CLINICAL UPDATE • 2026

Update in Outpatient Medicine

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Hypertension
Guidelines update

PCSK9 inhibitors
LDL, Lp(a), cost & coverage

UTI
Recurrent UTI prevention

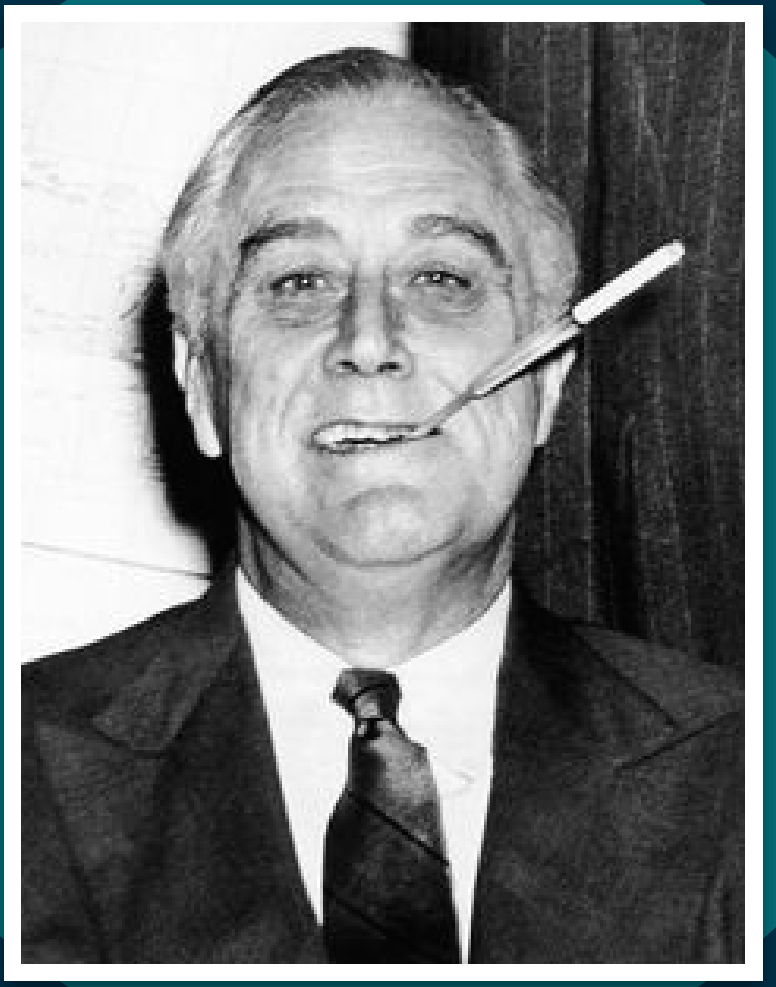
Pearls
Shingles vaccine, orthopedic tips, sinusitis, medication side effects

Disclosures: none relevant

OPENING CASE

A case of untreated hypertension

Franklin Delano Roosevelt (1882–1945)



FDR, 1937–1945

1937 Hypertension diagnosed (age 55)

1939 Mild proteinuria

1941 BP 188/105 — not checked again until 1944

1944 **BP 186/108, 4+ proteinuria, heart failure**
Digitalis, low-sodium diet, less smoking, codeine for cough

Meanwhile, in public, 1944

- Truman voices concern about FDR's "unhealthy appearance"
- His personal physician, Dr. Ross McIntire, tells the nation FDR is "enjoying excellent health" — Specialty: ENT
- Re-elected to a fourth term (Nov 1944)

Discovery dates of antihypertensives

Year(s)	Agent(s)
1900	Sodium thiocyanate
1931	Reserpine
1947–1950	Ganglion blocking drugs
1958	Thiazide-type diuretics
1950s	Hydralazine
1950s	Guanethidine
1957	Spironolactone
1960	Methyldopa

Year(s)	Agent(s)
1973	β-Receptor blockers (eg, propranolol)
1970s	Central α_2 agonists (eg, clonidine)
1975	Peripheral α_1 receptor blockers (eg, prazosin)
1977	ACE inhibitors (eg, captopril)
1977	Calcium channel blockers (eg, verapamil, nifedipine)
1993	Angiotensin II receptor blockers (eg, losartan)
2000	Renin inhibitors (eg, aliskiren)



YALTA • FEBRUARY 1945

The “Big Three”

Churchill, Roosevelt and Stalin at the Yalta Conference

February 1945: Yalta

260/150

Blood pressure at Yalta, as he meets Stalin and Churchill

Cachectic

“To a doctor’s eye, the President appears a sick man. He has all the symptoms of hardening of the arteries of the brain in an advanced stage, so that I give him only a few months to live.

