Geriatric MVP's for NP's

TTUHSC SON Annual NP Conference
March 2nd, 2018
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OBJECTIVES

- 1. Describe the challenge of polypharmacy for the elder patients and strategies to manage medications effectively in patients with chronic illness.
- 2. Identify components of an effective cognitive evaluation for patients with suspected cognitive decline/ impairment.
- 3. Explore advance care planning processes and advanced directives including ethical, legal, and practical considerations.

COGNITION EVALUALTION and DEMENTIA

- Recognizing issues and follow through.

Epidemiology

Prevalence

- Most associated with advancing years
- More older people = more people with dementia
- During the next hour there will be 50 new cases of Dementia diagnosed
  - 24 new diagnoses of Breast Ca
  - 52 new MI deaths
  - 4 MVA deaths

Cost to System

- World Report on Alzheimer's 2010
  - Total was over $604 billion annually – direct costs of medical care, social care and informal care
- Personal/Family costs
  - In 2010 family caregivers provided 17 billion hours of care, estimated to cost $202.6 billion in US alone.

Definition of Dementia (DSMV)

- "An acquired syndrome of decline in at least two cognitive domains, sufficient to affect daily life in an alert patient, which according to updated guidelines does not have to include memory" – 2013 edition of GRS
- Cognitive Domains:
  - Learning and memory
  - Language (Aphasia)
  - Executive Function (impaired ability to recognize, abstract, and/or plan).
  - Complex Attention
  - Perceptual-motor (Agnosia and Apraxia)
  - Social cognition (Agnosia)

DSM-IV and DSM-5 criteria for dementia

DSM-IV criteria for dementia	DSM-5 criteria for major neurocognitive disorder (previously dementia)
A1. Memory impairment	**A.** Evidence of significant cognitive decline from a previous level of performance in one or more cognitive domains*:
A2. At least one of the following: - Aphasia - Apraxia - Agnosia - Disturbance in executive functioning	- Learning and memory - Language - Executive function - Complex attention - Perceptual-motor - Social cognition
B. The cognitive deficits in A1 and A2 each cause significant impairment in social or occupational functioning and represent a significant decline from a previous level of functioning	**B.** The cognitive deficits interfere with independence in everyday activities. (At a minimum, assistance should be required in complex instrumental activities of daily living, such as paying bills or managing medications.
C. The cognitive deficits do not occur exclusively during the course of delirium	**C.** The cognitive deficits do not occur exclusively in the context of a delirium
	D. The cognitive deficits are not better explained by another mental disorder (eg, major depressive disorder, schizophrenia)

For diagnostic criteria of dementia subtypes such as Alzheimer disease or frontotemporal dementia, please refer to UpToDate topics on the clinical manifestations and diagnosis of individual dementia subtypes.

DSM: diagnostic and statistical manual.

* Evidence of decline is based on: Concern of the individual, a knowledgeable informant, or the clinician that there has been a significant decline in cognitive function; and a substantial impairment in cognitive performance, preferably documented by standardized neuropsychological testing or, in its absence, another quantified clinical assessment.

References:

1. American Psychiatric Association. Diagnostic and Statistical Manual, 4th ed. APA Press; Washington, DC 1994.
2. American Psychiatric Association. Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5). American Psychiatric Association, Arlington, VA 2013.

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ADL's/IADL's

Activities of Daily Living
- Functional mobility
- Bathing/showering
- Dressing
- Self-Feeding
- Personal Hygiene
- Toilet Hygiene

Instrumental Act of Daily Living
- Ability to Use Telephone/computer
- Shopping
- Food Preparation
- Housekeeping
- Laundry
- Transportation
- Manages own medication
- Manages own finances

MILD COGNITIVE IMPAIRMENT

- Included individuals who have a subjective complaint of cognitive decline in at least one domain (memory, executive function, language, or visuospatial perception) to a degree that is noticeable and measurable, but not to a degree that causes impairment in independent living.
- For example, someone who scores a 25/30 on their MMSE but has no deficits in IADL's and is not-affected day-to-day.
- 12 % per year of identified MCI proceed to AD.

Normal Cognitive Aging

- Sometimes forgetting names & appointments but remembering them later
- Making occasional errors when balancing a checkbook
- Occasionally needing help to use settings on microwave or to record television show
- Getting confused about day of week but figuring it out later
- Vision changes related to cataracts
- Sometimes having trouble finding right word
- Misplacing things from time to time & retracing steps to find them
- Making a bad decision once in a while
- Sometimes feeling weary of work, family & social obligations
- Developing a specific routine and being irritable when that is disrupted

RISK FACTORS AND PREVENTION (mostly for AD)

RISK FACTORS

- DEFINITE
  - Age
  - Family Hx
  - APOE4 allele
  - Down Syndrome
  - Depression
- POSSIBLE
  - Head trauma
  - Fewer years of formal education
  - Late-onset Major Dep Dx
  - CV risks (HTN, DMII, obesity, HL)
  - Smoking
  - Delirium
  - Postmenopausal HT

PROTECTIVE FACTORS

- DEFINITE
  - None
- POSSIBLE
  - NSAIDs
  - Antioxidants
  - Intellectual activity
  - Physical activity
  - Statins.

ASSESSMENT

- SCREENING
  - Controversial – no consensus as to whether we should or shouldn't – USPSTF says there is "insufficient evidence" to say that we should be screening. However, there is "insufficient evidence" because the studies just haven't been done (nor will they be).
  - Do know that dementia is under-recognized/underdiagnosed, so should have a low threshold to trigger investigation for cog impairment (CI)
  - Screening for CI is a required portion of the Medicare wellness visit – for GP's there are short realistic screening tools – such as Mini-Cog, GPCOG, MIS, IQCODE
  - ??? Treatment options? Does our intervention change long-term consequences? Does early Diagnosis allow for better societal or emotional support?

Differentia Diagnosis – Dementia vs. a Dementia Syndrome

- Delirium
- Psychiatric Disorder
  - Bipolar Affective, Schizophrenia, Late-life delusional disorder, Major Depression,
- Physical Disorders
  - Electrolyte imbalance, Thyroid disease, Parkinson's, B12 deficiency, sleep deprivation, untreated OSA, AIDS, etc
- Structural Brain Lesions
  - Tumor, stroke
- Medication/Drugs
- Seizure Disorder
- Untreated Pain

Alzheimer's Association Ten Warning Signs

1. Recent memory loss that affects job performance
2. Misplacing items
3. Problems with language
4. Disorientation to time and place
5. Poor or decreased judgment
6. Problems with abstract thinking
7. Difficulty performing familiar tasks
8. Changes in mood or behavior
9. Changes in personality
10. Loss of initiative

When a Clinician Should suspect

- **Missed or late office appointments**
- **Poor recollection of past important medical treatments**
- **Medication "non-compliance"**
- **Family concerns of memory loss that exceed the patient's recognition of a problem**
- **Loss of engagement in the office visit**
- **Tentativeness in previously confident patient**
- **Inattentive to appearance, hygiene or continence**
- **Unexplained weight loss**
- **Unusually jovial or evasive responses**
- **De novo Depression.**

EVALUATION

Complete H and P

- Complete Hx from patient or caregiver (often more helpful)
- Functional Assessment (ADL's and IADL's)
- Review of ALL medications, assess for alcohol and drug use.
- Physical and neurological exam
- Exclude depression (although frequently depression and dementia co-exist). – PHQ9 or GDS.

Mental Status Exam

- THERE ARE MANY VALIDATED TESTS – TOO MANY
  - MMSE
  - Montreal Cognitive Assessment (MOCA)

  http://www.mocatest.org/
- SLUMS http://medschool.slu.edu/agingsuccessfully/pdfsurveys/slumsexam_05.pdf

Cognitive Screening Tests

- Many exist
- Should be comfortable with at least 2 (I recommend Mini-Cog for short, MOCA or SLUMS for longer)
- Tests DO NOT provide diagnosis
  - But DO provide supportive evidence
- Give a numerical score, not a functional assessment
- Not all patients with normal scores are normal, and not all abnormal scores = dementia.
- Patient's baseline is extremely important, better to follow over time.

Comparisons of some Cognitive Tests

Test (sen/sp)	Orientation	Reg/ Recall	Remote/ Learned Memory	Praxis, Visuo-spatial	Aphasia Verbal Fluency	Attention	Abstraction	Executive Function/ Funct Status
Mini-COG (76%/89%)		X		X				
MOCA (100%/87%)	x	x		x	x	x	x	X
SLUMS (100%/81%)	X	x		x	x	x		X
MMSE (78%/100%)	x	x		x		x		

Adapted from Holsinger, et al. "Does this Patient have dementia?" JAMA. June 6, 2007. Vol. 297, No.21 Table 2

Diagnostic WORKUP

Lab testing

- Definitive
  - CBC, CMP, TFT's, vit B12, RPR
- Case by case
  - HIV testing, serum folic acid and methylmalonic acid concentrations, U/A, Urine toxicology, EEG, LP

Neuroimaging

- **Not necessary to diagnose AD**
- Non-contrast CT helpful to r/o ICH, space-occupying lesions, or hydrocephalus
- MRI often performed if Vascular dementia suspected.
- More useful if onset < 65, symptoms come on suddenly or progress rapidly, evidence of focal neuro deficit on exam, recent hx of fall or head trauma, or concern for NPH.

