

Cardiometabolic Health & Weight Loss

Courtney Younglove, M.D., FOMA, FACOG, DABOM, MSCP
Founder/Medical Director: Heartland Weight Loss

Cardiovascular-kidney-metabolic (CKM) health:



American Heart Association.

A medical framework that connects the heart, kidneys, blood sugar (metabolic) systems, and fat tissue as a single, interdependent network.

When one system struggles, it directly harms the others.

As of 2018, just 6.8% of the U.S. population had optimal cardiometabolic health.

Cardiovascular-kidney-metabolic (CKM) health:

Stage	Classification	Key Diagnostic Findings & Criteria	Primary Focus
0	No Risk Factors	Normal weight, healthy blood pressure, normal blood sugar, optimal cholesterol, healthy kidney function, and no heart disease.	Primordial Prevention: Maintaining lifelong healthy habits.
1	Excess or Dysfunctional Body Fat	Meets at least one criterion: • Overweight or obesity (BMI ≥ 25 kg/m²) • Abdominal obesity (waist size ≥ 35 in/88 cm for women; ≥ 40 in/102 cm for men) • Prediabetes or impaired fasting glucose.	Early Intervention: Intentional weight management and nutrition to prevent progression.
2	Metabolic Risk Factors & Moderate Kidney Disease	Meets at least one criterion: • Type 2 diabetes • High blood pressure (Hypertension) • High triglycerides (≥ 135 or 150 mg/dL) • Metabolic Syndrome (having 3+ metabolic traits) • Moderate-to-high risk Chronic Kidney Disease (CKD).	Risk Mitigation: Utilizing cardioprotective and kidney-protective medications (like SGLT2 inhibitors or GLP-1s).
3	Subclinical Cardiovascular Disease	No outward symptoms of heart disease, but advanced risk or "hidden" damage is found via diagnostic tests: • Very high-risk CKD (severe drop in eGFR or severe protein leakage/uACR) • High predicted 10-year risk of a heart attack or stroke based on PREVENT risk equations • Subclinical heart strain or plaque (e.g., elevated cardiac biomarkers, coronary calcium, or abnormal echocardiogram).	Intense Damage Control: Aggressive prevention strategies to prevent a clinical event like a heart attack.
4	Clinical Cardiovascular Disease	Established, diagnosed cardiovascular disease alongside other CKM risk factors. Broken down into: • Stage 4a: Heart disease without kidney failure • Stage 4b: Heart disease with kidney failure (requiring dialysis or a transplant).	Advanced Management: Optimizing targeted medical therapies and managing active symptoms.

