AGS Beers Criteria 2023 Update

MPhA Consultant Seminar
April 18, 2024

Richard L. “Buddy” Ogletree, Jr. PharmD, RPh
bogletree3@gmail.com

1

Financial Disclosures and CE Information

Dr. Ogletree declares that he has the following affiliations with ineligible companies related to the subject matter of this continuing pharmacy education activity:

Telligen – pharmacy director

Advanced Infusion Systems – research coordinator

MPhA and DPPD have taken additional steps to mitigate this potential conflict of interest by restricting discussion of certain topics.

The University of Mississippi School of Pharmacy is accredited by the Accreditation Council for Pharmacy Education as a provider of continuing pharmacy education.

ACPE Universal Activity Number: **0032-9999-24-013-L01-P**

Activity type: knowledge-based

Credits: 1 hour (0.1 CEU)

2

Learning Objectives

By the end of this presentation, the participant will be able to…

- Recall the purpose of the American Geriatrics Society's (AGS) Beers Criteria
- List the 5 general categories used as a framework when developing the Beers criteria
- Recognize medications considered potentially inappropriate for use in older adults
- Identify drug-drug interactions included on the Beers Criteria list

3

What is it?

4

What is it?

- Full name – The American Geriatrics Society Beers Criteria® for Potentially Inappropriate Medication Use in Older Adults

5

What is it?

- Full name – The American Geriatrics Society Beers Criteria® for Potentially Inappropriate Medication Use in Older Adults
- Commonly called – Beers Criteria or Beers List

6

What is it?

- Full name – The American Geriatrics Society Beers Criteria® for Potentially Inappropriate Medication Use in Older Adults
- Commonly called – Beers Criteria or Beers List
- American Geriatrics Society (AGS) prefers –

7

What is it?

- Full name – The American Geriatrics Society Beers Criteria® for Potentially Inappropriate Medication Use in Older Adults
- Commonly called – Beers Criteria or Beers List
- American Geriatrics Society (AGS) prefers – AGS Beers Criteria®

8

History

9

History

- 1991 – developed by Mark Beers, MD, and colleagues, at UCLA targeting nursing home residents

10

History

- 1991 – developed by Mark Beers, MD, and colleagues, at UCLA targeting nursing home residents
- 1997 – updated and expanded to apply to all older adults

11

History

- 1991 – developed by Mark Beers, MD, and colleagues, at UCLA targeting nursing home residents
- 1997 – updated and expanded to apply to all older adults
- 2003 – updated by a US Consensus Panel of Experts

12

History - continued

- 2010 – AGS takes stewardship of criteria and publishes lists in

13

History - continued

- 2010 – AGS takes stewardship of criteria and publishes lists in
  - 2012

14

History - continued

- 2010 – AGS takes stewardship of criteria and publishes lists in
  - 2012
  - 2015

15

History - continued

- 2010 – AGS takes stewardship of criteria and publishes lists in
  - 2012
  - 2015
  - 2019

16

History - continued

- 2010 – AGS takes stewardship of criteria and publishes lists in
  - 2012
  - 2015
  - 2019
- 2023 – AGS publishes seventh edition (fourth by AGS)

17

What is the purpose of Beers Criteria?

"Serves as a comprehensive list of medications that older people should potentially avoid or consider using with caution because they often present unnecessary risks for this population"

AGS. *J Am Geriatr Soc*. 2023; 71(7): 2052-2081

18

What is the purpose of Beers Criteria?

According to the CDC (National Center for Health Statistics), in those at least 65 years of age…

- 88.5% use at least one prescription
- more than 66.4% use at least three prescriptions

https://www.cdc.gov/nchs/hus/contents2019.htm#Table-039

19

What is the purpose of Beers Criteria?

It is intended to

20

What is the purpose of Beers Criteria?

It is intended to

ASSIST

21

What is the purpose of Beers Criteria?

It is intended to

ASSIST

NOT

22

What is the purpose of Beers Criteria?

It is intended to

ASSIST

NOT

REPLACE

23

What is the purpose of Beers Criteria?

It is intended to

ASSIST

NOT

REPLACE

good clinical judgment and shared clinical decision making

24

To whom does it apply?

