Obesity: Patient Assessment and Engagement

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Disclosure

Advisory Board: AbbVie; Antag; AstraZeneca; Boehringer Ingelheim; Currax; Eli Lilly; Novo Nordisk; Structure; Viking Therapeutics; Weight Watcher

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Case Study

- 52-year-old man returns for follow-up visit. He is being treated for T2DM, hypertension, dyslipidemia, OA of the knees, and obesity. No changes to his health over past 6 months. He lost 15 lbs. two years ago when he participated in a commercial weight loss program. However, he regained his weight.
- **Medications:** enalapril/hydrochlorothiazide, atorvastatin, meloxicam, metformin, empagliflozin.
- **On exam:** Weight 234 lbs, height 70 in, BMI 34 kg/m^2, waist circumference 45 in, BP 130/80 mm Hg bilaterally, HR 88/minute; Cardiac exam normal; Palpable crepitus of the knees.
- **Most recent labs:** Glucose 118 mg/dL, A1c 6.8%, TC 155 mg/dL, LDL-C 80 mg/dL, HDL-C 38 mg/dL, TG 155 md/dL, eGFR >60 mL, ALT 65 U/L, AST 42 U/L, ECG normal. 10-year ASCVD risk 5.3%
- How do view the patient's obesity?

ARS Question #1

How Do View the Patient's Obesity?

A. Primarily a gateway for development of his other medical problems
B. A chronic, progressive disease
C. A complex medical condition driven by personal choice
D. A social construct since people naturally live in smaller and larger bodies

Obesity Is a Chronic Disease

WOF
World Obesity Federation

"The World Obesity Federation takes the position that obesity is a chronic, relapsing, progressive disease process and emphasizes the need for immediate action for prevention and control of this global epidemic"

OC
Obesity Canada

"Obesity is characterized by excess body fat that can threaten or affect your health. Many organizations including the Canadian Obesity Network, now consider obesity to be a chronic disease."

AMA
American Medical Association

"American Medical Association recognizes obesity and overweight as a chronic medical condition (de facto disease state) and urgent public health problem…and work towards the recognition of obesity intervention as an essential medical service…"

EASO
European Association for the Study of Obesity

"A progressive disease, impacting severely on individuals and society alike, it is widely acknowledged that obesity is the gateway to many other disease areas…"

EC
European Commission

"Obesity is a chronic relapsing disease, which in turn acts as a gateway to a range of other non-communicable diseases, such as diabetes, cardiovascular diseases and cancer."

RCP
Royal College of Physicians (UK)

"Obesity is a chronic progressive disease caused by an imbalance between energy intake and energy expended, with a wide range of damaging effects on the body."

AOASO
Asia Oceania Association for the Study of Obesity

"We hereby propose a concept for international recognition of a pathological state (obesity disease) in which a person suffers health problems caused by or related to obesity thus making weight loss clinically desirable and requiring treatment as a disease entity"

OMA
Obesity Medicine Association (US)

"A chronic, relapsing, multi-factorial, neurobehavioral disease, wherein an increase in body fat promotes adipose tissue dysfunction and abnormal fat mass physical forces, resulting in adverse metabolic, biomechanical, and psychosocial health consequences."

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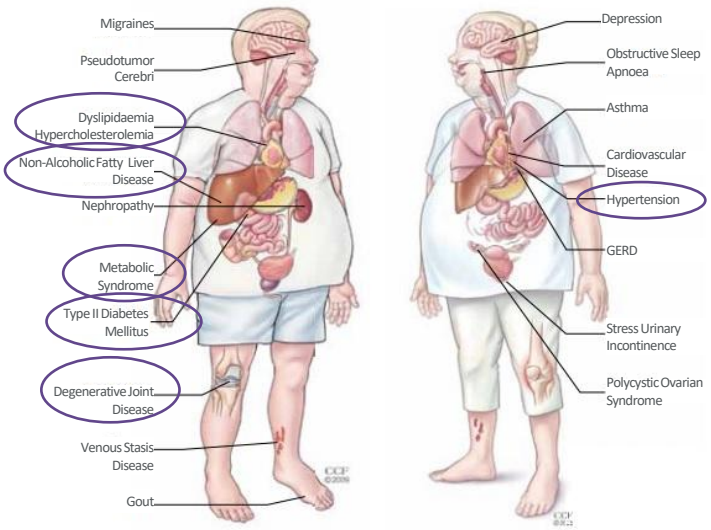
Complications and Diseases from Our Case: An Obesity-Centric View



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GERD, gastroesophageal reflux disorder
Image courtesy: Adapted from Cleveland clinic (available here)

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Patient Assessment and Engagement – Going Up Steam in the Patient Encounter

Presentation Outline Questions to Answer

- How do I identify a high-risk phenotype among all of the patients I see with obesity in my practice?
- How do I broach the subject of obesity without offending my patient?
- What information do I need to know from the history, and how do I take that history in an efficient, informative and personalized manner?
- Given 10 minutes, what can I do to engage my patient in active weight management?

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ARS Question #2

What Is the Best Assessment for Identifying a High-risk Obesity Phenotype?

A. Look at their BMI (kg/m2)
B. Measure their waist circumference
C. Analyze their percent body fat using a body composition analyzer
D. Determine the age of onset for when they developed obesity

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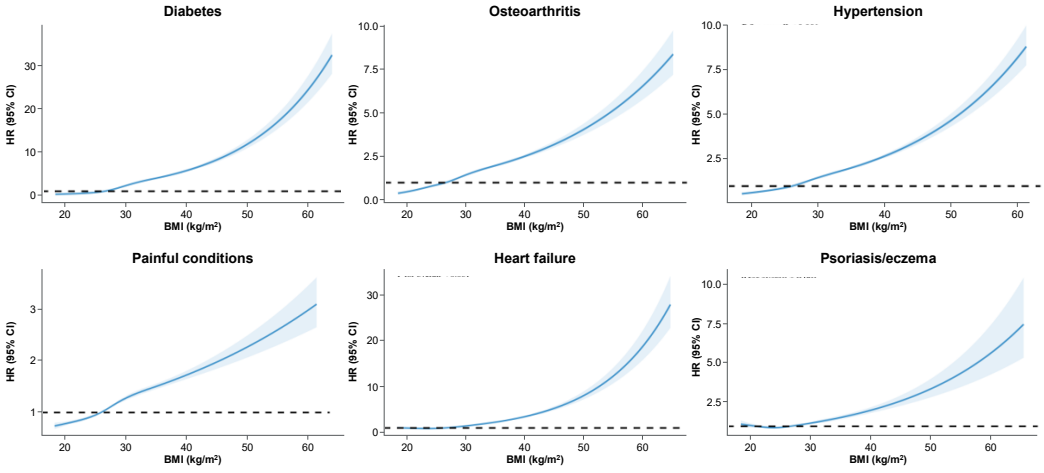
Overweight and Obesity as Risk Factors for Numerous Noncommunicable Diseases

UK Biobank Cohort (Median Follow-up: 12.7 Years; N=392,541)



P for overall <0.001; *P* for nonlinear <0.001.
BMI, body mass index; CI, confidence interval; HR, hazard ratio.
Lu Q, et al. *Diabetes Obes Metab.* 2025;27:5235-5246.

