AAN Summary of Evidence-based Guideline for CLINICIANS

ASSESSING PATIENTS IN A NEUROLOGY PRACTICE FOR RISK OF FALLS

This is a summary of the American Academy of Neurology (AAN) guideline assessing neurology patients for falls risk. Because many patients at risk of falling seek neurologic consultations, neurologists have the opportunity to identify those at greatest risk, document risk factors, and offer interventions that may prevent falls among patients with chronic neurologic disease.

Please refer to the full guideline for detailed findings and supporting evidence at www.aan.com.

PREDICTORS OF FALLS RISK	
Established Predictors	
Strong evidence supports	Diagnoses of stroke, dementia, disorders of gait and balance, and people who use assistive devices to ambulate **(Level A*)**.
Strong evidence supports	A history of recent falls **(Level A).**
Probable Predictors	
Good evidence supports	Parkinson disease, peripheral neuropathy, lower extremity weakness or sensory loss, and substantial loss of vision **(Level B).**

SCREENING INSTRUMENTS	
Good evidence supports	Additional screening instruments of probable value include the Get-Up-and-Go Test or Timed Up-and-Go Test, an assessment of ability to stand from a sitting position, and the Tinetti Mobility Scale **(Level B).**
Weak evidence supports	Other screening instruments of possible utility are described in appendix e-4 which is available in supplemental data available at *www.neurology.org* **(Level C).**
Insufficient evidence supports	Some screening measures assess similar or overlapping neurologic functions—i.e., gait, mobility, and balance—and there is insufficient evidence to assess whether such measures offer benefits beyond that offered by a standard comprehensive neurologic examination **(Level U).**
Not rated	Other systematic, evidence-based reviews of numerous studies have identified general risk factors for falls, including advanced age, age-associated frailty, arthritis, impairments in activities of daily living, depression, and the use of psychoactive medications including sedatives, antidepressants, and neuroleptics.

RECOMMENDATIONS FOR ASSESSING PATIENTS FOR RISK OF FALLS	
Strong evidence supports	All of the patients with any of the falls risk factors described in the guideline should be asked about falls during the past year **(Level A*).**
Good evidence supports	After a comprehensive standard neurologic examination, including an evaluation of cognition and vision, if further assessment of the extent of fall risk is needed, other screening measures to be considered include the Get-Up-and-Go Test or Timed Get-Up-and-Go Test, an assessment of ability to stand unassisted from a sitting position, and the Tinetti Mobility Scale **(Level B).**
Weak evidence supports	Other screening measures of possible utility described in appendix e-4 which is available in supplemental data available at *www.neurology.org* may be considered **(Level C).**

Clinical Context: Interventions to reduce identified fall risks are beyond the scope of this guideline. However, other evidence-based guidelines for the management of these risks have been developed that may be consulted, as well as guidelines for the treatment of underlying disorders where possible. (See J Am Geriatr Soc 2001;49:664-72; Cochrane Database Syst Rev 2003:CD000340.)

SUGGESTED KEY ELEMENTS FOR ASSESSING RISK OF FALLS AND MANAGING PATIENTS AT RISK

A. Inquire about falls in past year. **(Level A)**

AND

B. Review history for risk factors for falling

Neurological: (Levels A & B)	**General:** (Not rated)
Stroke	Age ≥ 65 years
Dementia	Vision deficit
Gait or mobility problem	Arthritis, arthralgia
Parkinsonism	Depression
Peripheral neuropathy	Polypharmacy
Use of assistive device	Use of cane or walker
Other condition w/ LE sensorimotor loss	Restricted ADLs

IF A or B positive:

C. Evaluate neurologic function:
- a. Neurological examination, emphasizing:
  - i. balance and gait **(Level A)**
  - ii. LE strength, sensation & coordination **(Level A)**
  - iii. mental status **(Level A)**
- b. In addition, may consider a standardized assessment **(Levels B & C)**

And consider clinical context:

D. Management may address:
- a. Underlying disorder
- b. Adjustment of medication
- c. Exercise program
- d. Training in gait and balance
- e. Training in assistive device
- f. Assessment/modification of home environment

(according to established evidence-based guidelines)

This guideline summary is evidence-based. The AAN uses the following definitions for the level of recommendations and classification of evidence.

***Classification of Recommendations: A =** Established as effective, ineffective or harmful (or established as useful/predictive or not useful/predictive) for the given condition in the specified population. (Level A rating requires at least two consistent Class I studies.*) **B =** Probably effective, ineffective or harmful (or probably useful/predictive or not useful/predictive) for the given condition in the specified population. (Level B rating requires at least one Class I study or two consistent Class II studies.) **C =** Possibly effective, ineffective or harmful (or possibly useful/predictive or not useful/predictive) for the given condition in the specified population. (Level C rating requires at least one Class II study or two consistent Class III studies.) **U =** Data inadequate or conflicting; given current knowledge, treatment (test, predictor) is unproven. (Studies not meeting criteria for Class I – III).

*In exceptional cases, one convincing Class I study may suffice for an "A" recommendation if 1) all criteria are met, 2) the magnitude of effect is large (relative rate improved outcome > 5 and the lower limit of the confidence interval is > 2).

Classification of Evidence for A Prognostic Intervention: Class I = Evidence provided by a prospective study of a broad spectrum of persons who may be at risk for developing the outcome (e.g. target disease, work statue). The study measures the predictive ability using an independent gold standard for case definition. The predictor is measured in an evaluation that is masked to clinical presentation, and the outcome is measured in an evaluation that is masked to the presence of the predictor. All patients have the predictor and outcome variables measured. **Class II =** Evidence provided by a prospective study of a narrow spectrum of persons at risk for having the condition, or by a retrospective study of a broad spectrum of persons with the condition compared to a broad spectrum of controls. The study measures the prognostic accuracy of the risk factor using an acceptable independent gold standard for case definition. The risk factor is measured in an evaluation that is masked to the outcome. **Class III =** Evidence provided by a retrospective study where either the persons with the condition or the controls are of a narrow spectrum. The study measures the predictive ability using an acceptable independent gold standard for case definition. The outcome, if not objective, is determined by someone other than the person who measured the predictor. **Class IV =** Any design where the predictor is not applied in an independent evaluation OR evidence provided by expert opinion or case series without controls.

This is an educational service of the American Academy of Neurology. It is designed to provide members with evidence-based guideline recommendations to assist with decision-making in patient care. It is based on an assessment of current scientific and clinical information and is not intended to exclude any reasonable alternative methodologies. The AAN recognizes that specific patient care decisions are the prerogative of the patient and the physician caring for the patient, based on the circumstances involved. Physicians are encouraged to carefully review the full AAN guidelines so they understand all recommendations associated with care of these patients.

Copies of this summary and additional companion tools are available at *www.aan.com* or through AAN Member Services at (800) 879-1960.

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