25

To whom does it apply?

Adults 65 years old and older in…

- Ambulatory
- Acute
- Institutionalized care settings

. .

26

To whom does it apply?

Adults 65 years old and older in…

- Ambulatory
- Acute
- Institutionalized care settings

NOT…

- Hospice
- End-of-life care settings. .

27

Assessment Spot Check

28

What is the purpose of Beers Criteria?

A. It is considered to be statutory.
B. It is intended for use in lawsuits against prescribers.
C. It is intended to delete dangerous medications from LTC formularies.
D. It serves to provide a list of medications potentially requiring caution because of inferred risk in the older population
E. It takes the place of good clinical judgment.

29

What is the purpose of Beers Criteria?

D. It serves to provide a list of medications potentially requiring caution because of inferred risk in the older population.

30

The Beers Criteria is intended to apply to those 65 and older in which settings?

A. Acute

B. Ambulatory

C. End-of-life

D. Hospice

E. Institutional

31

The Beers Criteria is intended to apply to those 65 and older in which settings?

A. Acute

B. Ambulatory

E. Institutional

32

Assessing the Evidence

33

Assessing the Evidence

High-quality evidence:

34

Assessing the Evidence

High-quality evidence:
- further research is not likely to change our mind (confidence and estimate of effect)

35

Assessing the Evidence

High-quality evidence:
- further research is not likely to change our mind (confidence and estimate of effect)

Moderate-quality evidence:

36

Assessing the Evidence

High-quality evidence:
- further research is not likely to change our mind (confidence and estimate of effect)

Moderate-quality evidence:
- further research could impact confidence and/or estimate of effect

37

Assessing the Evidence

High-quality evidence:
- further research is not likely to change our mind (confidence and estimate of effect)

Moderate-quality evidence:
- further research could impact confidence and/or estimate of effect

Low-quality evidence:

38

Assessing the Evidence

High-quality evidence:
- further research is not likely to change our mind (confidence and estimate of effect)

Moderate-quality evidence:
- further research could impact confidence and/or estimate of effect

Low-quality evidence:
- further research is likely to impact confidence and/or estimate of effect

39

Strength of Recommendation

Strong:

40

Strength of Recommendation

Strong:
- risks (adverse events, harms) clearly outweigh benefits

41

Strength of Recommendation

Strong:
- risks (adverse events, harms) clearly outweigh benefits

Weak:

42

Strength of Recommendation

Strong:
- risks (adverse events, harms) clearly outweigh benefits

Weak:
- risks (adverse events, harms) may not outweigh benefits

43

Strength of Recommendation

High-quality evidence:
- further research is not likely to change our mind (confidence and estimate of effect)

Moderate-quality evidence:
- further research could impact confidence and/or estimate of effect

Low-quality evidence:
- further research is likely to impact confidence and/or estimate of effect

44

Abbreviation Used Throughout Document

45

Abbreviation Used Throughout Document

PIM

46

Abbreviation Used Throughout Document

PIM – potentially inappropriate medication

47

Abbreviation Used Throughout Document

PIM – potentially inappropriate medication

48

General Categories

49

General Categories

1. Avoided by most older adults (outside of hospice and palliative care settings)

50

General Categories

1. Avoided by most older adults (outside of hospice and palliative care settings)
2. Avoided by older adults with specific health conditions

51

General Categories

1. Avoided by most older adults (outside of hospice and palliative care settings)
2. Avoided by older adults with specific health conditions
3. Used with caution because of the potential for harmful side effects

52

General Categories

1. Avoided by most older adults (outside of hospice and palliative care settings}
2. Avoided by older adults with specific health conditions
3. Used with caution because of the potential for harmful side effects
4. Avoided in combination with other treatments because of the risk for harmful “drug-drug” interactions

53

General Categories

1. Avoided by most older adults (outside of hospice and palliative care settings)
2. Avoided by older adults with specific health conditions
3. Used with caution because of the potential for harmful side effects
4. Avoided in combination with other treatments because of the risk for harmful “durg-drug” interactions