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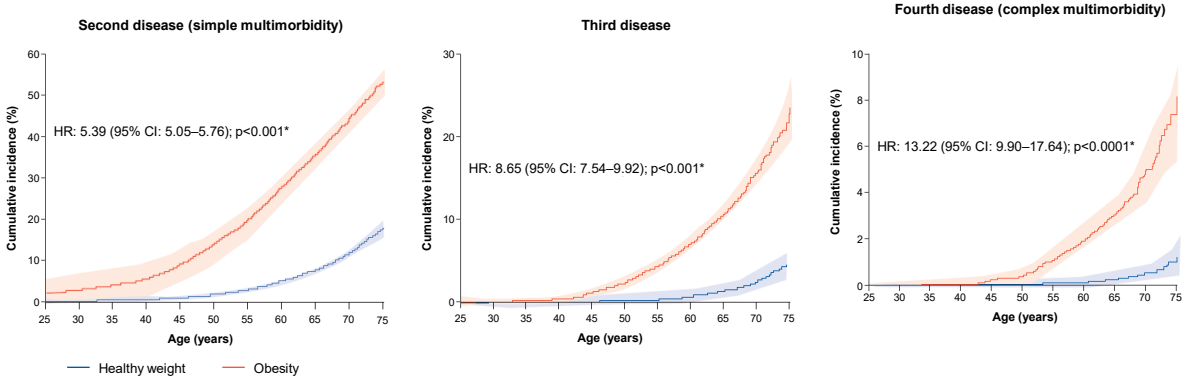
Obesity-Driven Comorbidities Increase with Age

Finnish Cohorts (Median Follow-up: 12.1 Years; N=114,657)



Multimorbidity: co-occurrence of at least two chronic conditions in the same individual. Healthy weight: BMI 18.5–24.9 kg/m².
*HR (95% CI) adjusted for age, sex and cohort (Finnish cohorts).
BMI, body mass index; CI, confidence interval; HR, hazard ratio.
Kivimäki M, et al. Lancet Diabetes Endocrinol 2022;10:253–263.

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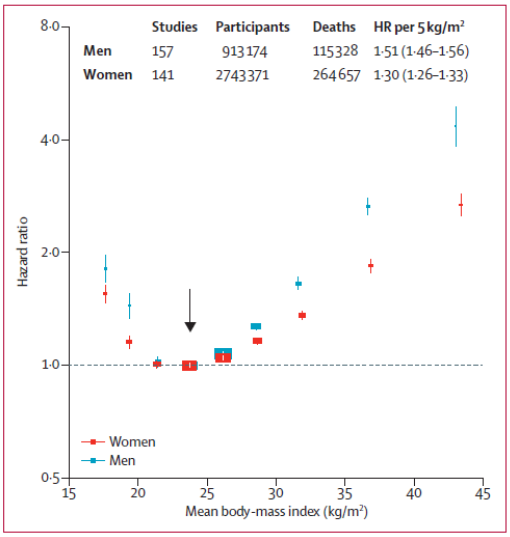
Association of BMI with All-Cause Mortality, by Sex
230 Prospective Studies in 4 Continents

BMI is accepted as a practical and useful determinant for increased risk of illness & death on the population level (for both high and low BMI values)



The BMI Global Mortality Collaborative. Lancet 2016;388:776-786

Body Mass I

- Definitions of underweight, healthy weight, overweight and obesity in terms of BMI were established in 1985 by NIH and in 1993 by WHO
- The problem with BMI is that it defines body size with no regard to an individual's health or body composition
- People are classified as having a disease without ever having received a diagnosis or undergone a medical history or examination

Beyond BMI

BMI, commonly used to diagnose obesity (excess body fat), has a lower sensitivity (false negative) for BMI <30 kg/m^2

- BMI also varies with age, sex, and ethnicity
- Does not capture abdominal adiposity and cardiometabolic risk[1,2]

Waist circumference is a simple measure of abdominal adiposity[1]

- Increased waist is never due to increased muscularity
- Strongly associated with all-cause and CV mortality

Waist-to-height ratio shown to better predict mortality than BMI[2]

Cohort studies with nearly 500,000 UK adults showed waist-to-height ratio and waist circumference to be more strongly associated with long-term conditions and mortality than BMI in people with BMI up to 30 kg/m^2

1. Ross R, et al. Nat Rev Endocrinol. 2020;16:177-189; 2. Ho F, et al. medRxiv. 2025; 2025.10.16.25338152.

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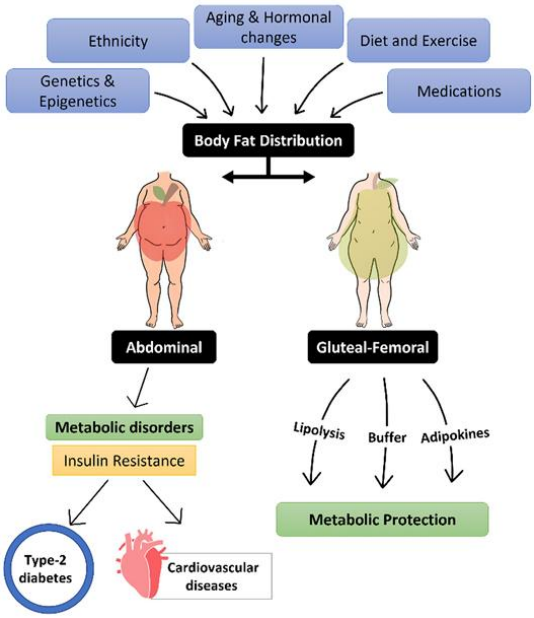
Body Fat Distribution



