

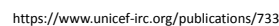
By the end of this session, the learner will:

- ## Randomized trial of peanut consumption in infants at risk for peanut allergy.

- N Engl J Med. 2015 Feb 26;372(9):803-13. doi: 10.1056/NEJMoa1414850. Epub 2015 Feb 23.

J Pediatr. 2015 Oct 20. pii: S0022-3476(15)01045-8. doi: 0.1016/j.jpeds.2015.09.032.

JAMA Pediatr. 2015 Nov;169(11):e153219



Online help for Alcoholics

"Reddit is an entertainment, social news networking service, and news website" Reddit's community submits content. Registered users vote on submissions organizing posts to determine position on the pages → submissions with the most positive votes appear on the main page or the top of a category

--Reddit's "StopDrinking" pages have > 30,000 subscribers, most of whom describe it as "their most helpful tool in their fight against alcohol."

--StopDrinking has no coherent philosophy on addiction and recovery

--Volunteer led forum, including most important parts of an effective support program: daily check-ins, round-the-clock support, and activities like virtual book clubs that offer alternatives to social drinking.

<https://www.washingtonpost.com/news/the-intersect/wp/2016/01/05/the-surprising-internet-forum-some-alcoholics-are-choosing-over-aa/>

2016 USPSTF: Aspirin for Primary Prevention of ASCVD & CRC

- **50-59 Years:** Low-dose aspirin for primary prevention of CVD and CRC who have a **10% or greater 10-year CVD risk**, are not at increased risk for bleeding, have a life expectancy of at least 10 years, and are willing to take low-dose aspirin for at least 10 years (**B; net benefit moderate**).
- **60-69 Years:** Low-dose aspirin for primary prevention of CVD and CRC in adults aged 60 to 69 years who have a **10% or greater 10-year CVD risk** should be an individual one. (**C; net benefit small**).
- **Younger than age 50 or over age 70:** The current evidence is **insufficient** to assess balance of benefits and harms of aspirin use for the primary prevention of CVD and CRC. (**I; Insufficient**)

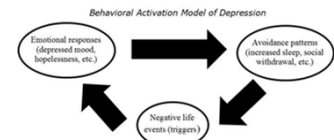
Ann Intern Med. doi:10.7326/M16-0577.

Aspirin for Primary Prevention App

- Brigham and Women's Hospital: free app -calculates risks & benefit of aspirin on 10 year atherosclerotic cardiovascular disease risk.
- This app, called **Aspirin-Guide**, is free.
- Input: Age, total and HDL-cholesterol, SBP, smoking status, and diabetes
- The app → the patient's 10 year risk for cardiovascular events and bleeding risk.

Behavioral Activation Equivalent to CBT for Depression

- 221 Randomized to BA vs CBT; Rx controlled
- BA: Identify "LOOPS" of thought → Social Isolation → Depression
- **BA non-inferior to CBT (PHQ-9: 8.4 v 8.4, p=0.89)**
- **Adverse events > in CBT vs BA (non-sig)**
- CBT-Advanced degree/training; **BA-no advanced training**
- **BA, a simpler psychological treatment than CBT, can be delivered by lower cost providers**



www.thelancet.com 7/22/16

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www.thelancet.com 7/22/16

BA Apps:

Mood Coach (VA): Motivates + Activities
Moodivate(alone) &
Behavioral Appivation (Therapist)
MoodTools (uses BA & CBT) →TRAC
iCBT (TRAP → TRAC, voice enabled)

