### 3I: Medication Fall Risk Score and Evaluation Tools

**Background:** This tool can be used to identify medication-related risk factors for falls in hospitalized patients. A pharmacist would perform this assessment.

**Reference:** Used with permission: Beasley B, Patatanian E. Development and implementation of a pharmacy fall prevention program. Hosp Pharm 2009;44(12):1095-1102. © 2009, Thomas Land Publishers, [www.hosp-pharmacy.com](http://www.hosp-pharmacy.com).

**How to use this tool:** Evaluate medication-related fall risk on admission and at regular intervals thereafter. Add up the point value (risk level) for every medication the patient is taking. If the patient is taking more than one medication in a particular risk category, the score should be calculated by (risk level score) x (number of medications in that risk level category). For a patient at risk, a pharmacist should use the evaluation tools to determine if medications may be tapered, discontinued, or changed to a safer alternative.

Use this tool in conjunction with clinical assessment and a nursing risk scale (e.g., Tool 3H, “Morse Fall Scale for Identifying Fall Risk Factors,” or 3G, “STRATIFY Scale for Identifying Fall Risk Factors”) to determine if a patient is at risk for falls and plan care accordingly. Note that this scale may not capture the medication risk factors that are most important on your hospital ward, so consider your local circumstances.\* A hybrid approach is to have the nurse use a scale such as the one below and alert the pharmacist if the total score is 6 or greater.

If your hospital uses an electronic health record, consult your hospital’s information systems staff about integrating this tool into the electronic health record.

\* Formularies may differ. Consult the hospital pharmacy and therapeutics committee or pharmacy department for formulary drugs within the American Hospital Formulary Service drug class identified in the table. The hospital can decide how to specify the drugs that fall within these risk classes. Also consider the dose and timing of medications (e.g., avoiding diuretic use close to bedtime).

##### Medication Fall Risk Score

| Point Value (Risk Level) | American Hospital Formulary Service Class | Comments |
| --- | --- | --- |
| 3 (High) | Analgesics,\* antipsychotics, anticonvulsants, benzodiazepines† | Sedation, dizziness, postural disturbances, altered gait and balance, impaired cognition |
| 2 (Medium) | Antihypertensives, cardiac drugs, antiarrhythmics, antidepressants | Induced orthostasis, impaired cerebral perfusion, poor health status |
| 1 (Low) | Diuretics | Increased ambulation, induced orthostasis |
| Score ≥ 6 |  | Higher risk for fall; evaluate patient |

\* Includes opiates.

† Although not included in the original scoring system, the falls toolkit team recommends that you include non-benzodiazepine sedative-hypnotic drugs (e.g., zolpidem) in this category.

##### Medication Fall Risk Evaluation Tools

Use the tools below when evaluating patients found to have high medication-related risk for falls. The comments section provides information on how to evaluate the indicators.

| Indicator | Comments |
| --- | --- |
| Medications  | Beers criteria,\* dose adjustment for renal function or disease state, overuse of medications, IV access |
| Laboratory  | Therapeutic drug levels (digoxin, phenytoin), international normalized ratio, electrolytes, hemoglobin/hematocrit |
| Disease states  | Comorbidities, hypertension, congestive heart failure, diabetes, orthopedic surgery, prior fall, dementia, other† |
| Education  | Patient’s ability/willingness to learn, patient’s mental status |

\* Beers criteria are available at: American Geriatrics Society updated Beers criteria for potentially inappropriate medication use in older adults. J Am Geriatr Soc 2012;60(4):616-31.

† Age 65 years or older.