

**WHICH DIET IS
BEST?..... A NEW
APPROACH TO
DISCUSSING DIET AND
WEIGHT: IT'S TIME TO
ACKNOWLEDGE
WEIGHT STIGMA**

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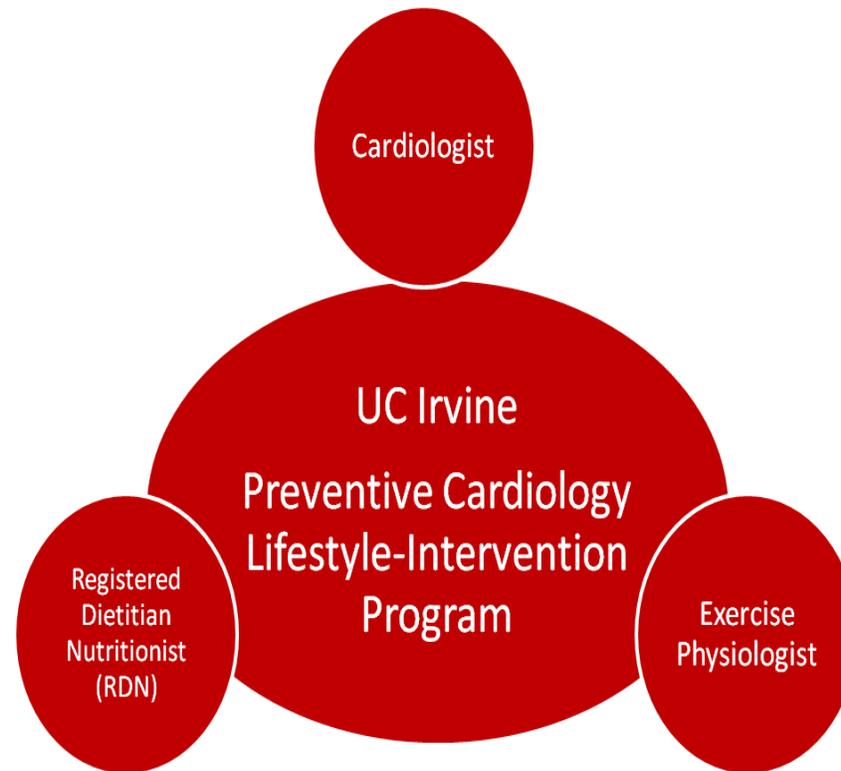
DISCLOSURES

- No financial relationships to disclose



UNIVERSITY OF CALIFORNIA IRVINE MULTIDISCIPLINARY PREVENTIVE CARDIOLOGY PROGRAM

- 4 monthly individual face to face visits with each discipline



Prevention of Diet Related Diseases: Focus on Dietary Patterns

3. Prevention or Delay of Type 2 Diabetes and Associated Comorbidities: *Standards of Medical Care in Diabetes—2022*

American Diabetes Association
Professional Practice Committee*

Diabetes Care 2022;45(Suppl. 1):S39–S45 | <https://doi.org/10.2337/dc22-S003>

“A *variety of eating patterns* can be considered to prevent diabetes in individuals with prediabetes.”

Circulation

ACC/AHA CLINICAL PRACTICE GUIDELINE

2019 ACC/AHA Guideline on the Primary Prevention of Cardiovascular Disease

“The most important way to prevent ASCVD, is to promote a healthy lifestyle throughout life.”

AHA SCIENTIFIC STATEMENT

2021 Dietary Guidance to Improve Cardiovascular Health: A Scientific Statement From the American Heart Association

This scientific statement *emphasizes the importance of dietary patterns beyond individual foods or nutrients...presents elements of heart-healthy dietary patterns.*

Context:
Defining and
understanding
weight stigma



TOPICS OF DISCUSSION

1) Define and understand weight stigma.

2) How weight stigma impacts our patients.

3) Take a critical look at BMI, weight and weight loss interventions.

4) How to improve outcomes with a new approach to discussing diet, weight and exercise with our patients.