54

General Categories

1. Avoided by most older adults (outside of hospice and palliative care settings}
2. Avoided by older adults with specific health conditions
3. Used with caution because of the potential for harmful side effects
4. Avoided in combination with other treatments because of the risk for harmful “drug-drug” interactions

55

General Categories

1. Avoided by most older adults (outside of hospice and palliative care settings)
2. Avoided by older adults with specific health conditions
3. Used with caution because of the potential for harmful side effects
4. Avoided in combination with other treatments because of the risk for harmful “drug-drug” interactions
5. Dosed differently or avoided among older adults with reduced kidney function, which impacts how the body processes medicine

56

General Categories

1. **Avoided by most older adults (outside of hospice and palliative care settings)**
2. Avoided by older adults with specific health conditions
3. Used with caution because of the potential for harmful side effects
4. Avoided in combination with other treatments because of the risk for harmful “drug-drug” interactions
5. Dosed differently or avoided among older adults with reduced kidney function, which impacts how the body processes medicine

57

Avoided by most older adults

Many medications fall into this category

58

Avoided by most older adults

Anticholinergics or those with anticholinergic activity

- Confusion or disorientation
- Blurry vision
- Heat intolerance
- Urinary retention
- Dry mouth
- Other effects
- Be mindful of cumulative effects from multiple agents

59

Anticholinergic activity

First generation H-1 agents

- Diphenhydramine (don't necessarily withhold for acute allergic reaction)
- Brompheniramine
- Chlorpheniramine
- Doxylamine
- Promethazine
- Cyproheptadine
- Dimenhydrinate
- Many more

60

Anticholinergic activity

GI antispasmotics

- Dicyclomine
- Hyoscyamine
- Belladonna alkaloids

61

Anticholinergic activity

Over-Active Bladder (OAB) agents

- Immediate-release oxybutynin seems to be worst
- Trospium does not readily cross BBB
- Solefenacin seems to be safest, in general
- Consider beta-3 agonists like mirabegron or vibegron

62

Anticholinergic activity

Antidepressants, especially tricyclics

- Amitriplyline > nortriptyline
- Imipramine > desipramine
- Doxepin - less of an issue with low-dose
- Paroxetine seems to have most of SSRIs, also most sedating

63

Anticholinergic activity

EPS managing agents

- Benztropine
- Trihexiphenidyl

64

Avoided by most older adults

CNS depressants or those with CNS depressing activity

- Increased sensitivity
- Decreased metabolism
- Fall risk
- Disorientation
- Excess drowsiness

65

CNS depressants or those with CNS depressing activity

- Antidepressants, especially tricyclics
- Paroxetine has most of SSRIs
- Antipsychotics
- Skeletal muscle relaxants (does not include those used for spasticity – tizanidine, baclofen)
- Meperidine

66

More CNS depressants or those with CNS depressing activity

- Barbiturates
- Benzodiazepines (may have some appropriate indications, such as seizure, severe GAD, REM sleep disorder, EtOH withdrawal, periprocedural uses
- Z-drugs (eszopiclone, zaleplon, zolepidem)

67

Avoided by most older adults

Miscellaneous

- Nitrofurantoin – avoid in CrCl < 30 mL/min (FDA approved labeling says CrCl < 60, but newer information suggests 30 as a better threshold)
- Aspirin – avoid starting for primary prevention, consider deprescribing in those already using; typically appropriate for secondary prevention
- Alpha-2 agonists – Avoid clonidine as first line for HTN, avoid others for HTN altogether

68

General Categories

1. Avoided by most older adults (outside of hospice and palliative care settings)
2. **Avoided by older adults with specific health conditions**
3. Used with caution because of the potential for harmful side effects
4. Avoided in combination with other treatments because of the risk for harmful "drug-drug" interactions
5. Dosed differently or avoided among older adults with reduced kidney function, which impacts how the body processes medicine

69

Avoided by older adults with specific health conditions

Heart failure
- Non-dihydropyridine CCBs (verapamil, diltiazem)
- NSAIDS and COX-2 inhibitors
- Thiazolidinediones (use with caution)

History of ulcers
- Aspirin (if must use, also use GI protectant)
- Non-selective NSAIDS

