Medications

Medication Assessment:

- Does each medication have an indication? (e.g., consider stopping medication(s) that was started for a problem that has since resolved) (American Geriatrics Society Beers Criteria®, *J Am Geriatr Soc*, 2019)
- Are any conditions lacking indicated medications? (e.g., consider calcium and vitamin D supplementation for those with osteoporosis) (Gallagher et al., *Consensus validation Int J Clin Pharmacol Ther*, 2008)
- Is each medication still indicated given individualized treatment goals, the patient's goals of care, and prognosis (e.g., A1c, blood pressure goals)? (Triantafylidis et al., *American Geriatrics Society*, 2021)
- What concerns does the patient have (e.g., cost, opening pill bottles, swallowing pills, forgetting doses, adverse effects)?
- Any difficulty taking medications (e.g., reading labels; administering patches, ointments, injections, or eye drops; keeping track of changes)?

Avoid High-Risk Medications:

- Which of the patient's medications are on the AGS Beers Criteria for Potentially Inappropriate Medication Use in Older Adults? (American Geriatrics Society Beers Criteria®, *J Am Geriatr Soc*, 2019)
- Which safer alternatives may be appropriate? (e.g., Consider nonpharmacologic therapy for pain, sleep, incontinence, depression.)
- Avoid anticholinergic medications if possible (Rudolph et al., *Arch Intern Med*, 2008)
- Look out for prescribing cascades, especially with anticholinergic drugs: drug → adverse effect → new drug (e.g., oxybutynin → constipation → stool softener)

Deprescribe or Prescribe (common examples):

Indication	Consider Deprescribing	Consider Prescribing
Allergic rhinitis	**Diphenhydramine:** highly anticholinergic	Cetirizine, fexofenadine, or loratadine: less anticholinergic (more selective for peripheral histamine receptors)
Anxiety and depression	**Benzodiazepines**: risk of delirium, falls, withdrawal adverse effects, and CNS adverse effects **Tricyclic antidepressants**: risk of CNS anticholinergic effects and orthostatic hypotension	SSRIs: less risk of adverse effects in older adults, monitor for SIADH as needed and serotonin syndrome if taking more than one medication with serotonin activity
Constipation	Agents with **high** anticholinergic risk score **Docusate**: minimal evidence of efficacy	**Consider nonpharmacologic options:** increase fiber, fluid, and exercise; scheduled toileting **Osmotic laxatives** (e.g., polyethylene glycol) versus a stimulant laxative (e.g., senna)
Diabetes	**Insulin:** high risk of hypoglycemia, especially with sliding scale insulin and human insulin **Sulfonylureas**: high risk of hypoglycemia, especially with glyburide	**Consider if patient needs** glucose-lowering therapy given individualized hemoglobin A1c goal and overall health and prognosis Medications with **a glucose-dependent mechanism** of action (e.g., metformin, DPP4 inhibitors, GLP-1 receptor agonists, SGLT-2 inhibitors, thiazolidinediones)
Pain	**NSAIDs:** risk of GI bleeding, high blood pressure, kidney damage **Opioids:** increased risk of falls related to CNS depression, mental slowing	Consider **nonpharmacologic** options **Scheduled** acetaminophen up to 1000 mg three times daily for those with normal liver function, use lowest effective dose of opioid as needed for acute pain (with bowel regimen)
Sleep	**Diphenhydramine, hydroxyzine:** highly anticholinergic, orthostatic hypotension **Z-drugs and benzodiazepines:** highly sedating, risk of residual CNS effects leading to increased risk of fracture, falls	Consider **nonpharmacologic options**: behavioral interventions such as cognitive-behavioral therapy Melatonin, lowest effective dose of mirtazapine, or trazodone
Urinary incontinence	**Anticholinergic** medications = sedating, can cause orthostatic hypotension **Terazosin:** increased risk of falls because of nonselectivity	Consider **nonpharmacologic** options: behavioral interventions such as scheduled toileting, dietary changes, incontinence supplies such as liners or briefs Mirabegron, trospium: more selective, ↓ adverse effects risk

Interprofessional Team Involvement: Consider nursing, pharmacy, occupational therapy, speech and language pathology.