1. DEFINING WEIGHT STIGMA, WEIGHT BIAS & WEIGHT DISCRIMINATION (2-6)

WEIGHT STIGMA Social devaluation of individuals because of excess body weight (2).

WEIGHT BIAS An inclination to form irrational assumptions/judgements about a person who carries excess weight (3).

Explicit Wt bias: overt, consciously held negative attitudes

Implicit Wt bias: automatic, negative attributions and stereotypes outside conscious awareness

WEIGHT DISCRIMINATION

Actions rooted in weight stigma that result in unfair treatment, ie. being denied employment or receiving lower wages (4).

Where do people experience weight stigma?

At work and school...

Source of Stigma	Ever Experienced	Experienced multiple times
Classmates	64%	56%
Co-workers	54%	38%
Employers	43%	26%
Teachers	32%	21%

Puhl 2006

Perceived as less suitable, less likely to get an interview¹

Lower starting salaries

Ranked as less qualified

Fewer promotion opportunities⁵

Increased termination

Lower grades

WHERE DO PEOPLE EXPERIENCE WEIGHT STIGMA? FAMILY & FRIENDS (2-6)

Source of Stigma	Ever Experienced	Experienced multiple times
Family members	72%	62%
Friends	60%	42%
Spouses	47%	32%

WHERE DO PEOPLE EXPERIENCE WEIGHT STIGMA? HEALTH CARE SETTING (2-6)

Source of Stigma	Ever Experienced	Experienced multiple times
Doctors	69%	52%
Nurses	46%	34%
Dietitians	37%	26%
Mental Health Professionals	21%	13%

WEIGHT STIGMA IN HEALTH CARE (2-6)

Providers may over-attribute symptoms and problems to weight (6).

Patients see our offices as an uncomfortable, unwelcoming space.

Inadequate size chairs, BP cuffs, gowns – if these need to be obtained from elsewhere elicits feelings of humiliation.

Increased tendency for patients to present with advanced, complicated conditions.



WEIGHT STIGMA IN HEALTHCARE (2-6)

**Impaired patient centered
communication**



**Higher chance of
nonadherence (Mistrust)**



**Worse outcomes for mental
health and weight loss**



2. WEIGHT STIGMA: ASSOCIATED WITH (2-6)

Poorer mental health outcomes

Harmful physiological response

Changes in eating and exercise behaviors

Potentially unfavorable changes in anthropometric measures



WEIGHT STIGMA & MENTAL HEALTH OUTCOMES (2-6)

Decreased self esteem

Depression & Anxiety

Decreased motivation



MENTAL HEALTH OUTCOMES (2-6)

**Decreased self
esteem**

**Poor dietary
habits**

Binge eating

**More frequent ultra
processed foods**

**Increased food
intake**

**Decreased
physical activity**



Physiological Response:

