Practice Changers:  
Top 20 POEMs of 2018

Roland Grad, MDCM, MSc, FCFP

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Dr. Grad is a family physician and researcher at McGill University. His research is in medical education and continuing professional development, with a focus on how health professionals use research-based information. In work funded by the Canadian Institutes of Health Research, the Canadian Medical Association, and the Canadian Pharmacists Association, he co-developed and validated the Information Assessment Method (IAM). This widely used tool systematically documents reflection on health information, such as the daily POEM (Patient-Oriented Evidence that Matters). In multiple studies, the IAM has revealed how physicians, nurses, and pharmacists use research evidence in everyday practice to improve health care. Dr. Grad is a fellow of the College of Family Physicians of Canada (CFPC) and a member of the Canadian Task Force on Preventive Health Care.
Learning Objectives

1. Be able to describe how POEMs can provide a rational strategy for identifying relevant, valid evidence for practice.

2. Describe how the top POEMs selected for their ability to change practice will affect their practice.

3. Describe the most important practice-changing guidelines from 2018.

Audience Engagement System

Step 1

Step 2

Step 3
POEMS = Patient Oriented Evidence that Matters

- A POEM is:
  - Relevant to primary care, hospital or ED practice
  - Demonstrates improvement in patient oriented outcomes
  - Evaluated for validity and bias
- 7 reviewers, 110 journals → 255 POEMs in 2018
- A top 20 POEMs article has been published in *American Family Physician* annually for 8 years

The best of the best of the best presented today!
70% of raters are family physicians

Information Assessment Method (IAM)
20 studies

Canadian physicians selected:

• Lots of blood pressure studies (5)
• Infectious disease (4)
• Pain management (3)
• Behavioral medicine (3)
• Screening and Prevention (4)
Poll Question 1

An asymptomatic 70-year-old woman takes ramipril 10 mg daily for longstanding hypertension without target organ damage. As she is anxious about taking her blood pressure in the office, a 24-hour ambulatory BP monitor was done. The results are as follows: 144/92 awake and 132/81 asleep.

To further reduce her chance of a cardiovascular event, would you intensify her treatment?
A. Yes
B. No
1. Which is a better predictor of mortality?
   Ambulatory or office BP measurement

**Key findings**

- 24 hour ambulatory blood pressure measures were a mean of 19/11 mm Hg lower than single office measures
- Ambulatory was also a better predictor of mortality
2. Is a single BP measurement reliable to assess hypertension?

Reliability of single office blood pressure measurements

Thilo Burkard,1,2 Michael Mayr,1 Clemens Winterhalder,3 Licia Leonardi,3 Jens Eckstein,3 Annina Salome Vischer1

Key findings

• The answer is: no! A single blood pressure measurement is often falsely elevated – critical to not rely on it

• They took 1000 consecutive primary care patients and measured BP after 5 minutes of rest, and then 4 more times 2 minutes apart. They compared initial BP with mean of next 4 BPs.

• The first systolic BP was 10+ mm higher in 24%, and 5+ mm higher in 46%. The first diastolic BP was 5+ mm higher in 22% of patients. Hypertension would have been erroneously diagnosed by relying on the initial measure in 12% of patients.
3. In patients with high BP, does a second reading show lower results?

Key findings

The 2nd blood pressure checked by a primary care doc was an average of 8 mm lower than initial
  • 1/3 went from over 140/90 to under 140/90
4. At what systolic BP should we begin treatment for the most benefit?

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**Association of Blood Pressure Lowering With Mortality and Cardiovascular Disease Across Blood Pressure Levels**

A Systematic Review and Meta-analysis

Mattias Brunström, MD; Bo Carlberg, MD, PhD

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**Key findings**

- Treating patients with BP > 140/90 reduced mortality
- Treating patients who were at or below 140/90 did not
5. Is lower systolic BP associated with better outcomes in elderly patients who take antihypertensive medication?

**Lower blood pressure during antihypertensive treatment is associated with higher all-cause mortality and accelerated cognitive decline in the oldest-old. Data from the Leiden 85-plus Study**

Sven Streit¹, Rosalinde K. E. Poortvliet², Jacobijn Gussekloo²³

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**Key findings**

- Caution is advised in aggressive treatment of very old

- They found association between greater BP lowering and increased mortality
Key issues

A lower threshold might benefit some patients at high risk of CVD, while harming other patients at low risk.

- Taking a choosing wisely approach requires calculating your patients’ baseline risk for CVD and using this risk in a conversation about CVD prevention, considering their personal values and preferences.