Suicide Rate Increase

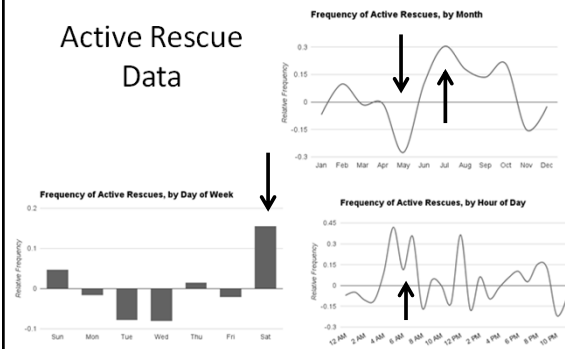
- Suicides in the U.S. increased 24% from 1999 to 2014
- National Center for Health Statistics:
- 1999-2006, ~1%/year; 2006-14 ↑ 2% annually (recession)
- Suicide rate in **males was 3 times > in females** (20.7 vs 5.8 per 100,000).
- **AGE: Highest in men > aged 75 and in women aged 45-64.**
- **Children** (10-14) rates low, but had ↑ (200% in females, 37% in males)
- **Adolescents:** 65.1% Dx behavioral disorder, 26.3% mood disorder, 3.8% psychotic disorder, & 4.8% "other"
- **Most frequent Method-- Men:** firearms; **Women,** poisoning.

<http://www.cdc.gov/nchs/products/databriefs/db241.htm> & Children and Youth Services Review; 2016;68: 73-79

Text for **Help**: 741741 Crisis Text Line

- Non-Profit 24/7 texting service
- Top issues depression, anxiety, suicidal ideation, family issues, and romantic relationships, substance abuse, sexual health, sexual abuse, and eating disorders.
- Text how you feel to 741741 & trained Volunteer Crisis Counselor move “hot moment” to a cool moment
- > 80% of Texters < 25 Years
- ~ 30 Million Texts since 2013
- Ave: 10 “Active Rescues”/day
- Nancy Lubin TED talk

Active Rescue Data



2009 Oropharyngeal exercises on patients with moderate obstructive sleep apnea syndrome

- **31 patients** with moderate OSAS: 3 months of daily (~30 min) sham therapy (n = 15, control) or a set of oropharyngeal exercises (n = 16)
- OP Exercises involving the tongue, soft palate, and lateral pharyngeal wall.

Outcomes:

- No significant change occurred in the control group in all variables.
- Oropharyngeal Exercise patients **significant decrease** ($P < 0.05$) in:
 - Neck Circumference (39.6 +/- 3.6 vs. 38.5 +/- 4.0 cm),
 - Apnea-hypopnea index: 22.4 +/- 4.8 vs. 13.7 +/- 8.5 events/h)
 - Snoring Frequency, Snoring Intensity
 - Daytime Sleepiness, Sleep Quality

• *Am J Respir Crit Care Med.* 2009 May 15;179(10):962-6

2015: Effects of Oropharyngeal Exercises on Snoring

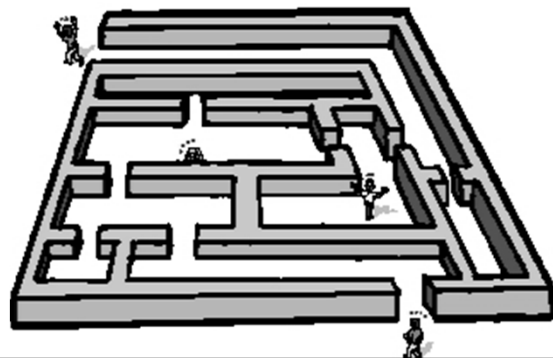
- **RCT** over 3 months of **39 patients**; Control: nasal dilator strips plus respiratory exercises vs. Intervention: oropharyngeal (OP) exercises.
- Both groups were similar at study entry.
- No significant changes occurred in the control group.
- Compared to Control OP Exercise group had significant **decrease** in
 - Snore Index: 99.5 (49.6-221.3) vs 48.2 (25.5-219.2); $P = .017$ and
 - Total snore index (total power of snore/h), 60.4 (21.8-220.6) vs 31.0 (10.1-146.5); $P = .033$
- **CONCLUSIONS:** “Oropharyngeal exercises are effective in reducing objectively measured snoring and are a possible treatment of a large population suffering from snoring.”
- *Chest.* 2015;148(3):683-691

