Articles to Change Your Practice

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Pregnancy and Lactation Labeling Rule

FDA. *Content and Format of Labeling for Human Prescription Drug and Biological Products Requirements for Pregnancy and Lactation Labeling*

- Changes in Content and Format
  - Removes pregnancy letter categories
  - Requires label to be updated when information is outdated
  - Requires information about pregnancy exposure registries when available
• 8.1- information for a pregnancy exposure registry, risk summary, clinical considerations, and data. Information previously listed in the “Labor and delivery” subsection is here.

• 8.2- Section renamed, information about using the drug while breastfeeding, amount of drug in breastmilk and potential effects on infant.

• 8.3- New to labeling, information about need for pregnancy testing, contraceptive recommendations and infertility.
The word is out...

...COPD is common...

...so we’re diagnosing it...

...a lot...

...but maybe too much?

“All that wheezes is not asthma (or COPD!)”

• About 1/3 of patients with a diagnosis of COPD have had spirometry.
• The goal of this study: determine what factors are associated with a diagnosis of COPD.
• In their cohort of about 5,000 patients with a chart diagnosis of COPD and receiving bronchodilator therapy:
  – Only 55% had air flow obstruction on subsequent spirometry.
• Absence of airflow obstruction more likely if:
  – Obese
  – comorbidities such as HF, OSA, DM or depression.
Age + smoking = no guarantee

36 % of persons with a 25 pack-year history of smoking will develop COPD
So, what’s the harm in not getting spirometry?

• The authors argue:
  – Delaying diagnosis of the true cause of dyspnea
  – Adverse effects of unnecessary treatment
  – Cost of unnecessary treatment
Prevnar 13
• For all adults ≥65 years of age, recommend pneumococcal vaccination

• Vaccination for such individuals should now consist of two vaccines (PCV13 and PPSV23) administered sequentially, with the sequence and timing dependent on whether the patient had previously received PPSV23
• The CAPiTA trial >> trial to determine efficacy of Prevnar 13 in adults
• Compared PCV13 to placebo in 85,000 immunocompetent adults > 65
  - Done in Netherlands
  - 45% efficacy of PCV13 against vaccine-type pneumococcal pna
  - 45% efficacy against vaccine type nonbacteremic pneumococcal pna
  - 75% efficacy against vaccine type invasive pneumococcal disease
• The 23-valent pneumococcal polysaccharide vaccine (PPSV23) has been recommended for many years in the United States for all adults ≥65 years of age.

• In September 2014, the United States Advisory Committee on Immunization Practices (ACIP) began also recommending PCV13 for all adults ≥65 years of age.

• Medicare has started to pay for this.
Sequential administration and recommended intervals for PCV13 and PPSV23 for adults aged ≥65 years — Advisory Committee on Immunization Practices, United States
• We should Now be giving our elderly patients BOTH PCV13 and PPSV23 pneumococcal vaccines. Yes, both are now recommended for 65 and older

• If they had PPSV23, they should now receive PCV13, YES, but need interval of at least one year when pt received PPSV23 first.

• but if starting new, give the PCV13 first, then PPSV23 YES, but need interval of at least 8 weeks when pt received PCV13 first. (Best if 6-12 months, and can be more)
Hypertension in Pregnancy

Magee LA et al. Less-tight vs. tight control of hypertension in pregnancy. *NEJM* 2015

- In open-label, multicenter study, 987 pregnant women with chronic or gestational HTN randomized to
  - Less-tight (diastolic goal 100 mm Hg)
  - Tight (diastolic goal 85 mm Hg)

- Labetalol was recommended initial drug
Hypertension in Pregnancy

• No difference in
  – Serious maternal complications
  – Pregnancy loss
  – Low birth weight
  – NICU need

• Women in tight control group were less likely to have
  – low platelet counts (1.6 vs 4.3%)
  – Elevated LFT (1.8 vs 4.3%)
  – Severe HTN (28 vs 41%)
“The way to a man’s heart is through his stomach.” – Ibuprofen, 1994

The study

• Just over 60,000 patients with first MI identified from 2002 – 2011 and followed for 3.5 years on average.
• Average age 67.7 years; 63% men.
• Of these, 34% had at least one NSAID script.
• Outcomes: bleeding requiring hospitalization and composite CV outcome (CV death, recurrent MI, stroke)
Interesting side note...

