Screening Tools for Older Adults in the Emergency Care Setting

Purpose

Adults over the age of 65 accounted for 19.6 million emergency department (ED) visits in the U.S. in 2010. Older adults present to the ED primarily because of a high prevalence of chronic diseases and consequential susceptibility to frequent exacerbation of these illnesses. In addition, older adults present with more complex illnesses and disease processes than any other population owing to higher incidences of numerous comorbidities, polypharmacy, and impairments. Data show that one in three older adults who return to the ED shortly after being discharged are either admitted to the hospital, transferred to a nursing home, or die within 90 days of their initial release.

Emergency nurses are uniquely positioned to assess and identify pre-existing conditions and special needs of the older adult patient. Use of screening tools can be a starting point in formulating individualized treatment plans and developing patient-centered discharge and disposition planning. This topic brief describes and compares some of the validated screening tools currently available to assess the physical, social, and emotional needs of the older adult in the emergency care setting, to help simplify selection of the most appropriate tools for translation into a specific plan for each older adult patient. In addition, nurses engaged in evidence-based practice projects may find these tools useful.

Overview

The older adult population in the United States (U.S.) is growing faster than any other age group. Persons aged 65 years or older constitute 14.1% of the U.S. population, a number that is predicted to increase to 21.7% by 2040. Accordingly, more than 70 million people in the U.S. will be aged 65 or over in 2030. Adults are also living longer, with an average lifespan of 85.4 years for women and 82.8 years for men.

The 2010 U.S. Census revealed that 13% of the US population (over 40 million people) was over the age of 65. This will have risen to almost 20% as the last of the baby boomer generation turn 65 in 2034. The increase in the proportion of older Americans has implications for influx of this age group into the emergency setting. In 2011, infants, and adults over age 85, had the highest ED usage, and adults 65 and older had the highest rate of ED visits resulting in admission to the same hospital. Older adults in the ED often require more diagnostic testing, and consequently may have longer visit times than younger adults.
Older adult patients may have intricate physiologic needs, multiple co-morbidities, difficulty communicating because of hearing loss or reduced cognitive states, and unique psychosocial concerns, adding to the complexity of their care. Nurses have identified multiple aspects of care in the typical ED—communication, education, and medication, to name a few—where delivery of evidenced-based, age-specific treatment to older adults is challenging and their needs may not be met.\(^3\)

Emergency care settings can tailor their treatment for older adults by screening for needs and conditions that are particularly prevalent in this population:\(^5\)

- The three Ds: dementia, delirium, and depression
- Falls
- Inadequate and inappropriate pain management
- Palliative care
- Medication awareness
- ED readmission

Because of the unique, fast-paced environment of the ED, it is important that patient screening tools for older adults be valid, reliable, and relatively quick to administer.\(^5\) Screening older adults is appropriate in all settings, including EDs, urgent care centers, and health clinics.

### Categories of Screening Tools for the Older Adult

The list of screening tools in this Topic Brief is not all-inclusive, but those listed have documented validity and reliability. However, the reliability and validity may have been based on research for inpatient clinical areas and not necessarily for emergency settings. Please refer to the table on page 6 for links to documents for each specific assessment/screening tool. Some tools may require copyright permission for use.

### Hospital Readmissions and Emergency Department Revisits

A 2014 study published by the Agency for Healthcare Research and Quality and Johns Hopkins University examined ED discharge failures as a factor that led to repeat ED use by older adults.\(^6\) Repeat visits to the ED are especially common in older adults; Naughton’s study found that 37% of all ED revisits were older adults.\(^7\) A tool is available to help determine risk of a potential ED revisit or readmission of an older adult.

### Medication Awareness

These tools have been developed to assist healthcare providers in improving medication safety and quality of care in older adults, particularly for those adults living independently in the community, and not receiving hospice or palliative care.

