Targeting the Scale

Prevention and Treatment Updates in Standards of Care in Diabetes 2025

BETH CAPPELLETTI, PHARMD, CPH
ASSISTANT PROFESSOR OF PHARMACY PRACTICE
CEDARVILLE UNIVERSITY SCHOOL OF PHARMACY

Learning Objectives

1

Describe Standards of Care in Diabetes 2025 guidelines for **Obesity and Weight Management for the Prevention and Treatment of Type 2 Diabetes**

2

Recognize recommended approaches for **preventing and delaying the onset of diabetes** by implementing lifestyle modifications

3

Compare nonpharmacologic and pharmacologic **treatment options in weight management**

Introduction

Prevent Type 2 Diabetes

Talking to your **patients** about lifestyle change

Threat of Prediabetes

98 Million

98 million American adults—**more than 1 in 3** —have prediabetes

More than 8 in 10
adults with prediabetes **don't know they have it**

Prediabetes increases the risk of:

Type 2 Diabetes **Heart Disease** **Stroke**

If your patients have prediabetes, losing weight by...

Eating healthy & **Being more active**

Can cut their risk of getting type 2 diabetes in half

https://www.cdc.gov/diabetes/hcp/lifestyle-change-program/index.html

Defining Obesity: Chronic and often relapsing

- **World Health Organization** – "Abnormal or **excessive fat accumulation** that presents a **risk to health**"
- **American Association of Clinical Endocrinologists /American College of Endocrinology** – "**Chronic disease** characterized by **pathological processes** that result in increased adipose tissue mass and which can result in increased morbidity and mortality."

https://as1.ftcdn.net/jpg/05/11/15/48/1000_F_511154814_62jWTXOzW1WDNy0YSO6dScrsF9eb6Dbg.jpg

What are the potential weight loss benefits?

Obesity is a key pathophysiologic factor in diabetes

- Reduces need for glucose lowering medications
- Reduces A1C and fasting glucose
- May promote sustained type 2 diabetes remission
- Improved quality of life Improved cardiovascular outcomes
- Reduced mortality

Assessment and Monitoring

Good Communication Makes an Impact

- Use person-centered, nonjudgemental language
  - "person with obesity"
- Awareness of implicit and explicit weight-based attitudes
  - Weight stigma, fat bias
  - Prevalent among health care workers
- Increase empathy and understanding about weight management
- Active listening and nonjudgemental language

"The tongue of the wise uses knowledge rightly …. A wholesome tongue is a tree of life."
Proverbs 15: 2,4

Overweight and Obesity Assessment

WHO CLASSIFICATION OF WEIGHT STATUS	
WEIGHT STATUS	**BODY MASS INDEX (BMI), kg/m^2**
Underweight	<18.5
Normal range	18.5 – 24.9
Overweight	25.0 – 29.9
Obese	≥ 30
Obese class I	30.0 – 34.9
Obese class II	35.0 – 39.9
Obese class III	≥ 40

- **BMI is the standard with limitations**
  - Does not assess distribution or health impact
  - Additional measurements: waist circumference, waist-to-hip ratio, and or waist-to-height ratio if needed
  - Does not measure adipose tissue distribution or function
  - Visceral vs. subcutaneous fat distribution
- **Monitor at least annually, every 3 months with active treatment**

Weight Management Goals

Weight management should be a **primary treatment goal** in overweight and obesity with type 2 diabetes, along with glycemic management

Weight loss improves outcomes

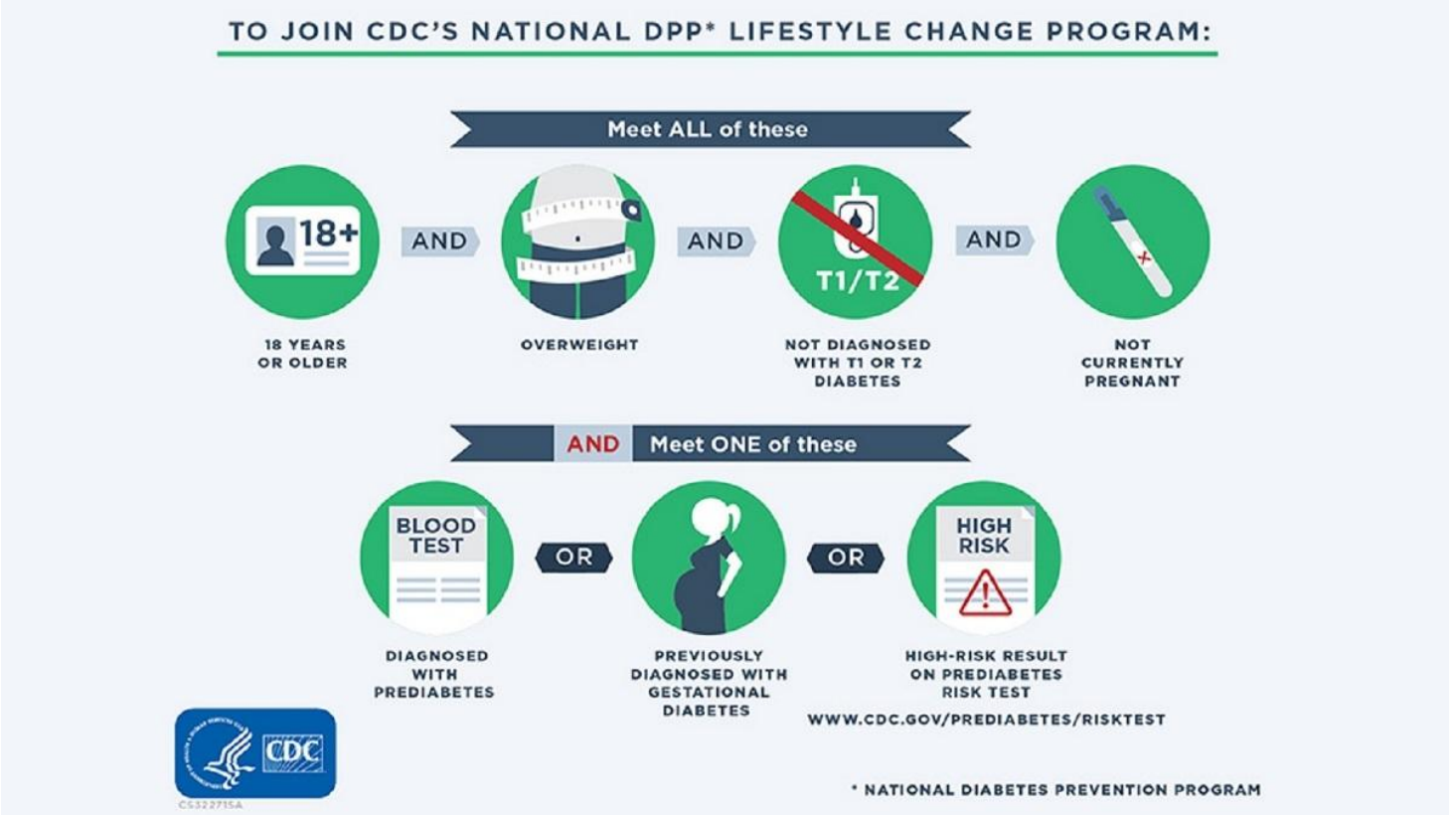
Weight loss 3-7% of baseline body weight improves glycemia and other cardiovascular risk factors

