American Society of Bariatric Physicians (ASBP)

ASBP Obesity Algorithm:

Adult Adiposity Evaluation and Treatment 2013

Citation:

Seger JC, Horn DB, Westman EC, Lindquist R, Scinta W, Richardson LA, Primack C, Bryman DA, McCarthy W, Hendricks E, Sabowitz BN, Schmidt SL, Bays HE. American Society of Bariatric Physicians Obesity Algorithm: Adult Adiposity Evaluation and Treatment 2013. www.obesityalgorithm.org (Accessed = [insert date])

ASBP Obesity Algorithm: Adult Adiposity Evaluation and Treatment 2013

Disclaimer

The American Society of Bariatric Physicians® (ASBP) Obesity Algorithm was developed to assist health care professionals in medical decision making; however, it is in no way a substitute for a medical professional's independent judgment and should not be considered medical advice. Most of the content herein is based on the medical literature and the clinical experience of obesity medicine specialists. In areas of uncertainty, professional judgment of the authors was applied. The Obesity Algorithm is a working document that reflects the state of the field of obesity medicine at the time of publication. Because rapid changes in this area are expected, periodic revisions are inevitable. We encourage medical professionals to use this information in conjunction with, and not as a replacement for, their best clinical judgment. The presented recommendations may not be appropriate in all situations. Any decision by practitioners to apply these guidelines must be made in light of local resources and individual patient circumstances.

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ASBP Obesity Algorithm:
Adult Adiposity Evaluation and Treatment 2013

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ASBP Obesity Algorithm: Adult Adiposity Evaluation and Treatment 2013

Purpose

- *To provide clinicians an overview of principles important to the care of patients with increased body fat, based upon scientific evidence, supported by the medical literature, and derived from the clinical experiences of members of the American Society of Bariatric Physicians.*

ASBP Obesity Algorithm: Adult Adiposity Evaluation and Treatment 2013

Process

The ASBP Algorithm was derived from input by volunteer ASBP members consisting of:

- Academicians
- Clinicians
- Clinical trialists
- Researchers

The ASBP Algorithm did not receive industry funding, had no input from industry, and the authors received no payment for their contributions.

ASBP Obesity Algorithm: Adult Adiposity Evaluation and Treatment 2013

Intent of use

The ASBP Algorithm 2013 is intended to be a "living document" updated once a year (as needed), and intended as an educational tool to assist in the translation of medical science and the clinical experience of the authors towards assisting clinicians better manage their overweight and obese patients.

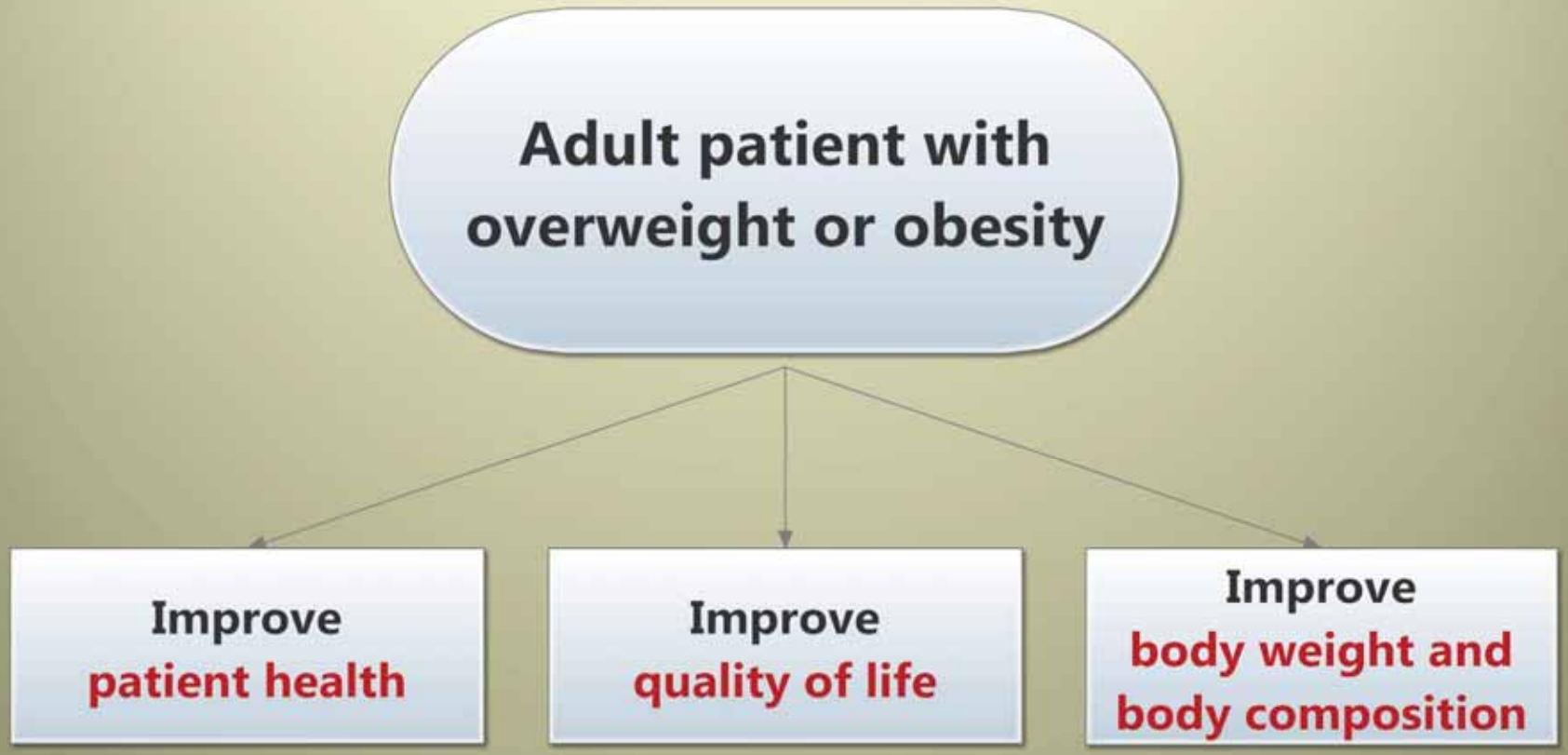
This algorithm *is not* intended to be interpreted as "rules" and/or directives regarding medical care of an individual patient.

While it is hoped many clinicians may find this algorithm helpful, the final decision regarding the optimal care of the overweight and obese patient is dependent upon the individual clinical presentation, and the judgment of the clinician who is tasked with directing a treatment plan that is in the best interest of the patient.

ASBP Obesity Algorithm: Adult Adiposity Evaluation and Treatment 2013

Contents:

Overall Management Goals



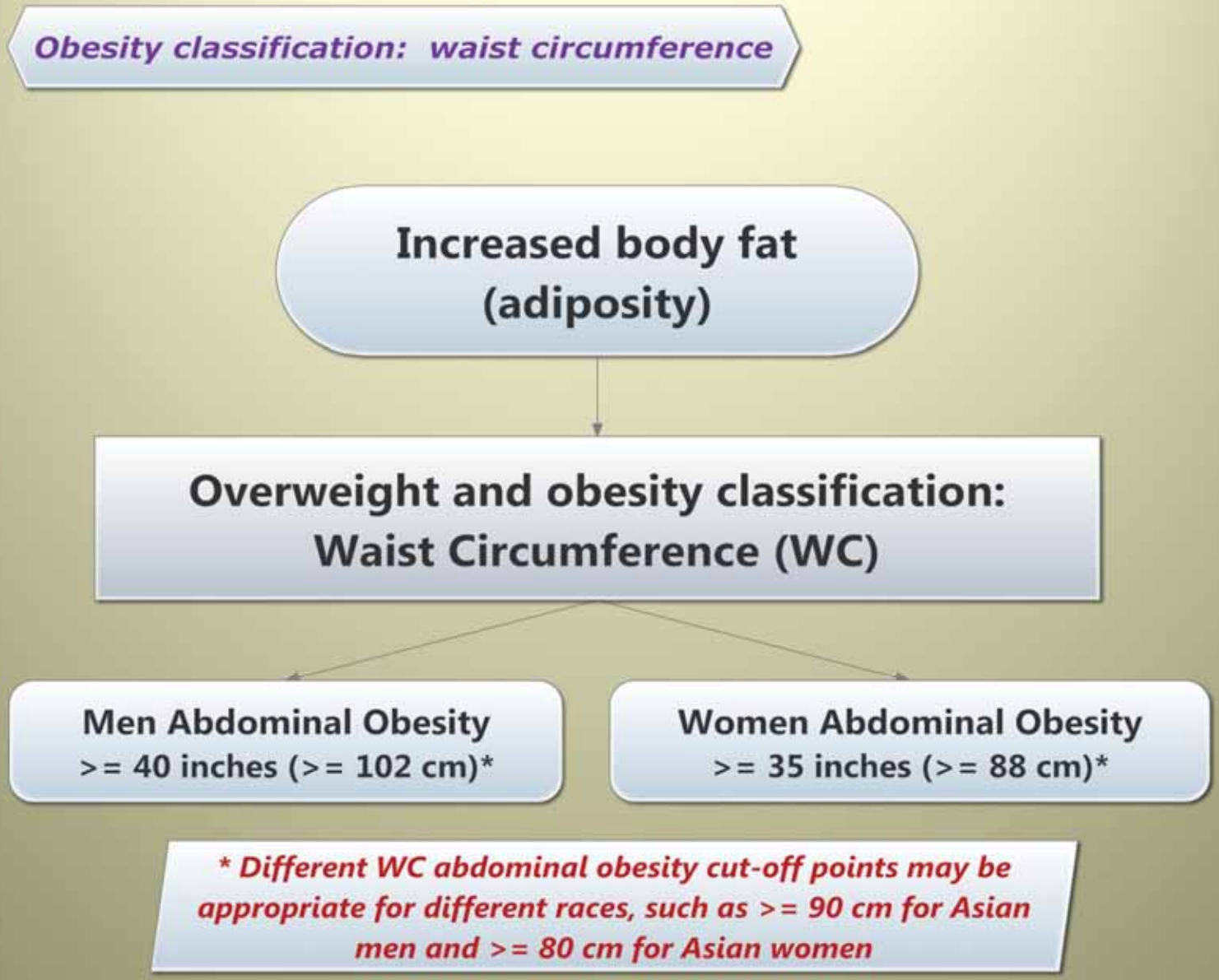
Reference/s: [200]

Obesity classification: BMI

Reference/s: [201]

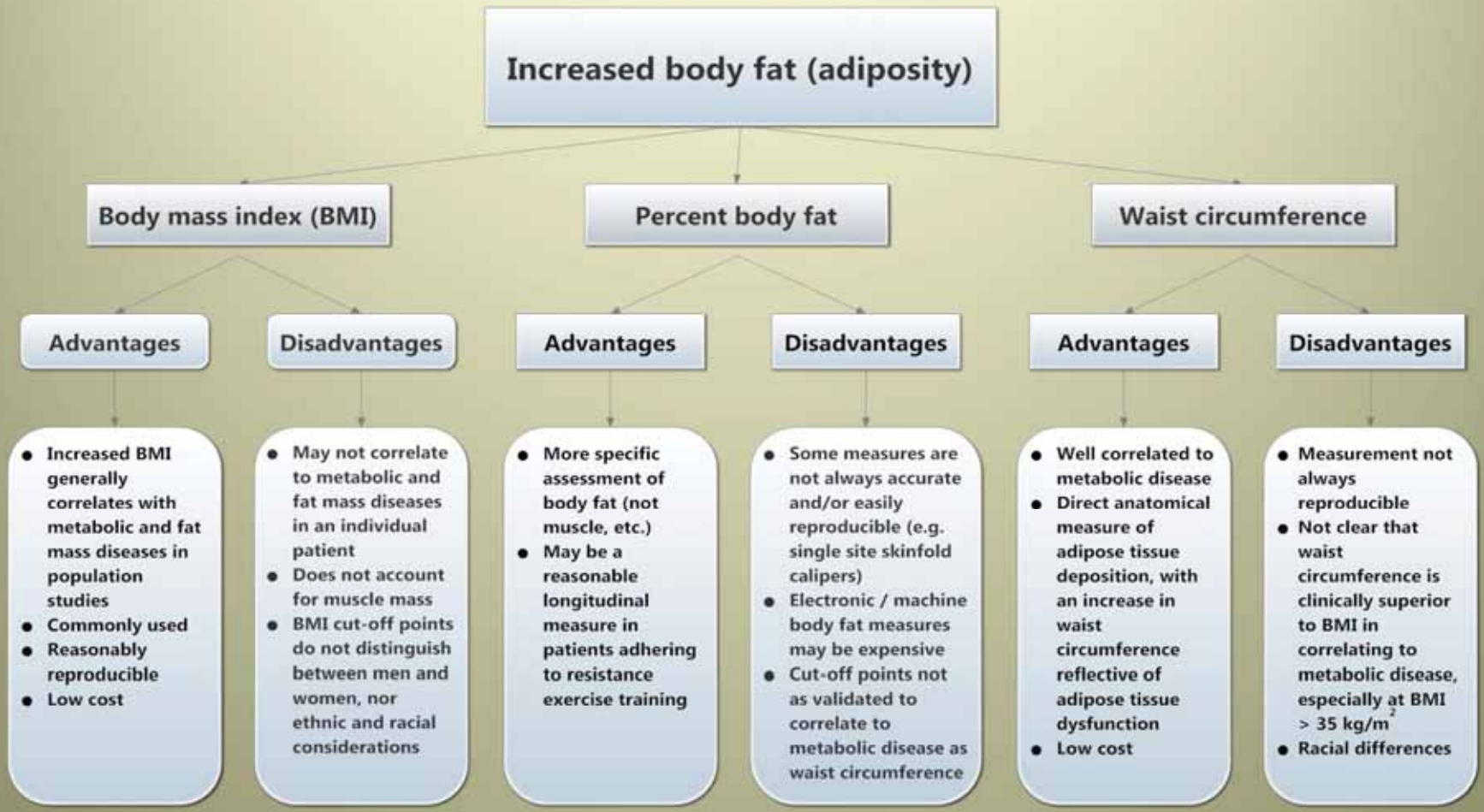
Obesity classification: % body fat

Reference/s: [202]



Reference/s: [201] [203]

Obesity classifications



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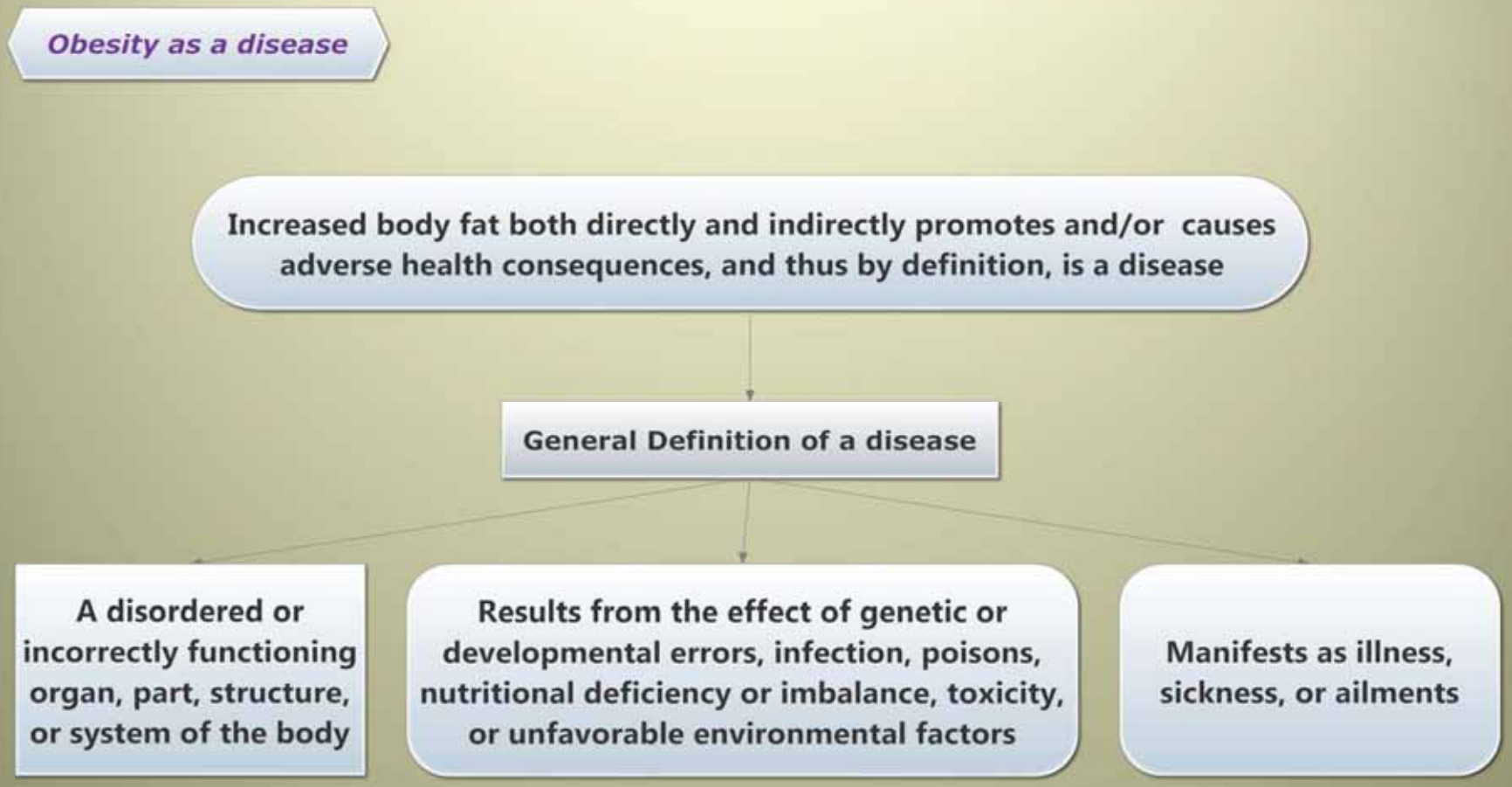


Reference/s: [204]

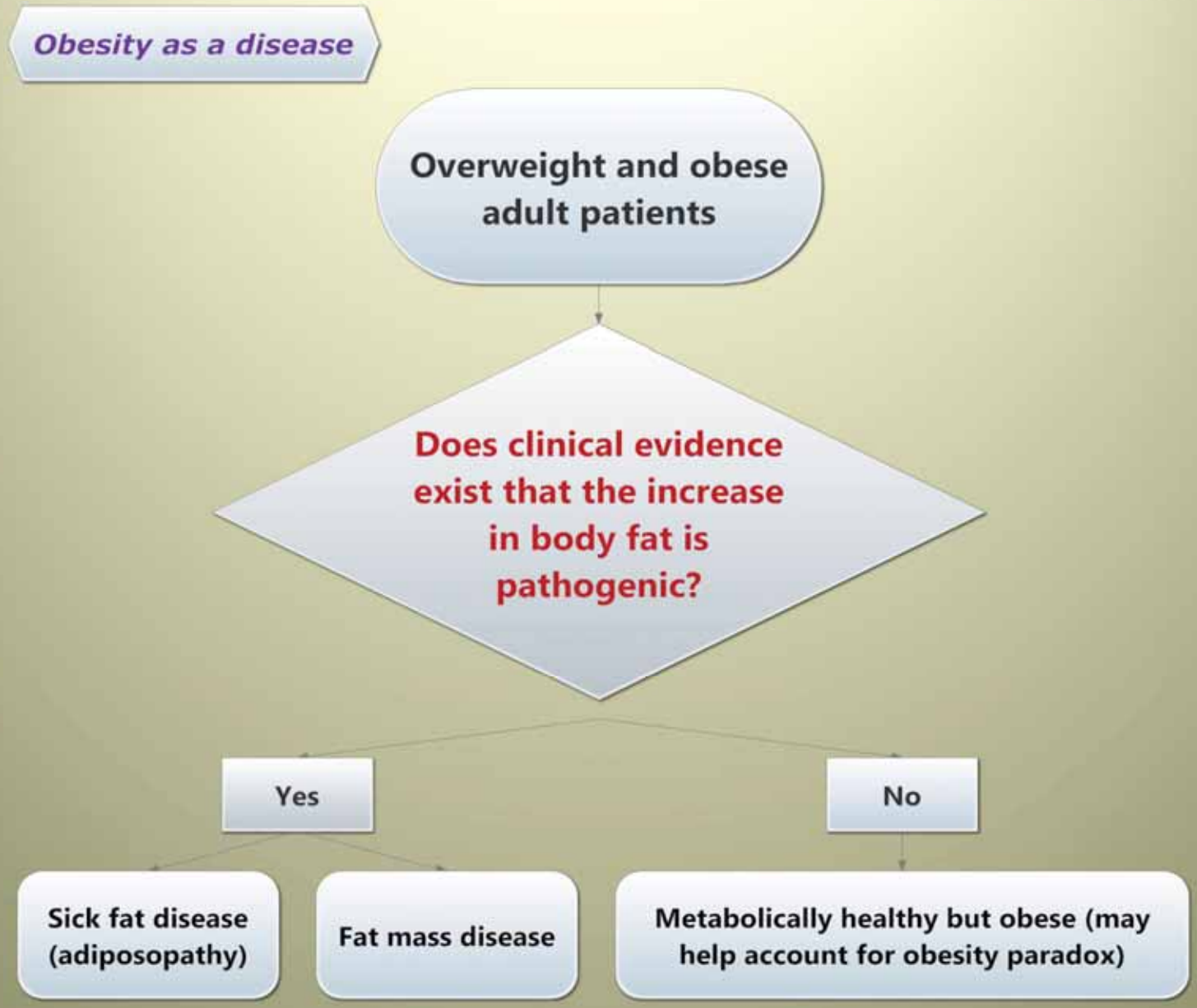
Obesity as a disease

Obesity is a disease when . . .

