The Heart Healthy Diet

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Disclosures: None
The Heart Healthy Diet

- Overview
  - USDA Recommendations through the Years
  - Caloric Balance
  - Macronutrients and Micronutrients
  - Types of Foods and Specific Diets
    - “Mainstream” and “Fad” Diets
  - Recommendations
  - Conclusions

Historical Dietary Recommendations

- 1890s USDA’s “Everything in Moderation”
- 1943 USDA coined the “Basic 7”
- 1970s Sweden - “basic” and “supplementary” foods
- 1992 USDA’s “Eating Right Food Pyramid”
- 2011 USDA’s “MyPlate” balanced calorie meals
- ?? Next ??
Eating Right Food Pyramid

- Fats, Oils & Sweets: USE SPARINGLY
- Milk, Yogurt & Cheese Group: 2-3 SERVINGS
- Vegetable Group: 3-5 SERVINGS
- Fruit Group: 2-4 SERVINGS
- Meat, Poultry, Fish, Dry Beans, Eggs & Nuts Group: 2-3 SERVINGS
- Bread, Cereal, Rice & Pasta Group: 6-11 SERVINGS

KEY:
- □ Fat (naturally occurring and added)
- □ Sugars (added)

These symbols show fats and added sugars in foods.
USDA’s MyPlate

ChooseMyPlate.gov

Calorie Intake Chart

<table>
<thead>
<tr>
<th>IDEAL WEIGHT FOR WOMEN</th>
<th>CALORIES TO CONSUME IF YOU DO NOT WORKOUT</th>
<th>CALORIES TO CONSUME IF YOU DO WORKOUT</th>
<th>IDEAL WEIGHT FOR MEN</th>
<th>CALORIES TO CONSUME IF YOU DO NOT WORKOUT</th>
<th>CALORIES TO CONSUME IF YOU DO WORKOUT</th>
</tr>
</thead>
<tbody>
<tr>
<td>110 lbs.</td>
<td>1,200</td>
<td>1,440</td>
<td>140 lbs.</td>
<td>1,582</td>
<td>1,932</td>
</tr>
<tr>
<td>115 lbs.</td>
<td>1,199</td>
<td>1,439</td>
<td>145 lbs.</td>
<td>1,580</td>
<td>1,928</td>
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<tr>
<td>120 lbs.</td>
<td>1,178</td>
<td>1,428</td>
<td>150 lbs.</td>
<td>1,636</td>
<td>2,096</td>
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<tr>
<td>125 lbs.</td>
<td>1,167</td>
<td>1,417</td>
<td>155 lbs.</td>
<td>1,691</td>
<td>2,191</td>
</tr>
<tr>
<td>130 lbs.</td>
<td>1,156</td>
<td>1,406</td>
<td>160 lbs.</td>
<td>1,745</td>
<td>2,145</td>
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<tr>
<td>135 lbs.</td>
<td>1,145</td>
<td>1,395</td>
<td>165 lbs.</td>
<td>1,800</td>
<td>2,203</td>
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<tr>
<td>140 lbs.</td>
<td>1,134</td>
<td>1,384</td>
<td>170 lbs.</td>
<td>1,855</td>
<td>2,255</td>
</tr>
<tr>
<td>145 lbs.</td>
<td>1,123</td>
<td>1,374</td>
<td>175 lbs.</td>
<td>1,909</td>
<td>2,309</td>
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<tr>
<td>150 lbs.</td>
<td>1,112</td>
<td>1,363</td>
<td>180 lbs.</td>
<td>1,964</td>
<td>2,364</td>
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<tr>
<td>155 lbs.</td>
<td>1,101</td>
<td>1,352</td>
<td>185 lbs.</td>
<td>2,018</td>
<td>2,418</td>
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<tr>
<td>160 lbs.</td>
<td>1,090</td>
<td>1,341</td>
<td>190 lbs.</td>
<td>2,073</td>
<td>2,473</td>
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<tr>
<td>165 lbs.</td>
<td>1,079</td>
<td>1,331</td>
<td>195 lbs.</td>
<td>2,127</td>
<td>2,527</td>
</tr>
<tr>
<td>170 lbs.</td>
<td>1,069</td>
<td>1,321</td>
<td>200 lbs.</td>
<td>2,182</td>
<td>2,582</td>
</tr>
<tr>
<td>175 lbs.</td>
<td>1,058</td>
<td>1,311</td>
<td>205 lbs.</td>
<td>2,236</td>
<td>2,636</td>
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<tr>
<td>180 lbs.</td>
<td>1,047</td>
<td>1,301</td>
<td>210 lbs.</td>
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<td>2,691</td>
</tr>
<tr>
<td>185 lbs.</td>
<td>1,036</td>
<td>1,291</td>
<td>215 lbs.</td>
<td>2,345</td>
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<tr>
<td>190 lbs.</td>
<td>1,025</td>
<td>1,281</td>
<td>220 lbs.</td>
<td>2,400</td>
<td>2,800</td>
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<tr>
<td>195 lbs.</td>
<td>1,015</td>
<td>1,271</td>
<td>225 lbs.</td>
<td>2,455</td>
<td>2,855</td>
</tr>
<tr>
<td>200 lbs.</td>
<td>1,004</td>
<td>1,261</td>
<td>230 lbs.</td>
<td>2,509</td>
<td>2,909</td>
</tr>
<tr>
<td>205 lbs.</td>
<td>994</td>
<td>1,251</td>
<td>235 lbs.</td>
<td>2,564</td>
<td>2,964</td>
</tr>
<tr>
<td>210 lbs.</td>
<td>983</td>
<td>1,241</td>
<td>240 lbs.</td>
<td>2,618</td>
<td>3,018</td>
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<tr>
<td>215 lbs.</td>
<td>973</td>
<td>1,231</td>
<td>245 lbs.</td>
<td>2,673</td>
<td>3,073</td>
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<td>220 lbs.</td>
<td>962</td>
<td>1,221</td>
<td>250 lbs.</td>
<td>2,727</td>
<td>3,127</td>
</tr>
</tbody>
</table>
Caloric Balance

