Adult Obesity Management: Weight Loss Counseling Made Easy

Frank Domino, MD

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Dr. Domino is a professor in the Department of Family Medicine and Community Health at the University of Massachusetts Medical School, Worcester, and presents nationally for the AAFP. His areas of interest include ways to make evidence-based medicine accessible, medical ethics, and the use of technology in clinical practice. He is the editor-in-chief of The 5-Minute Clinical Consult; author and editor of the new Manual Medicine for Allopathic Providers; editor of a weekly evidence-based practice update (www.ebpupdate.com), which reviews clinically relevant articles; host of the "Frankly Speaking About Family Medicine" podcast; and co-author and co-editor of the Epocrates Lab database. Dr. Domino is a graduate of the University of Texas Medical School at Houston. He completed his residency at Hunterdon Medical Center in Flemington, New Jersey, where he was the chief resident.
Learning Objectives

1. Review the current state of obesity in our practice.
2. Discuss easy Motivational Interviewing questions to engage your patients.
3. Review current evidence on diets and medications.
4. Consider clinical scenarios to provide comprehensive care.

Audience Engagement System

Step 1

Step 2

Step 3
Obesity Rates

Prevalence of Self-Reported Obesity Among U.S. Adults by State and Territory, BRFSS, 2017

Prevalence:
Overall: 39.8%
Hispanics (47.0%)
Blacks (46.8%)
Whites (37.9%)
Asians (12.7%).

35.7%: 20 to 39 years
42.8% 40 to 59 years
41.0% >/= 60 years
Non Alcoholic Fatty Liver Disease

- Globally, NAFDL 1 in 4
  US 100 million (1 in 3)
- In US: NAFDL $32 billion annually (vs CVA ~$34 billion)

Medical Costs of NAFDL:
- Inpatient and outpatient
- Emergency room visits
- Organ transplantation
- Mortality
- Procedures
- Medications

Diagnose/Treat NAFDL & Prevent NASH

- Palpate/Percuss Liver
- Murphy’s Sign
- “I can feel your liver”
- Order LFTs & US
- If LFTs elevated -Acute Hepatitis
- Bring patient in, Review the US report, Explain risk of Cirrhosis
HOW DID WE GET HERE?

Ultra Processed Foods

- 105,159 participants. Dietary intakes; Ave. = 5 Yrs

- Median follow-up of 5.2 years, high intake of **ultra-processed food**

  Hazard Ratio (10% Increase in Risk)

  - Cardiovascular disease: 1.12 (95% CI 1.05 to 1.20); P < 0.001,
  - Cerebrovascular disease: 1.11 (1.01 to 1.21); P = 0.02.

- **Highest risk:** Younger, Smoker, Less Educated
  - LESS: FamHx. Of CVD, Low physical activity, Higher BMI, Low intake of EtOH, Fruit/Veg, fiber

  *BMJ 2019;365:l1451*

Why WE Must Counsel for Weight Loss

- Meta-analysis: 12 studies of Weight Loss Advice.

- **OUR Weight loss advice** → (OR)=3.85 (95% (CI) 2.71, 5.49; P < 0.01) for weight loss.

- **PCP advice** on weight loss has a significant impact on patient change of behaviors related to their weight.

- “Providers should address weight loss with their overweight and obese patients”

What IS Healthy Eating?

HEALTHY EATING PLATE

- Use healthy oils (like olive and canola oil) for cooking, on salad, and at the table. Limit butter. Avoid trans fat.
- Drink water, tea, or coffee (with little or no sugar). Limit milk/dairy (1-2 servings/day) and juice (1 small glass/day). Avoid sugary drinks.
- Eat plenty of fruits of all colors.
- The more veggies – and the greater the variety – the better. Potatoes and French fries don’t count.
- Eat a variety of whole grains (like whole wheat bread, whole-grain pasta, and brown rice). Limit refined grains (like white rice and white bread).
- Choose fish, poultry, beans, and nuts. Limit red meat and cheese. Avoid bacon, cold cuts, and other processed meats.

STAY ACTIVE!

Harvard School of Public Health
The Nutrition Source
www.hsph.harvard.edu/nutritionsource

Harvard Medical School
Harvard Health Publications
www.health.harvard.edu

Recognize UNHEALTHY “Healthy” Foods

- Trail Mix and Energy Bars
- Ground Turkey or Chicken
- Veggie Chips, Smoothies
- OJ or ANY Juice
- ORGANIC?
- GMO?
WHICH DIET WORKS BEST?

