بسم الله الرحمن الرحيم
How to Lose Weight Safely

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Sports Nutrition Specialist Certificate (ISSA) (CA, USA)
Member of International Sports Sciences Association (CA, USA)
AGENDA

- The core of success for weight loss
- Road Map of weight loss
- Elements of Healthy weight loss
- Intervention
- How Nutrients affect our health
- Outlines some of Popular Dietary Patterns
Weight loss

Healthy
- Adequate Nutrients
- Health: Cures/Improves/Fights disease exacerbations

Unhealthy
- Rapid, Myths
- Multiple complications
Weight loss

Core of Success

Gradual
Maintained

Science
Health Coaching
Tailored
Compliance
Dietary Guidelines

**USDA 2015-2020**

- Follow a healthy eating pattern across the lifespan.
- Focus on variety & portion control.
- Limit calories from added sugars & SFA
- Shift to Nutrient Dense choices
- Alert to Nutrients of benefits e.g.: Fibers, Calcium, Potassium & vitamin D
Dietary Guidelines

USDA 2015-2020

- Limit intake of unhealthy food
- Added Sugars: Consume <10% of calories / day
- Saturated Fats: Consume <10% of calories /day
- Alert to salt overconsumption
- Alcohol (if consumed): should be in moderation
Myplate

- Make ½ the plate vegetables & fruits
- Focus on whole fruits.
- Vary the veggies.
- Make half the grains whole grain.
- Move to low-fat & fat-free dairy.
- Vary protein routine.
- Eat & drink the right amount

○ Variety, Moderation, Nutrient dense

2/27/2018
Weight loss

**Elements**

<table>
<thead>
<tr>
<th>Client Evaluation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Determine Requirements</td>
</tr>
<tr>
<td>- Total Caloric intake</td>
</tr>
<tr>
<td>- Nutrients distribution</td>
</tr>
<tr>
<td>- Fluids requirements</td>
</tr>
</tbody>
</table>

Select the Dietary Pattern
Shape the Physical Activity (PA)

Complementary Lifestyle
Diet Selection

What’s the Evidence?

Does it possess Adverse effects?

Is it Practical?

Is the food Enjoyable?

Quality minded
Quantity focused
Client Evaluation

Nutrition Care Process

- Delivering Quality of Health Care
- Driving Effective Intervention & Outcome

Individualized
BMI Categorization

<table>
<thead>
<tr>
<th>BMI Range</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>≤18.4</td>
<td>underweight</td>
</tr>
<tr>
<td>18.5-24.9</td>
<td>Normal</td>
</tr>
<tr>
<td>25-29.9</td>
<td>Overweight (pre-obesity)</td>
</tr>
<tr>
<td>30-34.9</td>
<td>Obesity grade I</td>
</tr>
<tr>
<td>35-39.9</td>
<td>Obesity grade II</td>
</tr>
<tr>
<td>≥ 40</td>
<td>Obesity grade III (Morbid obesity)</td>
</tr>
<tr>
<td>≥ 50</td>
<td>Super obesity</td>
</tr>
<tr>
<td>≥ 60</td>
<td>Extreme obesity</td>
</tr>
</tbody>
</table>
Bidirectional Evaluation

Patients Present with Overweight or Obesity (Anthropometric Component)

Candidates for Weight Loss Therapy

Evaluate for weight-related complications

Evaluate for overweight or obesity

Patients Present with Weight-Related Disease or Complication (Clinical Component)

- Prediabetes
- Metabolic Syndrome
- Type 2 Diabetes
- Dyslipidemia
- Hypertension
- Cardiovascular Disease
- Nonalcoholic Fatty Liver Disease
- Polycystic Ovary Syndrome
- Female Infertility
- Male Hypogonadism
- Obstructive Sleep Apnea
- Asthma/Reactive Airway Disease
- Osteoarthritis
- Urinary Stress Incontinence
- Gastroesophageal Reflux Disease
- Depression
Weight Goals