- Why do we get all these awesome population studies out of Denmark?
- Danish National Registry of Patients enacted in 1977
- Denmark has universal health coverage
- Physician payment tied to use of national registry
- Registry includes all physicians, pharmacies, and hospitals in the country
- Ethics committee approval is not required for retrospective registry studies. Take that, IRB!
## Results

<table>
<thead>
<tr>
<th>Drug Class</th>
<th>Event No.</th>
<th>Sample Size, No.</th>
<th>Crude Rates (95% CI), Events per 100 Person-Years</th>
<th>Adjusted Hazard Ratio (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Single antiplatelet + NSAID</strong></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>No NSAID</td>
<td>2367</td>
<td>257,272</td>
<td>1.6 (1.6-1.7)</td>
<td>1 [Reference]</td>
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<tr>
<td>With NSAID</td>
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<tr>
<td>Coxibs</td>
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<td>Nonselective NSAIDs</td>
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<tr>
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<tr>
<td>Coxibs</td>
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<td>561</td>
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<td>2467</td>
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<td><strong>Oral anticoagulants + single antiplatelet</strong></td>
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<tr>
<td>No NSAID</td>
<td>477</td>
<td>49,504</td>
<td>5.2 (4.7-5.7)</td>
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<tr>
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<td>Coxibs</td>
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<tr>
<td>Other NSAIDs</td>
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<td>552</td>
<td>14.3 (6.4-31.9)</td>
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<td>Duration of NSAID Treatment</td>
<td>Events, No.</td>
<td>Sample Size, No.</td>
<td>Crude Rates (95% CI), Events per 100 Person-Years</td>
<td>Adjusted Hazard Ratio (95% CI)</td>
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<td><strong>Overall</strong></td>
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<td>0-3 d</td>
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<td>4-7 d</td>
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<td>8-30 d</td>
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<td>79293</td>
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<td>31-90 d</td>
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<td>&gt;90 d</td>
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<td><strong>Aspirin + clopidogrel</strong></td>
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<tr>
<td>0-3 d</td>
<td>16</td>
<td>13280</td>
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<td>4-7 d</td>
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<td>671</td>
<td>4.5 (1.9-10.7)</td>
<td>1.42 (0.59-3.42)</td>
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<td><strong>Oral anticoagulants + single antiplatelet</strong></td>
<td>477</td>
<td>49504</td>
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<td>1 [Reference]</td>
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<tr>
<td>With NSAID</td>
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<td>2877</td>
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<td>4-7 d</td>
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<td>8-30 d</td>
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<tr>
<td>31-90 d</td>
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<td>793</td>
<td>6.3 (2.0-19.7)</td>
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<tr>
<td>&gt;90 d</td>
<td>0</td>
<td>80</td>
<td>NA</td>
<td>NA</td>
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Adjusted Hazard Ratio (95% CI)
Moral of the story

• Composite CV risk was also increased: HR 1.40 (95% CI, 1.30-1.49).
• NNH for bleeding ~ 50, for CV event ~ 33
• An increased risk of bleeding and cardiovascular events was evident with concomitant use of NSAIDs, regardless of antithrombotic treatment, types of NSAIDs, or duration of use.
To Pack or Not to Pack