70

Avoided by older adults with specific health conditions

Dementia or cognitive impairment
- Anticholinergics
- Benzodiazepines and Z-drugs

Parkinson's disease
- Dopamine antagonist anti-emetics (metoclopramide, promethazine, prochloperazine)

71

Avoided by older adults with specific health conditions

History of falls or fractures
- Anticholinergics
- Benzodiazepines and Z-drugs
- Opioids

72

General Categories

1. Avoided by most older adults (outside of hospice and palliative care settings)
2. Avoided by older adults with specific health conditions
3. **Used with caution because of the potential for harmful side effects**
4. Avoided in combination with other treatments because of the risk for harmful "drug-drug" interactions
5. Dosed differently or avoided among older adults with reduced kidney function, which impacts how the body processes medicine

73

Used with caution because of the potential for harmful side effects

Concerns of SIADH or hyponatremia (monitor sodium closely when starting or increasing dose)

- Mirtazepine
- SSRIs
- SNRIs
- Carbamazepine
- Oxcarbazepine
- Diuretics

74

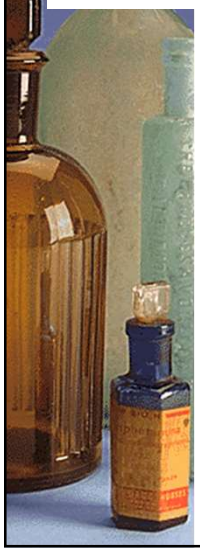
Used with caution because of the potential for harmful side effects

- Trimethoprim-sulfamethoxazole - risk of hyperkalemia, especially if also taking ACEi, ARB, or ARNI and decreased renal function
- SGLT2 inhibitors - increased risk of urogenital infections, especially in women in the first month of treatment; increased risk of euglycemic diabetic ketoacidosis

75

Assessment Spot Check

76



Which of the following drugs or class is featured prominently within the Beers Criteria?

A. Anticholinergics

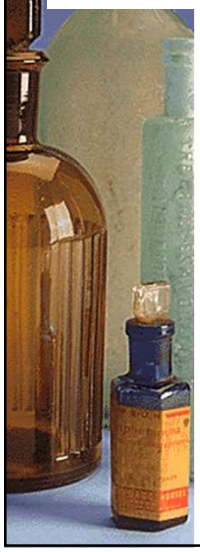
B. Beta-3 agonists

C. Dihydropyridine calcium channel blockers

D. Nasal antihistamines

E. Topical corticosteroids

77



Which of the following drugs or class is featured prominently within the Beers Criteria?

A. Anticholinergics

78

General Categories

1. Avoided by most older adults (outside of hospice and palliative care settings)
2. Avoided by older adults with specific health conditions
3. Used with caution because of the potential for harmful side effects
4. **Avoided in combination with other treatments because of the risk for harmful "drug-drug" interactions**
5. Dosed differently or avoided among older adults with reduced kidney function, which impacts how the body processes medicine

79

Avoided in combination with other treatments because of the risk for harmful "drug-drug" interactions

- ACEs, ARBs, ARNIs, aliskiren, triamterene, amiloride – avoid using two or more in stage 3a or worse CKD (CrCl < 60 mL/min)
- Opioids with benzodiazepines – increased risk of overdose, adverse events
- Opioids with α_2-δ ligands (gabapentin, pregabalin) – risk of severe sedation related ADRs, including respiratory depression and/or death

80

Avoided in combination with other treatments because of the risk for harmful “drug-drug” interactions

Avoid any 3 or more of these CNS active agents – increased risk of falls/fractures

- Antiepileptics (including α_2-δ ligands)
- Antidepressants (TCAs, SSRIs, SNRIs)
- Antipsychotics
- Benzodiazepines
- Z-drugs
- Opioids
- Skeletal muscle relaxants

81

Avoided in combination with other treatments because of the risk for harmful “drug-drug” interactions

Warfarin concomitantly with

- Amiodarone
- Ciprofloxacin
- Trimethoprim-sulfamethoxazole

If they have to be used together, monitor INR closely

82

Assessment Spot Check

83

Of the following drugs, which is least likely to interact with warfarin?