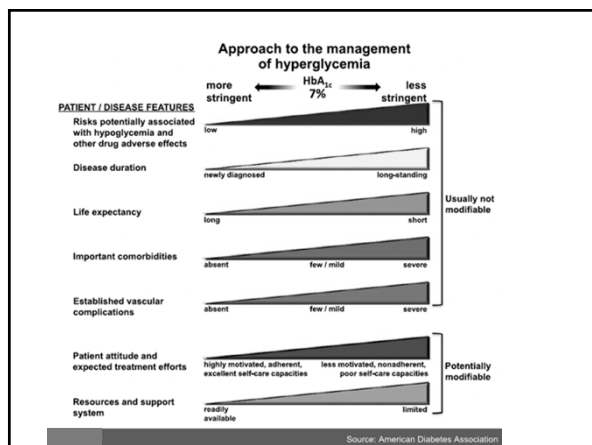
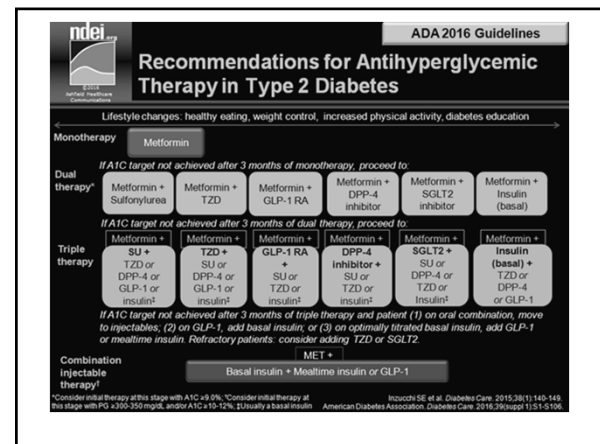
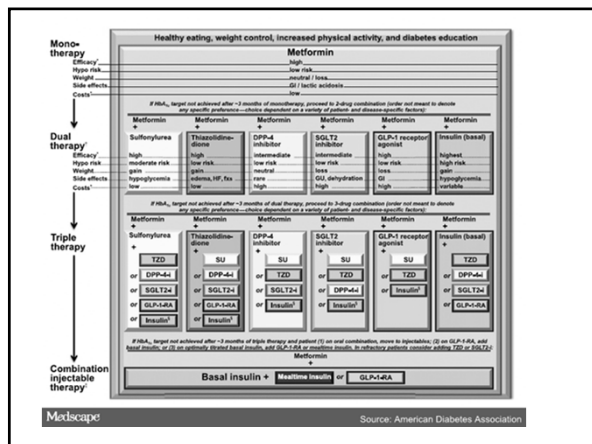
2015 SR & Meta Analysis on Oro-Pharyngeal Exercises for OSA

- 9 studies exercises on snoring and/or sleepiness
- Apnea-hypopnea indices (AHI) ↓ from **24.5 ± 14.3/h** to **12.3 ± 11.8/h**, $P < 0.0001$.
- Lowest O2 saturations improved from **83.9 ± 6.0% to 86.6 ± 7.3%**, MD 4.19% (95% CI 1.85, 6.54), $P = 0.0005$.
- Snoring ↓ **14.05% ± 4.89% to 3.87% ± 4.12%** of total sleep time, $P < 0.001$
- Epworth Sleepiness Scale decreased from **14.8 ± 3.5 to 8.2 ± 4.1**.
- **CONCLUSION:**
 - Current literature demonstrates that OP exercises ↓ apnea-hypopnea index by ~ 50%. Low O2 saturation, snoring, and sleepiness outcomes improve in adults.

• *Sleep.* 2015 May 1;38(5):669-75. doi: 10.5665/sleep.4652.

Type 2 Diabetes Mellitus





- ## Tight control T2DM & Outcomes
- Meta Analysis of 19 RCT's (~ 85,000)
 - Compared with standard care vs intensive treatment:
 - Intensive -> ↓ risk of Non-fatal MI [(RR) 0.90, CI: 0.83-0.96]
 - BUT **NOT**:
 - Non-fatal stroke (RR 0.96, CI 0.86-1.07), CV mortality (RR 1.00, CI 0.90-1.11) or All-cause mortality (RR 1.00, CI 0.94-1.06)
 - Diabet Med. 2016 Mar;33(3):280-9

2016 AHRQ Review on Efficacy of Medications for T2DM

Summary: Metformin drug of choice for Type 2 DM 2nd choice: based on your and patient preference (no 2nd line agents has M/M outcome benefits)

Drugs that had no adverse effect body weight: Metformin, DPP-4 Inhib., GLP-1 agonists, SGLT-2 Inhib

Drugs that increased weight: Sulfonylureas, Thiazolidinediones, and insulin (from 1-5 kg.)

