

# **Taking Action Towards Optimal Stroke Care: Acute Nursing Care and Preventing Complications**

Stroke Best Practice Workshop  
June 7, 2018

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## **Learner Objectives**

- Review the components of acute inpatient care based on Canadian Stroke Best Practice Recommendations
- Review recommendations to reduce complications following onset of acute stroke
- Increase your knowledge of evidence based practice in acute stroke care



## Canadian Stroke Best Practice Recommendations (CSBPR)

- Provide up-to-date evidence based recommendations for the management of stroke across the continuum of care
- Promote optimal recovery for patients, families and caregivers.
- Modules for each sector of the stroke continuum
- Each module updated and released every 2-3 years
- Acute recommendations most recently updated in 2018
- <https://www.strokebestpractices.ca/>



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## Overview of Acute Care

- Include recommendations for:
  - Stroke unit care
  - Cardiovascular Investigations
  - Venous Thromboembolism Prophylaxis
  - Temperature Management
  - Continence
  - Nutrition and Dysphagia
  - Oral care
  - Seizure Management
  - Palliative and End of Life Care



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## Stroke Unit Care

- Allows rapid transfer of stroke patients from the Emergency Department to a specialized stroke unit as soon as possible after hospital arrival
  - Ideally within the first 6 hours
- Patients should be assessed by the interprofessional team within 48 hours of admission to the hospital
- Standardized, validated assessment tools are used to evaluate stroke related impairments and functional status
- Assessment components should include dysphagia, mood and cognition, mobility, functional assessment, temperature, nutrition, bowel and bladder function, skin breakdown, discharge planning, prevention therapies, venous thromboembolism prophylaxis.

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## Why Is This Important?

- **Patients cared for on a stroke unit:**
  - are more likely to return to work/home
  - are less likely to die
  - are mobilized earlier
  - have earlier access to rehabilitation
  - are less likely to suffer complications such as pneumonia or pulmonary embolism
  - are more likely to have better quality of life at 5 years
  - cost the system less by requiring a shorter in-patient stay

Lindsay and Glasser, 2015



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## What about those who experience a stroke while already in the hospital?

- Estimates of persons who experience a stroke while already hospitalized range from 7% to 14%
- Many have pre existing stroke risk factors such as hypertension, diabetes, cardiac disease and dyslipidemia
- Often occur following cardiac and orthopedic procedures and usually within seven days of surgery



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## Did You Know?

- Evidence suggests that hospital inpatients who experience a stroke compared to persons who experience stroke in the community:
  - have more severe strokes
  - have worse outcomes
  - do not receive care in a timely fashion

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## Cardiovascular Investigations



## Stroke and Atrial Fibrillation

- Atrial Fibrillation (AF) is a well established risk factor for embolic ischemic stroke
- Investigations at present include serial ECGs or 24-48 hour holter monitoring or telemetry
- Difficulty with short term ECG monitoring for detecting AF is rarity of episodes (paroxysmal AF)



Larsen et al., Journal of American College of Cardiology, June 2015



## Best Practice

- in cases where initial monitoring does not show AF but a cardioembolic mechanism is suspected:
  - Loop recorder (up to 30 days duration)
    - looking for paroxysmal AF
  
  - Echocardiography
    - 2D or TEE
      - for patients with suspected embolic stroke and normal neurovascular imaging
      - especially relevant for younger adults with unknown etiology



## Deep Vein Thrombosis (DVT)



## CLOTS 3 Trial

### ■ Clots in Legs Or stockings after Stroke

- looked at the effectiveness of intermittent pneumatic compression (IPC) in reduction of risk of deep vein thrombosis in patients who have had a stroke
- published in 2013 in LANCET
- 2876 patients in 94 centres in UK
- Conclusion: IPC is an effective method of reducing the risk of DVT and possibly improving survival in a wide variety of patients who are immobile after stroke.