- The patient has an abnormal increase in body fat as assessed by a reliable measure
- Increased body fat is caused by genetic or developmental errors, infections, hypothalamic injury, adverse reactions to medications, nutritional imbalance, and/or unfavorable environmental factors
- Pathogenic adipocyte and/or adipose tissue endocrine and immune function contribute to metabolic disease (adiposopathy or "sick fat" disease) and/or;
- Pathogenic physical forces from excessive body fat cause damage to other body tissues (fat mass disease)

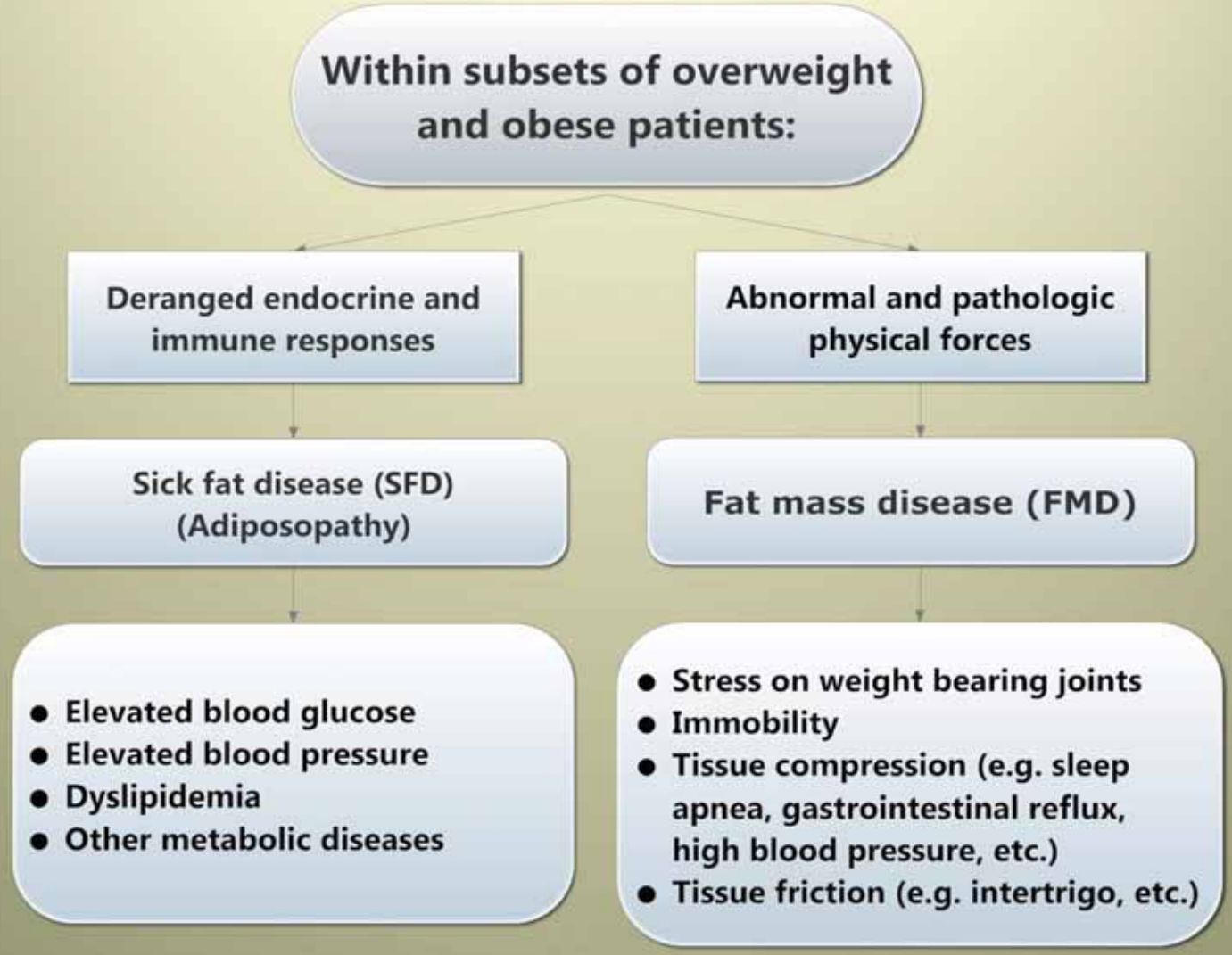
The adverse health consequences of increased body fat are not simply "co-morbidities" or "associated risk factors"

Reference/s: [200]

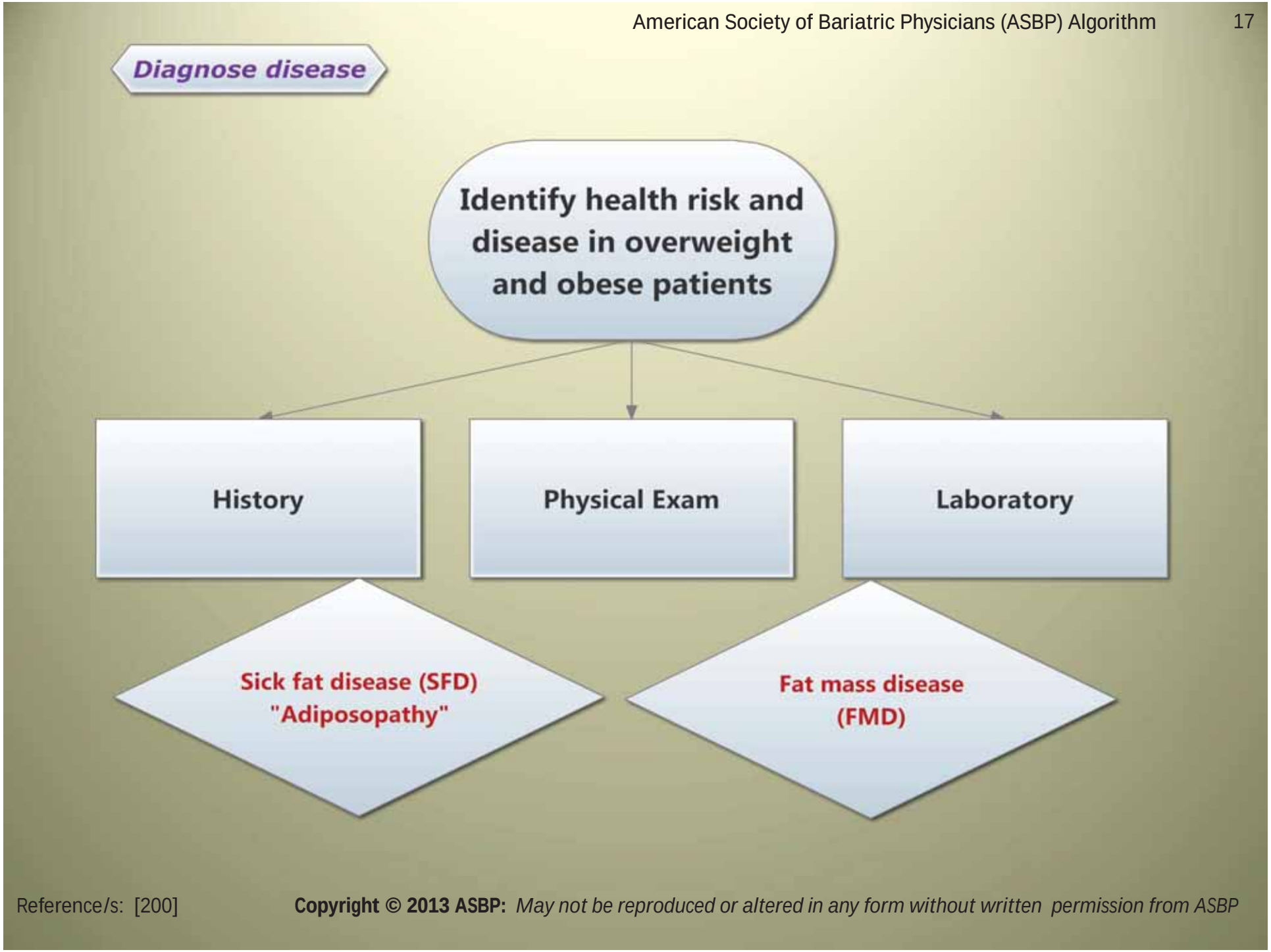


Reference/s: [200]

Obesity as a disease



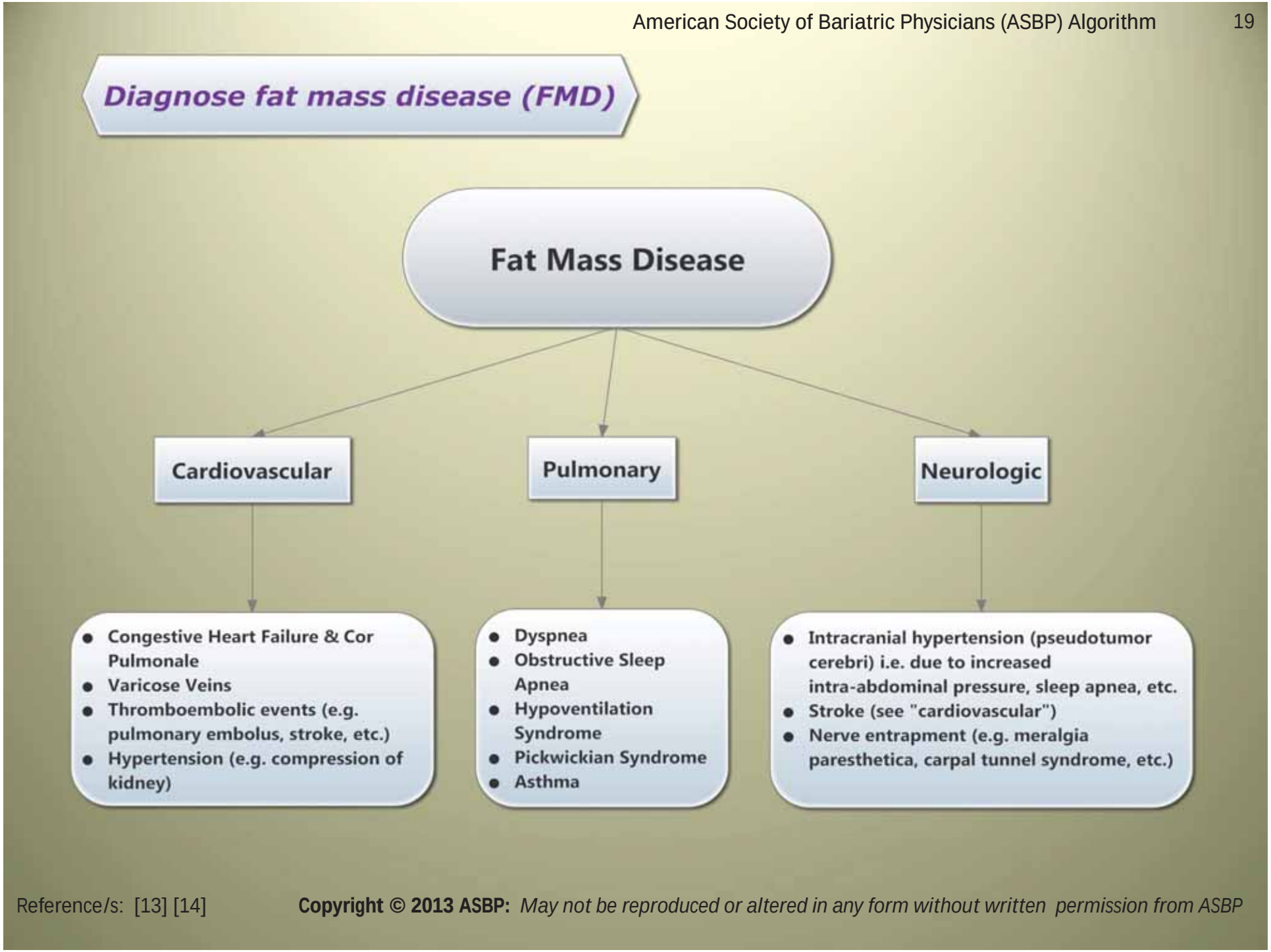
Reference/s: [4] [5] [6] [7] [8] [9] [10]



Reference/s: [200]

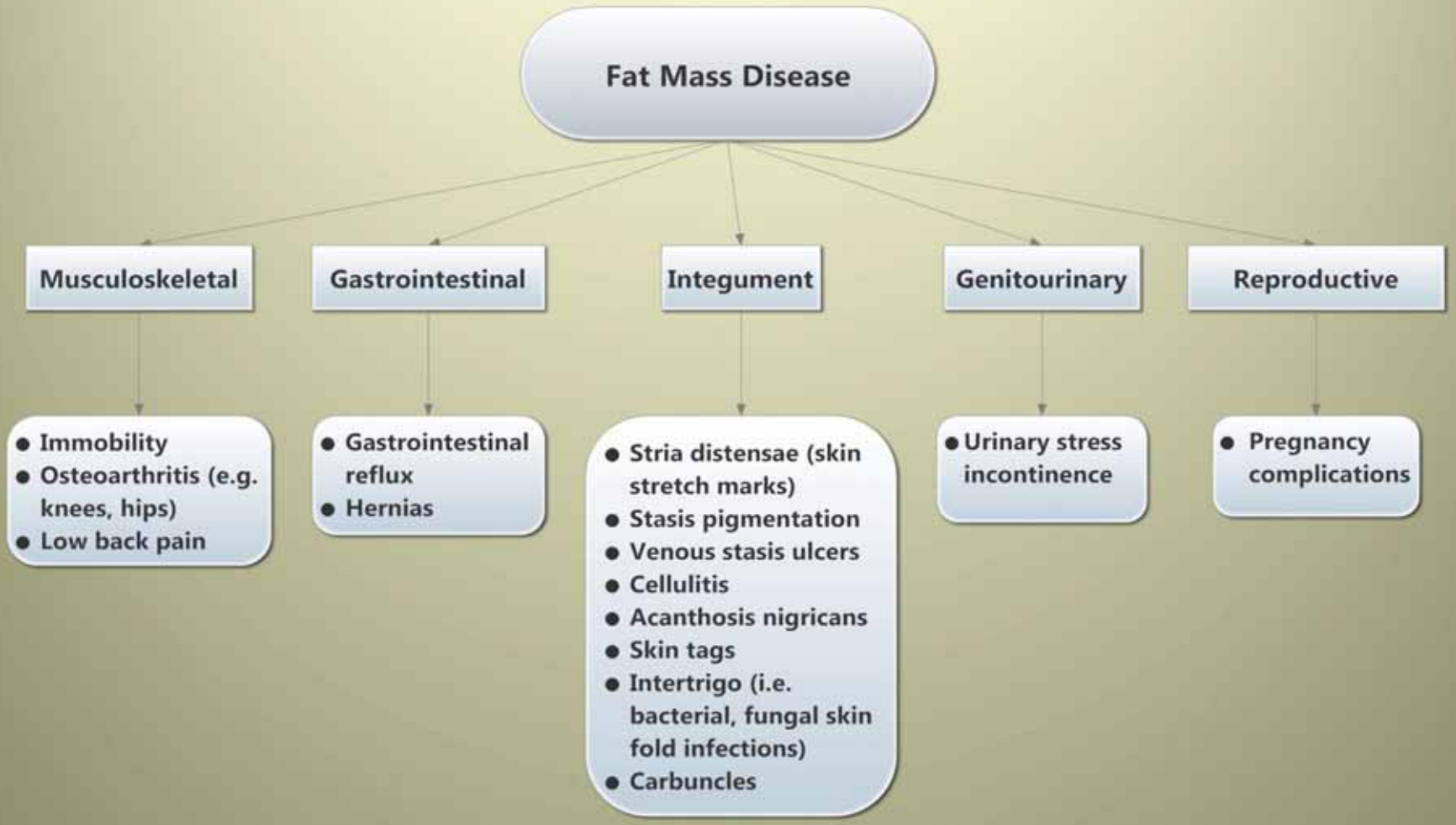
Overall approach

Reference/s: [11] [12]



Reference/s: [13] [14]

Diagnose fat mass disease (FMD) - continued -



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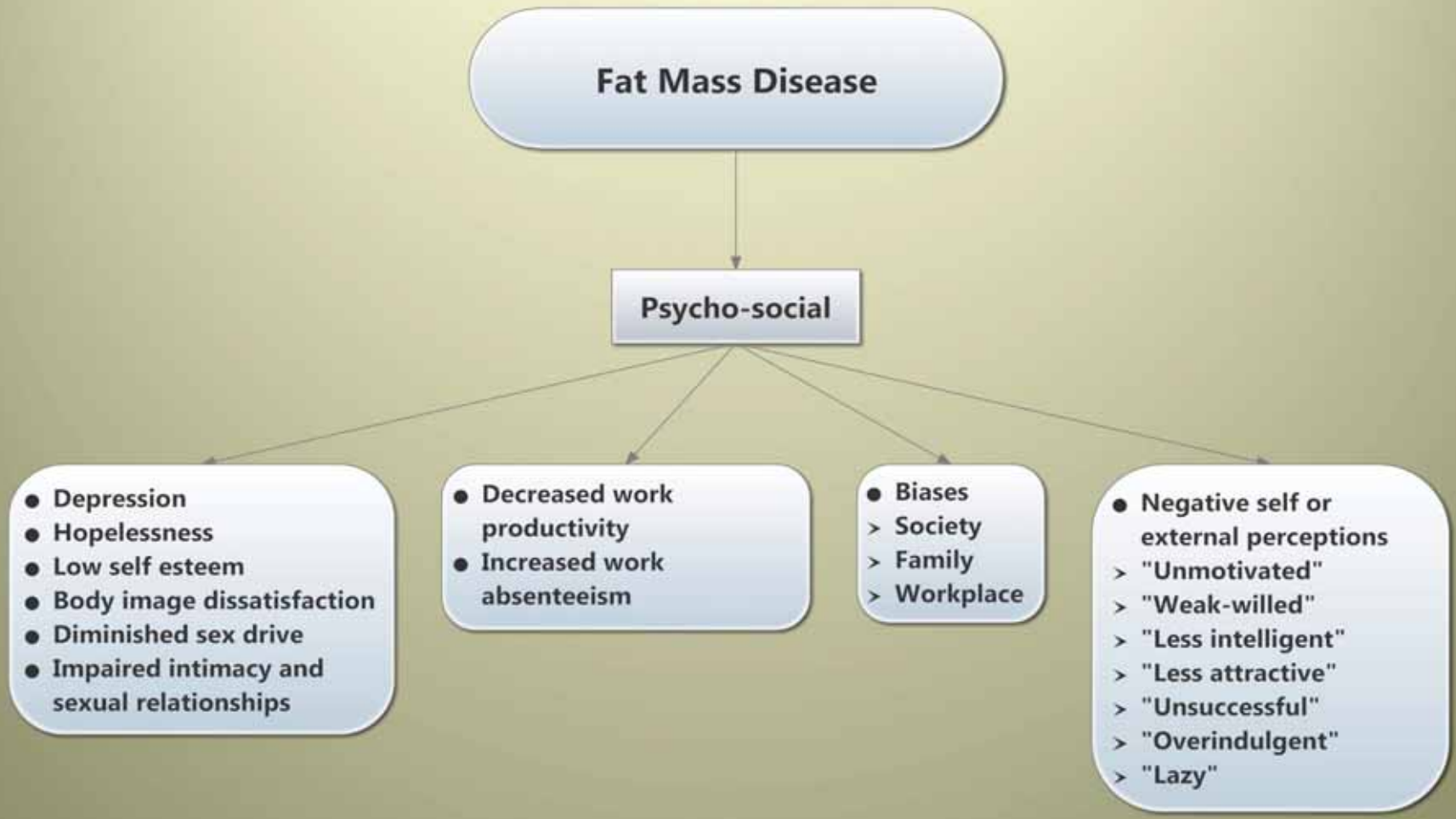
Diagnose fat mass disease (FMD) - continued -



Reference/s: [13] [14]

Diagnose "sick fat disease" (SFD)

