Literature Review In
2018
In Internal Medicine
What’s Clinically Relevant in Daily Practice

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Literature Review

Pain

“Pot”

And

All Sorts of Other Stuff
Literature Review

Opioids And Pain – 1

Postoperative prescriptions for opioid naïve patients and association with overdose and misuse: Retrospective cohort study

BMJ; ePub 2018 Jan 30, 2017;
Brat, Agnieł, et al
Literature Review

- 1,015,116 – Opioid Naive Post-Op Patients
- 568,612 (56%) – Received Opioids Post-Op
- 5,906 (0.6%) – Abuse Identified
- Duration of Tx was the strongest predictor of misuse.
- Each additional week of Tx = 44% Increase in rate of Misuse and 19.9% increase in hazard
- Duration of prescribing rather than the Dose was associated with Misuse in the early post op period.
Literature Review

Opioids And Pain – 2

Opioid vs Non-Opioid Meds for Pain Related Function in Patients with Chronic Back Pain or Hip and Knee Osteoarthritis Pain

The SPACE Randomized Clinical Trial
(Strategies for Prescribing Analgesics Comparative Effectiveness)

JAMA; ePub 2018 March 6;
Krebs, Gravely, et al
240 Patients in VA Primary Care Clinic (1 year f/u) patients with moderate to severe chronic back pain or hip or knee osteoarthritis pain despite analgesic use.

Objective To compare opioid vs nonopioid medications over 12 months on pain-related function, pain intensity, and adverse effects.

Opioid = Morphine IR, Oxycodone and Hydrocodone-APAP
Non-Opioids = Acetaminophen, NSAIDS
Assessment = Function & Pain Intensity – Brief Pain Inventory (BPI)

Function = Identical in both groups

Pain Intensity = Much better in Non-Opioids

Adverse Reaction = More in Opioids

Treatment with opioids was not superior to treatment with nonopioid medications for improving pain-related function over 12 months. Results do not support initiation of opioid therapy for moderate to severe chronic back pain or hip or knee osteoarthritis pain.
Opioids And Pain – 3

Opioid vs Non-Opioid Pain Reduction in the Emergency Department (ED)

JAMA; 2017 November 7;
Chang, Bijur, et al
Literature Review

- 411 patients - Age 21 to 64 (2015 – 2016)
- Moderate to Severe Extremity pain
- Observation Period = 2 hours
- **Non-Opioid Meds** = Ibuprofen 400 mg + Acetaminophen 1000 mg
- **Opioids** = Oxycodone 5 mg, Hydrocodone 5 mg or Codeine 30 mg each with 325 mg APAP
- No Difference between 2 groups, 50% Pain reduction in 2 hours, No side effects
Literature Review

✧ Duloxetine 60 mg for chronic low back pain: post hoc responder analysis of double-blind, placebo-controlled trails.

Literature Review

- 4 Double Blind, Randomized, Placebo-controlled Trials (60 mg, 12 weeks, n=1300)
- Outcome = >30% & >50% reduction in Brief Pain Inventory (BPI)
- Duloxetine was Superior to Placebo
- Early relief predicted sustained relief
- (Women > Men) had relief
- Patients with >2 painful sites responded better than 1 isolated site
Literature Review

Cannabis

for the Treatment of Chronic Pain

Annals Internal Medicine;
ePub 2017 August 15;
Nugent, et al
Literature Review

- 27 Chronic Pain Trials = May alleviate Neuropathic Pain (low strength evidence)
- 11 Systematic Reviews & 32 Primary Studies (Increased Risk of MVA, Psychotic Symptoms & Short Term Memory Impairment)

- No adverse Pulmonary events
- Insufficient Evidence of Long term harm in older patients
Literature Review

Medical Cannabis Laws
And
Opioid Prescribing

JAMA; Intern Med; ePub 2018 April 2;
Bradford, et al
Literature Review

- Longitudinal Analysis – Medicare Part D
- All Opioid Rx = Down by 2.11 M daily dose/yr FROM 23 M/yr when a Medical **Cannabis Law passed** by the state
- All Opioid Rx = Down by 3.7 M daily dose/yr when **Cannabis Dispensaries Opened**