Lancet, Vol. 382, July 2013



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## Venous Thromboembolism Prophylaxis

### ■ All stroke patients should be assessed for their risk of developing venous thromboembolism

- Either DVT or pulmonary embolism (PE)
- High risk patients include those:
  - unable to move one or both lower limbs
  - unable to mobilize independently
  - with previous history of VTE
  - with dehydration
  - with comorbidities such as cancer

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## CSBPR

- Patients at high risk of VTE should be started on thigh high IPC devices or pharmacological prophylaxis immediately.
- What would be a contraindication of using pharmacological agents?
  - Systemic or intracranial hemorrhage

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## Intermittent Pneumatic compression Guidelines

- Should be applied as soon as possible and within the first 24 hours after admission
  - discontinued when pt is ambulating independently, at discharge from hospital, if patient develops adverse effects or by day 30.
- Assess skin integrity daily
- Consult wound care specialist if skin breakdown begins
- If IPC are considered after the first 24 hours of admission, venous dopplers of the legs should be considered.

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## Pharmacological Therapy

- Low-molecular weight heparin should be considered for patients with acute ischemic stroke with high risk of VTE
- Unfractionated heparin should be used for renal patients
- Stroke patients admitted to hospital and remain immobile for longer than 30 days should receive ongoing VTE prophylaxis

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## VTE Prophylaxis

- Use of anti-embolism stockings alone is not recommended
- Early mobilization and adequate hydration should be encouraged
- Some evidence regarding the safety and efficacy of anticoagulant therapy for DVT prophylaxis after intracerebral hemorrhage (ICH)
  - Antiplatelet agents and anticoagulants should be avoided for at least 48 hours after onset
- Patients with ICH may be treated after 48 hours after careful risk assessment and repeat brain imaging showing stability of hematoma

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# Temperature Management



## Temperature Management

### ■ Temperature Management and Nursing Care of the Patient with Ischemic Stroke Patient

- Body temperature is an important predictor of clinical outcome after stroke
- Evidence suggests that fever is associated with worse outcomes, higher mortality rates, disability, loss of function and longer hospital stays
- Targeted temperature management is being explored as a means of neuroprotection

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## Food for Thought

- Fever in the first 24 hours of ischemic stroke onset is associated with almost twice the risk of short term mortality
- A decrease of 1 degree Celsius corresponds to almost doubling the likelihood of a good recovery

Lakhan and Pamploa, 2012



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## CSBPR

- temperature should be monitored every 4 hours for the first 48 hours and then as per unit routine or based on clinical judgement
- for temperatures greater than 37.5 C:
  - increase the frequency of monitoring
  - initiate temperature reducing measures
  - investigate possible sources of infection
    - UTI
    - pneumonia
  - Initiate antipyretic and antimicrobial therapy

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## Mobilization

- Mobilization is defined as *“the process of getting a patient to move in the bed, sit up, stand, and eventually walk.”*
- Fiona will be talking about this later



## Contenance

- 4 types of Urinary Incontinence



## Bladder and Bowel Continence

- 40 - 60% of patients have urinary incontinence at some point
- 25% will continue to have urinary incontinence on discharge
- 15% will have incontinence one year post stroke
- Urinary incontinence within 24 hours of a stroke is a predictor of functional disability
- Bowel incontinence occurs in 30% of stroke patients and 97% regain control within one year

Lindsay and Glasser



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## CSBPR

- Use of indwelling catheters should be avoided
  - If used, should be assessed daily and removed as soon as possible
- All stroke patients should be screened for urinary continence and retention, fecal incontinence and constipation
- Post void residuals should be assessed with a bladder scanner
- Catheterization schedules should be established based on post void residuals
- Bladder training programs should be implemented
  - Timed and prompted toileting on a consistent schedule
- Bowel management program should be implemented for stroke patients with persistent constipation or bowel incontinence

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## Here's a Question?

- Possible contributing factors to incontinence management should be assessed.

- Can you name some of them?