- In 1996, U.S. ED’s cared for 1.2 million abscesses
- This increased to 3.3 million visits in 2005.
- Few studies to support packing, but is a common practice
<table>
<thead>
<tr>
<th>Author</th>
<th>Patients</th>
<th>Outcome(s)</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Macfie 1977</td>
<td>219 ED patients &lt;br&gt; 77 I&amp;D then suture + abx &lt;br&gt; 44 I&amp;D then suture &lt;br&gt; 57 I&amp;D then pack + abx &lt;br&gt; 41 I&amp;D then pack</td>
<td>a) Mean healing time &lt;br&gt; b) Recurrence rate</td>
<td>a) Suture + abx: 9.3 days &lt;br&gt; Suture: 8.8 days &lt;br&gt; Pack + abx: 9.8 days &lt;br&gt; Packed: 9.3 days &lt;br&gt; b) Suture + abx: 11.7% &lt;br&gt; Suture: 11.4% &lt;br&gt; Packed + abx: 0% &lt;br&gt; Packed: 7.3%</td>
</tr>
<tr>
<td>Simms 1982</td>
<td>54 I&amp;D then sutured &lt;br&gt; 60 I&amp;D then packed</td>
<td>Mean healing time</td>
<td>Suture: 8.9 days &lt;br&gt; Packed: 7.8 days</td>
</tr>
<tr>
<td>Stewart 1985</td>
<td>137 surgical outpatients &lt;br&gt; 64 I&amp;D then sutured &lt;br&gt; 73 I&amp;D then packed</td>
<td>a) Mean healing time &lt;br&gt; b) Mean time of work</td>
<td>a) Suture: 7 days &lt;br&gt; Packed: 25 days &lt;br&gt; b) Suture: 4 days &lt;br&gt; Packed: 14 days</td>
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<tr>
<td>Barnes 1988</td>
<td>1943 ED patients &lt;br&gt; 891 sutured &lt;br&gt; 301 packed</td>
<td>a) Wound healing time &lt;br&gt; b) Recurrence rate</td>
<td>a) Suture: 6.5-21 days &lt;br&gt; Packed: 7.8-35 days &lt;br&gt; b) Suture: 7%-22% &lt;br&gt; Packed: 14%-35%</td>
</tr>
<tr>
<td>Sorensen 1987</td>
<td>60 surgical outpatients &lt;br&gt; 10 excluded</td>
<td>Mean healing time</td>
<td>Suture: 9 days &lt;br&gt; Packed: 15 days</td>
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<tr>
<td>Abrahams 1997</td>
<td>60 surgical patients &lt;br&gt; 32 I&amp;D then sutured &lt;br&gt; 29 I&amp;D then packed</td>
<td>a) Proportion healed at 1-week &lt;br&gt; b) Proportion healed at 1-month</td>
<td>a) Suture: 78% &lt;br&gt; Packed: 3% &lt;br&gt; b) Suture: 88%[1] &lt;br&gt; Packed: 90%</td>
</tr>
<tr>
<td>Tonkin 2004</td>
<td>50 surgical outpatients with perianal abscess &lt;br&gt; 20 I&amp;D then packed &lt;br&gt; 23 I&amp;D then left open</td>
<td>a) Mean healing time &lt;br&gt; b) Morphine required &lt;br&gt; c) Recurrence rate</td>
<td>a) Non-packed: 21 days &lt;br&gt; Packed: 24.5 days &lt;br&gt; b) Non-packed: 5mg &lt;br&gt; Packed: 10mg &lt;br&gt; c) Non-packed: 3 &lt;br&gt; Packed: 1</td>
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</table>

Wound Packing

- One hundred pediatric patients with subcutaneous abscesses were enrolled between May, 2008 and December, 2010.
- All underwent incision and drainage, then seven days of oral antibiotics and warm soaks.
- Patients were randomized to the packing group (PG) or non-packing group (NPG). Packing was removed 24h after the procedure.
- Patients were evaluated in clinic if recurrence was suspected during follow-up calls on postoperative days seven and 30.
The two groups were not statistically different with respect to initial parameters, recurrent abscesses (one in each group), or MRSA incidence (81.4% PG/85.7% NPG).

Not a huge study, but can consider not packing abscesses that are less than 6cm in diameter but have them return in 2 or 3 days to see what happens.
2015 Dietary Guidelines

• Dietary Guideline Advisory Committee
  – USDA and DHHS
  – Guided by:
    • Half of adults have preventable chronic disease and 2/3 are overweight or obese
    • Health-related lifestyle behaviors are influenced by personal, social, organizational, environmental factors and these factors must be addressed to affect change

• Data sources
  – NHANES
  – Prevalence and trends in health conditions
2015 Dietary Guidelines

• Underconsumed nutrients:
  – Vitamins A, D*, E, C, folate
  – Minerals calcium*, magnesium, potassium *(and iron in adolescent and premenopausal adult women)
  – Fiber*

• Overconsumed nutrients:
  – Sodium
  – Saturated fat
New Dietary Guidelines

- 2015 Dietary Guidelines for Americans
  - Limitations on cholesterol intake (previously 300 mg per day) removed.
  - Limit daily consumption of
    - Added sugars <10%
    - Saturated fat <10% calories
    - Sodium <2300 mg
  - Half of grain intake should be whole grains
  - Moderate alcohol and caffeine intake fine in most adults
2015 Dietary Guidelines

• Majority of US pop has low intake of food groups that are key sources of shortfall nutrients
  – Vegetables
  – Fruits
  – Whole grains
  – Dairy

• US intake too high for
  – Refined grains
  – Added sugars
2015 Dietary Guidelines