- What about the SPRINT trial? In older (mean age 68) non-Diabetic patients with very high 10 year CV risk (> 15%)… A BP target of 120 vs 140 led to lower all-cause mortality (NNT = 83 over 3 years) but more hypotension (NNH = 100), more electrolyte abnormality (NNH = 125), and more acute kidney injury (NNH = 67). No difference in ACS, MI or stroke.

- ACC / AHA guideline advocated 130/80 for most patients based on SPRINT

- AAFP and ACP: do not endorse ACC/AHA target of 130/80 and continue to recommend 140/90 for most patients.
Infection

6. Are short courses of antibiotics as effective as longer courses for outpatient infections?

Short-course versus long-course oral antibiotic treatment for infections treated in outpatient settings: a review of systematic reviews

Elizabeth E Dawson-Hahn\textsuperscript{a,b,\textast}, Sharon Mickan\textsuperscript{c,d}, Igbo Onakpoya\textsuperscript{d}, Nia Roberts\textsuperscript{e}, Matthew Kronman\textsuperscript{a,f}, Chris C Butler\textsuperscript{d,g} and Matthew J Thompson\textsuperscript{h}

\textsuperscript{a}Department of Pediatrics, University of Washington, Seattle, WA, USA, \textsuperscript{b}Center for Child Health, Behavior and Development, Seattle Children's Research Institute, Seattle, WA, USA, \textsuperscript{c}Gold Coast Health and Griffith University, Queensland, Australia, \textsuperscript{d}Nuffield Department of Primary Care Health Sciences, University of Oxford, Oxford, UK,
Key findings

Short courses as good as longer for outpatient infections

• Children:
  • 5-7 days = 10 days for strep throat
  • 3 days = 5 days for CAP
  • 2+ = 7+ days for otitis media
  • 2-4 = 7-14 days for UTI

• Adults
  • 3-7 = 6-10 days for acute sinusitis
  • 3 = 5+ days for uncomplicated UTI
  • 7-14 = 14-42 for acute pyelo
  • 7 or less = 7+ for community acquired pneumonia
  • 3-6 = 7-14 for UTI in older women

7. Which treatments are safe and effective for cough associated with the common cold?

Pharmacologic and Nonpharmacologic Treatment for Acute Cough Associated With the Common Cold
CHEST Expert Panel Report

Mark A. Malesker, PharmD, FCCP; Priscilla Callahan-Lyon, MD; Belinda Ireland, MD; Richard S. Irwin, MD; Master FCCP; on behalf of the CHEST Expert Cough Panel
8. Which treatments for subacute cough are effective?

**Research**
Benjamin Speich, Anja Thomer, Soheila Aghlmandi, Hannah Ewald, Andreas Zeller and Lars G Hemkens

**Treatments for subacute cough in primary care:**
systematic review and meta-analyses of randomised clinical trials

**Key findings**

- **Nothing works** for acute cough
- At least no good evidence. Of course, absence of evidence is not evidence of absence
- Well, maybe honey for kids

- The evidence for treating patients with subacute cough is also limited and does not demonstrate meaningful improvements.
9. Is a five-day course of nitrofurantoin as effective as single dose Fosfomycin (Monurol) for UTI?

Effect of 5-Day Nitrofurantoin vs Single-Dose Fosfomycin on Clinical Resolution of Uncomplicated Lower Urinary Tract Infection in Women
A Randomized Clinical Trial
Angela Hutner, MD, Anna Kowalski, MD, Ali Tukeman, MD, et al

Key findings

Clinical resolution:
70% for nitrofurantoin vs 58% fosfomycin, p < 0.05, NNT = 8

- Cost: nitrofurantoin $20, fosfomycin $90
10. Does increased water intake decrease UTI recurrence in women?

Key findings

**Increased water intake decreases recurrent UTI in women**

- At one year, those in the extra water group had 1.7 vs. 3.2 UTI’s per year
- Downside = two more trips to the loo daily in the extra water group
Pain Management

Poll Question 2

Which one of the following statements about treatment of musculoskeletal pain is correct?

A. Opioid and acetaminophen combination analgesics relieve acute extremity pain better than ibuprofen and acetaminophen combinations.
B. Anticonvulsants are effective for the treatment of low back pain with radiculopathy.
C. Nonopioid medications are at least as effective as opioid medications for improving pain-related function in persons with chronic back, knee, or hip pain.
D. Unlike opioids, anticonvulsants do not increase the risk of adverse events.
11. Are opioid medications preferable for improving pain-related function in adults with severe chronic back, hip or knee pain?

