

Top 20 POEMs of 2019

Mark H. Ebell MD, MS

Professor, University of Georgia

Editor-in-Chief, *Essential Evidence*
(www.essentialevidence.com)

Co-Founder, InfoPOEMs

Deputy Editor, *American Family Physician*

Financial disclosure

- I am paid by Wiley-Blackwell, Inc (a large publisher) to write POEMs and to edit Essential Evidence. My compensation is not tied to subscription rates.
- I am not paid to do the podcasts and they do not contain advertising

Brief biosketch

- Family physician, trained at University of Michigan. Currently Professor at UGA
- Editor of *Essential Evidence Plus* & Deputy Editor of *American Family Physician*
- Have written over 1200 POEMs in past 21 years
- Over 500 peer reviewed publications and 8 books
- Member USPSTF 2012-2015 and Fulbright Scholar at Royal College of Surgeons in Ireland (Dublin) 2019.

What is a POEM?

POEMs = Patient Oriented Evidence that Matters

A POEM is a study that:

- addresses a common or important condition in primary care
- demonstrates improved patient oriented outcomes
- and matters because it could be a practice-changer

In other words: “Something you aren’t already doing, and by doing it you improve how long or well your patients live”

Comparing POEMs and DOEs (disease oriented evidence)

Example	DOE	POEM	Comment
Metformin	Lowers blood sugar	↓ all-cause mortality	POEM = DOE
Glitazones	Lowers blood sugar	↑ CV mortality, CHF	POEM ≠ DOE
Tight blood sugar control for Type 2 DM	Lower is always better!	No change and possibly even increased mortality	POEM ≠ DOE
Diuretics for BP	Diuretic ↓ BP	Diuretic ↓ mortality	POEM = DOE
Arthroscopic surgery for OA of knee	Cleaning joint debris is good	No change in symptoms/ function	POEM ≠ DOE

POEMs are a practical filter to keep current

- Each year
 - 600,000 articles added to PubMed
 - 20,000 articles per year in top 100 English language clinical journals
 - **Only 250 meet the criteria for POEMs**
- Only 1.2% of articles in top journals, and only 0.04% of articles indexed in PubMed each year
- All Canadian Medical Association members get a POEM daily in their email, and each day 1000-2000 rate them for impact on their practice
- Today's talk is the top 20 from 2019 out of 254 total POEMs written that year.



Where can you get more (or all) POEMs?

- To get all of them (emailed daily) subscribe to **Essential Evidence**: <http://www.essentialevidenceplus.com> (\$89/year, includes full access to Essential Evidence, a primary care, evidence-based, continuously updated online primary care reference)
- Weekly podcast on iTunes, search for “**POEM of the Week**” (490+ episodes)
- New: “**Primary Care Update**”, John Hickner, Henry Barry, and I review 3 POEMs every 2 weeks.
- Plus, 4-5 monthly in *American Family Physician*, www.aafp.org/afp

Podcasts > Science & Medicine > Medicine > Mark Ebell and friends

Primary Care Update



Subscribe

Audio
Medicine

© Mark Ebell and friends



LINKS

Website
Report a Concern

Primary Care Update

Mark Ebell and friends >

[Details](#) [Ratings and Reviews](#) [Relate](#)

From the Provider

Three healthily skeptical primary care physicians and I review 3 others for this fast-paced weekly update

▲	NAME
1	Primary Care Update: Episode 4
2	Primary Care Update: Episode 3
3	Primary Care Update: Episode 2
4	Primary Care Update: Episode 1

Listeners Also Subscribed To



1. Hypertension: Bedtime, not morning

- 19,168 Spanish adults with hypertension requiring medical therapy.
- Randomized to taking medication first thing in the morning or at bedtime. Could take any medications their doctors recommended as long as once daily.
- Groups similar at baseline, followed for median 6.3 years
- Composite of MI, revascularization, HF, stroke, or CV death: HR 0.55, 95% CI 0.50 – 0.61 and NNT = 20 favoring nighttime dosing

Hermida RC, Crespo JJ, Dominguez-Sardina M, et al, for the Hygia Project Investigators. Bedtime hypertension treatment improves cardiovascular risk reduction: the Hygia Chronotherapy Trial. European Heart J 2019 Oct 22. pii: ehz754.