Evidence did not support "substantive conclusions for microvascular outcomes, CHF, cancer, pancreatitis, or other safety concerns from aggressive A1c control."

Ref: Medications for Adults with Type 2 Diabetes: AHRQ; 2016 April. Report #16-EHC013-EF

https://www.effectivehealthcare.ahrq.gov/index.cfm/research-summaries-for-consumers-clinicians-and-policymakers/Clinician, Patient and PolicyMaker Monographs and Decision Aids

2016 ADA Guidelines

American Diabetes Association

- Screening for T2DM: all age ≥ 45, hypertension, on atypical anti-psychotics or HIV medications, those with BMI ≥ 25 or, if of Asian descent, at BMI ≥ 23.
- Hemoglobin A1c frequency: The ADA "should depend on the clinical situation" and at least twice a year and quarterly if therapy has been changed.
- Glucose Self Monitoring: Patients on "intensive insulin regimens" or those on an insulin pump should consider testing pre-prandial. "Evidence is insufficient to determine when to prescribe SMBG." No evidence on frequency.
- Lipids: ADA supports AHA recommendations on statin using 10 year risk calculator.
- Aspirin: For both women and men, low dose (82 milligrams per day) of aspirin therapy over the age of 50 for the primary prevention of heart disease when the atherosclerotic cardiovascular risk is greater than 10%. For both T1DM & T2DM.
- Hypertension: The ADA's current goal is a systolic < 140, and a diastolic < 90. 1st line: ACEi or ARB (but not both) 2nd: Thiazides. Lower systolic pressures are not currently evidence based.

(http://care.diabetesjournals.org/content/suppl/2015/12/21/39.Supplement_1.DC2/2016-Standards-of-Care.pdf)

2016 ADA Guidelines: Rx



- **Metformin** 1st line for all
- **2nd Line:**
- **DDP 4 inhibitors** ↑ *incretin activity*, which ↓ *glucagon release* that leads to ↑ *insulin secretion*, & ↓ *gastric emptying*; (alogliptin (Nesina), linagliptin (Tradjenta), sitagliptin (Januvia), saxagliptin (Onglyza))
- **GLP 1 agonists** ↑ *insulin secretion*, ↓ *glucagon secretion*, and ↓ *gastric emptying*; (albiglutide (Tanzeum), exenatide (Byetta/Bydureon), dulaglutide (Trulicity), liraglutide* (Victoza)& (Saxenda--for weight loss w/o diabetes)
- **SGLT-2 inhibitors** ↑ *glucose excretion in the urine*; (canagliflozin (Invokana), dapagliflozin (Farxiga), empagliflozin (Jardiance)
- **3rd Line:** Long acting and regular insulin, sulfonylureas, (SU), and thiazolidinedione (TZD) can be added, but no morbidity and mortality benefit & may -> harm.
- **SURGERY:** "Bariatric surgery considered for adults whose BMI is >35 kg/m²"

(http://care.diabetesjournals.org/content/suppl/2015/12/21/15-Supplement_1_DC2/2016-Standards-of-Care.pdf).

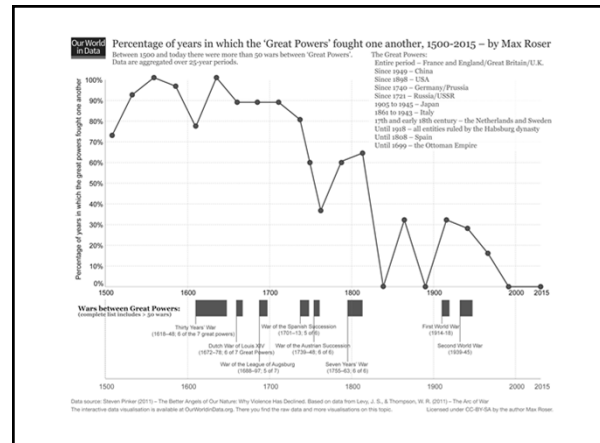
2014 World "More dangerous than it has ever been"

Martin Dempsey, Chair Joint Chiefs

Terrorism:

the use of violence and intimidation in the pursuit of political aims.