- Statistically significant drop in Morphine and Hydrocodone Rx were seen
Literature Review

Where There is SMOKE

There is Fire
Literature Review

Traditional Cigarette Initiation After E-Cigarette Use

Am J Med; 2017 December 10;
Primack, Shensa, et al
Literature Review

- Prospective Cohort Study (n=1506, 18 mo.)
- Never Smoking Young Adults (61% finished the study – n=915)
- 2.5 % Used E-Cigarettes at Baseline
- Regular Cigarettes INITIATED by 47% of E-Cigarettes users & 10% of non-users – (Odds Ratio = 6.8)
- In Multivarient Analysis – E-Cigarette use at baseline was independently associated with initiation of smoking at 18 months
Literature Review

E-Cigarette Use and Progression to Smoking

Pediatrics; ePub 2018 March 5;
Chaffee, et al
Literature Review

- Adolescents (age 12-17, 1 year f/u)
- Those who experimented with **BUT** not yet established smokers
- 3 Outcomes at 1 year with baseline e-Cigarette use: >100 cigs Total, Smoked in past 30 days, and Both
- E-Cigarette use was **Positively associated** with current smoking (Odds Ratio = 1.80)
- It did not reach statistical significance in Established Smoking or past 30 day smoking
Literature Review

Does E-Cigarette Use Aid in Smoking Cessation?

Annals Internal Medicine;
ePub 2018 March 27;
Rigotti, et al
Literature Review

◊ Hospitalized Adults who received Tobacco Cessation Counseling in Hospital (n=1357)
◊ Cases = Given Free Anti-Tobacco Tx
◊ Controls = Recommendations Only

◊ 28% used E-Cigarettes within 3 months
◊ E-Cigarette Users were LESS likely than Non-Users to abstain from Tobacco at 6 months
Literature Review

Low Cigarette Consumption & Risk of CHD

BMJ; ePub 2018 Jan 23;
Hackshaw, et al
Literature Review

✧ Meta-Analysis (141 cohort studies)
✧ 1 cig / Day ---- vs ---- 20 cig / day
✧ Male Smokers (1 cig/d) = 48% higher risk of Heart Dz & 25% risk of CVA compared to Non-smokers
✧ Women Smokers (1 cig/d) = 57% higher risk of Heart Dz & 31% higher risk of CVA
✧ 20 cig/d = 2x the risk compared to 1 cig/d
Literature Review

Mortality Risk

with Cigarettes, Cigars & Pipe Use

JAMA Internal Medicine;
epub 2018 Feb 19;
Christensen, et al
Literature Review

- National Longitudinal Mortality Study
- 357,420 Participants (51,150 deaths)
- Daily OR Non-Daily use posed similar risk

- **All Cause Mortality** – Cig (HR=1.98), Cigar (HR=1.20)
- **Tobacco Related Cancer Mortality** – Cig (HR=4.06), Cigars (HR=1.61), Pipe (HR=1.58)
Literture Review

When someone calls you a “Sweet Heart”,

Ask them,

“How did you know I was on SGLT-2 Inhibitors?”
Literature Review

Effect of A1C & Glucose on Post-Operative Mortality

Diabetes Care; ePub 2018 Feb 13;
Van Der Boom, et al
Literature Review

- 431,480 Surgeries – Retrospective Analysis
- 6,684 Non-Cardiac Sx (30 day mortality eval)
- Glucose Level = Associated with Mortality
- Hb A1C = NOT associated higher 30 day Mortality (once glucose was controlled)
- Non-Cardiac Sx Mortality = 1% (if glu=100), 1.6% (if Glu=200)
- Cardiac Sx Mortality = 4.5% (glu=100), 1.5% (glu=140), 6.9% (glu=200) (=“U” shape curve)
Literature Review

Association Between Use of Sodium-Glucose Cotransporter 2 (SGLT-2) Inhibitors, Glucagon-Like Peptide 1 (GLP-1) Agonist, and Dipeptidyl Peptidase 4 (DPP-4) Inhibitors With All-Cause Mortality in Patients with Type 2 Diabetes – A Systematic Review and Meta-Analysis