2. Hypertension: Automated cuffs rock

- Meta-analysis of 31 studies with 9270 patients
- Compared automated readings (3-5 separated by 1-2 minute intervals) with single manual reading with ambulatory BP measurement
- Ambulatory = automated readings
- Manual was higher than ambulatory by 13/6 mm Hg
- Manual was higher than automated by 14/6 mm Hg
- Use ambulatory or automated readings

Roerecke M, Kaczorowski J, Myers MG. Comparing automated office blood pressure readings with other methods of blood pressure measurement for identifying patients with possible hypertension. A systematic review and meta-analysis. JAMA Intern Med 2019;179(3):351-362.

3. Behavioral medicine: treatment of generalized anxiety disorder

- Network meta-analysis of 89 studies and 25,000 patients comparing drugs for GAD to placebo or each other. Run-in period excluded.
- Median f/u 8 weeks, longest 26 weeks (really?), most industry-funded.
- Most effective drugs in order of effectiveness were **bupropion**, quetiapine, **duloxetine**, mirtazapine, hydroxyzine, sertraline, pregabalin, venlafaxine, escitalopram, fluoxetine, buspirone, paroxetine, and citalopram
- Non-effective: imipramine, maprotiline, opi Pramol, tiagabine, vilazodone, and vortioxetine.
- High rate of adverse effects: quetiapine, paroxetine, benzodiazepines

Slee A, Nazareth I, Bondaronek P, Liu Y, Cheng Z, Freemantle N. Pharmacological treatments for generalised anxiety disorder: a systematic review and network meta-analysis. Lancet 2019;393(10173):768-777.

4. Behavioral Medicine: Failure to disclose symptoms is common

- 252 adults visiting 15 English GPs with videotaped encounters
- 190 agreed to participate, 185 discussed a chief complaint with their physician
- Of 139 who identified a symptom that they planned to disclose, 43 failed to disclose 67 symptoms.
- Most commonly failed to disclose stress, worries or sadness, tiredness or sleep problems, problems with urination, headache, and intimate or personal problems.
- Suggests that we might want to be more pro-active with these problems

Paskins Z, Sanders T, Croft PR, Green J, McKinley R, Hassell AB. Non-disclosure of symptoms in primary care: an observational study. *Fam Pract* 2018;35(6):706-711.

5. Behavioral medicine: don't change antidepressant too soon

- Meta-analysis of 30 studies with 2184 patients.
- After 6 weeks, about 50% had responded, with 32% in remission
- At 12 weeks, 68% had responded with 49% in remission
- Patients with improvement at 2 weeks were likely to respond at 6 weeks.
- But among those without 2 week improvement, 33% responded by 6 weeks and 43% by 12 weeks.
- Early response predicts later response, but many non-responders will eventually respond.

De Vries YA, Roest AM, Bos EH, Burgerhof JGM, van Loo HM, de Jonge P. Predicting antidepressant response by monitoring early improvement of individual symptoms of depression: individual patient data meta-analysis. *Br J Psychiatry* 2019; 214(1):4-10.

6. Infections: Ruling out pneumonia

- Systematic review of 12 studies with between 246 and 2820 patients
- Half ER, half primary care
- All recruited patients with cough, RTI or suspected pneumonia and all got CXR as a reference standard.
- Half low risk of bias, half moderate
- Normal vitals (temp, RR, and HR) plus normal lung exam excluded community acquired pneumonia (LR- 0.10, 96% sensitivity)
- If 4% risk of CAP, if normal vitals and lung exam risk is only 0.4%

Marchello CS, Ebell MH, Dale AP, Harvill ET, Shen Y, Whalen CC. Signs and symptoms that rule out community-acquired pneumonia in outpatient adults: A systematic review and meta-analysis. J Am Board Fam Med 2019;32(2):234-247.

