

## Anticholinergic Medication Risks in the Aging Population

Dementia is a neurological condition characterized by a gradual and progressive decline in cognitive function.

In addition to deficits in thinking, memory, judgment, and language, individuals with dementia may also show behavioral and psychological symptoms such as depression, agitation, and anxiety. Individuals with dementia are often prescribed multiple medications to manage these symptoms.

Anticholinergic drugs have been on the Beers Criteria of inappropriate medications for the elderly. Some of the medications included are first-generation antipsychotics: chlorpromazine, fluphenazine, loxapine, thioridazine, trifluoperazine; second-generation antipsychotics: clozapine; tricyclic antidepressants: amitriptyline, clomipramine, desipramine, doxepin, imipramine, nortriptyline; the overactive bladder drugs: darifenacin, fesoterodine, flavoxate, oxybutynin, solifenacin, tolterodine, trospium; the anti-nausea drug scopolamine; the bronchodilator ipratropium and tiotropium; the muscle relaxants: cyclobenzaprine, methocarbamol, carisoprodol, chlorzoxazone, orphenadrine, tizanidine, metaxalone; antihistamines such as H1 receptor antagonists, first-generation: brompheniramine, carbinoxamine, chlorpheniramine, clemastine, cyproheptadine, dimenhydrinate, diphenhydramine, doxepin, doxylamine, hydroxyzine, meclizine, triprolidine and antidepressants such as Paxil (paroxetine).

These medications work by blocking acetylcholine, which acts as a neurotransmitter involved in many nervous system functions including muscle movements, heart rate, the widening of blood vessels, respiratory functions, and muscle contractions in the stomach during digestion.

Specific studies of the relationship between dementia and anticholinergic use include the following:

- In a population study of 6912 adults 65 years and older, those taking anticholinergic drugs were at increased risk for cognitive decline and dementia and risk decreased with medication discontinuation.
- In a population of 3434 adults age 65 and older in one health care setting, who had no baseline dementia and who were followed for 10 years, the risk of dementia and Alzheimer's disease increased in a dose-response relationship with use of anticholinergic drug classes (primarily first-generation antihistamines, tricyclic antidepressants, and bladder antimuscarinics).
- In another population of 13,004 individuals aged 65 and older, use of anticholinergic medications was also shown to be associated with greater decline in cognition as measured by the Mini-Mental State Examination. In addition, anticholinergic medication use was associated with increased mortality over a two-year period after adjustment for multiple factors, including comorbid health conditions.

The American Geriatrics Society advises that clinicians must consider many factors in prescribing decisions, including using common sense and clinical judgment, understanding that strict adherence to the criteria is not always possible.

The Centers for Medicare and Medicaid Services drug utilization review criteria target eight prescription drug classes (digoxin, calcium channel blockers, ACE inhibitors, H2 receptor antagonists, NSAIDs, benzodiazepines, antipsychotics, and antidepressants) and focus on four types of prescribing problems (inappropriate dose, inappropriate duration of therapy, duplication of therapies, and potential for drug-drug interactions).

### **A Stepwise Approach in Reviewing Medications for the Elderly**

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

### **References:**

1. <https://jamanetwork.com/journals/jamanetworkopen/fullarticle/2806415>
2. [https://www.uptodate.com/contents/drug-prescribing-for-older-adults?search=Anticholinergic%20Medication%20Risks%20in%20the%20Aging%20Population&source=search\\_result&selectedTitle=4~150&usage\\_type=default&display\\_rank=4#H5](https://www.uptodate.com/contents/drug-prescribing-for-older-adults?search=Anticholinergic%20Medication%20Risks%20in%20the%20Aging%20Population&source=search_result&selectedTitle=4~150&usage_type=default&display_rank=4#H5)

**PREFERRED DRUG LIST UPDATES CAN BE FOUND HERE:**

### **Integrated (Title 19/21 SMI), ACC, DD, ALTCS and DCS CHP**

<https://www.mercycareaz.org/providers/complecare-forproviders/pharmacy>

### **Behavioral Health (Non-Title 19/21)**

<https://www.mercycareaz.org/providers/rbha-forproviders/pharmacy>

**\*\* Drugs that are not on the formulary will require a PA (prior authorization) request to be submitted\*\***

**Reminder** for quicker determinations of a Prior Authorization use the ePA link for Our Providers: Please click [here to initiate an electronic prior authorization \(ePA\)](#) request

*This newsletter is brought to you by the Mercy Care Pharmacy Team. For questions, please email Fanny A Musto ([MustoF@mercycareaz.org](mailto:MustoF@mercycareaz.org)), Denise Volkov ([VolkovD@mercycareaz.org](mailto:VolkovD@mercycareaz.org)) or Trennette Gilbert ([gilbert@mercycareaz.org](mailto:gilbert@mercycareaz.org))*