- San Bernardino
- Orlando
- AA Community
- Nice
- Paris
- Syria



A Safer World

The number of people who have died in wars has declined sharply since the 20th century.

Battle-related deaths per 100,000 people*



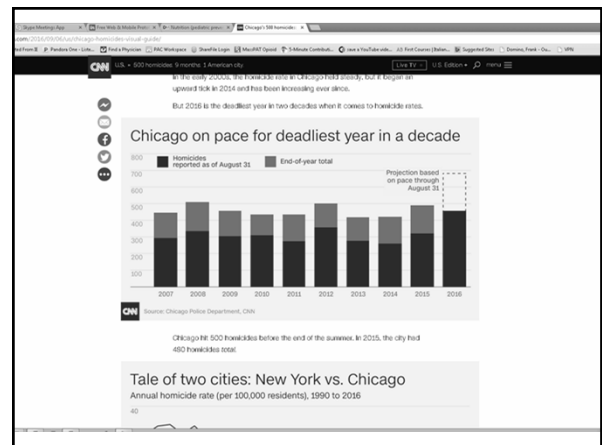
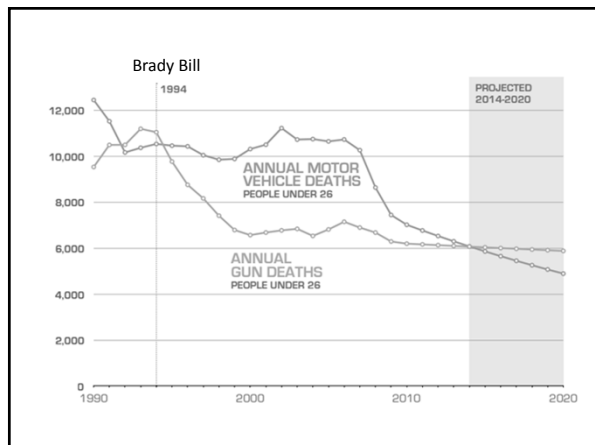
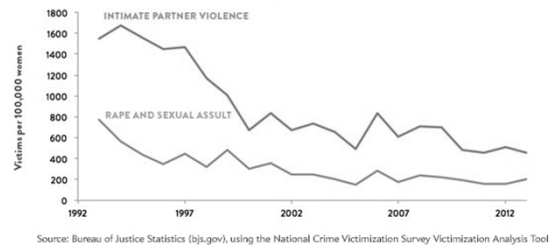
HOMICIDE RATES IN THE US AND ENGLAND 1967-2013, AND THE WORLD, 2003-2012



Sources: U.S., FBI Uniform Crime Reports; England (including Wales), U.K. Office for National Statistics; World: U.N. Office on Drugs and Crime, reported in U.N. Economic and Social Council's "World crime trends and emerging issues and responses in the field of crime prevention and social justice," Feb. 12, 2014, Figure 1. The percentages were converted to homicide rates by setting the 2012 rate at 6.2, the figure reported in the UNODC Global Study on Homicide 2013, Page 12.