Effect of Opioid vs Nonopioid Medications on Pain-Related Function in Patients With Chronic Back Pain or Hip or Knee Osteoarthritis Pain
The SPACE Randomized Clinical Trial

Erin E. Krebs, MD, MPH\textsuperscript{1,2}; Amy Gravely, MA\textsuperscript{1}; Sean Nugent, BA\textsuperscript{1}; et al

Key findings

- At 12 months no difference in function, and lower pain intensity in non-opioid group.
- More dropouts due to medication adverse events in opioid group (19% vs 8%)
12. What oral analgesic combinations are effective for reducing the pain of an acute extremity injury in adults?

**Effect of a Single Dose of Oral Opioid and Nonopioid Analgesics on Acute Extremity Pain in the Emergency Department**

* A Randomized Clinical Trial

Andrew K. Chang, MD, MS¹; Polly E. Bijur, PhD²; David Esses, MD²; et al

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**Key findings**

- **Ibuprofen + acetaminophen = opioid + acetaminophen for acute severe extremity pain**

- At 2 hours, pain in all groups dropped 3.5 – 4.3 points, p = ns
- A drop of 1.3 or more was clinically important

- Even in subgroup with 10/10 pain, no difference seen
13. Are anticonvulsants an effective treatment for low back pain?

Anticonvulsants in the treatment of low back pain and lumbar radicular pain: a systematic review and meta-analysis

Oliver Enke MBBS MSc, Heather A. New MBBS MPH, Charles H. New MBBS, Stephanie Mathieson PhD, Andrew J. McLachlan PhD, Jane Latimer PhD, Christopher G. Maher PhD, C.-W. Christine Lin PhD

Key findings

Gabapentin and pregabalin ineffective for low back pain
• Total of 14 comparisons, only 2 showing benefit
  • 43 patients randomized to 3600 mg/day gabapentin or placebo
  • 96 patients given 300 mg topiramate daily
  • Other 12 showed no benefit. Where they could pool studies, no benefit.
• No difference in adverse events
• So maybe gabapentin 300 bid is a nice placebo?
Poll Question 3

Which of the following statements about behavioral medicine is correct?

A. Two-thirds of patients with anxiety disorders will relapse after discontinuation of antidepressant therapy.
B. Persons who participate in more than 150 minutes of moderate-intensity physical activity per week have a lower risk of depression.
C. There is no relationship between intensity of physical activity and incident depression.
D. Nonbenzodiazepine hypnotics decrease the risk of falls or fractures.
14. Is physical activity associated with a reduced risk of subsequent incident depression?

**Physical Activity and Incident Depression: A Meta-Analysis of Prospective Cohort Studies**
Felipe B. Schuch, Ph.D., Davy Vancampfort, Ph.D., Joseph Firth, Ph.D., Simon Rosenbaum, Ph.D., Philip B. Ward, Ph.D., Edson S. Silva, B.Sc., Mats Hallgren, Ph.D., Antonio Ponce De Leon, Ph.D., Andrea L. Dunn, Ph.D., Andrea C. Deslandes, Ph.D., Marcelo P. Fleck, Ph.D., Andre F. Carvalho, Ph.D., Brendon Stubbs,

**Key findings**

- Higher levels of activity associated with less incident depression (aOR 0.83, 95% CI 0.79 – 0.88) even after adjusting for age, smoking, BMI, and baseline symptoms.
- So get moving!
15. How common is relapse in patients with anxiety disorder following discontinuation of treatment with an antidepressant?

**Risk of relapse after antidepressant discontinuation in anxiety disorders, obsessive-compulsive disorder, and post-traumatic stress disorder: systematic review and meta-analysis of relapse prevention trials**

Neeltje M Batelaan,¹,² Renske C Bosman,¹ Anna Muntingh,¹,² Willemijn D Scholten,¹,² Klaas M Huijbregts,¹,² Anton J L M van Balkom¹,²

**Key findings**

- Relapse occurred in 36% switched to placebo, 16% who continued.
- Glass half full would say 64% did well after discontinuation
16. Are nonbenzodiazepine hypnotics associated with harms in older adults?

**Z-drugs and risk for falls and fractures in older adults—a systematic review and meta-analysis**

NIR TREVES\(^1\), AMICAI PERLMAN\(^{1,2}\), LITAL KOLENBERG GERON\(^1\), ANGHAM ASALY\(^1\), ILAN MATOK\(^1\)

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**Key findings**

- Odds ratio 1.6 (95% CI 1.4 – 1.9) for fracture among patients taking z-drug compared with control, corresponds to NNH ~ 270.