• Three dietary patterns associated with health benefits:
  – Healthy US-style pattern
  – Healthy Mediterranean-style pattern
  – Healthy Vegetarian pattern
## 2015 Dietary Guidelines

<table>
<thead>
<tr>
<th><strong>DO</strong></th>
<th><strong>DON’T</strong></th>
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<tbody>
<tr>
<td>Fruits and vegetables</td>
<td>Red or processed meats</td>
</tr>
<tr>
<td>Whole grains</td>
<td>Refined grains</td>
</tr>
<tr>
<td>Low fat dairy</td>
<td>Sugar-sweetened beverages</td>
</tr>
<tr>
<td>Seafood</td>
<td>Sugar-sweetened foods</td>
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<tr>
<td>Legumes</td>
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<tr>
<td>Nuts</td>
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As long as we’re getting healthy...

...exercise matters too!

This study

300 obese adults: 4 groups followed for 24 wks with baseline and end measures of weight, waist circumference, glucose and insulin sensitivity.

<table>
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<tr>
<th>Group</th>
<th>Exercise duration</th>
<th>Exercise intensity</th>
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<tbody>
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<td>Control</td>
<td>Maintain baseline activity</td>
<td>Maintain baseline activity</td>
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<tr>
<td>Low-Low</td>
<td>30 min per session</td>
<td>Target 50% VO2 peak</td>
</tr>
<tr>
<td>High-Low</td>
<td>60 min per session</td>
<td>Target 50% VO2 peak</td>
</tr>
<tr>
<td>High-High</td>
<td>40 min per session</td>
<td>Target 75% VO2 peak</td>
</tr>
</tbody>
</table>

5 sessions per week for all groups
Results

• All 3 intervention groups lost weight and waist circumference (average 4 cm) c/w control group.
• No significant difference in glucose levels between intervention groups c/w control.
• High-low and High-high groups had improved insulin sensitivity c/w control.
• No significant difference between intervention groups in any measure.
Moral of the story

• Patients don’t need to be scared of starting an exercise program
• Rapid walking pace (or slow jog!) of 4-5 mph for 30 minutes 5x/wk will achieve the same goals (in this study) as running 4-5 miles 5x/wk.
• Also, probably just as good in smaller doses as long as the exercise equals 150 min/wk
• For patients starting exercise, recommend “10-10-10”
Bronchiolitis

Updated guidelines from American Academy of Pediatrics

- Recommend not routinely administering inhaled bronchodilators (albuterol or epinephrine) to infants and children with bronchiolitis (Grade 2B)
Previous guideline from 2006 recommended a trial

- Change made because while they may provide short-term clinical improvement, they do not affect overall outcome, may have adverse effects, and increase total cost of care.
- Can still be considered for infants and children with bronchiolitis and severe disease (eg, nasal flaring; retractions; grunting; respiratory rate >70 breaths per minute; dyspnea; or cyanosis) or respiratory failure
Treating Obesity


- Endocrine Society-appointed task force of experts, methodologist, using GRADE system
  - Diet, exercise, behavioral modification must be included in all approaches for BMI >25. (1****)
  - Pharmacotherapy
    - BMI >27 with comorbidity or BMI >30 (2**)
  - Bariatric surgery
    - BMI >35 with comorbity or BMI >40
Treating Obesity

• Appropriate screening
• Identify/screen for secondary causes of obesity
• Identify medications that promote weight gain
• Follow 2013 AHA/ACC/TOS Guideline for management based on BMI and comorbidities
• Prescribe drugs that are weight neutral or promote weight loss
• Formulate treatment plan with diet, exercise, behavior modifications
Treating Obesity: Pharmacotherapy