### Pain Assessment

Over half the adult population in the 2011 National Health and Aging Trends Study reported experiencing pain in the past month.\(^8\) Pain in older adults places them at an increased risk of developing further complications such as delirium, deconditioning, inability to perform the activities of daily life, impaired balance, and an increased risk of falls.\(^8\) Studies have found that older adults may experience delays in pain management and are less likely to receive pain medication than younger adults.\(^9\)
For the older adult in the ED, pain management begins with appropriate pain assessments. Cognitively impaired older adults are at risk of having their pain undertreated or not treated at all.\textsuperscript{10,11} Several tools exist to screen for pain in the older adult that can be applied efficiently in the busy ED setting.\textsuperscript{12}

**Delirium**

Delirium and dementia are two distinct conditions, yet the terms are often used interchangeably because they have similar symptoms. It is imperative that emergency nurses understand the difference and are able to assess, recognize, and appropriately care for patients presenting with either disorder.

Studies reveal that 1 in 10 older adults presents to the ED with some form of delirium, but the diagnosis is missed in a majority of cases.\textsuperscript{13} Up to 25% of those with undiagnosed delirium are discharged to home and may not understand their discharge instructions. Other studies have shown that up to 90% of the elderly admitted with delirium remain undiagnosed during their hospital stay.\textsuperscript{14} Delirium has been associated with increased mortality, longer hospital stays, worsening long-term functional and cognitive impairment, and increased medical costs.\textsuperscript{15}

Delirium is considered to be reversible and is usually caused by infection, medications, pain, electrolyte abnormalities, dehydration, malnutrition, alcohol use, hypoxia, recent surgery, emotional stress, or sleep deprivation.\textsuperscript{16} Delirium is a complex condition in which patients can present with levels of consciousness ranging from stupor or coma to agitation, underscoring the importance of screening.\textsuperscript{15} Delirium can lead to increased mortality, morbidity, and compromised patient safety.\textsuperscript{17} Patients screening positive for delirium require a full medical workup to identify and treat the underlying cause.\textsuperscript{18}

**Dementia**

Cognitive screening using a validated dementia screening tool is a means for early dementia detection. An early diagnosis of dementia can alert caregivers to potential safety risks that the older adult may encounter, such as driving or living alone. In addition, early diagnosis can be an opportunity for early interventions that could potentially improve long-term outcomes.\textsuperscript{19} It is advisable to communicate any positive dementia screening to the patient’s primary care provider for further evaluation.\textsuperscript{15}

**Depression**

Clinical depression is the most common mental health problem among older adults. It often goes undetected because clinicians may attribute depressive symptoms to age-associated changes, chronic physical illness, medication side effects, or pain.\textsuperscript{20} Depression is more common in people who also have other illnesses such as heart disease or cancer, or whose function becomes limited. Older adults are at increased risk for depression because 80% have at least one chronic health condition, and 50% have two or more.\textsuperscript{21} However, depression is not a normal part of aging and is often reversible with prompt recognition and appropriate treatment. If left untreated, depression may result in the onset of physical, cognitive, functional, and social impairment, as well as decreased quality of life, delayed recovery from medical illness and surgery, increased health care utilization, and suicide.\textsuperscript{21}

**Fall Risk Assessment**

The complex hospital environment can place older adults at risk for falls, owing to the unfamiliar surroundings, restricting medical equipment, limited availability of staff, as well as other co-morbid conditions. The ED setting is often unpredictable, and identifying those at risk for falling is a challenge. Inpatient screening tools do not consistently capture the risk of falling upon entry to the ED.\textsuperscript{22} There are several fall assessment tools that are easily implemented in emergency settings and can be used to predict the risk of falls.
Palliative Care
The term “palliative care” has often been used synonymously with “hospice” and is perceived by many as primarily concerned with death and dying. However, the essence of palliative care is to improve quality of life through the early identification and management of pain and other symptoms. As many as 75% of older Americans visit the ED in the last six months of life, frequently on more than one occasion. Identifying patients in the ED who would benefit from early palliative care intervention may lead to a reduction in subsequent ED visits and better management of physical, spiritual, psychological, and social suffering as well as reducing the length of stay for those admitted as inpatients.

The Future
In the coming years, EDs will continue to see a growing number of older adults with medical and psychosocial concerns requiring geriatric-specific knowledge and resources. Growth of this patient population has prompted initiatives for quality improvement and implementation of best practices. Other, similar initiatives have led to age-specific protocols for the pediatric population and disease-specific protocols like those for stroke and MI. Implementation of the Geriatric Emergency Department Guidelines may help EDs to provide the best evidence-based care to meet the unique needs of this population.