7. Infections: 5 days = 10 days for strep

- 317 Swedish adults and 105 children 6+ years in primary care, all with 3-4 Centor criteria for Strep (moderately severe) and positive rapid test.
- Randomized to
 - penicillin 800 qid for 5 days → 90% clinical cure at 5-7 days post tx
 - penicillin 1000 mg tid for 10 days → 93% clinical cure at 5-7 days post tx
- Patients in the 5 day group had more rapid resolution of symptoms.
- Higher bacterial cure rates in 10 day group but no difference in complication or recurrence rates at 3 months.
- More adverse events in 10 day group

Skoog Ståhlgren GS, Tyrstrup M, Edlund C, et al. Penicillin V four times daily for five days versus three times daily for 10 days in patients with pharyngotonsillitis caused by group A streptococci: randomised controlled, open label, non-inferiority study. *BMJ* 2019;367:l5337.

8. Infections: Prognosis of RTI in kids

- Cohort of 485 healthy kids in Bristol, England.
- Tracked duration of common respiratory illnesses by diary for 346 respiratory infections in 259 kids.
- Median duration was 9 days, but skewed as it took 23 days for 90% to recover.
- Lower respiratory infections, dry cough, and sniffles lasted longer
- Otitis media was shorter.
- Only 8% sought care and only 9% caused a missed day of school.

Hay AD, Anderson E, Ingle S, Beck C, Hollingworth W. Respiratory tract infections in children in the community: prospective online inception cohort study. *Ann Fam Med* 2019;17(1):14-22.

9. Prevention: recombinant zoster vaccine

- Network meta-analysis of recombinant zoster vaccine (Shingrix) versus live attenuated (Zostavax) versus placebo (indirect comparison)
- 27 studies with over 2 million patients, mostly RCTs
- Shingrix much more effective than Zostavax or placebo
- More sore arms with Shingrix (2x) and requires 2 injection

Tricco AC, Zarin W, Cardoso R, et al. Efficacy, effectiveness, and safety of herpes zoster vaccines in adults aged 50 and older: systematic review and network meta-analysis. *BMJ* 2018;363:k4029s

10. Prevention: Statins in the elderly

- Individual patient meta-analysis of 28 studies with 186,000 patients followed at least 2 years, median 5 years.
- In patients > 75 years, composite of MI or coronary death occurred in 2.6% vs 3.0% (NNT = 250). No difference in revascularization or stroke, though.
- In those without known vascular disease, no difference in any outcomes.

Cholesterol Treatment Trialists' Collaboration, Armitage J, Baigent C, et al. Efficacy and safety of statin therapy in older people: a meta-analysis of individual participant data from 28 randomised controlled trials. *Lancet* 2019;393(10170):407-415.

11 – 13: Prevention: Aspirin

- 4 major studies of aspirin for primary prevention recruiting patients since 2005. Very different results from those recruiting patients before 2000, when there was little management of lipids, BP control was worse, more patient smoked, and there was no screening for colorectal cancer.
- McNeil JJ, Wolfe R, Woods RL, et al, for the ASPREE Investigator Group. Effect of aspirin on cardiovascular events and bleeding in the healthy elderly. *N Engl J Med* 2018;379(16):1509-1518.
- McNeil JJ, Woods RL, Nelson MR, et al, for the ASPREE Investigator Group. Effect of aspirin on disability-free survival in the healthy elderly. *N Engl J Med* 2018;379(16):1499-1508.
- The ASCEND Study Collaborative Group, Bowman L, Mafham M, et al. Effects of aspirin for primary prevention in persons with diabetes mellitus. *N Engl J Med* 2018;379(16):1529-1539.

11-13: Prevention: Aspirin

	Events/1000 over 5 years	
Outcome	Aspirin	Control
MACE (4 fewer)	44	48
Any ischemic stroke (2 fewer)	16	18
Intracranial hemorrhage (3 more)	8	5
Major hemorrhage (7 more)	26	19

Moriarty F, Ebell MH. A comparison of contemporary versus older studies of aspirin for primary prevention. Fam Pract 2019; 1-7 doi:10.1093/fampra/cmz080

14: Prevention: Non-fasting lipids are fine

- 8270 persons age 40 to 79 in a study of cholesterol lowering
- All had hypertension and total cholesterol < 250 mg/dl + other risk factors for CV disease. Looked at association between lipid levels and major coronary event in next 3 years.
- Generally similar for non-fasting vs fasting lipids:
 - Per 40 mg LDL higher: HR 1.32 non-fasting and 1.28 fasting
 - 95% concordance for assignment to risk groups
 - Only triglycerides were somewhat higher (25 mg/dl)

Mora S, Chang CL, Moorthy MV, Sever PS. Association of nonfasting vs fasting lipid levels with risk of major coronary events in the Anglo-Scandinavian cardiac outcomes trial--lipid lowering arm. JAMA Intern Med 2019;179(7):898-905.