— Charles McMoran Wilson (Lord Moran), Churchill’s physician, in his letters. Specialty: General **M**edicine

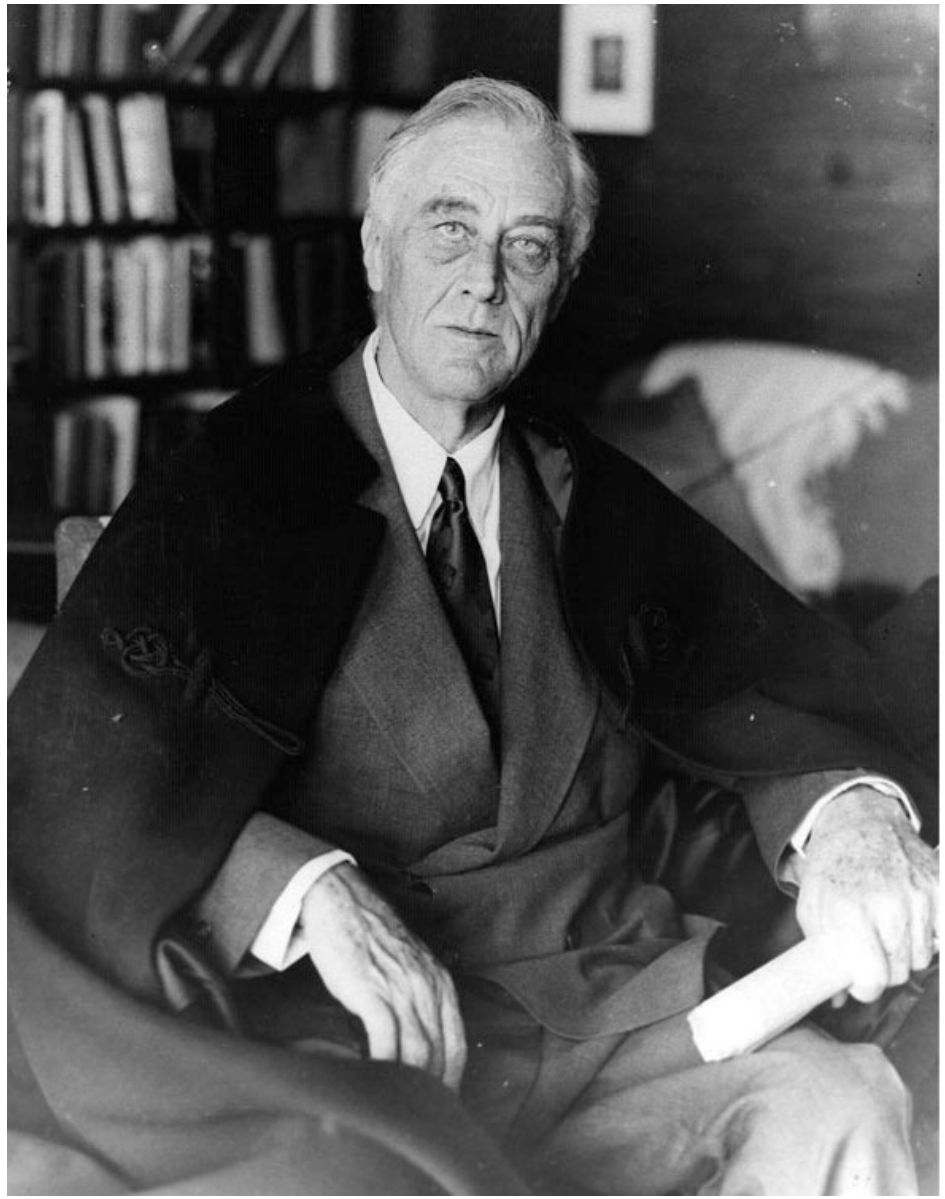
APRIL 12, 1945

8 weeks later

BP 300/190 in the morning

Later that day: severe headache, then collapses

Dies of a massive cerebral hemorrhage, at age 63



Refs: 1, 2



Antihypertensive Therapy: The 2025 AHA/ACC Guideline

First major update since 2017 — what changed, and how it affects prescribing.

01

2025 AHA/ACC: five big changes

PREVENT risk score to triage stage 1 (≥130/80)	Replaces the pooled cohort equations (next slide)
Stage 2 (≥140/90) → 2 drugs	Two classes, ideally one pill, for all stage 2
Aldosteronism screening	All resistant HTN, even with normal K^+
Renal denervation	Class 2b option for resistant HTN
BP and cognition	SBP <130 lowers dementia risk

What is PREVENT?