Adapted from GRS 8th Edition – Table 34.3 – Diagnostic Features and Treatment of Dementia Syndromes

Syndrome	Onset	Cognitive Domains/Sx	Motor Sx	Progression	Imaging	Rx for Cognition
MCI	Gradual	Primary memory	Rare	Unknown, 12% per year -> AD	Possible global atrophy, small hippocampal volumes	Cholinesterase Inhibitors (ChI's) possibly protective for 18 months (SOE-A) in some pts
Alzheimer Disease (AD)	Gradual	Memory, language, visuospatial	Rare early, apraxia later on	Gradual (8-10 years)	Possible global atrophy, small hippocampal volumes	ChI's for mild to sever (SOE-A), memantine for moderate to severe stages.
Vascular Dementia	Sudden or stepwise	Depends on location of ischemia	Correlates with ischemia	Gradual or stepwise with further ischemia	Cortical or subcortical changes on MRI	Consider ChI's for cognitive deficit only (SOE-C), Risk Factor modification (manage HTN, HL, and Diabetes).
Lewy Body Dementia	Gradual	Memory, visuospatial, hallucinations, fluctuating sx's.	Parkinsonism	Gradual but Faster than AD	Possible global atrophy. SPECT/PET show reduced metabolism/perfusion occipital lobes	ChI (SOE-B); +/- carbidopa/levodopa for movement symtptoms
Frontotemporal Dementia	Gradual w/ onset < 60 yo	Executive disinhibition, apathy, language	None	Gradual but faster than AD	Atrophy most prominent in frontal and temporal lobes	NONE RECOMMENDED

Rx of Cognitive Dysfunction

- Patients with Dx of mild/moderate AD should receive trial of AcetylCholinesterase (AchI) Inhibitor
  - Data show AchI's compared with placebo for 1 yr show statistical benefit for cognition but no significant clinical benefit.
  - We believe that really they slow cognitive decline more than help with global improvement
  - Most studies used time to NH placement as endpoint for determining effectiveness (if started during mild/mod AD can delay need for NH up to 18months).
- Studies have shown benefit of AchI's in LBD, likely vascular and PDD……not so much FTD.

More on Rx

- For the AChI's
  - NNT
    - Improve cognition: 6-12
    - Prevent Global Decline: 12
    - Delay Nursing home placement: 6
- Here's the rub
  - NN to Harm:
    - 12

Functional Assessment Staging of Alzheimer's Disease. (FAST)

- **1** – No difficulties, either subjectively or objectively
- **2** – Complains of forgetting location of objects. Subjective Word Finding Difficulties.
- **3** – Decreased Job Junction evident to co-workers; difficulty in traveling to new locations. Decreased organizational capacity
- **4** – Decreased ability to perform complex tasks (e.g., planning dinner for guests), handling personal finances (e.g. forgets to pay pills), difficulty marketing, etc.
- **5** – Requires assistance in choosing proper clothing to wear for day, season, occasion

FAST CONTINUED

- **6**
  - **a**. Difficulty putting clothing on properly without assistance.
  - **b.** Unable to bathe properly; e.g., difficulty adjusting bath water temperature) occasionally or more frequently over the past weeks.
  - **c.** Inability to handle mechanics of toileting (e.g., forgets to flush the toilet, more frequently over the past weeks.
  - **d.** Urinary incontinence, occasional or more frequent
  - **e.** Fecal Incontinence, (occasional or more frequently over the past week)

FAST CONTINUED

- **7**
  - **a.** Ability to speak limited to approximately a half dozen different words or fewer, in the course of an average day or in the course of an intensive interview.
  - **b**. Speech ability limited to the use of a single intelligible word in an average day
  - **c.** Ambulatory ability lost (cannot walk without personal assistance).
  - **d.** Ability to sit up without assistance lost (e.g., the individual will fall over if there are no lateral rests [arms] on the chair).
  - **e.** Loss of the ability to smile.

American Academy of Family Physicians(AAFP) COGNITIVE CARE KIT

- Can be found at this address: https://www.aafp.org/patient-care/public-health/cognitive-care.html
- **Suggested** resources are those that the AAFP panel of experts have chosen as the most effective, comprehensive, and evidence-based information.
- **Additional** resources provide additional resources and approaches physicians, patients, families, caregivers and support team members may find useful in providing care for patients with cognitive impairment.
- IS FREE FOR PROVIDERS AND PATIENTS!!!!!!!!

Resources

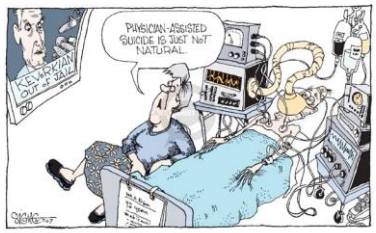
- ***The 36 Hour Day***
  by Nancy Mace and Peter Rabins.
  - A useful book for caregivers and family members that gives a good overview of AD and the issues that caregivers face
- ***How to Care for Aging Parents***
  by Virginia Morris and Robert Butler
- ***Still Alice*** by Lisa Genova, 2007 – now adapted to a movie
- ***Dementia Beyond Drugs: Changing the Culture of Care*** – by G. Allen Power, MD.
- ***http://www.alz.org/documents/mndak/toolkitproviderms.pdf***

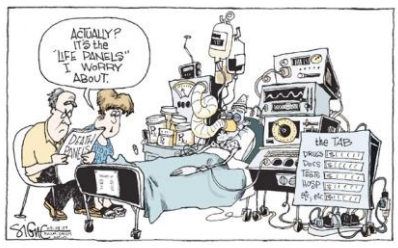
References (not already noted on slide)

- Geriatric Review Syllabus, 8th edition. 2013. AGS.
- Geriatrics At your Fingertips. 15th edition. 2013. AGS
- Holsinger, et al. "Does this Patient have dementia?"JAMA. June 6, 2007. Vol. 297, No.21
- UpToDate.

ADVANCED DIRECTIVES and EOL PLANNING

- It's harder in Texas FYI





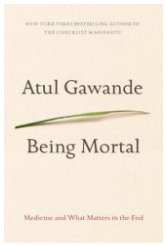
Physician's Recent Thoughts on EOLD's

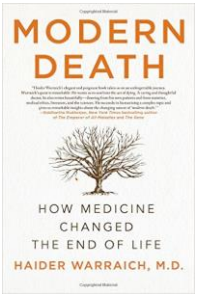
- Recent survey conducted by Perry Undem and for The JA Hartford Foundation, Cambia Health Foundation and California HealthCare Foundation released April 2016 regarding Physician's (who routinely treat those 65 and up) views on ACP and EOLD's found:
  - 92% said it was very or extremely important to have these conversations.
  - Top reasons were 1) honoring patients' values and wishes 2) reducing unnecessary or unwanted hospitalizations at the EOL 3) patient/family member satisfaction 4) Reducing healthcare costs 5) increasing number of patients who receive hospice care.
  - Biggest barriers were 1) Time 2) disagreements between family and patient 3) Provider not knowing when the right time is to have the conversation 4) feeling like the convo might be uncomfortable 5) not wanting the patient to perceive provider as giving up hope 6) not knowing what is culturally appropriate for the patient.

This is not new news

- "I learned about a lot of things in medical school, but mortality wasn't one of them. Although I was given a dry, leathery corpse to dissect in my first term, that was solely a way to learn about human anatomy. Our textbooks had almost nothing on aging or frailty or dying. How the process unfolds, how people experience the end of their lives, and how it effects those around them seemed beside the point. The way we saw it, and the way our professors saw it, the purpose of medical schooling was to teach how to save lives, not how to tend to their demise.

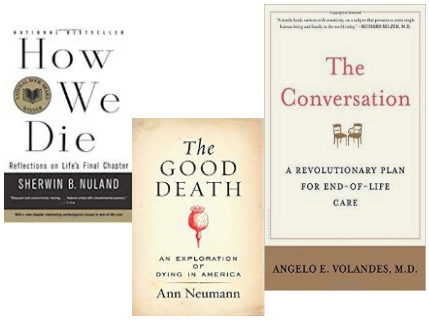
  The one time I remember discussing mortality was during an hour we spent on *The Death of Ivan Ilyich*, Tolstoy's classic novella…'What tormented Ivan Ilyich most,' Tolstoy writes, 'was the deception, the lie, which for some reason they all accepted, that he was not dying but was simply ill, and he only need to keep quiet and undergo a treatment and then something very good would result.'……He lives in mounting anguish and fear of death. But death is not a subject that his doctors, friends, or family can countenance. That is what causes him his most profound pain."





"The more medicalized death gets, the longer people are debilitated before the end, the more cloistered those who die become, the more terrifying death gets. The last century has given most people the gift of a prolonged life span, but the increased expectation of a long life has made an unexpected road bump all the more hard to digest……..

Conversations about death have become more ineffectual and detached from reality. Death is more commonly used as a political weapon to stir up fear among voters and constituents than it is accepted as an eventual fate of all living organisms……."

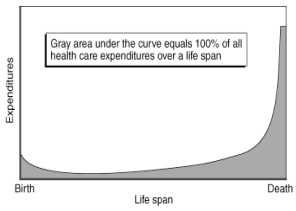


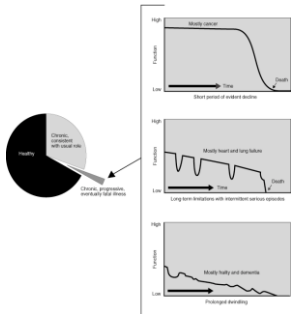
Websites On This

- http://www.northtexasrespectingchoices.com/
- http://theconversationproject.org/
- http://polst.org/

From 2003 RAND report – RAND Health White Paper 137 – Living Well at the End of Life

While this was published in 2003, the trend still holds true today and indeed is more exacerbated in 2016. Americans concentrate majority of Health Care Expenditures in Final Years (actually months) of Life





Conceptualizing the Money

- Per CMS.gov, Medicare spending was 646.2 billion dollars $$$$ in 2015.
- Many studies over the years since Medicare's inception have shown that Americans spend between 27 and 33% of their Medicare dollars in the final year of life and that about 1/3 of costs occurring in the last month of life.
- Doing the math, that's roughly 194 billion dollars in this day and age trying to avoid the inevitable.
- Interestingly, the percentage of medicare dollars in final year of life has not changed since Medicare started.
- This suggests more something about our cultural avoidance of death, how medicare was set up from the get-go, and the costs of healthcare today than anything else when we are compared to other developed nations.

