Pharmacology Update for Primary Care Physicians

Ted O’Connell, MD, FAAFP

Disclosure

I have no actual or potential conflict of interest in relation to this presentation.

Goals and Objectives

1. Review updates from the medical literature for medications that are commonly used in primary care.
2. Discuss new FDA indications for medications regarding disease states frequently seen in primary care.
3. Outline several new society guidelines for issues frequently seen in primary care

First-Generation Antihistamines and Seizures in Children

First-Generation Antihistamines and Seizures

Efficacy of older first-generation antihistamines (e.g., chlorpheniramine, hydroxyzine) and newer nonsedating antihistamines is similar for allergic rhinitis, pruritic, and urticaria

Known CNS effects of first generation:

- Sedation
- Paradoxical agitation
- Cognitive impairment

First-Generation Antihistamines and Seizures

First generation products still widely available and used

Crossover study of 3200 children presenting to ED for seizure events

Recent prescription of a first-generation antihistamine prior to ED visit associated with increased risk of seizures

- Especially ages 6-24 months

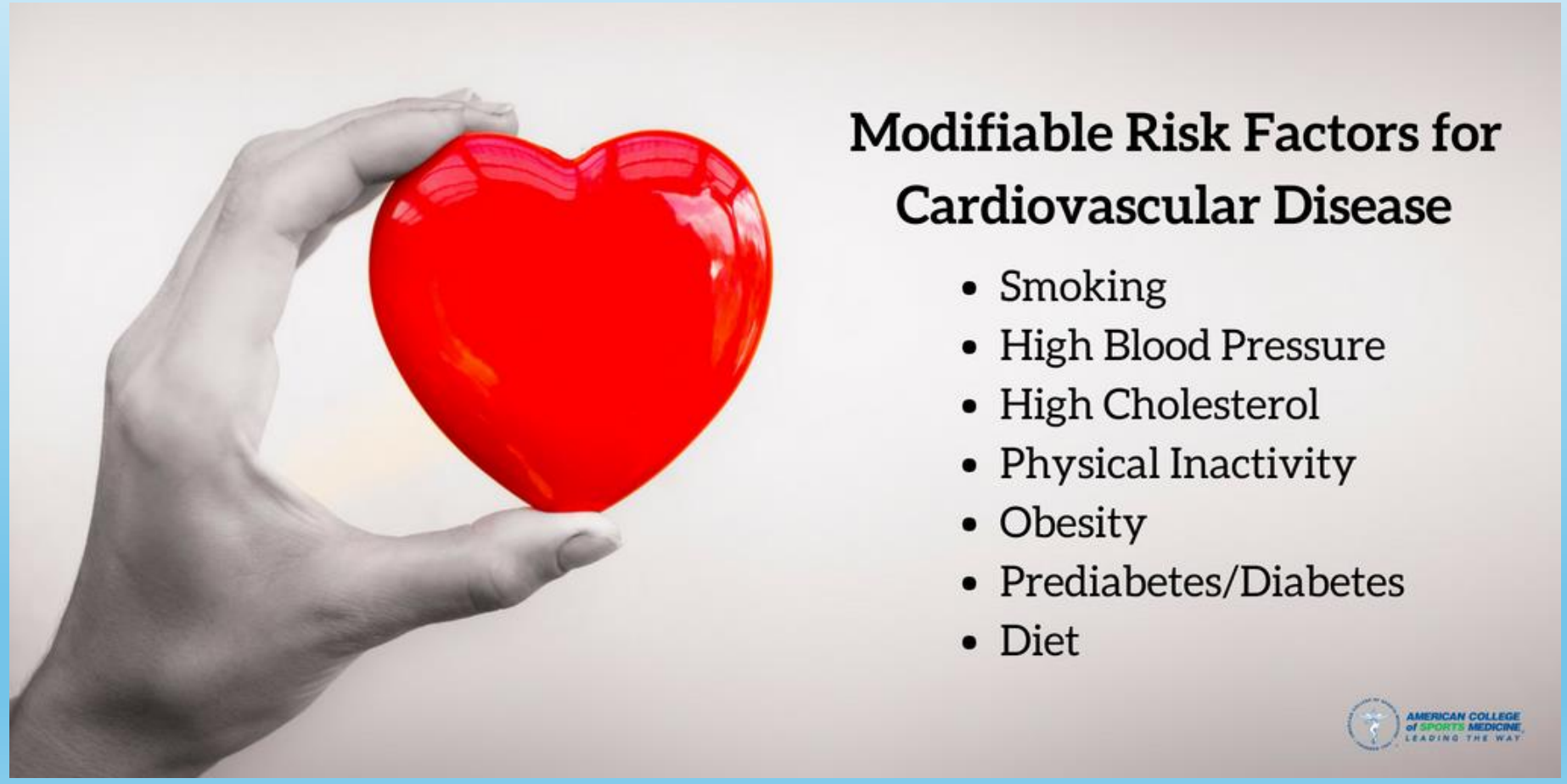
First-Generation Antihistamines and Seizures