JAMA; 2018;319(15):1580-1591;
Sean L. Zheng et al
Literature Review

- 236 Trials, 176,310 Participants

- **Lower All-Cause Mortality** = SGLT-2 inhibitors & GLP-1 agonists (HR=0.80), DPP-4 inhibitors (HR=0.78)

- **Lower CV Mortality** = SGLT-2 inhibitors (HR=0.79), GLP-1 agonists (HR=0.85)

- SGLT-2 Lowered = **HF** (HR=0.62), **MI** (HR=0.86)

- GLP-1 = **Higher risk Adverse Events** over SGLT-2 (HR=1.80) & DPP-4 (HR=1.93)
Literature Review

ADA Guidelines

For

CVD & Risk Management in DM

Ann Intern Med; ePub 2018 April 3
Chamberlain, et al
Literature Review

- Check BP Each Office Visit & Dx & Tx as HTN if >140/90 (Grade B)
- Lifestyle Modification = Wt loss, **Reduce** Saturated Fat, Trans Fat & Cholesterol intake, **Increase** Fiber, n-3 Fatty acids, plant sterols and activity (Grade A)
- Use Aspirin 75-181 mg as **SECONDARY** prevention for DM & ASCVD (Grade A)
- Routine screening for CAD **NOT recommended** in asymptomatic patients (Grade A)
Literature Review

Deviations from Guidelines for Geriatric Diabetes Care

J Am Board Fam Med;
2018 Mar-Apr;
McCreedy et al
Literature Review

- 35% of Doctors intensified the Tx for HbA1c of 7.5 in a 80 YO, long standing DM, with CAD, cognitive impairment and dependency for ADL

- Internists & Nurse Practitioners were more likely than Family Physicians to Inappropriately Intensify DM Tx

- Florida Providers were more likely to intensify Tx
Literature Review
ACP Guidelines on Pharmacologic Treatment of Type 2 Diabetes

Ann Intern Med; ePub 2018 Mar 6;
Qaseem, et al
Literature Review

- Glycemic Control should be personalized based on benefit, harm, patient preference, general health, life expectancy, Tx burden and cost of care

- Goal = Hb A1c of 7.0% – 8.0%

- De-Intensify Tx if HbA1c < 6.5%

- Avoid A1c Targets and ONLY prevent symptoms of hyperglycemia in patients with life expectancy of <10 yrs, > 80 yrs of age, NH residents, with severe COPD, CAD, OBS, Cancer, CKD, CHF
Literature Review

How Fit is Fit?

Is it worth sweating in the Gym?

(Following are 5 Papers on Exercise & Mortality)
Literature Review

- Cardiorespiratory Fitness & All-Cancer – 8,506 participants from the Third National Health and Nutrition Examination Survey followed for all-cancer mortality.
- Nonexercise estimated cardiorespiratory fitness (eCRF) was inversely associated with all-cancer mortality in women – not statistically significant in men.
- Mean follow-up of 19.5 years, 455 cancer deaths (263 men and 192 women) were reported.
- Each 1-metabolic equivalent increase in eCRF was associated with 30% and 27% risk reduction for all-cancer mortality in men and women, respectively.

2. Sedentary Behavior and Mortality in Older Adults: Ann Intern Med; ePub Sept 12

7,985 black and white adults aged ≥45 years and examined the association between objectively measured sedentary behavior and all-cause mortality using accelerometers to measure activity

Hazard ratios (HRs) were calculated comparing quartiles 2 through 4 to quartile 1 for each exposure in models that included moderate-to-vigorous physical activity

Over a median follow-up of 4 years, 340 participants died

Greater sedentary time (HR 1.22, 1.61, and 2.63) and longer sedentary bout duration (HR 1.03, 1.22, and 1.96) were both associated with a greater risk for all-cause mortality

Participants classified as high for both sedentary characteristics (high sedentary time and high bout duration) had the greatest risk for death.
3. Exercise and Mortality in Patients with CHD: J Am Coll Cardiol; 2017 Oct

15,486 patients from 39 countries with stable CHD from the STABILITY study completed questions at baseline on hours spent each week taking mild, moderate, and vigorous exercise.

Associations between the volume of habitual exercise in metabolic equivalents of task hours/week and adverse outcomes during a median follow-up of 3.7 years were evaluated.