15. Screening: Yield of FIT testing

- Most wealthy countries with colorectal cancer screening programs use fecal immunochemical testing (FIT), not colonoscopy
- Study in Veneto region of Italy of 5 rounds of q 2 year FIT screening
- Year 1 3.3 cancers/1000 persons, subsequent rounds ~1 cancer/1000
- Year 1 15.9 advanced adenomas/1000, in subsequent rounds ~10 advanced adenomas/1000 persons
- Over 10 year cumulative yield was 60 advanced adenomas and 8.5 cancers/1000 persons.
- This is similar to detection rates using colonoscopy based screening

Zorzi M, Hassan C, Capodaglio G, et al. Long-term performance of colorectal cancer screening programmes based on the faecal immunochemical test. *Gut* 2018;67(12):2124-2130.

16. Prevention: Effect of NSAIDs, ASA or anticoagulants on FIT test accuracy

- Systematic review of 8 studies with 2022 patients comparing positive predictive value of FIT test in patients taking vs not taking NSAID or anticoagulant.
- 6 studies included aspirin users, 4 oral anticoagulant users, 1 NSAIDs
- Essential no effect on PPV. For oral anticoagulant users: PPV for cancer 5.7% for users, 6.2% non-users. PPV for advanced neoplasia 37.6% vs 40.3%
- Similar results for NSAIDs/ASA with no effect on PPV

Nieuwenburg SA, Vuik FE, Kruip MJ, Kuipers EJ, Spaander MC. Effect of anticoagulants and NSAIDs on accuracy of faecal immunochemical tests (FITs) in colorectal cancer screening: a systematic review and meta-analysis. *Gut* 2019;68(5):866-872

In closing, some quick takeaways...

17. CRC risk is 3.7% overall, 6% if one first degree or 2 second degree relatives, 9% if two first degree relatives. (BMJ 2019;364:l803)

18. GI bleeding risk highest with rivaroxaban (14/1000 p-y), lowest with apixaban (7/1000 p-y), and average risk for all DOAs lowered with PPI co-treatment (7.6 vs 11.5/1000 p-y). (JAMA 2018;320:2221)

19. Patients in ED with acute pain randomized to single dose of 400, 600 or 800 mg ibuprofen. No difference in pain scores, which dropped from ~6.5 to ~4.4 in all three groups. (Ann Emerg Med 2019;74:530)

20. Meta-analysis of 46 studies of exercise found that it reduces the risk of falls and injurious falls, but not hospitalizations or mortality. Trend toward fewer fractures. Most commonly combination of aerobics and strength training was studied. (JAMA Intern Med 2019;179:394)

And some highly rated guidelines...

- ACCP Antithrombotics for afib: 1) use CHADS2VASC and HAS-BLED scores to assess stroke and bleeding risks, 2) DOAs recommended for most newly diagnosed patients, 3) if taking aspirin, reconsider need, use lowest possible dose, and add PPI. (Chest 2018;154(5):1121)
- ADA/EASD: Individualize T2DM care, beginning with metformin and adding sulfonylurea, glitazone, SGLT2 or GLP-1 if needed, with latter 2 preferred if heart disease. Self-management, diet, exercise, weight loss remain key elements. (Diabetes Care 2018;41(12):2669)
- ACP: shared decision-making re mammograms 40 to 49, every 2 years 50 to 74, and stop at 75 or when < 10 years life expectancy. (Ann Intern Med 2019;170)

You are screening for colorectal cancer using the FIT, and the patient is taking dabigatran for atrial fibrillation. Which one of the following is true?

A 62 year old patient presents for a health maintenance visit. They have no history of cardiovascular disease and a 7% 10 year cardiovascular risk. Which one of the following is true.

A patient presents with a cough for 3 days, productive of greenish sputum. Which one of the following is true?