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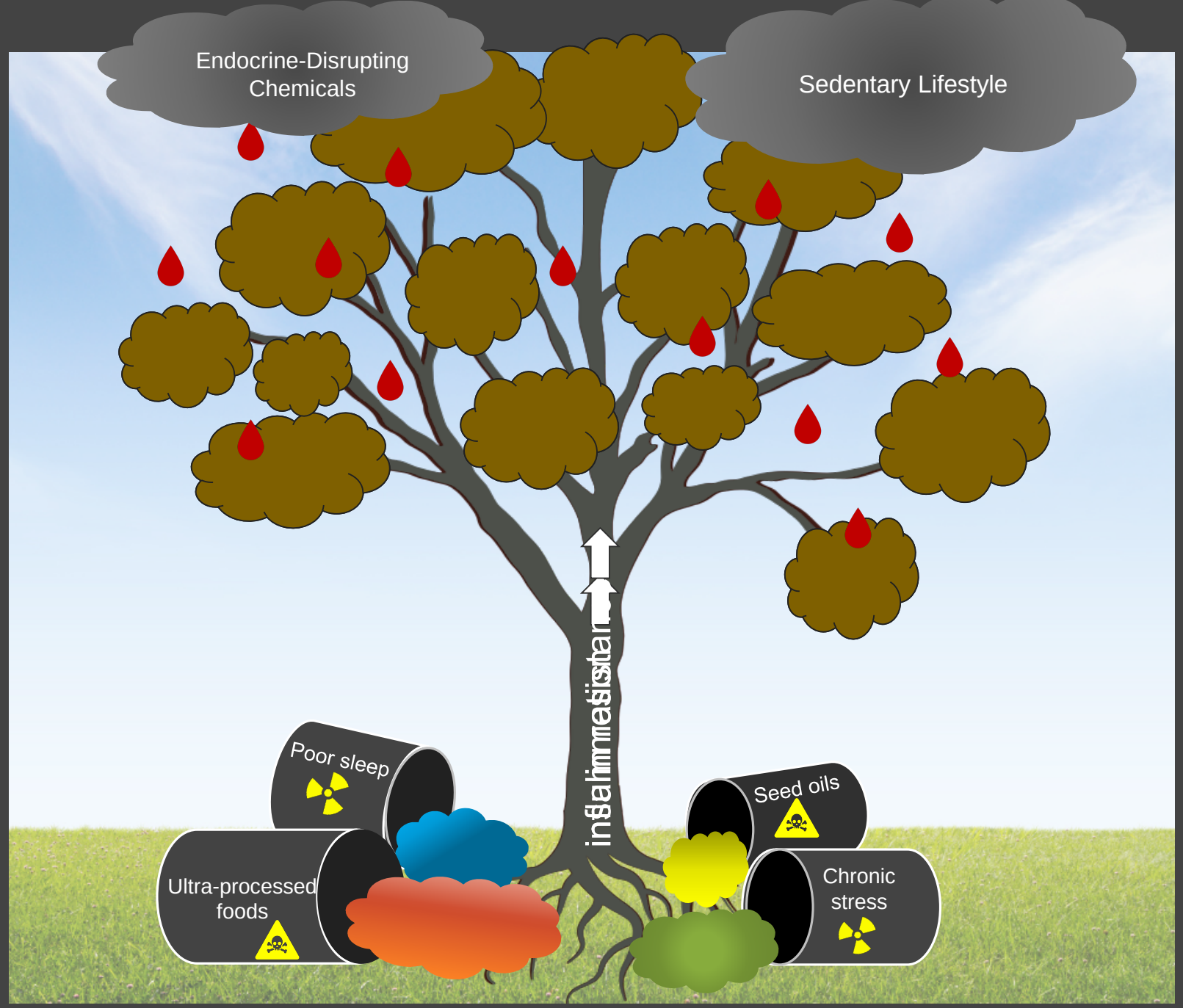
Cardiovascular-kidney-metabolic (CKM) health:

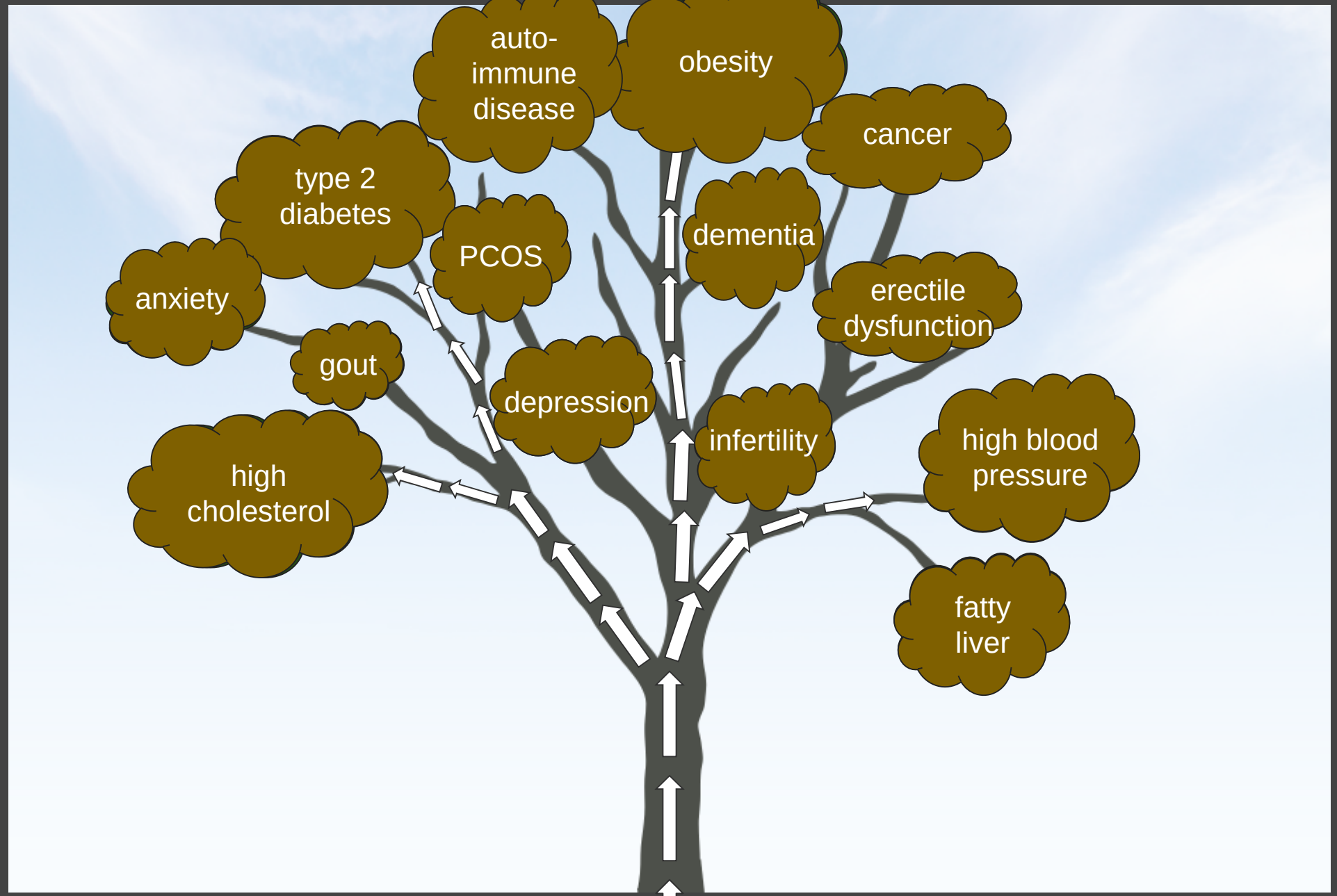
Cardiovascular disease is the **number one** cause of death for women in the United States.

