Post-Stroke Depression Screening Protocols across the Continuum of Stroke Care

Presented by: Andrea King, MA, CTRS
Anita Mountain, MD, FRCPC
Wendy Simpkin, BN, RN
Disclosures:

• Anita Mountain
  • Nothing to disclose

• Wendy Simpkin
  • Nothing to disclose
What is Post Stroke Depression?

- Medical complication of stroke, typically occurs within the first 3 months but can have onset as late as 2 years
- Affects approximately 1/3 of all people who experience stroke
- Associated with:
  - poorer functional recovery
  - increased risk for dependence
  - poorer cognitive function
  - reduction in social participation
  - increased mortality
### Factors That Put People at Risk For PSD

<table>
<thead>
<tr>
<th>Risk Factor</th>
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</thead>
<tbody>
<tr>
<td>Stroke severity</td>
</tr>
<tr>
<td>Functional dependence</td>
</tr>
<tr>
<td>Past history of depression</td>
</tr>
<tr>
<td>Communication deficits</td>
</tr>
<tr>
<td>Social isolation</td>
</tr>
<tr>
<td>Female sex</td>
</tr>
<tr>
<td>Previous stroke</td>
</tr>
<tr>
<td>Severe disability (inability to live independently)</td>
</tr>
</tbody>
</table>
Canadian Stroke Best Practice Recommendations: Mood, Cognition and Fatigue Following Stroke practice guidelines, update 2015

Gail A. Eskes¹, Krista L. Lanctôt²,³, Nathan Herrmann²,³, Patrice Lindsay³,⁴*, Mark Bayley³,⁵, Laurie Bouvier⁶, Deirdre Dawson⁷, Sandra Egi⁸, Elizabeth Gilchrist⁹, Theresa Green¹⁰, Gord Gubitz¹¹, Michael D. Hill¹², Tammy Hopper¹³, Aisha Khan¹⁴, Andrea King¹⁵, Adam Kirton¹⁶, Paige Moorhouse¹⁵, Eric E. Smith¹², Janet Green¹, Norine Foley¹⁷, Katherine Salter¹⁷, and Richard H. Swartz²,³ on behalf of the Heart Stroke Foundation Canada Canadian Stroke Best Practices Committees.
• All patients with stroke should be considered to be at high risk for PSD, which can occur at any stage of recovery (Evidence level A)

• All patients with stroke should be screened for depressive symptoms (Evidence level B)

• Screening should be undertaken using a validated tool to maximize detection of depression (Evidence level B)

• Screening For PSD may take place at various stages throughout the continuum of stroke care, particularly at transition points (Evidence Level C)

• Treatment – Non-Pharmacologic and Pharmacologic
Gap Analysis

Quality improvement initiative:

• Compare current practices to applicable Canadian Stroke Best Practice Recommendations
Partnership

Combined working group spanning continuum of care -> Acute Stroke Unit (already looking at this issue) and Inpatient Stroke Rehabilitation team

Aim

Align our post-stroke depression screening practices with CSBPR resulting in improved detection and treatment for our patients with PSD

Measure

To find out more about our current practice a 107 person chart review was conducted to determine screening rates and interventions

Post implementation of new screening protocol ➔ repeat chart review

Patient/Family perspective of how we are doing
Interprofessional Working Group

- Physiatrists (Anita Mountain and Amra Saric)
- Stroke Coordinator (Wendy Simpkin)
- Recreation Therapy (Rachel McMillan)
- Social Work (Erin Findlay and Ainsley Fraser)
- Psychology (Nicolle Vincent)
- Physiotherapy (Alison McDonald)
- Nursing (Natalie Sabean)
- Quality expert (Kate MacWilliams)
• Located at Nova Scotia Rehab Centre
  • 66 bed tertiary rehabilitation Centre
• 23 Bed unit: Usually 15 – 18 stroke patients
• Median stroke LOS - 33 days
• Admissions - approx. 150 per year (ASU largest referral source)
• Mean wait time for admission once accepted – 5.75 days (range 0 – 23)
The Acute Stroke Unit

- 450 admissions per year
- Average length of stay (LOS) 7-10 days. Those waiting Long Term Care (LTC) can wait 300+ days
- Discharged to (2016):
  - Home 61%
  - Rehab 25%
  - LTC 7%
  - Other hospital 8%
Timeline for Project

• New Guidelines releases -> Oct 2015

• Working group formed -> Jan 2016
  • Chart review completed (May 2014 – April 2015; n = 107)