RAPE/SEXUAL ASSAULT AND VIOLENCE AGAINST INTIMATE FEMALE PARTNERS IN THE US 1993-2013



Perspective

- 2005-2015: 71 US Killed Terrorism
> 301,000 US Killed by Gun Violence
--40% "Crime related"
- 2015: 7 Children/Teens Killed by guns/DAY
- 2015: A Toddler shoots someone every 7 days
31% Kill self, 5% kill others
40% injure self, 24% injure others

Ref: CDC: 2015

- Screen Kids, Teens, Encourage Safety

American Heart Association & American College of Cardiology Guidelines on Duration Dual AntiPlatelet Therapy (DAPT) in CAD

- DAPT → “a tradeoff between ↓ ischemic risk and ↑ bleeding risk”
- Between 6 – 12 Months of DAPT (FDA Alert)
- Stable ischemic heart disease (SIHD) & drug-eluting stent (DES): DAPT x 6 months
- SIHD w/bare-metal stent (BMS), DPAT for a minimum of 1 month
- CABG, DPAT complete 12 months of therapy after ACS
- STEMI treated with fibrinolytic therapy, DPAT for a minimum of 14 days and ideally 12 months
- Aspirin (81 mg daily) should be continued indefinitely in CAD
- *J Am Coll Cardiol.* 2016;[]-. doi:10.1016/j.jacc.2016.03.513

Do No Harm



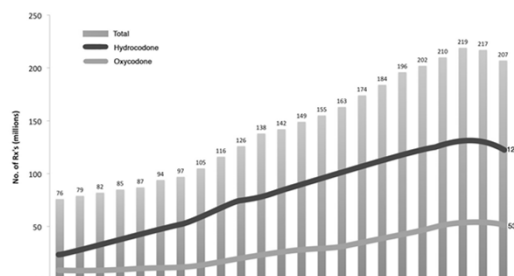
Understanding Over-diagnosis How Mammography Increases Dx of Cancer, But Does Not Decrease Mortality

- Over-diagnosis: Screening → ↑ rate of cancer diagnosis but have no positive effect on patient's health or mortality.
- Retrospective cohort > 16 million women ≥ 40 years of age.
- 55,000 (0.35%) were diagnosed with breast cancer; 10 year follow-up for 95%.
- Each 10% increase in rate of *breast cancer screening* was associated in an increase in breast cancer diagnosis RR=1.16; 95% CI: 1.13-1.19.
- No decrease in 10 year breast cancer mortality was found.
- The majority of cancers Dx were considered “small” (≤ 2cm); → increase in stage 0-2 breast cancer diagnosis
- But no change in stage 3-4 breast cancer.
- Large screening programs do not decrease diagnosis of more dangerous tumors & have no impact on mortality BUT have a significant **increase** in diagnostic morbidity (biopsies, repeat imaging, angst).

JAMA Inter Med. 2015; July 6 [epub]

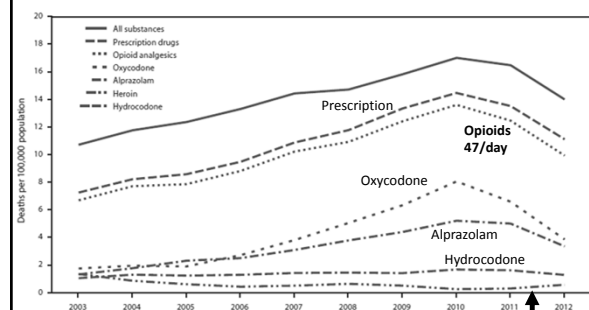
Pain

2012: 259 Million Opioid Rx 1 Rx for every adult in the United States



CDC Guideline for Prescribing Opioids for Chronic Pain — United States, 2016
Recommendations and Reports / March 18, 2016 / 65(1);1–49

2012 CDC: Death from All Substances



CDC Guideline for Prescribing Opioids for Chronic Pain — United States, 2016
Recommendations and Reports / March 18, 2016 / 65(1);1–49