Higher
allostatic load

Increased
cortisol

Higher CRP

Poorer
glycemic
control

Increased BP

Increased risk
of DM

Increased risk
of CVD

Increased
mortality

UNFAVORABLE ANTHROPOMETRIC OUTCOMES

Increased waist circumference

Higher likelihood of overweight or obesity

Increased weight gain

Higher weight



The COBWEEBS Model

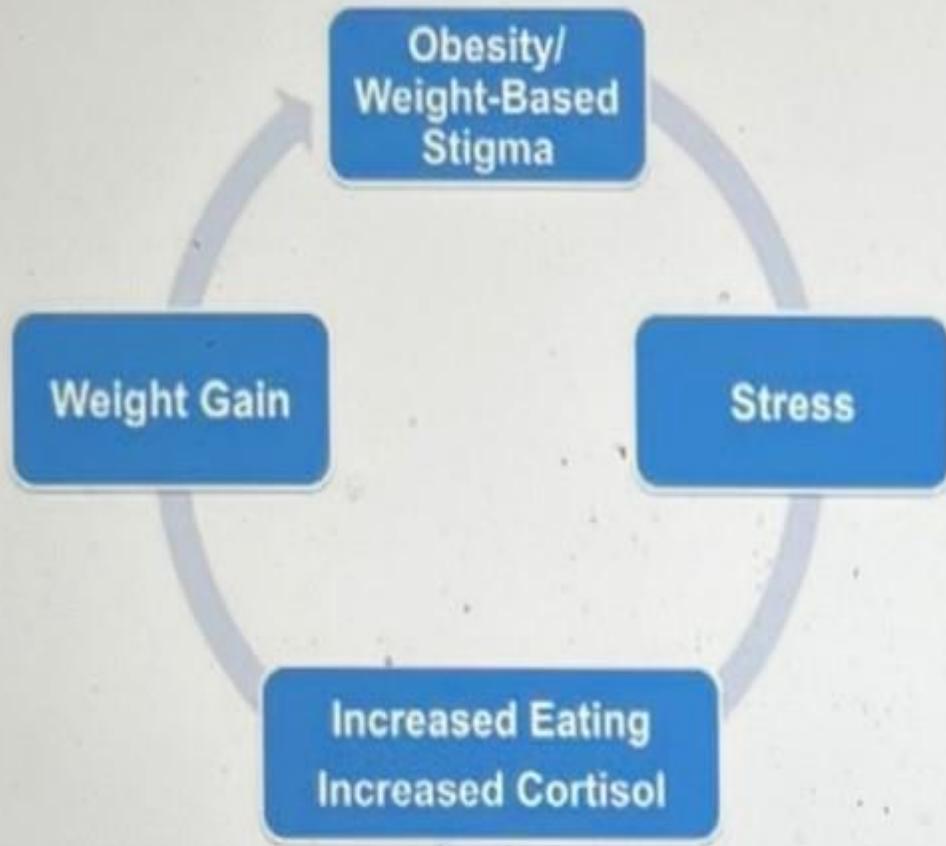


Fig. 1. The vicious cycle of weight stigma.

Tomiya 2014



TABLE 4 Odds ratios (95% confidence intervals) for high versus low weight bias internalization

	Metabolic syndrome	High triglycerides and/or medication
Block 1	2.68 (1.05–6.88)*	5.64 (1.72–18.54)**
Block 2	3.19 (1.06–9.56)*	6.13 (1.37–27.46)*

Block 1: Weight bias internalization, body mass index, and depressive symptoms.
Block 2: Block 1 plus demographics (age, sex, race/ethnicity). Categorization of high versus low weight bias internalization was based on tertiles: high ≥ 4.18 , low ≤ 3.09 .

Due to missing waist circumference data, $N = 103$ for metabolic syndrome.
 $N = 109$ for triglycerides/medication.

* $P < 0.05$ ** $P < 0.01$.

Association between weight bias internalization and metabolic syndrome among treatment-seeking individuals with obesity (Pearl et al 2017)

Model 1

Adjusted for sociodemographic variables

	OR	95% CI	p
MI	3.00	1.59-5.67	<0.1
Other minor heart disease	2.08	1.58-2.73	<0.1

Model 2

Sociodemographic variables + BMI, ETOH, smoking, MDD, life events

	OR	95% CI	p
MI	2.56	1.31-4.98	<0.1
Other minor heart disease	1.48	1.11-1.98	<0.1

Cardiovascular Disease and Perceived Weight, Racial, and Gender Discrimination in U.S. Adults (Udo et al 2017)

3. BMI, WEIGHT AND WEIGHT LOSS INTERVENTIONS: A CLOSER LOOK (10-11)

- **1835:** Adolphe Quetelet and “l’homme moyenne”
 - Aggregated data on French and Scottish subjects
 - Assumption: the mathematical mean characteristics of a population represents its ideal
 - Developed Quetelet’s Index to assess and categorize body size: kg/m^2
- **1950’s-1960’s:** Health insurance companies and hedging risk
 - Actuaries at insurance companies compiled tables associating height, weight and life expectancy
 - Based on self reported data from people who purchased life insurance policies
 - Adopted by MD’s to assess patient risk
- **1972:** Ancel Keys and the Seven Counties Study
 - Revived Quetelet’s Index and named it BMI .
 - Compared BMI to other methods of assessing fat mass and deems it the best option of what’s available.