AHA risk equations (2023)

- 10- and 30-year risk of **total CVD**, including heart failure
- Ages 30–79, no known CVD
- Sex-specific, race-free
- Adds **kidney function**, **BMI** and statin use

≥7.5%

10-year CVD risk = start medication for stage 1

≥10%

Old trigger: ASCVD risk (pooled cohort equations, 2017)

The PREVENT calculator

Free at **professional.heart.org**

Sex* ○ Male • Female

Age (years)* 52

SBP (mmHg)* 134

Total Cholesterol (mg/dL)* 210

HDL Cholesterol (mg/dL)* 55

eGFR (mL/min/1.73m²)* 80

BMI (kg/m²)* 28

Diabetes
Any history of diabetes.
• No ○ Yes

Current Smoking
Any cigarette use within the last 30 days
• No ○ Yes

Lipid-lowering medication
Current use of statin medication to lower cholesterol
• No ○ Yes

Anti-hypertensive medication
Current use of any medication for hypertension
• No ○ Yes

The following three predictors are optional for further personalization of risk assessment. When they are clinically indicated or available,

If available or indicated, select "Yes" and enter the value.

UACR (mg/g)
UACR is clinically indicated for individuals with chronic kidney disease, diabetes, or hypertension
○ No • Yes
16 mg/g

HbA1C
HbA1c is clinically indicated for individuals with diabetes, prediabetes, overweight, or obesity, or those with history of gestational diabetes
○ No • Yes
5.8 %

Zip Code
valid 5-digit zip code is needed to estimate social deprivation index [SDI]
• No ○ Yes

Update Reset

Results for CVD

Estimated **10-year** risk of CVD
3.4%

Estimated **30-year** risk of CVD
20.3%

New: eGFR, BMI, statin use

Optional: UACR, HbA1c, zip code

BP categories: unchanged

Category	SBP / DBP (mmHg)
Normal	<120 and <80
Elevated	120–129 and <80
Stage 1	130–139 or 80–89
Stage 2	≥140 or ≥90

Goal once treated: <130/80 (SBP <120 encouraged)

130/80 = where stage 1 starts
140/90 = where stage 2 starts

Both cut-points are the same as in 2017.

What changed: when to start medication

Situation	2017	2025
Stage 1, lower risk	Lifestyle; medication only once ≥140/90	Lifestyle 3–6 mo → **medication if still ≥130/80**
Stage 1 + higher risk*	Medication if ASCVD risk ≥10% (PCE)	Medication if **CVD risk ≥7.5% (PREVENT)**
Stage 2 (≥140/90)	Medication; 2 drugs only if >20/10 above goal	Medication; **2 drugs (one pill) for all**

**Clinical CVD, diabetes, CKD, or calculated risk above the threshold*



Lower-risk stage 1 patients who fail a trial of lifestyle modification now get medication.

Refs: 4, 5, 8

First-line medications



Thiazide-type diuretic

Chlorthalidone, HCTZ, indapamide



Long-acting DHP CCB

Amlodipine, nifedipine ER



ACE inhibitor

Lisinopril, enalapril



ARB

Losartan, valsartan



Single-pill combinations improve adherence and control

How to use them

Stage 1

One drug; titrate, then add a second class

Stage 2

Two drugs, ideally one pill

Never

ACEi + ARB together (or with aliskiren)

Not first-line

β-blockers for uncomplicated HTN — only with a compelling indication

Special populations (1 of 2)

Diabetes / CKD	ACEi or ARB first-line (not both), especially with albuminuria. Goal <130/80.
Post-stroke / TIA	Thiazide, ACEi or ARB; goal <130/80 for secondary prevention (CCBs second line—limited data for secondary stroke prevention).

Special populations (2 of 2)

Pregnancy

Avoid ACEi, ARB, direct renin inhibitors, MRAs, atenolol, nitroprusside. Use labetalol or nifedipine ER (methyldopa alternative). Chronic HTN goal <140/90; low-dose aspirin for preeclampsia prevention.

Resistant HTN

Confirm adherence; screen for aldosteronism. Add an MRA (e.g., spironolactone) if GFR >45; check K/Cr within 1 wk. Renal denervation (2b) after specialist evaluation.



PCSK9 Inhibitors in Clinical Practice

LDL & Lp(a) effects, cost, coverage and coding (Medicare, NY Medicaid).