Suggests seizures are another adverse effect of first-generation antihistamines

Supports existing recommendations to avoid them in the pediatric population

Kim JH, Ha EK, et al. “First-generation Antihistamines and Seizures in Young Children.” JAMA Netw Open. 2024;7(8):e2429654.

ASCVD Risk Factors in Adolescence and Events in Adulthood



ASCVD Risk Factors in Adolescence and Events in Adulthood

Growing data that vascular changes predisposing to adult ASCVD begin in childhood

Study using data from 7 longitudinal studies on over 11,000 participants

Followed from adolescence to a mean age of 50 years

ASCVD Risk Factors in Adolescence and Events in Adulthood

Presence of ASCVD risk factors in adolescence was independently associated with experiencing fatal and nonfatal ASCVD events in adulthood

- e.g., hypertension, obesity, smoking, hyperlipidemia

Risk increased with increasing number of risk factors

ASCVD Risk Factors in Adolescence and Events in Adulthood

Highlights importance of screening for ASCVD risk factors during childhood and adolescence

Intervene early

Nuotio J, Laitinen TT. “Predictors in Youth of Adult Cardiovascular Events.” Pediatrics. 2024;154(5).

Egg Allergy No Longer an Issue for Any Vaccines

Egg Allergy No Longer an Issue for Any Vaccines

Some vaccines contain trace amounts of egg protein

For several years, recommendation not to ask about egg allergy prior to influenza vaccination

Study of 171 children with egg allergy (24% with history of anaphylaxis)

Skin testing with yellow fever vaccine followed by administration

No allergic reactions

Ramirez-Giraldo RH, Giraldo-Avila PA, et al. "No Yellow Fever Vaccine Reactions in IgE-Mediated Egg Allergic Patients." Int Arch Allergy Immunol. 2025;186(1):52. Epub 2024 Aug 13.

Epinephrine Nasal Spray for Anaphylaxis

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Epinephrine is first-line treatment for anaphylaxis and should be administered as anaphylaxis is recognized