• Screening protocols developed -> Nov 2016

• Training planning revision of protocols _> Jan 2017 – June 2017

• Follow up chart review -> July 2017 – Aug 2018; n = 100
Screening Tools

**Tool selection was influenced by:**

- Canadian Best Practice Recommendations
- Cost
- Ease of use in both acute care and rehabilitation environment

**Tools considered:**

- PHQ-9
- HADS
- Geriatric Depression Scale
- ADRS
- SADQ-H
- SADQ-10
- Yale Question
- DISCS
**PHQ-9**

**Measurement Properties**

<table>
<thead>
<tr>
<th>Reliability</th>
<th>2 studies examined the internal consistency.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1 study examined the test-retest reliability of the PHQ-9 and reported <strong>excellent</strong> test-retest.</td>
</tr>
<tr>
<td></td>
<td>No studies have examined the inter-rater reliability of the PHQ-9.</td>
</tr>
<tr>
<td></td>
<td>No studies have examined the intra-rater reliability of PHQ-9.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Validity</th>
<th><strong>Construct</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>Convergent validity</strong></td>
</tr>
<tr>
<td></td>
<td>One study reported that the PHQ-9 has <strong>excellent</strong> correlation with the Beck Depression Inventory (BDI) and General Health Questionnaire (GHQ-12); <strong>adequate</strong> correlation with the European Quality of Life Questionnaire (EuroQOL); and <strong>adequate</strong> to <strong>excellent</strong> correlation with subscales of the Medical Outcomes Study Short Form Health Survey (SF-36).</td>
</tr>
</tbody>
</table>

| Floor/Ceiling Effects | No studies have examined the ceiling effects of the PHQ-9. |

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**Patient Health Questionnaire-9**

Over the last 2 weeks, how often have you been bothered by any of the following problems?

<table>
<thead>
<tr>
<th></th>
<th>Not at all</th>
<th>Several days</th>
<th>More than half the days</th>
<th>Nearly every day</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Little interest or pleasure in doing things</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>2. Feeling down, depressed, or hopeless</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>3. Trouble falling or staying asleep, or sleeping too much</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>4. Feeling tired or having little energy</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>5. Poor appetite or overeating</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>6. Feeling bad about yourself — or that you are a failure or have let yourself or your family down</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>7. Trouble concentrating on things, such as reading the newspaper or watching television</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>8. Moving or speaking so slowly that other people could have noticed? Or the opposite — being so fidgety or restless that you have been moving around a lot more than usual</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>9. Thoughts that you would be better off dead or of hurting yourself in some way</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

**For Office Coding**

0 + ______ + ______ + ______ = Total Score: ______

If you checked off any problems, how **difficult** have these problems made it for you to do your work, take care of things at home, or get along with other people?

<table>
<thead>
<tr>
<th></th>
<th>Not difficult at all</th>
<th>Somewhat difficult</th>
<th>Very difficult</th>
<th>Extremely difficult</th>
</tr>
</thead>
<tbody>
<tr>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
</tbody>
</table>
ADRS

Protocol at NSRC

1. Screening for PSD within 3 – 10 days of admission
2. PHQ-9 or ADRS
3. Communication of results to physician, sticker in chart and discussion at team conference
4. Further intervention as required -> non-pharmacologic ad pharmacologic
5. Addition of question to discharge questionnaire
   “How well did the Rehab Team assess and manage your/your family’s mood, mental health and well being”
Revised our approach:

• Initially:
  • planned on having SW or MDs do the screening → tried for 4 – 6 months → dismal screening results

• Change:
  • RNs now do the screening-
  • Addition of PSD screening to conference face sheet.
ASU Protocol Development

- Survey of other stroke programs in Nova Scotia and beyond
- Baseline data collection
- Early questions were:
  - Who gets screened?
  - Who does the screening?
  - When?
  - What tool(s)?
- Literature search/review of Best Practice Recommendations
- Do we screen for risk factors rather than depression?
- Developed Screening Algorithm
Patient is admitted and screened for PSD risk factors at first interdisciplinary rounds following admission:
- history of depression
- decreased social participation
- increased risk for dependence/stroke severity
- Poor functional recovery (modified Rankin score of 3 or higher)
- Poor cognitive function/previous cognitive impairment

Is the patient considered high-risk? (at least 2 of 5 risk factors)

Patient is screened at 14 days post admission. (If discharged earlier flag for screening at follow up appointment.)
Screening Date: _____________

Routine care with observation by all staff for signs of PSD

Does the patient have aphasia?

Immediate screening with appropriate tool

Are there concerns?