02

PCSK9 Inhibitors

Agent	Dosing	LDL-C ↓	Cardiovascular events
Evolocumab (Repatha)	SC every 2 wk or monthly (self)	**~55–65%**	**–15% MACE** (FOURIER) **–25% first MACE**, no prior MI or stroke (VESALIUS-CV)
Alirocumab (Praluent)	SC every 2 wk or monthly (self)	**~55–65%**	**–15% MACE** after ACS (ODYSSEY OUTCOMES)
Inclisiran (Leqvio)	SC in clinic: day 0, 3 mo, then every 6 mo	**~50%**	Not yet shown — outcome trials under way
Lerodalcibep (Lerochol) **NEW Dec 2025**	SC 300 mg once monthly (self)	**~56%**	No outcome data yet
Enlicitide (Lipfendra) **NEW Jul 2026**	20 mg tablet daily, empty stomach	**~56–59%**	Outcome trial under way (CORALreef Outcomes)

What they cost in 2026

Drug	List price	Cash route	Medicare
Evolocumab (Repatha)	~$5,850/yr	**$239/mo** cash (AmgenNow)	Part D
Alirocumab (Praluent)	~$5,850/yr	Copay card	Part D
Inclisiran (Leqvio)	~$6,500/yr (~$9,750 yr 1)	—	**Part B** (given in clinic)
Lerodalcibep (Lerochol)	Not disclosed	**$199/mo** cash (direct)	Part D
Enlicitide (Lipfendra)	$315/mo (~$3,780/yr)	Planned via TrumpRx	Part D

What patients actually pay

$2,100

Medicare Part D yearly out-of-pocket cap, equivalent to $175/month

$239/mo

Evolocumab (Repatha) cash price, AmgenNow

$4–20

Generic statin per month

The PA checklist (2026)

- Hypercholesterolemia, familial hypercholesterolemia or CV risk reduction in adults at increased risk for (evolucumab/Repatha) or with established CVD (alirocumab/Praluent)
- Max-tolerated statin ≥8–12 wk — or intolerance to ≥2 statins (often atorvastatin AND rosuvastatin)
- LDL-C ≥70 with ASCVD (some plans ≥55); ≥100 without
- Lipid panel within ~90–120 days
- Ezetimibe trial: often no longer required
- Denied? Peer-to-peer; cite 2026 LDL-C goals (<55 very high risk, <70 high risk). 30% rejection rate

Medicare coverage

Part D: each plan sets its own PA — usually the label + statin trial + LDL-C above threshold

$2,100 out-of-pocket cap in 2026

Medicare Advantage may add step therapy.
80% of medicare advantage denials overturned on appeal

New York Medicaid (NYRx)

NYRx covers drugs for most members, incl. managed care

Alirocumab (Praluent) and evolocumab (Repatha): preferred (effective Oct 22, 2026) under “lipotropics, other”

Prior authorization required: genetically confirmed familial hypercholesterolemia (heterozygous or homozygous), or clinical ASCVD (h/o MI, CVA, PAD, or CABG), or severe primary HL with LDL>190. Requires concurrent statin use. If can’t tolerate statin document the intolerance, must have tried and failed at least 2 different statins. List specific statin tried, their dosages, how long taken and exact reaction, provide most recent fasting lipid panel, brief letter of medical necessity

NYRx: preferred as of Oct 22, 2026

Revised: September 14, 2026

NYRx, the Medicaid Drug Program Preferred Drug List

Preferred Drugs	Non-Preferred Drugs	Coverage Parameters
III. Cardiovascular		
Cholesterol Absorption Inhibitors		
cholestyramine cholestyramine light Colestid® tablet colestipol tablet ezetimibe	colesevelam Colestid granules, packet colestipol granules, packet Welchol® Zetia®	
HMG-CoA Reductase Inhibitors (Statins)		
atorvastatin lovastatin pravastatin rosuvastatin simvastatin	Altoprev® Atorvaliq® atorvastatin/amlodipine Caduet® ezetimibe/simvastatin fluvastatin fluvastatin ER Lescol XL® Lipitor® Livalo® pitavastatin (gen Livalo®) Vytorin® Zocor® Zypitamag™	
Lipotropics, Other		
Praluent® 1 Repatha® 1	Redemplo® 2 Tryngolza® 2	
Phosphodiesterase Type-5 (PDE-5) Inhibitors for PAH CC		
sildenafil tadalafil	Adcirca® Opsynvi® Revatio® Tadliq®	**CLINICAL CRITERIA (CC)**

1 = Preferred as of 10/22/2026
2 = Non-Preferred as of 10/22/2026

Standard PA fax form:
https://newyork.fhsc.com/downloads/providers/NYRx_PDP_PA_Fax_Standardized.pdf

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NEW YORK STATE | Department of Health | Office of Health Insurance Programs

New York State Medicaid
NYRx Preferred Drug Program - 2026 Therapeutic Class Reviews
Preferred Drug Program Legislation

The New York State Medicaid Drug Utilization Review (DUR) Board intends to review the following therapeutic classes in 2026 as they pertain to the NYRx Preferred Drug Program (PDP). For the therapeutic classes listed below, new relevant clinical and/or financial information is known to exist.