- Reach **Ideal body weight**

- Reach **Healthier body weight**
  (i.e. decreasing **5-15%** weight loss)
  - Induce **10%** weight loss **within 6 months**
  - **≥20%** weight loss may be considered
<table>
<thead>
<tr>
<th>Status</th>
<th>Weight loss Goal</th>
<th>Target</th>
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<tbody>
<tr>
<td>Metabolic syndrome</td>
<td>10%</td>
<td>Prevention of T2DM</td>
</tr>
<tr>
<td>Pre-diabetic</td>
<td>10%</td>
<td>Prevention of T2DM</td>
</tr>
<tr>
<td>T2DM</td>
<td>5% to ≥15%</td>
<td>- Reduction in A1C</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Reduction in number &amp; or doses of glucose lowering drugs</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Diabetes remission especially when diabetes duration is short</td>
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<tr>
<td>Hypertension</td>
<td>5% to ≥15%</td>
<td>- Lower systolic &amp; diastolic BP</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Reductions of antihypertensive medications</td>
</tr>
<tr>
<td>Dyslipidemia</td>
<td>5% to ≥15%</td>
<td>- Lower triglycerides</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Raise HDL-c</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Lower non-HDL-c</td>
</tr>
</tbody>
</table>
Elements of healthy Lifestyle Intervention

<table>
<thead>
<tr>
<th>Meal plan</th>
<th>Exercise</th>
<th>Behavioral</th>
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</thead>
<tbody>
<tr>
<td>Healthy meal plan (Reducing Calories)</td>
<td>- Aerobic PA progressing to &gt;150 minutes/week performed on 3–5 days/week&lt;br&gt;- Resistance exercise:2–3 times/week&lt;br&gt;- Reduce sedentary behavior&lt;br&gt;- Individualize program based on preferences &amp; t physical limitations</td>
<td>Includes:&lt;br&gt;- Self-monitoring (food intake, exercise, weight)&lt;br&gt;- Goal setting&lt;br&gt;- Problem-solving strategies&lt;br&gt;- Psychological counseling</td>
</tr>
<tr>
<td></td>
<td>Healthy meal plan (Reducing Calories)</td>
<td>Adequate Hydration</td>
</tr>
<tr>
<td></td>
<td>- 500–750 kcal daily deficit</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Individualize based on personal &amp; cultural preferences</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Meal plans can include: Mediterranean, DASH, vegetarian, Macronutrients alteration</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Meal replacements</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Very low-calorie diet is an option</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- in selected patients requires medical supervision</td>
<td></td>
</tr>
</tbody>
</table>
Macronutrients variations
What we eat

Human cells

Catabolism
Nutrients degradation & E production

Anabolism & inflammation
Synthesis of:
- new proteins, membrane glycogen & TGs
- pro-inflammatory molecules

Gut microbiota

Eubiosis
- wellness
- Balanced immunity & homeostasis

Dysbiosis
- Gut & or Systemic inflam.
- Altered immune function
What we eat

Which nutrients go to which effect...!!!??

Polyphenols (Resveratrol, Quercetin, Curcumin, Catechins...), n-3 PUFA, lots of fiber, calorie restriction & physical exercise

Catabolism, fatty acid oxidation

Anabolism, inflammation

High intake of fat of animal origin, high salt & sugar, fried food, low fiber, ROS, viral infections, LPS, TNF-α, IL-1β,

Anabolism, inflammation

Lipogenesis, synthesis of pro-inflammatory molecules

Activate transcription factors involved in anabolic pathways (ChREBP, SREBP-1c/2) and inflammation (NF-κB, AP-1).

