Outpatient Journal Articles of 2016* That Changed My Practice

Alan Dow, MD, MSHA
Perlin Professor of Medicine and Health Administration
Virginia Commonwealth University
I have no disclosures.
A 48 year old man comes to your office for a check-up. He feels well, takes no medications, and does not smoke. His blood pressure is 138/70, and the rest of his evaluation is within normal limits. He asks about screening for coronary artery calcification. What is the best response?

1. Measuring coronary artery calcification is most useful in individuals with low (<7.5% 10-year) CV risk like him
2. Measuring coronary artery calcification is most useful in individuals with intermediate (7.5%-14.9% 10-year) CV risk.
3. Measuring coronary artery calcification is most useful in individuals with high (15%+ 10-year) CV risk.
4. Measuring coronary artery calcification is most useful in individuals with highly elevated blood pressure.
Study population
- Secondary analysis
- Ages 45-84
- No CV disease
- Systolic BP 120-180
- Followed for ten years for CV events
  - CAD/MI
  - CHF
  - CVA

3733 Patients

Initial BP
- CV event risk
- CAC scores

CV events

Coronary Artery Calcium (CAC) Scores
- 0 = low risk
- 1-100 = intermediate risk
- >100 = high risk

Number Needed to Treat to Target SBP of 120 to Prevent One CV Event by CV Event Risk, Initial SBP, & Coronary Artery Calcium Score

10-year Number Needed to Treat

SBP<140

SBP 140-159

SBP 160-179

10-year Risk of CV Event by Initial SBP

<7.5%  7.5-14.9%  15%+

<7.5%  7.5-14.9%  15%

<7.5%  7.5-14.9%  15%

Coronary Artery Calcification

- Varies across the population
- Predicts CV events
- Most useful to guide therapy in the low-risk, relatively normotensive patient

Bottom line: consider CAC scores in low-risk, middle age individuals to guide tighter BP control
Question

After listening to your response about coronary artery calcification scores, he then asks about genetic testing for coronary disease. You reply:

1. Genetic testing can stratify an individual’s risk, but, across all levels of risk, a healthy lifestyle can cut risk in half.
2. Genetic testing can stratify an individual’s risk and is important because a healthy lifestyle decreases risk by a higher percentage in high-risk people.
3. Genetic testing can stratify an individual’s risk and is important because only lower risk patients benefit from a healthy lifestyle.
4. Genetic testing cannot stratify an individual’s risk and has no role in clinical practice.
Genetic Risk
Score based on:
• 50 SNPs associated with CAD

Lifestyle Risk
Score based on:
• Current smoking
• Obesity
• Physical activity ≥ once/week
• ‘Healthy diet’
  • Good – nuts, fruits, veggies, whole grains, fish, dairy
  • Bad – meat, refined grains, sugary beverages, trans fats

55,685 patients

Genetic Risk

Lifestyle Risk

10-year CV events

Khera AV et al. NEJM. 2016
10-year CV Event Risk by Quintile of Genetic Risk

- Quintile 1
- Quintile 2
- Quintile 3
- Quintile 4
- Quintile 5

Khera AV et al. NEJM. 2016
Genetic Testing for CV Risk

• Current approaches identify groups whose risk varies by almost double
• Genetic risk is independent of lifestyle
• Lifestyle moderates genetic risk by about half across all levels of genetic risk

Bottom line: genetic testing for CAD is most useful to spur lifestyle changes.
A 51 yo female with asthma presents for follow-up. She has been on a inhaled combination long-acting beta-agonist and steroid for many years with good control. She uses her short-acting beta-agonist less than two times a month. You can find no documented spirometry, and she cannot recall if she ever had it. Which of these is the best next step?

1) Continue current therapy
2) Methacholine challenge test
3) Office-based spirometry
4) Stop all asthma medications and monitor
Individuals from 10 Canadian cities

Enrolled patients:
- 18+ years old
- Asthma diagnosed in last five years
- Non on oral steroids
- Greater than 10 pack-years

Spirometry pre and post bronchodilator

Spirometry with methacholine challenge

- Reversible
- Non-reversible

Airway constriction

Taper medications and monitor with rechallenges

Follow for 12 months

Asthma

No asthma!

Recurrent asthma

Aaron SD et al. JAMA. 2017
Enrolled patients:
- 18+ years old
- Asthma diagnosed in last five years
- Non on oral steroids
- Greater than 10 pack-years

613 enrolled and completed evaluation

Spirometry pre and post bronchodilator

Spirometry with methacholine challenge

Reversible (n=86)

Airway constriction (n=287)

Taper medications and monitor with rechallenges

Reversible (n=86)

Non-reversible

No airway constriction

Asthma

No asthma!