Needle phobia leads to delayed use of autoinjectors

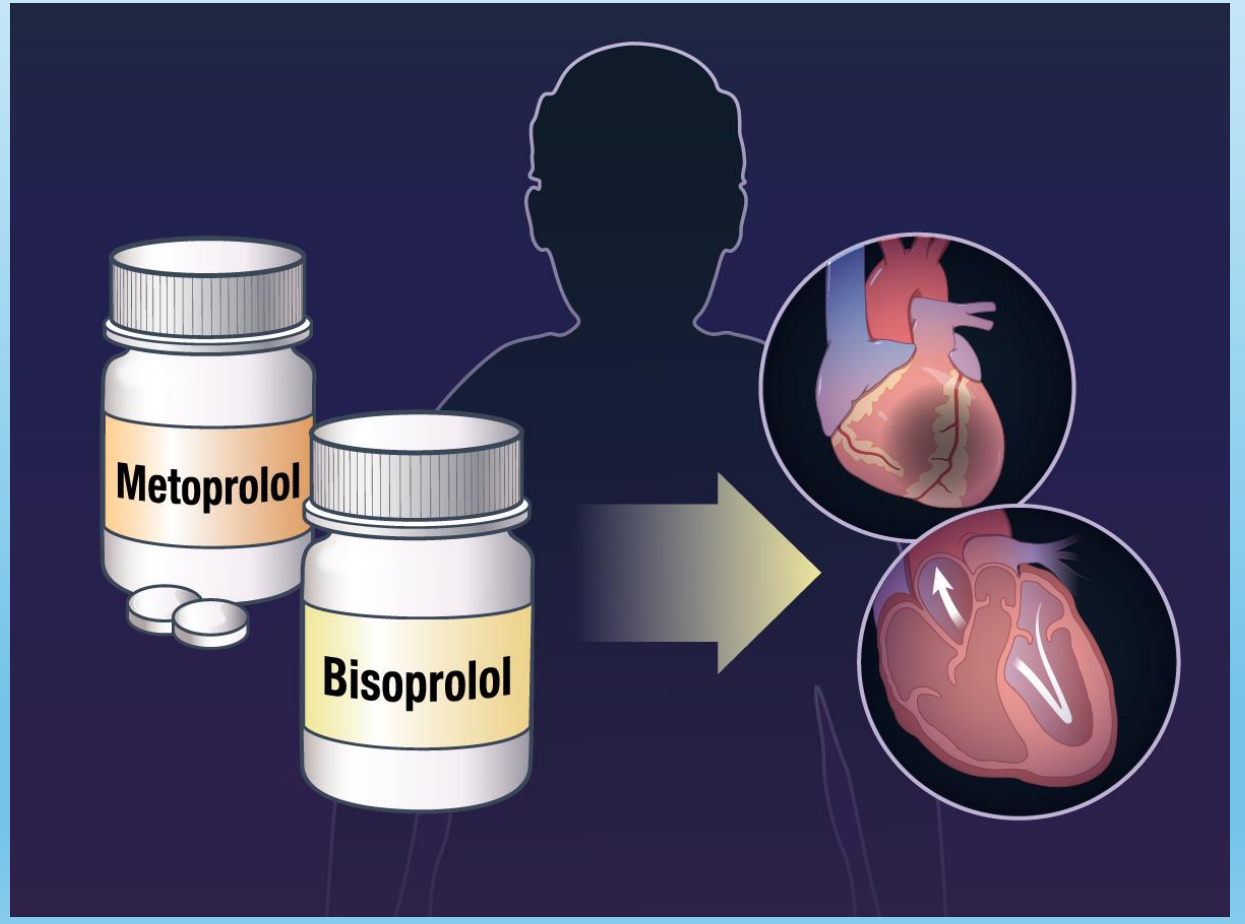
Epinephrine Nasal Spray for Anaphylaxis

Epinephrine nasal spray (Neffy) approved by FDA in August 2024

For use in children and adults over 66 pounds

Provides comparable epinephrine blood levels to those achieved with autoinjectors

Duration of Beta Blocker Therapy After Acute MI



Duration of Beta Blocker Therapy After Acute MI

Currently, most patients treated with beta blocker indefinitely

Based on data prior to advances in MI management such as stenting, DAPT, and statin therapy

Duration of Beta Blocker Therapy After Acute MI

Trial of 3700 patients with history of acute MI

Received beta blocker therapy at least 6 months (mean 2.9 years) and no other indication for beta blocker therapy

- e.g., reduced LV systolic function

Those assigned to discontinue had similar rates of mortality and recurrent MI after four years compared with continuation group

Quality of life scores also similar

Duration of Beta Blocker Therapy After Acute MI

Takeaway:

- Patient who have had an MI and then treated with a beta blocker at least 3 years and have no other indication to continue the beta blocker, clinicians should discuss the potential benefits and risks of continued therapy

Silvain J, Cayla G, et al. “Beta Blocker Interruption or Continuation after Myocardial Infarction.” N Engl J Med. 2024; 391(14):1277. Epub 2024 Aug 30.

Aspirin Therapy for Cardiovascular Disease for Those on Anticoagulation

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Aspirin reduces risk of ischemic cardiovascular event in patients with stable atherosclerotic cardiovascular disease (ASCVD)

How about those who take anticoagulation for a concurrent condition?