- **Sinusitis:** (A.A. of Otolaryngology-Head and Neck Surgery Foundation [AAO-HNSF])
 - Viral rhinosinusitis when S/Ys last < 10 days and do not worsen
 - Acute bacterial rhinosinusitis when S/Ys last > 10 days, or worsen within 10 days after initial improvement (double worsening)
- **Otitis Media** (AAP Practice Guideline 2013):
 - Pain control
 - Antibiotics for severe signs or symptoms (*moderate or severe otalgia/otalgia for > 48 hours or T of >39°C [102.2°F] in children 6- 24 months*)
 - Antibiotics for **bilateral AOM** in **6-24 months of age** without severe signs or symptoms.
 - For nonacute unilateral AOM in children 6 months to 23 months of age, or nonsevere AOM (either unilateral or bilateral) in **children 24 months of age or older**, **antibiotic therapy OR observation** offered with close follow-up (mechanism to ensure antibiotic therapy if the child worsens or fails to improve within 48 to 72 hours of onset of symptoms)
- **Pharyngitis:** (Modified Centor Score)
 - +1: Fever, Tonsillar Exudates, Ant Cervical Nodes, ABSENCE Cough, Age <15; 0–15–44; >1 > 44 years
 - 0, 1 or 2 point(s) - No antibiotic or throat culture necessary (Risk of strep. <10%)
 - 2 or 3 points – Rapid Strep **ONLY** treat with an antibiotic if positive (Risk of strep. 32% if 3 criteria, 15% if 2)
 - 4 or 5 points – Rapid Strep OR Empiric Treatment (Risk of strep. infection 56%)

How to NOT Give Antibiotics

1. Identify patient's (parent) concern. "What are you worried about & what do you think you may need?"
2. Verbalize your exam. State out loud: "Ears are normal, throat is a little red, lungs are clear... I suspect you have a viral infection that will resolve in a few days." (Patient Educ Couns (2010), doi:10.1016)
3. Delay of antibiotic Rx. most studied and effective method. Tell your patients : *I suspect you have a viral infection which will get better over next 7-10 days. If you are not improving by Friday morning, call office and I **may** call in an Rx.* (Cochrane Database Syst Rev. 2004 18;(4):CD004417).

How NOT to Give Antibiotics

4. Symptom control. Very best evidence offers:
 - Fever/aches: Acetaminophen (15 mg/kg) PLUS an NSAID like Ibuprofen (10 mg/kg) **together** every 6 hours (alternating doses ↑ risk of overdose)
 - Nasal Congestion & Cough due to post nasal drip: Oral or nasal déconcentants.
 - Cough not due to post nasal drip: Honey alone or mixed w/lemon juice, every hour or two
 - To shorten viral URI Duration: Zinc Acetate Lozenges q 4 hours Pelargonium sidoides 30 gtts TID

5. What does NOT work: antibiotics for: URI's, bronchitis, sinusitis; cough medications (including codeine), Echinacea, Vitamin C, anti-histamines

Zinc Lozenges: Meta Analysis

- 3 RCTS on zinc acetate (75 mg/d) lozenges for common cold
- Zinc acetate lozenges shortened duration of:
- Illness by > 24 hours
- Nasal discharge by RRR=34% (95% CI: 17% to 51%),
- Nasal congestion 37% (15% to 58%), Scratchy throat 33% (8% to 59%), Cough by 46% (28% to 64%), Myalgia by 54% (18% to 89%)
- There was no difference in the duration of headache and fever.
- Zinc Lozenge at least 4/day, dissolved in mouth

BMC Fam Pract. 2015; 16: 24
Br J Clin Pharmacol. 2016 Jul 5.
doi: 10.1111/bcp.13057
Cochrane DSR- 2013
Jun 18;(6):CD001364

Not Zn Acetate

Practice Changers

Stop ICS's in COPD

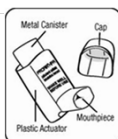
- Methods: > 100,000 patients w/COPD on inhaled corticosteroids (ICS) x 5 five years
- Compared "severe pneumonia" and ICS use.

- Outcomes: 14,000 developed "severe pneumonia"

- Patients who stop their ICS had ↓ rate Pneumonia (rate ratio [RR], 0.63; 95% CI, 0.60-0.66) vs those on ICS.
- Stopping ICS → Risk ↑ 4 months after stopping

- Conclusions: COPD patients on chronic ICS were at higher risk of developing pneumonia than those not; Stop if able

Ref: Chest 2015; 148: 1177



Single Dose Dexamethasone Not Inferior to Prednisone in Mild to Moderate Asthma

- Methods: RCT~ 380 adult patients Dexamethasone 12 mg (two 6 mg tablets) x 1 dose vs Prednisone 60 milligrams/day x 5 days.
- Outcomes evaluated by telephone at 2 weeks.