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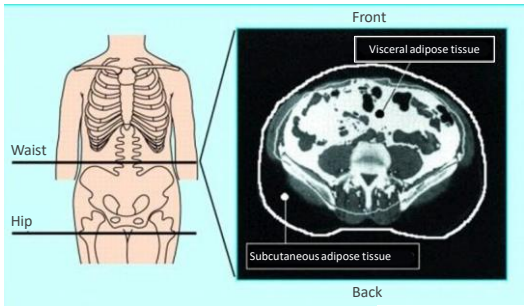
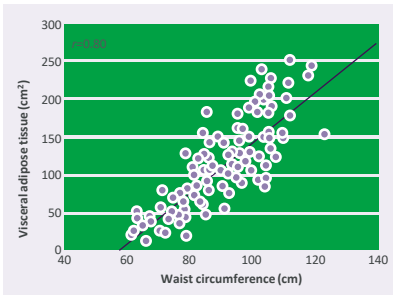
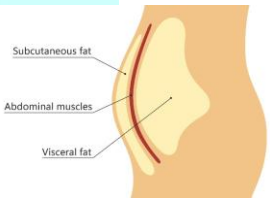
Waist Circumference Correlates with Visceral Adipose Tissue







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Despres JP, et al. *BMJ* 2001;322:716–720

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Identifying the High-Risk Obesity Phenotype

High-Risk Obesities/ Dysfunctional Adipose Tissue	Cardiometabolic Risk Mediators/Comorbidities	Cardiovascular (CV) Outcomes
Central and Visceral Adiposity	↑ Insulin resistance	↑ Cardiovascular events
	Glucose intolerance	↑ Coronary artery disease
	Type 2 diabetes mellitus (T2DM)	↑ Heart failure
	↑ Blood pressure	↑ Arrhythmias/ atrial fibrillation
	↑ Abnormal lipid metabolism/dyslipidemia	↑ Sudden death
	↑ Inflammation	
	Endothelial dysfunction	

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Marie-Eve Piché. *Circulation Research*. 2020;126,11:1477-1500

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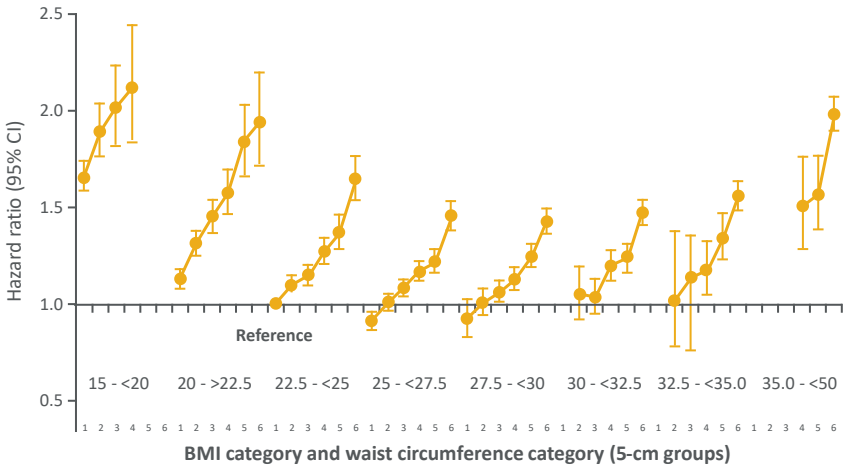
Hazard Ratios for Waist Circumference in 5-cm Increments and All-Cause Mortality By BMI Category



Adjusted for educational level, marital status, smoking status, alcohol consumption, physical activity, and BMI.

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Cerhan JR, et al. *Mayo Clin Proc.* 2014: 89:335-345.

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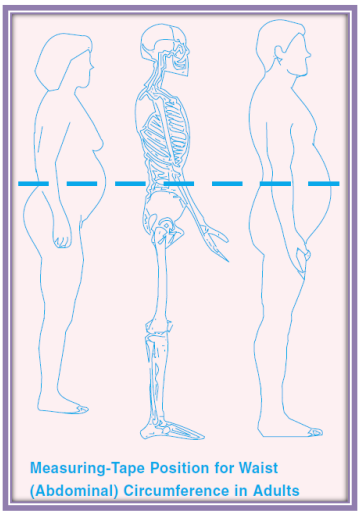
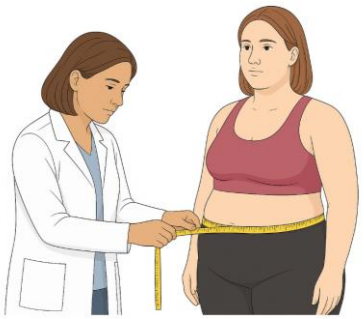
Measuring Waist Circumference

- Locate upper hip bone and top of right iliac crest
- Place measuring tape around abdomen at level of iliac crest, keeping it parallel to the floor
- Ensure tape is snug but not compressing the skin





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DIAGNOSIS: ANTHROPOMETRIC COMPONENT

Anthropometric Screening & Classification

Measure BMI
Clinically examine and confirm excess adiposity

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Measure Waist Circumference
for BMI <35.0 kg/m^2, and
Calculate Waist-to-Height Ratio
for classifying abdominal obesity and cardiometabolic risk

Class	WHO BMI Classification
Overweight[a]	25.0 – 29.9 kg/m^2
Class I Obesity*	30.0 – 34.9 kg/m^2
Class II Obesity	≥35.0 – 39.9 kg/m^2
Class III Obesity	≥40.0 kg/m^2

[a] In the Asia-Pacific region, the BMI threshold for obesity is generally considered to be ≥25 kg/m^2 and for overweight 23 kg/m^2 to 24.9 kg/m^2. See text for additional information.

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Assess Body Composition
Using, for example, bioelectrical impedance analysis or DXA if clinically needed and available

International Diabetes Federation Waist Circumference Criteria for Cardiometabolic Risk[b]			National Institute for Health and Care Excellence, and World Health Organization
Region/Ethnic Background[c]	Sex	Waist Circumference[d]	Waist-to-Height Ratio
Europe, Sub-Saharan Africa, and Middle East	Male	≥94 cm	≥0.5
	Female	≥80 cm	≥0.5
United States & Canada	Male	≥102 cm	≥0.5
	Female	≥88 cm	≥0.5
Asia, South & Central America	Male	≥90 cm	≥0.5
	Female	≥80 cm	≥0.5

[b] Darbandi M et al. Discriminatory Capacity of Anthropometric Indices for Cardiovascular Disease in Adults: A Systematic Review and Meta-Analysis. Prev Chronic Dis. 2020 Oct 22;17:E131.

[c] See text for additional information.

