VALLEY MEDICAL GROUP
Prevention & Medical Care To Help You Live Better, Longer.

Clinical Champion Update

Date: 7/1/24 *Subject: Smoking Cessation*

1. Updated Smoking/Vaping EP

You may have noticed a new encounter plan for smoking cessation (please see below.) Because of the rapidly changing landscape of nicotine use, combining smoking and vaping into one EP serves our patients better. It serves as a reminder that vaping may be a saf**er** nicotine delivery method and may lead to more patients seeing vaping as an off-label smoking cessation tool, rather than a final destination on their cessation journeys.

We discussed your smoking/vaping today for more than 3 minutes.
Smoking tobacco is the leading cause of preventable disease, disability, and death in the United States. Inhaling aerosolized nicotine is widely believed to be safer than combustible tobacco, but still exposes people to numerous harmful substances, heavy metals like lead, and cancer-causing agents. Nicotine is harmful to developing brains and can disrupt the formation of brain circuits that control attention, learning, and susceptibility to addiction.

We talked about tools and…

2. Surprising Findings Regarding Co-Use

Nancy Rigotti, et al. at MGH studied smoking and vaping co-use. Key findings were:

- Using both e-cigarettes and tobacco cigarettes may increase the risk of developing respiratory symptoms—such as cough and wheeze—compared with using either alone.
- Dual users had 1.9-times higher odds of developing respiratory symptoms compared with exclusive e-cigarette users and a 1.24-times higher odds compared with exclusive tobacco smokers.

https://www.massgeneral.org/news/press-release/use-of-e-cigarettes-plus-tobacco-cigarettes-linked-to-higher-risk-of-respiratory-symptoms

3. Drug Interactions with Tobacco Smoke

Smoking cessation is always in our patients' best interest. That said, many interactions between tobacco smoke and medications have been identified. Note that **in most cases it is the tobacco smoke—not the nicotine**—that

causes these drug interactions. Tobacco smoke interacts with medications by influencing the absorption, distribution, metabolism, or elimination of other drugs, potentially causing an

altered pharmacologic response. Because of these interactions, smokers may require higher doses of medications. Upon cessation, dose reductions might be needed.

DRUG INTERACTIONS WITH TOBACCO SMOKE

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The most clinically significant interactions are depicted in the shaded rows.

Drug/Class	Mechanism of Interaction and Effects
Pharmacokinetic Interactions	
Alprazolam (Xanax)	• Conflicting data on significance, but possible ↓ plasma concentrations (up to 50%); ↓ half-life (35%).
Bendamustine (Treanda)	• Metabolized by CYP1A2. Manufacturer recommends using with caution in smokers due to likely ↓ bendamustine concentrations, with ↑ concentrations of its two active metabolites.
Caffeine	• Metabolism (induction of CYP1A2); ↑ clearance (56%). Caffeine levels likely ↑ after cessation.
Chlorpromazine (Thorazine)	• ↓ Area under the curve (AUC) (36%) and serum concentrations (24%). • ↓ Sedation and hypotension possible in smokers; smokers may require ↑ dosages.
Clopidogrel (Plavix)	• ↑ Metabolism (induction of CYP1A2) of clopidogrel to its active metabolite. • Clopidogrel's effects are enhanced in smokers (≥10 cigarettes/day): significant ↑ platelet inhibition, ↓ platelet aggregation; improved clinical outcomes have been shown (smokers' paradox; may be dependent on CYP1A2 genotype); tobacco cessation should still be recommended in at-risk populations needing clopidogrel.
Clozapine (Clozaril)	• ↑ Metabolism (induction of CYP1A2); ↓ plasma concentrations (18%). • ↑ Levels upon cessation may occur; closely monitor drug levels and reduce dose as required to avoid toxicity.
Erlotinib (Tarceva)	• ↑ Clearance (24%); ↓ trough serum concentrations (2-fold).
Flecainide (Tambocor)	• ↑ Clearance (61%); ↓ trough serum concentrations (25%). Smokers may need ↑ dosages.
Fluvoxamine (Luvox)	• ↑ Metabolism (induction of CYP1A2); ↑ clearance (24%); ↓ AUC (31%); ↓ plasma concentrations (32%). • Dosage modifications not routinely recommended but smokers may need ↑ dosages.
Haloperidol (Haldol)	• ↑ Clearance (44%); ↓ serum concentrations (70%).
Heparin	• Mechanism unknown but ↑ clearance and ↓ half-life are observed. Smoking has prothrombotic effects. • Smokers may need ↑ dosages due to PK and PD interactions.
Insulin, subcutaneous	• Possible ↓ insulin absorption secondary to peripheral vasoconstriction; smoking may cause release of endogenous substances that cause insulin resistance. • PK & PD interactions likely not clinically significant; smokers may need ↑ dosages.
Irinotecan (Camptosar)	• ↑ Clearance (18%); ↓ serum concentrations of active metabolite, SN-38 (~40%; via induction of glucuronidation); ↓ systemic exposure resulting in lower hematologic toxicity and may reduce efficacy. • Smokers may need ↑ dosages.
Mexiletine (Mexitil)	• ↑ Clearance (25%; via oxidation and glucuronidation); ↓ half-life (36%).
Nintedanib (OFEV®)	• Decreased exposure (21%) in smokers. • No dose adjustment recommended; however, patients should not smoke during use.

https://www.aafp.org/dam/AAFP/documents/patient_care/tobacco/drug-interactions.pdf

Thank you,
T. J. Sweeney, NCTTP
Smoking Cessation Clinical Champion