Screen with ADRS. Document score in Progress Notes

Screen with PHQ-9. Document score in Progress Notes

PSD Screening Algorithm
Acute Stroke Unit, Halifax Infirmary
Our Journey

Revised our approach:

• Initially:
  • Algorithm
  • Roll-out to staff

• Change:
  • Reassessment
  • New Plan
<table>
<thead>
<tr>
<th>Challenges in Acute Care</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length of time to administer a formal screen</td>
</tr>
<tr>
<td>Patient turnover/tracking patient data (i.e. admission dates, LOS)</td>
</tr>
<tr>
<td>Staff availability</td>
</tr>
<tr>
<td>Patient readiness</td>
</tr>
<tr>
<td>Inability to build rapport</td>
</tr>
</tbody>
</table>
Challenges in Acute Care

- Fatigue
- Early Discharges
- Cognition
- Speech Language Impairment
Our Current Focus

Building on our current model which relies on everyone on the team observing and reporting any concerns by:

- Incorporating **PSD risk factor checklist** into Standard Stroke Progress Note (increases awareness of high risk patients)

- Providing **validated tools for staff** to use if they suspect a patient is experiencing post stroke depression.

- Providing **education for staff** regarding PSD incidence, signs and symptoms, importance of treating early, etc.

- Providing **education for patients and families** regarding PSD. This would involve posters for the unit and eventually a patient pamphlet.
How are you feeling today?

It is normal to feel sadness and a sense of loss after a stroke. Sadness that doesn’t go away may mean depression. Other symptoms to look for include:

- Low mood or feeling down
- Sleeping too much or not enough
- Not wanting to participate in daily activities
- Loss of interest or pleasure in most or all activities
- Feelings of guilt or helplessness
- Changes in appetite

Patients & Families
If you are worried about your mood or see changes in your family member since their stroke, talk to your health care team about getting help. There are lots of treatment options and our team members can help decide which options are best for you.
On-Unit Support Group

• Offered monthly
• Facilitated by CTRS & Social Work
• Provide group guidelines
• Evidence finds that stroke survivors benefit from talking about their experience
• Challenges
Results

Use of Formal Screening Tools

**PRE**
ASU and NSRC – 0%

**POST**
NSRC – 100% (all PHQ-9)
Results NSRC

Pre
Screened
• 49% (no formal tool)

Interventions
• Medication initiated – 7 patients
• Non-pharmacologic treatment:
  • RT – 1,
  • SW – 3
  • psychiatry consult – 1

Post
Screened
• 86% (100% PHQ-9)
• 32 met screening threshold for depression:

Interventions
• Medication initiated - 8
• Non-pharmacologic treatment
  • Group – 59
  • SW - 36
  • Spiritual Care - 4
  • RT - 12
  • psychology - 3
  • psychiatry - 3
Results NSRC

Screening for PSD increased from 30% to 86%

Nonpharmacologic interventions increased from ? to 100%

Moderate to severe screening score on PHQ-9 (N=16) -> evidence on further discussion with physician regarding depression and pharmacologic treatment in all but one case.
Results ASU

Pre
Screened
• 21% (no formal tool)

Interventions
• Medication initiated – 10 patients
• Non-pharmacologic treatment:
  • Addictions consult - 1
  • psychiatry consult – 1

Post
Screened
• 14% (no formal tool)

Interventions
• Medication initiated - 7
• Non-pharmacologic treatment
  • Group – 1
  • SW - 1
  • Spiritual Care - 8
  • RT - 6
Results ASU

• Screening decreased from 21% to 14% in the time period examined however our pilot project was not running during this time.

• Interventions (both pharmacologic and non) remained essentially the same with more involvement of SW and RT

• Patients who were felt not to require formal screening when leaving ASU then scored moderate to severe on the NSRC screen (within 3-10 days of admission)
Conclusion

**NSRC**
- **Successful** in implanting an effective process for PSD screening at NSRC
  - Need to do better with patients with aphasia
  - Need improved access to non-pharmacologic intervention

**ASU**
- Further exploration using the QEII stroke registry to look at patient characteristics might reveal who should be routinely screened in Acute Care
Next Steps

• Develop a **standard approach** and improved access to **non-pharmacologic intervention** for patients who display signs of PSD.

• **Improve communication** between healthcare professionals at transition points (Acute Stroke Unit (ASU) to Nova Scotia Rehab Centre (NSRC), ASU to Family Doctor, ASU to LTC

• Work with the Neurovascular Clinic and Outpatient Stroke Rehabilitation Clinic to **ensure mood is addressed when patients return for follow-up**. This may involve the use of the Heart and Stroke Post-Stroke Checklist.
Questions?