[d] Increasing waist circumference correlates with increased severity of obesity.

Obesity: identification, assessment and management. NICE Guideline, No. 189.

London: National Institute for Health and Care Excellence (NICE); 2023 Jul 26. Recommendations 1.2.11 and 1.2.12

AACE Guideline 2025

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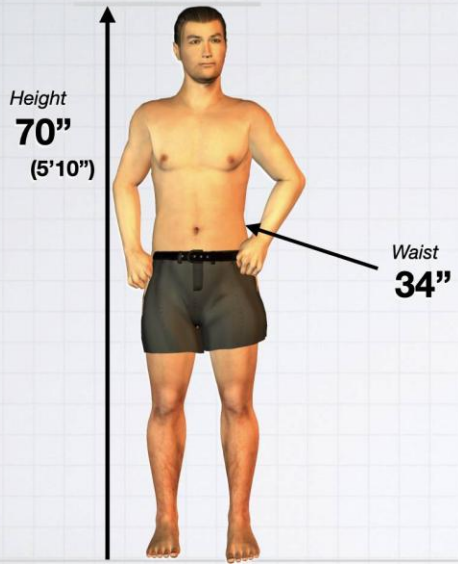
WAIST-TO-HEIGHT RATIO



Waist-to-height ratio (WHtR) =

$$\frac{\text{Waist Circumference}}{\text{Height}}$$

$$\frac{34}{70} = 0.485$$

*A waist less than 1/2 of your height significantly lowers your risk of chronic conditions including diabetes, high blood pressure and cardiovascular disease.

Sources: Ashwell, Meyhew et al, 2013; Lam, Koh et al 2015; Shen, Lu et al, 2017, Sekgala, Sewpaul et al 2022

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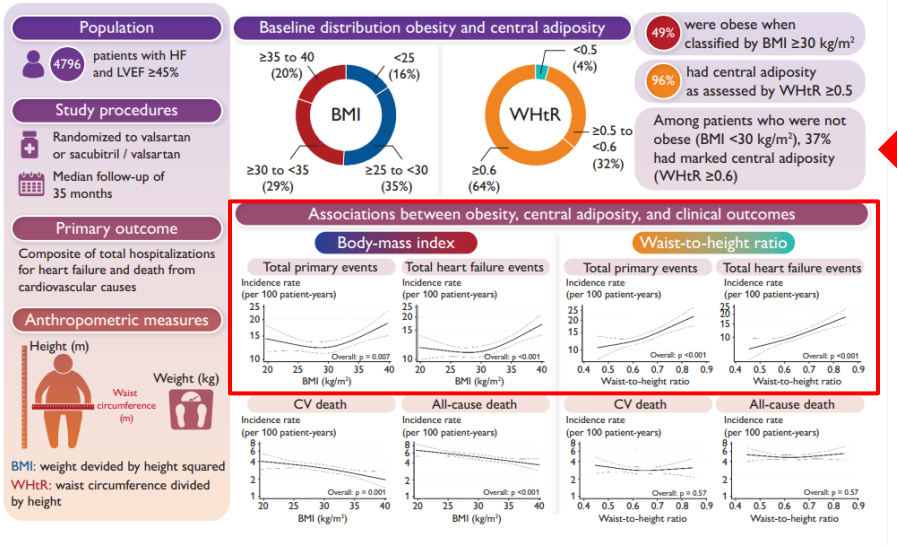
PARAGON-HF Trial: Exploring the Obesity Paradox



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Peikert A, et al. European Heart Journal 2025;46:2372–2390

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ARS Question #3

What Is the Best Way to Broach the Topic of Weight with the Patient?

A. I need to talk to you about your weight. It is impacting all of the medical problems we are actively treating and is it getting serious.
B. You know, I have been seeing you now for 6 years and weight has yo-yoed. I think it something you should address again.
C. I know that obesity runs in your family and it must be a concern for you as well. I am here to help you if you want help.
D. I noticed that you have been struggling with your weight for some time now and is impacting the medical problems we are treating. Is this a good time to talk about your weight?
E. No need to talk about weight since he did not bring it up and I am treating his other medical problems already.

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Conducting an Obesity-Focused Encounter: The 5 As

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Canadian Obesity Guidelines

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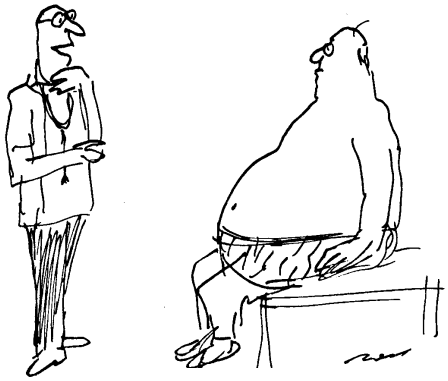
How Do Patients Want Obesity to Be Addressed?



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Discussing Weight Loss with Patients
Words Matter

Use	Avoid
Terms that are least stigmatizing/blaming	Terms that are most stigmatizing/blaming
• Weight • Unhealthy or Excess weight • High BMI	• Fat or fatness • Morbidly obese • Obese
Most motivating for weight loss	**Least motivating for weight loss**
• Unhealthy weight • Overweight	• Fat • Morbidly obese • Chubby • Large size

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Source: Obesity Action Coalition "People First Language for Obesity" Fact Sheet. Accessed online https://www.obesityaction.org/action-through-advocacy/weight-bias/people-first-language/

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How to Discuss Obesity
Discussion About a Patient's Weight Should Be:

- *Patient-centered*
- *Empathetic*
- *Unbiased—free of judgement, shame, and guilt*
- *Focused on health rather than weight*
- *Performed using appropriate terminology and people-first language. Examples:*
  - *Use "person/patient with obesity" or "affected by obesity"*
  - *Avoid "obese patient" or "you are fat"*
  - *"Morbid obesity" is no longer an accepted term*
- *Focused on shared decision-making (SDM) and providing practical options to assist with weight management*

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Probing for Weight Bias and Stigma in Your Medical History

- You can broach the topic of weight stigma by using reflective language such as this example:

  "Many of my patients who live with obesity have experienced discrimination, prejudice, or emotional distress because of their weight. Have you had this experience? If so, how has this affected your mental and physical health?"
- This gives individuals permission to share their stories so clinicians can better understand their lived experience.

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ARS Question #4

How Often Do You Take a Detailed Obesity History (i.e., HPI) When You Are Seeing a Patient with an Elevated BMI?