Therapeutic Category	Therapeutic Class	Previous Review Date
Anti-Infectives	Antibiotics – Inhaled	5/13/2021
	Antibiotics – Vaginal	Initial Review
Cardiovascular	Lipotropics – Other	Initial Review
	Pulmonary Arterial Hypertension (PAH) Agents, Other	9/20/2018
Dermatological Agents	Immunomodulators & Related Agents – Topical	10/3/2025
Endocrine and Metabolic Agents	Glucagon Agents	5/15/2025
	Growth Hormones	5/16/2024
	Insulin – Rapid Acting	5/15/2025
Hematological Agents	Hemophilia Agents – Other	5/15/2025
Immunologic Agents	Immunomodulators – Systemic	10/3/2025

Please refer to NYRx Preferred Drug List (PDL) for the list of drugs in the therapeutic class.

As of April 2026, no relevant new clinical and/or financial information is known to exist for the remaining PDP therapeutic classes, since previously reviewed, and the DOH proposes no changes to the NYRx PDL. If interested parties have new relevant clinical information, it can be submitted to dur@health.ny.gov as it becomes available. When submitting new relevant clinical information, please reference the DUR Board and PDP therapeutic Class. DOH will consider new relevant clinical information submitted when developing future DUR Board meeting agendas.

In determining and submitting new clinical information, the previous review dates for all therapeutic classes are available on prior meeting agendas which may be viewed at the DUR

Refs: 22; NYS DOH, NYRx 2026 therapeutic class reviews

PCSK9 inhibitors and Lp(a)

~27%

Lp(a) lowering with a PCSK9 inhibitor
meta-analysis

- Statins don’t lower Lp(a) (may raise it)
- Benefit of lowering Lp(a) itself: unproven
- **2026 guideline:** test Lp(a) once in every adult
- If high: push LDL-C lower (PCSK9i may help)

Refs: 19, 23–26

Medications that lower Lp(a)

Medication	Lp(a) ↓	Outcome trial
PCSK9 inhibitors antibodies, siRNA, oral	**~27%**	Lower MACE overall; no Lp(a)-specific trial
Pelacarsen antisense	**~80%**	Lp(a)HORIZON: **missed its primary endpoint** (Sept 2026)
Olpasiran siRNA	**>95%**	OCEAN(a)-Outcomes: results ~end of 2026
Lepodisiran siRNA	**~94%**	ACCLAIM-Lp(a): results ~2029

No drug is FDA-approved to treat Lp(a) itself.



Shingles vaccination and dementia

03

Shingles: a common, painful disease

1 in 3	US adults will get shingles in their lifetime
~1 million	US cases a year; risk rises after 50
10–18%	get postherpetic neuralgia

Does the shingles vaccine prevent shingles? Yes

All data: recombinant zoster vaccine (Shingrix)



Who: everyone ≥50, and immunocompromised adults ≥19 — 2 doses, 2–6 months apart

Live vaccine (Zostavax)

Study	Finding
Wales (Nature 2025)	**~20% fewer** new dementia diagnoses over 7 yr; mostly women
Australia, Canada	Same design, similar signal
Wales (Cell 2025)	Fewer MCI diagnoses and dementia deaths
England (2026 preprint)	6.3 million people: **no effect on dementia**

Design: eligibility set by birth date, so people born a week apart are compared. NOT RCTs.

The live vaccine has not been sold in the US since 2020.

Recombinant vaccine (Shingrix): US studies

Study (vaccine)	Finding
US health records (Nat Med 2024) recombinant vs live vaccine	**+17% dementia-free time** with the recombinant vaccine
Medicare, after nursing stay (Annals 2026) recombinant vs no vaccine	**18.8% vs 24.6%** dementia at 4 yr (GSK-funded)
Meta-analysis (Age Ageing 2025) both vaccines pooled	Zoster RR 0.76 — but **Tdap 0.67, flu 0.87**

All observational cohorts (not RCTs). Other vaccines show the same "protection."

