

## Primary Care RAP December 2020 Written Summary

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### INTRO: FINDING THE RIGHT PCP

*Aleah Thompson MD, Neda Frayha MD*

#### Pearls:

- ◆ We are often asked to help members of our community find a good primary care provider (PCP).
- ◆ When finding a PCP, consider your needs around access, comfort with certain procedures, referral networks and practices to specialists, and personal attributes related to the art of medicine (ie: communication, curiosity and humility).
- Who can be your primary care provider (PCP)?
  - Degree - MD (doctor of medicine - allopathic), DO (doctor of medicine - osteopathic), NP (nurse practitioner), PA (physician assistant)
  - Fields - Family Medicine, Internal Medicine, Pediatrics, Med-Peds, or Geriatrics
  - Depending on your needs (ie: transgender medicine, procedures), you may need to do some digging to find the right person
- What to look for in a primary care provider?
  - Provider access: clear expectations about your needs (ie: appointment length, accessibility, visit length, telemedicine) can really help you narrow your search
    - Telemedicine models
    - Concierge medicine
    - Direct primary care
    - Virtual-first models
  - Evidence-based medicine (EBM) incorporation: provider should practice EBM and see someone as a unique individual



- Personal attributes: strong communication, humility, curiosity
  - Good communication with you and other providers involved in your care
  - Humble enough to know their limits and say “I don’t know. Let me look into it some more.”
  - Curiosity to learn more from you, your community and others involved in your care
- When to look?
  - Establish care when things are going well. The sooner the better!
  - You may go with the primary care provider that is provided you or do some of your own research to find one that you think will be a good fit for you

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**LICE**

*Brittney DeClerck, MD, Matthieu DeClerck, MD and Mizuho Morrison, DO*

**Pearls:**

- ❖ Head lice infestation is associated with limited morbidity but causes a high level of anxiety among parents of school-aged children.
- ❖ Lice are transmitted primarily by direct contact, not by fomites.
- ❖ Wet combing should be first line treatment for head lice.
- ❖ When sanitizing clothing or linen, use HOT water/heat and remember that lice don’t live off the body for >48 hours

**There are 3 types of lice that infest humans:**

- pediculosis capitis (head lice, most common),
- pediculosis corporis (body lice), and
- pediculosis pubis (aka crabs).



"Pediculus humanus corporis: Mutualist, Commensal or Parasite?" by Pickersgill Reef is licensed under CC BY-NC-SA 2.0

### Basics

- A louse is a small bug that crawls on your hair or body, feeding on the skin, and laying eggs to repopulate.
- The lifespan of a louse is 1 month, with 7-10 eggs laid by females per day.
- **Life cycle: egg/nits (hatch in 8 days)→ nymphs (mature in 8 days)→ louse**
- Mature lice are gray/white and are visible to the naked eye. They crawl, but do not jump.
- Nits are attached to the hair shaft and remain there after the nymph hatches.
  - Nits which contain the nymph are brownish-yellow and resemble a rice pellet.
  - Nits which are empty (after the nymph hatches) are white and more visible. They look like dandruff.
- Lice remain alive for 2 days off of a human feeding source.
- Pruritus is due to an allergic reaction to lice saliva injected during feeding.

### Transmission

- Transmission is from head-to-head contact between humans.
- Typically inanimate objects (hair dryers, hats, etc) and pets can not transmit lice.
- Lice cannot jump or fly.

### Risk factors

- Crowded spaces (encourages direct contact between heads)
- Long hair
- Being a child (because they like proximity to one another)

### Differential diagnosis

- Hair casts

- When part of the dead hair follicle gets released at the base of the hair, it resembles a nit.
- Unlike nits, these are circumferential around the shaft and are mobile (not firmly glued-on as are lice eggs).
- Dandruff/seborrheic dermatitis (flaking and freely mobile)
- Piedra
  - Fungal infection on the hair shaft
  - Circumferential but not mobile

**Diagnosis**

- Pruritus and/or scratching head
- Pyoderma/impetigo of scalp from excoriations
- Seeing the lice and their eggs
- Screen kids who have had contact with others who've had lice