A. 100% of the time
B. 75% of the time
C. 50% of the time
D. 25% of the time
E. Seldom or never

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Patient Assessment and Engagement – What Do I Need to Know to Practice Up-to-Date and Evidence-Based Obesity Care?

- How do I identify a high-risk phenotype among all of the patients I see with obesity in my practice?
- How do I broach the subject of obesity without offending my patient?
- What information do I need to know from the history, and how do I take that history in an efficient, informative and personalized manner?
- Given 10 minutes, what can I do to engage my patient in active weight management?

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The Obesity-Focused Encounter

- History
  - History of Present Illness (HPI): weight history
  - Past Medical History (PMH): obesity-related complications and diseases
  - Social History (SH): lifestyle, diet, physical activity, stress, sleep, health practices, occupation, marital status, etc.
  - Family History
  - Medications
- Physical Examination
  - BMI, waist circumference
- Laboratory and diagnostic testing
  - Focused on risk factors and confirming diagnoses
- Assessment and Plan

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Kushner RF, et al. Weight history in clinical practice. Obesity 2020;28:9-17

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There Are Multiple Determinants of Obesity

- Genetics & epigenetics
- Biology
- Environment
- Society
- Weight gaining medications
- SDOH
- Obesogens
- Health care
- Economics
- Ecology
- Diet
- Physical inactivity
- Insufficient sleep
- Social networks
- Stress and emotion

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Weight Trajectories from EHR (Identifying Adverse Weight Trajectories)

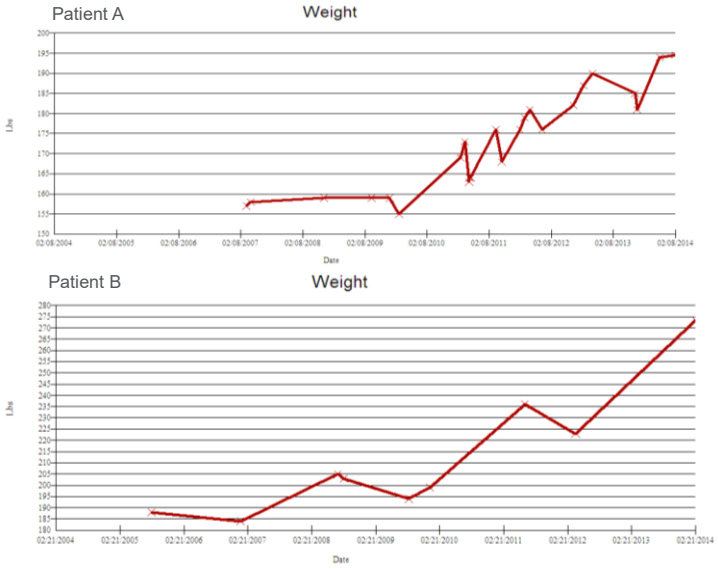

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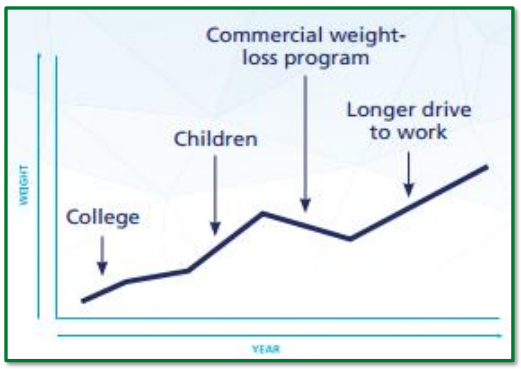
Chart Your Weight History

People gain weight differently over time. Please chart your history with weight changes and the life events and diet attempts that were related to those changes.

Example



Value of Using a Life-Events Graph

- Narrative medicine
- Autobiographical approach
- Heuristics (pattern recognition)
- Patient-centered care

Rethink Obesity® http://www.rethinkobesity.com/more-resources/educational-downloads.html

Charon R. *JAMA*. 2001;286:1897-1902; Laine C et al. *JAMA*. 1996;275:152-156;
Norman G. *N Engl J Med*. 2006;355:2251-2252; Maldonato A et al. *Patient Educ Couns*. 2010;79:287-290.

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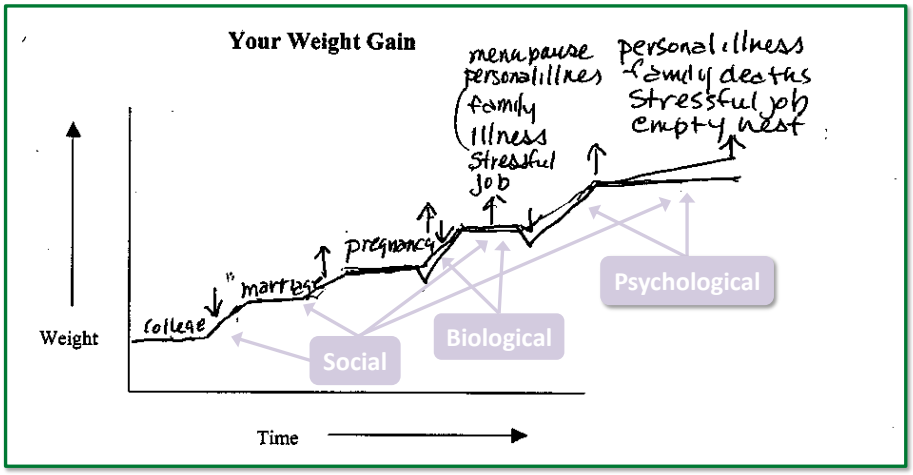
What Are the Biopsychosocial Factors that Cause Weight Gain?