Induce dysbiosis of gut microbiota, upregulate pathogenic Th17 and increase endotoxemia. Gut dysbiosis downregulates catabolic pathways.
Obesity-linked dysbiosis:
- disrupted intestinal barrier
- reduced mucus layer thickness
- Increase microbiota encroachment
- increases the interaction of microbial-associated molecular patterns (MAMP) with intestinal cells
- Disrupted intercellular junctions
- increased lipopolysaccharide (LPS) leakage (i.e., metabolic endotoxemia);
- Triggers intestinal & systemic inflammation
- impaired insulin sensitivity

Polyphenols:
- Degrades mucins to generate short-chain fatty acids (SCFA);
- Acts on goblet cells to stimulate (C) mucus secretion, thickening of the mucus layer. (I) (B)
- Decreases microbiota encroachment €
- Scavenge free oxygen radicals (D)
- Strongly correlates with reduced metabolic endotoxemia
- Improved insulin sensitivity.
Nutrients Benefits

Potential influence of nutrients on: telomerase activity & telomere length
Dietary Fibers

Fibers decreases Total Cholesterol & LDL & protect against heart disease

Fibers Recommendation:
14 g/1000KCal
Food Exchange List

- Enables Carbohydrate counting for Diabetic patients
- Counts Calories
- Counts Macronutrients Grams
- Sub-classification for fat content

<table>
<thead>
<tr>
<th></th>
<th>CHO grams</th>
<th>Proteins grams</th>
<th>Fat grams</th>
<th>Calories</th>
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<tbody>
<tr>
<td>Starch</td>
<td>15</td>
<td>3</td>
<td>0-1</td>
<td>80</td>
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<tr>
<td>Fruits</td>
<td>15</td>
<td>----</td>
<td>---</td>
<td>60</td>
</tr>
<tr>
<td>Milk (skimmed)</td>
<td>15</td>
<td>8</td>
<td>0-1</td>
<td>100</td>
</tr>
<tr>
<td>Milk (half)</td>
<td>15</td>
<td>8</td>
<td>5</td>
<td>120</td>
</tr>
<tr>
<td>Milk (full cream)</td>
<td>15</td>
<td>8</td>
<td>8</td>
<td>160</td>
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<tr>
<td>Vegetables</td>
<td>5</td>
<td>2</td>
<td>---</td>
<td>25</td>
</tr>
<tr>
<td>Meat &amp; Meat Substitutes</td>
<td>---</td>
<td>7</td>
<td>0-3</td>
<td>45</td>
</tr>
<tr>
<td>Lean</td>
<td>---</td>
<td>7</td>
<td>4-7</td>
<td>75</td>
</tr>
<tr>
<td>Med fat</td>
<td>---</td>
<td>7</td>
<td>8 or more</td>
<td>100</td>
</tr>
<tr>
<td>High fat</td>
<td>---</td>
<td>7</td>
<td>5</td>
<td>45</td>
</tr>
</tbody>
</table>

(MUFA,PUFA,Saturated)

Moderate to high consumption of Fish

Low consumption of Red Meats, & Meat products

Moderate to small amounts of Poultry & Dairy products
Polymorphism in the transcription factor 7-like gene on cardiovascular risk (TCF7L2 genetic structure, SNP locations, & gene-diet interaction).

A: The human TCF7L2 gene, located on chromosome 10q25.3, consists of 17 exons (boxes). The rs7903146 (C>T) SNP in intron 4 has been the most importantly associated with type 2 diabetes. This SNP is in high linkage disequilibrium (D0 >0.9) with the rs7901695 in Caucasians.

B: Association between the risk allele (T) & cardiovascular phenotypes depending on genetic determination or depending on a gene-diet interaction. When modulation by Mediterranean Diet exists, the high cardiovascular risk phenotype is reversed.
Mediterranean Diet

Virgin olive oil
Nuts, Fish

Carbohydrates
Proteins
Total fat
Vitamins
Minerals

Low glycemic index
Low glycemic load
Fiber
Alcohol
High MUFA
Low SFA
Moderate PUFA
Exogenous miRNAs (?) Rich in polyphenols (phenolic acids, flavonoids, stilbenes and lignans).