When Should these Conversations be Had?

- NOW, not later, not in period of acute decline when patient and family is confronted with grief.
- Patient or surrogate must have capacity – components of capacity are understanding, appreciation, reasoning and communication of choice.
- If the first time this conversation is had is on the inpatient setting, it's probably too late for a smooth discussion. It is still necessary, but will be that much more difficult.

The decision-making abilities, their definitions, and questions to assess them

Decision-making ability	Definition	Sample questions
Understanding	The ability to state the meaning of the relevant information (eg, diagnosis, risks and benefits of a treatment, risks and benefits of the indications, and options of care).	After disclosing a piece of information, pause and ask the patient: "Can you tell me in your own words what I just told you?" or "What do the risks disclosed?"
Expressing a choice	The ability to state a decision.	"Based on what we've just discussed about [insert the topic], what would you choose?"
Appreciation	The ability to explain how information applies to oneself.	To assess appreciation of diagnosis: "Can you tell me in your own words what you see as your medical problem?" To assess appreciation of benefit: "Regardless of what your choice is, do you think the medication can help you?" To assess appreciation of risk: "Regardless of what your choice is, do you think it is possible the medication can harm you?"
Reasoning	The ability to compare information and infer consequences of choices.	To assess comparative reasoning: "How is it better than X?" To assess consequential reasoning: "How could it affect your daily activities?"

Instructions: The usual flow of a capacity assessment begins with the clinician disclosing the relevant facts for a decision and an assessment of the patient's understanding of those facts. Next, the clinician asks for the person's choice, followed by an assessment of their appreciation and reasoning about the choice, and concluding with a reassessment of choice. During the reassessment of choice, pay attention to the logical consistency of the choice based on the reasoning provided.

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Who should be having these conversations with patients?

The Lawyers?

Or the Medical Professionals?

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Tapia's Top 10 Barriers to End-Of-Life-Discussions

- 1) Physicians/providers aren't paid well to have the discussions. Medicare still emphasizes procedures to time based services. THIS COULD BE REASONS 1-10.
  - Same reason Geriatrics is a dying field.
- 2) Huge disconnect between medical community understanding of value of interventions and patients/surrogates understanding of what modern medicine can do – education to bridge the gap takes time, we don't get paid for that.
- 3) Increasing Distrust of Medical Field – Trust building takes time, we aren't paid for that.
- 4) Confusion regarding terminology in EOLD's even amongst medical community (e.g. What is implied with a DNR order?) – Education to clear the confusion takes time, we aren't paid for that.
- 5) Lack of training and experience in medical training in End-Of-Life Conversations for Providers – who would pay for extra education on something they receive little return on when they have 6 digits in debt?

Tapia's Top 10 Barriers to End-Of-Life-Discussions (cont)

- 6) Consistent messages from popular culture and medical training that death/aging are the enemy – patients spend more time watching TV than listening to their physicians/providers.
- 7) Lack of consistency in how to document and record patients' preferences when discussed – if we were incentivized to do this well, someone would figure it out real quick.
- 8) Sarah Palin – "Death Panels"
- 9) Difficulty in Navigating diversity in cultural values and personal preferences – takes TIME, you get the pattern.
- 10) Family Drama and Surrogates – again, takes time to manage, often not face-to-face patient visit time.

Official Texas Forms

- https://hhs.texas.gov/laws-regulations/forms/advance-directives
  - Directive to Physicians and Family or Surrogates
  - Medical Power of Attorney
  - Out-Of-Hospital DNR
  - Declaration For Mental Health Treatment
- http://www.northtexasrespectingchoices.com
  - TEXAS MOST form – Medical Orders for Scope of Treatment.

Questions for patients to consider in guiding a Directive to Physicians

1) What kinds of things are important to you in your life?
2) If you were not able to do the activities you enjoy, are there any medical treatments that would be too much?
3) What fears do you have about getting sick or medical care?
4) Do you have any spiritual, religious, philosophical, or cultural beliefs that guide you when you make medical decisions?
5) If you had to choose between living longer or having a higher quality of life, which would you pick?
6) How important is it for you to be at home when you die?

Taken from "The Conversation – A Revolutionary Plan for End-Of-Life-Care" by Dr. Angelo E. Volandes, M.D.

Questions Patients should consider when choosing a health proxy?

- 1) Does your proxy understand what your values and priorities are? Do you trust your proxy with your life?
- 2) Will your proxy be able to separate his or her feelings from yours and act on your wishes?
- 3) Will your proxy be a strong advocate of your expressed choices even if others – including your family members – disagree?
- 4) Does your proxy live near you and will he or she be available when you need help the most?

Taken from "The Conversation – A Revolutionary Plan for End-Of-Life-Care" by Dr. Angelo E. Volandes, M.D.

The values history

Section 1
Written legal documents
Living will
Durable power of attorney
Organ donations
Wishes concerning specific medical procedures
Organ donation
Kidney dialysis
Cardiopulmonary resuscitation
Respirators
Artificial nutrition
Artificial hydration
General comments
Section 2
Overall attitude toward health
Perception of the role of physician and other health caregivers
Thoughts about independence and control
Personal relationships
Overall attitude toward life
Attitude toward illness, dying and death
Religious background and beliefs
Living environment
Attitude concerning finances
Wishes concerning funeral

Adapted from Lambert, P, Gibson, J, Nathanson, P, Law, Medicine and Health Care 1990; 18:202.

UpToDate®

Facilitating advance care planning discussion

Step	Purpose	Question/comment
Permission	[illegible]	[illegible]
Preference	[illegible]	[illegible]
Establish the baseline	[illegible]	[illegible]
Provide information	[illegible]	[illegible]
Introduce dilemmas at hand	[illegible]	[illegible]
Explore values and beliefs	[illegible]	[illegible]
Elicit ACP preferences	[illegible]	[illegible]
Identify a surrogate decision-maker	[illegible]	[illegible]
Educate about the role of a surrogate	[illegible]	[illegible]
Encourage dissemination among family	[illegible]	[illegible]
Document	[illegible]	[illegible]
Review	[illegible]	[illegible]

ACP: Advance care planning.

Based on information provided by [illegible]

UpToDate®

A Physician's Guide to Talking About End-Of-Life Care

- Step 1 – Initiating Discussion
  - Establish a supportive relationship with patient and family
  - Appoint a surrogate decision maker
  - Elicit general thoughts about end-of-life preferences. Go beyond stock phrases with probing questions.
- Step 2 – Clarifying Prognosis
  - Be direct, yet caring
  - Be truthful, but sustain spirit
  - Use simple everyday language
- Step 3- Identifying EOL Goals
  - Facilitate open discussion about desired medical care and remaining life goals.
  - Recognize that as death nears, most patients share similar goals; maximizing time with family/friends, avoiding hospitalization/unnecessary procedures, maintaining functionality, and minimizing pain.
- Step 4 – Developing a treatment plan
  - Provide guidance in understanding medical options
  - Make recs regarding appropriate treatment
  - Clarify resuscitation orders
  - Initiate timely palliative care, when appropriate.

A Physician's Guide to Talking About End-of-Life Care. Richard B Balaban
J Gen Intern Med. 2000 Mar; 15(3): 195–200. doi: 10.1046/j.1525-1497.2000.07228.x
PMCID: PMC1495357

TEXAS MOST

- http://www.northtexasrespectingchoices.com/wp-content/uploads/TexasMOSTFinal2262016.pdf
- WHAT IS THE MOST?
  - Medical Orders for Scope of Treatment – TX specific version of POLST
- History of the POLST movement (Physician Orders for Life Sustaining Treatment)
  - "In 1991 leading medical ethicists in Oregon discovered that patient preferences for end-of-life care were not consistently honored. Recognizing that advance directives were inadequate for the patients with serious illness or frailty — who frequently require emergency medical care — a group of stakeholders developed a new tool for honoring patients' wishes for end-of-life treatment. After several years of evaluation, the program became known as Physician Orders for Life-Sustaining Treatment (POLST)."
- Not meant to replace a Directive to Physicians
  - Purpose is to work together with an Advanced Directive in specific patients populations (near End-of-Life) as a tool to ensure their wishes are fulfilled in an Emergency setting.

Standard of Care	The current standard of care during an emergency is to do everything possible in an attempt to save someone's life, unless there is a medical order to the contrary.

Advance Care Plan Documents

ACP documents allow individuals to share their treatment preferences in the event they can no longer speak for themselves. There are two kinds.

	Legal Documents	Medical Orders
Includes	• Advance directives • Living Wills • Health Care Power of Attorney	• Do Not Resuscitate (DNR) Orders • Physician Orders for Life-Sustaining Treatment (POLST) forms – name varies by state- see www.polst.org
Purpose	Identify a surrogate decision maker. Provide general wishes about treatments individual wants.	Orders emergency personnel to provide specific treatments during a medical emergency.
Who Needs	All competent adults	Seriously ill individuals. POLST Forms are only those individuals for whom health care professionals wouldn't be surprised if they died within a year.
Can be used during an emergency	No. These are used to develop care plans, but are not orders EMS can follow.	Yes. These are medical orders signed by health care professionals.