Why to be skeptical

Vaccinated ≠ unvaccinated	Healthier, more engaged people get vaccinated
Dementia is a soft, coded outcome	Depends on doctor visits and coding habits
Too fast to be biology	Curves split by ~100 days (live) or ~200 days (recombinant); dementia takes years
Every vaccine “works”	Tdap and flu shots “protect” too — a sign of bias

What do we tell patients?

✓ Give the recombinant vaccine (Shingrix) to prevent shingles and nerve pain

? Dementia benefit: possible, but unproven — don’t promise it

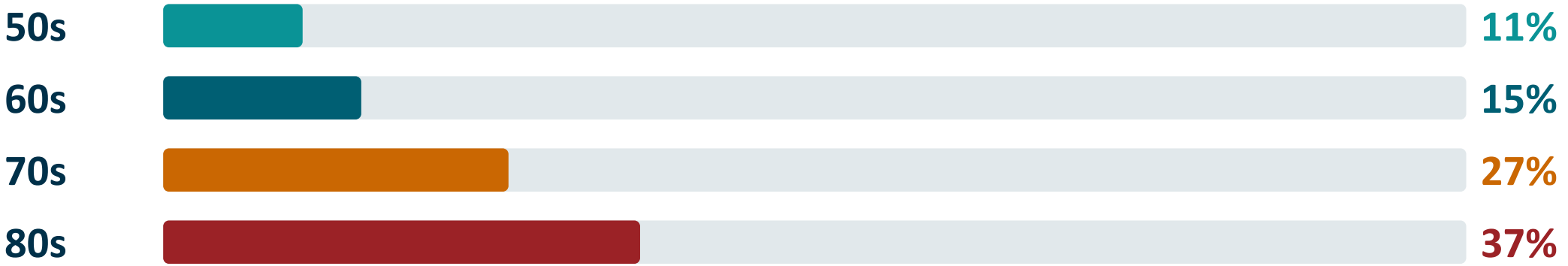


Orthopedic Pearls

03

Rotator cuff tears are common without pain

Full-thickness tears by age (whole village, detected by ultrasound; 2 of 3 painless)



MRI, ages 41–76 (2026): cuff abnormalities in **96% of painless shoulders**

Refs: 47, 48

Clinical implication

- A tear on MRI may be age-related, not the pain source
- Correlate with the exam first
- Painful tears: larger, with muscle atrophy (positive “tangent sign”)
- Over-imaging drives over-treatment (surgeries)

Degenerative meniscal tear: PT first

Physical therapy

- As good as surgery at 2 and 5 years (ESCAPE)
- No surgical risk

Arthroscopy

- No better than sham surgery
- Locking symptoms don’t predict benefit

Start with PT; surgery for PT failure, significant locking



Medication Side Effect Pearls

03

Carbidopa-levodopa → low B6

- Carbidopa binds active vitamin B6
- Low B6 → seizures that only B6 fixes
- Risk ↑ above 1,000 mg/day levodopa, incl. intestinal gel (carbidopa-levodopa enteral suspension, Duopa)
- **FDA, March 2026:** check B6 at baseline and periodically

PEARL 5 • MEDICATION SIDE EFFECTS

GLP-1 agonists may be associated with chronic cough

US cohort: >2 million adults with type 2 diabetes

New chronic cough 12% more likely (aHR 1.12)

Even after excluding reflux (aHR 1.29)

Observational — consider it for cough ≥8 weeks



Recurrent UTI in Women: Beyond Antibiotics

The 2025 AUA/CUA/SUFU guideline update — vaginal estrogen, methenamine, and stewardship-first prevention.

04

What's new in the 2025 guideline

Recurrent UTI: ≥2 in 6 months or ≥3 in 12 months (culture-proven)

Methenamine: new option (may offer)

Cranberry: upgraded to "should offer"

More water if drinking <1.5 L a day

D-mannose alone: does not work, no different than placebo

Judgment over microbial detection

Success = symptoms resolve, not a negative culture

1 Behavioral

Water if <1.5 L/day; void after sex

2 Vaginal estrogen

Peri-/postmenopausal women

3 Non-antibiotic Rx

Methenamine, cranberry

4 Antibiotic prophylaxis

Post-coital or daily; reassess

Vaginal estrogen: highest yield

- Restores the vaginal lining, acidic pH and lactobacilli
- RCTs: about 35–75% fewer UTIs
- AUA: recommend for peri-/postmenopausal women
- Minimal absorption at low doses

Dosing

Product	Start	Maintenance
Estradiol cream (0.01%) (50 mcg/0.5g)	0.5 g nightly ×2 wk	0.5 g twice weekly
Estradiol insert (10 mcg)	1 nightly ×2 wk	1 twice weekly
Estradiol ring (2 mg)	Insert vaginally	Replace every 90 days

Takes weeks; keep using it. Prior breast cancer: decide with oncology.

