



OBESITY MANAGEMENT: LIFESTYLE MODIFICATION

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Epidemiology

- Normal BMI 18- 24. Overweight 25-29. Obese >30
- 1/3 of adults in US are obese
- BMI = weight/height **sq**
 - *Underestimates BMI for shorter patients or small frame and older pts*
 - *Overestimates if high muscle mass , large frame or taller*
- Asians and South Asians have higher risk at lower BMI due to higher % visceral fat
overweight = BMI 23

Waist circumference

- Central adiposity, visceral fat
- Independent risk factor for DM , HTN , HLD , NASH, CAD
- Risk stratify : normal BMI with elevated weight circumference → weight loss
- Men > 102 cm (40in), Women > 88cm (35in)
- Asians: Men > 94 cm (37 in) , Women > 80 cm (31 in)

Waist circumference

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Classification of overweight and obesity by BMI, waist circumference, and associated disease risk

	BMI kg/m ²	Obesity class	Disease risk* relative to normal weight and waist circumference	
			Men ≤102 cm (≤40 in)	>102 cm (>40 in)
			Women ≤88 cm (≤35 in)	>88 cm (>35 in)
Underweight	<18.5		-	-
Normal [†]	18.5 to 24.9		-	-
Overweight	25.0 to 29.9		Increased	High
Obesity	30.0 to 34.9	I	High	Very high
	35.0 to 39.9	II	Very high	Very high
Extreme obesity	≥40	III	Extremely high	Extremely high

BMI: body mass index.

* Disease risk for type 2 diabetes, hypertension, and cardiovascular disease (CVD).

[†] Increased waist circumference can also be a marker for increased risk even in persons of normal weight.

Obesity Management

- BMI > 25 --> lifestyle modification (Diet , Exercise, Behavioral)
- BMI > 30 or > 27 with obesity related comorbidities --> Pharmacology
 - *Comorbidities: DM, OSA, Dyslipidemia, HTN , OA*
- BMI > 40 or > 35 with comorbidities --> surgery

Diet

- Meta analysis – all diets are equivalents so pick the palatable one
- Max weight loss at 6 months (4-12kg) → Regain weight : 1 yr (4-10kg) , 2 yr (3-4kg)
- 500kcal/day deficiency = .5kg/wk (1.1lbs)
- Men ~1500- 1800 kcal/d . Women 1200-1500 kcal/d
- Goal total 10% weight loss

Diet

- Balance low calorie/portion control
- Low fat : less than 30% calories from fat
- Low carb : Low= 60 to 130 g and very-low = 0 to <60 grams
 - < 50 → *ketosis . Most short term weight loss is from water weight and glycogen breakdown*
- Mediterranean/DASH - monounsaturated fat; moderate wine; high vegetables, fruits, legumes, and grains; a moderate milk and dairy products, mostly in the form of cheese; and a relatively low meat and meat products.

Behavioral Therapy

- Behavioral therapy:
 - *Self-monitor: food diary, weight checks*
 - *Stimulus control: move food out of site , don't pass fast food, Reframing, planning for high risk situations*
 - *Goal setting*
 - *Social support*
- Encourage Non-exercise activity thermogenesis (NEAT)
- 3kg more with behavioral therapy compared to controls

Exercise

- Modest effect on weight loss
 - *Easier to achieve caloric deficit*
 - *Attenuate muscle loss*
 - *CV benefits*
 - *Weight maintenance*

- 30 min moderate-intensity exercise 5 days a week
- 200lbs walking at 3miles/hr x 1 hr = 90 calories

- No proven benefit to activity tracker
 - *Standard self monitoring vs. tracker – 5.9 vs. 3.5 kg at 2 yrs*
 - *No tracker (control) vs. tracker with or without incentive – no difference at 12 mo in weight or BP*

Exercise

Moderate Intensity

- Walking briskly (3 miles per hour or faster, but not race-walking)
- Water aerobics
- Bicycling slower than 10 miles per hour
- Tennis (doubles)
- Ballroom dancing
- General gardening

Vigorous Intensity

- Race walking, jogging, or running
- Swimming laps
- Tennis (singles)
- Aerobic dancing
- Bicycling 10 miles per hour or faster
- Jumping rope
- Heavy gardening (continuous digging or hoeing)
- Hiking uphill or with a heavy backpack