**Treatment**

- **Physical treatment modalities**
  - **Wet combing should be first line treatment**, and some studies have shown it to be more effective than topical therapies (which have the potential for toxicity).
  - Using a fine-tooth nit comb, comb through every strand of hair to remove nits, nymphs, and mature lice.
  - Takes approximately 1 hour.
  - Repeat in 1 week to see if anything remains.
- **Topical therapy options**

| Pediculicide   | Age       | Regimen   | Potential side effects                           |
|----------------|-----------|---|--|
| Permethrin 1%  | ≥2 months | Leave on hair x 10 mins, then rinse; repeat on day 9                            | Skin irritation                                  |
| Malathion      | ≥6 years  | Leave on hair for 8-12 hrs, then wash out; repeat in 7-9 days if live lice seen | Malodorous, skin irritation                      |
| Benzyl alcohol | ≥6 months | Leave on hair x 10 min, then rinse; repeat in 7 days                            | Skin and eye irritation, transient skin numbness |
| Ivermectin     | ≥6 months | Leave on hair x 10 min, then rinse  | Skin or eye irritation                           |

- **Refractory cases:** oral Ivermectin
- **Other:** topical steroid cream for pruritus
- **What probably DOESN'T work or isn't necessary:**
  - Occlusive agents such as oil, mayonnaise, or petroleum. While there are anecdotal reports that suffocation with these can be effective, there is no scientific evidence to support these remedies.
  - Heat from a blow dryer. A hair-dryer should not be used in an attempt to kill lice because the wind can cause live lice to become airborne and potentially spread to others in the vicinity.
  - Shaving the head is not required or recommended as it can be traumatizing to the child.
- Household members should be examined and treated if infested; bedmates should be treated prophylactically.

#### **How should we sanitize items in our household?**

- Lice don't live off the body for over 48 hours, so anything that has been used frequently in the prior 48 hours should be washed.
- Use HOT water and/or dry the items on a high-heat dryer cycle. Temperatures should reach at least 130°F.
- Items that cannot be washed may be dry-cleaned or stored in a plastic bag for 1-2 weeks, although this often may not be necessary.
- Vacuuming of furniture and carpeting on which the infested person sat or lay down has also been suggested, though the risk of transmission from these sites is low.
- Spraying the home with a pediculicide is not recommended.

#### **When can kids return to school?**

- Children should not be excluded from school based upon the presence of lice.
  - Lice often are present for weeks prior to detection.
  - Plus, most kids with nits do not develop active infestation.
- Affected children should avoid direct head contact with others and should be treated promptly.
- Control outbreaks by examination of teachers/pupils who may have had close contact with an affected child.
- Education programs designed to increase knowledge about lice and methods to prevent infestation may help. For example, a good preventative measure for those with long hair is to wear hair in a braid or bun.

## Body and pubic lice

- Each of the 3 subtypes of lice infest a specific location based on the diameter of the hair shaft in that area.
- Risk factors for body lice: overcrowding, poor hygiene, homeless populations
- Major risk factor for pubic lice: sexual contact with someone infested.
- Treatment: topical pediculicide

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## HOSPITALIST LIGHTNING ROUND: ID

*Maj Cina MD, Matt DeLaney MD, Neda Frayha MD*

### Pearls:

- ❖ If you are thinking antibiotics for infectious diarrhea because you have fever, bloody diarrhea and more severe symptoms, think about just ciprofloxacin or azithromycin. Hold the metronidazole.
- ❖ Probiotics are still not recommended by IDSA but recent evidence suggests efficacy. Don't forget contraindications: immunocompromise, pregnancy, prosthetic heart valves.
- ❖ For patients with nosocomial pneumonia with MRSA-negative respiratory tract cultures, you don't need to continue covering for MRSA.
- ❖ For patients with gram-negative bacteremia resistant to ceftriaxone, go with a carbapenem (not beta-lactamase) and treat for only 7 days.
- Infectious diarrhea:
  - Consider antibiotics for immunocompetent adults with the following:

- Fever, diarrhea (may be bloody or mucoid) with abdominal cramps, nausea or vomiting consistent with shigella → ciprofloxacin, azithromycin
- However if you don't have more severe symptoms, antibiotics are not necessarily and most cases of diarrhea are not due to shigella
- Metronidazole is commonly used with ciprofloxacin for blood diarrhea, perhaps to treat both shigella and c. diff. However, latest recommendations do not include metronidazole and oral vancomycin is the recommended treatment if you think it is c. diff.
- Probiotics:
  - IDSA (as of February 2018) says there is insufficient evidence to endorse probiotics but you may consider it for the hospitalized patient with infectious diarrhea for prevention of c. diff.
    - Journal of Gastroenterology in 2017 published meta-analysis of 19 studies, 6000+ patients that showed probiotics reduced incidence of c. diff by 68% (RR 0.42), absolute difference 3.9% to 1.6%. Did not find significant adverse events but excluded people who should not get probiotics in the first place
    - These results are from the inpatient setting, not ICU or outpatient setting
    - Contraindications: immunocompromise, patients with prosthetic valves, pregnancy
    - Bottomline: consider lactobacillus 10-60 billion colony forming units within two days of antibiotic initiation
- MRSA for patients with hospital-acquired pneumonia:
  - If you are treating nosocomial pneumonia and start treating for MRSA coverage but your respiratory culture (sputa, trach aspirate or bronchoalveolar lavage) comes up without MRSA, you can stop treating the MRSA
    - Chest 2019 publication showed peeling off MRSA coverage for this patient population resulted in shorter length of stay, fewer ICU days, lower risk of acute kidney injury and no increase in mortality
- Gram-negative rod bacteremia:
  - If you have patient with ceftriaxone-resistant gram-negative rod bacteremia, most recent evidence suggests use of the carbapenem

- (meropenem) even if susceptible to a beta-lactamase (piperacillin-tazobactam)
- JAMA 2018 randomized this patient population to either meropenem or piperacillin-tazobactam. The group that received meropenem had much lower mortality rate (3.7% vs. 12.3%)
  - Seven (7) days with transition to oral antibiotic is adequate duration if patient is afebrile and hemodynamically stable within 48 hours, good source control
    - RCT in Clinical Infectious Diseases 2018
    - JAMA IM 2019 retrospective cohort supports this assertion

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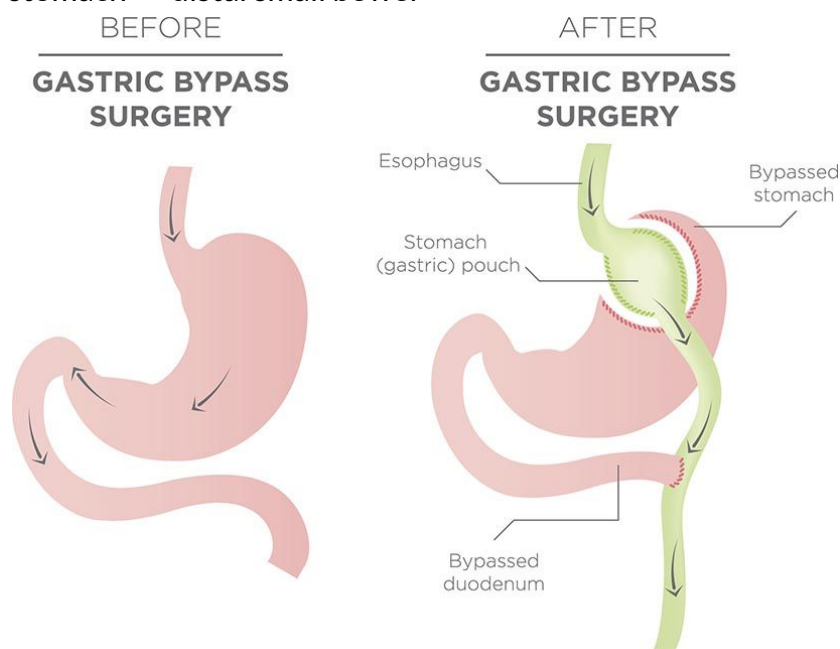
## **BARIATRIC SURGERY FOR THE PCP: PARTS 1 & 2**