Kushner RF. American Medical Association, 2003.
Kushner RF et al. American Dietetic Association, 2009.
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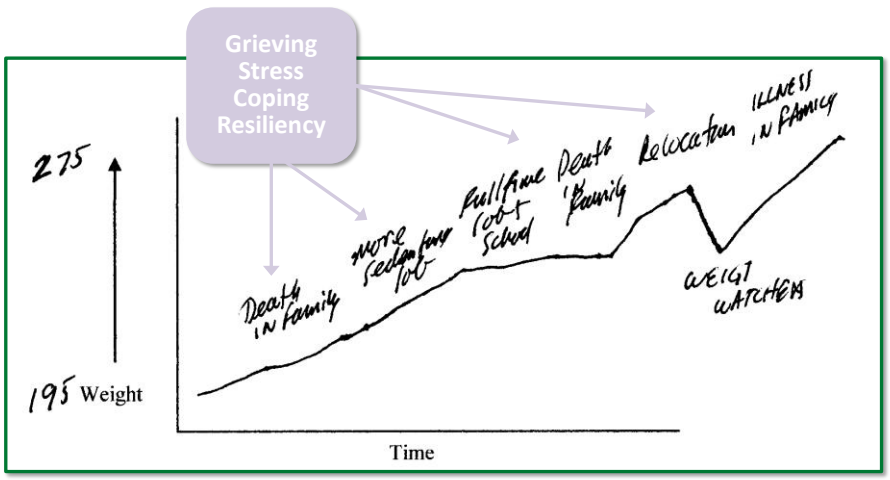

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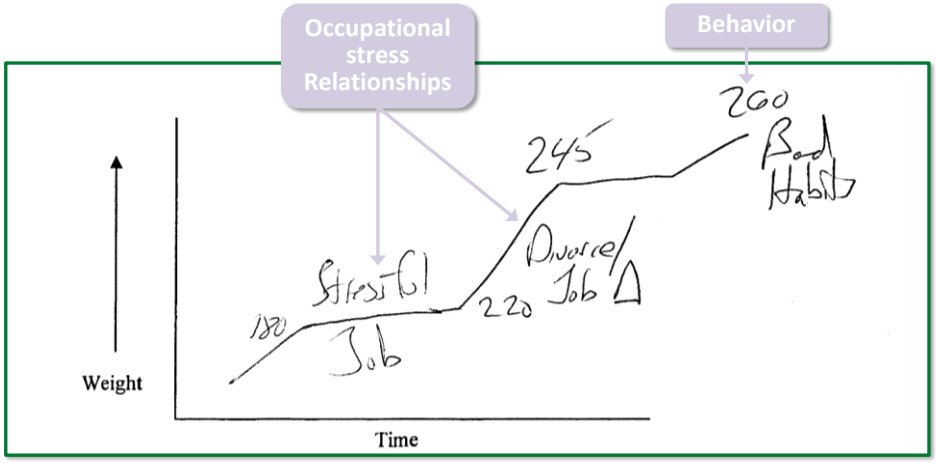

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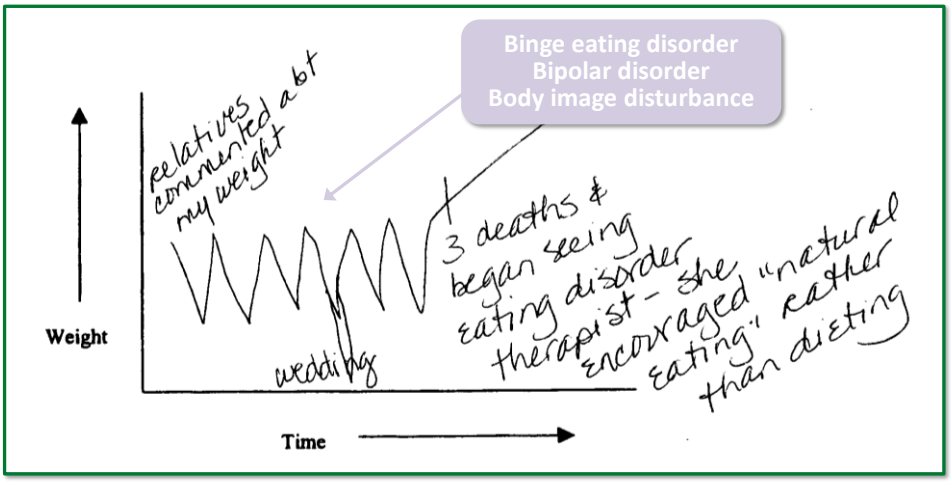

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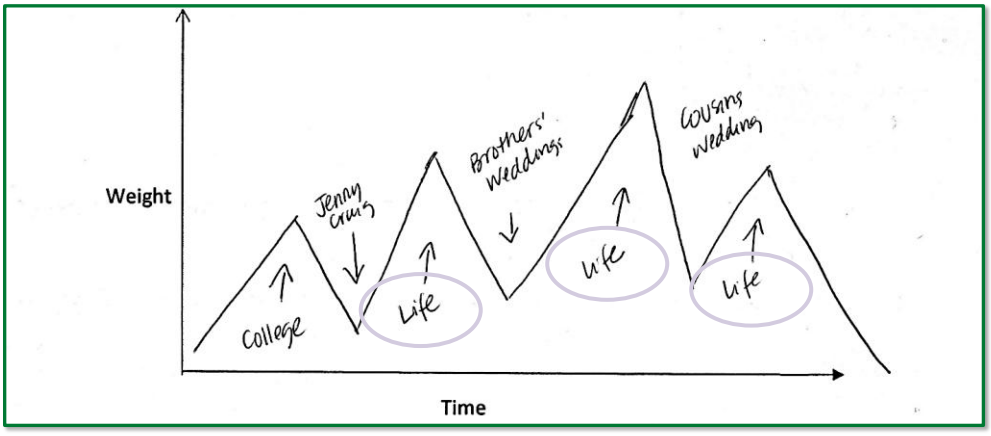

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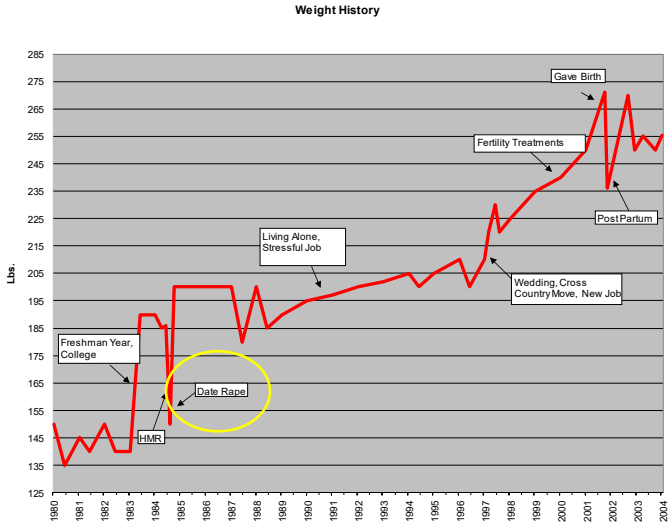