Greater than 10% of body weight:

- Disease-modifying effects
- Possible remission of diabetes
- Improve long-term CV outcomes

Type 2 Diabetes Prevention

- All adults with overweight or obesity at high risk (as seen in DPP)
- Refer to Intensive lifestyle behavior change program to achieve:
  - At least 7% weight reduction
  - 150 min/week of moderate-intensity exercise



Diabetes Prevention Program Trial

- Demonstrated outcomes for diabetes prevention
- Reduce the risk of type 2 diabetes by 58% over 3 years
- Follow up of 3 large lifestyle intervention trials
  - Da Qing study: 39% reduction at 30 years
  - Finnish DPS: 43% reduction at 7 years
  - Diabetes Prevention Program Outcomes Study (DPPOS)
    - 34% reduction at 10 years
    - 27% reduction at 15 years

Diabetes Prevention Program Trial

- Large randomized controlled trial
- Demonstrate lifestyle/behavioral intervention with a meal plan:
  - Individualized
  - Reduced calorie
- Health Outcomes
  - Highly effective in preventing or delaying type 2 diabetes
  - Improve cardiometabolic risk factors
    - Blood pressure, lipids, inflammation
- Strongest evidence in the US for diabetes prevention

Assessment and Monitoring Summary

- **8.1**: Use person-centered, nonjudgmental language (e.g., “person with obesity”)
- **8.2a**: Diagnose obesity using BMI and other body fat measures (waist circumference, weight to height ratio)
- **8.2b**: Monitor at least annually; every 3 months during active treatment
- **8.3**: Ensure privacy during anthropometric assessments
- **8.4**: Weight management should be a primary treatment goal
- **8.5**: Even modest weight loss (3–7%) improves outcomes. ≥10% offers greater benefit
- **8.6:** Individualize initial treatment approach based on medical history, preferences, life circumstances and motivation, consider combo treatment if appropriate

BE PRIME

- **B – Body measurements**: Use BMI plus waist circumference or WHR
- **E – Ensure non-judgmental language:** Person centered
- **P – Primary goal**: Weight management should be a primary treatment goal
- **R – Regular monitoring**: Annually or every 3 months if actively treating
- **I – Individualize care**: Tailor based on history, motivation, and preferences
- **M – Modest loss matters**: 3–7% weight loss improves outcomes
- **E – Ensure privacy**: Respectful, private assessments

Nutrition, Physical Activity and Behavioral Therapy

Setting Health Goals

Nutrition, physical activity, and behavioral therapy recommended for T2D and overweight/obesity to achieve both weight and health goals

Interventions include high frequency counseling

More than 16 sessions in 6 months	Focus on nutrition changes, physical activity and behavioral changes	Goal 500-750 kcal/day energy deficiency for weight loss	Create an energy deficit regardless of macronutrient composition

Setting Health Goals

- Goal to achieve significant weight loss with lifestyle changes
- 500-750 kcal/day energy deficit:
  - Women: 1200-1500 kcal/day
  - Men: 1500-1800 kcal/day
  - With adjustments based on individual's baseline body weight
- Clinical benefits of weight loss begin at 3% weight loss
  - Benefits are progressive – more weight loss achieve more health improvements
- Look AHEAD trial: those that maintained over 10% loss of initial body weight required fewer glucose-, blood pressure-, and lipid-lowering medications compared to those randomly assigned to standard care

The Look AHEAD trial: Action for Health in Diabetes

- Long-term weight loss study with intensive interventions
- 8 year trial 5,145 overweight/obese adults with type 2 diabetes
- Randomly assigned to either intensive lifestyle intervention (ILI) or usual care of diabetes support and education
- About half of ILI participants lost and maintained ≥5% of body weight