*Arghavan Salles MD, PhD, Neda Frayha MD*

### **Pearls:**

- ❖ **Bariatric surgery should be considered for BMI > 35 + comorbidities or BMI > 40.**
- ❖ **The two main covered bariatric surgery types in the US are sleeve gastrectomy and roux-en-Y bypass.**
- ❖ **The most important consideration in preparation for surgery is that patients understand the major lifestyle changes that come post-surgery.**
- ❖ **Post-op recommendations:**
  - **Multivitamin for 200% daily recommended value and iron for menstruating women**
  - **Sip all day long to avoid dehydration**
  - **No NSAIDs for those who had bypass**
- **Who is bariatric surgery for?**
  - NIH Consensus Criteria (has not been updated since the 90's):
    - **BMI > 35 AND ONE obesity-related comorbidity (ie: DM, sleep apnea, HTN, fatty liver)**
    - **OR BMI > 40 with or without comorbidity**
  - **Ages 18 to 70, though programs for adolescents are also available**
  - **May even start considering earlier (ie: BMI 30 with DM) but insurance coverage may be an issue**
  - **The lower their starting BMI, the greater likelihood of success**
- **Who is not a good candidate for bariatric surgery?**
  - **Not interested in lifestyle change**
  - **Lacking social supports**
  - **Not willing to take vitamins**
  - **Need frequent ERCP because it is harder to access the pancreatic duct after bypass**
  - **Decompensated cirrhosis**

- Immunosuppression
- Types of bariatric surgery (predominant ones in the United States):
  - 1. *Sleeve gastrectomy*
    - Simpler surgery
    - Remove 80% of the stomach (fundus - part of the stomach that really expands when you eat) leaving a tube-like stomach that doesn't expand much
  - 2. *Roux-en-Y gastric bypass*
    - Re-routing the stomach so that food goes esophagus → proximal stomach → distal small bowel



Source: [Christus Health](#)

- Significant hormonal and mechanical changes
        - Dramatic decreases in medication need for diabetes. Often go home with no medications for diabetes after bypass
      - Similar long term weight loss (maybe a little bit more with gastric bypass) but short-term is faster with gastric bypass
    - 3. Many other options exist like balloons and endoscopic sleeves but there isn't long-term evidence and insurance most likely will not cover it
  - Preparation prior to bariatric surgery consideration:

- Many surgery centers have sessions for people to attend to learn about obesity and the surgical options
- Being comfortable bringing up the option of bariatric surgery and helping them understand potential benefits
- Often need to see a psychologist to assess risk and optimize mental health before undergoing a large life-changing event. It is not to weed people out.
- May see a dietician to review the changes that will need to happen as a result of the surgery
- Insurances may require a medically-supervised weight loss program but evidence suggest they don't lead to weight loss, don't impact post-surgical outcomes and just end up delaying treatment
- Post-surgery:
  - Surgery generally only requires 1-2 days
  - Safety data for 30-day mortality comparable to laparoscopic cholecystectomy
  - General follow-up cadence: 1-2 weeks, 1 month, 3 months, 6 months, 1 year, 1.5 years, 2 years and then annually afterwards
    - American Society for Metabolic and Bariatric Surgery has a quality improvement program the longer they can see their patients the better
  - Labs:
    - CBC at 6 months
    - Yearly labs that primary care can monitor labs if patients don't want to come back into surgeon
      - CBC
      - CMP
      - HbA1c
      - TSH
      - Lipids
      - PTH
      - Vitamin D
      - B1
      - B12
      - Iron panel
      - Folate

