

The comprehensive geriatric assessment

Some of the physiological modifications are the indicators of the aging process and on their base we can appreciate the biological age of a person. In ideal condition the biological age is the same with the chronological age – the normal or orthogenetic aging.

If the biological age is bigger than the chronological one – we can speak about **an accelerate aging**, but if it is smaller – **the late aging**.

The biological age and the rhythm of aging depend on:

- The genetic factors;
- Environmental factors;
- Pathological factors (infection, toxic, degenerative, posttraumatic diseases).

The pathologic factors lead to the accelerated aging, and because of the new morpho-functional changes generated by some pathology, the aging in these cases is a pathologic one.

The aging indicators are named markers or criteria. The indicator selection is made according some criteria:

- The simple possibility of detection
- Their correlation with the aging process beginning from the period of 40-45 years old
- Their objective character (their credibility)
- The possibility to a quantitative appreciation.

Using these criteria some evaluation scores were adapted.

There some characteristic “criteria” for every period of aging.

In presenescence they are due to some skin and hair changes, than – to the cardiovascular, auditive visual changes.

After 65 years – the changes of cardiovascular, nervous systems and of the analisators.

The senescence after 75 years is dominated of the cardiovascular and osteolocomotor changes.

Scala I.N.G.G. (România), evaluarea vârstei biologice

| Aparate și sisteme | Criterii | Intensitatea | | | | Total |
|-------------------------------------|---------------------------------|--------------|---|----|-----|-------|
| | | 0 | + | ++ | +++ | |
| I. Piele | Elasticitate scăzută | 0 | 2 | 3 | 4 | |
| | Umiditate scăzută | 0 | 2 | 3 | 4 | |
| | Riduri | 0 | 1 | 2 | 3 | |
| | Pete senile | 0 | 2 | 3 | 4 | |
| II. Părul | Elasticitatea diminuată | 0 | 2 | 3 | 4 | |
| | Luciu diminuat | 0 | 2 | 3 | 4 | |
| | Acromotrichie | 0 | 1 | 2 | 3 | |
| | Calviție | 0 | 1 | 2 | 3 | |
| III. Unghii | Striații | 0 | 1 | 2 | 3 | |
| | Grosime crescută | 0 | 2 | 3 | 4 | |
| | Friabilitate crescută | 0 | 2 | 3 | 4 | |
| | Deformații | 0 | 3 | 4 | 5 | |
| IV. Ochi | Acuitate vizuală | 0 | 7 | 8 | 9 | |
| | diminuată | 0 | 3 | 4 | 5 | |
| | Strălucire diminuată | 0 | 8 | 9 | 10 | |
| | Gerontoxon | 0 | 7 | 8 | 9 | |
| | Cataractă | 0 | 7 | 8 | 9 | |
| V. Organul auditiv | Acuitate auditivă | 0 | 5 | 6 | 7 | |
| | diminuată tinnitus (acufene) | 0 | 2 | 3 | 4 | |
| VI. Țesutul celular (subcutanat) | Turgor diminuat | 0 | 2 | 3 | 4 | |
| VII. Aparatul osteo- articular | Artroză | 0 | 2 | 3 | 4 | |
| | Spondiloză | 0 | 3 | 4 | 5 | |
| | Deformații | 0 | 4 | 5 | 6 | |

Scala I.N.G.G. (România), evaluarea vârstei biologice (continuare)

| Aparate și sisteme | Criterii | Intensitatea | | | | Total |
|-----------------------------|-------------------------------|-----------------|---|----|-----|-------|
| | | 0 | + | ++ | +++ | |
| VIII. Aparatul digestiv | Edentația | 0 | 3 | 4 | 5 | |
| | Atrofia alveolară | 0 | 4 | 5 | 6 | |
| IX. Aparatul urogenital | Libido diminuat | 0 | 4 | 5 | 6 | |
| | Atrofie vulvară | 0 | 5 | 6 | 7 | |
| | Hipertrofia prostatică | 0 | 6 | 7 | 8 | |
| X. Aparatul pulmonar | Emfizemul pulmonar | 0 | 4 | 5 | 6 | |
| XI. Aparatul cardiovascular | Indurația arterială | 0 | 5 | 6 | 7 | |
| | Pulsația episternală a aortei | 0 | 5 | 6 | 7 | |
| | Presiunea arterială crescută | 0 | 3 | 4 | 5 | |
| XII. Sistemul nervos | Semnul Noica | 0 | 5 | 6 | 7 | |
| | Reflexul palmo-mentonier | 0 | 5 | 6 | 7 | |
| | Sindrom pseudo-bulbar | 0 | 5 | 6 | 7 | |
| | Mersul alterat | 0 | 3 | 4 | 5 | |
| | Atenția diminuată | 0 | 4 | 5 | 6 | |
| | Memoria diminuată | 0 | 5 | 6 | 7 | |
| XIII. Starea fizică | Mobilitatea alterată | 0 | 2 | 3 | 4 | |
| | Autonomie redusă | 0 | 5 | 6 | 7 | |
| XIV. Capacitatea de muncă | Fizică diminuată | 0 | 2 | 3 | 4 | |
| | Intelectuală diminuată | 0 | 5 | 6 | 7 | |
| | | Total punctaj | | | | |
| | | Indice standard | | | | |