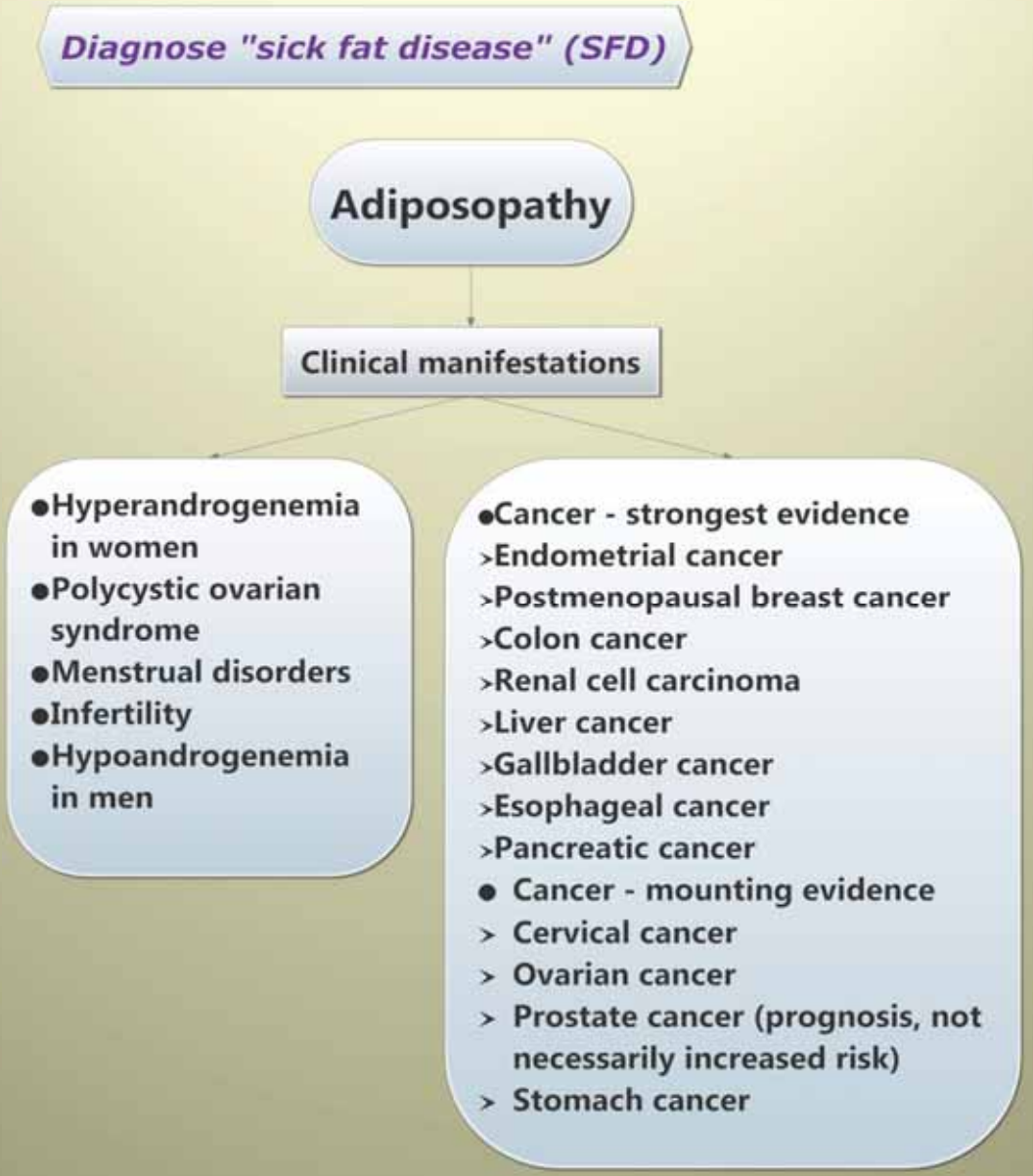
Adiposopathy

Clinical manifestations

- High blood glucose (prediabetes mellitus, type 2 diabetes mellitus)
- High blood pressure
- Metabolic syndrome
- Adiposopathic dyslipidemia
  - >Increased triglyceride levels
  - >Decreased high density lipoprotein cholesterol levels
  - >Increased atherogenic particle number (increased apolipoprotein B)
  - >Increased small dense low density lipoprotein particles
  - >Increased triglyceride-rich lipoproteins
  - >Increased lipoprotein remnant lipoproteins

- Insulin resistance
- Hepatosteatosis (fatty liver)
- Hyperuricemia and gout
- Cholelithiasis
- Nephrolithiasis
- Glomerulopathy
- Pro-thrombotic predisposition
- Neuropsychiatric diseases (such as worsening depression due to adiposopathic immune and endocrine responses)
- Asthma (due to adiposopathic immune and endocrine responses)
- Worsening of other inflammatory diseases (osteoarthritis, atherosclerosis, etc.)

Reference/s: [6] [7] [9] [10] [15]



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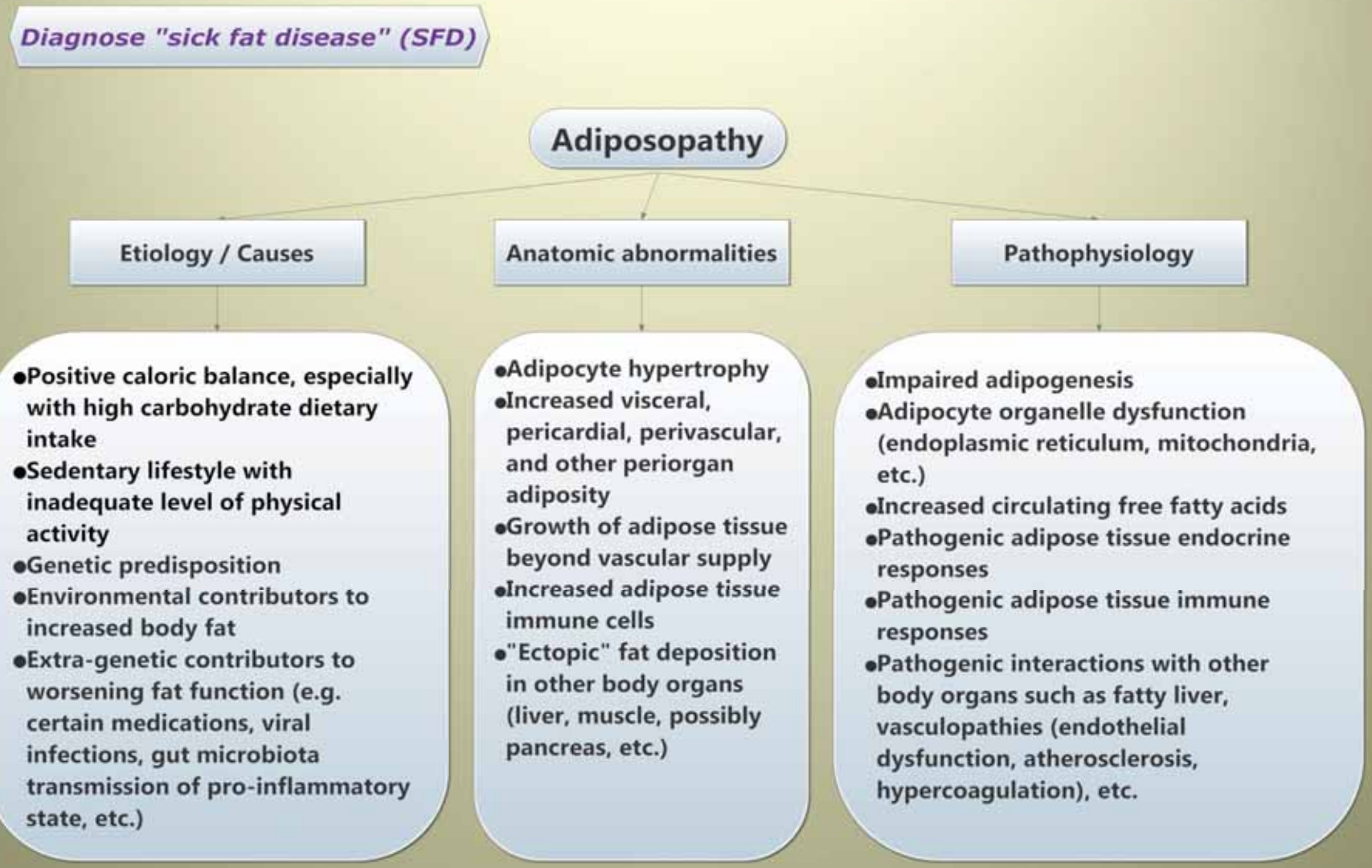
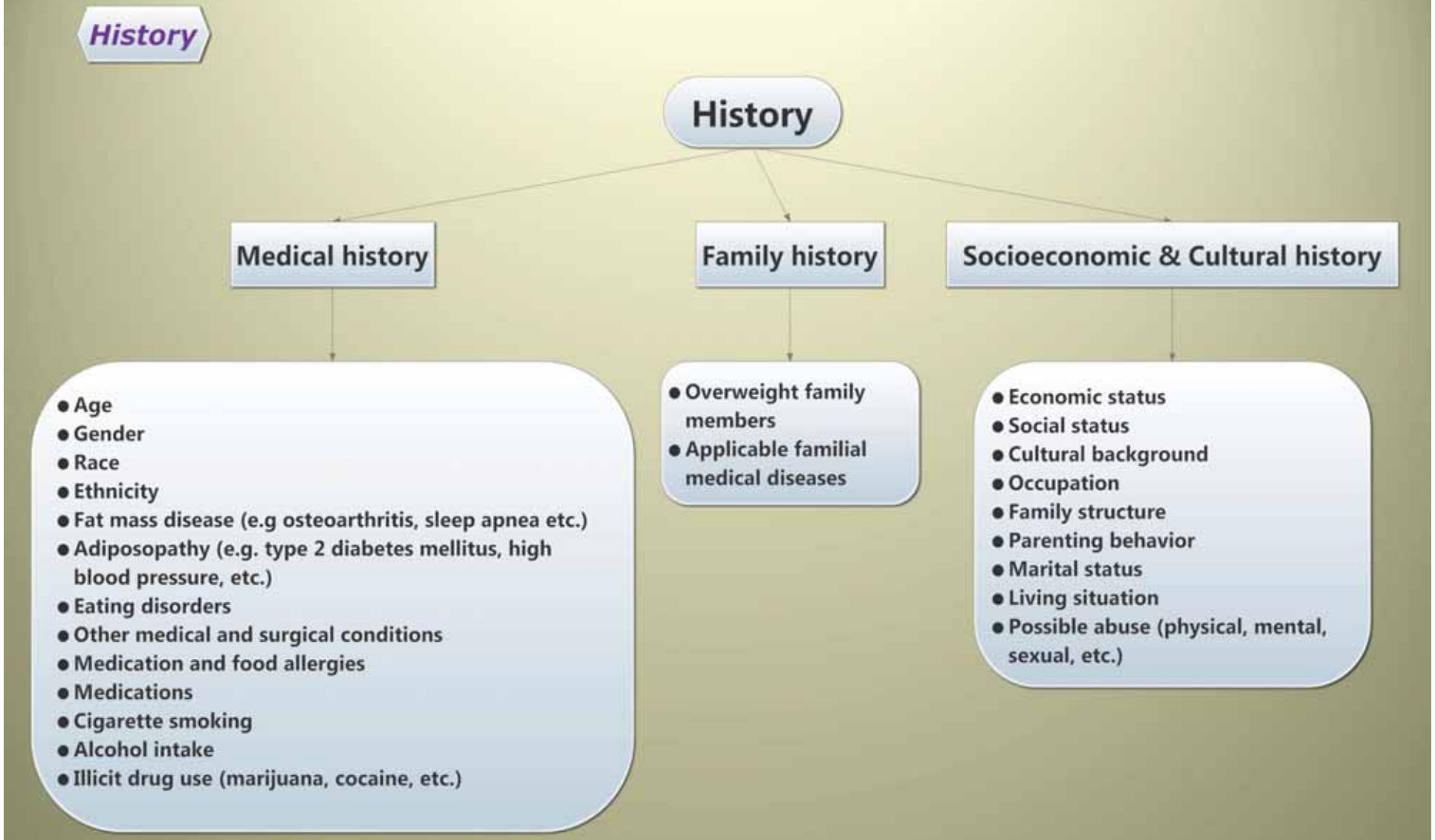


Reference/s: [7] [9] [19] [20]



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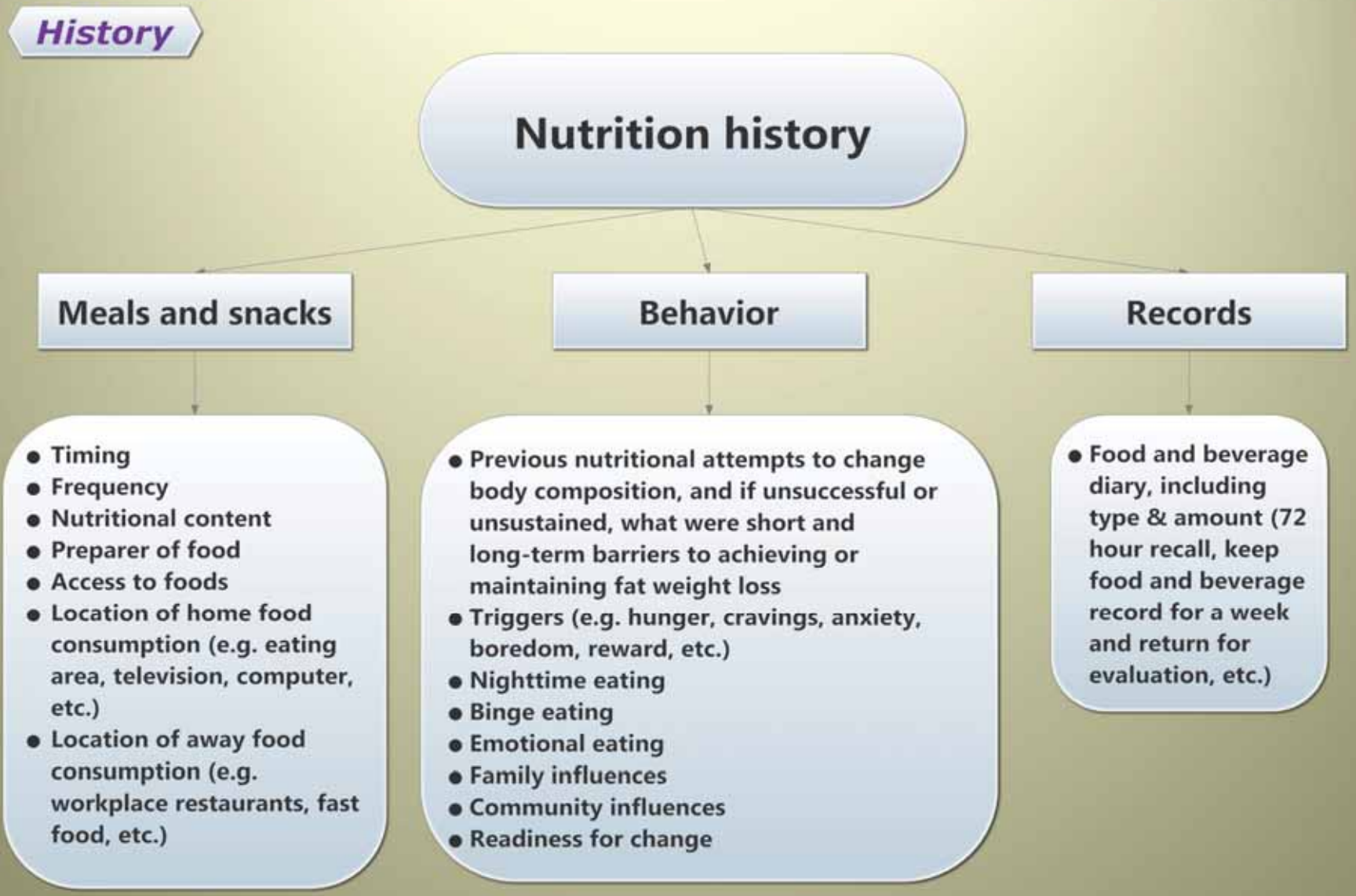


Reference/s: [26] [27] [28]

History

Physical Activity History

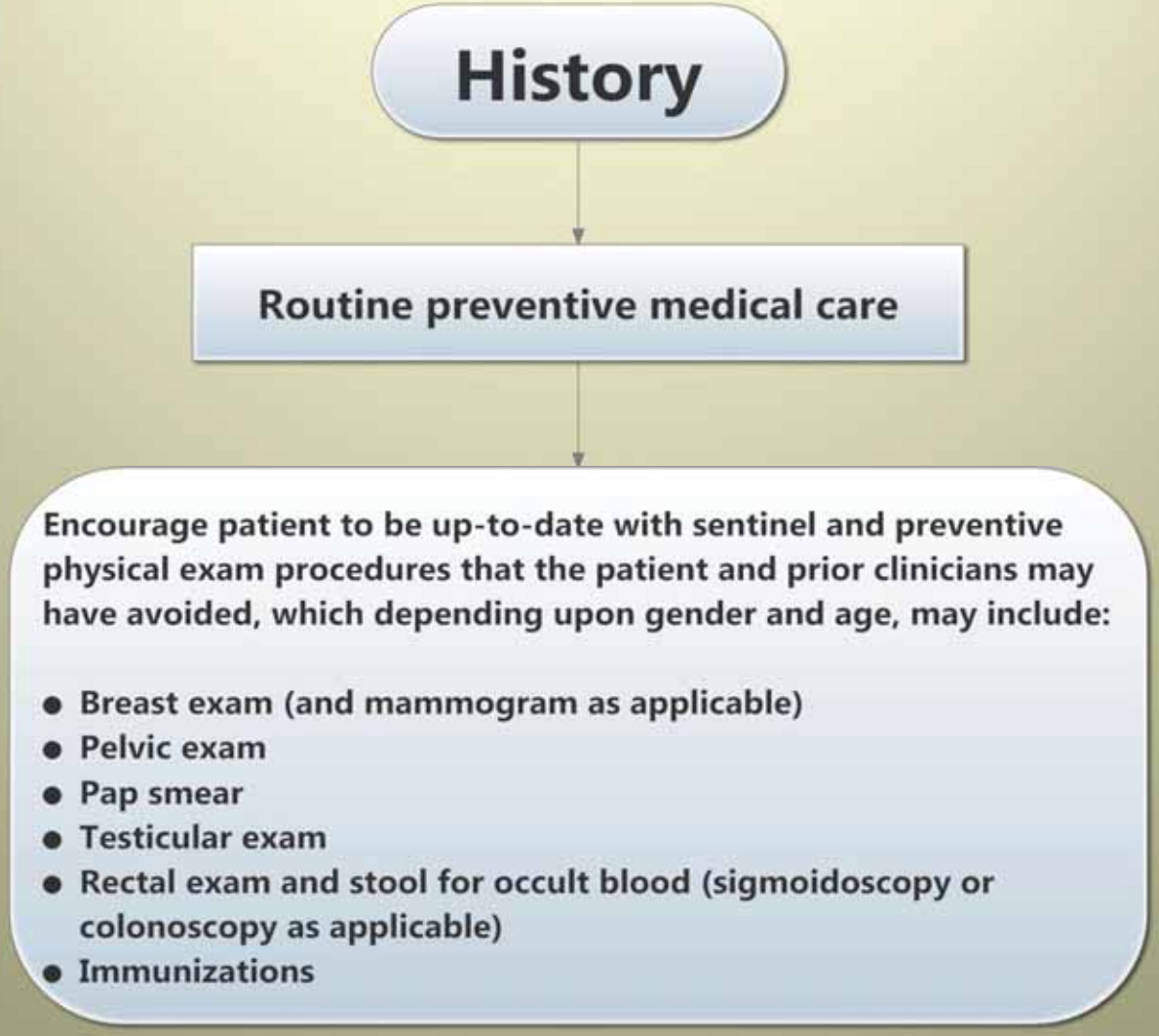
- Success and/or failure of previous physical activity / exercise efforts
- Reasons if no longer engaged in a routine physical activity / exercise regimen

- Current mobility and equipment needs
- Current physical activity / exercise status
- Current fitness level or endurance capacity
- Access to locations amenable to increased physical activity / exercise (e.g. gym, workplace exercise facilities, home setting (urban, rural) etc.
- Physical activity / exercise preferences
- Perceived barriers to increased physical activity

- Medical conditions that should be evaluated before prescribing an exercise program
  - > Diseases of the heart, lung, musculoskeletal and other body systems
  - > Metabolic diseases having potential risks with increased physical activity such as atherosclerotic coronary heart disease (worsening ischemia), diabetes mellitus (hypoglycemia), high blood pressure (increase blood pressure with resistance training), etc.