- Vitamins:
  - Multivitamin to reach 200% of daily value
  - B12 (500mcg per day)
  - Calcium (calcium citrate, 500 twice a day)
  - Iron if menstruating women
- Lifestyle changes:
  - “Eat and drink as though they are a baby”
    - Sip water all day long or at risk of dehydration
    - Progress from soft to regular diet
    - Chew food well or it can feel like it is getting stuck
    - Intermittent nausea and vomiting is not uncommon
- Medications:
  - May be able to decrease or discontinue their medications for HTN or DM
- Effectiveness:
  - Good long-term data for bypass
  - Most lose weight over the course of 1.5 years and then will gain some weight afterwards. At this point, reassurance is important and focus on healthy behaviors. If persistent for months, may need more lifestyle intervention
    - Bypass 70% lose the excess weight
    - Sleeve 60% lose the excess weight
  - Early data showing those with sleeve may end up needing bypass after 5 to 10 years
  - Reflux is a more common issue with the sleeve that hopefully settles out after 6-12 months
  - Pearl: People with bypass should NOT ever take NSAIDS because of the higher risk of ulcer at the joining point of the stomach and small intestine
- On the horizon:
  - Trying to get insurance companies to cover surgery for people with BMI 30 and DM
  - Those of Asian or Southeast Asian descent at higher risk of complications from excess weight at lower BMIs, so some people believe in offering to these patients earlier

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## DIZZINESS IN THE OLDER ADULT

*Mallory McClester Brown, MD with Michael Baca-Atlas MD*

### Pearls:

- ❖ While you want to rule out cardiovascular or cerebrovascular causes of dizziness in the older adult the more common causes are BPPV or multifactorial that will either resolve on their own or respond well to patient education.
- ❖ There is no one-size-fits-all algorithm for testing or treating. Rely on your history, physical and clinical judgement in considering the work-up.
- Subtypes of dizziness:

- 1. Vertigo - feeling that you or the environment around you is moving
- 2. Disequilibrium - feeling of imbalance, unsteadiness
- 3. Near-syncope - “I might pass out”
- History:
  - Onset - new or chronic
  - Duration - seconds, hours
  - Associated symptoms - headache, palpitations, shortness of breath
  - Medications
- Physical:
  - Vital signs
    - Postural blood pressure is important
    - Patients can check their own blood pressure and pulse at home
  - Heart, lungs
  - Neuro exam
    - [Dix-Hallpike maneuver](#)
    - [Head Impulse, Nystagmus, and Test of Skew \(HINTS test\)](#)
- Focused differential:
  - Vertigo -
    - Benign positional paroxysmal vertigo (BPPV): Turns head in a certain way and the room spins intensely for a couple of minutes. Epley's maneuver can help or may resolve on its own.
    - Acute labyrinthitis (or acute neuritis): recent viral URI followed by intense vertigo with hearing loss. Usually self-limiting.
    - Ménière's disease: vertigo with nausea, tinnitus, hearing loss in one ear
  - Presyncope -
    - Orthostatic hypotension - dehydration, medications
    - Vasovagal response - emotional stressor (ie: fear, pain)
  - Disequilibrium -
    - Often seen in adults with multiple comorbidities leading to multisensory disorder or those with peripheral neuropathy
    - Usually goes away when sit or lie down
- Work-up:
  - \*\* Don't order head imaging for all these patients. There is no one-size fits all. \*\*

- Labs and imaging should be guided by your history and physical
- **Management:**
  - No one-size fits all but consider:
    - Medications
    - Maneuvers or vestibular physical therapy for vertigo like Epley for BPPV
    - Symptom control with caution in the geriatric population with meclizine or ondansetron

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## WHY TAKE OUT AN IUD?

Molly Heublein, MD

### Pearls:

- ❖ For progesterone IUD's, irregular intermenstrual bleeding is a common reason why patients may request removal of an IUD. It tends to get better after 6 months. Amenorrhea only happens in 20% of higher-dose progesterone IUD users.
- ❖ For copper IUD's, intermenstrual bleeding is less common but heavier menstrual bleeding is more common and does not improve with time.
- ❖ IUD's have the following lifespans:
  - Paragard©: 10-12 years
  - Mirena©, Liletta©: 5-7 years
  - Kyleena©: 5 years
  - Skyle©: 3 years
- Overall satisfaction and continuation - IUD's 80%/year vs. OCP's 55%/yr
- Reasons why patients request removal:
  - 1. Side effects
    - Spotting:
      - Progesterone IUD:
        - Irregular bleeding (5%)
          - While the progesterone in a levonorgestrel IUD works by stabilizing the endometrium, during the first three months on average women experience 12 days of bleeding or spotting
          - Usually significantly improves after 6 months
          - By the a year, 4 days of bleeding/spotting is the average
          - Rates of amenorrhea are 20% with the higher dose 20mcg IUD but lower at 6% with the lower dose 14mcg IUD
        - Others systemic effects (3%):
          - Acne
          - Mood changes