Tools for Polypharmacy and Deprescribing

- Medstopper.com: risk stratification and tapering tool
- Deprescribing.org: algorithms and guidelines
- AGS Beers Criteria for Potentially Inappropriate Medication Use in Older Adults
- AGS Choosing Wisely: https://www.choosingwisely.org/societies/american-geriatrics-society/
- Problem-based Deprescribing (Molnar, *Canadian Geriatrics Society*, 2018)

Multicomplexity

History:

- Consider the psychosocial needs of each older adult and their caregiver(s) and their experience with structural and social determinants of health, including experiences of racism, sexism and ageism.
- Assess living setting and conditions, support system, and financial security.
- Life changes, stressors or concerns about abuse or neglect? Recent weight loss?
- Which symptoms and/or medical conditions affect life the most?

Exam:

- Be alert to warning signs of elder mistreatment (see Elder Abuse and Neglect, below).
- Look for signs of difficulties with self-care like poor dentition, weight loss, long toenails (Stajkovic et al., *CMAJ*, 2011) (James et al., *Eur J Intern Med*, 2021)
- Use a Trauma-Informed Care approach to the exam that creates safety and empowers each older adult (Kusmaul et al., *Soc Work Health Care*, 2018)

Frailty: defined as either accumulation of deficits or biologic syndrome of decreased resilience and reserve resulting from cumulative declines across multiple physiologic systems. (Clegg et al., *Lancet*, 2013)

Frailty predicts adverse outcomes better than age alone.

- Clinical Frailty Scale: https://www.dal.ca/sites/gmr/our-tools/clinical-frailty-scale.html
- Physical Frailty Phenotype: http://hopkinsfrailtyassessment.org
- FRAIL Scale (Abellan van Kan et al., *J Am Med Dir Assoc*, 2008): ≥ 3 = frail, at risk of decline in health and mortality
  Fatigued? **R**esistance: walk up one flight of stairs? **A**mbulation: walk 1 block? **I**llnesses: >5?
  Loss of weight: >5% in past 6 months?

Nutrition:

- Recommend high-quality protein (1 g/kg of ideal body weight per day), evenly distributed throughout day to maintain muscle mass (Paddon-Jones et al., *Am J Clin Nutr*, 2015)
- Screen for vitamin B12 and vitamin D deficiency (more common in older adults)
- Screen for weight loss (e.g., "Stop Weight Loss" mnemonic) (Stajkovic et al., *CMAJ*, 2011)

Social Isolation:

- Associated with high rates of depression, anxiety, disability, and self-rated poor health (Kusmaul et al., *Soc Work Health Care*, 2018)
- Hearing loss is associated with social isolation
- Screen for social isolation and connect patients to Area Agencies on Aging (https://eldercare.acl.gov/Public/Index.aspx) or religious organization if appropriate

Elder Abuse and Neglect (National Center on Elder Abuse, https://ncea.acl.gov/Resources/State.aspx):

- Screening questions: 1) Do you feel safe where you live? 2) Who prepares your meals? 3) Who handles your checkbook? (Lachs et al., *N Engl J Med*, 1995)
- Notice warning signs, such as poor hygiene, skin tears, burns, fractures (spiral fractures of long bones), malnutrition, pressure ulcers, vaginal or rectal bleeding
- If there is concern, report to state Adult Protective Services (www.napsa-now.org)

C.A.R.E. for Caregivers: (Holliday et al., *J Family Med Prim Care*, 2021) (Adelman et al., *JAMA*, 2014)

Caregiver Well-being	**A**dvance Care Plan	**R**espite	**E**ducation
• Explore caregiver well-being • Identify ADLs and iADLs not being met • Social work consult	• Start discussion on goals of care and wishes • Health care proxy, POLST • Long-term care?	• Identify opportunities for caregiver respite (e.g., others to care for patient, time away, adult day health program)	*Resources:* • Case manager • Counseling and 1:1 CBT for the caregiver • Caregiver support groups • Counsel on Aging *Disease-specific:* • Symptom-focused skills

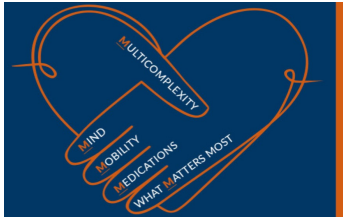
Best Support / Setting? (Kane, *JAMA*, 2011) (Ouslander and Sehgal, *J Am Geriatr Soc*, 2019)

Skilled Nursing Facility	Other Settings/ Supports
• Inpatient rehab: 3 hours/day of PT/OT, Medicare pays • Long-term care: inability to perform ADLs or ongoing nursing care, Medicaid pays • Long-term acute care, e.g., recent ventilator or status post prolonged ICU stay • Hospice: <6 months prognosis, can also be delivered at home	• Adult day health: some have medical/ nursing, e.g., PACE • Assisted living: individual units, minimal regulation and hire help as needed, meals and activities available • Independent living facility: individual units, hire help as needed, often opt in to meals, activities • Home care: visiting nurse, PT, OT for skilled needs; home health aides for ADLs • Local elder services/ Area Agencies on Aging (e.g., Meals on Wheels, Homemakers)

Interprofessional Team Involvement: Consider social work, nursing/care manager, nutrition, dental, mental health.