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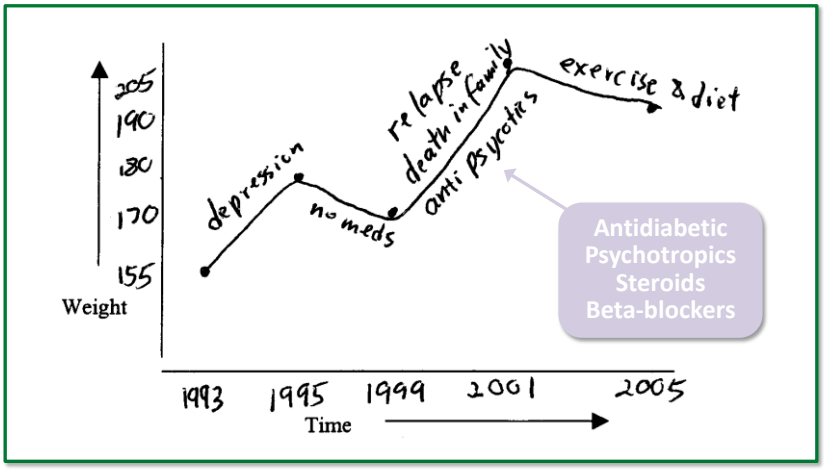

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Weight Gaining Side Effects of Medications

Category	Drugs That May Cause Weight Gain	Possible Alternatives
Neuroleptics	Thioridazine, haloperidol, olanzapine, quetiapine, risperidone, clozapine	Ziprasidone, aripiprazole
Antidiabetic agents	Insulin, sulfonylureas, thiazolidinediones	AGIs, DPP-4i, SGLT2i, GLP-1 RAs,GLP-1/GIP RAs, metformin
Steroid hormones	Glucocorticoids, progestational steroids & contraceptives	Barrier methods, NSAIDs
Tricyclics (ADs)	Amitriptyline, nortriptyline, imipramine, doxepin	Protriptyline, bupropion, nefazodone
MAOIs (ADs)	Phenelzine	
SSRIs (ADs)	Paroxetine	Fluoxetine, sertraline
Other (ADs)	Mirtazapine, duloxetine	Bupropion
Anticonvulsants	Valproate, carbamazepine, gabapentin, pregabalin, vigabatrin	Topiramate, lamotrigine, zonisamide, felbamate
Antihistamines	Cyproheptadine	Inhalers, decongestants
β- and α-adrenergic blockers	Propranolol, doxazosin	ACEIs, CCBs

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Kushner RF, et al. *JAMA*. 2014;312(9):943-52; Apovian CM, et al. *J Clin Endocrinol Metab*. 2015;100(2):342-62.

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Obesity Management Does Not Have to Be Overwhelming

PCPs are Busy!

- Clinicians are busy and obesity management can seem overwhelming
- This is not a reason to avoid doing it in practice

Practical Tips for Practice

- Schedule a weight-focused visit
  - **Have the patient complete a pre-visit questionnaire** about their weight history and questions they have about weight management
  - **Be prepared with handouts and/or resources** for healthy eating, physical activity, behavior change, and pharmacotherapy if indicated

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Patient Assessment and Engagement – Going Up Steam in Patient Encounter

Presentation Outline Questions to Answer

- How do I identify a high-risk phenotype among all of the patients I see with obesity in my practice?
- How do I broach the subject of obesity without offending my patient?
- What information do I need to know from the history, and how do I take that history in an efficient, informative and personalized manner?
- Given 10 minutes, what can I do to engage my patient in active weight management?

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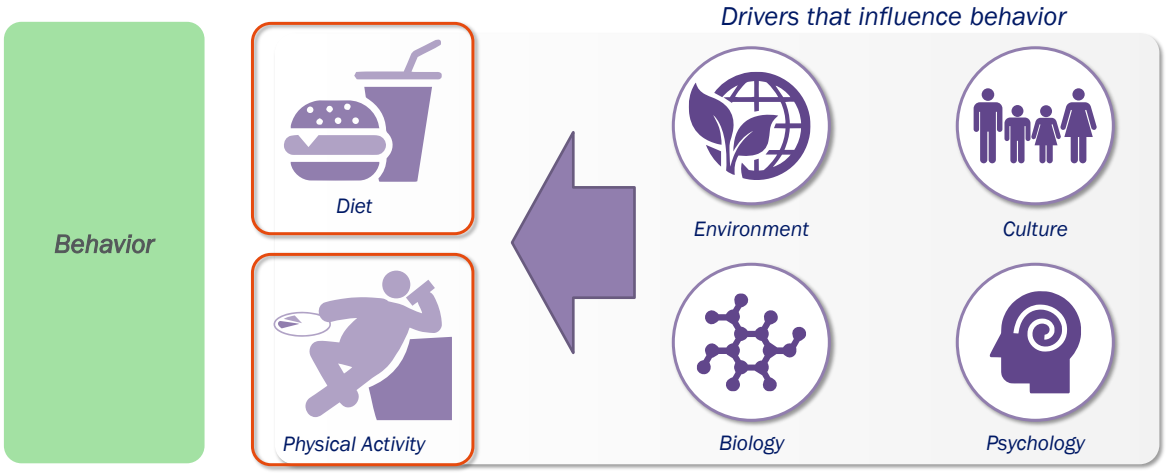
Eating and Moving Do Not Occur in a Vacuum



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Sharma AM, et al. Obes Rev. 2010;11:362–370; Chesi A, et al. Trends Endocrinol Metab. 2015;26:711–721.

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Counsel on a Nutrition Plan Based on…

The best nutrition plan is one your patient believes they can adhere to

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Use 6 Factor Approach of Psychosocial and Behavioral Phenotyping

- Administer 27 item quiz
- Score and review with patient
- Use suite of downloadable educational materials including 5 assessment tools and 30 treatment handouts

1. Convenient Diner
2. Easily Enticed Eater
3. Exercise Struggler
4. Fast Pacer
5. Self-Critic
6. All-or-Nothing Doer

Eating Related
Physical Activity
Stress/Coping
Negative Mindset
Lack of Moderation