- Decreased libido
- Ovarian cysts
- Headaches
- Copper IUD:
  - Heavier bleeding (14%)
    - Increase menstrual bleeding and cramping that doesn't improve over time. Average 6 days at insertion and after 1 year.
    - Does not tend to cause intermenstrual bleeding
  - Other systemic effects: much less common because non-hormonal
- 2. IUD reaches the end of its lifespan
  - Paragard©: 10-12 years
  - Mirena©, Liletta©: 5-7 years
  - Kyleena©: 5 years
  - Skyle©: 3 years
- 3. Patient desires pregnancy
  - No evidence once removed that there is a delay in return to fertility. You may get pregnant immediately after removal.
- Removal:
  - Much like a pap smear, visualize the cervix and find the IUD strings
  - Using forceps, pull on the strings and inspect it is fully intact
    - If it is requiring quite a bit of force, you may consider specialty referral because it can get embedded in the uterus
  - The most common issue is the strings not being visible. You can use a cytobrush and twirl in the exocervix to get it out. If not, you may need additional imaging to visualize where it is.
    - All IUDs have radiopaque markings making them easy to see on X-ray to see if they have been expelled or migrated to the abdominal cavity
    - Transvaginal ultrasound also useful in locating an IUD

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## SOCIAL MEDIA IN MEDICINE

*Jay-Sheree Allen, MD with Neda Frayha MD*

### Pearls:

- ❖ **Social media has created a new avenue for rapid dissemination of information, learning new materials, connecting with people you'd otherwise not have access to and even advocacy. Use it to add value to your career.**
- ❖ **Engage and connect with social media through chats, posting, tweeting and retweeting.**
- Ways in which social media can be helpful:
  - New medical information
    - MedTwitter

- Twitter ideas: Dr. Tony Breu and Dr. Avital O'Glasser for evidence-based rich tutorials
- Expanding your professional network
  - Instagram
    - May use as a way to connect with leaders in the field through direct messages (DM's)
- Promote your business
  - Twitter, Instagram or YouTube provide a platform expanding your reach
- Advocacy
  - Dr. Mona Hanna-Attisha on raising red flag for Flint, Michigan and Dr. Paul Offit on vaccine advocacy - both past guests on PC RAP!
  - Association for Healthcare Social Media - group of health professionals who want to play key role in developing best practices for social media use
- Recruitment
  - Residents are following a programs social media feed to get a sense of its culture
- Platforms:
  - Instagram - photo and video-based platform
  - Twitter - short text blurbs and chats
  - LinkedIn - professional social network
  - Doximity - physician social network
  - Facebook - social network with groups, chats, video, marketplace, pages
  - TikTok - new video platform geared at teens
- Growing legitimacy:
  - There are now systems that have clinicians with social media-focused roles like Chief Medical Social Media Officer, social media strategist
  - Mayo Clinic is starting to include digital and social media scholarship among criteria for academic advancements
- How to use social media for a greater good?
  - People are aware of your “brand” and look to what you say on a topic as a trusted health professional
  - Curate a list of who you follow that align with your interests
  - Engage the community through chats and posts

- Doctors on Social Media, Wednesday 8pm
- [10 Commandments of Social Media](#) by Dr. Jasmine Marcelin
- Avoid landmines and learn to disagree with dignity or just decide not to respond

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## PAPER CHASE #1: Cardiovascular Risk Reduction with Icosapent Ethyl for Hypertriglyceridemia

## Steve Biederman MD, Tom Robertson MD

Bhatt DL, Steg PG, Miller M, Brinton EA, Jacobson TA, Ketchum SB, Doyle RT Jr, Juliano RA, Jiao L, Granowitz C, Tardif JC, Ballantyne CM; REDUCE-IT Investigators. Cardiovascular Risk Reduction with Icosapent Ethyl for Hypertriglyceridemia. *N Engl J Med*. 2019 Jan 3;380(1):11-22. doi: 10.1056/NEJMoa1812792. Epub 2018 Nov 10. PMID: 30415628.