- Urinary tract infections
- Medications
- Nutrition
- Diet
- Mobility
- Activity
- Cognition
- Environment
- Communication



## Nutrition and Dysphagia



## Swallowing Screening

- Interprofessional team members should be trained to complete initial swallowing screen to ensure all stroke patients are screened in a timely manner
- Swallowing, nutritional and hydration status should be screened ideally on the day of admission using validated screening tools
- Abnormal results from the swallowing screening should prompt referral to speech-language pathologist for more detailed assessment

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## Nutrition

- Malnourishment is a predictor for increased dependency and poor outcome post stroke
- Dysphagia impairs swallowing and thus the ability to take in sufficient calories and protein
- Referral to dietitian to meet nutrient and fluid needs
- Decision to use enteral feedings should be made within first 3 days of admission
  - studies show early nutritional support leads to lower risk of poor outcome and death
- Collaboration with patient and family is imperative

Lindsay and Glasser, 2015



## Oral Care

- High risk for aspiration pneumonia due to reduced cough sensation, bacterial colonization and the potential to aspirate on their own saliva
- Physical weakness may prevent independent completion of ADLs
- Oral care protocol should be used after meals and at bedtime
- Poor oral hygiene puts patient at risk for nutritional and swallowing complications

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## Post Stroke Seizure Management

- Incidence has been reported to range from 5-15%
- Varies between stroke etiologies, severity and location
- No evidence to support prophylactic use of anticonvulsant medications
  - some evidence to suggest possible harm
  - negative effects on neuronal recovery

Gilad et al., 2012, July 2015



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## Post Stroke Seizure Management cont'

- new onset seizures should be treated using short acting medications
  - Lorazepam IV
- a single seizure occurring within the first 24 hours should not be treated with long term medications
- monitor for recurrent seizure activity
- recurrent seizures should be treated as per treatment recommendations for other neurological conditions
  - anticonvulsant medications
  - EEG

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## Advance Care Planning

- primary goal of advance care planning conversations is to determine the goals of care
- respectful discussion of patient's values and wishes should be balanced with information regarding medically appropriate treatment
- should include discussion of patient's preference and medical appropriateness of therapies such as:
  - Feeding tubes
  - Hydration
  - Admission to ICU
  - Ventilation
  - CPR
  - Place of care



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## Palliative and End of Life Care



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## What Families Tell Us

### ■ High family satisfaction was associated with:

- Adequate nursing care
- Family involvement in decision making
- Respecting patient dignity
- Being told when death was imminent

### ■ Things to work on:

- Adequate symptom control
- Addressing the needs of the family during the final days

Blacquiere et al., Stroke 2013



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## CSBPR

- Palliative care approach should be used when there has been a “catastrophic” stroke or a stroke in the setting of pre existing comorbidity
- **COMMUNICATE** with patients, their families and caregivers
  - Ensure that needs are being met
- Palliative care specialists should be involved
  - difficult to control symptoms
  - complex or conflicted end of life decisions
  - complex psycho social family issues



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## Patient and Family Teaching

Health information and education can help to:

- Prepare your patient for care whether that be ADLs, diagnostic procedures or rehabilitation therapy
- Manage his/her condition by knowing what to do both at the hospital and back at home.
- Keep patient and family informed about his/her health and care.
- Assist your patient to participate and become a full partner in his/her care and a member of the healthcare team.



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## In Summary

- **Reviewed evidence based actions from the first days after stroke onset and throughout inpatient care**
  - Period is crucial for patient recovery and prevention of post stroke complications
- **Reviewed the positive impact of organized stroke unit care with interprofessional stroke teams on patient outcomes following stroke**
  - What it is and how it's delivered
- **Reviewed the need for rapid action in acute stroke care**
  - Importance of in-house stroke protocols
  - Transfer of patients from ER within 6 hours to stroke unit



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## In Summary

- **Reviewed updates on investigations for stroke etiology and reducing complications**
  - Prolonged ECG monitoring
  - Timing of mobilization
  - Using IPC devices for VTE prophylaxis
  - Seizure Management
  - Dysphagia screening
  - Nutrition
- **Reviewed tips for patient and family teaching**



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## Take home message

- A dedicated stroke unit has developed an expertise in stroke
- Every stroke patient can be different as a stroke can affect any functioning of the brain
- There are lots of components of care for stroke patients



## Thank You!

Please feel free to contact me

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