MISS KATHERINE SEWELL (Orcid ID: 0000-0003-1377-6660)

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<tr>
<td>1</td>
<td>Miss</td>
<td>Katherine</td>
<td></td>
<td>Sewell</td>
<td>Master of Public Health, Graduate Diploma of Youth Mental Health, Bachelor of Occupational Therapy and Psychologic al Sciences</td>
<td>PhD Candidate</td>
<td>1</td>
<td>PhD Candidate</td>
<td>2</td>
<td></td>
<td>katherine.se <a href="mailto:well@florey.edu.au">well@florey.edu.au</a></td>
</tr>
<tr>
<td>2</td>
<td>Dr.</td>
<td>Tamara</td>
<td>Tse</td>
<td></td>
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<td>1</td>
<td></td>
<td>3</td>
<td></td>
<td></td>
<td><a href="mailto:T.Tse@latrobe.edu.au">T.Tse@latrobe.edu.au</a></td>
</tr>
<tr>
<td>3</td>
<td>Prof.</td>
<td>Geoffrey A</td>
<td>Donnan</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>geoffrey.don <a href="mailto:nan@unimelb.edu.au">nan@unimelb.edu.au</a></td>
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<tr>
<td>4</td>
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<td>Leeanne M</td>
<td>Carey</td>
<td></td>
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<td>1</td>
<td></td>
<td>2</td>
<td></td>
<td></td>
<td><a href="mailto:l.carey@latrobe.edu.au">l.carey@latrobe.edu.au</a></td>
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Number of alternative corresponding author: 0

Addresses:
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<td>2 Florey Institute of Neuroscience and Mental Health</td>
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<td>4 Melbourne Brain Centre at The Royal Melbourne Hospital</td>
<td>Melbourne</td>
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**Postal address of first corresponding author (if different from the institutional address given above)**

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Screening for post-stroke depression: who, when and how?

What Australia can learn from international guidelines

Depression is a common sequela of stroke, with about 30% of stroke survivors developing depression.\(^1\) The Diagnostic and Statistical Manual of Mental Disorders, 5th edition (DSM-5) recognises post-stroke depression within the category “Depressive disorder due to another medical condition”.\(^2\) Post-stroke depression significantly hinders patients’ ability to participate in rehabilitation and is associated with poor health outcomes. Despite its high prevalence and negative impact, post-stroke depression is vastly underdiagnosed.\(^3\) One estimate suggested that only 5% of stroke survivors are diagnosed with and treated for depression in routine clinical practice.\(^4\) Diagnosis of depression can be challenging in stroke survivors, especially in those who have residual communication and cognitive impairments. Post-stroke depression varies significantly in timing of onset, course and duration. Most episodes start during the first year; one-third are identified within the first 3 months. For the remaining two-thirds, however, depression does not develop until after 3 months post-stroke and may not emerge until many months later.\(^5\) The dynamic and variable trajectory of depression after stroke raises questions about the optimal timing and setting for screening, which have not yet been established.\(^6\)

Current Australian guidelines

In Australia, the Stroke Foundation is the peak body that coordinates and disseminates national clinical guidelines for stroke management. Their current guideline regarding mood disturbance following stroke states that “stroke survivors with suspected altered mood … should be assessed by trained personnel using a standardised and validated scale”.\(^7\) Furthermore, the section text attached to this guideline states “there is a lack of evidence about whether routine screening for depression outweighs the potential harms, or is cost effective, therefore specific recommendations about who should be screened and when cannot be made”.\(^7\) This statement is supported by a single citation: a meta-analysis of 16 randomised controlled trials, which examined the effectiveness of screening and case-finding in the recognition of depression.\(^8\) However, the studies included in the analysis predominately comprised cohorts from general practice and primary care settings. The authors commented that the prevalence of depression is low (less than 10%) in unselected populations.\(^8\) Although it seems likely these cohorts would
have included at least some stroke patients, none were specifically stroke cohorts, among whom the prevalence of depression is known to be higher than in the general population.

In practice, there may be large numbers of stroke patients with undetected depression. An audit of Australian hospitals managing acute stroke patients reported only 57% had established protocols for evaluating mood. The Stroke Foundation’s National Stroke Audit Rehabilitation Services Report 2020 stated that only 63% of stroke survivors from the 90 participating rehabilitation services had undergone mood assessment. Concerningly, of those assessed who were identified as having a mood disorder, two-thirds were not provided with any further intervention. It is possible that some patients’ symptoms had resolved at a subsequent re-assessment and treatment was not required; however, this information was not captured by the audit.

**International guidelines**

We searched international websites for published clinical guidelines regarding the detection of post-stroke depression. The American Stroke Association recommends routine administration of a structured depression inventory following stroke; however, it also states there is a need for further research to determine the ideal timing of screening. The Canadian Stroke Best Practices recommendations advise the assessment of all stroke patients for depression, repeatedly — including beyond the acute phase. These guidelines state that the optimal timing of screening for depression is currently unclear but suggest screening at transition points: at transfer from acute settings to rehabilitation services; at discharge to the community; at follow-up appointments; and at reviews with primary care practitioners. In the United Kingdom, the National Clinical Guideline for Stroke recommends screening for mood disorders within the first 6 weeks, at transfer into post-acute services, and at follow-up at 6 and 12 months.