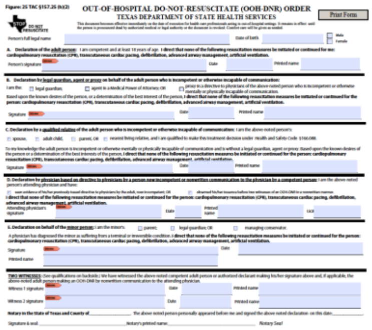

Figure: 25 TAC §157.25 (h)(2)

OUT-OF-HOSPITAL DO-NOT-RESUSCITATE (OOH-DNR) ORDER

TEXAS DEPARTMENT OF STATE HEALTH SERVICES

Print Form

Person's full legal name | Date of birth | Male | Female

A. Declaration of the adult person: I am competent and at least 18 years of age. **I direct that none of the following resuscitation measures be initiated or continued for me: cardiopulmonary resuscitation (CPR), transcutaneous cardiac pacing, defibrillation, advanced airway management, artificial ventilation.**

Person's signature | Date | Printed name

B. Declaration by legal guardian, agent or proxy on behalf of the adult person who is incompetent or otherwise incapable of communication:

I am the: ☐ legal guardian; ☐ agent in a Medical Power of Attorney; OR ☐ proxy in a directive to physicians of the above-noted person who is incompetent or otherwise mentally or physically incapable of communication.

Based upon the known desires of the person, or a determination of the best interest of the person, **I direct that none of the following resuscitation measures be initiated or continued for the person: cardiopulmonary resuscitation (CPR), transcutaneous cardiac pacing, defibrillation, advanced airway management, artificial ventilation.**

Signature | Date | Printed name

TEXAS MEDICAL ORDERS FOR SCOPE OF TREATMENT (MOST) [TXMOSTCoalition2-26-16]

First Name:	Last Name:	Follow this MOST and patient preferences first, then contact a physician. **Any section not completed implies full treatment for that section and does not invalidate the form.** Send this MOST with the patient for all transfers between treatment sites. Comfort care and dignity will be provided to all patients.
Date of Birth:	Date Form Prepared:	

A Check ONLY one

PHYSICIAN RESUSCITATION ORDER: If patient does not have a pulse and is not breathing:

☐ **Attempt Resuscitation (CPR)** Place tube in the windpipe, electrical shocks to the chest, chest compression, and IV tubes for fluids/medications.

☐ **Do Not Attempt Resuscitation/Allow Natural death (DNAR/AND)** Provide physical comfort, emotional, and respectful spiritual support to patient and family. ☐**Out-Of-Hospital-Do-Not-Resuscitate Form completed**

If patient is not in cardiopulmonary arrest, follow orders found in Sections **B** and **C**

B Check ONLY one

MEDICAL INTERVENTION SCOPE: If patient is unstable, has pulse and is breathing:

☐ **FULL INTERVENTIONS:** Transfer to a hospital, and if necessary to ICU. Use comfort and selective measures, and may add medically appropriate ICU interventions like, but not limited to, intubation/ventilator support, ICU-only medications, and dialysis.

☐ **SELECTIVE INTERVENTIONS:** If necessary, transfer to a hospital. In addition to comfort measures, may add interventions like intravenous antibiotics, non-invasive breathing support (BiPAP/CPAP), and fluid resuscitation.

☐ **COMFORT INTERVENTIONS ONLY:** Avoid hospitalization unless needed to provide comfort care. Focus on symptom control, dignity, and allowing gentle, natural death should it occur. Use comfort interventions like oral, subcutaneous, or intravenous medications (e.g., opioids), comfort foods/liquids, oxygen, and emotional/spiritual support.

ADDITIONAL ORDERS:____________________

C Check ONLY one

MEDICALLY ASSISTED NUTRITION/HYDRATION

Offer nutrition and hydration by mouth at all intervention levels if feasible.

☐ **No medically assisted nutrition.**

☐ **Unless medically contra-indicated*, defined trial of medically assisted nutrition.**

Length of trial __________ Goal ____________

☐ **Long-term medically assisted nutrition.**

*In some circumstances including, but not limited to, heart, lung, liver or kidney failure, assisted nutrition or hydration may increase suffering or hasten death, and is therefore medically contraindicated.

D

DOCUMENTATION OF DISCUSSION AND SIGNATURES:

Discussed with:	Rationale for these orders: (Choose all that apply)
☐ Patient (Patient has capacity)	☐ Living Will (Directive to Physicians and Family or Surrogates)
☐ Health Care Agent or Decision Maker: ________	☐ Medical Power of Attorney
☐ Court Appointed Guardian *(Relationship, Name)*	☐ Other: ________
☐ Others in Attendance: ________ *(Relationship, Name)*	

Physician Signature: My signature certifies both the order and preferences above and the basis for them.

X Physician Signature:	Print Physician Name:	Date:	Phone Number:

Patient or Patient's Surrogate Signature:

X Patient or Surrogate Signature:	Print Patient or Surrogate's Name, if signing:	Date:	Phone Number:

SEND FORM WITH PATIENT WHENEVER TRANSFERRED OR DISCHARGED

Patient Last Name:	First Name:		DOB:
Facilitator Information: If someone other than patient's physician is facilitating this conversation:			
Facilitator Last Name:	**Facilitator First Name:**	**Credentials:**	**Phone Number:**

Instructions for MOST Form

What is MOST?
MOST stands for Medical Orders for Scope of Treatment. It is a physician order set and care planning tool based upon patient treatment preferences that travels with the patient from one site of treatment to another.

Intent or Purpose of MOST: The MOST form is intended to promote patient centered health care and improve communication about that health care between hospitals, nursing facilities and other sites of care. The order and treatment preferences should be based upon:

- The patient's medical condition as determined by a physician; and
- The patient's preferences as directly expressed by the patient, the Living Will, or by the patient's surrogate (patient representative) if the patient can't communicate and lacks a Living Will.

Section A: Translates patient preferences regarding resuscitation into a physician order. It applies when a patient does not have a pulse and is not breathing. If a patient is not in cardiopulmonary arrest, then go to Sections B, C, D. At all times, health care professionals should remember that a DNAR/AND order does not mean that other health problems should go untreated.

Information Regarding Cardio-Pulmonary Resuscitation (CPR): CPR is sometimes helpful but other times can be harmful. It is most effective when a patient dies unexpectedly. CPR is rarely effective in advanced cancer, organ failure, other advanced illness, or advanced age when death would not be a surprise. CPR started in the nursing home almost never leads to survival. If CPR is initially successful in resuscitating a patient, the patient will be on a breathing machine in the ICU. Patients should discuss with their physician the potential to benefit from CPR based on their medical condition.

Section B and C: Provide guidance for more specific orders which a treating physician may issue according to the patient's medical condition, medical appropriateness, and local medical and nursing facility policy. These sections apply when a patient has a pulse and is breathing.

Is MOST a Valid Physician Order for Non-EMS Personnel? Yes. MOST is a valid order for health care personnel in an out of hospital setting other than Emergency Medical Services professionals, as stated in Section 166.102 of the Texas Health and Safety Code: PHYSICIAN'S DNR ORDER MAY BE HONORED BY HEALTH CARE PERSONNEL OTHER THAN EMERGENCY MEDICAL SERVICES PERSONNEL. (a) ...a licensed nurse or person providing health care services in an out-of-hospital setting may honor a physician's do-not-resuscitate order.

Is MOST a Valid Physician Order for EMS Personnel? NO. If EMS comes to a patient in arrest, they will attempt CPR unless a completed (B signatures) Texas-Out-of-Hospital DNR is present.

What Should Health Care Professionals (Other than EMS) Do With This Form? Make the form a part of the patient's medical record in your facility. Honor the order to attempt or not attempt CPR and patient treatment preferences in accordance with the standard of care in your community. If patient is transferred to any other medical facility, send the form with the patient.

Living Will, MPOA, and OOH-DNR Order: MOST is vital but does not replace these documents. EMS should honor and execute an OOH-DNR order or device [Tex. H&S Code, 166.102(b)] Although this MOST conveys important information about a patient's treatment preferences, it does not replace a Living Will, MPOA, or OOH-DNR Order. A patient's Living Will, MPOA, or OOH-DNR Order controls over this MOST. Health care professionals should be aware that when responding to a call for assistance, EMS personnel shall honor only a properly executed or issued OOH-DNR Order or identification device. [Tex. H&S Code, §166.102(b)].

Copy of MOST and HIPAA: A copy of a completed MOST is as valid as the original, and HIPAA permits disclosure of a completed MOST to other health care providers as necessary for treatment purposes. The complete MOST and associated documents will also be available to your treating physicians electronically via a secure local health information exchange.

Review: Physicians and patient/surrogate should review this form yearly or upon change in care setting, medical condition, or patient treatment preferences. If no changes, physician may simply initial the date of review in the boxes above. If changes are desired by the patient or surrogate, create a new form!

Date of Review								
Physician Initials								

SEND the MOST FORM ON ALL TRANSFERS BETWEEN HEALTHCARE SITES

How to Get Paid for Advanced Care Planning

- Beginning January 1, 2016 Advance Care Planning (ACP) codes were added to the Physician Fee Schedule for Medicare.
- The CPT codes are 99497 and 99498 and are time-based codes.
- They can be used in any setting of care when patient or their surrogate has a face-to face discussion with the Physician or the Physician's qualified designee (NPP).
- They are considered "Voluntary" meaning unless they are used optionally in the context of a Annual Wellness Visit, deductibles and coinsurance amounts apply just like any voluntary Medicare Part B service.

ACP Codes Broken Down.

CPT CODE	99497	99498
TIME	Min of 16 minutes up to 30 minutes.	Each additional 30 min, starting at 46 minutes
Medicare Reimburses	86$	up to 76$

Haikus to Drive it home

Sixteen to Thirty
It's 99497
For ACP Talks

Each extra thirty
It is 99498
Added onto first

Add codes to visits
With routine E and M codes
In any setting

Talks are Face-to-Face
With Patients or Surrogates
To get the monies.