Whole dietary pattern protects against stroke

Traditional Mechanisms
New ‘omic-based mechanism

Nutritional Genomics

TCF7L2 as a model candidate
rs7903146 C>T polymorphism
(C-carriers considered as reference)

Liver
Pancreas
Adipocytes
Other tissues (Gut, brain, etc)

Low MedDiet

TT

Increased hepatic glucose
Increased fasting glucose
Increased lipids

TT

TCF7L2
Impaired Beta Cell function
Altered glucose homeostasis

TT

TCF7L2
Increased free fatty acids
Inflammatory markers

TT

TCF7L2
Altered GLP-1 secretion, etc.

Higher stroke risk

High MedDiet

Decreased hepatic gene expression by epigenetic mechanisms involving DNA methylation, and histone modification resulting in a beneficial inhibition of the Wnt pathway

Increased or decreased TCF7L2 gene expression depending on the tissue and the specific epigenetic mechanism involving methylation, endogenous miRNAs and even some role for exogenous miRNAs

Lower stroke risk
DASH Diet

- Reduces sodium consumption
- Promotes increased intake of fruits, vegetables, whole grains, fish, poultry & nuts.
- Provide an abundant source of nutrients e.g.: potassium, calcium & magnesium
- Too much salt: enhance Macrophage M1 on expense of M2, Influences TH17 series
Benefits of Adherence to either (DASH/ Mediterranean) Diet:

- Reduces hypertension
- Improves weight loss outcomes
- Reduces primary & secondary cardiovascular risk
- Reduces the inflammation response
- Helps lower risk for: osteoporosis, cancer, heart disease, stroke & diabetes
Vegetarian Diets

- Focuses on plants food origin
- Restricts ≥ 1 type of animal origin food
- Various subtypes e.g.:
  - Lacto vegetarian
  - Ovo-vegetarian
  - **Lacto-ovo Vegetarian**
  - Strict Vegetarian
  - Flexitarians
Hyperuricemia / Gout

Gout risk and a healthy eating pyramid

Symbols for gout risk and (hyperuricemia)

- **Risk increase**
  - White rice, white bread, red potatoes, meat, fish, and pasta, and butter, sweets

- **Risk decrease**
  - Dairy or calcium supplement (1 to 2 servings, low-fat dairy products, high-fat dairy products)
  - Fish, poultry, and eggs (0 to 2 servings)

- **Risk neutral**
  - Nuts and legumes (1 to 3 servings)
  - Vegetables (in abundance)
  - Fruit (2 to 3 servings)
  - Whole grain foods (at most meals)
  - Plant oils (olive, canola, soy, sunflower, peanut, and other vegetable oils)

- **Daily exercise and weight control**

Additional tips:
- Multiple vitamins for most (vitamin C)
- Coffee
- Tea
- Sweetened soda (alcohol in moderation unless contraindicated (wine, beer, liquor))
ATPIII

• According to CHD risk & LDL, TG, HDL levels

**TLC Diet:**
- Saturated fat <7% of calories, cholesterol <200 mg/day

杵 Consider increased soluble fibers (10-25 g/day) & plant stanols/sterols (2g/day) as therapeutic options to enhance lowering LDL

杵 Weight management (Low Fat/very Low Fat)

杵 Increased physical PA
<table>
<thead>
<tr>
<th>LDL</th>
<th>TG</th>
<th>HDL</th>
</tr>
</thead>
</table>
| >100 mg/dl with CHD 10 year risk >20%  
>130 mg/dl with 2+ CHD risk  
>160 mg/dl with 0-1 CHD risk | If TG >150 intensify weight loss & LDL goal  
If TG 200-499 mg/dl after LDL goal is reached, consider adding drug to reach non-HDL goal  
If TG >500 mg/dL, first lower TG to prevent pancreatitis:  
• very low-fat diet (<15% fat)  
• weight management & PA  
• fibrate or nicotinic acid  
If TGt <500 mg/dL, turn to LDL-lowering therapy | <40 mg/dl  
First reach LDL goal, then: Intensify weight management & increase PA  
If triglycerides 200-499 mg/dL, achieve non-HDL goal  
If triglycerides <200 mg/dL (isolated low HDL) in CHD or CHD equivalent consider nicotinic acid or fibrate |
Weight loss Pharmacotherapy

When to initiate use

- Failure on Lifestyle Therapy
- Weight Regain on Lifestyle Therapy
- Presence of Weight-Related Complications
**Weight loss Pharmacotherapy Alerts**

**Used only when:**
- Obesity-related complications can be reduced by weight loss
- It produces greater effect compared with lifestyle therapy alone
- When potential benefits outweigh the risks

Never used alone.
FDA Approved

FDA indication for all medications: BMI >30 kg/m2 or BMI ≥27 kg/m2 with significant comorbidity.

