Stroke Education series
Putting Best Practices into Practice: Caring for residents with Stroke
Part 1 - Reducing the risk for Falls in residents with Stroke

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Putting Best Practices into Practice: Caring for residents with Stroke

A collaboration by RNAO LTC Best Practice program and Central South Regional Stroke Network.

This is part one of the four part stroke education series to support LTC staff in the fall prevention and management program to:

1. Identify risk factors for falls for residents with Stroke.
2. Understand the relationship between fall prevention and management, pain management, reducing and supporting behaviors, and preventing pressure injuries in residents with Stroke.
3. Discuss the importance of an inter-professional team approach in Stroke Care.
4. Understand how to Integrate evidence-based resources in planning and improving care for residents with Stroke.
Stroke and Long Term Care

Of every 100 people who have had a stroke:

- 15 die
- 10 recover completely
- 21.3% of residents in LTC have had a stroke (CIHI 2014-15)
- Each year approximately 13,000 Ontarians are discharged from hospital following a stroke or TIA
- 1411 stroke persons were admitted to long term care homes within 6 months of an acute stroke in Ontario in 2014-15 (Ontario Stroke Evaluation: Report 2018: Stroke Quality of Care and Outcomes in LTC)
- Stroke is the third most common diagnosis in long term care (Price Waterhouse Cooper 2001)
Stroke and Long Term Care

Communication:
- 44.3% of stroke persons were understood (625/1411)
- 35.1% usually understood (495/1411)
  - Total: 79.4%
- 15.5% sometimes understood (218/1411)
- 5.2% rarely understood (73/1411)

Cognition:
- 20.3% of the stroke persons in long term care had severe cognitive impairment

(Ontario Stroke Evaluation Report 2018: Stroke Quality of Care and Outcomes in LTC)
Stroke in Long Term Care

Pain:
- 10.5% of stroke residents experience pain daily

Falls:
- 25.5% of stroke residents fall

Aggressive (Responsive) Behaviour:
- 29.8% (421/1411) are considered aggressive
- 4.9% (69/1411) are considered severely aggressive

Continence:
- 27.1% (383/1411) bladder continent / 61.3% bladder incontinent
- 47.3% (667/1411) bowel continent / 45.4% bowel incontinent

(Ontario Stroke Evaluation Report 2018: Stroke quality of Care and Outcomes in LTC)
Stroke Best Practice Recommendations

**RNAO**

Stroke Recognition:
- Nurses in all practice settings should recognize the sudden and new onset of the signs and symptoms of stroke as a medical emergency to expedite access to time dependent stroke therapy, as "**time is brain**".

Complications
- Nurses in all practice settings should assess the stroke client’s fall risk on admission and after a fall using a validated tool.

RNAO Best Practice Guideline
Stroke Assessment Across the Continuum of Care
Supplement 2011 (archived)
Stroke and Falls

25.5% of stroke residents fall in LTC

Ontario Stroke Evaluation Report 2018: Stroke Quality of Care and Outcomes in LTC

“The interprofessional care team must be cognizant of the risk for falls and ensure appropriate assessments and interventions take place.”

Heart and Stroke Foundation, 2016
Fall Risk Factors with Stroke

- Weakness or hemiplegia - loss of motor function
- Altered muscle tone
- Visual disturbances
- Cognitive Impairments
- Perceptual Impairments
- Sensory Changes
- Balance impairments
- Fatigue

> altered mobility
Motor Function

- Weakness and loss of motor function usually occurs on one side of the body (hemiplegia).
- A stroke on the right side of the brain affects the left side of the body and vice versa.
- A brain stem stroke can affect the motor function on both sides of the body.
- Weakness can be observed in the inability of the stroke person to use their arm, leg, hand, foot, or oral musculature. Weakness could also be in the core muscles and affect trunk control, balance and posture.
- Significant risk factor for falls and mobility.
Muscle Tone

- Stroke can alter muscle tone
- Normally slight muscle tension is always present.
- Low tone: flaccid and limb is heavy and limp
  - cannot hold position or move independently
- High Tone: spastic and is stiff and tense/tight
  - hard to move
  - causes muscle contractures and reduces joint ROM
- Significant risk factor for falls and affects mobility and balance
Spasticity

- Abnormally high muscle tone
- Shortens muscles
- Prevents normal movement
- Results in stiff and painful joints
- “Muscle cramp”

Management

- Consultation with PT, OT or Physician
Vision

- Visual changes can occur depending on what area of the brain is affected by the stroke

- Visual Neglect – cannot notice objects on the affected side
  - parietal lobe

- Homonymous Hemianopsia - visual field cut of upper/lower; left/right
  - temporal, parietal or occipital lobes

- Diplopia – see 2 of object when only really 1 or can be fuzzy/unclear
  - brainstem, cerebellum or cortical

- Cortical Blindness – loss of vision

- Significant risk factor for falls and affects mobility
Perception

- Brain interprets received info via our senses = perception
- It informs how we understand our surroundings
- “Invisible barriers” as these problems are not so obvious
- With stroke, how we gather “sensed information” and utilize it to understand our environment and interactions is changed
- Auditory neglect- decreased awareness of left sided sounds
- Body neglect – decreased awareness of affected side
- Apraxia – difficulty making purposeful movements even though have physical ability and knows how
- Significant fall risk and affects mobility
Sensation