EOLD's in the Bible Belt

- Majority Christians (although that's a diverse term)
- Pervasive belief in the "Will of God" and notion that God is in control.
- This informs decision making, however it frequently isn't fully informed due to the lack of understanding of medicines' limitations.
- Christians in the Bible Belt do share a common belief in God's plan for life from its natural beginning to its natural end.
- Get to know the chaplain, Pastors, and Religious in the community. They are a resource.

EOLD's in the Bible Belt

- I commonly hear patients tell me they want to be "Full Code" or for us to "do everything" possible because they feel that is what God asks of them to respect their own God-given life.
- Depending on the situation (rapport and relationship with patient/family) I have challenged the idea that the medical community "doing everything" is fulfilling God's plan.
- After educating about what our medical procedures such as CPR, or even in specific contexts PEG tubes, can achieve, I frequently make the case that perhaps the medical community is artificially and unnaturally thwarting God's plan to take them home to Him by intervening with these invasive/unnatural and frequently unsuccessful procedures.
- About 60% of the time, patients or surrogates change their code status. Roughly 30% are not off-put by it, but rather request more time to think on the topic before making changes…….which is great. The 10% where I have not succeeded has been when dealing in an emergency situation with a grieving child/spouse as decision maker……and there just wasn't time to develop the rapport.

References (not already cited)

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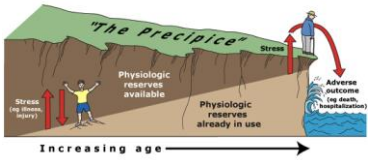
POLYPHARMACY/MED MANAGEMENT

For the Geriatric Patient or Medically Complex

Homeostenosis

- HOMEOSTASIS - the tendency toward a relatively stable equilibrium between interdependent elements, esp. as maintained by physiological processes
- **HOMEOSTENOSIS** is the concept that from maturity to senescence, diminishing physiologic reserves are available to meet challenges to homeostasis....with aging, the area in which the older person can bring themselves back to homeostasis narrows (aka becomes stenotic) -> increased vulnerability to disease that occurs with aging.



Basic Changes in Physiology to Keep in Mind always when Rx'ing to the Aged

- 1) Older people have more physiologic variability than younger people. Can't make assumptions.
- 2) Most of the "Evidence Based Medicine" that dictates protocol and standards of care are aiming to prevent death and often do not include people 80+ years old in the studies.
- 3) Body's ability to store, metabolize, and get rid of medications changes drastically as aging changes composition (more percent fat in muscle and bone marrow), liver is not functioning at 100%, kidney clearance decreased by 10mL/decade, etc....
- 4) Dementia is highly under-recognized, ability for many aged adults to manage Rx meds safely in outpatient setting should be considered.
- 5) Patient goals matter most. Must find these out before considering options for or against prescribing medications.

Common Sense -> apparently not.

- Increase in co-morbidities with age.
- Physiologic Changes
- Genetic Variability
  - Pharmacokinetics
  - Pharmacodynamics

Increased susceptibility to:
- Polypharm
- Drug interactions
- Adverse Drug Events (ADE's)
- Prescribing Cascade
- Poor Compliance
- Potentially Inappropriate Prescribing (PIP)

Potentially Inappropriate Prescribing

- Risk > Benefit -
  - Knowing patient's goals is important to understand risk vs benefit.
- Over-Prescribing
  - Excessive doses/duration of medicines (start low, go slow)
  - Polypharmacy
- Mis-Prescribing
  - Unfavorable choice of medicine, dose, or duration.
- Under-Prescribing
  - Not Prescribing a clinically indicated medicine, despite the patient not having any contra-indication to that medicine.

Examples of prescribing cascades

Initial drug therapy	Adverse drug event	Subsequent drug therapy
Antipsychotics	Extrapyramidal signs and symptoms	Antiparkinsonian therapy
Cholinesterase inhibitors	Urinary incontinence	Incontinence treatment
Thiazide diuretics	Hyperuricemia	Gout treatment
NSAIDs	Increased blood pressure	Antihypertensive therapy

Medication prescribing cascades occur when patients are prescribed medications to treat the adverse side effects of previously prescribed medications. This leads to polypharmacy and further increases the risk for adverse drug events. Periodic review of medication lists, especially in older adults, can minimize this risk.

Data from: Rochon PA, Gurwitz JH. Optimizing drug therapy for elderly people: the prescribing cascade. BMJ 1997; 315:1096 and Gill SS, Mamdani M, Naglie G, et al. A prescribing cascade involving cholinesterase inhibitors and anticholinergic drugs. Arch Intern Med 2005; 165:808.

UpToDate®

WHY THIS MATTERS

- While only about 14% of US pop is > 65 years (as of 2010), the elderly account for 25% of ED visits due to ADE's.
- Roughly 50% of hospitalizations due to ADE's are in the elderly
- 82% of American Adults take at least one medication and 29% take 5 or more.
- 3.5 BILLION DOLLARS spent on extra medical costs of ADE's YEARLY.
- At least 40% of costs of ambulatory (non-hospital settings) ADE's are estimated to be *preventable*

A self-created issue

- "Pill for every Ill" mentality among many patients and their family.
- Culturally Americans are not accepting of aging or dying. We are still in denial and will go to illogical lengths to prevent it.
- People do not understand the potential harms of medications, no thanks to big-pharma and media.
- Physicians/Providers are not paid to take the time needed to reassure, educate and counsel patients. But we feel like we have to do something, and if it's not surgery, our something is a medication…..and we're not allowed to use placebos.
- American Healthcare System is extremely fragmented.
- This and many more factors make it very hard to do the right thing for our patients in day to day clinical practice. But still – Do the right thing! "DO NO HARM"

BEERS CRITERIA

- Developed in 1991 by Dr. Mark Beers (a geriatrician) and expert panel and first published in 1991 in Archives of Internal Med.
- Have been updated in 1997, 2003, 2012 and 2015.
- "The "Beers Criteria" contains lists of medications that pose potential risks outweighing potential benefits for people 65 and older. By considering this information during routine care, practitioners may prevent harmful side effects, including those that could be life-threatening and other "adverse drug events"." – Wikipedia.
- It is meant to be a guide to physicians but not to replace professional judgment. There are a number of limitations.

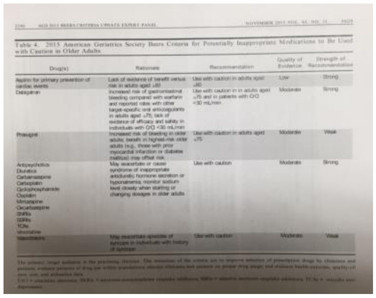


Table 4. 2015 American Geriatrics Society Beers Criteria for Potentially Inappropriate Medications to Be Used with Caution in Older Adults

Drug(s)	Rationale	Recommendation	Quality of Evidence	Strength of Recommendation
Aspirin for primary prevention of cardiac events	Lack of evidence of benefit versus risk in adults aged ≥80	Use with caution in adults aged ≥80	Low	Strong
Dabigatran	Increased risk of gastrointestinal bleeding compared with warfarin and reported rates with other target-specific oral anticoagulants in adults aged ≥75; lack of evidence of efficacy and safety in individuals with CrCl <30 mL/min	Use with caution in in adults aged ≥75 and in patients with CrCl <30 mL/min	Moderate	Strong
Prasugrel	Increased risk of bleeding in older adults; benefit in highest-risk older adults (e.g., those with prior myocardial infarction or diabetes mellitus) may offset risk	Use with caution in adults aged ≥75	Moderate	Weak
Antipsychotics Diuretics Carbamazepine Carboplatin Cyclophosphamide Cisplatin Mirtazapine Oxcarbazepine SNRIs SSRIs TCAs Vincristine	May exacerbate or cause syndrome of inappropriate antidiuretic hormone secretion or hyponatremia; monitor sodium level closely when starting or changing dosages in older adults	Use with caution	Moderate	Strong
Vasodilators	May exacerbate episodes of syncope in individuals with history of syncope	Use with caution	Moderate	Weak

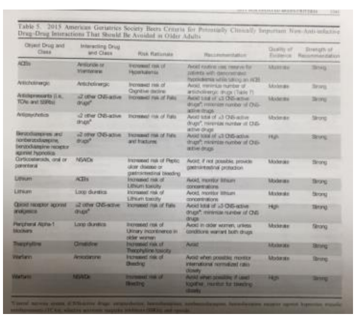


Table 5. 2015 American Geriatrics Society Beers Criteria for Potentially Clinically Important Non-Anti-infective Drug–Drug Interactions That Should Be Avoided in Older Adults