A. Amiodarone

B. Amoxicillin

C. Ciprofloxacin

D. Trimethoprim-sulfamethoxazole

84

Of the following drugs, which is least likely to interact with warfarin?

B. Amoxicillin

85

General Categories

1. Avoided by most older adults (outside of hospice and palliative care settings)
2. Avoided by older adults with specific health conditions
3. Used with caution because of the potential for harmful side effects
4. Avoided in combination with other treatments because of the risk for harmful "drug-drug" interactions
5. **Dosed differently or avoided among older adults with reduced kidney function, which impacts how the body processes medicine**

86

Dosed differently or avoided among older adults with reduced kidney function

- Ciprofloxacin – reduce dose when CrCl < 30 mL/min
- Nitrofurantoin – avoid if CrCl < 30 mL/min
- Dabigatran – avoid if CrCl < 30 mL/min
- Duloxetine – avoid if CrCl < 30 mL/min
- Gabapentin, pregabalin – reduce dose when CrCl < 60 mL/min
- Tramadol – reduce dose when CrCl < 30 mL/min (avoid extended release)

87

Anticoagulant Considerations

Warfarin

• Avoid as initial option for (VTE) or nonvalvular AF unless other options are not suitable

• For those currently using warfarin with well-controlled INRs (i.e., >70% time in the therapeutic range) and no substantial adverse effects, continuing it may be reasonable

88

Anticoagulant Considerations

Rivaroxaban:

• *Avoid* for long-term treatment of nonvalvular AF

•Use safer anticoagulant options

Dabigatran:

• *Use caution* selecting over other DOACs (e.g., apixaban, edoxaban) for long-term treatment of nonvalvular AF or VTE

89

Anticoagulant Considerations

In general

• Apixaban, seems to be safest with regard to bleeding

• Edoxaban seems to be safest with regard to drug-drug interactions

Bonanad, et al. *J Clin Med*. 2022 Dec 14;11(24):7423.

90

Assessment Spot Check

91

Of the following, which is **NOT** a general category of the Beers list?

A. Avoided by older adults with specific health conditions
B. Used with caution because of the potential for harmful side effects
C. Avoided by most older adults due to lack of Medicare coverage
D. Avoided in combination with other treatments because of the risk for harmful "drug-drug" interactions
E. Dosed differently or avoided among older adults with reduced kidney function, which impacts how the body processes medicine

92

Of the following, which is **NOT** a general category of the Beers list?

C. Avoided by most older adults due to lack of Medicare coverage

93

Principles for using Beers Criteria

- Medications are ***potentially*** inappropriate, not **definitely** inappropriate
- Read the rationale for recommendation statements. The caveats could be important.
- Understand why medications are included and make decisions accordingly
- When identifying PIMs, offer safer nonpharmacologic and pharmacologic therapies when appropriate

94

Principles for using Beers Criteria

- The Beers Criteria should be a starting point, not an edict
- Access to medications on this list should not have excessive restrictions such as prior authorization and/or health plan coverage policies

95

Deprescribing Resources

https://deprescribing.org/resources/
- evidence-based guidelines
- algorithms

https://www.deprescribingnetwork.ca/professionals
- algorithms
- deprescribing-oriented patient/family handouts
- curriculum development tools

96

References

1. By the 2023 American Geriatrics Society Beers Criteria® Update Expert Panel. American Geriatrics Society 2023 updated AGS Beers Criteria® for potentially inappropriate medication use in older adults. *J Am Geriatr Soc.* 2023; 71(7): 2052-2081. doi:10.1111/jgs.18372
2. https://www.cdc.gov/nchs/hus/contents2019.htm#Table-039
3. Bonanad, et al Formiga F, Anguita M, Petidier R, Gullón A. Oral Anticoagulant Use and Appropriateness in Elderly Patients with Atrial Fibrillation in Complex Clinical Conditions: ACONVENIENCE Study. J Clin Med. 2022 Dec 14;11(24):7423. doi: 10.3390/jcm11247423. PMID: 36556039; PMCID: PMC9781896.
4. Bonanad, et al. *J Clin Med*. 2022 Dec 14;11(24):7423.

97