A graded decrease in mortality occurred with increased habitual exercise that was steeper at lower compared with higher exercise levels.

Doubling exercise volume was associated with lower all-cause mortality (unadjusted HR, 0.82).

These associations were similar for CV mortality (unadjusted HR, 0.83), but myocardial infarction and stroke were not associated with exercise.

Individuals at the highest cardiovascular risk and those who were doing the least physical activity at the beginning of the study benefitted the most.

- Prospective cohort study included 130,000 participants from 17 high-income, middle-income, and low-income countries.
- Mortality and CVD were recorded during a mean of 6.9 years of follow-up.
- Compared with low physical activity (<150 minutes per week of moderate intensity physical activity), moderate (150-750 minutes per week) and high physical activity (>750 minutes per week) were associated with graded reduction in mortality (HR, 0.80), and major CVD (HR, 0.86).
- Higher physical activity was associated with lower risk of CVD and mortality in high-income, middle-income, and low-income countries.
- Both recreational and non-recreational activity were associated with benefits.
5- Changes in Physical Activity & Risk of Heart Failure: Circulation; ePub 2018 Jan 31

11,351 patients (mean age 60 years) from the Atherosclerosis Risk in Communities (ARIC) study (3rd visit)

1,750 HF events during a median of 19 years of follow-up.

Lowest HF risk was seen for those with persistently recommended activity (HR, 0.69), compared to those with poor activity at both visits.

Those whose PA increased from poor to recommended also had reduced HF risk (HR, 0.77).

Among those with poor baseline activity, each 1-SD higher PA at 6 years was associated with significantly lower future HF risk (HR, 0.89).
Literature Review

To Eat
OR
Not to Eat

That is the Question

(Following 4 Papers are on Diet & Health)

- Observational cohort study 11,376 men and women (mean age 47 years) with no history of myocardial infarction or stroke were observed for 18 years.
- DASH diet, Mediterranean diets, and individual dietary components was assessed for the primary outcome all-cause mortality; secondary outcome cardiovascular (CV) mortality.
- Each Quintile increase in the DASH (Dietary Approach to Stop HTN) diet score = 6% drop in All-Cause Mortality.
- Mediterranean Diet was NOT independently associated with all-cause & CV mortality.
- Solid Fat & added sugar were most predictive of all-cause mortality.
- >34% of daily calories from solid fat predicted the highest risk of all-cause mortality.
2. Effect of Low-Fat vs Low-Carb Diet on Weight Loss: JAMA; 2018 Feb 20

DIETFITS trial 609 adults aged 18 to 50 years without diabetes with a body mass index (BMI) between 28 and 40

Randomized to the 12-month HLF or HLC diet. Primary outcome - 12-month weight change and interactions among diet type and genotype pattern, diet and insulin secretion, and diet and weight loss

481 of 609 randomized participants completed the trial.

Weight change over 12 months was not significantly different for participants in the HLF diet group (−5.3 kg) vs the HLC diet group (−6.0 kg).

There was no significant diet-genotype interaction or diet-insulin interaction with 12-month weight loss.

No significant difference in weight change between a healthy low-fat (HLF) diet vs a healthy low-carbohydrate (HLC) diet in overweight adults, and neither genotype pattern nor baseline insulin secretion was associated with the dietary effects on weight loss.
3- Fiber Supplementation and Metabolic Outcomes: Am J Clin Nutr; 2017 Dec

Systematic review and meta-analysis included 12 randomized controlled trials with 609 participants from 2 to 17 weeks of duration. Outcomes related to weight management and glucose and insulin metabolism were evaluated.

Soluble fiber supplementation reduced body mass index (BMI) by 0.84, body weight by 2.52 kg, and body fat by 0.41%, compared with placebo.

Supplementation reduced fasting glucose by 0.17 mmol/L, and fasting insulin by 15.88 pmol/L, compared with placebo.