Object Drug and Class	Interacting Drug and Class	Risk Rationale	Recommendation	Quality of Evidence	Strength of Recommendation
ACEIs	Amiloride or triamterene	Increased risk of Hyperkalemia	Avoid routine use; reserve for patients with demonstrated hypokalemia while taking an ACEI	Moderate	Strong
Anticholinergic	Anticholinergic	Increased risk of Cognitive decline	Avoid, minimize number of anticholinergic drugs (Table 7)	Moderate	Strong
Antidepressants (i.e., TCAs and SSRIs)	≥2 other CNS-active drugs[a]	Increased risk of Falls	Avoid total of ≥3 CNS-active drugs[a]; minimize number of CNS-active drugs	Moderate	Strong
Antipsychotics	≥2 other CNS-active drugs[a]	Increased risk of Falls	Avoid total of ≥3 CNS-active drugs[a]; minimize number of CNS-active drugs	Moderate	Strong
Benzodiazepines and nonbenzodiazepine, benzodiazepine receptor agonist hypnotics	≥2 other CNS-active drugs[a]	Increased risk of Falls and fractures	Avoid total of ≥3 CNS-active drugs[a]; minimize number of CNS-active drugs	High	Strong
Corticosteroids, oral or parenteral	NSAIDs	Increased risk of Peptic ulcer disease or gastrointestinal bleeding	Avoid; if not possible, provide gastrointestinal protection	Moderate	Strong
Lithium	ACEIs	Increased risk of Lithium toxicity	Avoid, monitor lithium concentrations	Moderate	Strong
Lithium	Loop diuretics	Increased risk of Lithium toxicity	Avoid, monitor lithium concentrations	Moderate	Strong
Opioid receptor agonist analgesics	≥2 other CNS-active drugs[a]	Increased risk of Falls	Avoid total of ≥3 CNS-active drugs[a]; minimize number of CNS drugs	High	Strong
Peripheral Alpha-1 blockers	Loop diuretics	Increased risk of Urinary incontinence in older women	Avoid in older women, unless conditions warrant both drugs	Moderate	Strong
Theophylline	Cimetidine	Increased risk of Theophylline toxicity	Avoid	Moderate	Strong
Warfarin	Amiodarone	Increased risk of Bleeding	Avoid when possible; monitor international normalized ratio closely	Moderate	Strong
Warfarin	NSAIDs	Increased risk of Bleeding	Avoid when possible; if used together, monitor for bleeding closely	High	Strong

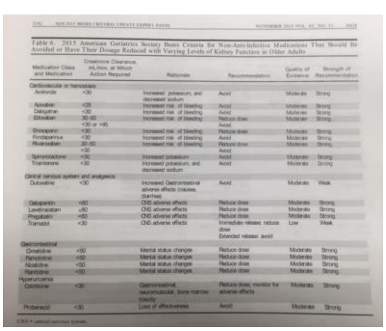


Table 6. 2015 American Geriatrics Society Beers Criteria for Non-Anti-Infective Medications That Should Be Avoided or Have Their Dosage Reduced with Varying Levels of Kidney Function in Older Adults

Medication Class and Medication	Creatinine Clearance, mL/min, at Which Action Required	Rationale	Recommendation	Quality of Evidence	Strength of Recommendation
Cardiovascular or hemostasis					
Amiloride	<30	Increased potassium, and decreased sodium	Avoid	Moderate	Strong
Apixaban	<25	Increased risk of bleeding	Avoid	Moderate	Strong
Dabigatran	<30	Increased risk of bleeding	Avoid	Moderate	Strong
Edoxaban	30–50 <30 or >95	Increased risk of bleeding	Reduce dose Avoid	Moderate	Strong
Enoxaparin	<30	Increased risk of bleeding	Reduce dose	Moderate	Strong
Fondaparinux	<30	Increased risk of bleeding	Avoid	Moderate	Strong
Rivaroxaban	30–50 <30	Increased risk of bleeding	Reduce dose Avoid	Moderate	Strong
Spironolactone	<30	Increased potassium	Avoid	Moderate	Strong
Triamterene	<30	Increased potassium, and decreased sodium	Avoid	Moderate	Strong
Central nervous system and analgesics					
Duloxetine	<30	Increased Gastrointestinal adverse effects (nausea, diarrhea)	Avoid	Moderate	Weak
Gabapentin	<60	CNS adverse effects	Reduce dose	Moderate	Strong
Levetiracetam	≤80	CNS adverse effects	Reduce dose	Moderate	Strong
Pregabalin	<60	CNS adverse effects	Reduce dose	Moderate	Strong
Tramadol	<30	CNS adverse effects	Immediate release: reduce dose Extended release: avoid	Low	Weak
Gastrointestinal					
Cimetidine	<50	Mental status changes	Reduce dose	Moderate	Strong
Famotidine	<50	Mental status changes	Reduce dose	Moderate	Strong
Nizatidine	<50	Mental status changes	Reduce dose	Moderate	Strong
Ranitidine	<50	Mental status changes	Reduce dose	Moderate	Strong
Hyperuricemia					
Colchicine	<30	Gastrointestinal, neuromuscular, bone marrow toxicity	Reduce dose; monitor for adverse effects	Moderate	Strong
Probenecid	<30	Loss of effectiveness	Avoid	Moderate	Strong

CNS = central nervous system.

STOPP/START

- Originally Developed in 2008 by Dr. Dennis O'Mahony and his team at Cork University Hospital.
- Came after recognition of many limitations to the Beers criteria.
  - Many of drugs on Beers really aren't even used in PC setting anymore (mepobramate, reserpine, etc)
  - Many of the drugs on Beers are not actually contra-indicated in elderly overall, making it's application confusing.
  - Beers originally didn't take into account several important PIP's or drug-drug interactions (they have since worked on this with updates) Nor did it provide any guidance into undertreatment.
  - Beers is used more as a research tool than a clinical aid.
- Recognized need for tool more clinically applicable and usable.
- Is now used throughout Europe, was updated in March 2014

STOPP Criteria

Screening **T**ool of **O**lder **P**ersons' potentially inappropriate **Pr**escriptions

VERSION 2

O'Mahony D, Gallagher P, Ryan C, Byrne S, O'Connor M, O'Sullivan D,. STOPP/START criteria for potentially inappropriate prescribing in older people: version 2. *Age and Ageing 2015; 44(2):213-218. Published electronically 16 October 2014*

Section A: Indication of medication

- 1. Any drug prescribed without an evidence-based clinical indication.
- 2. Any drug prescribed beyond the recommended duration, where treatment duration is well defined.
- 3. Any duplicate drug class prescription e.g. two concurrent NSAIDs, SSRIs, loop diuretics, ACE inhibitors, anticoagulants (optimisation of monotherapy within a single drug class should be observed prior to considering a new agent).

Section B: Cardiovascular System

- 1. Digoxin for heart failure with normal systolic ventricular function (no clear evidence of benefit)
- 2. Verapamil or diltiazem with NYHA Class III or IV heart failure (may worsen heart failure).
- 3. Beta-blocker in combination with verapamil or diltiazem (risk of heart block).
- **4. Beta blocker with bradycardia (< 50/min), type II heart block or complete heart block (risk of complete heart block, asystole).**
- 5. Amiodarone as first-line antiarrhythmic therapy in supraventricular tachyarrhythmias (higher risk of side-effects than beta-blockers, digoxin, verapamil or diltiazem)
- **6. Loop diuretic as first-line treatment for hypertension (safer, more effective alternatives available).**
- **7. Loop diuretic for dependent ankle oedema without clinical, biochemical evidence or radiological evidence of heart failure, liver failure, nephrotic syndrome or renal failure (leg elevation and /or compression hosiery usually more appropriate).**

Section B: Cardiovascular System cont

- **8. Thiazide diuretic with current significant hypokalaemia (i.e. serum K+ < 3.0 mmol/l), hyponatraemia (i.e. serum Na+ < 130 mmol/l) hypercalcaemia (i.e. corrected serum calcium > 2.65 mmol/l) or with a history of gout (hypokalaemia, hyponatraemia, hypercalcaemia and gout can be precipitated by thiazide diuretic)**
- **9. Loop diuretic for treatment of hypertension with concurrent urinary incontinence (may exacerbate incontinence).**
- 10. Centrally-acting antihypertensives (e.g. methyldopa, clonidine, moxonidine, rilmenidine, guanfacine), unless clear intolerance of, or lack of efficacy with, other classes of antihypertensives (centrally-active antihypertensives are generally less well tolerated by older people than younger people)
- 11. ACE inhibitors or Angiotensin Receptor Blockers in patients with hyperkalaemia.
- 12. Aldosterone antagonists (e.g. spironolactone, eplerenone) with concurrent potassium-conserving drugs (e.g. ACEI's, ARB's, amiloride, triamterene) without monitoring of serum potassium (risk of dangerous hyperkalaemia i.e. > 6.0 mmol/l – serum K should be monitored regularly, i.e. at least every 6 months).
- 13. Phosphodiesterase type-5 inhibitors (e.g. sildenafil, tadalafil, vardenafil) in severe heart failure characterised by hypotension i.e. systolic BP < 90 mmHg, or concurrent nitrate therapy for angina (risk of cardiovascular collapse)

Section C: Antiplatelet/Anticoagulant Drugs

- 1. Long-term aspirin at doses greater than 160mg per day (increased risk of bleeding, no evidence for increased efficacy).
- 2. Aspirin with a past history of peptic ulcer disease without concomitant PPI (risk of recurrent peptic ulcer).
- 3. Aspirin, clopidogrel, dipyridamole, vitamin K antagonists, direct thrombin inhibitors or factor Xa inhibitors with concurrent significant bleeding risk, i.e. uncontrolled severe hypertension, bleeding diathesis, recent non-trivial spontaneous bleeding) (high risk of bleeding).
- **4. Aspirin plus clopidogrel as secondary stroke prevention, unless the patient has a coronary stent(s) inserted in the previous 12 months or concurrent acute coronary syndrome or has a high grade symptomatic carotid arterial stenosis (no evidence of added benefit over clopidogrel monotherapy)**
- 5. Aspirin in combination with vitamin K antagonist, direct thrombin inhibitor or factor Xa inhibitors in patients with chronic atrial fibrillation (no added benefit from aspirin)

Section C: Antiplatelet/Anticoagulant Drugs Cont.