Aspirin Therapy for Cardiovascular Disease for Those on Anticoagulation

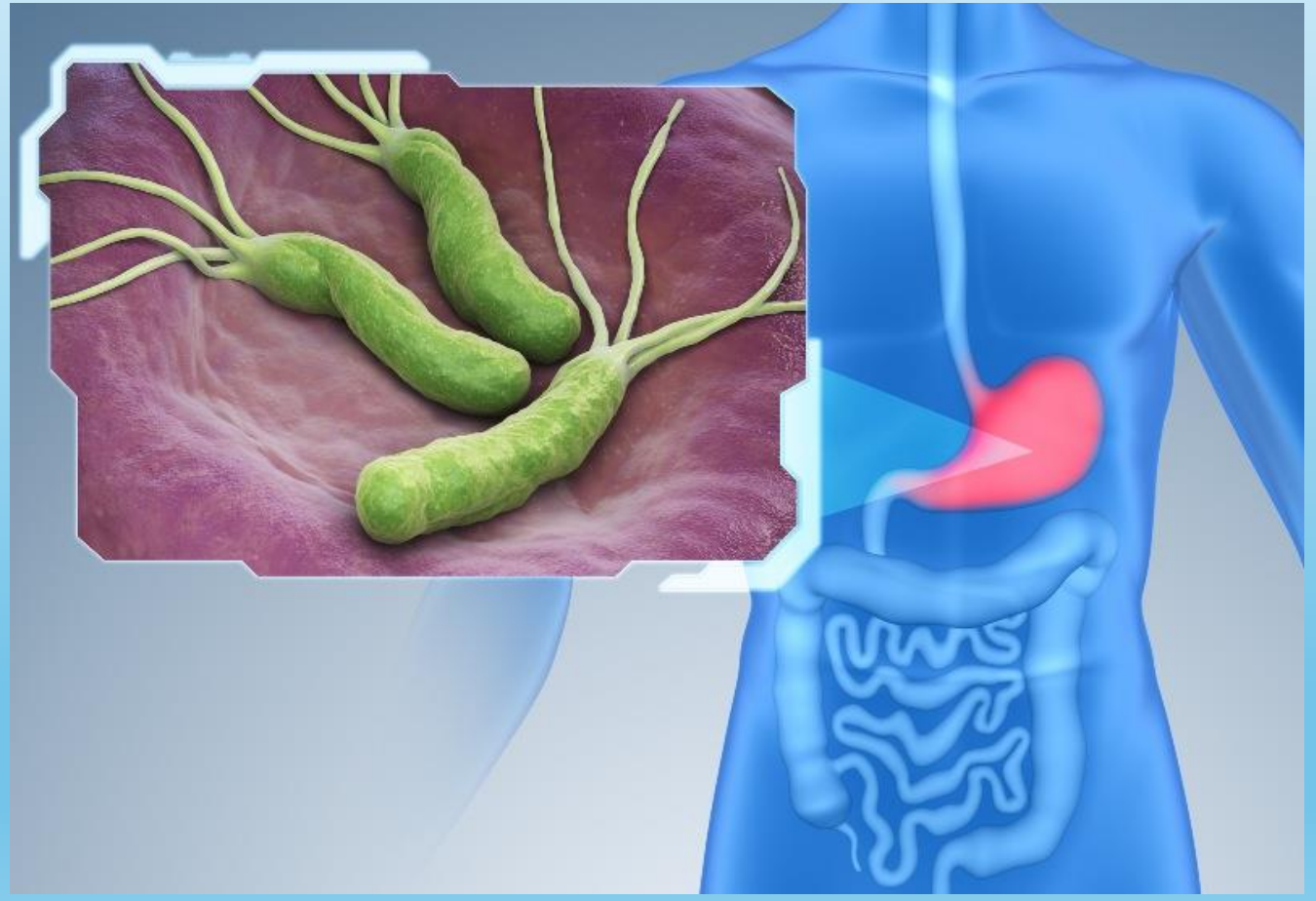
Over 1000 patients with atrial fibrillation and stable CAD assigned to DOAC edoxaban as monotherapy or dual therapy

At 12 months, incidence of major bleeding lower in edoxaban monotherapy

Incidence of major ischemic events similar in the two groups

Cho MS, Kang DY, et al. “Edoxaban Antithrombotic Therapy for Atrial Fibrillation and Stable Coronary Artery Disease.” N Engl J Med. 2024;391(22):2075.