• Outcomes:

- Relapse in Dex 12.1% vs 9.8% in Pred (non-inferior)
- Hospitalization relapse 3.4% in Dex vs 2.9% Pred (NS)
- Adverse effects were the same in both groups.

- Conclusion: Single dose of oral Dext 12 mg not inferior to 5 days of prednisone at 2 weeks

Ann Emerg Med. 2016 Apr 14. pii: S0196-0644

Therapeutics US for OA Knee

- SR of 10 RCT's (645 patients) of Therapeutic Ultrasound on OA
- TU: Use of sound waves above human hearing; "stimulating" or provoking tissue
- **Pain:** TU → ↓ Pain (SMD = -0.93, 95% CI = -1.22 to -0.64).
- **Physical function,** TU → improved WOMAC physical function score (SMD = -0.37, 95% CI = -0.73 to -0.01)
- No adverse events caused by TU in any trial.
- Therapeutic ultrasound is beneficial & safe for reducing knee pain and improving physical functions in patients with knee osteoarthritis
- Home Rx (\$75-150) 15 minutes/day
- Clin Rehabil. 2015 Oct 8; pii: 0269215515609415

Consumption of spicy food inversely associated with risk for death

- Prospective cohort of ~500,000 men & women U.S. & China over 7 years: consumption of Spicy Foods on Total and Cause Specific Mortality
- After adjusting for variables, hazard ratios for death:
 - HR**
 - 1-2 days per week-- 0.90 (95% CI, 0.84 to 0.96)
 - 3-5 days per week-- 0.86 (0.80 to 0.92)
 - 6-7 days per week-- 0.86 (0.82 to 0.90)
- This inverse association was also true for ischemic heart disease, cancer and lung disease.
- BMI, 2015 Aug 4;351:h3942

Watching cooking shows correlates with obesity

- Survey of 501 **females** (20-35) how obtained information on new recipes, cooking habits, weight and height.
- Obtaining information from print, online, or in-person sources was not associated with ↑ BMI.
- Obtaining information from cooking shows and social media correlated with higher BMI ($p < 0.05$)
- **Watching** cooking shows & **cooking** from scratch ("**doers**") was associated with higher BMI ($p < 0.05$) vs "viewers"
- Promoting healthy foods on cooking shows may be one way to positively influence the weight status of "doers" as well as "viewers."

Appetite. 2015; 90: 131-135

Summary

- Introduce nuts, gluten, eggs, fish & pets early
- Screen for Food Insecurity & Where to Refer
- Use Tech: Alcohol Abuse, Behavioral Activation, ASA
- Child/Teen Safety: Gun, Text for Crisis (741741)
- Snoring Exercises

Summary

- DM: Screen BMI $\geq 25/23$, Metformin 1st
- DAPT ~ 6 Months – 12 Months
- Understand Over Diagnosis
- Prescribe Naloxone
- Appropriate Antibiotic Use; Zinc Acetate
- Add Some Hot Sauce at least 3 times a week

Top 10: EBM Updates From The Medical Literature

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BLOG: <http://www.ebpupdate.com/>

Low-dose Spironolactone: Treatment for Osteoarthritis related Knee Effusion



- RCT of 200 (>=) 40 with unilateral knee effusion (exam and US) related to OA X 2 week
- Effusion=Fluid > 4 mm;
Complete resolution= ↓ to < 4-mm thickness
Partial improvement ↓ but not < 4 mm.

	<u>Full</u>	<u>Partial</u>	<u>No Response</u>
• Group 1: 50 patients spironolactone 25 mg/d	66%	20%	14%
• Group 2: 50 patients ibuprofen 1200 mg/d	25%	12%	64%
• Group 3: 50 patients cold compress 2 times/d	28%	14%	58%
• Group 4: 50 patients placebo.	6%	10%	84%

- Spironolactone 25 mg/day may decrease knee effusion from OA
- J Rheumatol, 2016 Apr 1. pii: jrheum.151200