Methenamine hippurate

- **1 g twice daily;** becomes formaldehyde in acidic urine
- As good as daily antibiotics (BMJ 2022)
- **Not with sulfa antibiotics** — e.g., TMP-SMX (Bactrim)
- Not with urine alkalinizers (sodium bicarb, k citrate, large antacid dose) or acetazolamide
- **Cost:** ≈$34/month (generic, with coupon)



Acute Sinusitis

The 2025 AAO-HNSF adult sinusitis update — watchful waiting, and amoxicillin vs amoxicillin-clavulanate (Augmentin).

05

When is sinusitis bacterial?

- Most is viral — only ~0.5–2% turns bacterial
- **Suspect bacterial:** no improvement after ≥10 days
- …or better, then worse (“double worsening”)
- …or severe: fever ≥39°C + pus for 3–4 days

Watchful waiting first



2025: SHOULD offer watchful waiting (uncomplicated, with follow-up)



Safety-net script: fill if not better



Not better 3–5 days into antibiotics: reassess



Goal: fewer side effects, less resistance

ACP: when to use antibiotics

No standalone sinusitis guideline: its 2016 advice on antibiotics for acute respiratory infections covers it, for healthy adults only (no chronic lung disease or immunocompromise).

Reserve antibiotics for any of:

Persistent

Symptoms lasting more than 10 days

Severe onset

Fever >39°C plus purulent discharge or facial pain for ≥3 consecutive days

Double sickening

Worsening after a typical viral illness that had been improving

Otherwise: supportive care for most patients

Unlike IDSA: no preferred antibiotic named

Refs: 68; Harris AM, et al. Ann Intern Med. 2016;164:425-434

Amoxicillin ± clavulanate



2025: amoxicillin ± clavulanate for 5–7 days (was 5–10). Either acceptable — guideline leaves clavulanate to clinical judgment

Amoxicillin alone

- **500 mg TID or 875 mg BID × 5–7 days**
- Narrower; less diarrhea
- Misses β-lactamase–producing H. influenzae and M. catarrhalis

Amoxicillin-clavulanate (Augmentin)

875/125 mg BID × 5–7 days

High-dose 2,000/125 mg ER BID if resistance risk

Favor if >65, recent antibiotics or hospital stay, immunocompromised, severe. IDSA prefers it.

Key take-home points (1 of 2)

Hypertension	Same cut-points; stage 1 gets medication if still ≥130/80 after 3–6 months of lifestyle or PREVENT ≥7.5%; Stage 2 >140/90 gets 2 meds, ideally one pill
PCSK9 & Lp(a)	Five agents incl. oral enlicitide; document if ASCVD, not at goal on max tolerated statin; Part D cap $2,100; Pelacarsen for lp(a) missed its CV endpoint (Sept 2026).
Recurrent UTI	Stewardship first: vaginal estrogen, methenamine 1 g BID (not with sulfa antibiotics), cranberry, water if <1.5 L/day; antibiotics last, don’t test for cure.

Key take-home points (2 of 2)

Shingles vaccine	Recombinant vaccine (Shingrix) prevents shingles (~90%, durable to 11 years). Dementia benefit is observational and contested (largest replication, live vaccine, null); don’t promise it.
Orthopedics	Painless rotator cuff and meniscal tears are common — correlate with the exam; PT first.
Sinusitis	Most is viral. bacterial: watchful waiting first (10 d); amoxicillin ± clavulanate for 5–7 days.
Medication Side Effects	Carbidopa-levodopa → check B6 (FDA 2026); GLP-1 RAs → new chronic cough.

ENT ≠ Internal Medicine Physician

Was it just the hypertension?

