Dietician/ Pharmacy/ Other** (Circle referrals made)	**PT/ OT/ SLP/ RT/ SW/ Dietician/ Pharmacy/ Other** (Circle referrals made)
Comorbid/ Risk Factors No DVT No injuries	**Glucose management WDL** DVT prophylaxis Falls risk Swallowing assessed as needed	**Glucose management** DVT prophylaxis Falls risk Swallowing assessed as needed
GI / Nutrition	Weight Intake and Output Adequate Meal Intake Bowel Protocol Last BM	Intake and Output Adequate Meal Intake Bowel Protocol Last BM
GU No UTI	**Bladder retraining WDL** UTI Prevention	Bladder retraining UTI Prevention
Pain	Pain managed **WDL**	Pain managed
Mobility/ musculoskeletal ADLs	Head of Bed WDL **Mobilized** **Affected limb protected** ADL Plan followed	Head of Bed WDL **Mobilized** **Affected limb protected** ADL Plan followed AlphaFIM (on day 3)
Integument/ Skin No pressure ulcers	Repositioning WDL	Repositioning WDL
Psychosocial **No Delirium/ Depression**	Delirium WDL Monitor for Depression	Delirium WDL Monitor for Depression Complete PHQ2 on day 14
Education	**Stroke Resource Guide** questions discussed	**Stroke Resource Guide** questions discussed
DISCHARGE PLANNING		
Variances		

Complete the Interdisciplinary Care Plan Rounding tool in Cerner EHR.