Nurses participate in interdisciplinary and interdepartmental efforts that address the need for geriatric-specific education, resources, and policies in their organizations. An additional resource for nursing education is the Geriatric Emergency Nursing Education course offered by the Emergency Nurses Association. Valuing awareness and strengthening efforts to improve continuity of care for older adults may be key marketing tools that attract and retain these adults in the healthcare community.

Conclusion
Emergency nurses have the ability and responsibility to advocate for safe practice and safe care for older adults. According to the American Nurses Association, the registered nurse “advocates for the rights, health, and safety of the healthcare consumer and others.” Emergency nurses have identified a knowledge deficit and clinical practice gap in care for older adult patients. Emergency nurses can play a pivotal role in improving care and outcomes for older adults by advocating for policy- and system-level changes to better identify and treat at-risk older adults.
Definitions of Terms

**Delirium:** A common and serious acute neuropsychiatric syndrome with core features of inattention and global cognitive dysfunction.28

**Dementia:** A syndrome that may be caused or characterized by multiple cognitive deficits, with Alzheimer’s disease being the most common cause.28

**Emergency Department Discharge Failure:** A return to the emergency department within 72 hours of having been discharged, poor compliance with or lack of comprehension of treatment plan.6

**Hospice:** Formal programs that provide end-of-life care to patients and offer support services to family members.

**Older Adults:** Refers to individuals separated into three categories: the “youngest old” are those between 65 and 74; the “middle old” are between 75 and 84; and those 85 and older are the “oldest old.”29,30

**Palliative Care:** An approach that improves the quality of life of patients and their families facing problems associated with life-threatening illness. It involves the prevention and relief of suffering through early identification, assessment, and treatment of pain and other problems, physical, psychosocial, and spiritual.

**Screening Tool:** An assessment to identify patients who have or are at risk for disease process and/or injury.
Tools and Resources

**Note:** These screening tools and resources are intended to be used in conjunction with a clinical evaluation and additional follow-up resources. Their use by an organization may require copyright permission from the original authors.

<table>
<thead>
<tr>
<th>Screening Tool</th>
<th>Description</th>
<th>Where to Access</th>
</tr>
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<tbody>
<tr>
<td>Identification of Seniors at Risk (ISAR)</td>
<td><strong>Purpose</strong> Identifies seniors at risk of adverse outcomes after ED visit and assures appropriate interventions identified <strong>Key Features</strong> 6-item tool Estimates functional decline No additional staff training necessary Score of 2 or more indicates high risk for decline<strong>Time to Administer</strong> Less than 5 minutes <strong>Limitations</strong> Low compliance with completion – tool may require adaptation to location as well as staff coaching<strong>Reliability and Validity</strong> Poor validity related to ED revisits and hospital readmission Validity for predicting death or complex outcomes rated poor to fair</td>
<td>ISAR Screening Tool <a href="https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4483958/">https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4483958/</a></td>
</tr>
<tr>
<td>Triage Risk Stratification Tool (TRST)</td>
<td><strong>Purpose</strong> To identify older ED patients likely to repeat visit or be admitted to hospital or nursing home within 30 to 120 days of discharge<strong>Key Features</strong> 6-item tool Positive score of 2 or more indicates at risk<strong>Limitations</strong> No post-discharge reduction in ED reuse (but hospital readmissions and lengths of stay decreased)<strong>Time to Administer</strong> Less than 5 minutes <strong>Reliability and Validity</strong> Comparable to ISAR but with slightly lower sensitivity and higher specificityFair agreement with complete assessment by geriatric APN</td>
<td>TRST Tool <a href="http://onlinelibrary.wiley.com/doi/10.1197/ajemj.10.3.224/epdf">http://onlinelibrary.wiley.com/doi/10.1197/ajemj.10.3.224/epdf</a></td>
</tr>
</tbody>
</table>
### Beers Criteria

**Target Population:** Older adults not in palliative or hospice care

**Purpose**
To identify medications and medication combinations that should be avoided, or used with caution in older adults.

**Key Features**
Medications and their properties presented in a table.

**Limitations**
Most recent revision is from 2015

**Time to Administer**
N/A

**Reliability and Validity**
Levels of risk, quality of evidence, and strength of recommendation are all presented. Strong correlation between use of identified inappropriate medications and poor patient outcomes.