Valori standard ale scalei I.N.G.G.

| Vârsta normală | Vârsta biologică |
|----------------|------------------|
| 30-34 | 14 |
| 35-39 | 17 |
| 40-44 | 19 |
| 45-49 | 28 |
| 50-54 | 31 |
| 55-59 | 34 |
| 60-64 | 48 |
| 65-69 | 50 |
| 70-75 | 57 |
| 75 și peste | 72 |

Canadian classification (1998)

65-74 years old – the young elderly;

75 – 84 years old – the adult elderly;

Older than 85 years – the old elderly.

Comprehensive geriatric assessment has been defined by the 1987 National Institutes of Health Consensus Conference on Geriatric Assessment

Methods for Clinical Decision-making as a "multidisciplinary evaluation in which the multiple problems of older persons are uncovered, described, and explained, if possible, and in which the resources and strengths of the person are catalogued, need for services assessed, and a coordinated care plan developed to focus interventions on the person's problems."

Research evaluating comprehensive geriatric assessment (CGA) demonstrates its ability to improve the health status and quality of life of frail older adults across the spectrum of health care settings

CGA is a necessary tool to minimize disability and loss of independence in frail elderly patients.

Aging is a process that steadily reduces physiologic reserve and results in a diminished ability to compensate for the toll of illness.

Illnesses accumulate with age, increasing in both severity and number.

This double burden of physiologic decline and disease is associated with excess morbidity and resultant disability, i.e., difficulty in performing simple physical and mental tasks necessary for daily life.

CGA is an intervention that seeks to identify and remediate the causes and effects of disability.

When remediation is not possible, CGA seeks to slow functional decline and bolster independence by mobilizing available medical, psychological and social resources.

One of the goals of a responsive health care system is to promote the well-being of those suffering from the effects of disability and/or chronic illness.

Randomized trials of CGA, applied across multiple health service settings, show it to be a cost-effective intervention that improves quality of life, quality of health, and quality of social care.

Its benefits have been most robustly demonstrated when applied in a hospital or rehabilitation unit, but its value is also evident when used in the following settings: after hospital discharge, as an element of outpatient consultation, in home assessment services, and in continuity care.

Despite these benefits, the application of CGA remains underused in the United States and its use is limited primarily to academic health centers and Veterans Administration hospitals that recognize its contribution to quality health care for older adults.

POSITIONS

Comprehensive geriatric assessment has demonstrated usefulness in improving the health status of frail, older patients.

Therefore, elements of CGA should be incorporated into the care provided to these elderly individuals.

Rationale:

- Not all older persons who might benefit from comprehensive geriatric assessment will receive specialized geriatric assessment services.
- Practicing physicians should be encouraged to apply the elements of geriatric assessment in the care of older patients, including multidisciplinary teamwork, assessment of function, and psychosocial assessment.
- Physicians' and other health professionals' organizations could appropriately take a leadership role in the dissemination of this assessment methodology.

CGA is most effective when targeted toward older adults who are at risk for functional decline (physical or mental), hospitalization or nursing home placement.

Rationale:

- A targeted population, the frail elderly, is the most likely to benefit from CGA.
- Targeting criteria used in successful trials of CGA suggest that persons who have impairments in basic or instrumental activities of daily living, or suffer from a geriatric syndrome (falls, urinary or fecal incontinence, dementia, depression, delirium, or weight loss), or whose health care utilization patterns indicate a high risk of subsequent hospitalization or nursing home placement are the most likely to benefit from CGA.

Comprehensive geriatric assessment should be an integral part of the curriculum for all medical and health professional training programs.

Rationale:

- Routine CGA examines, at the very least, a patient's mobility, continence, mental status, nutrition, medications, and personal, family, and community resources.
- It involves all disciplines responsible for providing care, as well as the patient and family, in developing an appropriate care plan.
- Comprehensive geriatric assessment is an effective tool for teaching the integration of the biological, psychological, social, and environmental aspects of health care, while recognizing the geriatrician's special area of expertise.