Follow for 12 months

Recurrent asthma

n=23

n=6

n=199

n=23

n=6

Aaron SD et al. JAMA. 2017
Asthma by reversible spirometry

Asthma by + methacholine test

Asthma by recurrence with taper/follow-up

Other diagnosis

No asthma

Aaron SD et al. JAMA. 2017
Conclusions

About a third of stable asthma patients may not have ongoing asthma

• Does asthma remit?
  • ~12% of ‘cures’ had + PFTs at diagnosis

• Or is it misdiagnosed?

• 2% of asthma patients have another diagnosis

Bottom line: consider rechallenging or tapering patients with stable asthma
Question

An 87-year old patient in reasonable health comes to visit you in the office. She is on warfarin for atrial fibrillation and has some mild hypertension but is otherwise well. Assuming no changes in her clinical status, at what age, should you consider or have considered stopping her warfarin?

1) Age 70
2) Age 80
3) Age 90
4) Never
Event Rates by Age for Persons on Warfarin

- Major bleeding rate
- Thrombotic event rate
- Bleeding-related death
- Thrombosis-related death

Bleeding and clotting with aging

- Both increase
- Clotting increases faster

Bottom line: keep people on anticoagulants.
Question

A 52 year old man presents with low back pain. He is interested in a complementary medicine approach for treatment. Which of the following modalities is best supported by evidence for the treatment of low back pain?

1. Acupuncture
2. Massage therapy
3. Spinal manipulation
4. Osteopathic manipulation
5. Yoga
RCTs for back pain

- Studies involving US patients only

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<td>6 positive, 3 negative</td>
</tr>
<tr>
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<td>1 positive, 1 negative</td>
</tr>
<tr>
<td>Yoga</td>
<td>1 positive</td>
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Question

He returns the following year with knee pain, and you diagnose osteoarthritis. Which of the following modalities is best supported by evidence for the treatment of osteoarthritis of the knee?

1. Acupuncture
2. Chondroitin
3. Glucosamine
4. Glucosamine and chondroitin
5. Tai chi
6. Yoga
RCTs for osteoarthritis of the knee

• Studies involving US patients only

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Complementary approaches for back pain and knee osteoarthritis

• For back pain:
  • Spinal manipulation probably has the best positive evidence for back pain
  • Acupuncture, massage therapy and yoga also worth considering

• For knee osteoarthritis:
  • Glucosamine might help
  • Acupuncture, tai chi and yoga may be worth recommending as well

Bottom line: evidence remains weak and mixed, but no major adverse events for all therapies.
As part of moving toward patient-centered medical home certification, you decide to focus on improving depression care in your practice. Which of the following is true about depression care generally in the United States?

1. Individual with minor depression are unlikely to be prescribed medication
2. Most individuals with depression are treated only by primary care
3. Individuals with major depression are commonly treated with medication plus therapy
4. Most individuals with major depression are treated
Mild depression → Therapy? Exercise?

Moderate depression → Therapy

Major depression → Medications + therapy
Correlations between:
- Screening positive for depression and treatment/evaluation
- Psychological distress and treatment/evaluation

Patient Health Questionnaire-2, psychological distress score, and treatment/evaluation data

Medical Expenditure Panel Surveys 2012-2013

“Treatment” include pharmacotherapy or visits to a mental health practitioner

Patient Health Questionnaire-2
Sensitivity for depression: 0.61-0.87
Specificity for depression: 0.78-0.92

Results

8.4% incidence of depression

78.5% made medical visits

28.7% were treated

8.1% treated for depression

29.9% with + depression screen

21.8% with + serious psych distress

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<th>Less serious or no distress (&quot;Not major depression&quot;)</th>
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<tbody>
<tr>
<td>Antidepressants</td>
<td>81.1%</td>
<td>88.6%</td>
</tr>
<tr>
<td>Psychotherapy</td>
<td>32.5%</td>
<td>20.6%</td>
</tr>
<tr>
<td>Antidepressants and psychotherapy</td>
<td>24.9%</td>
<td>16.5%</td>
</tr>
<tr>
<td>Treatment by only PCP</td>
<td>59.0%</td>
<td>74.4%</td>
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Depression Treatment: Current State

• Major depression
  • Underuse of therapy

• Minor and moderate depression
  • Overuse of medications
  • Underuse of therapy

• How do we better integrate mental health services in primary care?

Bottom line: consider how you can better refer patients to therapy.
Questions and Discussion
alan.dow@vcuhealth.org