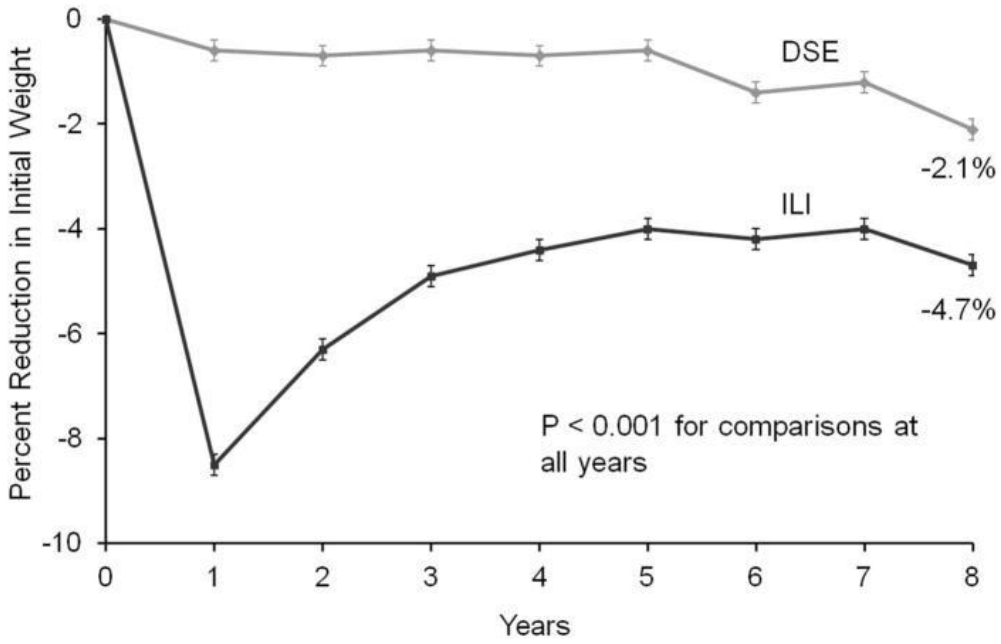


Figure 2. The Look AHEAD Study: Mean weight Loss over 8 years for randomly assigned Participants, Differences between groups (p<0.001)at all years

Figure 3a

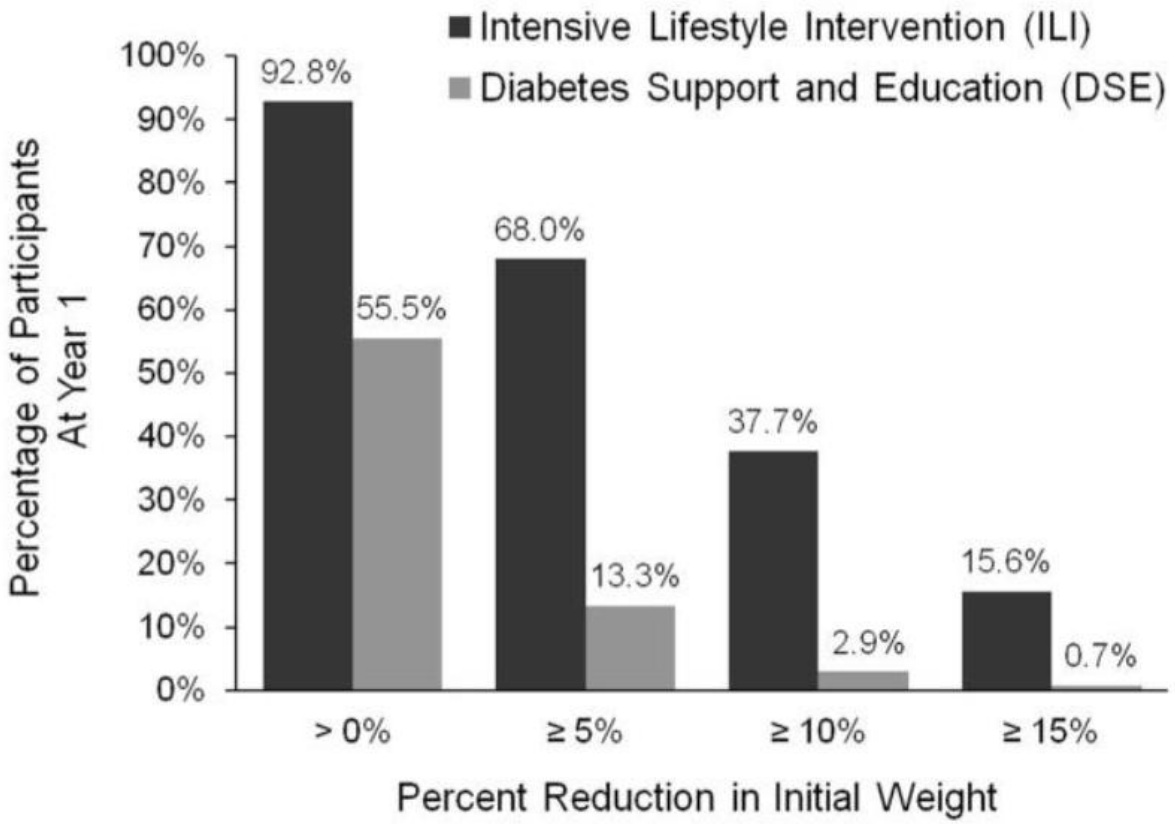
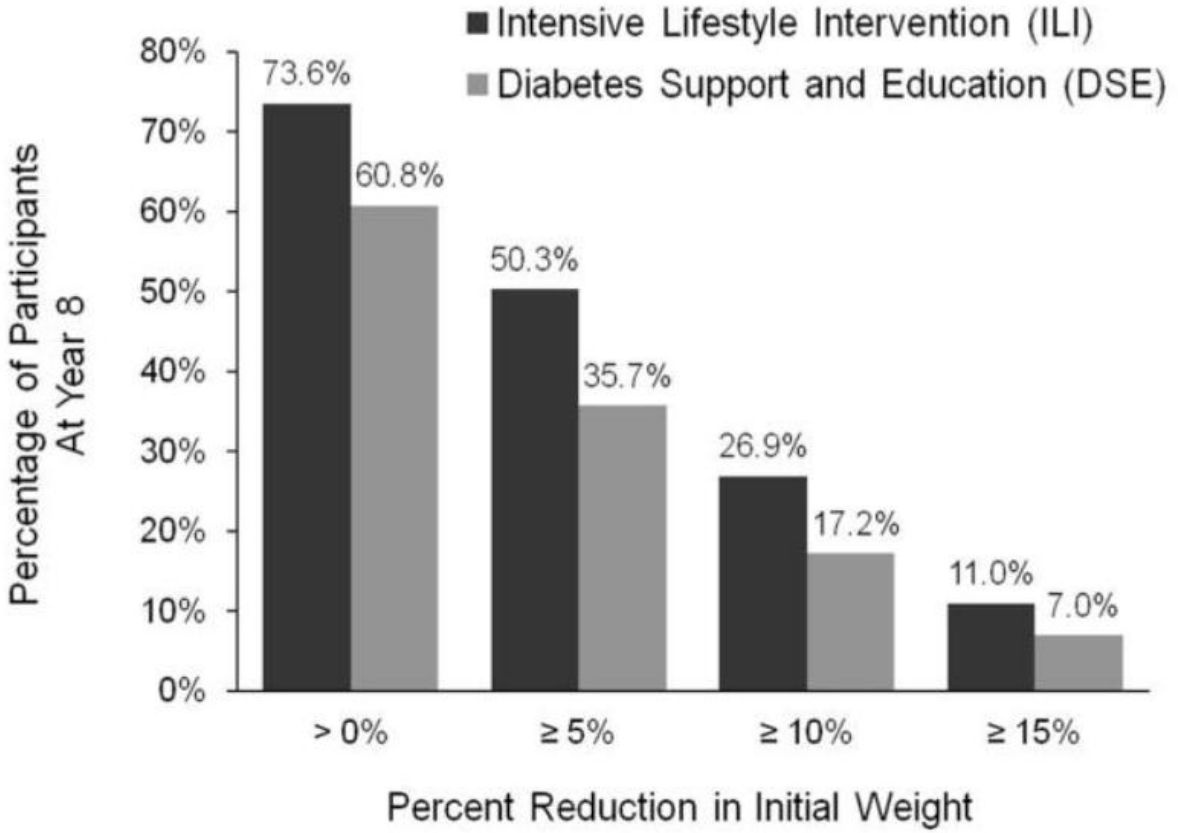