Approved Medications:
- Orlistat (Xenical) (Alli) – OTC
- Lorcaserin (Belviq)
- Phentermine/ Topiramate ER (Qsymia)
- Naltrexone ER/Bupropion ER (Contrave)
- Liraglutide 3 mg (Saxenda)
orlistat (Xenical)

<table>
<thead>
<tr>
<th>Anti-obesity Medication (Trade Name)</th>
<th>Mechanism of Action, Study Name, Study Duration: % TBWL Greater Than Placebo</th>
<th>Dose</th>
<th>Common Side Effects</th>
<th>Contraindications, Cautions, and Safety Concerns</th>
<th>Monitoring and Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Orlistat</td>
<td>Lipase inhibitor XENDOS</td>
<td>120 mg PO TID (before meals)</td>
<td>Steatorrhea · Fecal urgency · Incontinence · Flatulence · Oily spotting · Frequent bowel movements · Abdominal pain · Headache</td>
<td>✓ Contraindication ✓ Warning, Safety Concern</td>
<td>Monitor for: - Cholelithiasis - Nephrolithiasis - Recommend standard multivitamin (to include vitamins A, D, E, and K) at bedtime or 2 hours after orlistat dose - Eating &gt;30% kcal from fat results in greater GI side effects - FDA-approved for children ≥12 years old - Administer levothyroxine and orlistat 4 hours apart</td>
</tr>
</tbody>
</table>

Peripherally acting pancreatic lipase inhibitor; reduces absorption of ingested fat.
Lorcaserin (Belviq)

**Selective serotonin 2c (5HT-2c) receptor agonist; Related to appetite center & satiety**

**Dose:**
- **10 mg PO BID**
- **10 mg twice daily**

**Response evaluated after 12 weeks**

**Contraindications, Cautions, and Safety Concerns**
- Pregnancy and breastfeeding
- Serotonin syndrome or neuroleptic malignant syndrome
- Safety data lacking in patients who have depression
- Concomitant use of SSRI, SNRI, MAOI, bupropion, St. John’s wort: may increase risk of developing serotonin syndrome
- Uncontrolled mood disorder
- Cognitive impairment
- Avoid in patients with severe liver injury or renal insufficiency
- Caution with patients with bradycardia, heart block, or heart failure
- Unproven concern for potential cardiotoxicity
- Leukopenia

**Monitoring and Comments**
- Monitor for:
  - Symptoms of cardiac valve disease
  - Bradycardia
  - Serotonin syndrome
  - Neuroleptic malignant syndrome
  - Depression
  - Severe mood alteration, euphoria, dissociative state
  - Confusion/somnolence
  - Prispirism
  - Leukopenia
  - Euphoria at high doses could predispose to abuse
  - Hypoglycemia in patients having T2DM treated with insulin and/or sulfonylureas
**Phentermine/Topiramate (Qsymia)**

**Combination of appetite-suppressant sympathomimetic amine & anticonvulsant.**

Response should be evaluated after 12 weeks.

