

Katz Index of Independence in Activities of Daily Living (ADL)

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WHY: Normal aging changes and health problems frequently show themselves as declines in the functional status of older adults. Decline may place the older adult on a spiral of iatrogenesis leading to further health problems. One of the best ways to evaluate the health status of older adults is through functional assessment which provides objective data that may indicate future decline or improvement in health status, allowing the nurse to intervene appropriately.

BEST TOOL: The Katz Index of Independence in Activities of Daily Living, commonly referred to as the Katz ADL, is the most appropriate instrument to assess functional status as a measurement of the client's ability to perform activities of daily living independently. Clinicians typically use the tool to detect problems in performing activities of daily living and to plan care accordingly. The Index ranks adequacy of performance in the six functions of *bathing, dressing, toileting, transferring, continence, and feeding*. Clients are scored yes/no for independence in each of the six functions. A score of 6 indicates full function, 4 indicates moderate impairment, and 2 or less indicates severe functional impairment.

TARGET POPULATION: The instrument is most effectively used among older adults in a variety of care settings, when baseline measurements, taken when the client is well, are compared to periodic or subsequent measures.

VALIDITY AND RELIABILITY: In the thirty-five years since the instrument has been developed, it has been modified and simplified and different approaches to scoring have been used. However, it has consistently demonstrated its utility in evaluating functional status in the elderly population. Although no formal reliability and validity reports could be found in the literature, the tool is used extensively as a flag signaling functional capabilities of older adults in clinical and home environments.

STRENGTHS AND LIMITATIONS: The Katz ADL Index assesses basic activities of daily living. It does not assess more advanced activities of daily living. Katz developed another scale for instrumental activities of daily living such as heavy housework, shopping, managing finances and telephoning. Although the Katz ADL Index is sensitive to changes in declining health status, it is limited in its ability to measure small increments of change seen in the rehabilitation of older adults. A full comprehensive geriatric assessment should follow when appropriate. The Katz ADL Index is very useful in creating a common language about patient function for all practitioners involved in overall care planning and discharge planning.

MORE ON THE TOPIC:

Best practice information on care of older adults: www.ConsultGeriRN.org.

Graf, C. (2006). Functional decline in hospitalized older adults. *AJN*, 106(1), 58-67.

Katz, S., Down, T.D., Cash, H.R., & Grotz, R.C. (1970) Progress in the development of the index of ADL. *The Gerontologist*, 10(1), 20-30.

Katz, S. (1983). Assessing self-maintenance: Activities of daily living, mobility and instrumental activities of daily living. *JAGS*, 31(12), 721-726.

Kreševic, D.M., & Mezey, M. (2003). Assessment of function. In M. Mezey, T. Fulmer, I. Abraham (Eds.), D. Zwicker (Managing Ed.), *Geriatric nursing protocols for best practice* (2nd ed., pp 31-46). NY: Springer Publishing Co., Inc.

Mick, D.J., & Ackerman, M.H. (2004, Sept). Critical care nursing for older adults: Pathophysiological and functional considerations. *Nursing Clinics of North America*, 39(3), 473-93.

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Katz Index of Independence in Activities of Daily Living

ACTIVITIES POINTS (1 OR 0)	INDEPENDENCE: (1 POINT) NO supervision, direction or personal assistance	DEPENDENCE: (0 POINTS) WITH supervision, direction, personal assistance or total care
BATHING POINTS: _____	(1 POINT) Bathes self completely or needs help in bathing only a single part of the body such as the back, genital area or disabled extremity.	(0 POINTS) Needs help with bathing more than one part of the body, getting in or out of the tub or shower. Requires total bathing.
DRESSING POINTS: _____	(1 POINT) Gets clothes from closets and drawers and puts on clothes and outer garments complete with fasteners. May have help tying shoes.	(0 POINTS) Needs help with dressing self or needs to be completely dressed.
TOILETING POINTS: _____	(1 POINT) Goes to toilet, gets on and off, arranges clothes, cleans genital area without help.	(0 POINTS) Needs help transferring to the toilet, cleaning self or uses bedpan or commode.
TRANSFERRING POINTS: _____	(1 POINT) Moves in and out of bed or chair unassisted. Mechanical transferring aides are acceptable.	(0 POINTS) Needs help in moving from bed to chair or requires a complete transfer.
CONTINENCE POINTS: _____	(1 POINT) Exercises complete self control over urination and defecation.	(0 POINTS) Is partially or totally incontinent of bowel or bladder.
FEEDING POINTS: _____	(1 POINT) Gets food from plate into mouth without help. Preparation of food may be done by another person.	(0 POINTS) Needs partial or total help with feeding or requires parenteral feeding.

TOTAL POINTS = _____ 6 = High (patient independent) 0 = Low (patient very dependent)

Slightly adapted from Katz, S., Down, T.D., Cash, H.R., & Grotz, R.C. (1970) Progress in the development of the index of ADL. *The Gerontologist*, 10(1), 20-30. Copyright © The Gerontological Society of America. Reproduced [Adapted] by permission of the publisher.