- Also a *trend* for more falls was noted.

- It’s not just benzos: Try to avoid z-drugs as well in persons at high risk for fracture
Poll Question 4

Which one of the following statements about screening and prevention is correct?

A. The fecal immunochemical test is less sensitive than guaiac-based fecal occult blood tests for prostate cancer screening.
B. Initiating statin therapy in patients 75 years or older without pre-existing cardiovascular disease reduces the likelihood of developing cardiovascular disease.
C. The benefits of aspirin for primary prevention in patients with moderate risk of cardiovascular disease clearly outweigh the harms.
D. Exercise, with or without vision assessment/treatment and environmental assessment/modification, reduces the risk of injurious falls in older adults.
17. Are uptake and detection rates better for FIT than for guiac-based screening tests?

Increased uptake and improved outcomes of bowel cancer screening with a faecal immunochemical test: results from a pilot study within the national screening programme in England

Sue Moss\textsuperscript{1}, Christopher Mathews\textsuperscript{1}, T J Day\textsuperscript{2}, Steve Smith\textsuperscript{3}, Helen E Seaman\textsuperscript{4}, Julia Snowball\textsuperscript{4}, Stephen P Halloran\textsuperscript{4, 5}

Key findings

**FIT more acceptable and accurate than gFOBT**

- Uptake was higher in those randomized to FIT than gFOBT (66\% vs 59\%).
- And, the rates of cancer and advanced adenoma detection were 0.24\% and 1.29\% with the FIT, and only 0.12\% and 0.35\% with gFOBTs.
- Time to clear out your stash of old guaiac based cards and start using FIT.

- Is it as good as colonoscopy? Several direct comparison RCTs underway, so stay tuned
Statins for primary prevention of cardiovascular events and mortality in old and very old adults with and without type 2 diabetes: retrospective cohort study

Rafel Ramos,1-4 Marc Comas-Cufí,1,2 Ruth Martí-Lluch,1-3 Elisabeth Balló,1-4 Anna Ponjoan,1-3 Lia Alves-Cabratosa,1,2 Jordi Blanch,1,2 Jaume Marrugat,5,6 Roberto Elosua,5,6 María Grau,5,6 Marc Elosua-Bayes,1,2 Luis García-Ortiz,7 Maria Garcia-Gil2-4

WHAT THIS STUDY ADDS

Statins were not associated with a reduction in atherosclerotic cardiovascular disease (CVD) or all cause mortality in primary prevention in people without diabetes older than 74 years independently of age subgroup

Statins were significantly related to a reduction in incidence of atherosclerotic CVD and in all cause mortality in people with type 2 diabetes mellitus; this effect was substantially reduced after the age of 85 and disappeared in nonagenarians

These results do not support the widespread use of statins in old and very old populations, but they do support treatment in those with diabetes who are younger than 85 years
19. Is low-dose aspirin effective for the primary prevention of CVD?

**Key findings**

**Aspirin is not effective for primary prevention**

At 5 years, no difference in composite outcome of MI, stroke, CV death, TIA or unstable angina (4.3% vs 4.5%) and no difference in all cause mortality (2.6%)

- What’s going on here? Difference may be ..
  - Increasing obesity (one recent analysis found aspirin 100 mg only reduced CV events in 70 kg or lighter patients)
  - Also we are doing better at controlling other CV risk factors, so less for aspirin to do. On balance, ASA may be harmful
Subacromial decompression versus diagnostic arthroscopy for shoulder impingement: randomised, placebo surgery controlled clinical trial

Mika Paavola,1 Artti Malmivaara,2 Simo Taimela,1–3 Kari Kanto,4 Jari Inkinen,5 Juha Kalske,6 Ilkka Sinisaa,7 Vesa Savolainen,8 Jonas Ranså,9 Teppo L N Järvinen11 for the Finnish Shoulder Impingement Arthroscopy Controlled Trial (FIMPACT) Investigators

ABSTRACT
OBJECTIVE
To assess the efficacy of arthroscopic subacromial decompression (ASD) by comparing it with diagnostic arthroscopy, a placebo surgical intervention, and with a non-operative alternative, exercise therapy, in a more pragmatic setting.

DESIGN
Multicentre, three group, randomised, double blind, sham controlled trial.