BMI – An Updated Look

TABLE. Cutoffs for BMI Based on ROC Curve Analysis

Obesity Co-morbidity	BMI (kg/m ²)					
	Men			Women		
	Black	Hispanic	White	Black	Hispanic	White
Hypertension	28	29	28	31	28	27
Dyslipidemia	27	26	27	29	27	25
Diabetes	29	29	30	33	30	29
≥2 risk factors	28	29	29	31	30	28
Average	28	28	29	31	29	27

BMI = body mass index; ROC = receiver operating characteristic.

BMI – An Updated Look

- Based on age: 2019 meta-analysis showed BMI between 23-28 may be the optimal range for older adults (13).
- Based on medical history: 2021 meta-analysis showed lowest risk of mortality was lowest at BMI 27-31 for patients post PCI (14).



Weight Loss Interventions & Weight Cycling

- Most people don't sustain weight loss if achieved¹⁵
- Many will end up yo-yo dieting and **weight cycling** → increased morbidity and mortality
 - Inflammation
 - HTN
 - insulin resistance
 - dyslipidemia

Table 3. Multivariable Models and Risk of Outcomes in the Highest versus the Lowest Quintile of Variability in Body Weight.

Outcome	Adjusted Hazard Ratio (95% CI)*	P Value
Any coronary event	1.64 (1.41–1.90)	<0.001
Any cardiovascular event	1.85 (1.62–2.11)	<0.001
Death	2.24 (1.74–2.89)	<0.001
Myocardial infarction	2.17 (1.59–2.97)	<0.001
Stroke	2.36 (1.56–3.58)	<0.001
New-onset diabetes	1.78 (1.32–2.40)	<0.001

* Results were adjusted for age, sex, race, diabetes, hypertension, and smoking; mean weight and weight change (taking directionality into account); treatment (80 mg of atorvastatin vs. 10 mg); baseline levels of LDL cholesterol, HDL cholesterol, total cholesterol, and triglycerides; chronic kidney disease and chronic heart failure; and time between initial and final weight measurements.

Weight Loss Interventions & Weight Cycling

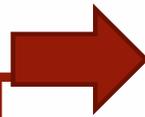
- Zou et al, 2019: Meta analysis on the association between weight fluctuation and risk of mortality/CVD

Outcome	RR (95% CI)
Mortality	1.41 (1.27–1.57), p<0.001
CV Mortality	1.36 (1.22–1.52), p<0.001
CV Morbidity	1.49 (1.26–1.76), p<0.001
HTN	1.35 (1.14–1.61), p<0.001

- **Clinician's perspective** – patients often give up on healthy habits when they don't see the scale move
 - Decreases motivation, confidence and self-efficacy
 - Discourages gradual changes to support sustained behavior modification
 - Creates hopelessness when “calories in, calories out” doesn't tell the full story



**WEIGHT
STIGMA AND
BODY WEIGHT
FLUCTUATION**



Patients often give up on healthy habits when they don't see the scale move.

Decreases motivation, confidence and self-efficacy.

Discourages gradual dietary changes to support sustained behavior modification.

- Creates hopelessness when “calories in, calories out” doesn't tell the full story.

4. WHAT HAPPENS WHEN WE REMOVE FOCUS FROM THE SCALE? NEW WEIGHT NEUTRAL APPROACH

- ❑ **Manjunath, 2021 (17):** African American women with lower body image dissatisfaction scores had
 - Increased diet self-regulation to modify food choices ($p=.05$)
 - Higher motivation for healthy eating ($p=.01$)
 - Associations significant after adjusting for BMI
- ❑ **Mensinger 2016(18):** Conventional weight management program vs weight neutral program:
 - Greatest and most sustained improvements in intuitive eating score/ decreases in disordered eating seen with weight neutral program
 - Effects of both programs blunted by internalized weight stigma



WHAT HAPPENS WHEN WE REMOVE FOCUS FROM THE SCALE?