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Bullseye Visual Tool

Kushner RF, Kushner N. Patient Centered Weight Management, 2025

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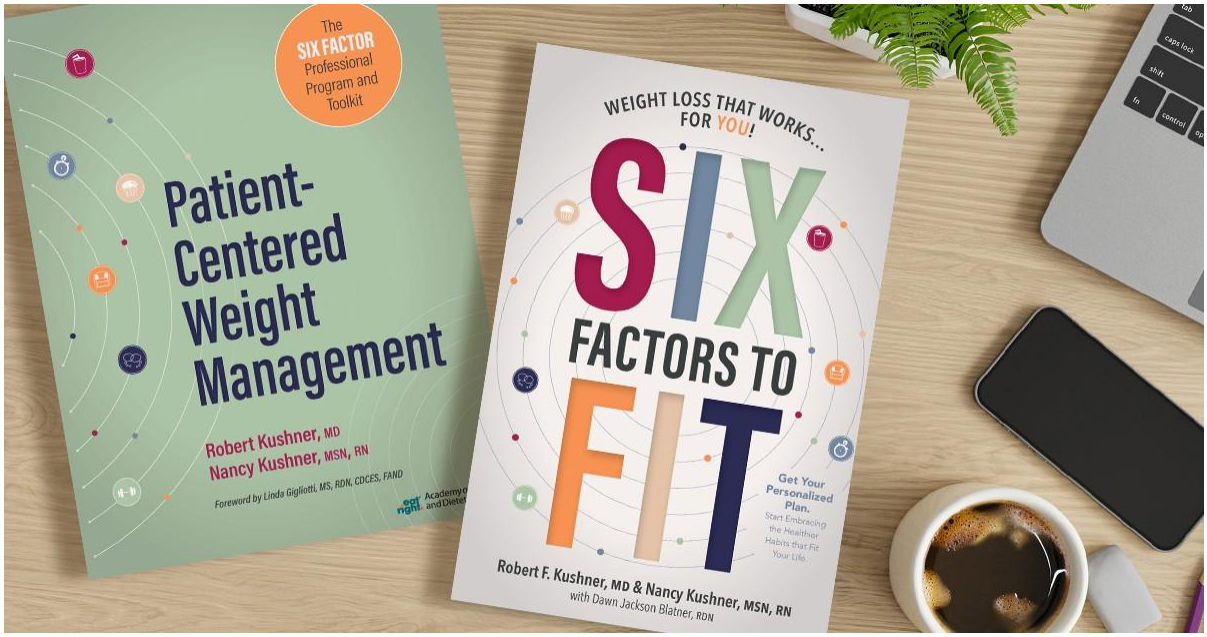

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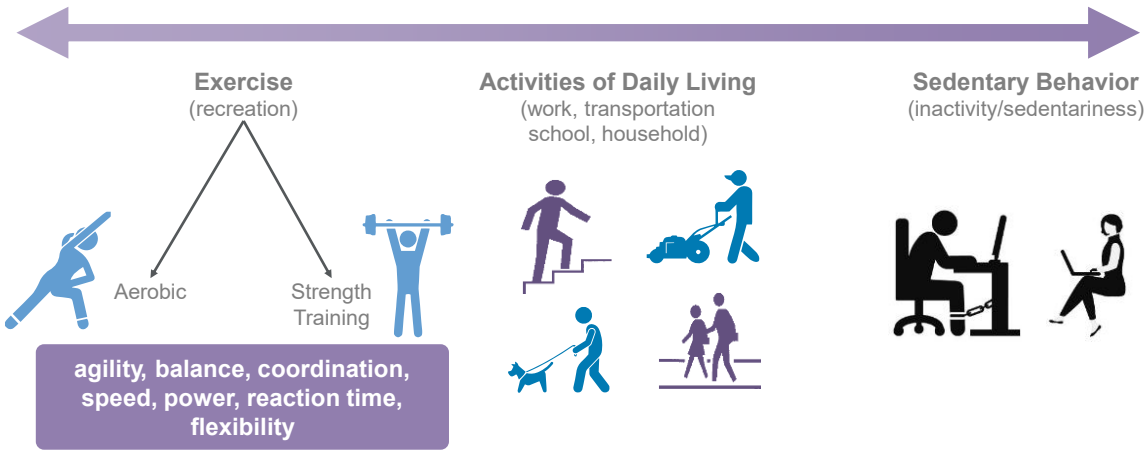
Physical Activity: A "Movement Portfolio"



U.S. Department of Health and Human Services. Physical Activity Guidelines for Americans, 2nd edition. Washington, DC: U.S. Department of Health and Human Services; 2018. Accessed October 16, 2023. https://health.gov/sites/default/files/2019-09/Physical_Activity_Guidelines_2nd_edition.pdf

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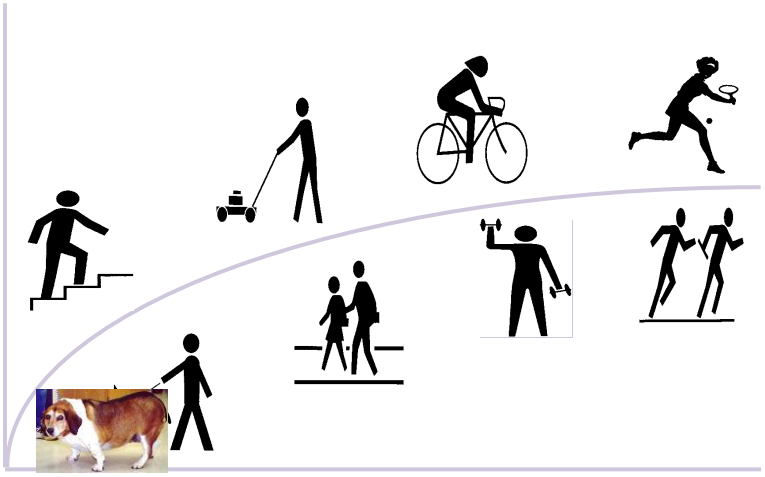
All Physical Activity Counts



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Tracking Physical Activity – *Many* Step Count Options


Mobile phone


Fitbit


JawBone


Garmin


BodyMedia


Apple Watch

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More Steps Per Day Results in Greater Benefits

CVD, cardiovascular disease

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Saint-Maurice PF, et al. JAMA. 2020;323(12):1151-1160.

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Five Steps to Facilitate Behavior Change

1. *Identify Behavior Change Goal*
2. *Review when, where, and how behaviors will be performed*
3. *Have patient keep record of behavior change*
4. *Review progress at next treatment visit*
5. *Congratulate patient on successes (do not criticize shortcomings)*

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Wadden TA, et al. Med Clin North Am. 2000;84(2):441-461.

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Take Aways

- Providing obesity care does not need to be daunting if you have a plan in place
- Identify the high-risk phenotype using BMI and waist circumference, then assess for obesity-related complications and diseases
- Broach the topic by asking permission
- Using an obesity-focused encounter, take an obesity history utilizing a pre-visit questionnaire. Consider using the life events – weight history graph approach
- Counsel on practical lifestyle behavioral changes the patient can make to initiate weight management. Consider referral to ancillary health professionals and programs

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