- May have little or no sensation to the affected body part
- May not:  - be able to feel
  - be aware of touch and temperature
  - know where the body is in space (proprioception)
- Significant risk factor for falls and affects mobility, gait aid use and balance
Balance

- Balance requires motor control and sensation
- Balance is the body’s ability to remain upright and steady. It prevents falling over
- The body adjusts to make up for changes in position and movement
- Problems with motor control and/or sensation after stroke can impair balance
  
  (Heart and Stroke Foundation, 2015)
- Significant risk factor for falls, sustained postures of sitting and standing as well as transitioning from sit-stand and stand-sit
Fatigue

- Energy required to heal the brain and relearn tasks of daily living is great
- Often feel tired, especially early in their recovery process
- Simple tasks may be exhausting
- Can be frustrating, angering, depressing
- Significant risk factor for falls and mobility
Stroke Best Practice Recommendations: Falls

Canadian Stroke Best Practice Recommendations:

Following a stroke, all clients should be screened for fall risk by an experienced clinician at admission, at all transition points, and/or whenever there is a change in health status.

Screening should include identification of medical, functional, cognitive and environmental factors associated with risk of falling.

Dawson et al., 2015: http://www.strokebestpractices.ca
Stoke Best Practice Recommendations: Falls

Canadian Stroke Best Practices continued:

- Based on risk assessment findings, an individualized falls prevention plan should be implemented for each client.
- Caregivers, patient and family should receive skills training to safely mobilize the patient, appropriate use of gait aids, footwear and equipment.
- Make patient, family and caregivers aware of increased risk of falling and provide list or precautions to reduce the risk.
- Educate patient, family and caregivers about appropriate gait aids, footwear, transfers and wheelchair use, considering the healthcare and community environments.

Dawson et al., 2015: http://www.strokebestpractices.ca
Best Practice Recommendations: Falls

- If a patient experiences a fall, an assessment of the circumstances surrounding the fall should be conducted to identify precipitating factors.

- Pre-existing falls prevention plans should be modified to reduce the risk of further falls

  (Dawson et al., 2015)
RNAO Best Practices

- “Assess fall risk on admission and after a fall”. LTC Homes Act also requires quarterly assessments
- “Nurses as part of the interprofessional team implement multi-factorial fall prevention interventions to prevent future falls”

- RNAO’s BPG Preventing Falls and Reducing Injury from Falls 4th ed., 2017
The Interprofessional Team

RNAO Recommendation:

- Initiate and maintain collaborative processes within the team, especially in situations of increasing resident complexity, to improve resident outcomes
- Interdisciplinary collaboration is critical to the best possible outcomes for the stroke resident

Why?
- Communication
- Treatment specificity and specialization
- Scope of Practice
- Resident complexity
- Best evidenced-practice
- Shared decision making
- Quality of Work Environment
- Safety
# Stroke Care Plans

The 12 Stroke Specific Care Plans:

1) **ADL Care Plans – Final - June 2016**
2) Behavior Change - Final – June 2016
3) Bowel Bladder Continence Final – June 2016
6) Depression – Final - June 2016
8) **Mobility Positioning Transfers – Final – June 2016**
9) Nutrition Hydration Swallowing – Final- June 2016
12) Skin Care – Final – June 2016

Case Scenario

Bernie is a frail 80 year old gentleman who experienced a left MCA stroke. This left him with weakness in his right upper and lower extremity, impaired touch sensation on that side and trouble planning his movements as well as difficulty communicating. Bernie has trouble paying attention and lacks insight into his actual capabilities post-stroke. At times he bumps into doorways and obstacles on the right side. Bernie suffers from shoulder pain on his right side after an improper transfer from the bed to the chair while his weaker side was not supported properly. He was very fatigued and fairly immobile in hospital initially after his stroke.

Bernie completed 6 weeks of in-patient rehab but did not regain enough function to return to living in the community. He is now moving in to a LTC facility.
Risk Factors for Bernie

- Right upper and lower extremity weakness – does not have the strength to maintain upright posture and lower extremity may not consistently support and maintain gait mechanics
- Decreased sensation – sensation plays a part in balance, perception and posture corrections
- Decreased attention and trouble planning movements – reduced attention and may not be aware of his surroundings and observing any trip hazards
- Lack of insight into actual capabilities – lack of insight and may try to do something they are not capable of and it could be dangerous
- Fatigue – very common as the brain heals and the resident is relearning adl’s and consuming lots of energy. Fatigue can occur at any time during the recovery process and is often under-recognized. Education is important
- Difficulty communicating – may not be able to convey pain, visual or balance disturbances that increase the fall risk
- Bumping into doorways/obstacles – visual field neglect increases risk for falls as may not see the right side of the door or the items in the hallway
- Pain- can be intense and limit ability to use gait aids, can be distracting and overwhelming. May interfere with sleep
Stroke Resources

- Ontario Stroke Network: www.ontariostrokenetwork.ca
- Canadian Stroke Best Practice Guidelines: www.strokebestpractices.ca
- RNAO Best Practice Guidelines: https://rnao.ca/bpg
- Stroke Care Plans: www.swostroke.ca
- Taking Action for Optimal Community and Long Term Care (TACLS) : www.strokebestpractices.ca
References


References continued


- Ontario Stroke Evaluation Report 2018: Stroke Quality of Care and Outcomes in Long Term Care ICES and CorHealth


References continued


- Registered Nurses’ Association of Ontario (2016). Intra-professional Collaborative Practice among Nurses. Toronto, ON: Registered Nurses’ Association of Ontario


