Avoiding Anticholinergic Medications

Anticholinergic Medications Basics

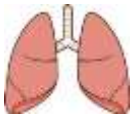
Anticholinergics are drugs that block the action of a substance in our body called acetylcholine. Acetylcholine is a chemical messenger that helps certain cells in our body communicate with each other, specifically cells in our involuntary muscles like our gastrointestinal tract, lungs, urinary tract, and other areas.

Anticholinergics are used to treat a variety of conditions in our body:

- Overactive bladder or incontinence

- Irritable bowel syndrome

- Asthma
- COPD



- Dizziness or motion sickness
- Symptoms of Parkinson's disease (involuntary muscle movement)
- And other conditions

Many medications are utilized for other conditions in our body but still have the same effects of anticholinergic medications.

Commonly Prescribed Drugs with Anticholinergic Properties

Medication	Uses
Tricyclic Antidepressants • Amitriptyline, Doxepin, Nortriptyline, Desipramine	Depression, neuropathic pain, sleep disorders
Over the Counter Products: Tylenol PM, Aleve PM, Nyquil, Tylenol Flu (and other brands), Bonine, Dramamine	Sleeping aids, cough and cold products, motion sickness medications.
1st Generation Antihistamines • Diphenhydramine (Benadryl), Hydroxyzine, Chlorpheniramine	Allergies, sleep disorders, itching/rash
Antispasmodics • Dicyclomine, Hyoscyamine	Irritable bowel syndrome
Antipsychotics • Olanzapine, Clozapine	Psychosis, behavior problems in dementia
Antiemetics • Promethazine, prochlorperazine	Nausea/Vomiting
Oxybutynin, Tolterodine, Trospium	Urinary incontinence
Paroxetine	Depression
Cyclobenzaprine	Muscle Relaxant
Benztropine, trihexyphenidyl	Involuntary movements caused by Parkinson's Disease

Common Side Effects of Anticholinergic Medications

Dry mouth, blurry vision, constipation, drowsiness, sedation, hallucinations, and memory problems, urinary retention, confusion, delirium, decreased sweating.

Why Should Older Adults Avoid Anticholinergics?

Older persons can be particularly sensitive to anticholinergic activity of drugs because of physical changes to your body that naturally occur with aging and changes in how drugs affect the body. The common side effects seen with these medications are worsened in elderly patients leading to more serious effects:

- **Dry mouth** could lead to inability to communicate, malnutrition, damage to gums, denture issues.
- **Constipation** could worsen to bowel obstructions.
- **Increased heart rate** could worsen or cause chest pain.
- **Effects on brain and memory** can worsen, leading to severe confusion or delirium which may lead to loss of independence or increased caregiver burden.
- **Long-term use of anticholinergics** may increase risk of dementia or Alzheimer's disease.

For patients being treated for dementia symptoms, anticholinergic medications are even more detrimental.

Medications to treat dementia symptoms, like donepezil, rivastigmine, and galantamine, attempt to increase the amount of acetylcholine in the brain to improve learning and memory BUT **anticholinergics will block** the effects of acetylcholine, opposing what is intended for these patients!

Alternative Medication Options

If an older adult is prescribed an anticholinergic medication, there are safer alternatives to these agents that treat similar conditions.

Anticholinergic Agents	Use	Safer Alternatives
Tricyclic Antidepressants	Depression	Escitalopram, Fluoxetine, Sertraline
	Pain	Duloxetine, Gabapentin, topical lidocaine
	Sleep	Melatonin, Mirtazapine
1st Generation Antihistamines	Allergies	Fluticasone Nasal Spray, Cetirizine, Fexofenadine
	Itching/Rash	Cetirizine, Loratadine, Topical steroids
Antispasmodics	Irritable Bowel Syndrome	Peppermint oil, loperamide
Cyclobenzaprine	Muscle relaxant	Acetaminophen, Naproxen, Gabapentin
Antipsychotics	Behavior problems in Dementia	Avoid use if at all possible, attempt behavioral interventions

Total Anticholinergic Burden

In the past, it was thought that avoiding anticholinergic drugs was the most important goal, but now we are finding out that medications which we don't usually label "anticholinergic" **may possess small levels of anticholinergic activity**.

This means that each medication you take (or supplement) may have some anticholinergic activity as found in the study by Tune and Carr illustrated in the table to the right.

Atropine Equivalents, is how we measure anticholinergic activity.
Anticholinergic drug levels in excess of 0.83 ng/ml of atropine equivalents were shown to have a **significant effect on capacity for self-care in persons living with dementia.**

We recommend that you make an effort to minimize exposure to polypharmacy to minimize risk of unpredictable effects of medications and supplements.

Medication	Anticholinergic Drug Level ng/ml atropine equivalents
Atropine	1
Diphenhydramine	0.4
Oxybutynin	0.4
Tolterodine	0.76
Temazepam	0.64
Lithium	0.22
Olanzapine	0.43
Furosemide	0.22
Digoxin	0.25
Theophylline	0.44
Prednisolone	0.55
Nifedipine	0.22
Cimetidine	0.86
Ranitidine	0.22