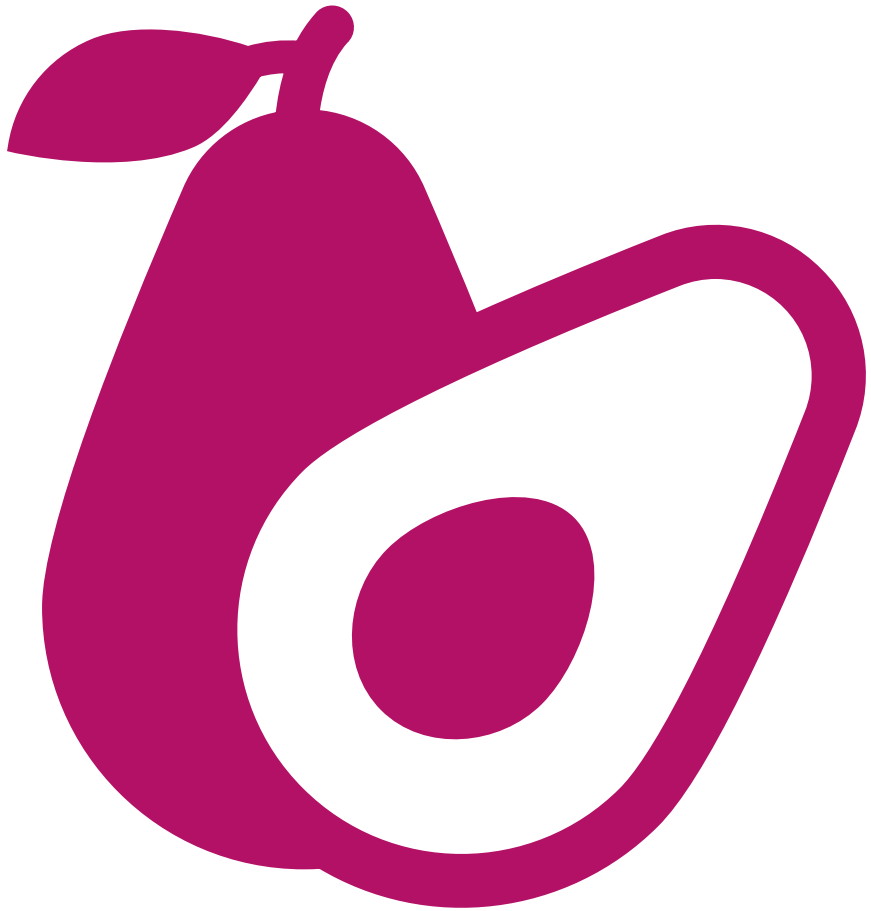
Figure 3b



Figures 3a, 3b: The Look Ahead Trial

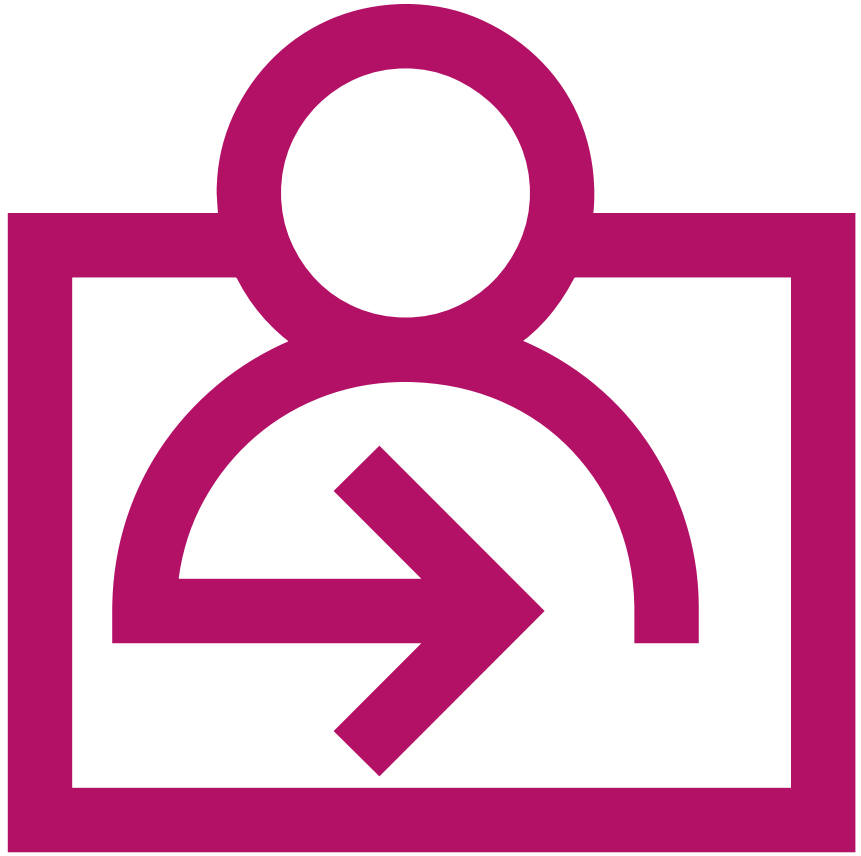
Nutritional Interventions

- Which nutritional intervention promotes weight loss?
  - Energy deficit is necessary
  - No single way was highlighted as favorable
- Two commonly used approaches:
  - Altering macronutrient content
  - Meal replacement plans
- Reducing processed and ultra-processed foods



Effective Long-term Maintenance

- For those who achieve weight loss goals, continue to monitor progress
  - Over one year provide monthly weight loss support
  - Self-monitoring of weight – weekly or more frequently
  - Self-monitoring strategies – Food diaries and wearables
  - Encourage regular physical activity (200-300min/week)



Short-term nutritional intervention

- Structured low calorie diets (800-1000 kcal/day)
  - Prescribed only in select individuals by trained practitioners in medical settings
  - Integrate long term comprehensive weight maintenance strategies
  - Short-term = up to 3 months

What about nutritional supplements for weight loss?

- No clear evidence that nutritional supplements are effective for obesity management or weight loss
  - Herbs, vitamins and minerals, amino acids, enzymes, and antioxidants
- In cases of documented deficiencies: vitamin B12, vitamin D, and iron
- Protein supplements used as adjuncts to medically supervised weight loss treatments

Nutrition, Physical Activity and Behavioral Therapy Recommendations

- **8.7**: Lifestyle therapy for both weight and health goals
- **8.8a**: High frequency counseling (≥16 sessions in 6 months) and 500-750 kcal/day energy deficit
- **8.8b**: If access to interventions are limited, consider alternative structured programs (remote access)
- **8.9**: Nutrition recommendations for individual needs; use plans that create energy deficit, regardless of macronutrient composition
- **8.10**: Account for patient's culture, socioeconomic factors, and other social determinants of health