- **Ulian 2018 (19)**: Systematic review of “Health at Every Size” (HAES) interventions vs. conventional weight loss interventions
- CVD risk markers: HAES was not inferior to conventional weight loss.
- Well-being: both associated with increased self esteem; HAES more frequently associated with improved QOL and decreased depression.
- Weight and anthropometrics: HAES participants lost weight, decreased fat mass, decreased waist to hip ratio.
- Dietary intake: both improved snacking habits, fruit/vegetable consumption
- Physical activity: increased in both groups
- Eating behaviors: HAES more consistently associated with improved ability to eat according to hunger/fullness cues and decrease in disordered behaviors ie bingeing.



How do we
move forward?



WHAT WE KNOW

- BMI and scale weights may be imperfect tools.
- We have been doing this in the context of a society that devalues larger bodies, and in a way that contributes to weight stigma.
- We have been making recommendations based on guidelines and data that associate weight directly with CV health outcomes, using BMI as a proxy.



WHAT WE KNOW (CONTD.)

- Experiencing weight stigma and body image dissatisfaction is associated with multiple harmful outcomes (disordered eating, physiological changes that increase CVD risk, higher weight).
- Interventions emphasizing weight loss do not tend to be effective long term.
- Weight neutral interventions that focus on healthy eating behaviors and physical activity are as effective as conventional weight loss interventions in most areas; and more effective in promoting a long-term healthy relationship with food.



WHAT WE CAN DO - ACKNOWLEDGE

- Reflect on our own attitudes and beliefs as health care providers
- Create an inclusive environment in our offices.
- Chairs that are large enough for a variety of body sizes, preferably without arms
 - Various BP cuff sizes in all exam rooms
- Reconsider the language we use when we talk about weight
 - Preferences vary
 - Some people are not comfortable with the term “obese” because it pathologizes their body, insinuates perceived judgement (19)
 - Options to start with: higher weight, larger body



WHAT WE CAN DO – 3 ASKS OF OUR PATIENTS?

Ask patients if they prefer taking blind weights.

Ask for permission before discussing weight during the visit.

Ask patients about their history with food and weight if they consent to discussion BEFORE making any recommendations.

And then...



WHAT WE CAN DO – AMEND OUR APPROACH

- Only weigh patients if necessary ie. for dosing meds
- When talking about lifestyle, focus on the BEHAVIORS and leave weight out of the conversation at first
- Individually tailored dietary pattern
- Physical activity goals
- Provide education on the non scale benefits of evidence based dietary patterns and increased physical activity
 - BP
 - Lipids
 - Glucose
 - Chronic disease risk



WHAT WE CAN DO – AMEND OUR APPROACH

- If behaviors are optimized and weight is still above recommended ranges, consider cardiometabolic risk markers (BP, A1C, Lipids, LFT's etc)
- If risk markers are at goal – do we have a compelling medical reason to encourage weight loss?
- If risk markers still not at goal, then may consider addressing weight with consideration for frame, race, history with eating behaviors and dieting
- This is a lot of work – an RD can help!
- Assess relationship with food and body, prior attempts at weight loss, appropriateness of current routine
- Provide support for behavior modification
- Consider RD's who specialize in: Health at Every Size approach, weight neutral approaches, or intuitive eating, especially for patients that need extra support around relationship with food and body.