**Updating Australian guidelines and practice**

We recommend that the current Australian guidelines regarding the identification of post-stroke depression be reviewed and updated. We suggest the following questions should be considered in their redevelopment, and we offer our responses to these questions.

**Who we should screen: routine screening for all stroke survivors**

Post-stroke depression is a condition that is eminently suitable for routine screening. Criteria for conditions for which routine screening is appropriate include:

- the condition is an important health problem;
- the condition has reasonably high prevalence;
- the condition has a detectable latent phase;
- there are validated screening measures with defined cut-off scores;
- the screening measures are relatively brief and easy to administer;
- the use of such screening measures is acceptable to the target population;
- there are effective treatments for the condition; and
the benefits of screening outweigh any potential harm.

The current Stroke Foundation guidelines appear to recommend a selective screening or a case-finding approach, rather than routine screening of all stroke patients. A problem with this approach is that it requires a clinician to decide which individuals they suspect might be depressed. However, as the guidelines state, “clinicians find it difficult to detect symptoms of mood disorders”. Relying on selective screening or case-finding risks missing depression in many stroke survivors, given the high prevalence and variable course of post-stroke depression. In comparison, the Australian National Heart Foundation recommends routine screening for depression of all patients with coronary heart disease, among whom the prevalence of depression is also high, ranging from 15% to 40%.

When we should screen: repeatedly, beyond the acute phase

Our current national guidelines state there is a lack of evidence available regarding the optimal timing for screening for post-stroke depression. Screening only in the acute phase may lead to many patients being categorised as “not depressed”, with the possibility thereafter of inadvertently not being reviewed, and subsequently experiencing undetected depression. During the subacute phase, many patients will have been discharged or transferred from the acute hospital setting to a rehabilitation service, to supported residential care, or to their home. Depressive symptoms may not become apparent until after these transitions, when stroke survivors attempt to resume participation in their usual daily activities and roles. There is evidence for variation in the timing of onset and course of post-stroke depression; repeated screening should therefore be considered.

How we should screen: validated screening measures

There are many validated questionnaires available which assess for the presence and severity of depressive symptoms. Most are patient-reported and can be completed by patients themselves, or by family members on patients’ behalf. These include the Beck Depression Inventory (21 items), Center for Epidemiological Studies Depression Scale (20 items), Geriatric Depression Scale (15 or 30 item versions), Hospital Anxiety and Depression Scale – depression subscale (7 items), and Patient Health Questionnaire (2 or 9 item versions). Other measures were originally designed to be completed by health professionals by interview with, and observation of, patients. These include the Hamilton Depression Rating Scale (17 items) and Montgomery–Åsberg Depression Rating Scale (10 items), both of which have structured interview guides available. Further, some screening tools have online versions, and the Patient Health Questionnaire has a smartphone version, which facilitate their availability and use. Online and smartphone versions of patient-reported screening measures can be used independently by patients without significant dysphasia or cognitive impairment.

These questionnaires yield scores on continuous scales, but when used as screening measures, they are dichotomised at validated cut-off scores in order to identify those most
at risk of having depression. It is recognised that screening tools may not be able to distinguish between the symptoms of post-stroke depression and those of other psychological or neuropsychiatric sequelae of stroke, such as emotional lability, grief and anxiety. Nonetheless, the purpose of screening measures is to identify patients most at risk of post-stroke depression, the definitive diagnosis of which requires a comprehensive psychiatric interview.

Routine screening can be undertaken by a range of health professionals, including nurses, occupational therapists, psychologists, general practitioners, and medical specialists. The time required to administer these questionnaires varies but is generally brief, in the approximate range of 5 to 20 minutes. Screening can take place in a variety of settings, such as in acute hospitals, rehabilitation centres, residential care, patients’ homes, or GP clinics.

If a stroke survivor meets the threshold on a validated screening tool, it is recommended that the patient undergoes formal psychiatric assessment. The clinical diagnosis of post-stroke depression requires expert history-taking and an in-depth mental state examination, conducted by a trained practitioner to assess for the presence of specific criteria outlined in the DSM-5. Decisions about subsequent management, including periodic re-assessment, can then be made by treating clinicians.

**Recommendations for updating the Australian guidelines**

We recommend an update to Australian guidelines, promoting the routine screening of all stroke survivors for depressive symptoms, not just those with suspected altered mood. Further, we recommend these guidelines advise that screening be undertaken repeatedly, at appropriate intervals. It is important to screen not only in the acute phase, but also at subacute and chronic phases; most practically, at least at transition points along the continuum of care, as advised by the Canadian and UK guidelines.

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**Author details**

Katherine Sewell
Tamara Tse
Geoffrey A Donnan
Leeanne M Carey
References