<table>
<thead>
<tr>
<th>Anti-obesity Medication (Trade Name)</th>
<th>Mechanism of Action, Study Name, Year of FDA Approval</th>
<th>Dose</th>
<th>Common Side Effects</th>
<th>Contraindications, Cautions, and Safety Concerns</th>
<th>Monitoring and Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phentermine/Topiramate ER (Qsymia)</td>
<td>6:6% on high dose; 6.6% on treatment dose</td>
<td>Starting dose: 3.75/23 mg PO QD for 2 weeks, Recommended dose: 7.5/46 mg PO QD, Escalation dose: 11.25/69 mg PO QD, Maximum dose: 15/92 mg PO QD</td>
<td>Headache, Paresthesia, Insomnia, Decreased bicarbonate, Xerostomia, Constipation, Nasopharyngitis, Anxiety, Depression, Cognitive impairment (concentration and memory), Dizziness, Nausea, Dysgeusia</td>
<td>Pregnancy and breastfeeding, (topiramate teratogenicity), Hypertension, Acute angle-closure glaucoma, Concomitant MAOI use (within 14 days), Tachyarrhythmias, Decreased cognition, Seizure disorder, Anxiety and panic attacks, Nephrolithiasis, Hyperchloremic metabolic acidosis, Dose adjustment with hepatic and renal impairment, Concern for abuse potential, Combined use with alcohol or depressant drugs can worsen cognitive impairment</td>
<td>Monitor for: Increased heart rate, Depressive symptomatology or worsening depression especially on maximum dose, Hypokalemia (especially with HCTZ or furosemide), Acute myopia and/or ocular pain, Acute kidney stone formation, Hypoglycemia in patients having T2DM treated with insulin and/or sulfonylureas. Potential for lactic acidosis (hyperchloremic non-anion gap) in combination with metformin. MAOI (allow &gt; 14 days between discontinuation). 15 mg/92 mg dose should not be discontinued abruptly (increased risk of seizure); taper over at least 1 week. Health care professional should check BUN prior initiating, followed by monthly self-testing at home. Monitor electrolytes and creatinine before and during treatment. Can cause menstrual spotting in women taking birth control pills due to altered metabolism of estrogen and progestins.</td>
</tr>
</tbody>
</table>
Effects may occur in hypothalamic appetite center or the mesocorticollimibic dopamine system & other brain areas related to reward-driven behaviors
Liraglutide 3mg (Saxenda)

- **Anti-obesity Medication (Trade Name)**: Liraglutide (Saxenda®)
- **Year of FDA Approval**: 2014
- **Mechanism of Action, Study Name, Study Duration**: GLP-1 analog, SCALE Obesity & Prediabetes
- **Dose**: Titrate dose weekly by 0.6 mg as tolerated by patient (side effects): 0.6 mg SC QD, 1.2 mg SC QD, 1.8 mg SC QD, 2.4 mg SC QD, 3.0 mg SC QD
- **Common Side Effects**: Nausea, Vomiting, Diarrhea, Constipation, Headache, Dyspepsia, Increased heart rate
- **Contraindications, Cautions, and Safety Concerns**:
  - Contraindication
  - Warning, Safety Concern
- **Monitoring and Comments**:
  - Monitor for:
    - Pancreatitis
    - Cholelithiasis and Cholecystitis
    - Hypoglycemia in patients having T2DM treated with insulin and/or sulfonylureas
    - Increased heart rate
    - Dehydration from nausea/vomiting
    - Injection site reactions
    - Titrate dose based on tolerability (nausea and GI side effects)