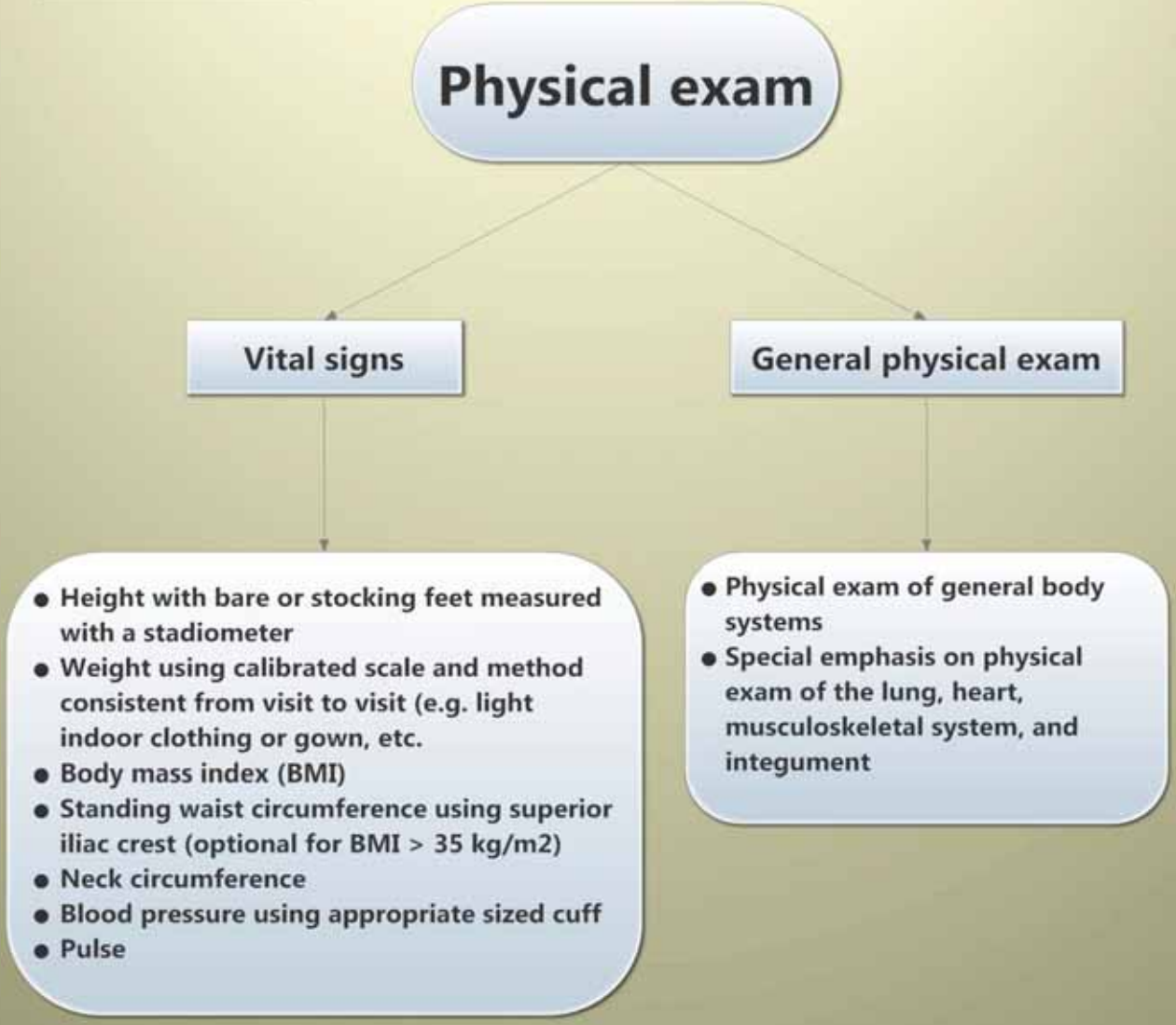
Reference/s: [29] [30] [31]

History



Reference/s: [205]

Physical Exam



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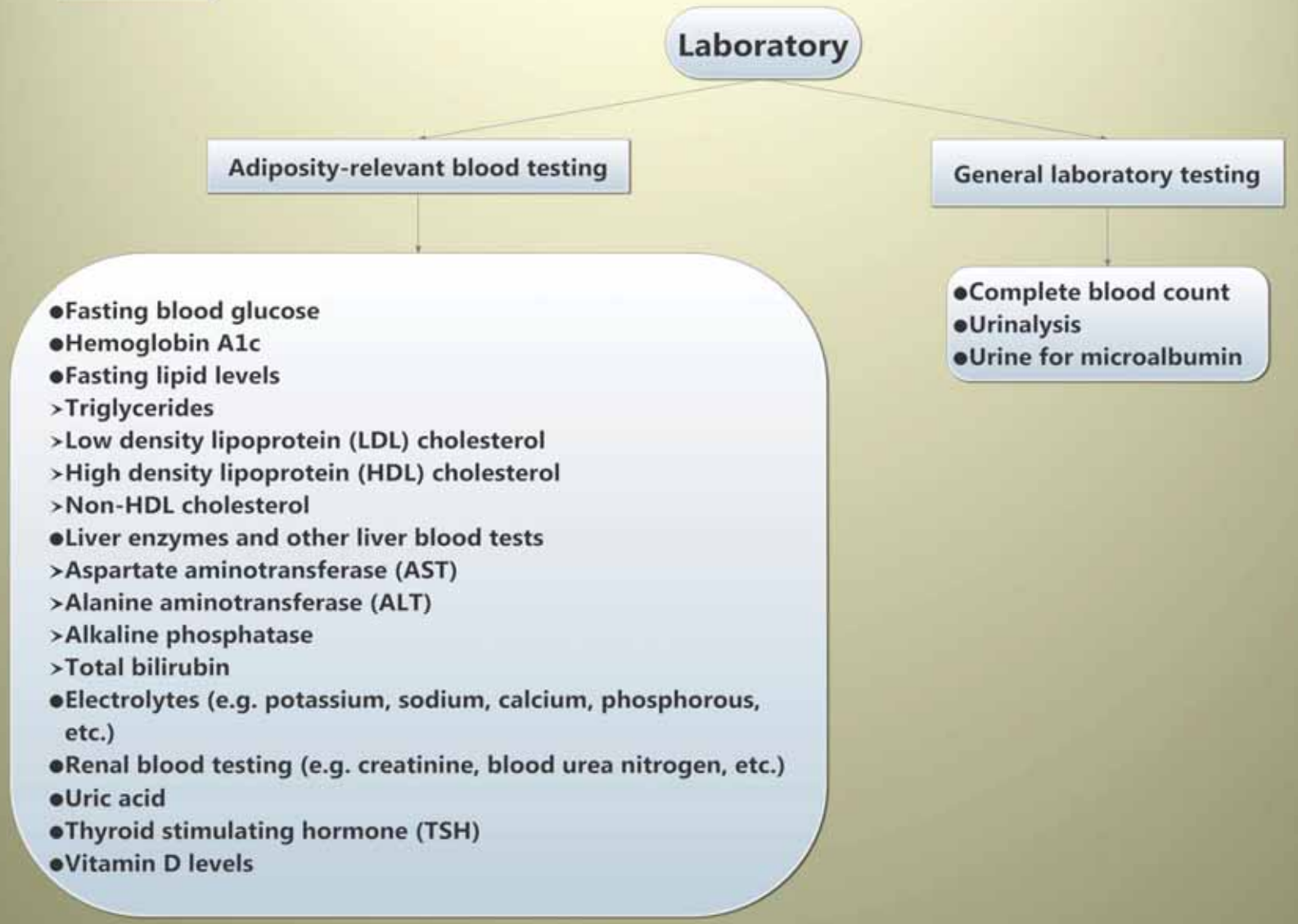

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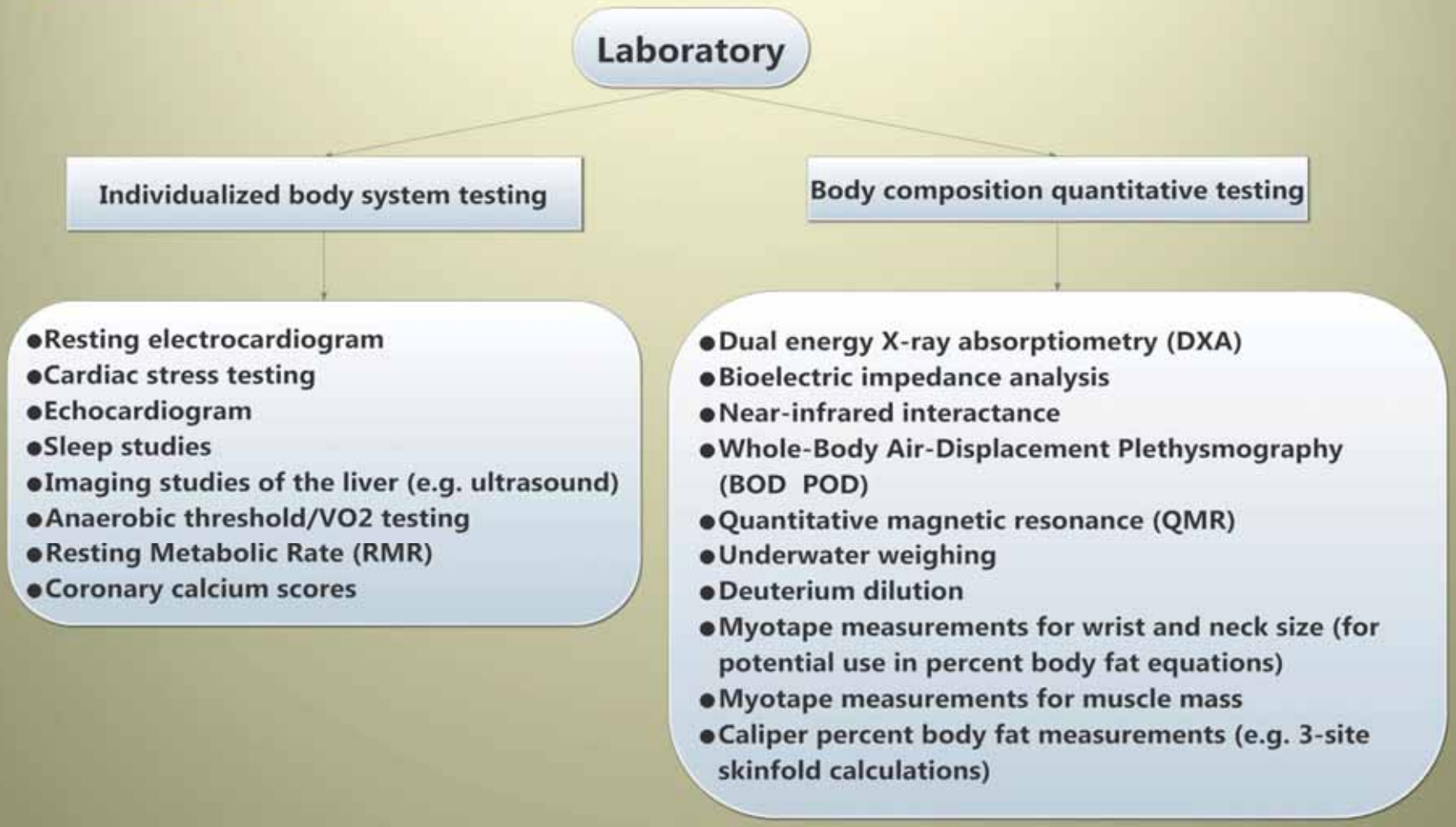

Reference/s: [33] [34] [35]

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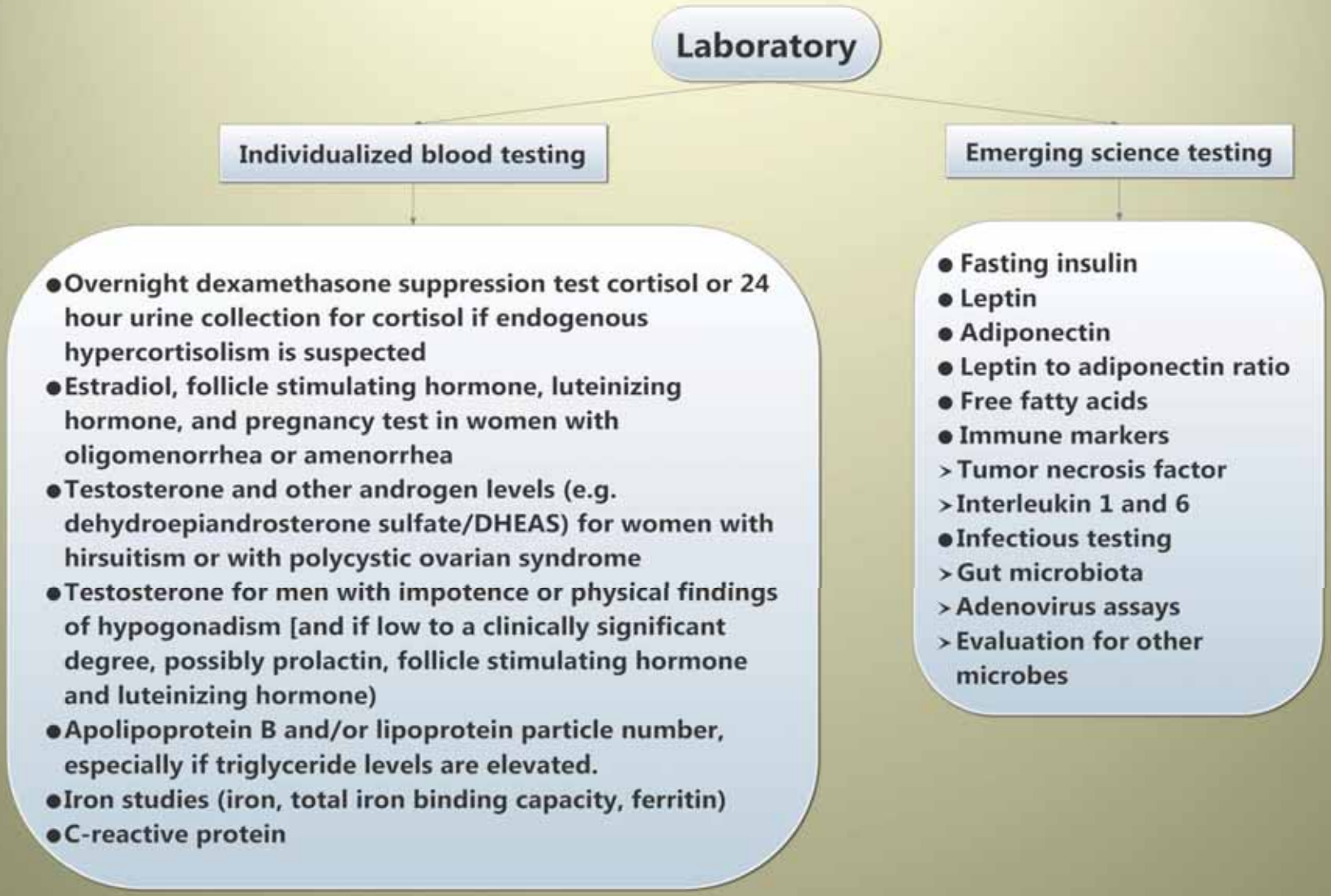


Reference/s: [16] [36] [37] [38]

Treatment

Reference/s: [200]

Treatment

Treatment of adult patients with overweight or obesity as a disease

- **Treat adipocyte and adipose tissue dysfunction, which treats sick fat disease (SFD or adiposopathy)**
- **Treat excessive body fat, which treats fat mass disease (FMD)**

Treating diseases due to excessive body fat improves patient health, quality of life, body weight and body composition

Reference/s: [200]

Treatment

Identify and manage secondary and/or contributing causes of SFD and FMD

Conditions that may promote fat mass gain

- **Medical conditions**
  - Hypothalamic damage
  - Prader Willi syndrome
  - Immobility
  - Insulinoma
  - Some cases of untreated hypothyroidism
  - Hypercortisolism (Cushing's disease)
  - Reduced sleep / sleep apnea
- **Psychological / behavioral conditions**
  - Mental stress
  - Depression
  - Anxiety
  - Post-traumatic stress syndrome
  - Binge eating disorder
  - Night eating disorder

Reference/s: [39] [40] [41] [42]

Treatment

Identify and manage concomitant pharmacotherapy that might influence body weight

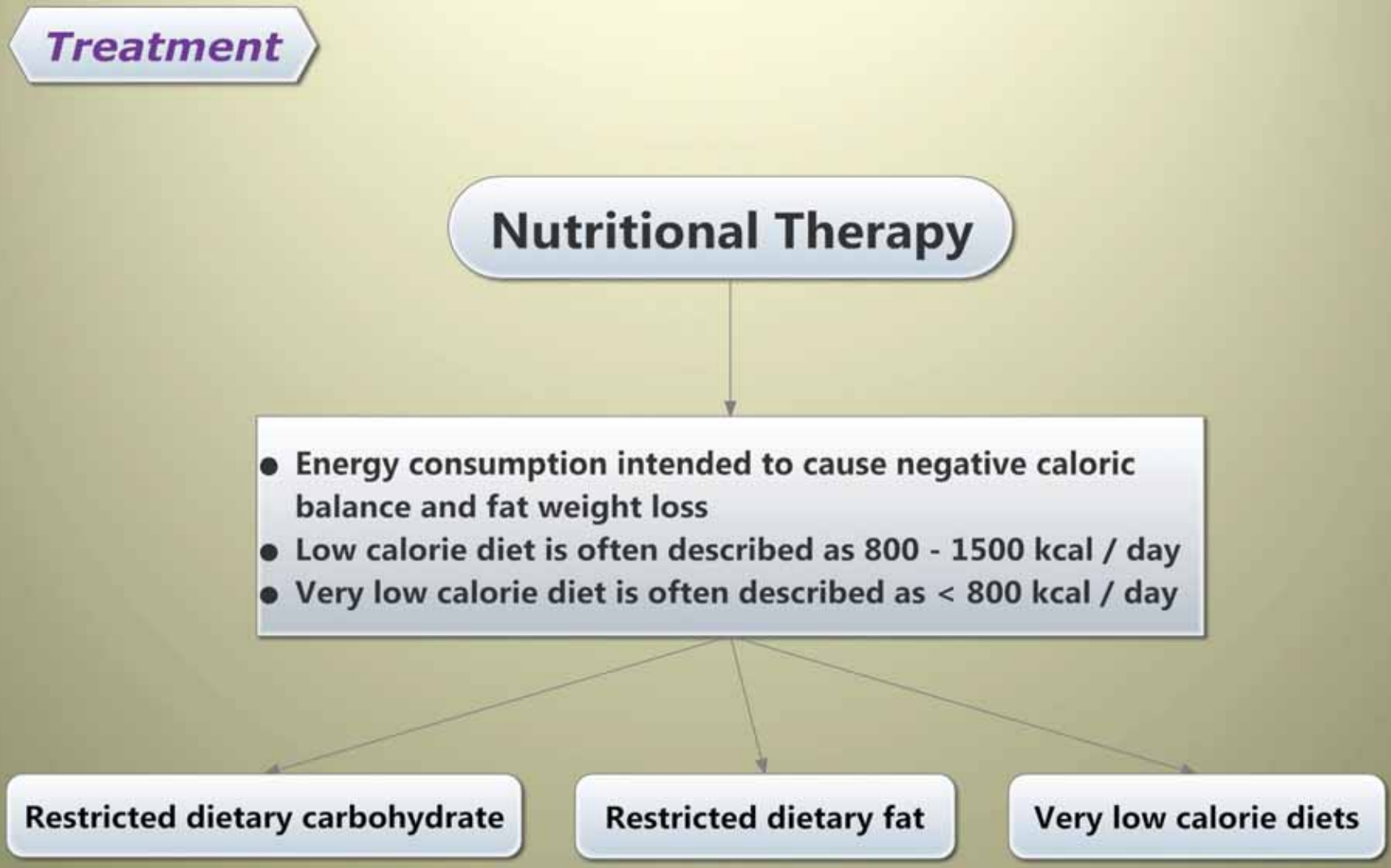
Illustrative examples of pharmacotherapies that may promote fat mass gain

- Steroid hormones (e.g. glucocorticoids, estrogens, progestins tamoxifen)
- Diabetes therapies (e.g. some insulins, sulfonylureas, thiazolidinediones)
- Some highly active antiretroviral protease inhibitors
- Some B-adrenergic blockers (most commonly described with nonselective B-blockers (e.g propranolol)
- Some adrenergic blockers
- Some antihistamines (e.g. diphenhydramine)
- Some antidepressants [tricyclic antidepressants,irreversible monoamine oxides (MAO) inhibitors, mirtazapine, and some selective serotonin reuptake inhibitors (e.g. paroxetine, antiserotonin agents (e.g. pizotifen)]
- Some antiseizure drugs (e.g. valproate, gabapentin, and carbamazepine),
- Some psychotropic drugs (e.g. clozapine, olanzapine, risperidone, quetiapine, thioridazine, divalproex, and chlorpormazine and lithium)
- Some chemotherapies