- **8.11**: Ongoing monitoring and support needed for long-term maintenance, provide monthly contact and support
- **8.12**: Very-low calorie meals (800–1000 kcal/day) only under trained supervision and close monitoring
- **8.13**: Nutritional supplements have not been shown to be effective for weight loss, not recommended

SMART NET

- **S – Structured sessions**: ≥16 sessions in 6 months
- **M – Monitor & maintain**: Ongoing support and monthly follow-up
- **A – Adjust for access**: Remote or alternative programs if needed
- **R – Respect culture**: Consider SDOH and individual context
- **T – Tailor nutrition**: Personalize caloric plans, regardless of macros
- **N – No quick fixes**: VLCD only under supervision
- **E – Energy deficit**: Aim for 500–750 kcal/day
- **T – Tell patients the truth**: Supplements are not recommended

Pharmacotherapy

Medications Related to Weight Gain

If possible, minimize medications for comorbid conditions associated with Weight gain

- Anticonvulsants
  - Carbamazepine, gabapentin, pregabalin, and valproic acid
- Antidepressants
  - Mirtazapine and tricyclic antidepressants
- Atypical antipsychotics
  - Clozapine, olanzapine, quetiapine, risperidone
- Antipsychotics
  - Haloperidol
- Corticosteroids
- Insulin
- Medroxyprogesterone

Diabetes Pharmacotherapy & Weight Loss Efficacy

- **High Intermediate**
  - GLP-1 and GIP/GLP-1 Agonists
  - SGLT-2
  - Pramlintide
- **Neutral**
  - Metformin
  - Alpha-glucosidase inhibitors
  - DPP-4 inhibitors
- **Weight Gain**
  - Insulin
  - Meglitinides
  - Sulfonylureas
  - Thiazolidinediones

Weight Management Pharmacotherapy Candidates

- FDA approved medications as **adjuncts** to reduced calorie eating plan and increased physical activity
  - BMI ≥ 30 kg/m^2
  - BMI ≥ 27 kg/m^2 with a weight related comorbidity
- **Lifestyle modifications** recommended for all patients with a BMI of ≥25 kg/m^2
- Improve blood glucose control and may delay progression to type 2 diabetes