- 6. Antiplatelet agents with vitamin K antagonist, direct thrombin inhibitor or factor Xa inhibitors in patients with stable coronary, cerebrovascular or peripheral arterial disease (No added benefit from dual therapy).
- 7. Ticlopidine in any circumstances (clopidogrel and prasugrel have similar efficacy, stronger evidence and fewer side-effects).
- **8. Vitamin K antagonist, direct thrombin inhibitor or factor Xa inhibitors for first deep venous thrombosis without continuing provoking risk factors (e.g. thrombophilia) for > 6 months, (no proven added benefit).**
- **9. Vitamin K antagonist, direct thrombin inhibitor or factor Xa inhibitors for first pulmonary embolus without continuing provoking risk factors (e.g. thrombophilia) for > 12 months (no proven added benefit).**
- 10. NSAID and vitamin K antagonist, direct thrombin inhibitor or factor Xa inhibitors in combination (risk of major gastrointestinal bleeding).
- 11. NSAID with concurrent antiplatelet agent(s) without PPI prophylaxis (increased risk of peptic ulcer disease)

D. Central Nervous System and Psychotropic Drugs

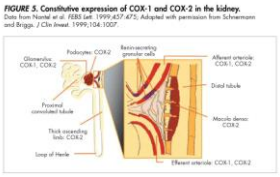
- 1. TriCyclic Antidepressants (TCAs) with dementia, narrow angle glaucoma, cardiac conduction abnormalities, prostatism, or prior history of urinary retention (risk of worsening these conditions).
- 2. Initiation of TriCyclic Antidepressants (TCAs) as first-line antidepressant treatment (higher risk of adverse drug reactions with TCAs than with SSRIs or SNRIs).
- 3. Neuroleptics with moderate-marked antimuscarinic/anticholinergic effects (chlorpromazine, clozapine, flupenthixol, fluphenzine, pipothiazine, promazine, zuclopenthixol) with a history of prostatism or previous urinary retention (high risk of urinary retention).
- **4. Selective serotonin re-uptake inhibitors (SSRI's) with current or recent significant hyponatraemia i.e. serum Na+ < 130 mmol/l (risk of exacerbating or precipitating hyponatraemia).**
- **5. Benzodiazepines for ≥ 4 weeks (no indication for longer treatment; risk of prolonged sedation, confusion, impaired balance, falls, road traffic accidents; all benzodiazepines should be withdrawn gradually if taken for more than 4 weeks as there is a risk of causing a benzodiazepine withdrawal syndrome if stopped abruptly).**
- **6. Antipsychotics (i.e. other than quetiapine or clozapine) in those with parkinsonism or Lewy Body Disease (risk of severe extra-pyramidal symptoms)**
- 7. Anticholinergics/antimuscarinics to treat extra-pyramidal side-effects of neuroleptic medications (risk of anticholinergic toxicity),

D. CNS/Psychotropic Cont.

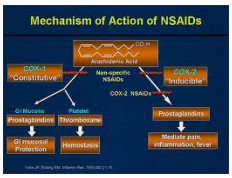
- **8. Anticholinergics/antimuscarinics in patients with delirium or dementia (risk of exacerbation of cognitive impairment).**
- 9. Neuroleptic antipsychotic in patients with behavioural and psychological symptoms of dementia (BPSD) unless symptoms are severe and other non-pharmacological treatments have failed (increased risk of stroke).
- **10. Neuroleptics as hypnotics, unless sleep disorder is due to psychosis or dementia (risk of confusion, hypotension, extra-pyramidal side effects, falls).**
- 11. Acetylcholinesterase inhibitors with a known history of persistent bradycardia (< 60 beats/min.), heart block or recurrent unexplained syncope or concurrent treatment with drugs that reduce heart rate such as beta-blockers, digoxin, diltiazem, verapamil (risk of cardiac conduction failure, syncope and injury).
- 12. Phenothiazines as first-line treatment, since safer and more efficacious alternatives exist (phenothiazines are sedative, have significant anti-muscarinic toxicity in older people, with the exception of prochlorperazine for nausea/vomiting/vertigo, chlorpromazine for relief of persistent hiccoughs and levomepromazine as an anti-emetic in palliative care).
- 13. Levodopa or dopamine agonists for benign essential tremor (no evidence of efficacy)
- 14. First-generation antihistamines (safer, less toxic antihistamines now widely available).

Section E: Renal System. The following drugs are potentially inappropriate in older people with acute or chronic kidney disease with renal function below particular levels of eGFR (refer to summary of product characteristics datasheets and local formulary guidelines)

- 1. Digoxin at a long-term dose greater than 125µg/day if eGFR < 30 ml/min/1.73m2 (risk of digoxin toxicity if plasma levels not measured).
- 2. Direct thrombin inhibitors (e.g. dabigatran) if eGFR < 30 ml/min/1.73m2 (risk of bleeding)
- 3. Factor Xa inhibitors (e.g. rivaroxaban, apixaban) if eGFR < 15 ml/min/1.73m2 (risk of bleeding)
- **4. NSAID's if eGFR < 50 ml/min/1.73m2 (risk of deterioration in renal function).**
- 5. Colchicine if eGFR < 10 ml/min/1.73m2 (risk of colchicine toxicity)
- 6. Metformin if eGFR < 30 ml/min/1.73m2 (risk of lactic acidosis).



Uh oh NSAIDs



F. Gastrointestinal System

- 1. Prochlorperazine or metoclopramide with Parkinsonism (risk of exacerbating Parkinsonian symptoms).
- **2. PPI for uncomplicated peptic ulcer disease or erosive peptic oesophagitis at full therapeutic dosage for > 8 weeks (dose reduction or earlier discontinuation indicated).**
- 3. Drugs likely to cause constipation (e.g. antimuscarinic/anticholinergic drugs, oral iron, opioids, verapamil, aluminium antacids) in patients with chronic constipation where non-constipating alternatives are available (risk of exacerbation of constipation).
- 4. Oral elemental iron doses greater than 200 mg daily (e.g. ferrous fumarate> 600 mg/day, ferrous sulphate > 600 mg/day, ferrous gluconate> 1800 mg/day; no evidence of enhanced iron absorption above these doses).

G. Respiratory System

- 1. Theophylline as monotherapy for COPD (safer, more effective alternative; risk of adverse effects due to narrow therapeutic index).
- 2. Systemic corticosteroids instead of inhaled corticosteroids for maintenance therapy in moderate-severe COPD (unnecessary exposure to long-term side-effects of systemic corticosteroids and effective inhaled therapies are available).
- 3. Anti-muscarinic bronchodilators (e.g. ipratropium, tiotropium) with a history of narrow angle glaucoma (may exacerbate glaucoma) or bladder outflow obstruction (may cause urinary retention).
- 4. Non-selective beta-blocker (whether oral or topical for glaucoma) with a history of asthma requiring treatment (risk of increased bronchospasm).
- 5. Benzodiazepines with acute or chronic respiratory failure i.e. pO2 < 8.0 kPa ± pCO2 > 6.5 kPa (risk of exacerbation of respiratory failure).

H. Musculoskeletal System

- **1. Non-steroidal anti-inflammatory drug (NSAID) other than COX-2 selective agents with history of peptic ulcer disease or gastrointestinal bleeding, unless with concurrent PPI or H2 antagonist (risk of peptic ulcer relapse).**
- **2. NSAID with severe hypertension (risk of exacerbation of hypertension) or severe heart failure (risk of exacerbation of heart failure).**
- **3. Long-term use of NSAID (>3 months) for symptom relief of osteoarthritis pain where paracetamol has not been tried (simple analgesics preferable and usually as effective for pain relief)**
- 4. Long-term corticosteroids (>3 months) as monotherapy for rheumatoid arthritis (risk of systemic corticosteroid side-effects).
- 5. Corticosteroids (other than periodic intra-articular injections for mono-articular pain) for osteoarthritis (risk of systemic corticosteroid side-effects).
- 6. Long-term NSAID or colchicine (>3 months) for chronic treatment of gout where there is no contraindication to a xanthine-oxidase inhibitor (e.g. allopurinol, febuxostat) (xanthine-oxidase inhibitors are first choice prophylactic drugs in gout).
- 7. COX-2 selective NSAIDs with concurrent cardiovascular disease (increased risk of myocardial infarction and stroke)
- 8. NSAID with concurrent corticosteroids without PPI prophylaxis (increased risk of peptic ulcer disease)
- 9. Oral bisphosphonates in patients with a current or recent history of upper gastrointestinal disease i.e. dysphagia, oesophagitis, gastritis, duodenitis, or peptic ulcer disease, or upper gastrointestinal bleeding (risk of relapse/exacerbation of oesophagitis, oesophageal ulcer, oesophageal stricture)

I. Urogenital System

- 1. Antimuscarinic drugs with dementia, or chronic cognitive impairment (risk of increased confusion, agitation) or narrow-angle glaucoma (risk of acute exacerbation of glaucoma), or chronic prostatism (risk of urinary retention).
- **2. Selective alpha-1 selective alpha blockers in those with symptomatic orthostatic hypotension or micturition syncope (risk of precipitating recurrent syncope)**

J. Endocrine System

- **1. Sulphonylureas with a long duration of action (e.g. glibenclamide, chlorpropamide, glimepiride) with type 2 diabetes mellitus (risk of prolonged hypoglycaemia).**
- 2. Thiazolidenediones (e.g. rosiglitazone, pioglitazone) in patients with heart failure (risk of exacerbation of heart failure)
- 3. Beta-blockers in diabetes mellitus with frequent hypoglycaemic episodes (risk of suppressing hypoglycaemic symptoms).
- 4. Oestrogens with a history of breast cancer or venous thromboembolism (increased risk of recurrence).
- 5. Oral oestrogens without progestogen in patients with intact uterus (risk of endometrial cancer).
- 6. Androgens (male sex hormones) in the absence of primary or secondary hypogonadism (risk of androgen toxicity; no proven benefit outside of the hypogonadism indication).