Tools for Multicomplexity:

https://geriatricscareonline.org/ProductAbstract/Framework-for-Decision-making-for-Older-Adults/CL026
National Council on Aging Benefits eligibility: www.benefitscheckup.org



THE GERIATRICS 5Ms

The Geriatric 5Ms (Tinetti et al., *J Am Geriatr Soc,* 2017) is a framework for caring for older adults through the aging process and the end of life that aligns with the 4Ms of Age-Friendly Health Systems (Mate et al, *J Aging Health*, 2021). This Geriatric 5Ms pocket card, adapted from Holliday et al., *J Am Geriatr Soc*, 2019, outlines key geriatric concepts to help improve care for older adults in any setting, including:

What Matters Most

- Current care planning: Identifying health goals and preferences
- Advance care planning

Mind

- Addressing cognition and mental health
- Mitigating sensory impairment

Mobility

- Optimizing functional status
- Maintaining safe mobility

Medications

- Tailoring medications to meet goals and preferences
- Avoiding high-risk medications

Multicomplexity

- Navigating health care settings and transitions
- Balancing multiple chronic conditions
- Addressing social determinants of health

Each panel of this card includes suggestions of history or physical exam components, validated screening tools, helpful resources, and potential interprofessional team members with whom to collaborate in delivering patient-goals directed geriatric care. References and an online Quick Guide version of this card may be found at the QR code below or at geriatricscareonline.org.

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AGS Geriatrics Healthcare Professionals
Leading Change. Improving Care for Older Adults.

What Matters Most

Current Care Planning: Align Care with What Matters Most (adapted from Patientprioritiescare.org)
(Tinetti et al., *JAMA Intern Med*, 2019)

What matters most to the patient?
- Identify what matters most to each older adult
- Identify health outcome goals based on what matters most
- Discuss medications, treatments and healthcare tasks that are helpful or burdensome
- Align care with the older adult's health goals and healthcare preferences

These goals of care discussions are relevant to all care and treatment planning, particularly for older adults with multiple chronic conditions.

Advance Care Planning: clarify wishes regarding life-sustaining medical treatment in case of serious illness or end of life

POLST (Portable Orders for Life-Sustaining Treatment)	An outpatient medical order for patients with advanced serious illness and limited prognosis that documents a patient's preferences for CPR, intubation, hospital transfer, artificial nutrition, and more (polst.org)
Living will	An advance directive document signed by a patient that provides guidance for care preferences (such as withholding or withdrawing life support) in the event of future incapacity; may not be legally binding in some states
Health care proxy / Medical power of attorney	Designates a surrogate decision-maker to make health care decisions on the patient's behalf if they become incapacitated

Helpful Mnemonics for Communication:
- **"GOOD"** for approaching life sustaining treatment conversations with older adults (Petriceks et al., *Palliat Support Care*, 2020)
- **G**oals: Start with patient's understanding and their goals.
  Options: Review treatment options and expected outcomes.
  Opinions: Elicit patient opinion.
  Document: Consider advanced care planning documentation.
- **"REMAP"** for goals of care conversations with older adults with serious illness (Childers et al., *J Oncol Pract*, 2017) (from vitaltalk.org)
  Reframe: Assess patient understanding; if applicable, "We're in a different place now."
  Expect emotion: Make space for patient's reaction and respond to it.
  Map goals: Elicit goals and desired outcomes.
  Align with goals: Validate patient goals.
  Plan: Medical care and treatment should align with goals.

Interprofessional Team Involvement: Consider social work, nursing, mental health, chaplaincy, hospice and palliative medicine.

Tools for What Matters:
www.prepareforyourcare.org (Freytag et al., *J Am Geriatr Soc*, 2020)
www.theconversationproject.org
https://myhealthpriorities.org
www.vitaltalk.org/resources/quick-guides/

Mind

History:
- What is the older adult's baseline cognitive status?
- Any recent changes in cognition, confusion or memory loss?
- Anxiety or depression?
- Changes in hearing or vision?