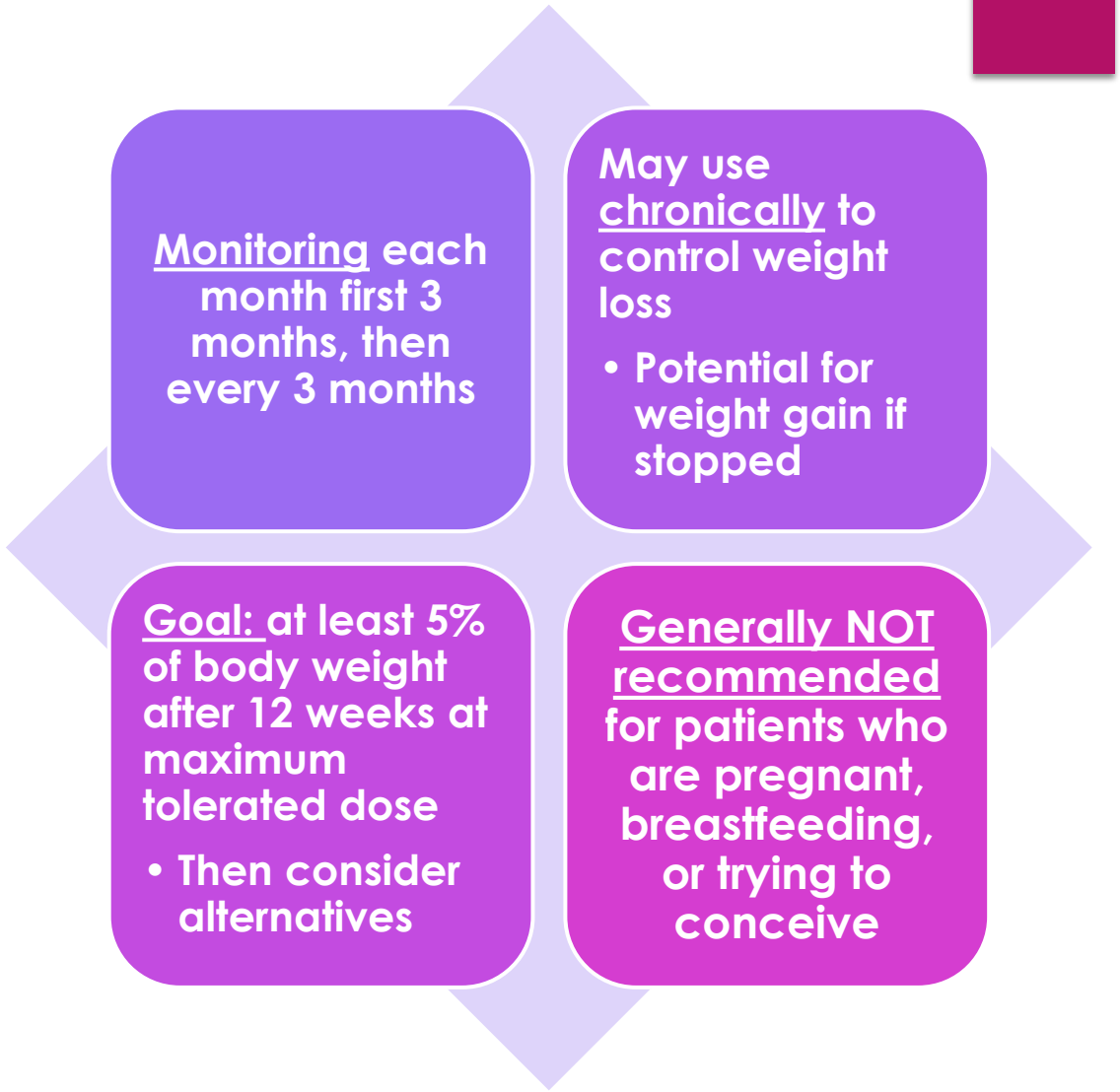
Weight Management Pharmacotherapy

Medication Name	Medication Class
Semaglutide, Liraglutide	GLP-1 agonist
Tirzepatide	GIP/GLP-1 agonist
Phentermine *FDA approved Short-term use only*	Sympathomimetic amine anorectic
Phentermine/Topiramate ER	Sympathomimetic amine anorectic/ Antiepileptic
Orlistat	Lipase Inhibitor
Naltrexone/Bupropion ER	Opioid antagonist/Antidepressant

Weight Management Selection

- What factors would you consider in selecting the most appropriate medication?
  - Possible adverse effects & safety
  - Co-morbid conditions
    - Migraines
    - Smoking cessation
  - Current Medications
  - Cost

General Treatment Principles



Phentermine

USE in weight loss:	**USUAL DOSE:**
Anorectic – reduces appetite	15-37.5mg po daily in the morning
SIDE EFFECTS: Dry mouth, headache, dizziness, insomnia, irritability, increased blood pressure, elevated heart rate	**SAFETY/CLINICAL PEARLS:** Avoid abrupt discontinuation Taken earlier in the day to avoid insomnia Caution with cardiovascular disease Generally used short-term to "jump-start" weight loss

Phentermine/Topiramate ER

USE in weight loss:	**DOSE:**
Reduces appetite	Titrate dose, maintenance 7.5mg/46mg to 15mg/92mg every morning
SIDE EFFECTS:	**SAFETY/CLINICAL PEARLS:**
Insomnia, dizziness, confusion, constipation, dry mouth, paresthesia, increased BP/HR,	Avoid abrupt discontinuation Taken earlier in the day to avoid insomnia Cognitive impairment Birth defects – pregnancy test Kidney stone risks – stay hydrated Monitor for worsening depression, suicidal thoughts

GLP-1 Agonists
GIP/GLP-1 Agonist

USE in weight loss: Reduce appetite, improve satiety, decrease food intake, and delay gastric	**DOSE:** *Dose titration to minimize GI side effects** Maintenance dose: Semaglutide 2.4mg SC once weekly Liraglutide 3mg SC once daily Tirzepatide 10-15mg SC once weekly
SIDE EFFECTS: GI (N/V/D/C and esophageal reflux)	**SAFETY/CLINICAL PEARLS:** Monitor for pancreatitis Not for use during pregnancy Personal or family history of certain types of thyroid cancer Injection site reactions Tirzepatide – may delay absorption of oral contraceptives