Psyllium Seed – Fermentable Soluble fiber (gas and bloating)

Methylcellulose – Non-Fermentable Soluble Fiber – no gas but less health benefits
4- Is Coffee Consumption Safe at All Levels?: BMJ; ePub; 2017 Nov 22

- Review of 201 meta-analyses of observational research 67 unique health outcomes and 17 meta-analyses of interventional research with 9 unique outcomes.
- Coffee consumption was more often associated with benefit than harm for a range of health outcomes across multiple exposures.
- Coffee consumption led to a lower risk for all-cause mortality, CV mortality, and total cancer and a lower risk of specific cancers, including prostate, liver, and endometrial cancers, melanoma, and non-melanoma skin cancer.
- Coffee consumption decreased the risk of type 2 diabetes, metabolic syndrome, gallstones, gout, and renal stones, and for including hepatic fibrosis, cirrhosis, cirrhosis mortality, and chronic liver disease.
- Largest risk reduction at 3-4 cups per day vs none, including all-cause mortality, CV mortality, and CVD.
- High vs low consumption was associated with an 18% lower risk of incident cancer.
- There was an association between coffee drinking and risk of fracture in women, but not in men.
Literature Review

Heavy-Weight Champions of the World?

(I wonder if Sumo Wrestlers are ever included in the study)

(Following 3 Papers are on Body Weight & Health)
1. Impact of Intensive Weight Loss & Life Expectancy: Diabetes Care: ePub 2018 Mar 15

- Overweight or obese adults aged 45-76 years with T2D (n=5,145) were randomly assigned to a 10-year intensive lifestyle intervention (ILI) or diabetes support and education (DSE). Physical function was assessed annually for 12 years.

- Physical disability incidence was lower in the ILI group (6.0% per year) vs the DSE group (6.8% per year).

- Rates of disability remission and mortality did not differ between groups.

- ILI participants had a significant delay in moderate or severe disability onset and an increase in number of nondisabled years vs DSE participants.

- There was no difference in total years of life expectancy between groups.

- Among overweight or obese adults with type 2 diabetes (T2D), long-term lifestyle interventions may reduce long-term disability that may positively affect disability-free life expectancy, but not total life expectancy.
2- Weight Management & Remission of T2D in Primary care:
Lancet; 2018 Feb 20

Open-label, cluster-randomized trial (DiRECT) included 49 primary care practices which were randomly assigned 1:1 to provide either a weight management program (intervention) or best-practice care by guidelines (control). 306 individuals were from 49 intervention (n=23) and control (n=26) general practices; 149 participants per group in the intention-to-treat population.

At 12 months, weight loss of ≥15 kg was recorded in 36 (24%) participants in the intervention group and no participants in the control group.

Diabetes remission was achieved in 68 (46%) participants in the intervention group and 6 (4%) in the control group (OR, 19.7).

Remission varied with weight loss in the entire study population, with achievement in none of 76 participants who gained weight, 6 (7%) of 89 who maintained 0-5 kg weight loss, 19 (34%) of 56 with 5-10 kg loss, 16 (57%) of 28 with 10-15 kg loss, and 31 (86%) of 36 who lost ≥15 kg.

Nearly half of patients with type 2 diabetes (T2D) in a primary-care led weight management program achieved remission to a nondiabetic state and off antidiabetic drugs at 12 months, a recent study found.
3- Bariatric Surgery and All-Cause Mortality JAMA; 2018 Jan 16; Reges, Greenland, et al

The retrospective cohort study 33,540 obese patients who underwent bariatric surgery compared with obese nonsurgical patients matched by age, sex, body mass index (BMI), and diabetes. The primary outcome was all-cause mortality.

8,385 patients underwent bariatric surgery; laparoscopic banding (n=3,635), gastric bypass (n=1,388), laparoscopic sleeve gastrectomy (n=3,362), and 25,155 nonsurgical matched patients.

105 deaths (1.3%) among surgical patients during a median follow-up of 4.3 years and 583 deaths (2.3%) among nonsurgical patients during a median follow-up of 4.0 years.

Absolute difference was 2.51 fewer deaths per 1,000 person-years in the surgical vs nonsurgical group.