WEIGHT NEUTRAL SUCCESS STORIES

- SN: 34 y/o M with prediabetes, arthritis and anxiety
- Ht 69 in, Wt 310 lbs.
- Hx of weight cycling, black and white thinking about food and lifestyle, binge eating, intense focus on how his inability to lose weight is “shaving years off his life”
- Approach: connection to hunger/fullness cues, exploration of relationship with food
- Motivational interviewing revealed binges were triggered by guilt around “forbidden foods”
- RD did not ask for weights at weekly follow ups
- After one month patient voluntarily shared he had lost 11 lbs



WEIGHT NEUTRAL SUCCESS STORIES

- RK: 28 y/o F, prediabetes and HLD
- Ht 64 in, Wt 260 lbs.
- RD interview revealed complicated relationship with food, weight and body.
- Mis-trust of health care provider after repeated recommendations for bariatric surgery for weight loss.
- Baseline labs: A1C 5.7%, TC 238, LDL 165
- After discussing frustration with the scale, pt. and RD decided to shift focus to non-scale goals
- Approach: set goals to increase intake of high fiber foods, establish more consistent exercise routine incorporating strength training, and decrease ETOH
- At health care provider follow up visit Aug 2022 - no change in weight; A1C 5.3%, TC 222 and LDL-C 145

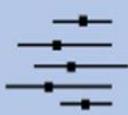
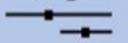


CASE STUDY – 48 YEARS OLD FEMALE WITH OBESITY

- Dyslipidemia, HTN, Depression, smoker trying to quit
- Labs: A1C 5.8%, TC 288, LDL 196, TG 240, HDL 44
- Interview revealed significant psychosocial and financial stressors – unable to work but job did not offer disability, relying on SNAP benefits for herself and 16 y/o daughter
- Physical activity limited by other medical issues
- Had interruption in mental health care, not yet resumed
- She eats one meal per day because she is scared of gaining weight; if she feels faint before dinner, she drinks a vitamin water
- Previous diet high in kcal dense fast foods, take out, packaged snacks; she is now choosing appropriate nutrient dense foods for her one daily meal
- •After counseling she continued to express fear of increasing her intake
- Fear of weight gain and subsequent impact on health.



What is the Effect of Interventions Provided by a Dietitian or International Equivalent in Adults with Overweight or Obesity?

Research Question	Outcomes (Mean Difference (95% Confidence Interval))	Evidence Certainty
<p> Population: Adults with overweight or obesity</p> <p> Intervention provided by a dietitian</p> <p> Comparison: No intervention/usual care</p>	<p> BMI -1.5 kg/m² (-1.74, -1.26)</p> <p> Percent weight loss -4.01% (-5.26, -2.75)</p> <p> Waist circumference -3.45 cm (-4.39, -2.51)</p> <p> Systolic blood pressure -2.91 mmHg (-4.90, -0.92) Diastolic blood pressure -1.99 mmHg (-3.02, -0.96)</p> <p> Fasting blood glucose with diabetes -12.47 (-3.92, -0.60) no diabetes -1.37 mg/dL (-2.75, 0.01)</p> <p> Quality of life (SF-36 tool) Physical 5.84 (2.27, 9.41) Mental 2.39 (1.55, 3.23)</p>	<p>Moderate High</p> <p>High</p> <p>Moderate Low</p> <p>High Moderate</p> <p>Low Moderate</p>
<p>Methods</p> <p> Systematic Review & Meta-Analysis Published Jan 2008- Jan 2021</p> <p> Risk of Bias & Certainty of Evidence assessed</p>	<p>Conclusion In adults with overweight or obesity, weight management interventions provided by a dietitian likely improve cardiometabolic outcomes and quality of life.</p>	

[Morgan-Bathke] et al. www.jandonline.org

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CONCLUSION

- Weight and BMI are imperfect tools to assess nutrition status and cardiometabolic health
- Current focus on weight management as a cornerstone of lifestyle modification is contributing to weight stigma and weight cycling
- Many are experiencing deleterious mental and physical side effects
- There has been no significant change in US weight trends despite many years of intense focus in health care, in the private sector, and at the public health level.
- Clinicians should consider the environment they create for patients with larger bodies and how they frame conversations about weight.
- Focus on behavior first, rather than weight, is a viable alternative and should be considered when counseling on the prevention of cardiovascular disease.
- Refer to a RDN.





Thank you!

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