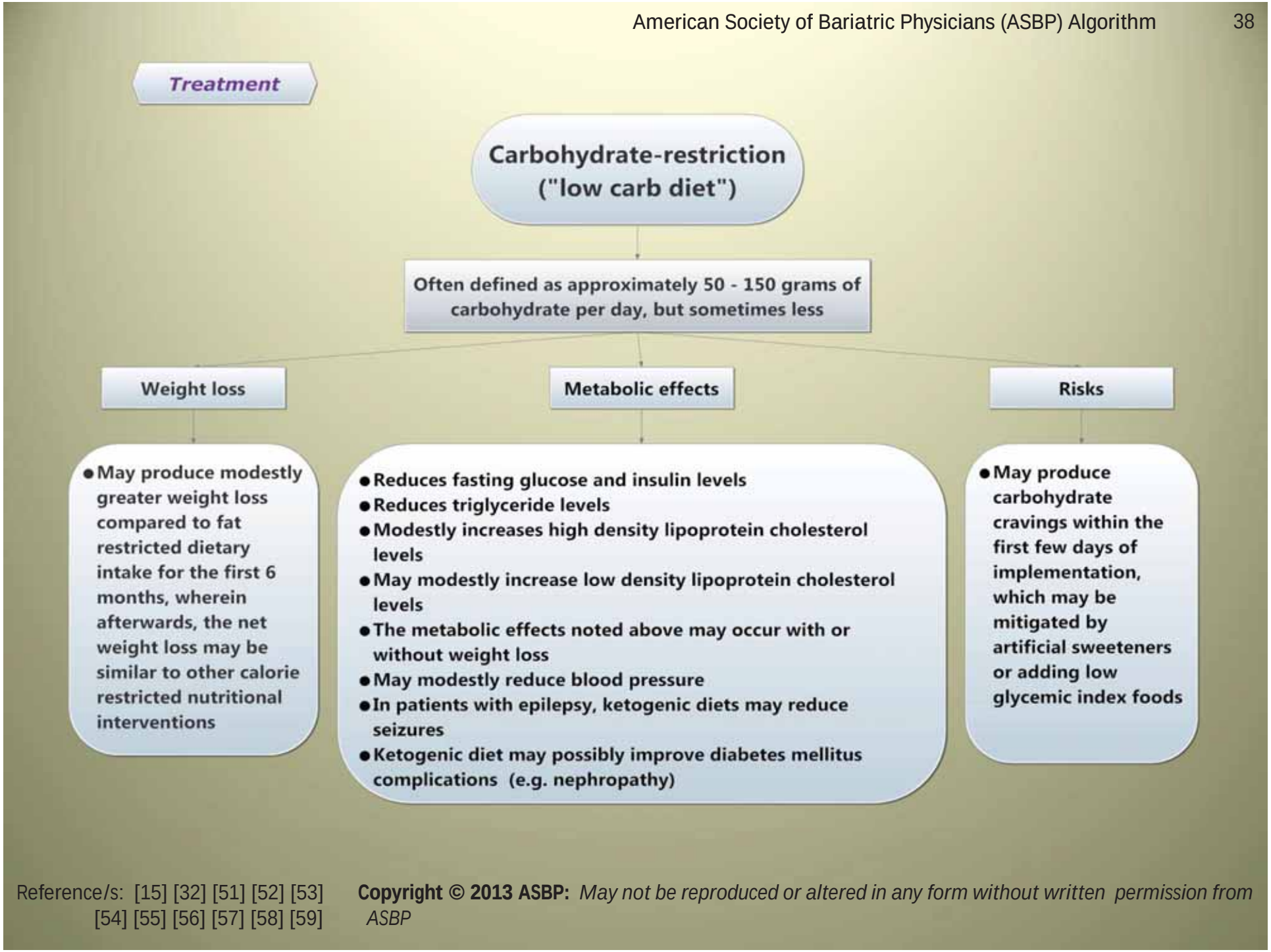
Illustrative examples of pharmacotherapies that may promote fat mass loss

- Anti-diabetes mellitus agents
  - > Metformin
  - > Glucagon-like peptide-1 (GLP-1) agonists
  - > Sodium glucose co-transporter 2 (SGLT2) inhibitors
- Neurologic agents
  - > Topiramate
  - > Bupropion

Reference/s: [14] [43] [44] 45] 46]

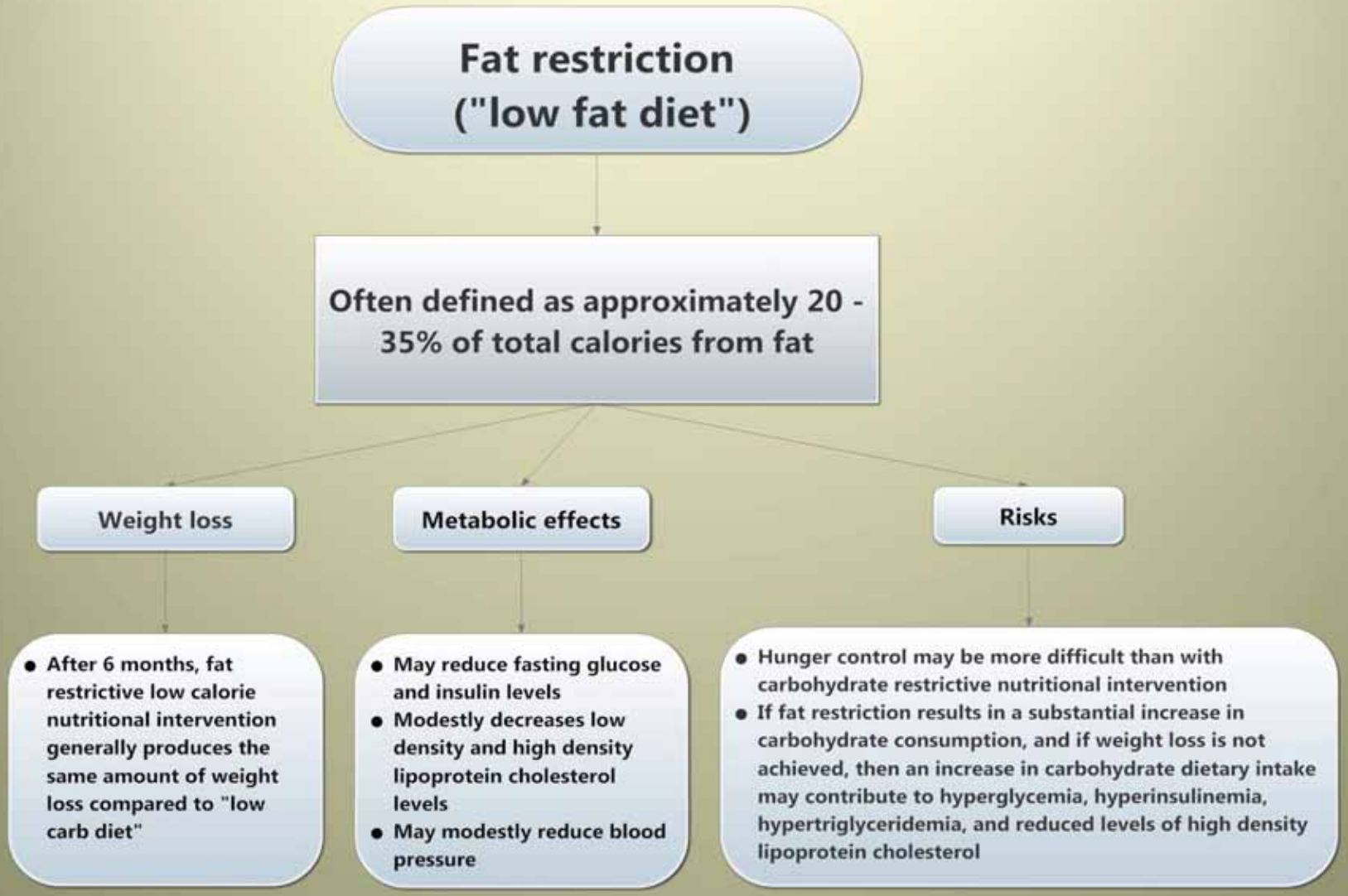


Reference/s: [47] [48] [49] [50]

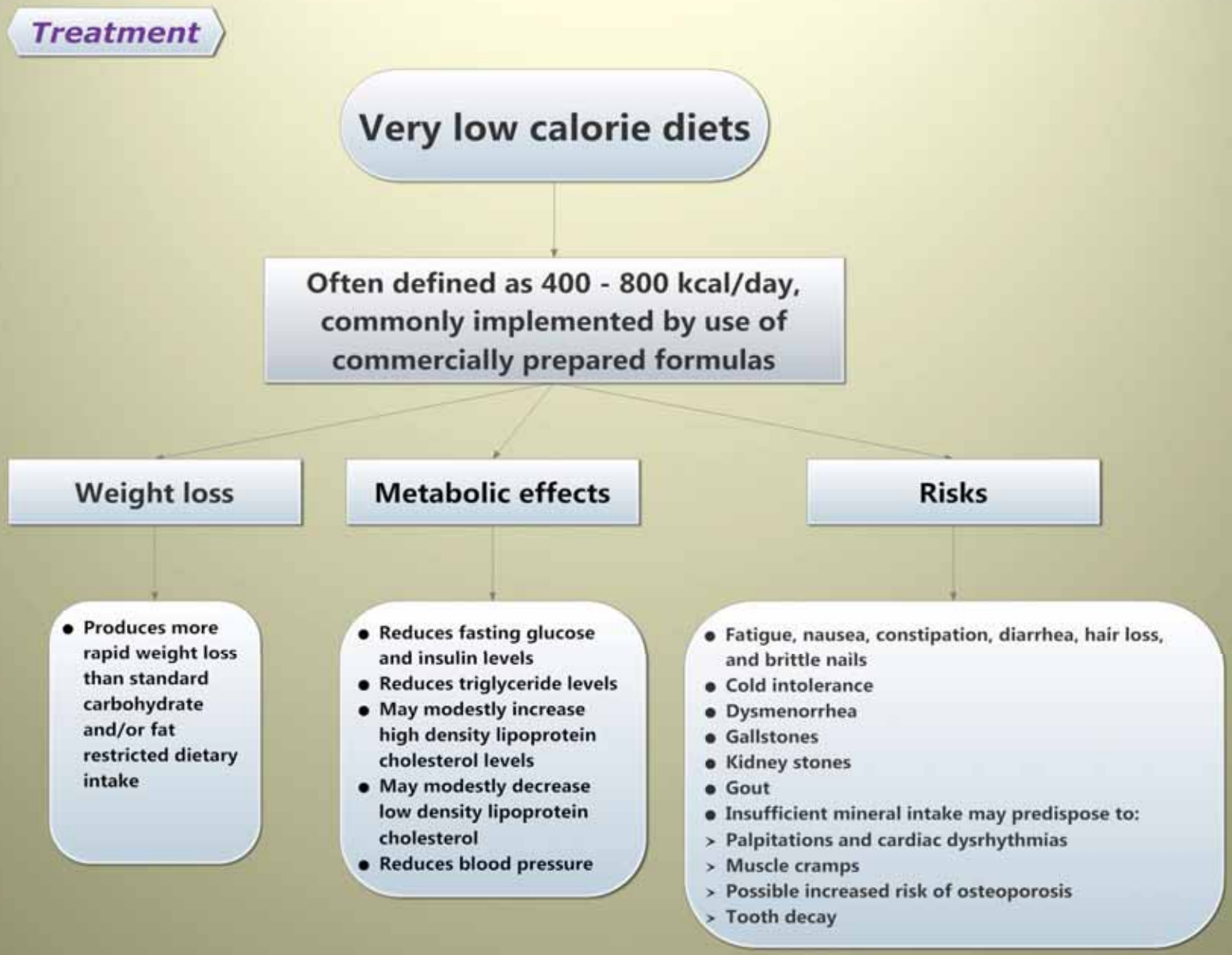


Reference/s: [15] [32] [51] [52] [53] [54] [55] [56] [57] [58] [59]

Treatment



Reference/s: [15] [60] [61]



Reference/s: [62] [63]

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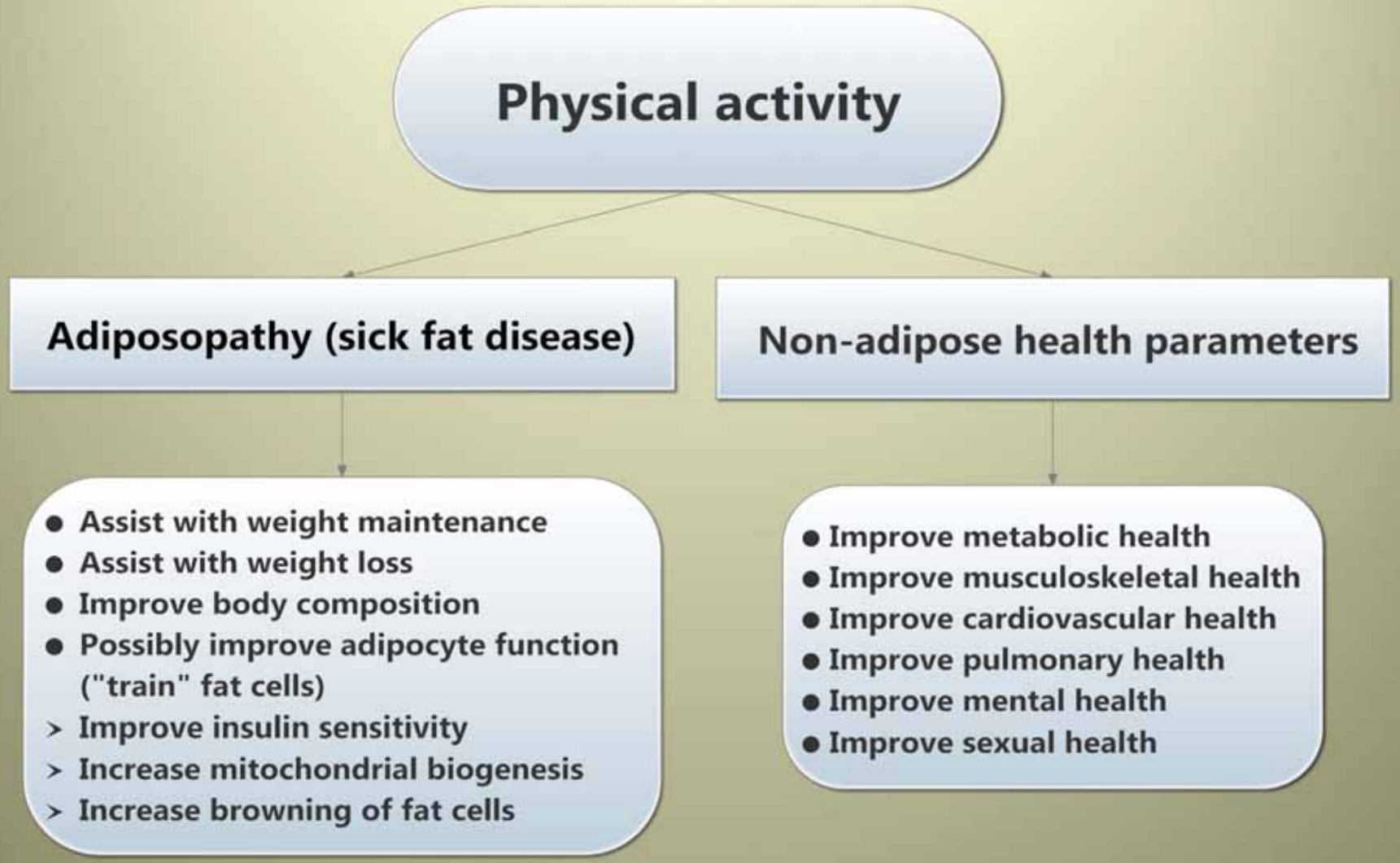

Reference/s: [64] [65] [66]

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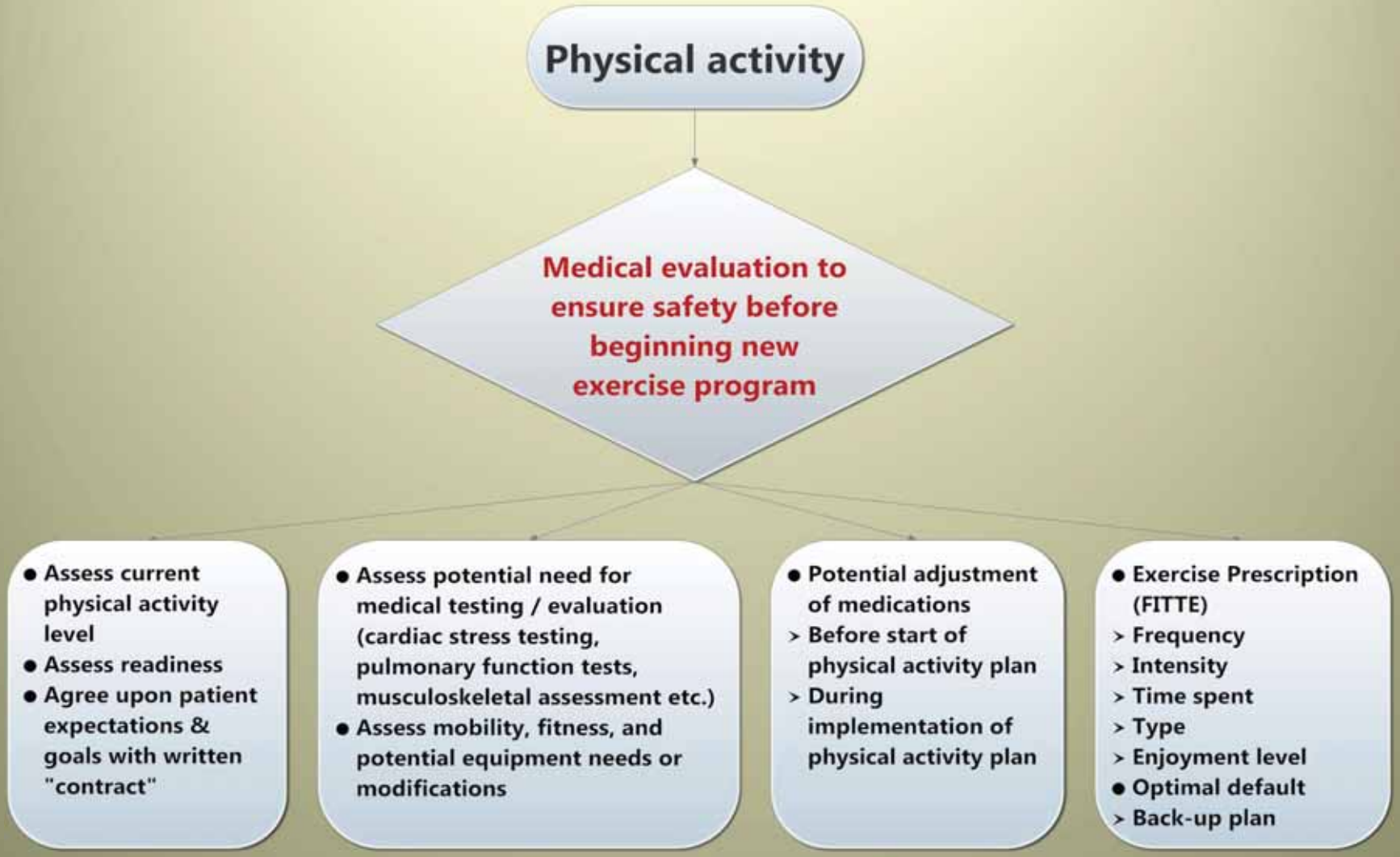
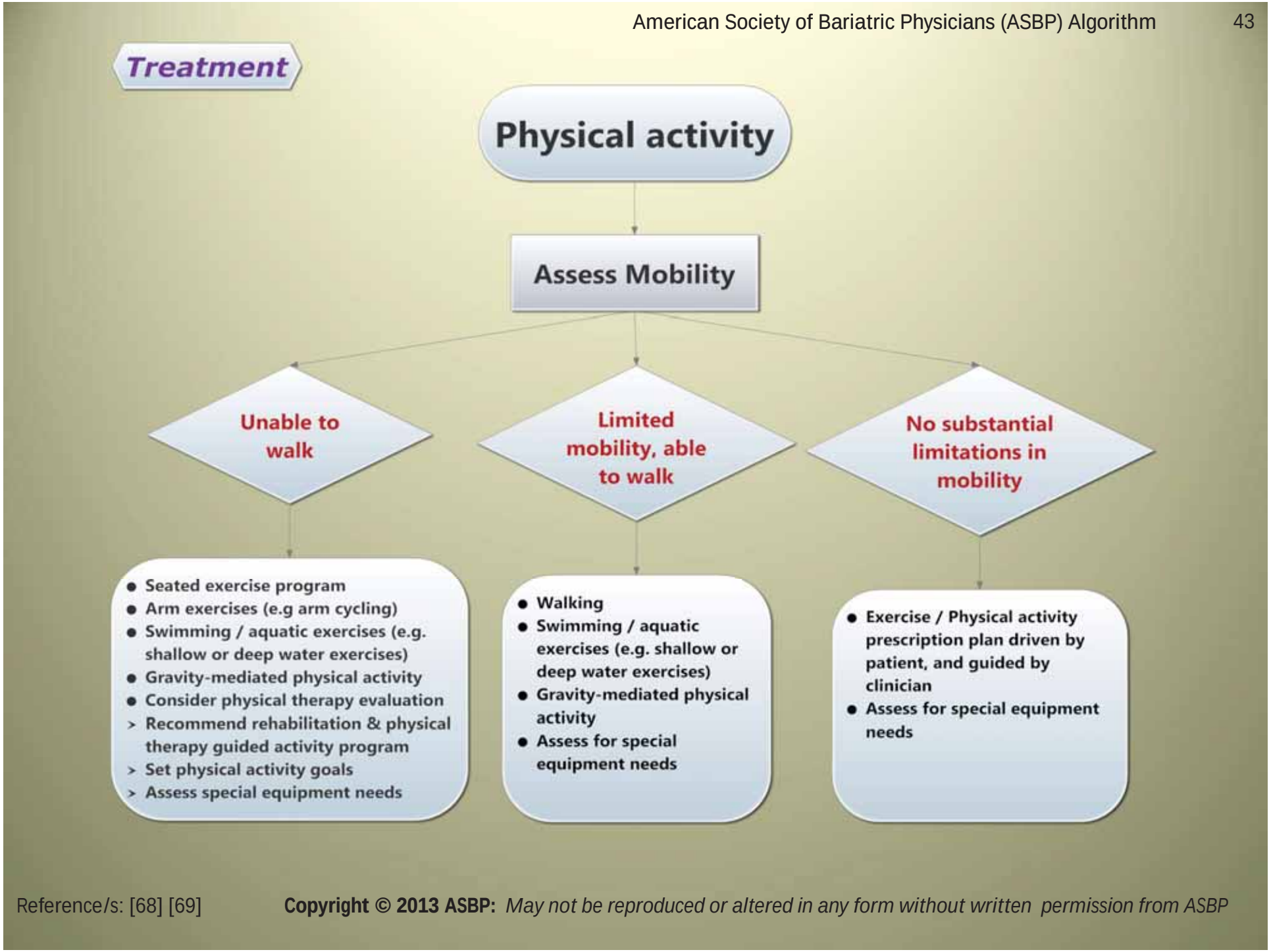