### Pearls:

- ◆ **Among patients with elevated triglycerides despite statin use, risk of ischemic events while on icosapent ethyl was significantly lower compared to placebo. However, it was not significant when looking only at the subgroup taking it for primary prevention.**
- **Objective:** To assess icosapent ethyl's effect on cardiovascular outcomes
- **Background:** Icosapent ethyl is a special omega-3 fatty acid and FDA-approved in 2019 to treat people with elevated triglycerides to reduce cardiovascular risk
- **Method:** Multicenter, randomized, double-blind, placebo controlled trial involving patients with established cardiovascular disease, or with diabetes and other risk factors who had been receiving statin therapy already but still had elevated triglyceride level and LDL 41-100
  - Primary endpoint: composite of cardiovascular death, non-fatal MI, non-fatal CVA, unstable angina, or coronary revascularization
- **Results:**
  - 8000 total patients
  - 70% were taking for secondary prevention and 30% were taking for primary prevention
  - Primary endpoint occurred in 17% of intervention group and 22% in the placebo group
    - Difference was not significant in the subgroup of patients taking for primary prevention
  - Intervention group had 1% greater hospitalizations and 0.5% greater serious bleeding events
- **Bottomline:** Among patients with elevated triglycerides despite statin use, risk of ischemic events while on icosapent ethyl was significantly lower compared to

placebo. However, it was not significant when looking only at the subgroup taking it for primary prevention.

## **PAPER CHASE #2: Effect of icosapent ethyl on progression of coronary atherosclerosis in patients with elevated triglycerides on statin therapy: final results of the EVAPORATE trial**

*Steve Biederman MD, Tom Robertson MD*

*Matthew J Budoff, Deepak L Bhatt, April Kinninger, et al. Effect of icosapent ethyl on progression of coronary atherosclerosis in patients with elevated triglycerides on statin therapy: final results of the EVAPORATE trial, European Heart Journal, , ehaa652, <https://doi.org/10.1093/eurheartj/ehaa652>*

### **Pearls:**

- ◆ **Icosapent ethyl showed significant reduction in coronary plaque size and improved stability compared with placebo.**
- **Objective:** To assess the potential mechanism of Icosapent Ethyl in its benefit of clinical outcomes
- **Background:** The REDUCE-IT trial from NEJM 2019 showed that addition of icosapent ethyl to statin reduced atherosclerotic ischemic events and coronary disease death, irrespective of triglyceride levels. This study tried to elucidate the underlying mechanism of this emerging drug by looking at plaque volume.
- **Method:**
  - Randomized, double-blind, placebo controlled trial to either icosapent ethyl or placebo
  - Coronary ASCVD as detected by CT (>20% narrowing of one or more vessels)
  - Had to be on statin therapy and have elevated triglycerides
  - CT at 9 and 18 months
  - Outcome: change in plaque volume at 18 months and assessment of plaque stability
- **Results:**
  - 80 patients, no significant difference between the groups
  - Median triglyceride level was 260

- At 18 months, reduction in intervention group of plaque volume by 17% compared to doubling by 109% in the placebo group → difference was significant after multivariate analysis
- Overall improved stability of the plaques in the intervention group
- **Bottomline:** Icosapent ethyl showed significant reduction in coronary plaque size and improved stability compared with placebo.