- **Low Calorie**: Only Kcals Matter
- **Low Fat**: Limits Fat to 20-30%
- **Low Carb**: Anything <45% CHO
- **Mediterranean (Low Glycemic)**: 50% CHO/ 20% Prot/ 30% Fat
- **Vegetarian/Vegan**
- **Intermittent Fasting 16/8, 125% /25%**
- **The ONE YOU CAN MAINTAIN For Life.**

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**Low Carb & Mediterranean Diets:**
Systematic review and meta-analysis.

2013: SR & MA--Low CHO & Mediterranean diets had the most weight loss
*Am J Clin Nutr.* 2013 Mar;97(3):505-16

2016 MA of 11 RCT with 1369 participants Low CHO vs Low Fat
Low CHO $\rightarrow$ greater reduction in body weight & TAG, ↑ HDL & LDL
*Br J Nutr.* 2016 Feb 14;115(3):466-79

**BUT:**

2013: SR & MA Very Low CHO $\rightarrow$ ↑ All Cause Mortality, but not CV Mortality.
*PLOS ONE* 14(2): e0212203

2019: SR/MA “Low CHO” $\rightarrow$ ↑ All Cause, CV Mortality & Cancer Mortality
?

*Low Fiber*
*Euro Heart J, ehz174,* [https://doi.org/10.1093/eurheartj/ehz174](https://doi.org/10.1093/eurheartj/ehz174)
Alternate Day Fasting Diets

• **RCT:** 100 obese adults divided:
  • 1 – **Alternate day** (fast 25% energy needs, non-fasting days 125%),
  • 2 – **Low calorie** (75% of energy needs were taken in every day)
  • 3 – **Control** group that had no intervention.

• **6 months Weight Loss** Same Alternate day & Low Calorie (-6.8%)  
• **12 months:** -6% Alternate day group vs. -5.3% in the Low calorie.

• **BUT Dropout rate** was higher in alternate day fasting group (38%)  
  than the Low calorie diet (29%).

• **Conclusions:** Alternate day fasting was not superior to a calorie restricted diet but may be a method for people who fail calorie restriction to succeed in weight loss.  
  *JAMA Intern Med.* 2017 Jul 1;177(7):930-938.

16/8 & 5/2 Diets

• **16/8:** Eat all you want in 8 Hour Window  
• **5/2:** Eat “normally” 5 days/week and 500 Cal on other 2 days

• Few *(read “no”)* HUMAN RCT’s on Weight Loss  
• **16/8**  
  • Some Human studies → improved Resistance Training  
  • May help alter T2DM metabolites and Insulin Sensitivity  
  • Used in some malignancies to slow tumor growth  
  • Lots of PROMISING *Mouse* studies

• **SO, WHAT DIET SHOULD WE RECOMMEND ?????**
Diets: What can you do forever?

**Diet Options:**
- Medit Diet, Lower Carb
- **16/8 Intermittent Fasting**
- Refer to Dietician
- Smaller Portions

**Meal Replacement (Joslin Clinic):**
- Jenny Craig, Hello Fresh, Nutrisystem
- Metagenics, Boost Glucose Control/Calorie Smart, Glucerna Hunger Smart
- Zone Perfect, Balance, (~ 15 G Protein, 7 Fat), Cliff Protein (13 G Fat)

Helping People Lose Weight, Treat Obesity & Prevent/Treat NAFDL

1. Use Motivational Interviewing
   *What do you like/dislike now; Like/dislike about Change*

2. 24 Hr Diet Recall:
   - 7-10 Veg+Fruit/d, Proteins, Nuts EVERY VISIT, Psyllium

3. WATER, no Art. Sweetened Drinks

4. Exercise: (HIIT) 4 minutes per day + Resistance

5. Teach **Mindful Eating** (and practice it too!) & Daily Weights

6. Treat Obesity as a Chronic Disease: Medications
“He who takes medicine and neglects diet wastes the skill of his doctors.”

~ Chinese Proverb

1. When WE Say “Lose Weight” or “Exercise”, etc.

Success at 12 months < 10%
Getting The Patient To Say Their Desire

Success at 12 months is ~ 50%

1. Motivational Interviewing

- Have the PATIENT (Not Us) Verbalize Their Discrepancy (Reasons for current eating habits, reasons for change)
- Classically, use OARS & Likert Scales (Rulers)
  “On a scale of 1-10, how Important/Confident are you at change”
- OR
  1. What is good about how you are eating now?
  2. What is the problem with how you are eating now?
  3. What will be good about changing how you eat?
  4. What will be HARD?
2. 24 Hour Dietary Recall
Dietary Education Tool

“Tell me everything you ate and drank yesterday, starting with breakfast.”