• The Food Pyramid drastically increased caloric intake and partially led to the obesity crisis
• Balanced caloric intake means calorie intake should equal energy expenditure in normal weight adults
• Recommended daily caloric intake is based on age, sex, weight, and activity level AND can be misleading to patients
• Calorie/Food Diary + Exercise Diary + Weight History/Change/Goal = #WeightGoals

Macronutrients
Macronutrients
USDA Recommendations

• Carbohydrates \((45-65\%)\)
  - Glycemic index can be important
  - Added/processed sugar should be < 10%

• Proteins \((10-35\%)\)
  - Avoid high fat containing protein sources
  - Remember that soy, whey, and casein are proteins

• Fats \((20-35\%)\)
  - Trans fats (margarine/vegetable oils) cause CAD, n-3 polyunsaturated fats (fish oil/n-3 fatty acids) are protective
  - Too much?

• Fibers \((14g\, per\, 1000\, calories)\)
  - Replace refined grains (white rice/bread) with whole grains (brown)
  - Can reduce risk of CAD, MI, death, DMII, and colorectal cancer

Micronutrients - Na/Ca/Vitamins

Sources of Sodium in Average US Diet

- 5% added while cooking
- 6% added while eating
- 12% from natural sources
- 77% from processed and prepared foods

Calcium 1200/1000 mg
Types of Foods

Fruits, Vegetable, Grains

Goals - 2.5 serv Vegetable, 2 serv Fruit
Benefits - weight loss, lower mortality/ cardiovascular disease/some cancers

Red Meat, Fries/Potato Chips, Desserts

Goals - celebratory meals
Sales Pitch - fast food, fried foods, frozen foods, canned food = BAD

All the Different Diets

Low Fat
South Beach
Balanced Low Calorie
Keto
Vegetarian
Mediterranean
Juicing
Ornish
Low Carb
Intermittent Fasting
DASH
Vegan
Many different types of diets have been evaluated for their overall health effects, including impact on cardiovascular disease, diabetes, hypertension, cancer, and mortality. In addition, several types of diets have been studied for effects on weight reduction, including low-calorie, low-fat, low-carbohydrate, high-protein, and portion-controlled diets. These diets are discussed in detail separately.

Outside of overweight and obese populations, there are few well-designed prospective cohort studies or randomized trials comparing different diets. This is partly due to the wide variability in cultural influences on dietary patterns. It is not known which type of diet is optimal for the general population.

The World Health Organization (WHO) recommendations for a healthy diet emphasize limiting the intake of saturated and trans fatty acids, free sugars, and salt, while increasing the intake of fruits, vegetables, legumes, nuts, and whole grains. Observational data from large cohorts support these recommendations.