### **PAPER CHASE #3: Trajectories of childhood adversity and mortality in early adulthood: a population-based cohort study**

*Steve Biederman MD, Tom Robertson MD*

*Rod NH, Bengtsson J, Budtz-Jørgensen E, et al. Trajectories of childhood adversity and mortality in early adulthood: a population-based cohort study. Lancet. 2020 Aug 15;396(10249):489-497. doi: 10.1016/S0140-6736(20)30621-8. PMID: 32798491.*

#### **Pearls:**

- ◆ **Almost half of the children in the study experienced some degree of adversity, and this was associated with a moderately higher risk of mortality in adulthood.**
- **Objective:** To assess for associations between childhood adversities from 0 to 16 years of age and mortality rates between ages 16 to 34.
- **Background:** Prior prospective study showed that the accumulation of multiple severe childhood adverse experiences was associated with a higher mortality risk
- **Method:** Danish nationwide registry used to describe distinct trajectories of childhood adversity and relate them to overall and cause-specific mortality as adults
  - Dimensions of adversity: material deprivation, loss of threat of loss of family, family dynamics
  - Each child was assigned points for different adversities over the course of time that would accumulate over the course of their life
  - Followed from ages 16 to 34
- **Results:**
  - 1 million children
  - 3800 died during the time period
  - Low adversity (54%), high adversity (3%) that persisted

- 4.5 times the mortality rate in the high adversity group over the low adversity group
  - Accidents, cancer and suicide were the top three reasons for mortality
- **Bottomline:** Almost half of the children in the study experienced some degree of adversity, and this was associated with a moderately higher risk of mortality in adulthood.

## **PAPER CHASE #4: Iron deficiency following bariatric surgery: a retrospective cohort study**

*Steve Biederman MD, Tom Robertson MD*

*Zachary Gowanlock, Anastasiya Lezhanska, Maeve Conroy, et al. Iron deficiency following bariatric surgery: a retrospective cohort study. Blood Adv 2020; 4 (15): 3639–3647. doi: <https://doi.org/10.1182/bloodadvances.2020001880>*

### **Pearls:**

- ◆ **Iron deficiency anemia requiring intravenous iron is a delayed consequence of bariatric surgery. Young age, anemia, and low ferritin before surgery are associated with an increased risk of iron deficiency anemia during follow-up.**
- **Objective:** To report the incidence and clinical risk factors for ID and IDA in post-bariatric surgery populations
- **Method:** Single-center, retrospective, cohort study of patients who underwent bariatric surgery in 2012
  - Iron-deficiency defined as ferritin < 30 and anemia Hb < 13 (men) or Hb < 12 (women)
  - Followed at least annually with lab work
- **Results:**
  - 400 patients
  - Majority women and most underwent Roux-en-Y gastric bypass
  - Projected incidence of iron-deficiency was 70% at five years
  - Factors associated with iron-deficiency were malabsorptive procedure, low baseline ferritin levels pre-procedure, and a young age at the time of the operation



- **Bottomline:** Iron deficiency anemia requiring intravenous iron is a delayed consequence of bariatric surgery. Young age, anemia, and low ferritin before surgery are associated with an increased risk of iron deficiency anemia during follow-up.

## **PAPER CHASE #5: Effect of Long-term Vitamin D3 Supplementation vs Placebo on Risk of Depression or Clinically Relevant Depressive Symptoms and on Change in Mood Scores**

*Steve Biederman MD, Tom Robertson MD*

*Okereke OI, Reynolds CF 3rd, Mischoulon D, et al. Effect of Long-term Vitamin D3 Supplementation vs Placebo on Risk of Depression or Clinically Relevant Depressive Symptoms and on Change in Mood Scores: A Randomized Clinical Trial. JAMA. 2020 Aug 4;324(5):471-480. doi: 10.1001/jama.2020.10224. PMID: 32749491; PMCID: PMC7403921.*

### **Pearls:**

- ◆ **Treatment with vitamin D3 did NOT result in statistically significant difference in the incidence and recurrence of depression.**
- **Objective:** To test the effects of vitamin D3 supplementation on late-life depression risk and mood scores
- **Method:** Double-blinded, placebo controlled, randomized controlled trial where men or women greater than 50 were randomized to either vitamin D and fish oil or placebo. Followed annually via mailed questionnaires for a median of 5.3 years
  - Primary outcome they were looking at was risk of depression or clinically relevant depressive symptoms, and mood scores
- **Results:**
  - 9000 patients in each group
  - No difference in depression or clinically relevant depressive symptoms between the two groups
- **Bottomline:** Treatment with vitamin D3 did NOT result in statistically significant difference in the incidence and recurrence of depression.