Reference/s: [67] [206]



Reference/s: [68] [69]

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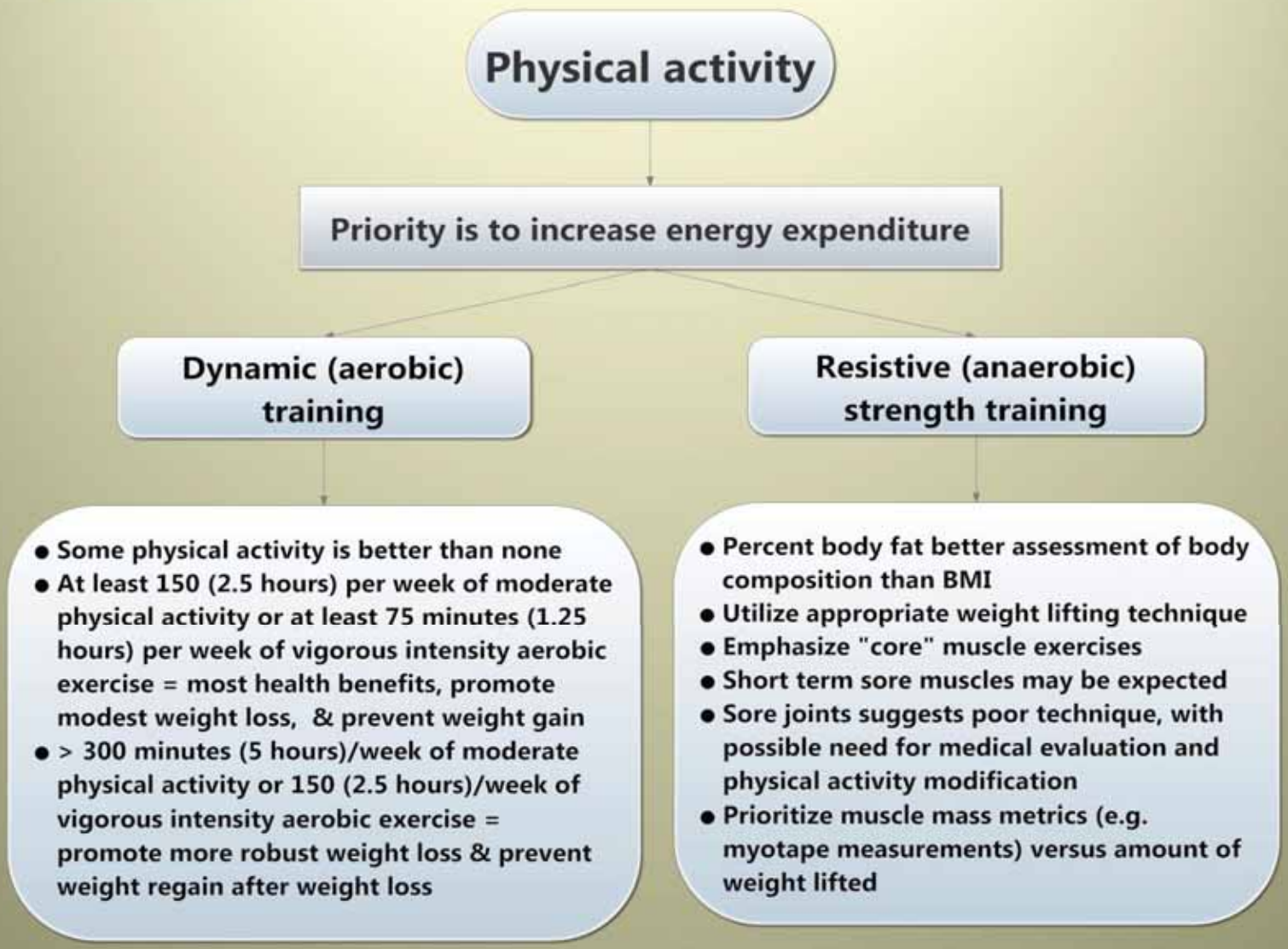

Reference/s: [70] [207]

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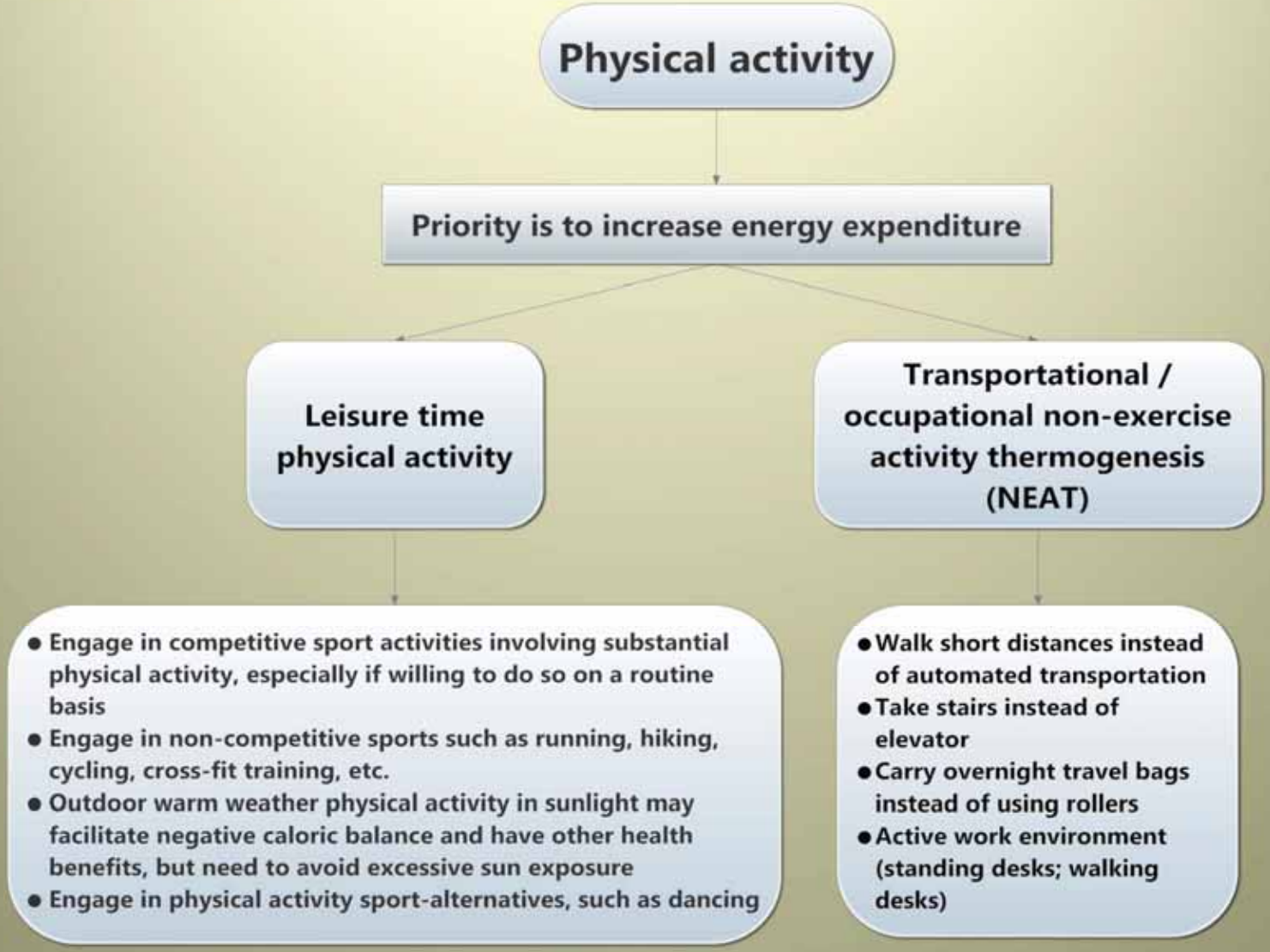

Reference/s: [71] [72]

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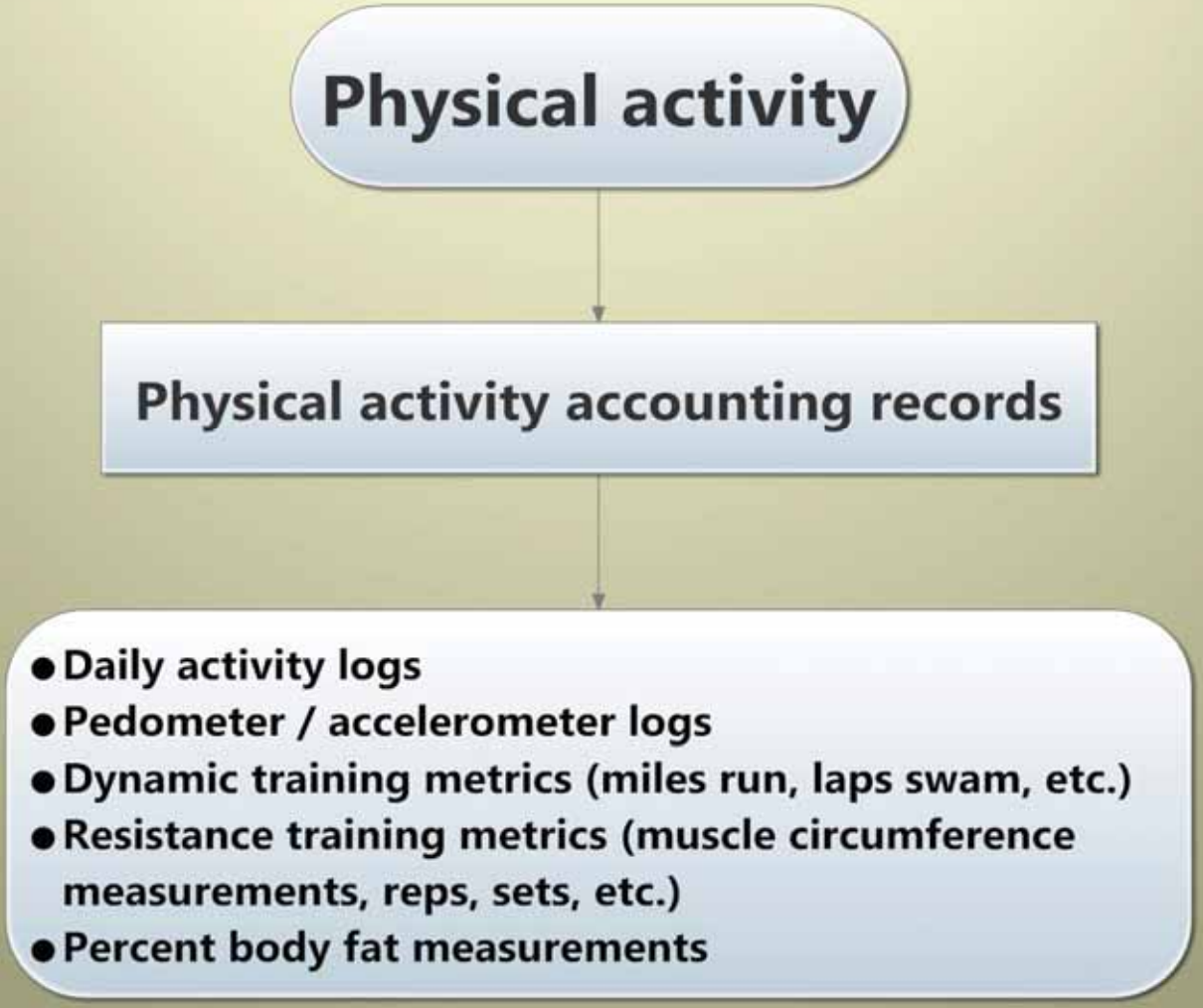
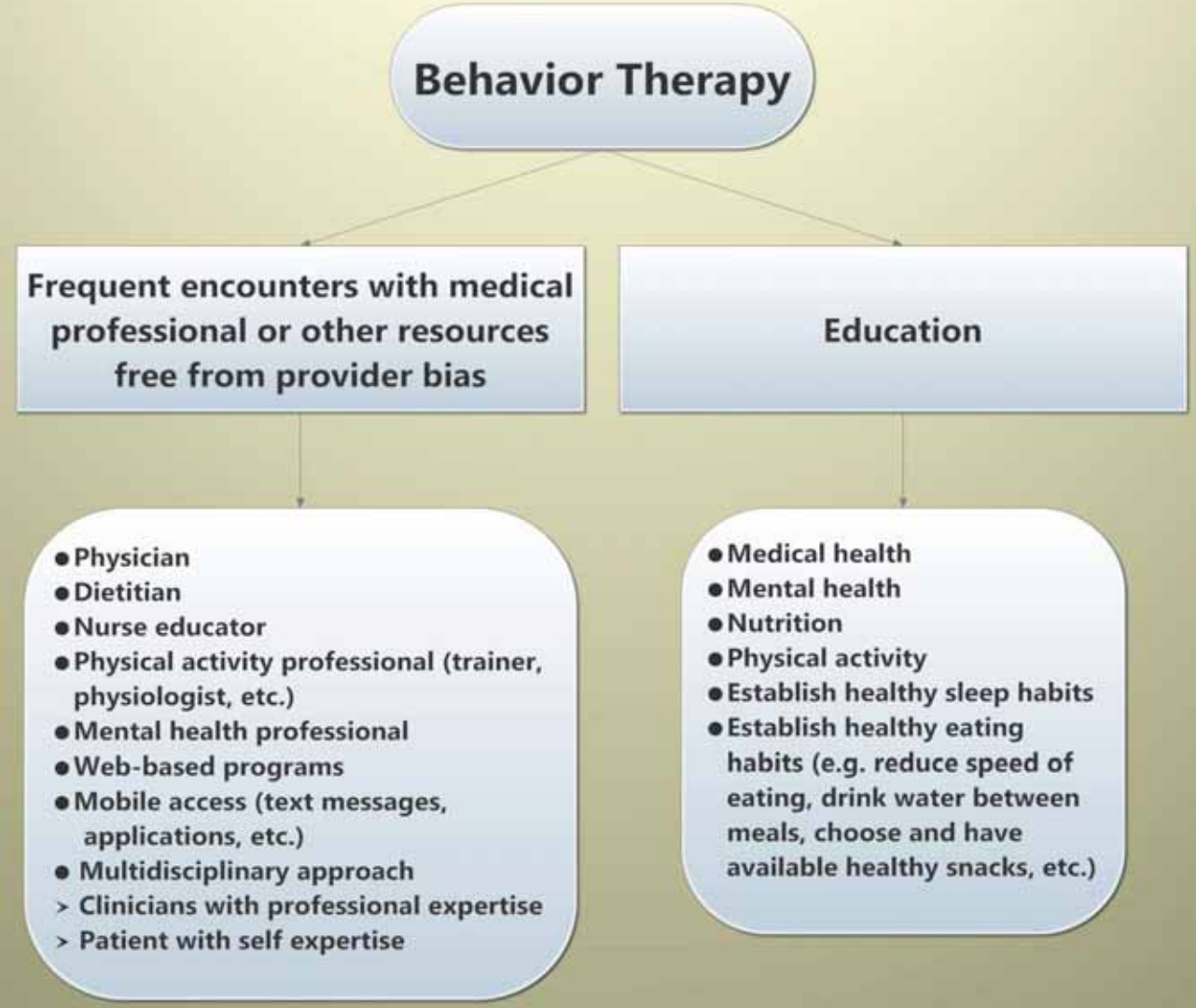


Reference/s: [73] [74]

Treatment



Reference/s: [75] [76] [77]

Treatment

Behavior Therapy (continued)

Stimulus control

- Avoid eating for reasons other than hunger
- Avoid frequent snacking
- Avoid binge eating
- Utilize portion control
- Environmental removal of foods identified as especially tempting for the individual patient

Cognitive restructuring

- Address matters of body image
- Identify and establish a plan to counteract unhelpful or dysfunctional thinking leading to unhealthy behaviors and actions
- Emphasize rationale of aggressive, yet realistic weight loss expectations through an emphasis of weight loss as a matter of medical and mental health
- Encourage patient
  - > Acknowledge he/she is capable of positive thoughts and behaviors
  - > Replace unhelpful thoughts and behaviors with more productive ones
  - > Practice behavior therapy skills between clinician encounters

Reference/s: [76] [78]

Treatment

Reference/s: [76] [79]

Treatment

Reference/s: [76] [80] [81]

Treatment

Weight Management Pharmacotherapy

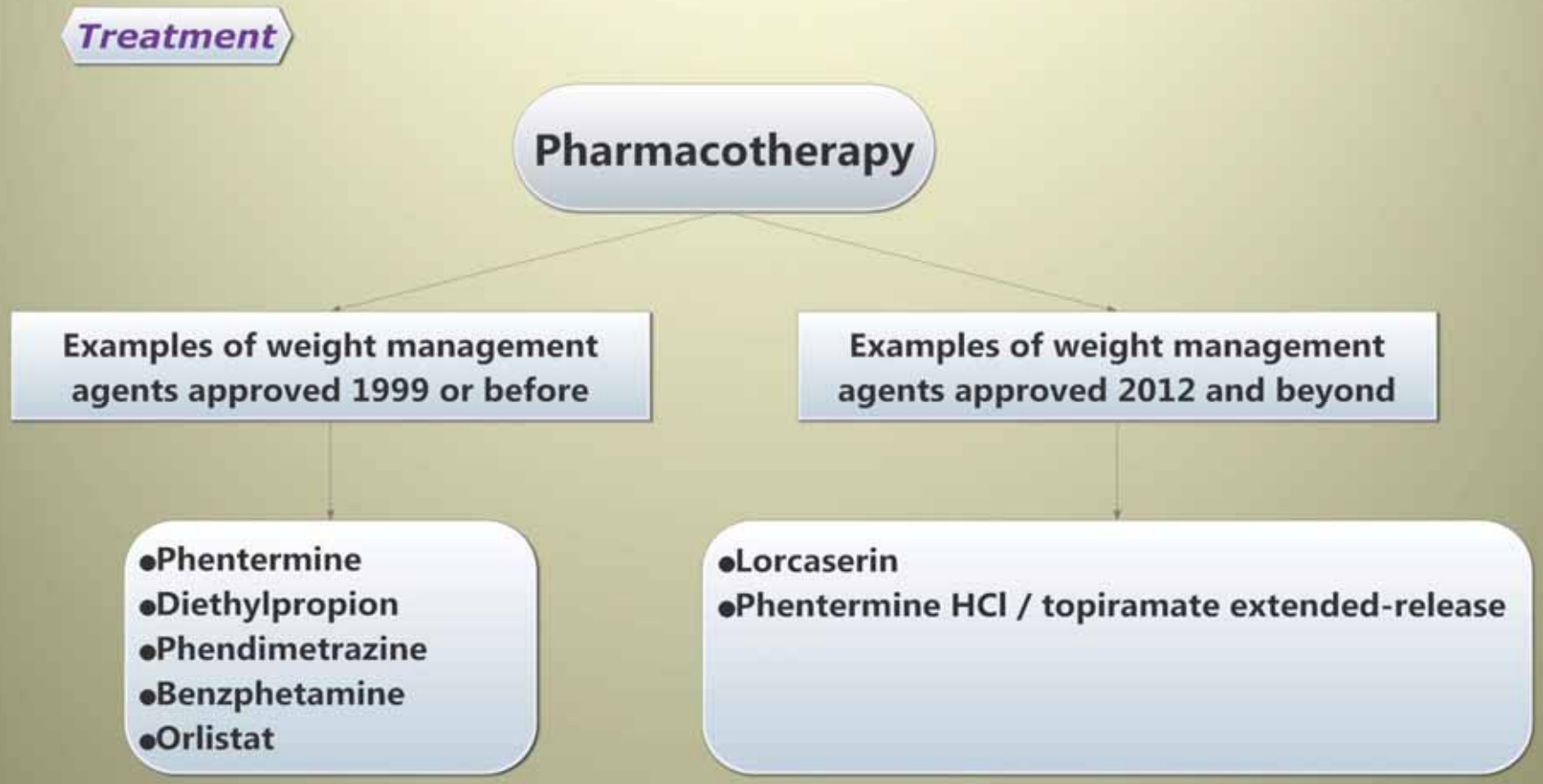
Adjunct to nutritional, physical activity, and behavioral therapies

Objectives:

- **Treat disease**
  - **Adiposopathy or sick fat disease (SFD)**
  - **Fat mass disease (FMD)**
- **Facilitate management of eating behavior**
- **Slow progression of weight gain / regain**
- **Improve the health, quality of life, and body weight of the obese and/or overweight patient**

Reference/s: [32] [82]

Reference/s: [83] [84]



Reference/s: [200]

Treatment

Pharmacotherapy

Sympathomimetic amines

- Examples: Phentermine, diethylpropion, phendimetrazine, benzphetamine
- Increases satiety
- Drug Enforcement Agency Schedule weight management agents
  - DEA IV for phentermine and diethylpropion
  - DEA III for phendimetrazine and benzphetamine
- Potential adverse experiences include palpitation, tachycardia, increased blood pressure, overstimulation, tremor, dizziness, insomnia, dysphoria,headache, dryness of mouth, dysgeusia, diarrhea, constipation
- Pregnancy category X

Gastrointestinal lipase inhibitors

- Example: Orlistat
- Impairs gastrointestinal energy absorption
- Potential adverse experiences include oily discharge from the rectum, flatus with discharge, increased defecation, fecal incontinence, may increase risk of cholelithiasis, may increase risk of urinary oxalate, rare postmarketing reports of severe liver injury, may decrease fat-soluble vitamin absorption (e.g. vitamins A, D, E, K, and beta carotene)
- Pregnancy category X

Reference/s: [85] [86] [87]

Treatment

Weight Management Pharmacotherapy

Currently Approved Pharmacotherapy Principles

Approved weight management pharmacotherapy indications:

- Obese patients (e.g. BMI >= 30kg/m2)*
- Overweight patients (e.g. BMI >= 27 kg/m2) with presence of adiposity complication (e.g. type 2 diabetes mellitus, hypertension, dyslipidemia)*

If no clinical improvement after 12 weeks with one weight management pharmacotherapy, then consider alternative weight management pharmacotherapy, or increasing weight management pharmacotherapy dose (if applicable).

