

# Inappropriate Anticholinergic Use In Tardive Dyskinesia (TD)

## Key Differences in Pharmacologic Effect of Common Treatment Strategies for TD<sup>1</sup>

Action	Tardive Dyskinesia
Increase DRBA <sup>a</sup> dose	May initially “mask” symptoms
Discontinue DRBA or reduce dose	Generally, no effect
Add VMAT2 Inhibitor	Improves (approved for treatment of TD)
Add anticholinergic	May worsen
Discontinue anticholinergic	May improve

Anticholinergics block acetylcholine receptors in the central and autonomic nervous system, and are used to treat a variety of conditions

Anticholinergics may be considered to treat acute dystonia and DIP

## Benztropine Prescribing Information<sup>2</sup>

“In treating acute drug-induced extrapyramidal disorders, after one or two weeks the drug should be withdrawn to determine continued need for it”

“Antiparkinsonism agents do not alleviate the symptoms of TD and in some instances may aggravate them”

**“Benztropine is not recommended for use in patients with TD”**

## Benzotropine in Guidelines

### American Academy of Neurology (AAN)

#### 2013 AAN Evidence-Based Guidelines<sup>3</sup>:

- No controlled trials examining the efficacy of **benztropine**, biperiden, chlorprothixene, and trihexyphenidyl in treating TD
- Insufficient data to determine the effectiveness of anticholinergics for the treatment of TD (Level U)

### American Psychiatric Association (APA)

#### 2022 APA DSM-5-TR: Medication Induced Movement Disorders<sup>4</sup>:

The symptoms of tardive dyskinesia tend to be **worsened** by stimulants, antipsychotic medication withdrawal, **and anticholinergic medications (such as benztropine)** and may be transiently worsened by emotional arousal, stress, and distraction during voluntary movements in unaffected parts of the body

## References

1. Hauser RA, Meyer JM, Factor SA, Comella CL, Tanner CM, Xavier RM, Caroff SN, Lundt L. Differentiating tardive dyskinesia: a video-based review of antipsychotic-induced movement disorders in clinical practice. *CNS Spectr*. 2022 Apr;27(2):208-217. doi: 10.1017/S109285292000200X. Epub 2020 Nov 20. PMID: 33213556; PMCID: PMC9249122.2. *Benzotropine mesylate [package insert]*. Warren, NJ: Cipla USA, Inc.; 2020. 3. Bhidayasiri R, et al. *Neurology*. 2013;81(5):463-469. 4. APA: *DSM-5-TR*. Washington, DC. 2022.

a) Dopamine Receptor Blocking Agent

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# Inappropriate Anticholinergic Use In Tardive Dyskinesia (TD)

The need for anticholinergic medication(s) should be **reconsidered regularly to reduce anticholinergic burden**<sup>1</sup>

## American Geriatric Society's Beers Criteria<sup>2</sup>

### What are the AGS Beers Criteria?

An explicit list of potentially **inappropriate medications** that are best avoided by **adults aged ≥ 65 years old**

### What is the Purpose of the AGS Beers Criteria?

**Improve** medication selection  
**Educate** clinicians and patients  
**Reduce** adverse drug events

Benztropine (oral) and trihexyphenidyl are not recommended in older adults for prevention or treatment of extrapyramidal symptoms associated with antipsychotics according to the **AGS Beers Criteria**<sup>®</sup>

## Tardive Dyskinesia

Defined as abnormal, involuntary movements of the tongue, jaw, trunk, or extremities that develop in association with medications that block post-synaptic dopamine receptors.<sup>3</sup>

Tardive Dyskinesia is caused by upregulation and subsequent hypersensitivity of brain dopamine D<sub>2</sub> receptors following prolonged exposure to Dopamine Receptor Blocking Agents (DRBAs), such as antipsychotics.<sup>4</sup>

## VMAT 2 Inhibitors Recommended by APA Clinical Guidelines<sup>5</sup>

Reversible VMAT2 inhibitors are recommended in patients with moderate to severe or disabling TD

VMAT2 inhibitors can also be considered for patients with mild TD

There is insufficient evidence to support a guideline statement on the use of the following treatments in individuals with TD:

Anticholinergics (e.g., benztropine)

Benzodiazepines (e.g., clonazepam)

Change in antipsychotic therapy to a lower-potency medication

Ginkgo biloba

Cessation or reduction of antipsychotic medication

Amantadine

Vitamin E

### References

1. Vanegas-Arroyave, N., Caroff, S.N., Citrome, L. et al. An Evidence-Based Update on Anticholinergic Use for Drug-Induced Movement Disorders. *CNS Drugs* 38, 239–254 (2024). 2. 2023 American Geriatrics Society Beers Criteria® Update Expert Panel. *J Am Geriatr Soc.* 2023;2023(71):2052–81. 4. American Psychiatric Association: *Diagnostic and Stat Diagnostic and Statistical Manual of Mental Disorders. Fifth Edition – Text Revision.* American Psychiatric Association: Washington, DC; 2022 5. Klawans H, et al. *Acta Neurol Scand.* 1970;46(4):409–441. 7. American Psychiatric Association. *Clinical Practice Guidelines for Treatment of Patients with Schizophrenia.* Accessed on November 8, 2020. <https://www.psychiatry.org/psychiatrists/practice/clinical-practice-guidelines>. For medical information only



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