**Evaluation after 16 weeks**
- Daily subcutaneous injection

**Decreases leptin resistance, increases Insulin sensitivity**

**Glucagon-like peptide 1 receptor agonist**
# Therapy Individualization

## Preferred Weight-Loss Medications: Individualization of Therapy

### Clinical Characteristics or Coexisting Diseases

<table>
<thead>
<tr>
<th>Condition</th>
<th>Orlistat</th>
<th>Lorcaserin Belviq</th>
<th>Phentermine/Topiramate ER Qsymia</th>
<th>Naltrexone ER/Bupropion ER Contrave</th>
<th>Liraglutide 3 mg Saxenda</th>
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</thead>
<tbody>
<tr>
<td>Diabetes Prevention (metabolic syndrome, prediabetes)</td>
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<td>Insufficient data for T2DM prevention</td>
<td></td>
<td>Insufficient data for T2DM prevention</td>
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<tr>
<td>Type 2 Diabetes Mellitus</td>
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<td></td>
<td></td>
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</tr>
<tr>
<td>Hypertension</td>
<td></td>
<td></td>
<td>Monitor heart rate</td>
<td>Monitor BP and heart rate</td>
<td>Monitor heart rate</td>
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<tr>
<td>Cardiovascular Disease</td>
<td>CAD</td>
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<td>Monitor heart rate, rhythm</td>
<td>Monitor heart rate, BP</td>
<td>Monitor heart rate</td>
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<tr>
<td>Arrhythmia</td>
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<td>Monitor for bradycardia</td>
<td>Monitor heart rate, rhythm</td>
<td>Monitor heart rate, rhythm</td>
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<tr>
<td>CHF</td>
<td></td>
<td>Insufficient data</td>
<td>Insufficient data</td>
<td>Insufficient data</td>
<td>Insufficient data</td>
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</tbody>
</table>
Weight loss herbs

Proposed Mechanisms:

- Laxatives
- Diuretics
- Thermogenic effect
- Metabolism boosters
- Thyroid function improving
- Fiber supplements
- Appetite suppressing
- Fat & CHO absorption reducers
- Aid digestion
Commercial Used

- Green tea extract
- Cinnamon
- Green coffee extract
- Ginger
- Lemon juice
- Parsley
- Garlic extract

- Turmeric
- chili Pepper
- Onion peel extract
- Peppermint
- Rosemary
- Bromelin
- Pshyllum
- Alovera
Some herbal products **may aid** weight loss (in addition to diet regimens & exercises)

Ephedra groups are contraindicated in weight loss because they may cause sudden death

**Alert in** vulnerable groups, allergic, medical troubles

**Alert to** undesired Drug-Herbs interactions
<table>
<thead>
<tr>
<th>Herb</th>
<th>Medication</th>
<th>Area of concern</th>
<th>Recommendation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ginger</td>
<td>Antacids</td>
<td>May decrease effectiveness</td>
<td>Monitor (L)</td>
</tr>
<tr>
<td></td>
<td>Warfarin</td>
<td>Increase risk of spontaneous bleeding</td>
<td># in doses &gt;4gm dried &amp; monitor in lower doses</td>
</tr>
<tr>
<td></td>
<td>Nifedipine</td>
<td>May produce synergistic antiplatelet effect</td>
<td># use</td>
</tr>
<tr>
<td>Green tea</td>
<td>NSAIDS</td>
<td>exacerbate the GIT risk</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Folate</td>
<td>May decrease absorption</td>
<td>Need to increase folate dose*</td>
</tr>
<tr>
<td></td>
<td>statins</td>
<td>May increase plasma level &amp; side effects</td>
<td>Monitor</td>
</tr>
<tr>
<td></td>
<td>Warfarin</td>
<td>May inhibit effect of drug</td>
<td>Monitor</td>
</tr>
<tr>
<td>Bromelain</td>
<td>Warfarin &amp; Palvix</td>
<td>Increase risk of bleeding</td>
<td>Monitor</td>
</tr>
<tr>
<td>Turmeric</td>
<td>blood thinners or NSAIDS</td>
<td>Turmeric can increase the risk of bleeding, especially if added to bromelain</td>
<td>Monitor</td>
</tr>
</tbody>
</table>
# Management of Overweight and Obesity in the Adult

<table>
<thead>
<tr>
<th>Eligible Population</th>
<th>Key Components</th>
<th>Recommendation and Level of Evidence</th>
<th>Frequency</th>
</tr>
</thead>
</table>
| Adults 18 years or older | Assessment of Body Mass Index (BMI) | Screen to establish a diagnosis of overweight or obesity by calculating body mass index (BMI), and document the presence of overweight or obesity in the medical record.  
- If overweight, assess for complicating risk factors:  
  - Hypertension  
  - High triglycerides, high LDL or low HDL  
  - Impaired fasting glucose  
  - Diabetes mellitus  
  - Family history of premature CHD  
  - Presence of atherosclerotic disease  
  - Sleep Apnea  
  - Smoking  
Assess current eating, exercise behaviors, history of weight loss attempts and psychosocial factors or medications that contribute to weight gain.² | At each periodic health exam; more frequently when possible |