**The Difference Between “Diets”**

- **DASH**
- **Mediterranean**
- **Vegetarian**
- **Vegan**
- **Low Fat/Carb = Balanced**
- **Healthy Lifestyle**
- **Keto**
- **South Beach**
- **Intermittent Fasting**
- **Low/Very Low Calorie**
- **Weight Loss**
Diets for Healthy Lifestyle

• **Balanced/Low Calorie** - too many trials to cover
  • **DASH** - low salt/fat with 4-5 fruit/vegetables, lowers BP and CV events
  • **Mediterranean** - olive oil for fat, think Taziki’s
  • **Ornish** - <10% fat, eat fruits/vegetables/grains/dairy
  • **Pescetarian** - vegetarian + fish, hard to sell
  • **Vegetarian** - outcomes are observational, lower incidence of DM/HTN/CHD/obesity, harder to sell
  • **Vegan** - no animal products at all, hardest to sell

Mediterranean vs Low Fat Diet

• **Meta-analysis of 6 trials**
• **Adults with BMI 29-35**
• **24 month followup**
• **Mediterranean beat Low Fat:**
  • More weight loss (2kg)
  • Lower SBP and DBP
  • Better total and LDL cholesterol
  • Better fasting glucose

*Am Journal of Medicine 2011*
Diets for Weight Loss

- **Keto** - 75% fat/20% protein/5% carbs, can be dangerous for DM/CAD
- **South Beach** - “smart” carbs (allows more than keto), “healthy” fats, lean protein
- **Atkins** - low carb, high fat/protein, 4 phases
- **Intermittent Fasting** - 16/8, Eat-Stop-Eat, 5:2
- **Cleanse Diets**
  - **Lemon Detox** - lemon/maple syrup/cayenne, 20 lbs in 10 days

“Fad Diet” vs No Diet

<table>
<thead>
<tr>
<th>Type of Diet</th>
<th>Branded Diets</th>
<th>Carbohydrates, % kcal</th>
<th>Protein, % kcal</th>
<th>Fat, % kcal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low carbohydrate</td>
<td>Atkins, South Beach, Zone</td>
<td>≤40</td>
<td>Approximately 30</td>
<td>30-55</td>
</tr>
<tr>
<td>Moderate macronutrients</td>
<td>Biggest Loser, Jenny Craig, Nutrisystem, Volumetrics, Weight Watchers</td>
<td>Approximately 55-60</td>
<td>Approximately 15</td>
<td>21-30</td>
</tr>
<tr>
<td>Low fat</td>
<td>Ornish, Rosemary Conley</td>
<td>Approximately 60</td>
<td>Approximately 10-15</td>
<td>≤20</td>
</tr>
</tbody>
</table>

Both diets allowed:
7-8 kg weight loss (8 at 6m, 7 at 12m) vs 0 kg weight loss with no diet

*JAMA. 2014;312(9):923-933*
Low Calorie/Very Low Calorie Diets

- Low Calorie Diets

- Very Low Calorie Diets

Talking Points in Clinic

- Count Calories then Cut by 10-20%
- Either Eat Less or Burn More
- Weigh Regularly
- For Simpler Patients
  - Salad vs Dinner Plate
  - 25 Minute Rule
  - Improve Glycemic Index
  - Be Heart Healthy - “Salads not Steaks”
#LifeGoals #WeightGoals

• Improve Diet by Calorie Reduction and Healthier Macronutrient Mix
  • *For Diabetics Specifically,* Cut Processed Sugars and Soft Drinks
  • *In Savvy Patients,* Consider Organic/Fresh-Only/Preservative-Free
• Increase Exercise to 30-40 Minutes, 4-5 Days/Week
• Attempt to Lose 5-7% of Body Weight Early
• Sustain the Weight Loss through Plateaus and then Change Calories In/Out to Lose More

Conclusions

• The USDA recommendations have been flawed
• Caloric intake must be balanced with caloric expenditure in order to lose weight
• Fad diets can be used for weight loss
• Lifestyle diets are necessary for sustainability
• Tailor the diet and lifestyle recommendation to the individual patient
• Support the patient with info/guidance and be flexible/alter the plan as needed
References

References


Leitzmann M. Vegetarian diets: what are the advantages? Forum Nutr 2005; 147.


Le LT, Sabaté J. Beyond meatless, the health effects of vegan diets: findings from the Adventist cohorts. Nutrients 2014; 6:2131.