NOT
Yesterday!!
Count Fruit and Vegetable Servings

- **Goal**: 10 servings/day
  - → 25-30 Grams of Fiber
- **Min**: 5 servings/day
- Potatoes, Pasta & Rice do **NOT** count

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**OK, Now Turn To Your Neighbor & COUNT Veg & Fruit servings!**

“Find the Oreo Cookie”
Why Vegetables?  
FIBER: LOW Calorie Density,  
High Satiety, ? Microbiome

- RCT 240 adults with metabolic syndrome to “increase fiber to ≥ 30g / day” or American Heart Association guidelines X 12 months.
- Outcome: AHA: - 2.7 kg vs Fiber – 2.1 kg Not StatisticallySig.
- Total caloric intake: AHA: ↓464 vs Fiber ↓200 calories
- Conclusion: Weight loss and heart outcomes can be achieved by One Simple Message: eat > 30g of fiber a day.


Fiber Primer

**Soluble Fiber**
- Viscous (think Gelatin)
- Makes Hard Stool Soft & Diarrhea more formed
- Ex: Vegetables, Fruits, Psyllium, Inulin

**Insoluble Fiber**
- Not Absorbed, but..
- Is Fermented (-> Gas)
- Speeds Colonic Transport
- Ex: Wheat Bran
Psyllium FIBER

• RCT of Obese T2DM 10.5 gm Psyllium vs control x 8 Weeks

• Results: Psyllium significantly REDUCED:
  - Weight (↓7 lb), BMI, FBS
  - HbA1c (8.5 → 7.5 %), Insulin level
  - C-peptide
  - HOMA.IR
  - HOMA-β %

<table>
<thead>
<tr>
<th>Variables</th>
<th>Control (n = 18)</th>
<th>Intervention (n = 18)</th>
<th>P value a</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight (kg)</td>
<td>Pre: 87.3 (13.45)</td>
<td>Post: 91.7 (14.42)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>BMI (kg/m²)</td>
<td>Pre: 32.6 (7.77)</td>
<td>Post: 29.8 (6.57)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>HbA1c (%)</td>
<td>Pre: 8.5 (0.65)</td>
<td>Post: 7.5 (0.54)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Fasting blood glucose (mmol/L)</td>
<td>Pre: 8.5 (0.65)</td>
<td>Post: 7.5 (0.54)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>HOMA-IR</td>
<td>Pre: 4.5 (1.35)</td>
<td>Post: 3.8 (1.94)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>HOMA-β %</td>
<td>Pre: 7.5 (2.41)</td>
<td>Post: 6.3 (1.24)</td>
<td>&lt;0.001</td>
</tr>
</tbody>
</table>

Nutrition J. 2016; 15: 86

SR: 13+ Grams Viscous Fiber Improves T2DM

• SR of RCTs ≥3 weeks on effects of viscous fiber on glycemic control in type 2 diabetes. 28 trial (n = 1,394).

• RESULTS:
  - Viscous fiber at dose of ~13.1 g/day significantly reduced:
    - HbA1c (MD -0.58% [95% CI -0.88, -0.28]; P = 0.0002),
    - Fasting blood glucose (MD -0.82 mmol/L [95% CI -1.32, -0.31]; P = 0.001),
    - HOMA-insulin resistance (IR) (MD -1.89 [95% CI -3.45, -0.33]; P = 0.02) compared with control and in addition to standard of care.

• CONCLUSIONS:
  - “Viscous fiber supplements improve conventional markers of glycemic control beyond usual care and should be considered in the management of type 2 diabetes”

How Much WATER (not coffee, tea, or SSB) Did You Drink Yesterday?

2. Water Consumption Before Meals

• RCT over 12 weeks of adults
  • Compared Low Calorie Diet vs. Low Calorie Diet + 16 Oz water prior to each meal
  • X= ~4.5 Lbs greater weight loss in Water group.
    Obesity. 2010; 18(2): 300-7

• 500 ml pre meal → 1.2 Kg additional weight loss vs. control adults @12 Wk
  
    Obesity (Silver Spring). 2015 Sep;23(9):1785-91

Diet Soda Increases Stroke Risk

• Framingham Heart Study→ Beverage Intake Risk of Stroke & Dementia

• Artificially sweetened drinks associated with an increased risk of ischemic stroke

• Compared to 0 per week, Hazard Ratios were:
  
  • Ischemic Stroke: 2.96 (95% CI, 1.26–6.97)
  • Dementia: 2.89 (95% CI, 1.18–7.07)

• Sugar-sweetened beverages not associated w/stroke or dementia.