| Patients with BMI ≥ 25 | Interventions to promote weight management | Help your patients establish their own realistic and specific lifestyle goals.  
Offer comprehensive intensive lifestyle intervention to achieve weight loss and to improve patient-specific risks such as blood pressure and/or glucose control [A].  
Promote an evidence-based diet that produces a caloric deficit and takes patient preferences into account [A].  
Plan to reduce caloric intake to achieve a 5% to 10% reduction in body weight over 6 months.  
Counsel to increase physical activity, combined with decreased dietary intake, to produce a caloric deficit leading to weight loss [A].  
Address psychosocial concerns that may impact weight loss.² | At each periodic health exam; more frequently when possible |

| Patients with BMI ≥ 30 or ≥ 27 with other risk factors or diseases | Interventions to promote weight management | All of the above plus:  
Consider referral to intensive, multicomponent behavioral interventions to promote improvement in weight status [D].  
Review the patient's medications to consider changing any weight-potentiating medications² to those that are either weight-neutral or weight-negative [D].  
Consider pharmacotherapy only for patients with increased medical risk because of their weight and co-existing risk factors or serious comorbidities who fail intensive lifestyle changes alone.  
Pharmacotherapy is more effective when used along with intensive lifestyle changes [A]. | At each periodic health exam; more frequently when possible |

| BMI ≥ 40 or ≥ 35 with uncontrolled co-morbid conditions | Surgical treatment | Weight loss surgery should be considered when other methods of treatment have failed for patients who have clinically severe obesity, i.e., BMI ≥ 40 or BMI ≥ 35 with serious, obesity-related life-threatening co-morbid conditions.²  
Evaluate for psychological readiness for surgical intervention and post-surgical lifestyle commitment.² | At each periodic health exam; more frequently when possible |

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1. BMI is an accurate proxy for body fat in average adults but may be misleading in muscular individuals and the elderly. Lower BMI thresholds are used to classify overweight (BMI 23-27.5 kg/m²) and obese (BMI ≥27.5 kg/m²) individuals of Asian and South Asian descent.
2. Weight gain may be associated with medications: certain anti-hyperglycemic agents, antidiabetics, OCPs (progestins), antidepressants, atypical antipsychotics, anticonvulsants, beta-blockers and corticosteroids.
3. Serious comorbidities including: Cardiac disease (CHD), pulmonary hypertension, congestive heart failure, and cardiomyopathy; type 2 diabetes, obstructive sleep apnea and other respiratory disease (chronic asthma), hyperventilation syndrome (Pickwickian syndrome); non-aortic fatty liver disease or steatohepatitis; pseudo-pulmonary embolism; hypotension, hypertension, severe joint or disc disease if interferes with daily functioning.

Levels of Evidence for the most significant recommendations:  
A = randomized controlled trials;  
B = controlled trials, no randomization;  
C = observational studies;  
D = opinion of expert panel.

This guideline represents core management steps. It is based on the VADoC Clinical Practice Guidelines for Screening and Management of Overweight and Obesity, Department of Veteran Affairs, Department of Defense. Version 2.0, 2014; the United States Preventive Services Task Force Obesity Screening and Counseling, Adults, June 2016, and 2013 AHA/ACC/TOS Guideline for the Management of Overweight and Obesity in Adults: A Report of the ACC/AHA Task Force on Practice Guidelines and The Obesity Society. Individual patient considerations and advances in medical science may supersede or modify these recommendations.

Approved by MQIC Medical Directors March 2017.
Multidisciplinary team is a requisite
Proper NCP implementation clients is essential
Tailored weight loss plan is a key of success
Focus on Gradual Maintained Evidence based Dietary Pattern
Multiple dietary approaches have been proposed for weight loss management Choose the best which suits the client
References

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