



Clinical Pharmacology & Toxicology Pearl of the Week

~Drug-Induced Distortion of Taste and Smell~

- ✓ There are greater than 300 drugs known to cause alterations to taste and/or smell
- ✓ The mechanisms by which taste and smell are altered are numerous:
 - Drug-receptor interference for taste/smell neurotransmission
 - Drug interference with neurotransmitter production, secretion
 - Drug-related interference with afferent or efferent sensory neurotransmission
 - Interference with ion channel function
 - Alteration to metal ion binding, uptake in the gastrointestinal tract
 - Drug &/or metabolite excretion into saliva
 - Disturbance to stomach acidity & increased acid reflux
- ✓ While drugs are not the most common cause for altered taste and smell, they are a regular culprit and are likely to be missed if not considered
- ✓ Of those drugs known to cause dysgeusia, ACE-inhibitors, ARBs, and Statins are the top drugs reported to cause taste alteration. Levothyroxine has a reported incidence of <1% for causing dysgeusia, and it may not be the medication itself rather a phenomenon of hypothyroid patients having greater incidences of dysgeusia, with preserved smell and taste on formal testing
- ✓ In patients complaining of loss of appetite, weight loss, altered taste/smell, review the medications list and try to eliminate drugs that may contribute to these symptoms.

Table 2 Medications Contributing to Dysgeusia	
Medication Groups Frequently Associated with Dysgeusia	Common Medicines in the Groups Associated with Dysgeusia
Antimicrobial medicines	Macrolides, fluoroquinolones, ampicillin, metronidazole, tetracycline, trimethoprim-sulfamethoxazole, amphotericin B, terbinafine and other antimycotic drugs
Angiotensin-converting enzyme (ACE) inhibitors	Captopril, ramipril
Antiarrhythmic medications	Amiodarone, procainamide
HMG-CoA reductase inhibitors (statins)	Atorvastatin, simvastatin
Proton pump inhibitors (PPI)	
Anti-retroviral medications	Atazanavir, darunavir, and ritonavir
Anti-epileptic medications	Carbamazepine, phenytoin, topiramate
Diuretics	Acetazolamide
Dopamine precursor	Levodopa
Protein kinase inhibitors	Sunitinib, erlotinib, imatinib
Anticholinergic medicines	Antispasmodics, antimuscarinics, tricyclic anti-depressants
Psychiatric medicines	Lithium, aripiprazole
Gout medicines	Colchicine, allopurinol
Muscle relaxants	Baclofen
Endocrine medications	Antithyroid medications, corticosteroids, levothyroxine
Chemotherapeutic agents	5-fluorouracil, cisplatin

Reference:

Syed, Q et al. The Impact of Aging and Medical Status on Dysgeusia. The American Journal of Medicine. 2016;129(7).

The Clinical Pharmacology (CP) physician consultation service is available Mon-Fri, 8am-5pm. The on-call physician is listed in ROCA on the AHS Insite page. CP consultations are also available through Netcare e-referral and Specialist Link. You can also find us in the [Alberta Referral Directory](#) (ARD) by searching "Pharmacology" from the ARD home page. Click [HERE](#) for more details about the service.

The Poison and Drug Information Service (PADIS) is available 24/7 for questions related to poisonings. Please call 1-800-332-1414 (AB and NWT) or 1-866-454-1212 (SK). Information about our outpatient Medical Toxicology Clinic can be found in [Alberta Referral Directory](#) (ARD) by searching "Toxicology" from the ARD home page.

More CPT Pearls of the Week can be found [HERE](#).

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