1920–1932

An enlarging pigmented lesion appears above his left eye

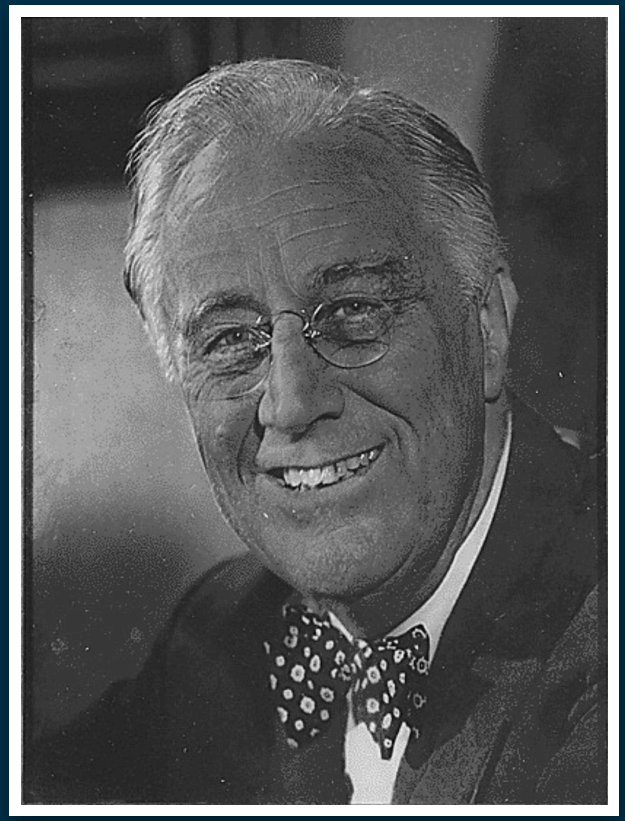
Circa 1940

The lesion vanishes, leaving a scar and a sparse lateral eyebrow

The spot above his left eyebrow



With the lesion: a dark spot above his left eyebrow (inset: close-up)



1944: the spot is gone

National Archives (public domain)

Was it just the hypertension?



During lectures in 1963 and 1965, Dr. George Pack stated that his friend, Dr. Frank Lahey of Boston, had seen FDR in consultation in 1944 and had informed the president that he had a metastatic tumor and advised him not to run for a fourth term

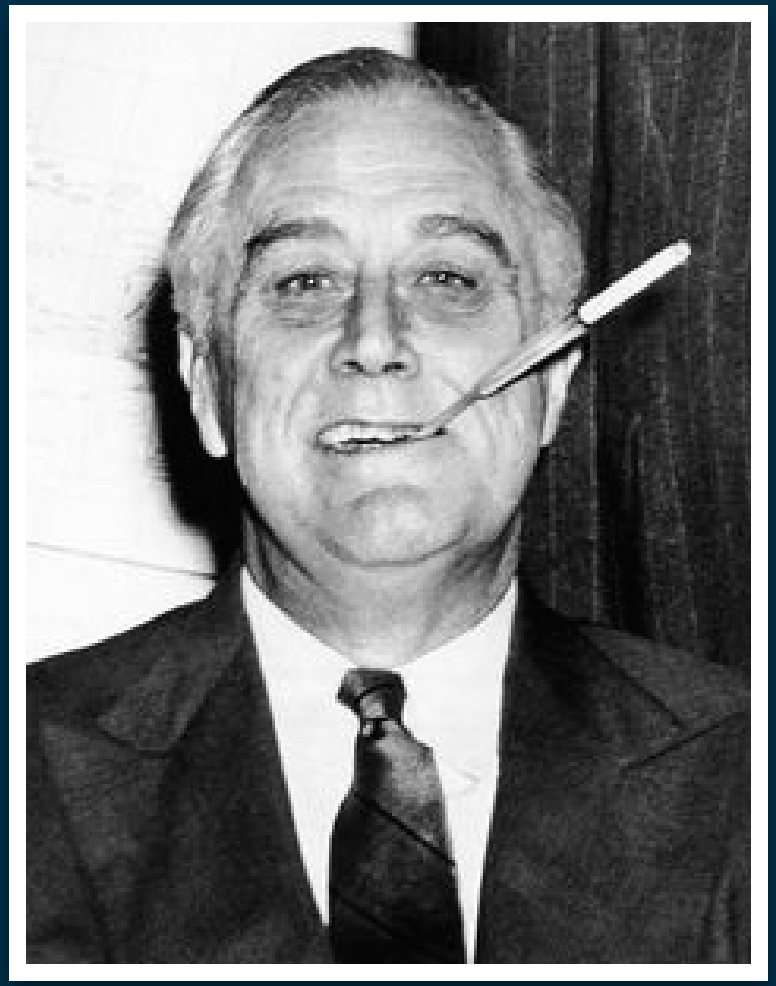
(HIPAA, Dr. Lahey…)

Was it just the hypertension?

Film of FDR's March 1945 report to Congress on Yalta: analysis by Lomazow and Fettmann compared film with the text he was reading: he couldn't find the left margin of the page of his speech — left hemianopia?

Melanoma, metastatic to brain, raising intracranial pressure, eventually triggering severe hypertension and intracranial hemorrhage?

Shortly after his death his medical record went missing from a vault in Bethesda. His personal physician was one of 3 people with access to the vault.







Questions & discussion

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