Orlistat

USE in weight loss: Prevents absorption of dietary fat, pancreatic lipase inhibitor	**DOSE:** OTC: 60mg po TID with meals Rx: 120mg po TID with meals
SIDE EFFECTS: GI effects, rectal oily spotting and stool, flatulence with oily discharge, fecal urgency	**SAFETY/CLINICAL PEARLS:** Potential malabsorption of fat soluble vitamins and other meds Counsel patients to lower dietary fat intake, possibly add psyllium fiber supplement Advise taking multivitamin including vitamins A, D, E, K

Naltrexone/Bupropion

USE in weight loss:	**DOSE:**
Regulate appetite and reduce cravings	8mg/90mg po BID (after titration)
SIDE EFFECTS:	**SAFETY/CLINICAL PEARLS:**
Nausea, headache, constipation, insomnia, elevated heart rate	Avoid with a high fat meal Seizure risk Contraindications: Abrupt d/c of alcohol, BZDs, Barbiturates, antiepileptic meds, any opioid use, ESRD, h/o seizures

Pharmacotherapy Recommendations

- **8.14**: If possible minimize medications that cause weight gain
- **8.15**: Weight management pharmacotherapy considered with overweight or obesity with lifestyle changes
- **8.16**: Combine meds with lifestyle changes
- **8.17**: Preferred treatment with GLP-1 RA or GIP/GLP-1 RA considering added weight-independent benefits
- **8.18**: Screen for malnutrition in patients with significant weight loss
- **8.19**: Continue pharmacotherapy long term to sustain weight loss, sudden discontinuation could result in weight gain
- **8.20**: Reevaluate if goals not met; consider intensifying therapy

•**T – Tailor nutrition**: Personalize caloric plans, regardless of macros
•**N – No quick fixes**: VLCD only under supervision
•**E – Energy deficit**: Aim for 500–750 kcal/day
•**T – Tell patients the truth**: Supplements are not recommended

PLAN WISE

- **P – Prefer GLP-1/GIP agonists**
- **L – Lifestyle + meds** (combine for best results if indicated)
- **A – Assess malnutrition** in significant weight loss
- **N – Never stop abruptly** – leads to regain
- **W – Watch for weight-gaining meds**
- **I – Individualize based on comorbidities**
- **S – Screen for response** and adjust if goals unmet
- **E – Extend therapy long-term** for maintenance

Metabolic Surgery

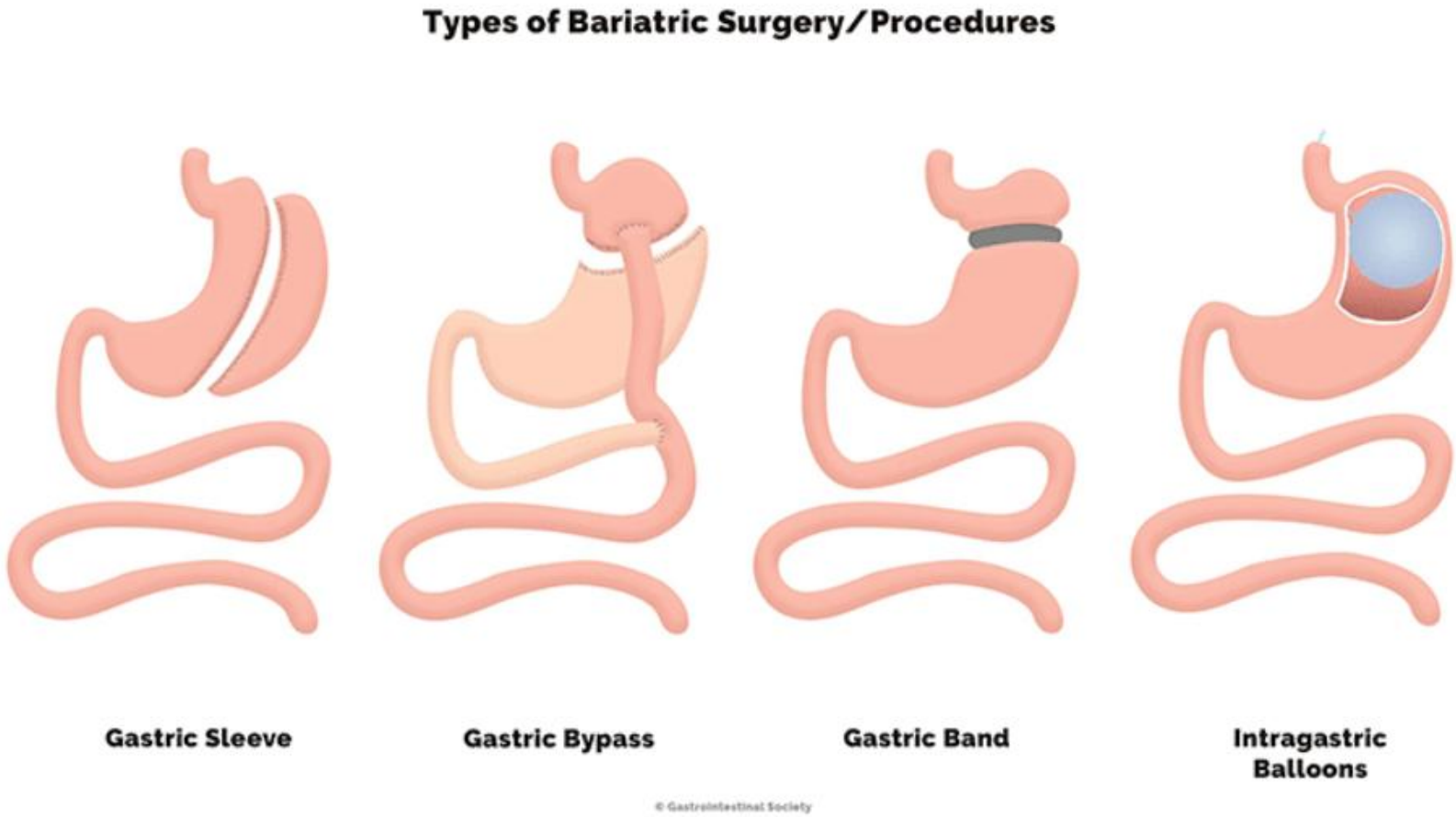


Image taken from: https://badgut.org/information-centre/a-z-digestive-topics/bariatric-surgery/