* While BMI (body mass index) is the only measure listed in the prescribing information for weight management pharmacotherapy, BMI may have limitations; in some circumstances, obesity and overweight are more accurately assessed by other measures

Reference/s: [85] [207]

Treatment

Lorcaserin

Indications & use

- Serotonin (5-hydroxytryptamine) 2c receptor agonist weight management agent
- Drug Enforcement Agency Schedule IV drug
- Dose = 10 mg twice a day

Potential drug interactions

- The safety of lorcaserin coadministration with other serotonergic or antidopaminergic agents is not yet established, which includes selective serotonin reuptake inhibitors, serotonin-norepinephrine reuptake inhibitors, monoamine oxidase inhibitors, triptans, bupropion, dextromethorphan, St. John's Wort

Pharmacokinetics

- Lorcaserin is metabolized in the liver with metabolites excreted in the urine.

Reference/s: [88] [89] [208]

Treatment

Lorcaserin

Potential Adverse experiences

- Headache
- Dizziness
- Fatigue
- Nausea
- Dry mouth
- Constipation
- Cough
- Reduced heart rate
- Hyperprolactinemia

Contraindications

- If signs or symptoms of valvular heart disease develop, then discontinuation of lorcaserin should be considered during evaluation for valvulopathy
- Use with caution with use of hazardous machinery because of the potential for cognitive impairment with disturbances in attention or memory
- Use with caution among patients with psychiatric disorders, including euphoria and dissociation
- Use with caution among patients with psychiatric disorders and predisposed to depression who should be monitored for depression or suicidal thoughts, with discontinuation of lorcaserin if symptoms develop
- Weight-loss lorcaserin may produce hypoglycemia in patients treated for diabetes mellitus
- Use with caution in men with history of priapism or predisposition to priapism
- Contraindicated during pregnancy or nursing mothers (Pregnancy category X)

Reference/s: [88] [89] [208]

Treatment

Phentermine HCl / topiramate extended-release

Completion of Risk Evaluation and Mitigation Strategy (REMS) program to inform prescribers and women patients about the increased risk of congenital malformations (especially orofacial clefts) in infants exposed to phentermine HCl / topiramate ER during the first trimester of pregnancy

Indications & use

- Drug Enforcement Agency Scheduled IV
- Phentermine is a shorter acting sympathomimetic amine approved as monotherapy as a weight management drug
- Topiramate is a longer-acting neurostabilizier approved as monotherapy for seizure disorders and migraine headache prevention
- Doses = Once daily in the morning with or without food
  - > Starting dose = 3.75-mg/23-mg (phentermine 3.75 mg/topiramate 23 mg extended-release); then after 14 days intervals, and as clinically indicated, escalate doses to:
  - > Recommended dose = 7.5 mg/46 mg
  - > Titration dose = 11.25 mg/69 mg
  - > Top dose = 15 mg/92 mg

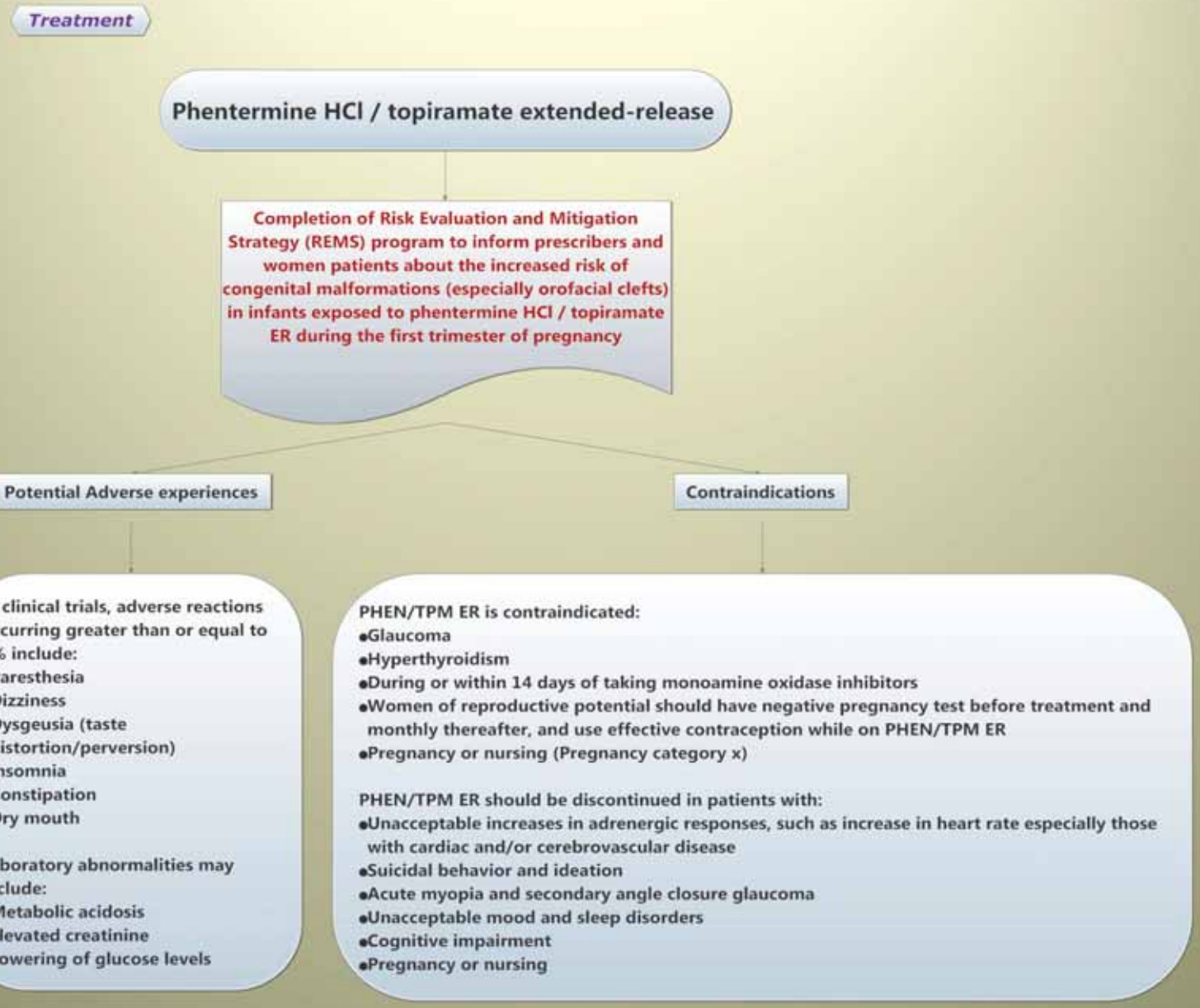
Potential drug interactions

- PHEN/TPM ER may alter the exposure to oral contraceptives, causing irregular menstrual bleeding, but not an increased risk of pregnancy.
- Oral contraceptives should not be discontinued if spotting occurs.
- PHEN/TPM ER may potentiate central nervous system depressants such as alcohol; thus, patients should avoid concomitant alcohol
- PHEN/TPM ER may potentiate hypokalemia of non-potassium sparing diuretics

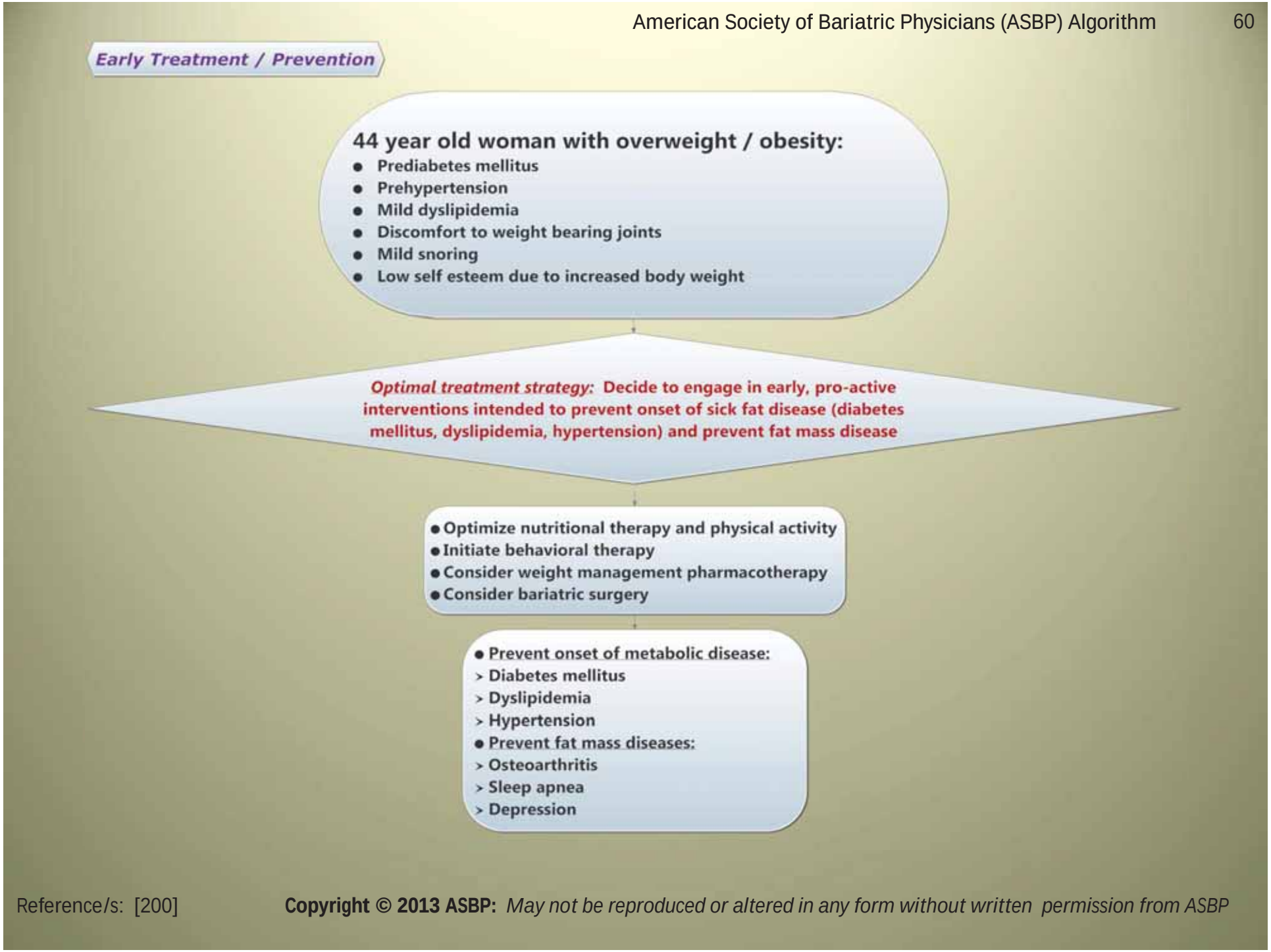
Pharmacokinetics

- Phentermine is metabolized by the liver, with most excreted by the kidney.
- Topiramate is excreted mainly by the kidney

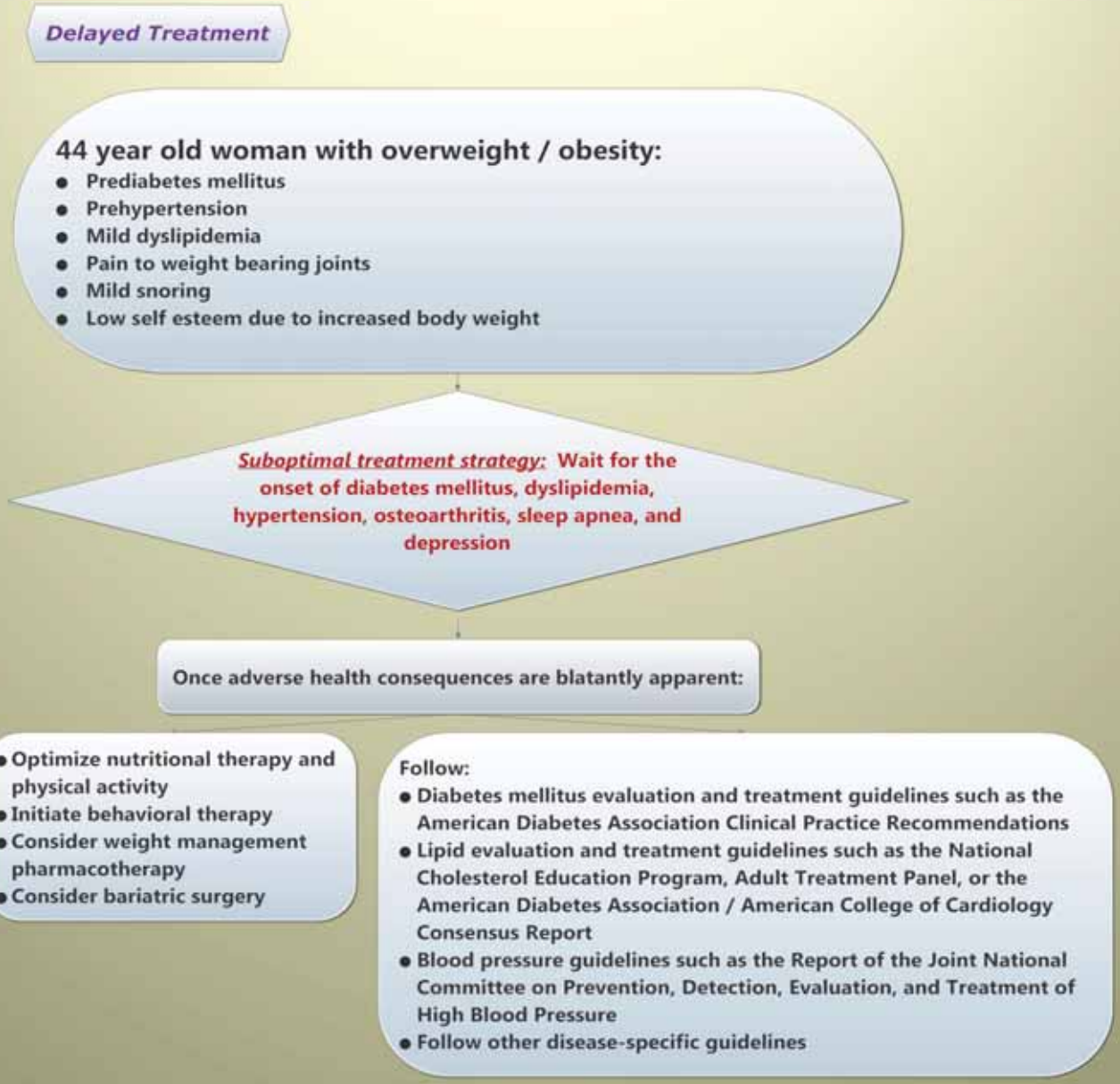
Reference/s: [90] [91] [209]



Reference/s: [90] [91] [209]



Reference/s: [200]



Reference/s: [210] [211] [212]

Delayed Treatment

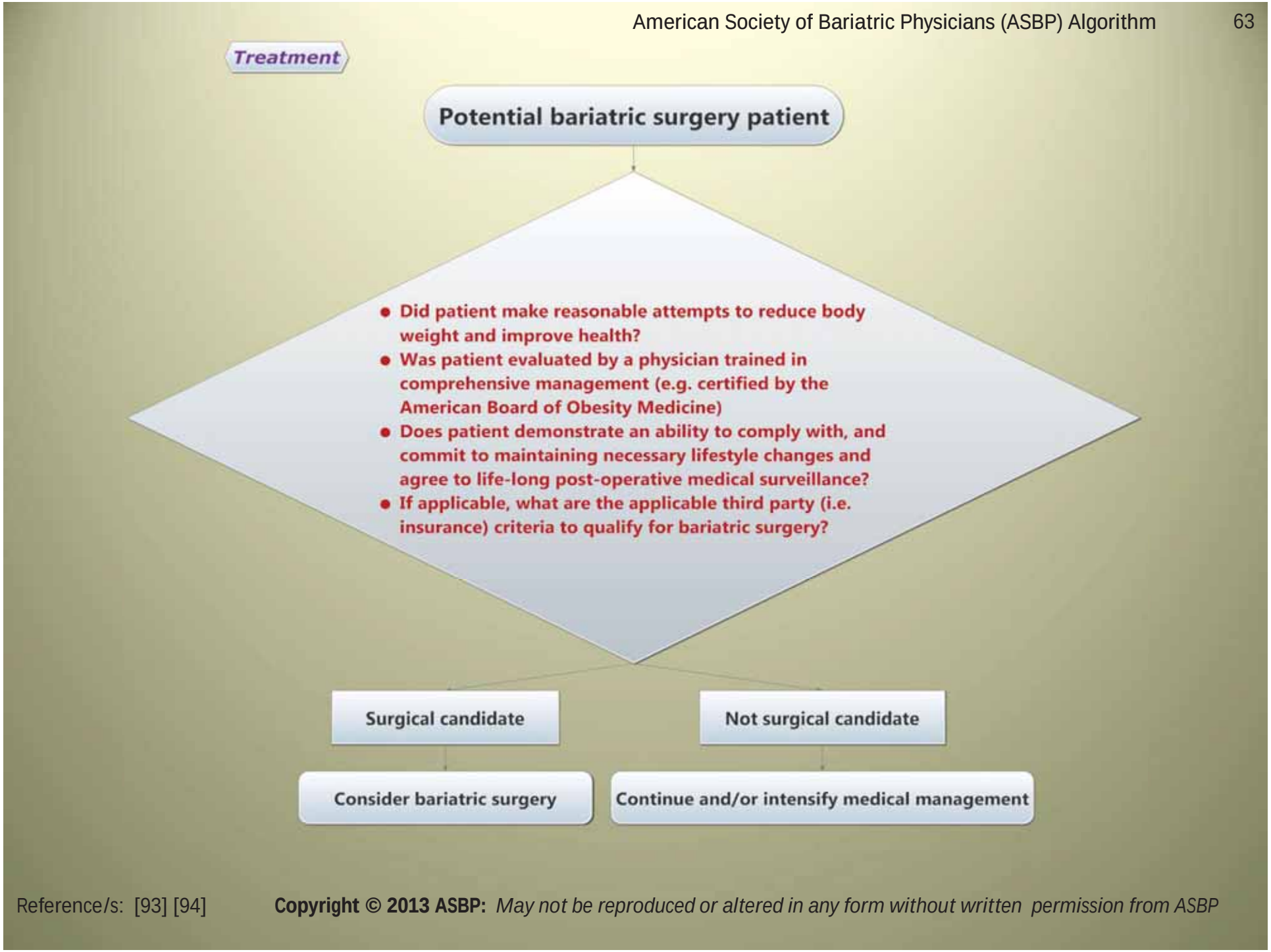
44 year old woman with overweight / obesity:

- Prediabetes mellitus
- Prehypertension
- Mild dyslipidemia
- Pain to weight bearing joints
- Mild snoring
- Low self esteem due to increased body weight

If the decision was made to wait for the onset of diabetes mellitus, dyslipidemia, hypertension, osteoarthritis, sleep apnea, and depression (continued):