Promote Brain Health:
- Be a lifelong learner
- Stay socially and physically active
- Control hypertension, diabetes, hyperlipidemia, sleep apnea
- Avoid smoking, limit alcohol use
- Exercise regularly and sleep well
- Eat a Mediterranean diet rich in fish and nuts

Delirium: Acute brain failure leading to confusion, inattention, and altered mental status, often in a hospitalized or ill older adult.

Mind

Delirium Contributors: DELIRIUM pneumonic (Marcantonio, *N Engl J Med*, 2017):
Drugs
Electrolyte disturbances
Lack of drugs
Infection
Reduced sensory input
Intracranial disorders
Urinary and fecal disorders
Myocardial and pulmonary disorders

Screening: Ultra-Brief 2-Item Screener (UB-2) (Fick et al., *J Hosp Med*, 2015)
1. Please tell me the day of the week.
2. Please tell me the months of the year backward; say "December" as your first month.
If both items correct, screen is negative. If one/both items incorrect, screen is positive.

Diagnosis: Confusion Assessment Method (CAM) (Marcantonio et al., *Ann Intern Med*, 2014)
1. **A**cute onset and fluctuating course
2. **I**nattention
3. **D**isorganized thinking
4. **A**ltered level of consciousness
If yes to 1 and 2 AND either 3 or 4, then positive for delirium.

Cognitive evaluation:
Screening: Mini-Cog evaluation (www.mini-cog.com): 3 words: banana sunrise chair; clock draw: "draw the face of a clock, put in all numbers, set time at 10 past 11") (Borson et al., *J Am Geriatr Soc*, 2003)

If Mini-Cog abnormal→ select appropriate longer cognitive screening tool, as appropriate, such as MOCA (see www.mocatest.org for instructions and certification) (Molnar et al., *J Am Geriatr Soc*, 2020)

Dementia: progressive neurocognitive disorder (e.g., Alzheimer's disease, Vascular dementia, Dementia with Lewy bodies, Frontotemporal dementia, Parkinson's disease, Mixed dementia)
Evaluation includes: assess for depression, alcohol use, hearing impairment, obtain serum vitamin B12 level, thyroid-stimulating hormone, other (e.g., Chem 7); obtain non-contrast head CT or MRI. (Arvanitakis et al., *JAMA*, 2019)

Staging Dementia: FAST scale (selected stages) (Mitchell, *N Engl J Med*, 2015)
Stage 3: Decreased job functioning evident to coworkers, difficulty in traveling to new locations
Stage 4: Decreased ability to perform complex tasks (e.g., planning dinner, handling finances)
Stage 5: Requires assistance to choose proper clothing
Stage 6: Decreased ability to dress, bathe, and toilet independently
  Substage 6a: Difficulty putting clothing on properly
  Substage 6b: Unable to bathe properly, may develop fear of bathing
  Substage 6c: Inability to handle mechanics of toileting (flushing, wiping)
  Substage 6d, e: Urinary incontinence, fecal incontinence
Stage 7: Loss of speech, locomotion, and consciousness
  Substage 7a, b: Ability to speak limited (1 to 5 words), all intelligible vocabulary lost
  Substage 7c: Non-ambulatory (hospice eligible)
  Substage 7d, e, f: Unable to sit up independently, smile, or hold up head

Depression screening: PHQ-2 (Kroenke et al., *Med Care*, 2003)
Over the past two weeks, how often have you been bothered by any of the following?
1. Little interest or pleasure in doing things
2. Feeling down, depressed, or hopeless
Scoring: not at all=0, several days=1, more than half the days=2, nearly every day=3
If PHQ-2 score ≥3, do a longer depression assessment such as PHQ-9, Geriatric Depression Scale.

Hearing impairment: modifiable risk factor for delirium, dementia and depression, as well as falls.
Tips for Speaking to Patients with Hearing Impairment: (Harwood, *Gerontological Society of America*)
- Speak low and slow (high-pitched hearing loss), face the patient.
- Rephrase, use pictures or write things down.
- Check ears for wax (carbamide drops + ear cleaning).
- Request a pocket amplification device.
- Evaluate hearing aids with audiology.

Interprofessional Team Involvement: Consider nursing, psychiatry, psychology, social work, audiology, and ophthalmology.