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You quickly note some loss of strength in Ms. Clyde: she needs help getting out of bed and using the toilet and shower. On the positive side, she can feed and dress herself without difficulty and is continent.

The Katz index helps to organize these observations into a clinically useful framework, yielding numeric scores that sum up a patient's functional status. The instrument employs a dichotomous (yes-or-no) scale, with 1 point given for each ADL in which the patient is independent and 0 points given for each ADL in which the patient is dependent. The highest possible score is 6, signifying independence in all ADLs; the lowest is 0, meaning the patient needs help with every activity. Ms. Clyde can eat, remain continent, and dress independently, but she needs help in transferring, toileting, and bathing. This gives her a Katz index score of 3: moderate dependence.

ADAPTING THE KATZ INDEX IN DIFFERENT SETTINGS

The Katz index has been used successfully with long-term care residents, albeit with some adaptation. Older adults often have far more complicated needs than Ms. Clyde does, with clinical or cultural characteristics that require one's judgment in using the tool. Among the challenges are language barriers, dementia, and other conditions that interfere with communication or cognition.

Although the Katz index assesses ADLs that are not language dependent, interpreters may be needed to ask older patients to perform specific activities or to explain the basis for their refusal. Confusion, whether from dementia, delirium, or simple disorientation caused by illness, may mean that older patients can't follow instructions to dress, use the toilet, or bathe. The Katz index measures current functional ability in any patient, regardless of cognitive status. Any inability noted in the six ADLs, whether caused by mental or physical incapacity, must be given a score of 0 points. The central element in scoring the Katz index is patients' ability to *demonstrate* functional independence to a clinician. If they can't perform an ADL—for whatever reason—they must be scored as dependent in that category. Even patients with sensory impairment, amputation, or neurologic disorders are scored on current ability.

There may also be environmental challenges to using the Katz index. Some hospitals and skilled nursing facilities don't have bathing facilities or toilets readily available, making assessment in these areas difficult. Moreover, some nursing staff assist older adults with ADLs simply to save time, even when the patients are capable of performing them independently. It's critical that all nursing staff

encourage older adults to remain as independent as possible. Using the Katz index in acute care settings may require a new institutional emphasis on the nursing staff's responsibility to support patients' functional independence. (To view the section of the online video discussing assessment, interpretation, and discharge planning, go to <http://links.lww.com/A242>. 📺)

COMMUNICATING THE KATZ INDEX RESULTS

The results of a functional assessment using the Katz index should be shared with the clinical team, the patient, and family members; they all have roles to play in improving function. Patients and family members in particular need a clear explanation of what the score means and what work the patient must do to achieve independence or, if that's not possible, to make good use of assistance. This usually requires an explanation of the categories assessed—for example, explaining *remaining continent* as “controlling your bladder and bowels” or *transferring* as “getting in and out of bed or up from a chair by yourself.” It's also important to explain how functional status relates to living independently and how the plan of care aims to restore independence. The plan of care will likely involve ongoing nursing assessment and care to restore function and prevent further decline, as well as referral to physical and occupational therapists, if necessary.

Explaining Katz index scores to patients may require extra effort when particular barriers are present: insufficient fluency in English, hearing or other sensory impairment, aphasia, delirium, or dementia. Facing the patient, using pencil and paper or computer printouts, asking the patient to repeat what was said, and being alert for nonverbal indicators of comprehension may help to ensure that the Katz index results have been successfully communicated.

Nurses should be vigilant about ensuring that any changes in a patient's functional status are communicated to the clinical team and that the plan of care is modified as the patient's abilities improve or decline. In communicating results to a team whose members may not be familiar with the Katz index, a nurse may simply summarize the results. In the case



Online Resources

For more information on this and other geriatric assessment tools and best practices go to www.ConsultGerRN.org—the clinical Web site of the Hartford Institute for Geriatric Nursing, New York University College of Nursing, and the Nurses Improving Care for Healthsystem Elders (NICHE) program.

Visit the NICHE site, www.nicheprogram.org, and the Hartford Institute site, www.hartfordign.org, for additional products and resources. The latter site includes a set of competencies expected of nurses who care for older adults in hospitals.

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of Ms. Clyde, who received a score of 3 on the Katz index, the nurse might say, “She has a moderate level of dependence.” Specifically, the nurse may report deficits in the patient’s ability to transfer, toilet, and bathe independently. Documentation in the chart would also include explanation for clinical staff unfamiliar with Katz scoring: “Patient scored 3 out of 6 on Katz ADL index, indicating moderate level of dependence, with deficits in ability to transfer, toilet, and bathe independently.” (To watch the portion of the online video discussing nurses’ role in preventing functional decline, go to <http://links.lww.com/A243>.)