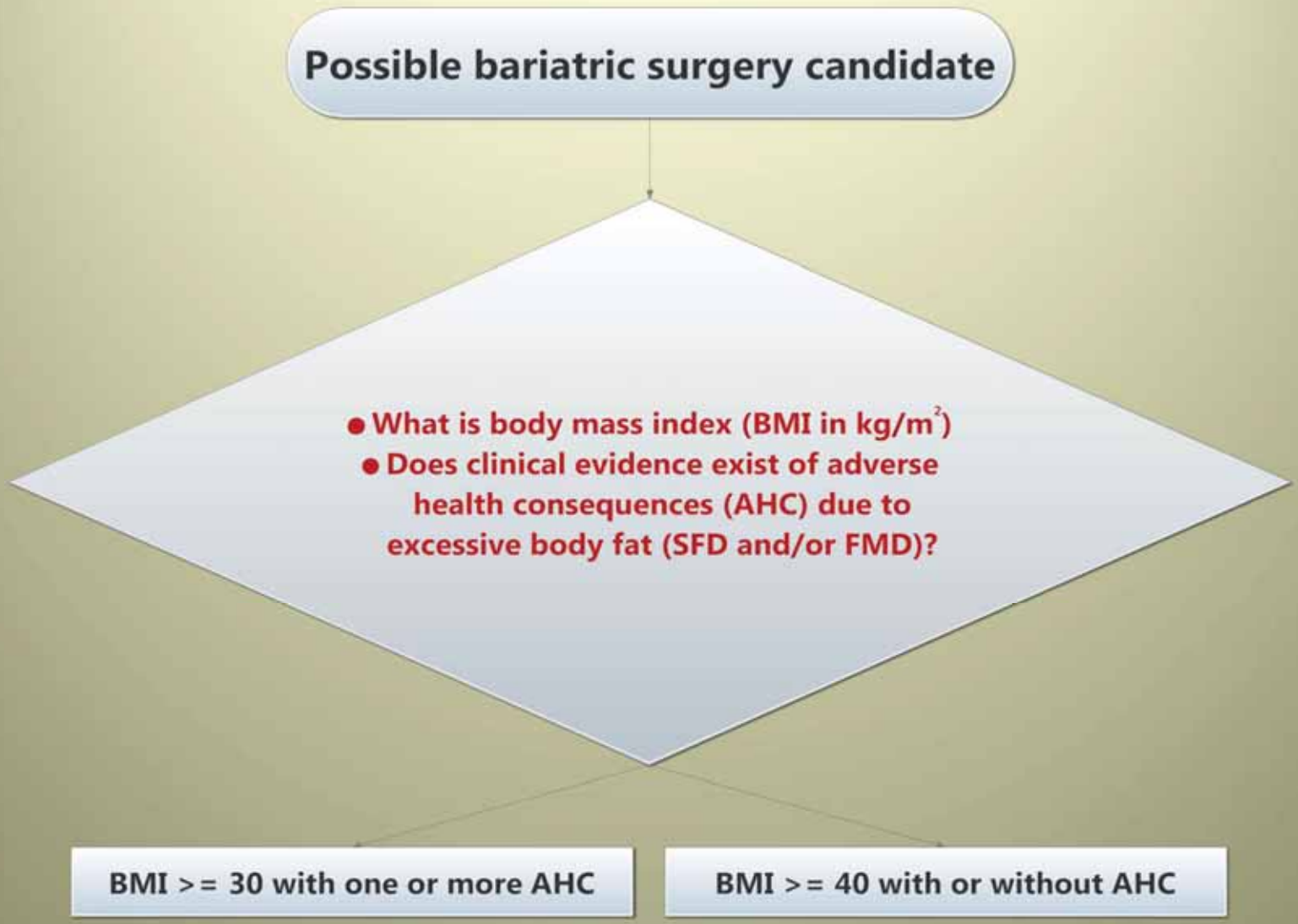
- Utilize diabetes mellitus therapies most likely to improve adipose tissue function
- In patients with fat mass disease, utilize diabetes mellitus therapies having neutral or body weight loss effects, such as metformin, glucagon-like peptide-1 (GLP-1) agonists, sodium glucose cotransporter-2 (SGLT2) inhibitors, etc.)
- Utilize lipid therapies most likely to reduce atherosclerotic coronary heart disease risk and least likely to increase body weight
- Utilize blood pressure therapy most likely to reduce cardiovascular disease risk, which may also provide other health benefits (e.g. diuretics, angiotensin converting enzyme inhibitors, etc.)
- Utilize non-steroidal anti-inflammatory agents to treat osteoarthritis
- Treat sleep apnea
- Utilize anti-depressant medications least likely to promote further weight gain
- Administer additional pharmaceuticals and/or treatment modalities as indicated

Reference/s: [10] [15] [43] [92]



Reference/s: [93] [94]

Treatment



Reference/s: [200]

Treatment

Bariatric surgery pre-op evaluation

- Medical evaluation by physician specializing in the care in overweight and/or obese patients
- Surgical consultation by bariatric surgery specialist
- Cardiology, Pulmonary, Gastroenterology, other specialty consultation as indicated
- Mental health professional
- Nutritional support (such as through a dietitian)
- Educational support (such as through pre-operative seminar)

Reference/s: [95]

Treatment

Laparoscopic adjustable gastric banding

A surgical procedure where an adjustable band is placed around the upper stomach creating a small pouch. The band diameter is adjustable through introduction of saline via a subcutaneous port that can be accessed from the upper abdomen.

General

- Outpatient procedure
- Recovery usually one week
- Contraindications
  - Poor surgical candidate
  - Severe psychiatric disorder
  - Intolerance to general anesthesia
  - Pregnancy
  - Drug or alcohol addiction
  - Untreated esophagitis

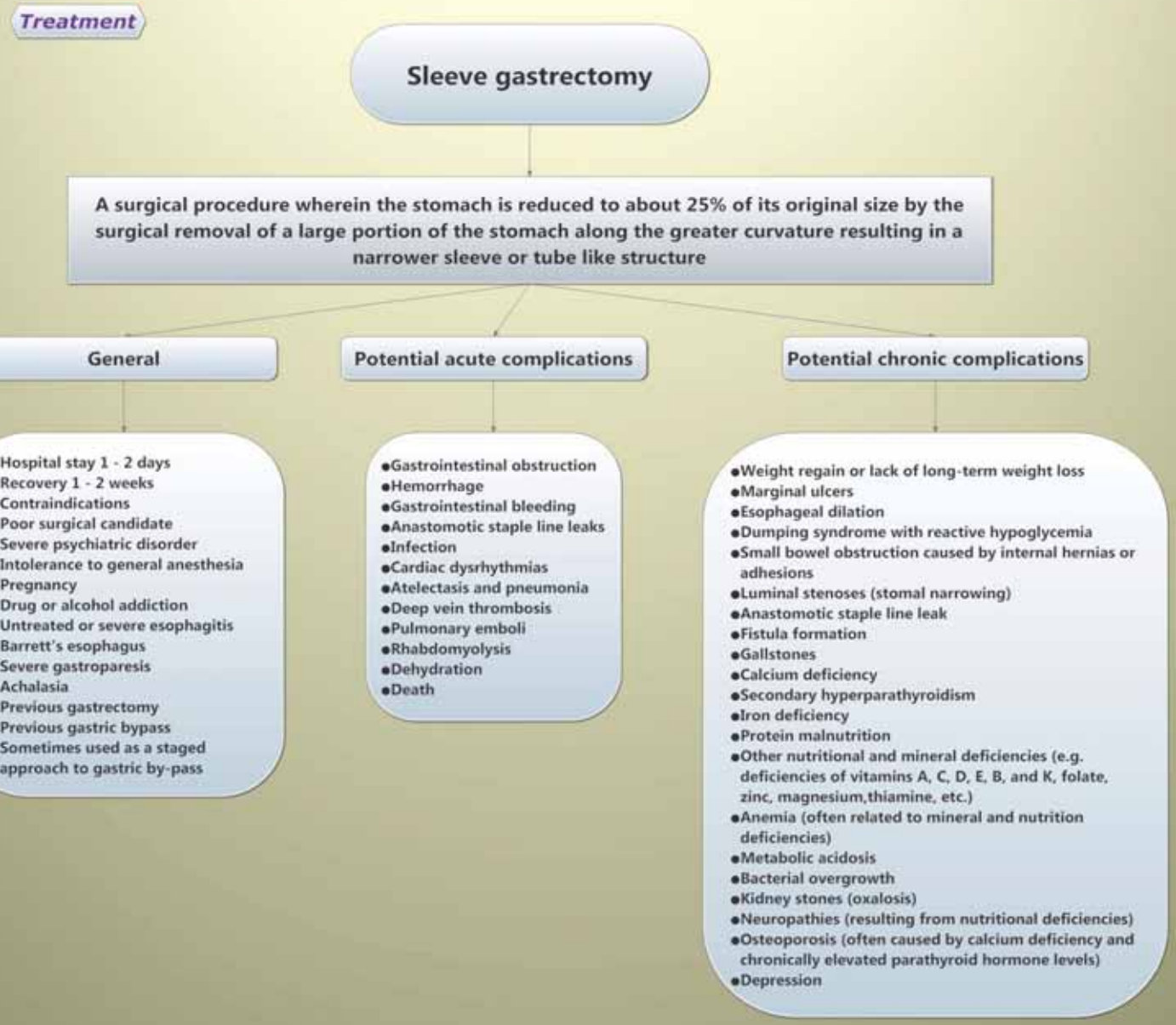
Potential acute complications:

- Band too tight with gastrointestinal obstructive symptoms (e.g. dysphagia)
- Leakage of gastric contents into abdomen
- Hemorrhage
- Gastrointestinal bleeding
- Infection
- Cardiac dysrhythmias
- Atelectasis and pneumonia
- Deep vein thrombosis
- Death

Potential chronic complications

- Weight regain or no weight loss
- Band slippage, erosion, ulceration, port infection, disconnection and displacement
- Esophageal dilation
- Rare nutrient deficiencies if persistent vomiting or marked and sustained decrease in nutritional intake
- Depression

Reference/s: [8] [95] [96]



Reference/s: [8] [95] [96]

Treatment

Gastric bypass

A surgical procedure wherein the stomach is divided into a large residual section and a smaller section (pouch) that is attached to a limb of the small intestine at variable distances from the first part of the small intestine, largely bypassing the stomach and part of the duodenum.

General

- Hospitalization 2 - 4 days
- Recovery 2 - 4 weeks
- Contraindications
  - Poor surgical candidate
  - Severe psychiatric disorder
  - Intolerance to general anesthesia
  - Pregnancy
  - Drug or alcohol addiction
  - Untreated esophagitis
  - Unwillingness or an inability for appropriate long-term follow-up

Potential acute complications:

- Gastrointestinal obstruction
- Hemorrhage
- Gastrointestinal bleeding
- Anastomotic leaks
- Infection
- Cardiac dysrhythmias
- Atelectasis and pneumonia
- Deep vein thrombosis
- Pulmonary emboli
- Rhabdomyolysis
- Dehydration
- Death

Potential chronic complications:

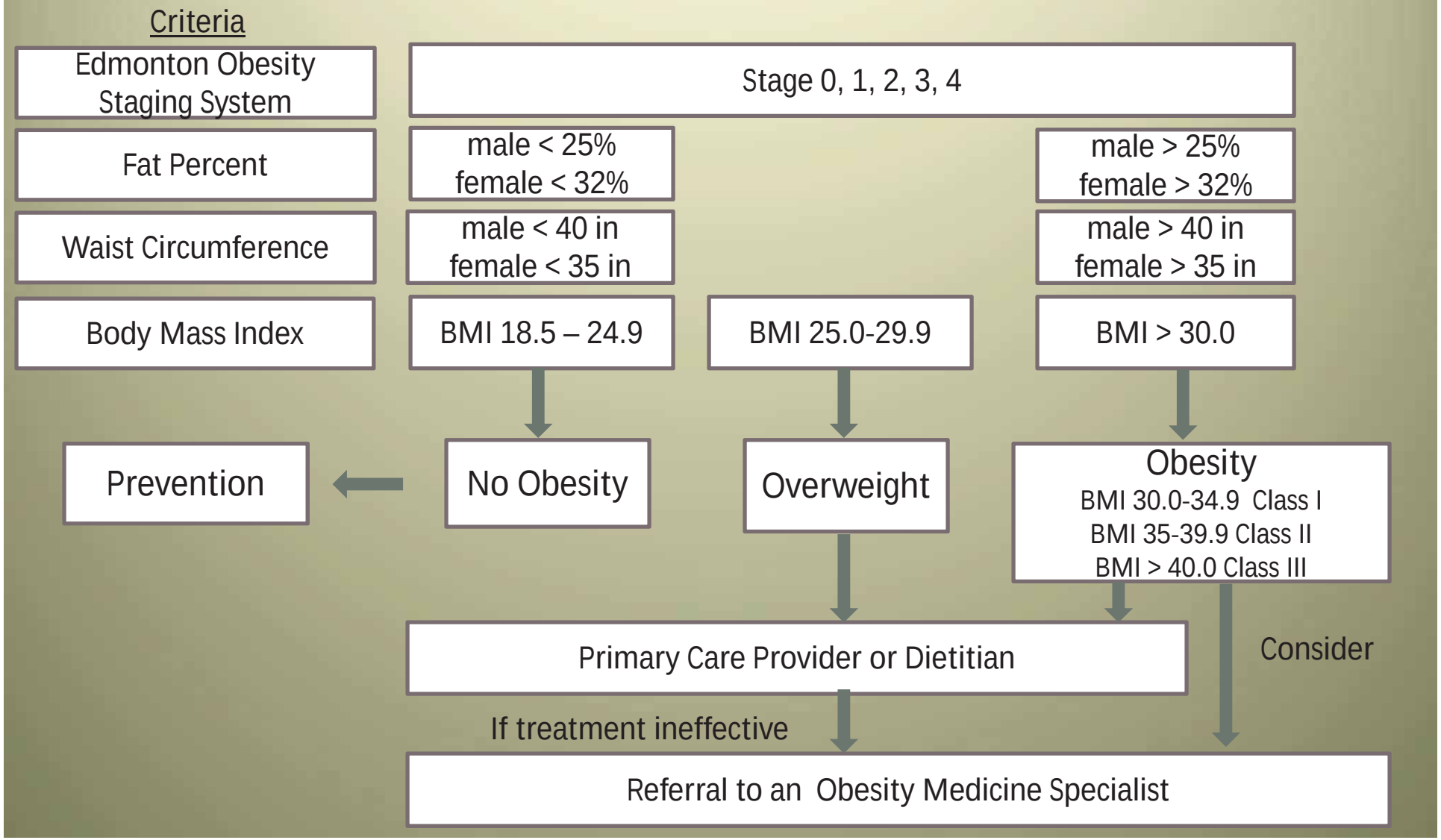
- Weight regain
- Marginal ulcers
- Esophageal dilation
- Dumping syndrome with reactive hypoglycemia
- Small bowel obstruction caused by internal hernias or adhesions
- Anastomotic stenoses (stomal narrowing)
- Gallstones
- Calcium deficiency
- Secondary hyperparathyroidism
- Iron deficiency
- Protein malnutrition
- Other nutritional and mineral deficiencies (e.g. deficiencies of vitamins A, C, D, E, B, and K, folate, zinc, magnesium,thiamine, etc.)
- Anemia (often related to mineral and nutrition deficiencies)
- Metabolic acidosis
- Bacterial overgrowth
- Kidney stones (oxalosis)
- Neuropathies (resulting from nutritional deficiencies)
- Osteoporosis (often caused by calcium deficiency and chronically elevated parathyroid hormone levels)
- Depression

Reference/s: [8] [95] [96] [97]

ASBP Obesity Algorithm: Executive Summary

Assess for the Presence of Obesity, Adiposopathy, Fat Mass Disease

Obesity may be assessed using several criteria: presence of adiposity-related disease, fat percent, waist circumference or body mass index. Thresholds vary based on ethnicity.



ASBP Obesity Algorithm: Executive Summary

Edmonton Obesity Staging System

STAGE 0: No apparent risk factors (e.g., blood pressure, serum lipid and fasting glucose levels within normal range), physical symptoms, psychopathology, functional limitations and/or impairment of well-being related to obesity
STAGE 1: Presence of obesity-related subclinical risk factors (e.g., borderline hypertension, impaired fasting glucose levels, elevated levels of liver enzymes), mild physical symptoms (e.g. dyspnea on moderate exertion, occasional aches and pains, fatigue), mild psychopathology, mild functional limitations and/or mild impairment of well-being
STAGE 2: Presence of established obesity-related chronic disease (e.g., hypertension, type 2 diabetes, sleep apnea, osteoarthritis), moderate limitations in activities of daily living and/or well-being)
STAGE 3: Established end-organ damage such as myocardial infarction, heart failure, stroke, significant psychopathology, significant functional limitations and/or impairment of well-being
STAGE 4: Severe (potentially end-stage) disabilities from obesity-related chronic diseases, severe disabling psychopathology, severe functional limitations and/or severe impairment of well-being

[Sharma AM, Kushner RF. A proposed clinical staging system for obesity. Int J Obesity 2009;33:289-295.]

Fat Percent

Body Fat Percent can be calculated using bioimpedance, near infrared reactance, DEXA scan or whole-body-air-displacement plethysmography.

Waist Circumference

Waist circumference can be measured by tape measure around the abdomen at the level of the anterior superior iliac crests, parallel to the floor. Tape should be snug against skin without compressing.

Body Mass Index

Body Mass Index = (weight in kg) / (height in m)^2 OR
703 x (weight in pounds) / (height in inches)^2

Obesity Medicine Specialists, certified by the American Board of Obesity Medicine, dedicate a portion or all of their practice to the treatment of obesity. They perform a medical evaluation (history, physical, laboratory, body composition) and provide medical supervision for lifestyle change (nutrition, activity, behavior change), medications, or very low calorie diets. Obesity is a chronic medical disease, and may require lifelong treatment.

ASBP Obesity Algorithm: Executive Summary

Obesity Medicine Specialist Evaluation may include:

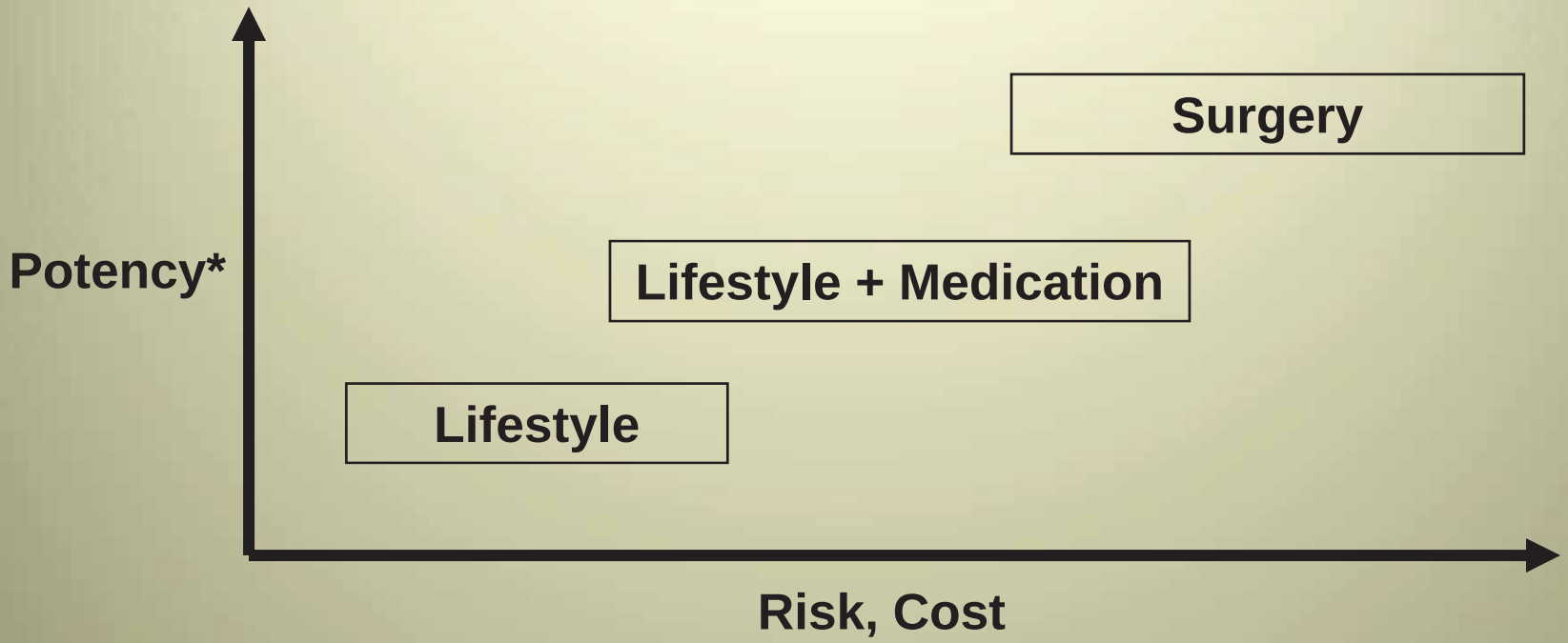
History	Weight history, past medical history, family history, social history, screening for weight promoting medications, food intake, activity, review of systems
Physical Examination	Height, weight, blood pressure, body composition analysis, waist measurement, complete physical examination
Laboratory Tests	Complete blood count, electrolytes, liver function, kidney function, fasting lipid profile, thyroid tests, hemoglobin A1c, uric acid, vitamin D
Diagnostic Testing	EKG, Echocardiogram, exercise stress test, sleep study, barium swallow or esophagoduodenoscopy

Individualized Treatment Plan may include:

Diet	Caloric restriction, carbohydrate restriction, food journaling Very Low Calorie Diet (VLCD) programs
Activity	Give exercise prescription, use pedometers, limit TV and computer time, goal of 150 minutes/week of moderate intensity physical activity
Counseling	Eliminate provider bias/stigma, identify self-sabotage, develop strong support, stress management, sleep optimization, other psychological support
Pharmacotherapy	Use medications as part of a comprehensive program

If ineffective, consider referral to a Metabolic and Bariatric Surgeon.
Optimal pre- and post-operative bariatric surgery care includes an Obesity Medicine Specialist.

Current Treatment Options for Obesity



Lifestyle: Includes nutrition, exercise, behavioral programs

Lifestyle + Medication: May include Lifestyle, VLCDs w supplements, and weight loss medications

Surgery: (in order of lowest risk/cost and potency): Gastric Banding < Gastric Sleeve < Gastric Bypass (Roux-en-Y)

*** Potency includes many factors such as the amount, rate and sustainability of weight loss, and long-term resolution of adiposopathy and fat mass disease. Potency varies greatly for each individual: long-term adherence to a lifestyle program can be as potent as gastric bypass surgery.**

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