• Use approved weight loss medications to
  – Promote long term weight maintenance
  – Ameliorate comorbidities
  – Amplify adherence to behavior changes
• Assess safety and efficacy at 3 months (2**)
  – Continue if >5% loss (1****)
  – Titrate to maximum tolerable dose (2**)
• Use drugs for comorbidities that promote weight loss
• Avoid sympathomimetic agents in pts with HTN or cardiovascular disease (1***)
• Avoid off-label use for weight loss alone (ungraded)
<table>
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<th>Condition</th>
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<tbody>
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<td>DM (2***)</td>
<td>Metformin, Pramlintide, GLP-1 agonist, Basal insulin</td>
<td>Sulfonylurea</td>
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<tr>
<td>HTN (1****)</td>
<td>ACEI, ARB, CCB</td>
<td>Beta-blocker</td>
</tr>
<tr>
<td>Depression (1***)</td>
<td>Fluoxetine, sertraline, Imipramine, Bupropion</td>
<td>Paroxetine, Tricyclic (amitriptylline), mirtazapine</td>
</tr>
<tr>
<td>Psychosis (1***)</td>
<td>ziprazidone</td>
<td>Olanzapine, Quetiapine, Risperidone, Perphenazine</td>
</tr>
<tr>
<td>Contraception (2*)</td>
<td>Oral contraceptives</td>
<td>Injectable</td>
</tr>
<tr>
<td>Epilepsy (1***)</td>
<td>Felbamate, Topiramate, Zonisamide</td>
<td>Gabapentin, Pregabalin, Vigabatrin, Valproic acid, Carbamazepine</td>
</tr>
<tr>
<td>Chronic inflammation (2***)</td>
<td>DMDs, NSAIDS</td>
<td>corticosteroids</td>
</tr>
<tr>
<td>Allergies (2**)</td>
<td>2nd generation antihistamines</td>
<td>1st generation</td>
</tr>
</tbody>
</table>
Treating Obesity

• Weight loss medications have not proven to have any sustained benefits after discontinuation

• Medications approved for long-term use:
  – Orlistat 120 mg TID-approved in adolescents
  – Phentermine/topiramate-7.5 mg/46 mg QD
  – Lorcaserin-10 mg BID
  – Naltrexone/bupropion 8 mg/90 mg- 2 tab BID
  – Liraglutide- 0.6 to 3 mg SQ QD
Metformin

• Perhaps not an agent of evil in mild chronic kidney disease?
Background

• FDA restricts use of metformin in essentially any CKD due to its renal clearance and alleged association with lactic acidosis.
• But we know that metformin is the first-line drug for DM2 due to effects on weight and microvascular complications.
The study

This study

• 65 trials over 4 decades, only one was an RCT.
• Baseline rate of lactic acidosis in patients with DM2 on metformin ranged from 3 – 10 per 100,000 person-years.
  – Not appreciably different from rate among all diabetics
• Lactic acid levels are slightly (but not clinically significantly) elevated in patients with CKD 3 on metformin.
• No correlation between metformin serum levels and risk of lactic acidosis or risk of complications of lactic acidosis.
Take away points

• Lactic acidosis is rare even with metformin use in CKD.
• Metformin use in patients with mild-to-moderate CKD (stage 1-3) is likely safe.
• Authors suggest:
  – Using $\leq 2,000$ mg metformin daily in GFR 45-60.
  – Using $\leq 1,000$ mg metformin daily in GFR 30-45.
  – Monitoring closely and stopping metformin if CKD worsens.
Spironolactone and K+ screening

Low Usefulness of Potassium Monitoring Among Healthy Young Women Taking Spironolactone for Acne

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[+] Author Affiliations

JAMA Dermatol. Published online March 22, 2015. doi:10.1001/jamadermatol.2015.34
• Retrospective study of healthy young women taking spironolactone for acne.
• Data from December 1, 2000, through March 31, 2014, were obtained from a clinical data repository.
• Analyzed rates of hyperkalemia in 974 healthy young women taking spironolactone for acne.
• Also analyzed 1165 healthy young women taking and not taking spironolactone to obtain a profile for the baseline rate of hyperkalemia in this population.

• **Main Outcomes and Measures** The rate of hyperkalemia in healthy young women taking spironolactone for acne was calculated. Secondary measures included spironolactone prescriber profiles and potassium monitoring practices.
Results

- There were 13 abnormal serum potassium measurements in 1802 measurements obtained among young women receiving spironolactone therapy.
- Hyperkalemia rate of 0.72%, equivalent to the 0.76% baseline rate of hyperkalemia in this population.
- Repeat testing in 6 of 13 patients demonstrated normal values, suggesting that these measurements may have been erroneous. In the remaining 7 patients, no action was taken.

