PROGNOSTICATION

AGS Geriatrics Evaluation and Management Tools (Geriatrics E&M Tools) support clinicians and systems that are caring for older adults with common geriatric conditions.

DEFINITION	▪ Prognosis: prediction of the probability an individual will develop a particular outcome over a specific period of time ▪ Prognostication: consists of both estimating and communicating prognosis ▪ Lag time to benefit (LtB): time between a preventive intervention and when improved health outcomes are seen. Complications and harms are most likely to occur closer to a preventive intervention. Benefits accrue over time.

BACKGROUND	▪ Prognostication allows for:
	  ▪ Patients and families to determine realistic and achievable goals of care
	  ▪ Shared decision making that includes the likelihood an intervention will achieve an outcome important to the patient and/or caregiver
	  ▪ Clinical decision making that includes the likelihood a patient will live long enough to benefit from a proposed intervention (lag time to benefit)
	  ▪ Access to benefits such as hospice
	▪ When discussing prognosis, older adults may be interested in outcomes such as level of independence and need for nursing home placement in addition to overall life expectancy.

ROLE OF LAG TIME TO BENEFIT IN PREVENTIVE INTERVENTIONS

▪ Life expectancy < LtB: intervention potentially harmful, consider not recommending
▪ Life expectancy ≈ LtB: harms and benefits potentially similar, preferences should determine recommendations
▪ Life expectancy > LtB: intervention potentially beneficial, consider recommending

Lag Time to Benefit	Common Clinical Interventions
1–2 months	SSRIs for depression
6 months	Statins for secondary prevention of cardiovascular disease Finasteride for benign prostatic hypertrophy
1–2 years	Blood pressure control for primary prevention of cardiovascular disease
1–3 years	Strict blood pressure and lipid control in type 2 diabetes mellitus Statins for primary prevention of cardiovascular disease
8–10 years	Tight glycemic control for prevention of microvascular complications in type 2 diabetes mellitus
10 years	Colon and breast cancer screening for reducing cancer mortality

ESTIMATING PROGNOSIS

1. **Clinician judgment:** Correlates with actual survival, but often biased toward overestimation of life expectancy; confounded by the doctor-patient relationship and physician experience. "Would you be surprised if this patient died in the next…6 months? 1 year?"
2. **Age-based averages or life tables:** Show median survival for age. Older adults of the same age display substantial heterogeneity in life expectancy.

	Quartile of Life Expectancy (years)					
	Women			Men		
Age	75th	50th	25th	75th	50th	25th
65	26.9	21.2	14.2	24.3	18.3	11.4
70	22.2	16.9	10.7	19.8	14.4	8.5
75	17.8	12.9	7.6	15.6	10.8	6.0
80	13.6	9.3	5.1	11.8	7.7	4.0
85	9.9	6.3	3.2	8.5	5.2	2.5
90	6.9	4.1	1.9	5.9	3.4	1.6
95	4.7	2.6	1.2	4.1	2.2	1.0

3. **Referencing published studies:** Studies with participants similar to the patient can give a more individualized prognosis. Requires a close match between the patient's clinical details and the study population. Older adults and adults with functional limitations or comorbidities are often excluded from clinical trials.
4. **Prognostic indices:** Disease specific and non-disease specific clinical tools developed to aid in estimating prognosis.
   ▪ Mortality indices incorporating age, comorbid conditions, and functional status are more accurate than age alone.
   ▪ Single disease-specific prognostic indices may not apply, because older adults often have multiple chronic progressive illnesses limiting life expectancy.

ESTIMATING PROGNOSIS (cont'd)		Prognostic Index	Patient Population	Web site
	Nondisease-specific examples			
		Walter 1-year index	Hospitalized adults ≥70 years old	www.ePrognosis.org
		Lee 4- and 10-year index	Community-dwelling adults ≥50 years old	www.ePrognosis.org
		Schonberg 5- and 9-year index	Community-dwelling adults ≥65 years old	www.ePrognosis.org
		Go-FAR	Neurologic intact survival to discharge after in-hospital arrest	www.gofarcalc.com
	Disease-specific examples			
	Cancer	Palliative Performance Scale	Cancer and noncancer patients in clinics, hospitals, and hospices	www.ePrognosis.org
	Heart failure	Seattle Heart Failure Model	Outpatients without significant other comorbidities; may overestimate prognosis in the old-old	http://depts.washington.edu/shfm
		EFFECT Model	Inpatients hospitalized with acute decompensated heart failure	http://www.cort.ca/Research/CHFRiskModel.html
	Renal failure	Cohen Index	Patients on hemodialysis	https://qxmd.com/calculate/calculator_135/6-month-mortality-on-hd
	Liver failure	MELD score	Adult patients with liver cirrhosis	https://www.mdcalc.com/meld-score-model-end-stage-liver-disease-12-older
	COPD	BODE	Outpatients with COPD; may be more accurate in patients with severe COPD	Reference.medscape.com/calculator/bode-index-copd
	Dementia	Advanced Dementia Prognostic Tool (ADEPT)	Nursing-home residents with advanced dementia	www.ePrognosis.org

COMMUNICATING PROGNOSIS: THE SPIKES* MNEMONIC	Step	Specific Tasks
	Set up Interview	▪ Have a unified message: obtain key prognostic data and communicate with team members before meeting. ▪ Prepare for emotional responses to difficult information and questions. ▪ Control the setting: set up a private room, have enough chairs, ensure strategic seating, avoid interruptions.
	Assess Perception	▪ Begin with an open-ended question: "What have your doctors told you about your medical situation so far?" ▪ Refine with specific questions: "What specific concerns do you have about…?" ▪ Tailor prognostic information according to the patient's level of understanding.
	Obtain Invitation	▪ Gain permission to share prognosis: "Many people have questions about prognosis, and wonder about how long do I have? I'm wondering if you have those questions." ▪ Explore how much information should be given: "Some patients like all of the information. Would you like me to discuss it all, or try to summarize for you?"
	Impart Knowledge	▪ If needed, begin with a warning statement: "I'm afraid that what I have to tell you is bad news." ▪ Use small pieces of information (1 or 2 sentences), avoid jargon, pause frequently, and assess understanding. ▪ Address uncertainty: use ranges (best), worst scenarios, and most likely case scenarios.
	Address Emotions	▪ Observe and internally identify emotions. If unclear, clarify: "Can you tell me what you are worried about?" ▪ Validate your understanding of the emotion by making an empathetic statement and/or gesture.
	Summarize and Strategize	▪ Assess understanding and address gaps in knowledge: "Before we move on, I want to make sure I communicated well. What have you heard from me today? What questions do you have?" ▪ Set a specific timeline for what specific treatment or diagnostic decisions need to be made, when they need to be made, and who will communicate decisions to whom.

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