Section K: Drugs that predictably increase the risk of falls in older people

- 1. Benzodiazepines (sedative, may cause reduced sensorium, impair balance).
- 2. Neuroleptic drugs (may cause gait dyspraxia, Parkinsonism).
- 3. Vasodilator drugs (e.g. alpha-1 receptor blockers, calcium channel blockers, long-acting nitrates, ACE inhibitors, angiotensin I receptor blockers,) with persistent postural hypotension i.e. recurrent drop in systolic blood pressure ≥ 20mmHg (risk of syncope, falls).
- 4. Hypnotic Z-drugs e.g. zopiclone, zolpidem, zaleplon (may cause protracted daytime sedation, ataxia).

L. Analgesic Drugs

- **1. Use of oral or transdermal strong opioids (morphine, oxycodone, fentanyl, buprenorphine, diamorphine, methadone, tramadol, pethidine, pentazocine) as first line therapy for mild pain (WHO analgesic ladder not observed).**
- **2. Use of regular (as distinct from PRN) opioids without concomitant laxative (risk of severe constipation).**
- 3. Long-acting opioids without short-acting opioids for break-through pain (risk of persistence of severe pain)

Section M: Antimuscarinic/Anticholinergic Drug Burden

Concomitant use of two or more drugs with antimuscarinic/anticholinergic properties (e.g. bladder antispasmodics, intestinal antispasmodics, tricyclic antidepressants, first generation antihistamines) (risk of increased antimuscarinic/anticholinergic toxicity)

START Criteria
Screening **T**ool to **A**lert doctors to the **R**ight **T**reatment

VERSION 2

O'Mahony D, Gallagher P, Ryan C, Byrne S, O'Connor M, O'Sullivan D., STOPP/START criteria for potentially inappropriate prescribing in older people: version 2, *Age and Ageing 2015; 44(2):213-218. Published electronically 16 October 2014*

A. Cardiovascular System

- 1. Vitamin K antagonists or direct thrombin inhibitors or factor Xa inhibitors in presence of chronic atrial fibrillation.
- 2. Aspirin (75 mg – 160 mg once daily) in the presence of chronic atrial fibrillation, where Vitamin K antagonists or direct thrombin inhibitors or factor Xa inhibitors are contraindicated.
- 3. Antiplatelet therapy (aspirin or clopidogrel or prasugrel or ticagrelor) with a documented history of coronary, cerebral or peripheral vascular disease.
- 4. Antihypertensive therapy where systolic blood pressure consistently > 160 mmHg and/or diastolic blood pressure consistently >90 mmHg; if systolic blood pressure > 140 mmHg and /or diastolic blood pressure > 90 mmHg, if diabetic.
- 5. Statin therapy with a documented history of coronary, cerebral or peripheral vascular disease, unless the patient's status is end-of-life or age is > 85 years.
- 6. Angiotensin Converting Enzyme (ACE) inhibitor with systolic heart failure and/or documented coronary artery disease.
- 7. Beta-blocker with ischaemic heart disease.
- 8. Appropriate beta-blocker (bisoprolol, nebivolol, metoprolol or carvedilol) with stable systolic heart failure.

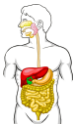
B. Respiratory System

- 1. Regular inhaled b2 agonist or antimuscarinic bronchodilator (e.g. ipratropium, tiotropium) for mild to moderate asthma or COPD.
- 2. Regular inhaled corticosteroid for moderate-severe asthma or COPD, where FEV1 <50% of predicted value and repeated exacerbations requiring treatment with oral corticosteroids.
- 3. Home continuous oxygen with documented chronic hypoxaemia (i.e. pO2 < 8.0 kPa or 60 mmHg or SaO2 < 89%)

C. Central Nervous System and Eye

- 1. L-DOPA or a dopamine agonist in idiopathic Parkinson's disease with functional impairment and resultant disability.
- 2. Non-TCA antidepressant drug in the presence of persistent major depressive symptoms.
- 3. Acetylcholinesterase inhibitor (e.g. donepezil, rivastigmine, galantamine) for mild-moderate Alzheimer's dementia or Lewy Body dementia (rivastigmine).
- 4. Topical prostaglandin, prostamide or beta-blocker for primary open-angle glaucoma.
- 5. Selective serotonin reuptake inhibitor (or SNRI or pregabalin if SSRI contraindicated) for persistent severe anxiety that interferes with independent functioning.
- 6. Dopamine agonist (ropinirole or pramipexole or rotigotine) for Restless Legs Syndrome, once iron deficiency and severe renal failure have been excluded.

D. Gastrointestinal System



- 1. Proton Pump Inhibitor with severe gastro-oesophageal reflux disease or peptic stricture requiring dilatation.
- 2. Fibre supplements (e.g. bran, ispaghula, methylcellulose, sterculia) for diverticulosis with a history of constipation.

E: Musculoskeletal System

- 1. Disease-modifying anti-rheumatic drug (DMARD) with active, disabling rheumatoid disease.
- 2. Bisphosphonates and vitamin D and calcium in patients taking long-term systemic corticosteroid therapy.
- 3. Vitamin D and calcium supplement in patients with known osteoporosis and/or previous fragility fracture(s) and/or (Bone Mineral Density T-scores more than -2.5 in multiple sites).
- 4. Bone anti-resorptive or anabolic therapy (e.g. bisphosphonate, strontium ranelate, teriparatide, denosumab) in patients with documented osteoporosis, where no pharmacological or clinical status contraindication exists (Bone Mineral Density T-scores -> 2.5 in multiple sites) and/or previous history of fragility fracture(s).
- 5. Vitamin D supplement in older people who are housebound or experiencing falls or with osteopenia (Bone Mineral Density T-score is > -1.0 but < -2.5 in multiple sites).
- 6. Xanthine-oxidase inhibitors (e.g. allopurinol, febuxostat) with a history of recurrent episodes of gout.
- 7. Folic acid supplement in patients taking methotexate.

F. Endocrine System

1. ACE inhibitor or Angiotensin Receptor Blocker (if intolerant of ACE inhibitor) in diabetes with evidence of renal disease i.e. dipstick proteinuria or microalbuminuria (>30mg/24 hours) with or without serum biochemical renal impairment.

Section G: Urogenital System

- 1. Alpha-1 receptor blocker with symptomatic prostatism, where prostatectomy is not considered necessary.
- 2. 5-alpha reductase inhibitor with symptomatic prostatism, where prostatectomy is not considered necessary.
- 3. Topical vaginal oestrogen or vaginal oestrogen pessary for symptomatic atrophic vaginitis.

Section H: Analgesics

- 1. High-potency opioids in moderate-severe pain, where paracetamol, NSAIDs or low-potency opioids are not appropriate to the pain severity or have been ineffective.
- 2. Laxatives in patients receiving opioids regularly.

Section I: Vaccines

- 1. Seasonal trivalent influenza vaccine annually
- 2. Pneumococcal vaccine at least once after age 65 according to national guidelines

Appropriate prescribing in the elderly

1. Is there an indication for the drug?
2. Is the medication effective for the condition?
3. Is the dosage correct?
4. Are the directions correct?
5. Are the directions practical?
6. Are there clinically significant drug-drug interactions?
7. Are there clinically significant drug-disease/condition interactions?
8. Is there unnecessary duplication with other drugs?
9. Is the duration of therapy acceptable?
10. Is this drug the least expensive alternative compared with others of equal usefulness?

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UpToDate®

A step-wise approach to reviewing medications for older adults

Approach
Review current drug therapy
Discontinue potentially unnecessary therapy
Consider adverse drug events as a potential cause for any new symptom
Consider non-pharmacological approaches
Substitute with safer alternatives
Reduce the dose
Use beneficial therapies when indicated

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UpToDate

Things I see regularly like it's no big thing…….but it IS!

- Elderly frail patient with CHF and PAF on ACE-I at almost max dose, beta-blocker, Anticoagulation, maybe a diuretic, all appropriate according to the EBM and "studies" and yet they can't walk because they're dizzy and their BP is 100/60. BUT, they're rate controlled, so there's that.
- PCP's prescribing drugs that require renal dosing in elderly patient's who haven't had a recent updated Cr or GFR calculation in years……e.g. nitrofurantoin, Bactrim (sulfa/Trimethoprim), Gabapentin, this list could go on forever.
- Initiating a benzo in a late-60ies or early 70ies widow for sleep trouble or anxiety but never actually stopping it or addressing the chronicity of the issue.

More things that happen all the time

- People 75 and up on anti-hypertensives, and taking NSAIDs.
- Patients on medications that require close monitoring (digoxin, coumadin, etc) but not being monitored closely.
- Large Anticholinergic burden of medications, new complaint of cognitive issues (or constipation, or dizziness or dry mouth), and rather than first looking to meds as possible issue, cascade of tests and costly diagnostics is initiated.
- Tramadol use in people with CKD or in patients with hx of Seizure or meds that lower seizure threshold.
- Specialists starting atorvastatin or rosuvastatin in patients 85+ yrs

Things I see in West TX Nursing Home/AL - ??

- Leaving elderly patients on ISS during skilled rehab
- Treating type II diabetes with ISS and mealtime insulin with no basal acting
- Serotonin Syndrome – have seen it at least 5 times and I've only lived in West TX for 2.5 years. – due to addition of things like buspar, haldol, trazodone, tramadol, etc etc without taking away the meds that aren't working.
- Non EBM – patients with CHF not on ACE-I or documentation for why not, reckless use of reglan (honestly unless the patient is on hospice DO NOT USE IT IN THE ELDERLY)

Final note to the Nurse Practitioners

- It is you who will be doing the brunt work of Geriatric care, particularly in the AL setting and the LTC setting.
- Find a physician to work under who you can trust, who doesn't only care about volume and money, and who is responsive to you when you ask their opinion.
- DO NOT QUESTION YOURSELF WHEN QUESTIONING A PHYSICIAN SPECIALIST IF YOU ARE THE PCP!!!! – Often specialists don't look at the big picture, as a PCP you must. You can politely decline their recommendations because you likely know your patient better, their history and their goals.

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