Conclusions and Relevance

- The rate of hyperkalemia in healthy young women taking spironolactone for acne is equivalent to the baseline rate of hyperkalemia in this population. Routine potassium monitoring is unnecessary for healthy women taking spironolactone for acne.
How to Age Gracefully

• Telomeres
  – DNA sequences at the ends of chromosomes
  – Prevent loss of genomic DNA
  – Undergo attrition with normal cell division, oxidative stress, and inflammation
  – Length is a biomarker of aging
  – Shorter telomeres associated with decreased life expectancy and increased risk of chronic diseases
  – Modifiable with lifestyle, dietary patterns
How to Age Gracefully


- Using NHS data, 4676 had telomere length measured and had completed FFQ’s
- Dietary adherence scored with Alternate Mediterranean Diet Score 0-9
- Greater adherence to Mediterranean Diet was associated with longer telomeres
- Controlled for BMI, smoking, physical activity, age
- A three point difference in adherence score corresponded to about 4.5 years of aging, similar to comparing smokers to nonsmokers
A Bridge (of anticoagulation) Too Far

Steinberg et al. Use and Outcomes Associated with Bridging During Anticoagulation Interruptions in Patients with Atrial Fibrillation (ORBIT-AF Trial). Circ. 2015;131:488.
The study

- Prospective observational study of 7,372 patients on anticoagulation for atrial fib.
- 2,803 interruptions in therapy in 2,200 pts.
- Median follow up of 2 yrs.
- Outcomes: MI, stroke, VTE, major bleeding, hospitalization, death.
The study

- 24% of patients were bridged for procedures, with 73% of these using LMW-heparin.
- Bridged pts: (1) more likely to have prior CVA or mechanical valve but (2) no difference in CHA$_2$DS$_2$-VASc score.
- Major bleeding: 5% of bridged pts, 1.3% of non-bridged pts (p<0.0001) for an OR of 3.84.
- Composite endpoint risk increased in bridged patients – OR 1.94 (p<0.0001)
In conclusion...

- Bridging anti-coagulation for procedures is common – and of unclear benefit.
- Some procedures – e.g., dental work – can be done safely without interruption in oral anticoagulation
- Bridging oral anticoagulation is associated with increased bleeding risk and CV risk and should only be used in carefully selected patients.
Just one more thing about A fib

- Scheuermeyer FX et al. Emergency department patients with atrial fibrillation or flutter and an acute underlying medical illness may not benefit from attempts to control rate or rhythm. Ann Emerg Med 2014; published online at http://dx.doi.org/10.1016/j.annemergmed.2014.09.012
The gist of the study

• 416 patients in 2 Canadian EDs over 1 yr presenting with atrial fib/flutter and at least one other acute medical issue:
  – 105 treated with rate control
  – 30 treated with rhythm control
  – 281 treated with neither (supportive care only)
• 40.7% of rate/rhythm control had an adverse event
• 7.1% of supportive care group had an adverse event
Take away?

• Maybe some patients with atrial fib/flutter are like patients who present with sinus tachycardia – the underlying issue needs to be treated, not just the heart rhythm/rate.

• Maybe the message is:
  – If a patient has isolated atrial fib with RVR, by all means treat it.
  – If a patient has atrial fib and tachycardia due to underlying disease, treat that first.
Artificial sweeteners


• Background:
  – Six NAS approved by FDA- most are not absorbed and pass through the gut unaltered
  – Controversial safety profiles
    • Little induction of glycemic response
    • May contribute to weight gain and type 2 DM

• Study comparing metabolism in MICE fed chow and liquid (water, glucose, sucrose, aspartame, saccharin, sucralose) diets
Artificial Sweeteners

• Results:
  – Mice fed NAS all developed glucose intolerance, whereas glucose and sucrose-fed controls did not.
  – Fecal microbiota significantly changed
  – Fecal transplantation from NAS-fed mice induced glucose intolerance in normal chow-fed mice
Artificial Sweeteners

• And what about humans?
  • The researchers verified correlation between NAS use and glucose intolerance in survey data AND
  • Followed 7 healthy adult volunteers fed saccharin for a week with continuous glucose monitoring and daily GTT
    – 4/7 developed significantly worse glucose response on days 5-7, none improved

• Perhaps it’s time to decline the pink and blue packets…
This one is for Mark!


• 27% of salmonellosis cases had exposure to reptiles

• Reptile associated salmonellosis cases were 2.5 times as likely to be hospitalized as those not associated with reptile exposure.
D is for Debacle? Dilemma? Don’t Do it?