Medicare and other insurers should recognize as a reimbursable service or procedure:

- 1) comprehensive geriatric assessment of patients who are at risk for functional decline (physical or mental), hospitalization or nursing home placement, and
- 2) the support services required for effective application of CGA

Rationale:

- Comprehensive geriatric assessment requires an interdisciplinary team to conduct medical, functional and psychosocial assessments, develop a written, comprehensive plan of care, and coordinate the health care providers and family members who are responsible for the execution of the plan of care.
- At the present time, Medicare payment policy does not reimburse the work of some necessary professionals (e.g., social work, dietician) in assessment and does not recognize the work of team conferences.
- Few professionals can or will provide the service if it is not adequately reimbursed.
- Insufficient reimbursement of CGA ultimately restricts the access of frail, older persons to this effective intervention and exacerbates the financial disincentives that aggravate our national shortage of geriatricians.

Performing a **comprehensive assessment** is an ambitious undertaking.

Below is a list of the areas **geriatric** providers may choose to assess:

- Current symptoms and illnesses and their functional impact.
 - Current medications, their indications and effects.
 - Relevant past illnesses.
 - Recent and impending life changes.
- Objective measure of overall personal and social functionality.
- Current and future living environment and its appropriateness to function and prognosis.
 - Family situation and availability.
- Current caregiver network including its deficiencies and potential.
 - Objective measure of cognitive status.
 - Objective **assessment** of mobility and balance.
 - Rehabilitative status and prognosis if ill or disabled.
 - Current emotional health and substance abuse.
 - Nutritional status and needs.
- Disease risk factors, screening status, and health promotion activities.
 - Services required and received.

To identify elderly persons who might benefit from assessment (in a special comprehensive geriatric assessment unit or in a primary care setting), some health care organizations mail multidimensional self-administered health questionnaires to elderly populations.

Responses are scored according to defined algorithms, and reports of high-risk conditions and behaviors are sent to the patients and their primary care physicians to stimulate more detailed follow-up evaluation and treatment.

Other organizations identify candidates for assessment by interviewing elderly persons in their homes or meeting places (eg, meal sites, senior centers, places of worship). Family members who are concerned about an elderly relative's health or functional abilities may also arrange referrals for geriatric assessment.

Assessment Domains

Comprehensive geriatric assessment is most successful when conducted by a geriatric interdisciplinary team, which typically includes a geriatrician, a nurse, a social worker, and a pharmacist.

For most elderly patients, the outpatient clinic is a sufficient and relatively inexpensive setting for evaluation; comprehensive geriatric assessment usually does not require the technology or intense monitoring available in an acute care inpatient setting.

However, patients with physical or mental impairments may have difficulty keeping appointments, and chronically ill patients who need to rest during the assessment process may require inpatient assessment.

The principal domains assessed in all forms of geriatric assessment are functional ability, physical health, cognitive and mental health, and the socio-environmental situation. Standardized instruments make evaluation of these domains more reliable and efficient. They also facilitate the communication of clinical information among health care practitioners and the monitoring of changes in the patient's condition over time.

Functional ability:

Comprehensive geriatric assessment begins with a review of the major categories of functional ability: activities of daily living (ADLs) and instrumental activities of daily living (IADLs).

ADLs are self-care activities that a person must perform every day (eg, eating, dressing, bathing, transferring between the bed and a chair, using the toilet, controlling bladder and bowel).

Patients unable to perform these activities and obtain adequate nutrition usually require caregiver support 12 to 24 hours/day. IADLs are activities that enable a person to live independently in a house or apartment (eg, preparing meals, performing housework, taking drugs, going on errands, managing finances, using a telephone).

Reliable instruments for measuring patients' abilities to perform ADLs and IADLs and for determining what kind of assistance may be needed include the Katz ADL Scale and the Lawton IADL Scale.

Deficits in ADLs and IADLs indicate a need for additional information about the patient's socio-environmental situation.

When elderly persons begin to need help performing these activities, their risk of becoming more dependent increases.

Physical health:

The approach to the history and physical examination must be geriatric-specific.

In particular, vision, hearing, continence, gait, and balance must be considered.

The Tinetti Balance and Gait Evaluation is a useful assessment instrument.

Cognitive and mental health:

Several screening tests for cognitive dysfunction have been validated; the Mini-Mental State Examination is popular because it efficiently tests most of the major aspects of cognitive function.

Of the several validated screening instruments for depression, the Geriatric Depression Scale and the Hamilton Depression Scale are the easiest to use and most widely accepted.

However, a two-question screening instrument ("During the past month, have you been bothered by feelings of sadness, depression, or hopelessness? Have you often been bothered by a lack of interest or pleasure in doing things?") is as effective as these longer scales.

Specific psychiatric symptoms (eg, paranoia, delusions, behavior abnormalities) are evaluated in the psychological assessment, but they are less easily quantified and are rarely included in rating scales.

Socio-environmental situation:

Factors that affect the patient's socio-environmental situation are complex and difficult to quantify.

They include the social interaction network, available social support resources, special needs, and environmental safety and convenience, which influence the treatment approach used.

Such information can readily be obtained by an experienced nurse or social worker.

Several assessment instruments are available, but none is quantitative or clinically useful. A checklist can be used to assess home safety.