Helicobacter pylori Treatment in Adults



Helicobacter pylori Treatment in Adults

Rising rates of *H. pylori* resistance to clarithromycin

Declining rates of treatment success

Guidelines from American College of Gastroenterology about using non-clarithromycin-based regimens

Helicobacter pylori Treatment in Adults

Bismuth quadruple therapy with PPI, tetracycline, and metronidazole is the preferred regimen

Recommendation to confirm *H. pylori* eradication after treatment

Chey WD, Howden CW, et al. “ACG Clinical Guideline: Treatment of Helicobacter pylori Infection.” Am J Gastroenterol. 2024;119(9):1730. Epub 2024 Sep 4.

Semaglutide for Alcohol Use Disorder

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Randomized trial of 48 participants with alcohol use disorder

Nine weeks of SQ semaglutide reduced weekly alcohol cravings

Reduced the number of drinks per drinking day compared with placebo

Semaglutide for Alcohol Use Disorder

Did not affect average drinks per calendar day or number of drinking days

Results suggest a potential role in the management of alcohol use disorder and the need for larger randomized trials

Hendershot CS, Bremmer MP, et al. “Once-weekly Semaglutide in Adults with Alcohol Use Disorder: A Randomized Clinical Trial. JAMA Psychiatry. 2025;

A Renal Indication for Semaglutide

A Renal Indication for Semaglutide

Semaglutide approved by the FDA to reduce the risk of sustained eGFR decline, end-stage kidney disease, and cardiovascular death in adults with type 2 diabetes and CKD

First GLP-1 receptor agonist in the US to be approved for this indication

A Renal Indication for Semaglutide

Study of >3500 patient with type 2 diabetes and CKD randomized to receive semaglutide 1 mg or placebo weekly

In addition to standard ACE-I or ARB

Some patients also taking an SGLT2 inhibitor or mineralocorticoid receptor antagonist

- These were continued

A Renal Indication for Semaglutide

Median follow-up of 3.4 years

A major kidney disease event occurred in 18.7% in semaglutide arm and 23.2% in placebo arm

Semaglutide also reduced the risk of major adverse cardiovascular events and all-cause mortality

A Renal Indication for Semaglutide

Conclusion:

- Addition of GLP-1 receptor agonist semaglutide to standard treatment reduces risk of kidney disease progression and CV death in adults with type 2 diabetes and CKD.

V Perkovic et al. “Effects of semaglutide on chronic kidney disease in patients with type 2 diabetes. N Engl J Med 2024;391:109.

Tirzepatide for OSA

Tirzepatide for OSA

GLP-1 agonist tirzepatide approved by FDA for treatment of moderate to severe OSA in adults with obesity.

First drug approved for this indication

Also approved for chronic weight management in adults with obesity and those who are overweight and have at least one weight-related comorbidity

- Also available as Mounjaro for treatment of type 2 diabetes

Tirzepatide for OSA

Positive airway pressure is first-line treatment

- Reduces the number of apnea and hypopnea events per hour of sleep
- Reduces OSA symptoms
- Has not been shown to reduce cardiovascular events or death
- Adherence is a significant issue

Mandibular advancement devices

Removable tongue muscle stimulation device (eXciteOSA)

Hypoglossal nerve stimulation device (Inspire)

Tirzepatide for OSA

Randomized to tirzepatide or placebo

Apnea-hypopnea index significantly reduced in tirzepatide arm

Tirzepatide arm also had reductions in:

- Weight
- Systolic blood pressure
- Hypoxic burden
- High-sensitivity CRP levels

Tirzepatide for OSA

Tirzepatide reduced the apnea-hypopnea index in adults with moderate to severe OSA and obesity

- Likely did so by reducing weight
- Other weight loss medications may do the same

Malhotra et al. Tirzepatide for the treatment of obstructive sleep apnea and obesity. N Engl J Med 2024;391:1193.


ANY
QUESTIONS?