  – Insufficient evidence to recommend screening for Vitamin D deficiency in asymptomatic adults
    • Accuracy of tests unknown
    • No clear threshold
    • Causes of Vit D Deficiency (obesity, low sun exposure, dark skin, low intake) not clearly associated with adverse outcomes
  – Harms of treatment are small
  – Treatment of Vit D deficiency does NOT improve outcomes
    • Cancer
    • DM
    • Fracture risk
    • Death
One more note on Vit D...

- USPSTF DOES still recommend vitamin D supplementation and exercise for community-dwelling adults >65 who are at high risk of falls
Are we overprescribing statins?


• Looked at 4227 pts and compared observed to expected events using 5 commonly used risk calculators, including the AHA- ACC-ASCVD score.
This study found...

• Fairly dramatic over-representation of risk of CV events using 4 of the most common risk calculators:
  – 37-154% over-estimation of risk for men
  – 8-67% over-estimation of risk in women
• Reynolds Risk Score performed the best for men (9% over-estimation in men, 21% under-estimation in women) but requires hs-CRP.
• *If duplicated, this study calls into question how we determine who gets statins*
Guidelines recommend using either monotherapy with a fluoroquinolone or combination therapy with a β-lactam plus a macrolide or a fluoroquinolone as empirical treatment for patients with suspected community-acquired pneumonia (CAP) who require hospitalization but not intensive care unit (ICU) admission.
• Investigators in the Netherlands have compared β-lactam monotherapy, fluoroquinolone monotherapy, and β-lactam–macrolide combination therapy with respect to 90-day mortality.
• Between February 2011 and August 2013, 2283 patients at seven hospitals were enrolled.

• A microbial etiology was determined in only a minority of them, with *Streptococcus pneumoniae* (15.9%) and *Haemophilus influenzae* (5.8%) most commonly identified, and “atypical” pathogens found in only 2.1%.

• Noninferiority analyses showed no significant difference in 90-day mortality rates — crude or adjusted — among the three regimens in the intent-to-treat or antibiotic-adherent populations.

• There were also no clinically relevant differences in hospital length of stay or rates of major or minor complications.

• The shift from intravenous to oral antibiotic therapy occurred earlier with fluoroquinolone monotherapy than with either of the other two regimens (median, 3 vs. 4 days).
Atypical Hyperplasia of Breast

- 10% of benign breast biopsies
- Associated with a 30% risk of breast cancer in 25 years (RR of 4), cumulative risk of 1% per year.
- SERMs and aromatase inhibitors can reduce cancer risk 41-79% (cf 38%)
  - Am Soc Clin Oncology recommends considering chemoprevention in women with projected absolute risk of 1.7%
  - USPSTF: moderate certainty of benefit for women with estimated risk of 3% over 5 years
- Currently not recommended for high-risk screening with MRI
  - Recommended for pts with hereditary risk of 20-25%
Atypical Hyperplasia of Breast: What do we do?

• Discuss risks and benefits of chemoprophylaxis with patients
• Consider MRI screening in addition to mammography
• Advocate for further research
‘Roids and pneumonia

• Blum CA et al. Adjunct prednisone therapy for patients with community-acquired pneumonia: A multicentre, double-blind, randomised, placebo-controlled trial. *Lancet* 2015. Published online at http://dx.doi.org/10.1016/S0140-6736(14)62447-8
This study

- Double-blind, placebo-controlled, multi-centered.
- 785 patients over 5 years, hospitalized with community acquired pneumonia:
  - assigned prednisone 50 mg/day x 7 days or placebo
- Time to “clinical stability” was 3 days for prednisone group, 4 days for placebo group
- Prednisone group discharged one day earlier than placebo group.
Prednisone and pneumonia

- Increased incidence of hyperglycemia requiring insulin in the prednisone group (19% vs 11%).
- 30 day complication rates were the same (trend toward lower rate in the prednisone group).

- My take away: not standard of care, but no harm in giving steroids to COPD patients with pneumonia or adding as adjunct in patients who are not immunosuppressed at baseline.
Screens and Sleep

• Background
  – Inadequate sleep is a risk factor for
    • Obesity
    • Poor school performance
    • Somatic health
    • Psychosocial health
    • Risk-taking behaviors
    • HTN
    • CHD
    • Stroke
    • Immunity
Screens and Sleep

• TV viewing is a risk factor for
  – Weight gain
  – Decreased academic achievement
  – Behavioral problems

• TV in bedroom and TV viewing associated with
  – Shorter sleep duration
  – Later bedtimes