Stroke. 2017;STROKEAHA.116.016027, originally published April 20, 2017
Diet Soda Makes You GAIN Weight

• RCT of overweight/obese women:
• Replace diet soda with water in 24 week weight loss program;

**Water Outcomes:**

• **Water → Greater weight loss** (8.8 kg vs 7.6 kg)
• ↓ Fasting insulin, HOMA levels, 2 hr pp glucose
• No difference: waist, fasting glucose or lipid profiles

*Am J Clin Nutr 2015; 102(6):1305-12*

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2. Water vs Sugar Sweetened Drinks in Children

• 2011–2016 National Health and Nutrition Examination Surveys,
  • Beverage Intake of 8400 aged 2 to 19 years; 20% drank NO Water.
  • After multivariable analysis, **Children who drank no water consumed 93-120 more calories daily from sugar-sweetened beverages** compared with those who drank water.

*JAMA Pediatr. Published online April 22, 2019. doi:10.1001/jamapediatrics.2019.0693*
2. Water:
Rx: WATER for Children

- 32 Elementary Schools, 2\textsuperscript{nd}/3\textsuperscript{rd} Graders (2950) children x 1 Yr
  - “Socially Deprived areas” Germany
    - Water Fountains + 4 lessons
  - Overweight: Int=3.8\% vs. 6.0\%
  - 1.1 glasses/day more (220 ml)

Pedia 2009; 123(4): e661

3. Exercise
How Many Days Per Week Do YOU Exercise?

1. \( \leq 2 \) Days Per Week
2. 3-5 Days Per Week
3. > 5 Days Per Week

NO Pill that Increases Life Expectancy as EXERCISE
3. **Exercise: NOT Optional**

How Much and What Kind????

- No one knows what is ideal for weight loss, but MUST INCLUDE **RESISTANCE TRAINING**.

- **For CHD & DM:**
  30-50 Min Aerobic 5 days/week
  

- **For Weight loss:**
  - HIIT + RESISTENCE 5 days per week
  - No “after exercise treat”

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**Exercise Efficiently (Tabata):**

*High Intensity Interval Training* HIIT.

The 4 Minute Work Out

- **HIIT:**
  - 20 Seconds ALL OUT
  - 10 Seconds Rest
  - 8-30 Second Intervals

- HIIT increases Aerobic & Anaerobic capacity

  

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3. Exercise Prescription

- What Type of Exercise
- For How Long (minutes)
- Frequency (ie. 5 days/week)
- Goal?

4. EAT Mindfully: TRACK IT!!!!!

*Most important part of long term weight loss and maintenance*

1. Divide Plate in Half before eating, & ask “Am I still Hungry?”
2. PUT DOWN FORK after each bite! Try Using Chopsticks
3. Eat at table, no Screens, Smaller Plate
4. Track **EVERYTHING** you eat

**Tracking Apps:**
- Eat Right Now (Mindful Training) $130/Yr
- WW (Weight Watchers) $220/Yr.
- Amlhungry.com (Meal Plan) $2.99
- Habit Trackers
- Index Cards
SR: Daily Self Weight (Mindfulness) + Behavioral Program (Tracking) → Weight Loss

SR& MA of RCT’s included self-weighing as intervention.

RESULTS:

• 15 trials multi-component interventions (self-weighing) vs no intervention →
  • Mean difference of -3.4 kg (95% CI -4.2 to -2.6).
  • Trials included accountability → significantly greater weight loss (p = 0.03)

CONCLUSIONS:

• Self-weighing in a multi-component weight loss programme with accountability (FOLLOW UP) improved weight loss.

Prevent Holiday Weight Gain???
Daily weigh in

- RCT 111 Daily Self Weight + Graphic Feedback (DSW/GF) vs Control: pre-holiday (Thanksgiving) weight to post-holiday (NYD)
- Participants told to “try not to gain weight” above baseline.
- **RESULTS:**
  - No change in weight in DAILY WEIGHT Group;
  - Control Group **gained** 2.65 ± 0.33 kg, \( P < 0.001 \).
  - Obese DSW + GF: **lost** weight & normal weight maintained weight during the holidays (-1.46 ± 0.62 kg vs. 0.33 ± 0.27 kg, \( P = 0.01 \)).