CONSIDER THIS

What evidence supports using the Katz index? Over the last several decades, numerous tools have been developed to assess patients’ abilities to perform activities of daily living.¹⁴⁻¹⁶ The Katz index has emerged as an especially useful tool in assessing older adults; in determining nursing load in long-term care settings; and in predicting length of hospitalization, morbidity and mortality over time,^{1, 17} and the need for future assistance.³ Because of its predictive value, the Katz index is often used to determine eligibility for assistance and benefits^{18, 19} and by researchers studying older adults.

What are the psychometrics associated with the Katz index? There are few studies establishing psychometric properties of tools designed to measure patients’ functional status. But the limited data available support the reliability and validity of the Katz index.

Reliability. The Katz index has shown good reliability, as evidenced by reliability coefficients ranging from 0.87 to 0.94.²⁰

Validity. The Katz index has demonstrated accuracy in predicting functional outcomes over time among older adults in short-term care, hospitalized patients, and patients who have had a stroke.^{1, 3, 17} Hamrin and Lindmark reported convergent (or concurrent) validity as high, with a correlation of 0.95 between the Activity index and the Katz index.¹

No specific studies of specificity and sensitivity of the Katz Index were found in the literature. For more information on the psychometric properties of the Katz index, go to <http://links.lww.com/A410>.

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Routine use of Try This approaches or tools may require formal review and approval by your employer.

REFERENCES

1. Hamrin E, Lindmark B. Evaluation of functional capacity after stroke as a basis for active intervention. *Scand J Caring Sci* 1988;2(3):113-22.
2. Katz S, et al. Studies of illness in the aged. The index of ADL: A standardized measure of biological and psychosocial function. *JAMA* 1963;185:914-9.
3. Katz S, et al. Progress in development of the index of ADL. *Gerontologist* 1970;10(1):20-30.
4. He W, et al. *65+ in the United States: 2005*. Washington, D.C.: U.S. Census Bureau; 2005 Dec. P23-209. Current population reports. Special studies; <http://www.census.gov/prod/2006pubs/p23-209.pdf>.
5. Federal Interagency Forum on Aging-Related Statistics. *Older Americans 2004: Key indicators of well-being*. Hyattsville, MD; 2004. http://www.agingstats.gov/Agingstatsdotnet/Main_Site/Data/Data_2004.aspx.
6. MetLife Mature Market Institute. *The MetLife market survey of nursing home and nursing home care costs*. Westport, CT: Metropolitan Life Insurance Company; 2004.
7. Bharucha AJ, et al. Predictors of nursing facility admission: a 12-year epidemiological study in the United States. *J Am Geriatr Soc* 2004;52(3):434-9.
8. McCallum J, et al. Patterns and predictors of nursing home placement over 14 years: Dubbo study of elderly Australians. *Australas J Ageing* 2005;24(3):169-73.

9. American Lung Association. *Lung disease fact sheets*. New York; 2006 Nov. http://www.lungusa.org/att/cf/%7B7A8D42C2-FCCA-4604-8ADE-7F5D5E762256%7D/SOLDDC_FACT_SHEETS_2007.PDF.
10. Ferrucci L, et al. Hospital diagnoses, Medicare charges, and nursing home admissions in the year when older persons become severely disabled. *JAMA* 1997;277(9):728-34.
11. Häkkinen A, et al. Effect of cognitive impairment on basic activities of daily living in hip fracture patients: a 1-year follow-up. *Aging Clin Exp Res* 2007;19(2):139-44.
12. Mehta KM, et al. Cognitive impairment, depressive symptoms, and functional decline in older people. *J Am Geriatr Soc* 2002;50(6):1045-50.
13. Amella EJ. Presentation of illness in older adults. *Am J Nurs* 2004;104(10):40-51.
14. Bruett TL, Overs RP. A critical review of 12 ADL scales. *Phys Ther* 1969;49(8):857-62.
15. Law M, Letts L. A critical review of scales of activities of daily living. *Am J Occup Ther* 1989;43(8):522-8.
16. Sainsbury A, et al. Reliability of the Barthel Index when used with older people. *Age Ageing* 2005;34(3):228-32.
17. Brorsson B, Asberg KH. Katz index of independence in ADL. Reliability and validity in short-term care. *Scand J Rehabil Med* 1984;16(3):125-32.
18. Kane RL, et al. Using ADLs to establish eligibility for long-term care among the cognitively impaired. *Gerontologist* 1991;31(1):60-6.
19. Rowland D. Measuring the elderly's need for home care. *Health Aff (Millwood)* 1989;8(4):39-51.
20. Ciesla JR, et al. Reliability of Katz's Activities of Daily Living Scale when used in telephone interviews. *Eval Health Prof* 1993;16(2):190-203.



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GENERAL PURPOSE: To instruct registered professional nurses in the use of the Katz Index of Independence in Activities of Daily Living, used to measure older patients' capacity for self-care.

LEARNING OBJECTIVES: After reading this article and taking the test on the next page, you will be able to

- review the background information helpful for understanding the need for assessing functional ability in older adults.
- outline the appropriate use of the Katz index.
- list the advantages and disadvantages of using the Katz index.

TEST INSTRUCTIONS

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