• Interactive screens may be more disruptive because they are not as passive.
Screens and Sleep


• 2048 Massachusetts fourth and seventh graders enrolled in Massachusetts Childhood Obesity Research Demonstation Study (MA-CORD) from two MA communities with lower-than-average for state income

• Primary outcomes:
  – Weekday sleep duration (estimated by bed-and waketimes)
  – Perceived insufficient rest or sleep (# days in past week)
Screens and Sleep

• Results:
  – 75% of kids had TV in sleeping room
  – 54% had small screen (7th gr 65%, 4th gr 46%)
  – Sleeping in rooms with screens associated with less sleep time (due to later bedtime)
    • TV – 18 min
    • small screen – 20.6 min
  – Screen time associated with shorter sleep duration
    • 3.7 min per hour TV
    • 9.8 min per hour games
  – Small screens (PR 1.39) and screen time (PR 1.05 per hour) associated with perceived insufficient rest
Screens and Sleep

• Why?
  – Displaced time
  – Consumption of advertised caffeinated beverages
  – Circadian rhythm disturbance
  – Increased arousal

• What next?
  – Association is not causation, but I will encourage
    • Limiting screen time
    • No TV in bedroom
    • No smartphones/small screens in bedroom
Concussions and Rest


- 99 adolescents (age 11-22) with ED diagnosis of mTBI
  - Usual care (median 2 days)
  - Strict bed rest (5 days)-no school, work, or physical activity
  - Stepwise return to activity following rest and symptom resolution
  - Daily neurocognitive tests(ImPACT), balance assessments, PCSS, activity diaries for 10 day follow up
Concussions and Rest

• Both groups decreased physical activity by ~20% in first 5 days
• Usual care group more mental activity days 2-5 (8.33 vs 4.86 hours)
• 60% recovered completely (PCSS <7) by day 10
Concussions and Rest

• Strict Rest group
  – Greater PCSS scores over entire FU (188 vs 132)
    • Higher physical symptom scores day 2, 3
    • Higher emotional symptoms scores throughout
  – Higher total number of symptoms reported
  – No significant differences in neurocognitive tests or balance scores at 3, 10 days.
  – Differences greater for those with past concussion or concussion based on symptoms (HA, dizzy) vs immediate signs (LOC, amnesia, confusion)
Concussion and Rest

• Strict rest may not be the best recommendation
• Follow up needed (vs ED recommendations only)
Make the kids wash the dishes: more support for the hygiene hypothesis


- Kids who grew up in homes where the dishes were washed by hand had lower incidence of allergic disease (OR 0.57) than those who grew up with a machine dishwasher.
  - Effects more pronounced (0.33) in families who
    - Purchased unpasteurized food from farms.
    - Eat fermented food.
Smoking Cessation

This study

- 1310 adult daily smokers randomized to
  - cytisine tablets for roughly 25 days
  - NRT (patches plus gum or lozenges) for 8 weeks
  - Both got behavioral support via 3 brief phone calls over 8 wks.

- Outcome: self-reported continuous abstinence at 1 month
  - Higher in cytisine group c/w NRT (40% vs. 31%).
  - Similarly, abstinence rates favored cytisine at 2 and 6 months.
  - Cytisine had more adverse events (mostly nausea, vomiting, and sleep disorders) with 5% discontinuation rate due to side effects.
HIV testing

HIV-1/2 antigen/antibody combination immunoassay

(+)  

(-)  

Negative for HIV-1 and HIV-2 antibodies and p24 Ag

HIV-1/HIV-2 antibody differentiation immunoassay

HIV-1 (+)  
HIV-2 (-)  
HIV-1 antibodies detected

HIV-1 (-)  
HIV-2 (+)  
HIV-2 antibodies detected

HIV-1 (+)  
HIV-2 (+)  
HIV antibodies detected

HIV-1 (-) or indeterminate

HIV-2 (-)

HIV-1 NAT

HIV-1 NAT (+)  
Acute HIV-1 infection

HIV-1 NAT (-)  
Negative for HIV-1

(+) indicates reactive test result
(-) indicates nonreactive test result
NAT: nucleic acid test
Updated guidelines – June 2014

• CDC’s new testing algorithm allows diagnosis of HIV as much as 3-4 weeks earlier than the previously recommended sequence of tests using the Western blot.

• As a result, the HIV-1 Western blot is no longer part of the recommended algorithm. The new algorithm should be used for follow-up testing.