Metabolic Surgery Outcomes

- Glycemic control
- Reduction of cardiovascular risk factors
- Type 2 diabetes remission (younger age, shorter duration od T2D, lesser severity of diabetes)
- Reduces incidence of microvascular disease
- Improves quality of life
- Decreases cancer risk
- Decreases all-cause mortality

Metabolic Surgery Recommendations

- **8.21**: Consider for BMI ≥30 (≥27.5 for Asian Americans) for weight and glycemic control in patients with diabetes
- **8.22**: Performed in high-volume centers experienced in bariatric surgery
- **8.23**: Assess patients co-morbid psychological conditions that may interfere with outcomes
- **8.24**: Receive long-term follow up including medical care, behavioral support and nutritional monitoring
- **8.25**: Manage post-surgical hypoglycemia with education, medical nutrition therapy with a registered dietitian and CGM for improved safety
- **8.26**: Routinely screen for psychosocial and behavioral health changes, refer as needed
- **8.27**: Monitor for weight regain or loss at least every 6–12 months

•**T – Tailor nutrition**: Personalize caloric plans, regardless of macros
•**N – No quick fixes**: VLCD only under supervision
•**E – Energy deficit**: Aim for 500–750 kcal/day
•**T – Tell patients the truth**: Supplements are not recommended

SCALE

- **S – Screen mental health** (pre/post-surgical)
- **C – Continue care**: Long-term behavioral & nutritional support
- **A – Assess outcomes**: Weight regain or loss every 6–12 months
- **L – Look for hypoglycemia**: Use CGM and medical nutrition therapy
- **E – Evaluate readiness** for surgery and refer to high-volume centers

Review Time!

Question 1

- **AK is a 39 year old female patient interested in discussing weight loss treatment options. She is currently on metformin 1000mg po BID and has a BMI of 29 kg/m² with hypertension. What makes her eligible for weight management pharmacotherapy based on ADA 2025 guidelines?**

A. BMI is over 28 kg/m²
B. Adequate weight loss not achieved with metformin
C. Presence of a comorbidity
D. This patient is not eligible for weight management treatment

Question 2

- **WG a 59 year old male patient who lost 12% of body weight over 6 months with Wegovy 2.5mg SC every week and lifestyle intervention wishes to stop taking his medication due to the high monthly costs. What advice should the pharmacist give?**

A. WG could discontinue this medication since a weight loss of over 10% has been achieved
B. WG should wait until 16% of body weight is lost before discontinuing this medication
C. WG could switch to another medication like phentermine for long term maintenance
D. WG should be counseled that discontinuation may lead to weight regain and other cost saving strategies can be explored

Question 3

- **According to the ADA 2025 guidelines, which statement best reflects appropriate monitoring of weight in patients undergoing treatment?**

A. Weight should be assessed only at diagnosis
B. Weight monitoring every 6 months is sufficient
C. Monitor weight every 3 months during active treatment
D. BMI alone is enough for assessment on annual visits

Question 4

- **Which of the following caloric intake ranges is recommended for structured energy deficit in women aiming for weight loss?**

A. 900–1200 kcal/day
B. 1500–1800 kcal/day
C. 1200–1500 kcal/day
D. 1000–1100 kcal/day

Question 5

- **According to ADA 2025 guidelines, how should very-low-calorie diets (VLCD) be prescribed?**

A. Only before bariatric surgery
B. Only by registered dietitians and nutritionists
C. In select individuals, under medical trained supervision
D. Not appropriate for any patients

Question 6

- **What is the ADA recommendation regarding nutritional supplements for weight loss?**

A. May be used in short-term treatment plans
B. Recommended in patients under 65 years old
C. Should not be recommended due to lack of evidence
D. Best when combined with nutrition and physical activity

Summary

Obesity is chronic condition

Key pathophysiologic driver of diabetes

Combine lifestyle changes, pharmacotherapy if indicated, and consider surgery options if appropriate

Weight management is a crucial part of prevention and diabetes care

Every pharmacist can be well equipped to support patient-centered strategies to improve prevention and care

References

- American Diabetes Association Professional Practice Committee; 8. Obesity and Weight Management for the Prevention and Treatment of Type 2 Diabetes: Standards of Care in Diabetes–2025. *Diabetes Care* 1 January 2025; 48 (Supplement_1): S167–S180. https://doi.org/10.2337/dc25-S008
- Garvey WT, Garber AJ, Mechanick JI, et al. American association of clinical endocrinologists and american college of endocrinology position statement on the 2014 advanced framework for a new diagnosis of obesity as a chronic disease. *Endocr Pract*. 2014;20(9):977-989. doi:10.4158/EP14280.PS
- Ibrahim MM. Subcutaneous and visceral adipose tissue: structural and functional differences. Obes Rev. 2010 Jan;11(1):11-8. doi: 10.1111/j.1467-789X.2009.00623.x. Epub 2009 Jul 28. PMID: 19656312.
- Look AHEAD Research Group. Eight-year weight losses with an intensive lifestyle intervention: the look AHEAD study. *Obesity (Silver Spring)*. 2014;22(1):5-13. doi:10.1002/oby.20662
- World Health Organization. Obesity. 2023 Accessed 22 April 2025. Available from https://www.who.int/health-topics/obesity#tab=tab_1