Bariatric surgery is associated with reduced all-cause mortality
Literature Review

Next Time
Someone “Breaks Your Heart”
Tell them
“Angioplasty & Stent Won’t Fix it
I’ll Just Take my ASA & Statin”

(Following 10 Papers are on
Cardiovascular Updates for Primary Care)
PCI vs Placebo Procedure for Angina Relief: Lancet; ePub 2017 Nov 2;

230 patients with ischemic symptoms and enrolled in the ORBITA double-blind, randomized controlled trial of PCI vs placebo procedure for angina relief received 6 weeks of medication optimization. Patients then had pre-randomization assessments with cardiopulmonary exercise testing, symptom questionnaires, and stress echocardiography. Patients were randomized 1:1 to undergo PCI or placebo procedure. Repeated at 6 weeks of follow-up, The primary endpoint was difference in exercise time increment between groups.

After the medication optimization phase, 200 patients underwent randomization, with 105 assigned PCI and 95 assigned the placebo procedure.

There was no significant difference in the primary endpoints of exercise time increment between groups.

For patients with stable coronary artery disease, the evidence supports that optimal medical therapy achieves equal outcome to PCI with regard to both hard outcomes as well as exercise capacity.
2- Is MRI Safe in Patients with Cardiac Devices?: N Eng J Med; 2017 Dec 28;

Prospective, nonrandomized study assessed the safety of MRI in 1,509 patients who had a pacemaker (58%) or an implantable cardioverter-defibrillator (42%) that was not considered to be MRI-conditional. Overall, patients underwent 2,103 thoracic and nonthoracic MRI examinations that were deemed as clinically necessary

- No long-term clinically significant adverse events were reported.
- The most common notable change in device parameters immediately after MRI was a decrease in P-wave amplitude (in 1% of patients).
- The observed changes were not clinically significant and did not require revision or reprogramming.
- MRIs can be done in patients with pacers and ICDs, as long as appropriate expert consultation is available to manage the pacer settings and there is availability if needed of external pacing
3- CVD Risk with LABAs and LAMAs in COPD: JAMA Inten Med; ePub; 2018 Jan 2

Nested case-control study included 284,220 patients (mean age 71.4 years, 69% men) with COPD on long-acting β₂-agonisits (LABAs) or long-acting antimuscarinic antagonists (LAMAs) and examined risk of CVD associated with LABAs and LAMAs.

During a follow-up of 2.0 years, 37,719 patients with CVD and 146,139 matched controls were identified.

New LABA and LAMA use in COPD was associated with a 1.50-fold and a 1.52-fold increased CV risk within 30 days of initiation, respectively.

With continued use the risk was absent and even reduced below comparator risk.

LAMA dosage forms, and concomitant COPD regimens did not differ in the CVD risks.
4. Adding Ezetimibe to Statin Therapy in Diabetes Circulation; ePub 2017 Dec 20; Giugliano, et al

The IMPROVE-IT trial included 18,144 patients following ACS with low-density lipoprotein cholesterol (LDL-C) of 50-125 mg/dL who were randomized to ezetimibe/simvastatin-40 mg (E/S) or placebo/simvastatin-40 mg (P/S). The primary composite endpoint was CV death, major coronary events, and stroke. DM was a prespecified subgroup (n=4,933).

The median admission LDL-C was lower among patients with DM.

E/S achieved a significantly lower median time-weighted average LDL-C compared to P/S, irrespective of DM.

In DM patients, E/S reduced the 7-year Kaplan-Meier primary endpoint rate by 5.5% absolute (HR, 0.85); in non-DM patients with absolute difference was 0.7% (HR, 0.98).

No differences in safety outcomes by treatment were observed regardless of DM.
5- Continued Statin Rx’s After an Adverse Reaction Ann Intern Med; ePub 2017 Jul 25

Retrospective cohort study included 28,266 patients with a presumed adverse reaction to a statin examined continuation of statin therapy (any prescription within 12 months after an adverse reaction) and clinical outcomes. Primary composite outcome was time to a CV event or death.

19,989 (70.7%) patients continued receiving statin prescriptions after the adverse reaction.

4 years after the presumed adverse events, the cumulative incidence of the composite primary outcome was 12.2% for patients with continued statin prescriptions vs 14% for those without them.