SETTING
Orthopaedic departments at three public hospitals in Finland.

group differences were seen in the two primary outcomes at 24 months (mean change for ASD 36.0 at rest and 55.4 on activity; for diagnostic arthroscopy 31.4 at rest and 47.5 on activity). The observed mean difference between groups (ASD minus diagnostic arthroscopy) in pain VAS were ~4.6 (95% confidence interval –11.3 to 2.1) points (P=0.18) at rest and ~9.0 (~18.1 to 0.2) points (P=0.056) on arm activity. No between group differences were seen between the ASD and diagnostic arthroscopy groups in the secondary outcomes or adverse events. In the secondary comparison (ASD versus exercise therapy), statistically significant differences were found in favour of ASD in the two primary outcomes at 24
RAPID RECOMMENDATIONS

Subacromial decompression surgery for adults with shoulder pain: a clinical practice guideline

Per Olav Vondyk,1,2 Tuomas Lähdejoja,1,4 Clare Ardem,5,6 Rachelle Buchbinder,7
Jaydeep Moro,8 Jens Ivar Brox,9 Jako Burgers,10,11 Qiukui Hao,12,13 Teemu Karjalainen,7
Michel van den Bekerom,14 Julia Noorduy,14 Lyubov Lytvyn,15 Reed A C Siemieniuk,15
Alexandra Albin,12 Sean Chua Shunjie,14 Florian Fisch,17 Laurie Proulx,18 Gordon Guyatt,13
Thomas Agoritsas,19 Rudolf W Poolman14

ORIGINAL ARTICLE

Inhaled Combined Budesonide–Formoterol as Needed in Mild Asthma

Paul M. O’Byrne, M.B., J. Mark FitzGerald, M.D., Eric D. Bateson, M.D., Peter J. Barnes, M.D., Namshan Zhong, Ph.D., Christina Keen, M.D., Carin Jonup, M.D., Rosa Lamarca, Ph.D., Stefan Imbar, M.D., Ph.D., and Helen K. Reddel, M.B., B.S., Ph.D.
Key findings

• As-needed intermittent use of ICS + LABA is almost as effective as daily maintenance ICS, and at one-fifth of the steroid dose.
• Both intermittent ICS+ LABA or use of a daily ICS prevented asthma exacerbations, compared to as needed use of terbutaline.
Key findings

No difference for the outcome of severe asthma exacerbation over one year, comparing as needed use of budesonide 200 mcg / formoterol 6 mcg versus budesonide 200 mcg plus as needed use of terbutaline.

- These findings are helpful as some adults with mild asthma prefer not to take ICS on a long-term daily basis
- The implications for practice are the following. Following a process of shared decision is appropriate in mild asthma, given the options of either a daily ICS or intermittent ICS + LABA
- The latter will reduce the cumulative steroid burden

Practice recommendations

- **HTN:** Base treatment decisions on ambulatory BP monitoring rather than in-office BP
- Do not rely on a single office BP measurement. Recheck elevated BP
- When the sBP is >140, Rx can prevent CVD events in some people without preexisting heart disease
- But … be careful in patients 85+, as lower sBP during Rx is associated with higher death rates and greater cognitive decline
- **Infection:** In general, shorter antibiotic courses reduce cost and may reduce adverse events
- But … 5-days of nitrofurantoin is better than a single dose of fosfomycin for simple UTI in women
- Drinking an additional 1.5 L of water / day decreases UTI recurrence by one-half in women with at least three episodes per year
- Nothing works for cough; at least no good evidence. OK, maybe honey for kids
Practice recommendations

• **MSK**: Nonopioids are at least as effective as opioids for improving pain-related function over 12 months in adults with severe chronic back, hip or knee osteoarthritis pain.

• In adults with acute pain severe enough to warrant imaging, ibuprofen plus acetaminophen is equally effective in reducing pain intensity at two hours compared with three different opioid and acetaminophen combination analgesics.

• Anticonvulsants are not effective for low back pain with or without radiculopathy, and are associated with an increased risk of adverse events.

• **Behavioral medicine**: More than 150 minutes of moderate-intensity activity per week is associated with less incident depression.

• About one-third of people with anxiety will relapse after stopping antidepressant therapy.

• In older adults, Z-drugs are associated with higher risk of fracture. Try to avoid them.

• **Screening / Prevention**: FIT is more sensitive and specific than guaiac-based FOBT.

• In 75+ without preexisting CVD, statins do not decrease the likelihood of developing CVD or reduce all-cause mortality. But ... those 75 to 84 with diabetes may benefit.

• In primary prevention, low-dose ASA does not meaningfully decrease events or all-cause mortality.

• In older adults, exercise alone can reduce the risk of injurious falls.

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Questions