Tools for Mind:
Communicating with Older Adults: www.geron.org
Depression: www.samhsa.gov/
Delirium: AGS CoCare Hospital Elder Life Program - help.agscocare.org
Dementia: Alz.org, VA Home Safety Booklet: www.va.gov/geriatrics/docs/HOME_SAFETY_BOOKLET_March_2019.pdf

Mobility

History:
- What is the older adult's baseline mobility? Level of activity?
- What does a typical day look like for the older adult in terms of mobility?
- What are their goals for mobility?
- Any recent falls or fear of falling? Are they unsteady when standing/walking?
- Does the older adult use a mobility aid or assistive device?

Functional Status: Has function changed recently? Is caregiver assistance needed?
Independent / Needs Assistance / Dependent (Katz, *J Am Geriatr Soc*, 1983)

Activities of Daily Living (ADLs or Basic ADLs)		**Instrumental Activities of Daily Living** (iADLs)	
- Feeding	- Toilet use, incontinence	- Telephone use	- Mode of transportation
- Bathing	- Transfers (bed to chair)	- Grocery shopping	- Medications
- Grooming	- Mobility	- Food preparation	- Finances
- Dressing		- Housekeeping, laundry	- Computer use

Selected Mobility Aids and Assistive Devices: (Bradley et al., *Am Fam Physician*, 2011)
- Canes
  - Standard: For mild balance/one-sided weakness, not weight bearing; caution re: carpal tunnel
  - Offset: appropriate for weight bearing, caution: do not use backward
  - Quadripod: best for hemiparesis
- Walkers
  - Standard: need to be lifted with each step
  - Front-wheeled: maintain normal gait pattern
  - Four-wheeled: not for weight bearing, less stable
- Devices
  - Stocking donner, long shoehorn
  - Grabber to reach items from standing or sitting position
  - Alert button on bracelet or necklace to call for help if needed

Mobility assessment to support safe mobility and lower risk of falls (Ganz et al., *N Engl J Med*, 2020)
(Tinetti et al., *JAMA*, 2010):
Intrinsic
- Chair stand: Able to stand from a chair without using arms?
- Gait speed: Timed Up & Go test ≥12 secs, 10 ft away, is at risk for falling (Video: James et al., *N Engl J Med*, 2021)
- Orthostatic hypotension (decrease in systolic blood pressure of ≥20 mmHg or diastolic of ≥10 mmHg, or lightheadedness/dizziness from lying/sitting to standing) (Gupta et al., *Am J Med*, 2007)
- Foot problems or difficulty trimming toenails (James et al., *Am J Med*, 2021)
- Urinary incontinence
- Hearing or vision impairment
- Cognitive impairment, Depression

Extrinsic
- Psychoactive medications, Opioids (American Geriatrics Society Beers Criteria®, *J Am Geriatr Soc*, 2019)
- Medications that can cause sedation or confusion, dizziness, hypotension, hypoglycemia
- Environment: clutter, shoes, pets, lights, stairs, shower, rugs

Interprofessional Team Involvement: Consider physical therapy, occupational therapy, nursing, pharmacy, podiatry, audiology, optometry; also consider Tai Chi for balance.

Tools for Mobility:
www.cdc.gov/steadi www.nia.nih.gov/health/exercise-physical-activity

Medications

History:
- Who manages the medications? How are the medications organized?
- What prescription medications and nonprescription medications or health supplements is the older adult taking?
- How many medications is the patient taking? How many times per day? How many prescribers/pharmacies?

Aging physiology changes that affect medications: start low, go slow (but get there) :
↓ GFR/creatinine clearance (with normal creatinine since decreased lean body mass) =
↑ accumulation/risk of toxicity; ↓ Liver clearance = ↑ in bioavailability, longer half-life
↓ Baroreceptor responsiveness = ↑ risk of orthostasis/falls
↑ Proportion of body fat = lipophilic drugs last longer
↑ Permeability of blood-brain barrier = ↑ risk of central nervous system effects
Remember: Slowly titrate until reach therapeutic dose, deprescribe what is no longer needed.

Tools to Improve Medication Adherence:
- Does patient need help managing medications (e.g., visiting nurse/caregiver to pack pillbox)?
- Can medications be administered with an automatic pill dispenser?
- Can medications taken more than once a day be switched to once-a-day formulations?
- Can administration times be moved to be all at once rather than multiple times/day?