



How To Minimize Your Dementia Risk By Reducing Your Use of **ANTI-CHOLINERGIC MEDICATIONS**

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The use of anti-cholinergic medicines is common in older adults. These medicines block an important chemical called acetylcholine (essential for brain function among other things) and cause an array of side effects that often go unnoticed.

Classes of medicines known to have anticholinergic properties include those used for urinary incontinence, older antidepressants called tricyclics, antihistamines/allergy medications, inhaled steroid sprays and over-the-counter sleep medications and cold and flu remedies. Cognitively, the side effects range from sedation, troubling learning and concentrating, to poor memory and confusion. Physically, they can cause constipation, dry mouth, difficulty releasing urine, dry eyes, falls and slowed heartbeat.

Anti-cholinergic potencies vary between medications and we all differ in our ability to tolerate them. The unique concern in older adults is the cumulative effect of taking multiple medicines with these properties even one each individual medicine has a relatively low strength. Older adults, on the whole, are more sensitive to all drugs due to the physiological changes that accompany aging that make it difficult to excrete medications efficiently (this will be covered in detail in Lecture 4!) but this is particularly so with anti-cholinergic drugs.

In a random community sample of older adults, 90 percent of study participants had detectable levels of anti-cholinergic activity in their systems (Mulsant et al, 2003). This is alarming!

Side effects are often incorrectly labeled as being due to “normal aging,” which leads to yet another prescription to manage that symptom which, of course, perpetuates the problem. The bottom line is that anti-cholinergic medicines should be avoided or at least minimized in older adults with the assistance of your doctor and presents us with an excellent modifiable risk factor for dementia.

It is important to calculate what scientists call your “anti-cholinergic burden” score, a measure of your overall exposure to these medications. In the most recent Anti-Cholinergic Cognitive Burden Scale published by Dr. Boustani in 2012, possible anti-cholinergic medications are listed with a score of 1 and definite anti-cholinergics include those listed with a score of 2 or 3, using the following criteria:

SCORE OF 1 : POSSIBLE EFFECTS

Evidence from in vitro data that chemical entity has antagonist activity at muscarinic receptor.

SCORE OF 2: DEFINITE EFFECTS

Evidence from literature, prescriber’s information or expert opinion of clinical anti-cholinergic effect.

SCORE OF 3: DEFINITE EFFECTS

Evidence from literature, expert opinion or prescriber’s information that medication may cause delirium.

The higher the score the higher the risk of cognitive side effects. Interpretation: No specific cutoff has been identified at this time.

I want you to calculate the risk level for yourself or a loved one by doing the following:

1. **Make a list of all medicines (prescription, supplements and over-the-counter)**
2. **Consult the list at the right, add up the 1, 2 and 3 scores and determine an overall “burden score.”**
3. **If concerning, ask the person’s medical provider if this medicine essential?**
If yes, ask these questions:
 - **Is there a different treatment option?**
 - **If not, can we safely reduce the dose of the medicine?**

Drugs with ACB Score of 1

GENERIC NAME	BRAND NAME
Alimemazine	Theralen™
Alverine	Spasmonal™
Alprazolam	Xanax™
Aripiprazole	Abilify™
Asenapine	Saphris™
Atenolol	Tenormin™
Bupropion	Wellbutrin™, Zyban™
Captopril	Capoten™
Cetirizine	Zyrtec™
Chlorthalidone	Diuril™, Hygroton™
Cimetidine	Tagamet™
Clidinium	Librax™
Clorazepate	Tranxene™
Codeine	Contin™
Colchicine	Colcrys™
Desloratadine	Clarinex™
Diazepam	Valium™
Digoxin	Lanoxin™
Dipyridamole	Persantine™
Disopyramide	Norpace™
Fentanyl	Duragesic™, Actiq™
Furosemide	Lasix™
Fluvoxamine	Luvox™
Haloperidol	Haldol™
Hydralazine	Apresoline™
Hydrocortisone	Cortef™, Cortaid™
Iloperidone	Fanapt™
Isosorbide	Isordil™, Ismo™
Levocetirizine	Xyzal™
Loperamide	Immodium™, others
Loratadine	Claritin™
Metoprolol	Lopressor™, Toprol™
Morphine	MS Contin™, Avinza™
Nifedipine	Procardia™, Adalat™
Paliperidone	Invega™
Prednisone	Deltasone™, Sterapred™
Quinidine	Quinaglute™
Ranitidine	Zantac™
Risperidone	Risperdal™
Theophylline	Theodur™, Uniphyll™
Trazodone	Desyrel™
Triamterene	Dyrenium™
Venlafaxine	Effexor™
Warfarin	Coumadin™

A Special Note About Dementia:

Anti-cholinergic medicines may worsen cognitive decline and confusion associated with Alzheimer's disease. The combination of cholinesterase inhibitors, such as donepezil (Aricept), galantamine and rivastigmine (Exelon) and anti-cholinergic medications should be avoided, because they decrease the effectiveness of both medications. Brain scientists believe that those with dementia already have lower levels of acetylcholine, the chemical anti-cholinergic medications reduce.

Drugs with ACB Score of 2

GENERIC NAME	BRAND NAME
Amantadine	Symmetrel™
Belladonna	Multiple
Carbamazepine	Tegretol™
Cyclobenzaprine	Flexeril™
Cyproheptadine	Periactin™
Loxapine	Loxitane™
Meperidine	Demerol™
Methotrimeprazine	Levoprome™
Molindone	Moban™
Nefopam	Nefogesic™
Oxcarbazepine	Trileptal™
Pimozide	Orap™

Drugs with ACB Score of 3

GENERIC NAME	BRAND NAME
Amitriptyline	Elavil™
Amoxapine	Asendin™
Atropine	Sal-Tropine™
Benzotropine	Cogentin™
Brompheniramine	Dimetapp™
Carbinoxamine	Histex™, Carbihist™
Chlorpheniramine	Chlor-Trimeton™
Chlorpromazine	Thorazine™
Clemastine	Tavist™
Clomipramine	Anafranil™
Clozapine	Clozaril™
Darifenacin	Enablex™
Desipramine	Norpramin™
Dicyclomine	Bentyl™
Dimenhydrinate	Dramamine™, others
Diphenhydramine	Benadryl™, others
Doxepin	Sinequan™
Doxylamine	Unisom™, others
Fesoterodine	Toviaz™
Flavoxate	Urispas™
Hydroxyzine	Atarax™, Vistaril™
Hyoscyamine	Anaspaz™, Levsin™
Imipramine	Tofranil™
Meclizine	Antivert™
Methocarbamol	Robaxin™
Nortriptyline	Pamelor™
Olanzapine	Zyprexa™
Orphenadrine	Norflex™
Oxybutynin	Ditropan™
Paroxetine	Paxil™
Perphenazine	Trilafon™
Promethazine	Phenergan™
Propantheline	Pro-Banthine™
Propiverine	Detrunorm™
Quetiapine	Seroquel™
Scopolamine	Transderm Scop™
Solifenacin	Vesicare™
Thioridazine	Mellaril™
Tolterodine	Detrol™
Trifluoperazine	Stelazine™
Trihexyphenidyl	Artane™
Trimipramine	Surmontil™
Trospium	Sanctura™