Beers Criteria

### Self-Medication Assessment Tool (SMAT)

**Target Population:** Older adults in the community setting

**Purpose**
Screens for cognitive and functional deficits likely to affect self-management of medications.

**Key Features**
5-item tool identifies patients who may have cognitive and functional deficits regarding medication compliance and therefore needing assistance with this at home.

**Limitations**
Suggested that SMAT works best when a clinical pharmacist collaborates with ED team. Long completion time for tool may not be appropriate for initial triage area.

**Time to Administer**
45–50 minutes

**Reliability and Validity**
High internal consistency, high inter-rater reliability. Patient scores stable over time.

SMAT
[https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2901782/](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2901782/)

### Algoplus Behavior Assessment Scale

**Target Population:** Older adults unable to communicate verbally

**Purpose**
To rapidly assess acute pain in non-verbal patients 65 year and older

**Key Features**
5-item behavioral assessment. Patients positive for more than 1 behavior scored as experiencing acute pain.

Scores of 2 or above indicate need for pain management.

**Limitations**
Cultural differences may skew the results of test.

Algoplus
### Abbey Pain Scale

<table>
<thead>
<tr>
<th><strong>Target Population:</strong> Older adults with dementia who can’t verbalize</th>
<th><strong>Purpose</strong></th>
<th>To quickly and easily assess pain in those with late-stage dementia</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Key Features</strong></td>
<td>6-item behavior-screening tool</td>
<td></td>
</tr>
<tr>
<td><strong>Limitations</strong></td>
<td>Does not distinguish between distress and pain</td>
<td></td>
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<tr>
<td>Some variance in scoring on the physical changes question&lt;sup&gt;1&lt;/sup&gt;</td>
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<tr>
<td><strong>Time to Administer</strong></td>
<td>Less than 1 minute</td>
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<tr>
<td><strong>Reliability and Validity</strong></td>
<td>Highly significant correlation (p &gt; 0.001) between pain-relief intervention and reduction in test score</td>
<td></td>
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<tr>
<td>Validity and internal reliability were satisfactory&lt;sup&gt;2&lt;/sup&gt;</td>
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### Delirium Triage Screen (DTS)

<table>
<thead>
<tr>
<th><strong>Target Population:</strong> Adults 65 and older in the ED</th>
<th><strong>Purpose</strong></th>
<th>Rapid and easily integrated assessment for delirium in older adults presenting to the ED</th>
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</thead>
<tbody>
<tr>
<td><strong>Key Features</strong></td>
<td>2-component test; positive for delirium if either component is abnormal&lt;sup&gt;14&lt;/sup&gt;</td>
<td></td>
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<tr>
<td><strong>Limitations</strong></td>
<td>Possibly biased sample tested</td>
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<tr>
<td>Results may not apply to other setting or to patients younger than 65</td>
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<td>Tests performed by research personnel; results may differ in the clinical setting.</td>
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<tr>
<td><strong>Time to Administer</strong></td>
<td>Less than 1 minute</td>
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<tr>
<td><strong>Reliability and Validity</strong></td>
<td>Compared with results of detailed diagnosis by psychiatrists, showed excellent sensitivity and moderate specificity</td>
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<tr>
<td>Very effective when combined with Brief Confusion Assessment Method (bCAM): 82% sensitivity and 95.8% specificity for delirium.&lt;sup&gt;14&lt;/sup&gt;</td>
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### Brief Confusion Assessment Method (bCAM)

| **Purpose** | Highly sensitive test for detecting dementia in older adults; used when DTS fails to rule out dementia |

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<sup>2</sup>Delirium Triage Screen [https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3936572/](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3936572/)