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**5. Treat Obesity as Chronic Disease ~ DM, HTN or Alcohol Abuse**

- **Orlistat:** (Xenical) Inhibits Pancreatic Lipase ->↓ Intestinal Fat Absorption
  - 6.5 lbs x 12 months
- **Qsymia:** (phentermine 15 + topiramate 92 mg)
  - 14% over 56 weeks
- **Contrave:** *(bupropion 360 + naltrexone 32mg)*
  - 5-7% BW over 24 weeks
- **Lorcaserin:** Serotonin Agonist
  - 5.8% vs 2.9% after 1 year
- **Saxenda** *(liraglutide) Injection 3 mg SQ/d*
  - Wt: 8.0% (8.4±7.3 kg)
Where to Start: Just Topiramate

- Systematic Review 10 Studies
- 100-200 mg/day x >28 weeks
- Average Wt Loss = 16 lbs

- Adverse Events: paresthesias, taste changes, psychomotor changes
- 50 mg/hs x 7 d, then 50 bid, then 50/100, 100 bid

Obesity Rev. 2011 May;12(5):e338-47

In 130 Patients with T2DM
Phentermine – Topiramate: Weight Loss

Garvey WT et al. Diabetes Care 2014; 37:912-921
Extended Phentermine: Safe & Effective

• Retrospective review 13,972; phentermine vs not; percent weight loss at 6, 12, & 24 months vs risk of CVD or death, 3 years after starting phentermine.
• 84% female & 45% white, mean age 43.5 years and BMI of 37.8 (7.2) kg/m².

Results
• Longer-term users of phentermine experienced more weight loss;
• > 12 months lost 7.4% more than (P < 0.001).
• No significant difference in composite CVD or death (0.3%, 41 events).


Cases: Medication

• Consider Rx if Improving 24 hour dietary recall, Fruit/Veg, Psyllium, Water & Exercising

• Mindless Eater: start Topiramate 50/d increasing to 100 BID ($12) OR
• Constantly Hungry or on Topiramate: ADD Phentermine 15 -> 37.5 mg/day ($13)
• Constantly Hungry Liraglutide (0.6 mg/d x 1 Wk, ↑ 0.6/Wk; max 3 mg/day ($1200)

• Perimenopausal and/or has Addictive Eating, start Naltrexone 50 mg/d ($35)
• Depressed/on SSRI: Switch to Bupropion ($25) and add Naltrexone ($35)

• ? Lorcaserin (Belviq) 10 BID; DC if <5% Wt Loss at 12 weeks (~$350/M)

• If T2DM; DC short acting Insulin and add: SGLT2i or GLP1 agonist + More Psyllium
• And, when all else fails: Surgery: BMI > 40 or BMI > 35 & a co-morbidity
Supplements?

• **Symbiotics:** Pro-biotic combined with pre-biotic:
  --Psyllium plus
  --Lactobaccilus gasseri ([J Med Food.](https://journals.lww.com/jmedfood) 2018 May;21(5):454-461)

  - Polyphenols (EVOO, nuts, red wine, vegetables, fruits, legumes, and whole-grain cereals)

• Systematic review data on: Cinnamon, Curcumin, Resveratrol (? Publication Bias)

Billing for Obesity & Weight Loss

• Morbid Obesity & Pre-Diabetes & all T2DM

• Spend 30 Minutes on JUST OBESITY Counseling (& not adjusting meds) and bill Level IV (99214)

• For T2DM: Lowering A1C, Monofilament testing, etc. has almost NO impact on outcomes
WEIGHT LOSS MADE EASY

If you would Like a Word Version
Please email me at:

Frank.domino@umassmemorial.org

He who takes medicine and neglects diet wastes the skill of his doctors.”

~ Chinese Proverb
Practice Recommendations

1. Use Motivational Interviewing
   *What do you like/dislike now; Like/dislike about Change*

2. 24 Hr Diet Recall:
   7-10 Veg+Fruit/d & Proteins, EVERY VISIT, *Psyllium*

3. WATER, no Art. Sweetened Drinks

4. Exercise: (HIIT) 4 minutes per day + Resistance

5. Teach *Mindful Eating* (and practice it too!) & Daily Weights

6. Treat Obesity as a Chronic Disease: Medications

7. FOLLOW UP EVERY MONTH Till Consistent Weight Loss, then Every 2-3 Months

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