Among 7,604 patients in a secondary analysis for whom a different statin was prescribed after the adverse reaction, 2,014 (26.5%) had an adverse reaction to the second statin; however, 1,696 (84%) of those patients continued receiving statin prescriptions.
Low-Dose Aspirin Discontinuation & CV Risk Circulation; ePub 2017 Sep 25

◊ Population-based cohort included 601,527 users (aged >40 years) of low-dose aspirin for primary or secondary prevention who were free from previous cancer, and had ≥80% adherence during the first observed year of treatment.

◊ 62,690 CV events occurred during a median follow-up of 3 years.

◊ Patients who discontinued aspirin had a 37% higher rate of CV events vs those who continued (adjusted HR, 1.37).

◊ This risk increased shortly after discontinuation and did not diminish over time.
Adherence Rates to Secondary Prevention Meds Circulation; ePub 2018 Jan 31

- 19,704 Medicare patients discharged after AMI) from 347 US hospitals. Medication adherence was defined as proportion of days covered (PDC) >80% within 90 days post-discharge

- By 90 days post-MI, overall rates of adherence to medications prescribed at discharge were 68% for beta-blockers, 63% for statins, 64% for angiotensin-converting enzyme inhibitors (ACEIs)/angiotensin receptor blockers (ARBs), and 72% for thienopyridines.

- Adherence up to 90 days varied significantly among hospitals.

- Hospitals with the highest adherence, compared to those with low adherence rates, had lower unadjusted and adjusted 2-year major adverse cardiovascular events (MACE) risk, 27% vs 35% (HR, 0.88).

- High adherence hospitals also had lower adjusted rates of death or readmission (HR, 0.90).
Can Omega-3 Supplement Use Lower CVD Risk?
JAMA Cardiol; ePub 2018 Jan 31

(yy) 77,917 high-risk individuals from 10 randomized trials; 47,803 (61.4%) were men, mean age at entry 64.0 years, and the trials lasted a mean of 4.4 years.

(yy) The association of treatment with outcomes were assessed on 6,273 CHD events and 12,001 major vascular events.

(yy) Randomization to omega-3 fatty acid supplementation had no significant associations with CHD death (RR, 0.93), nonfatal myocardial infarction (RR, 0.97), or any CHD event (RR, 0.96).

(yy) Randomization to omega-3 fatty acid supplementation had no significant associations with any major vascular event (RR, 0.97), overall or in any subgroups.
Propensity-matched observational study included 25,354 patients who were discharged alive; 8,873 (35.0%) had an EF of at least 50%, and of these, 3,915 (44.1%) had stable SPB levels. A total of 1,076 of 3,915 (27.5%) had SBP levels <120 mm Hg, of whom 901 (83.7%) were matched by propensity scores with 901 patients with SBP levels of ≥120 mm Hg who were balanced on 58 baseline characteristics.

30-day all-cause mortality occurred in 91 (10%) and 45 (5%) of matched patients with discharge of SBP of <120 mm Hg vs ≥120 mm Hg, respectively (HR, 2.07).

SBP level <120 mm Hg was also associated with a higher risk of mortality at 1 year and during a median follow-up of 2.1 (overall 6) years (HR, 1.17).

SBP levels <120 mm Hg was associated with a higher risk of heart failure readmission at 30 days, but not at 1 or 6 years.
Intensive BP Treatment & Subsequent CVD Risk
J Am Coll Cardiol; ePub 2018 Mar 7

- Individuals with lower baseline cardiovascular disease (CVD) risk had more harm than benefit from intensive treatment of hypertension, while those with higher risk had more benefit. According to a study that examined the effect of baseline 10-year CVD risk on primary outcome events and all-cause serious adverse events (SAEs) in the Systolic Pressure Intervention Trial (SPRINT). Stratifying by quartiles of baseline 10-year CVD risk, Cox proportional hazards models were used to examine the associations of treatment group with primary outcomes events and SAEs.

- Within each quartile, there was a lower rate of primary outcome vents in the intensive treatment group, with no differences in all-cause SAEs.

- The number needed to treat to prevent primary outcomes decreased from 91 to 30 from the first to fourth quartiles.

- The number need to harm for all-cause SAEs increased from 62 to 250.

- There was significantly increasing benefit-to-harm ratio for the first, second, third, and fourth quartile, respectively.