<sup>14</sup>bCAM [http://www.icudelirium.org/non-icu.html#4at](http://www.icudelirium.org/non-icu.html#4at)
<p>| Topic | Target Population | Key Features | Limitations | Time to Administer | Reliability and Validity | Purpose | Limitations | Time to Administer | Reliability and Validity | Purpose | Limitations | Time to Administer | Reliability and Validity | Purpose | Limitations | Time to Administer | Reliability and Validity | Purpose | Limitations | Time to Administer | Reliability and Validity | Purpose | Limitations | Time to Administer | Reliability and Validity |
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<tr>
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<th>Limitations</th>
<th>Time to Administer</th>
<th>Reliability and Validity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hospitalized older adults</td>
<td>30-point questionnaire</td>
<td>Will not detect subtle memory loss</td>
<td>5–10 minutes</td>
<td></td>
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<tr>
<td></td>
<td>A score of less than 24 is defined as abnormal</td>
<td>Allowances must be made for patient age, education, and culture</td>
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<tr>
<td></td>
<td>Limitations</td>
<td>Does not test for visual-spatial impairments</td>
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<td></td>
<td>Time to Administer</td>
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<tr>
<td></td>
<td>Reliability and Validity</td>
<td>Sensitivity of 84%, and specificity of 80% in detecting dementia across different age groups</td>
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<table>
<thead>
<tr>
<th>Target Population: Older adults in the ED</th>
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<th>Reliability and Validity</th>
</tr>
</thead>
<tbody>
<tr>
<td>6-Item Cognitive Impairment Test (also known as the Short Orientation–Memory–Concentration Test)</td>
<td>To screen for dementia and mild cognitive impairment</td>
<td>6-item tool</td>
<td>Complex scoring and weighting system; simplified with use of software</td>
<td>3–4 minutes</td>
<td>Good sensitivity (0.88) and specificity (0.78) for dementia diagnosis compared with MMSE (0.59, 0.85, respectively) and easier to use</td>
</tr>
</tbody>
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<table>
<thead>
<tr>
<th>Target Population: Older adults who are medically ill and/or with mild to moderate cognitive impairment</th>
<th>Purpose</th>
<th>Key Features</th>
<th>Limitations</th>
<th>Time to Administer</th>
<th>Reliability and Validity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Geriatric Depression Scale (GDS)</td>
<td>Assesses for depression in older adults</td>
<td>30-item self-report assessment with yes/no answers (long form)</td>
<td>Clinical depression diagnosis should not be based on the GDS alone</td>
<td>3 minutes (for 5-item screen)</td>
<td>92% sensitivity and 89% specificity when evaluated vs. diagnostic criteria</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Target Population: To assess risk of falls in adults presenting to the ED</th>
<th>Purpose</th>
<th>Key Features</th>
<th>Limitations</th>
<th>Time to Administer</th>
<th>Reliability and Validity</th>
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<tbody>
<tr>
<td>Memorial Hospital Fall Assessment</td>
<td>To assess risk of falls in adults presenting to the ED</td>
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</tr>
</tbody>
</table>
## Target Population: Older adults in the ED

### Key Features
- 6-item assessment tool

### Limitations
- Convenience sample studied, not randomized controlled trial
- Noncompliance by patients

### Time to Administer
- Less than 10 minutes

### Reliability and Validity
- Falls reduced by 16.7%, fatal falls eliminated during study period

## Morse Fall Scale

### Target Population: Intended for inpatients; may be used in ED

### Purpose
- To identify those at risk of falling

### Key Features
- 6-item tool
- Once risk factors are identified they can be addressed, preventing future falls

### Limitations
- May need local validation to establish best cut-off score

### Time to Administer
- Less than 3 minutes

### Reliability and Validity
- Evidence of predictive validity and interrater reliability

## Screen for Palliative Care Needs in the ED (SPEED)

### Target Population: Adult ED patients with cancer

### Purpose
- Assesses need for palliative medicine care

### Key Features
- 13-item tool
- Positive screening would prompt referral for palliative care follow-up

### Limitations
- Items against which SPEED was validated were modified for scale uniformity
- SPEED performed less well on social issues
- May not be generalizable to all EDs

### Time to Administer
- 5–7 minutes

### Validity and Reliability
- Correlations between the SPEED scales and related assessment tools previously validated in other settings were high and statistically significant

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Morse Fall Scale
- [https://www.ahrq.gov/professionals/systems/hospital/fallpxtoolkit/fallpxtool3h.html](https://www.ahrq.gov/professionals/systems/hospital/fallpxtoolkit/fallpxtool3h.html)

SPEED
- [https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3107583/](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3107583/)
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