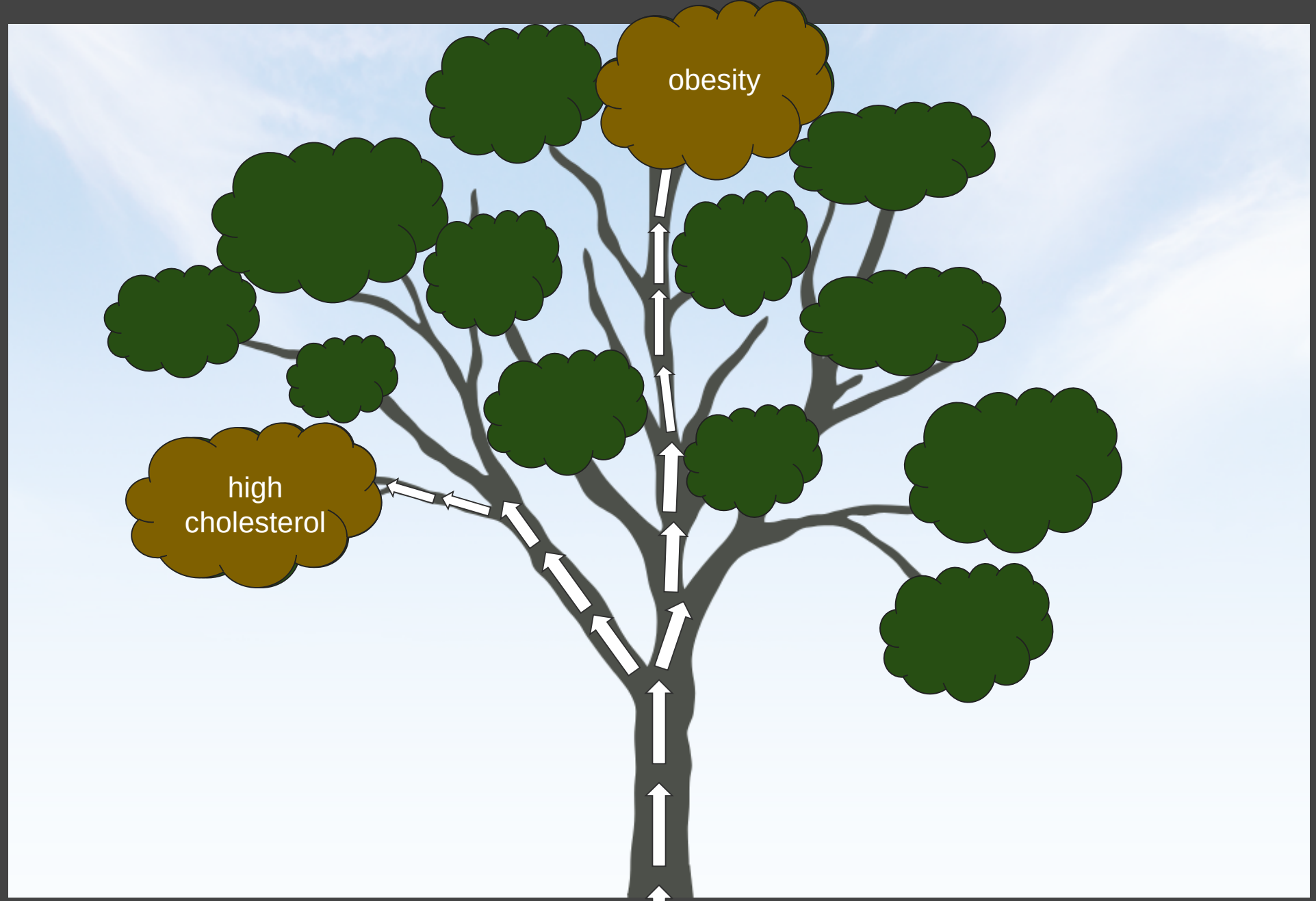


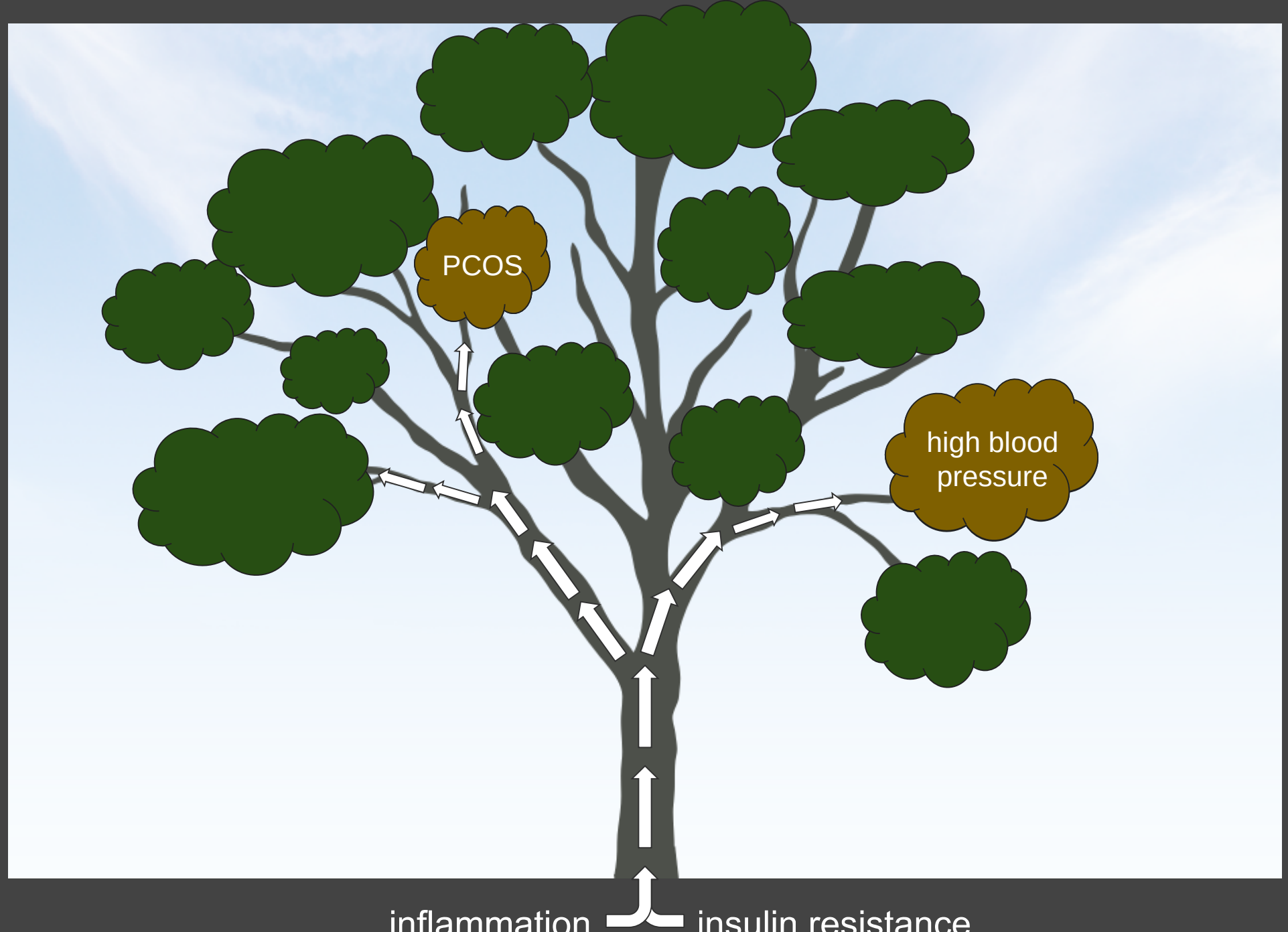


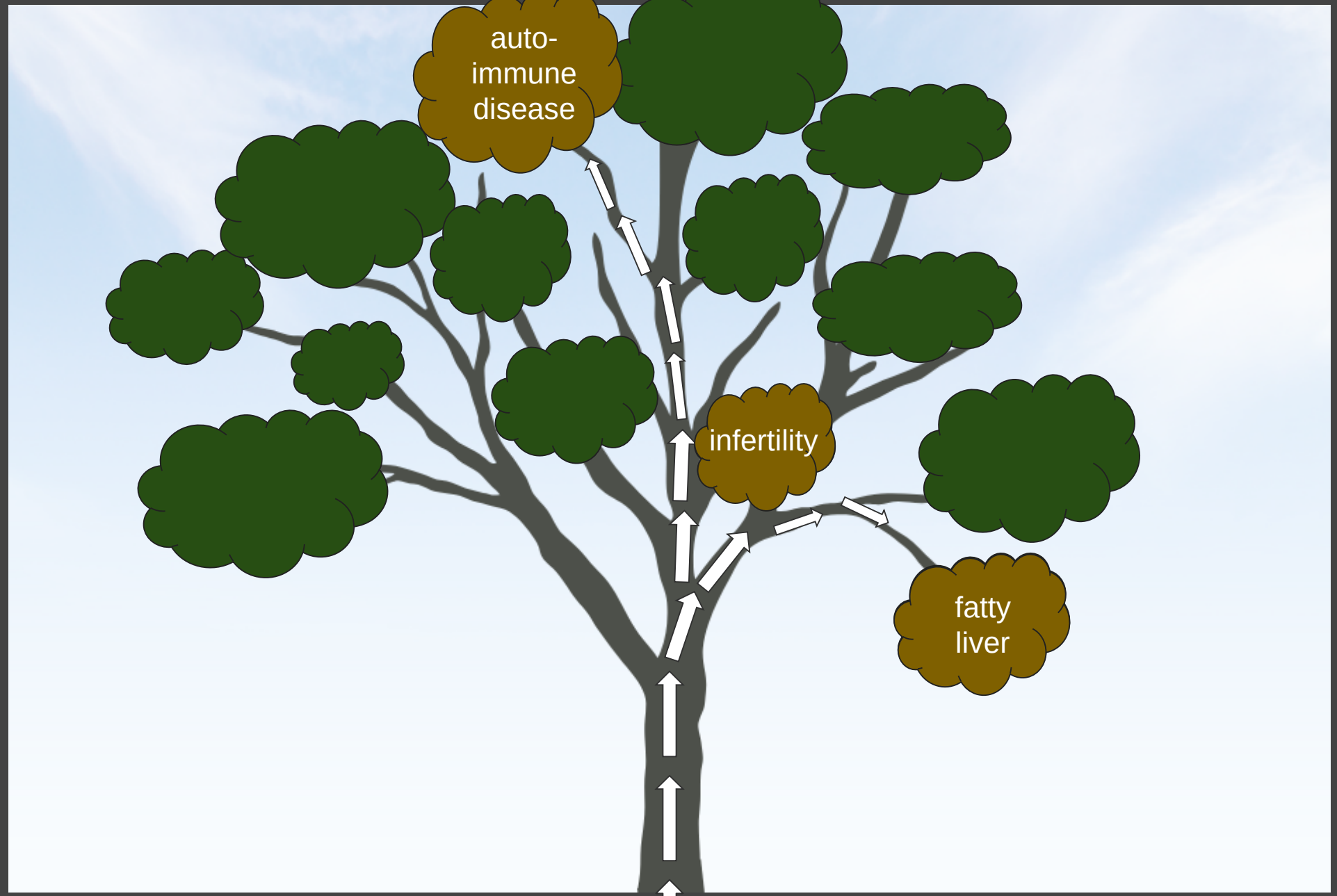
Why is there such a strong link between cardiometabolic dysfunction and excess weight?

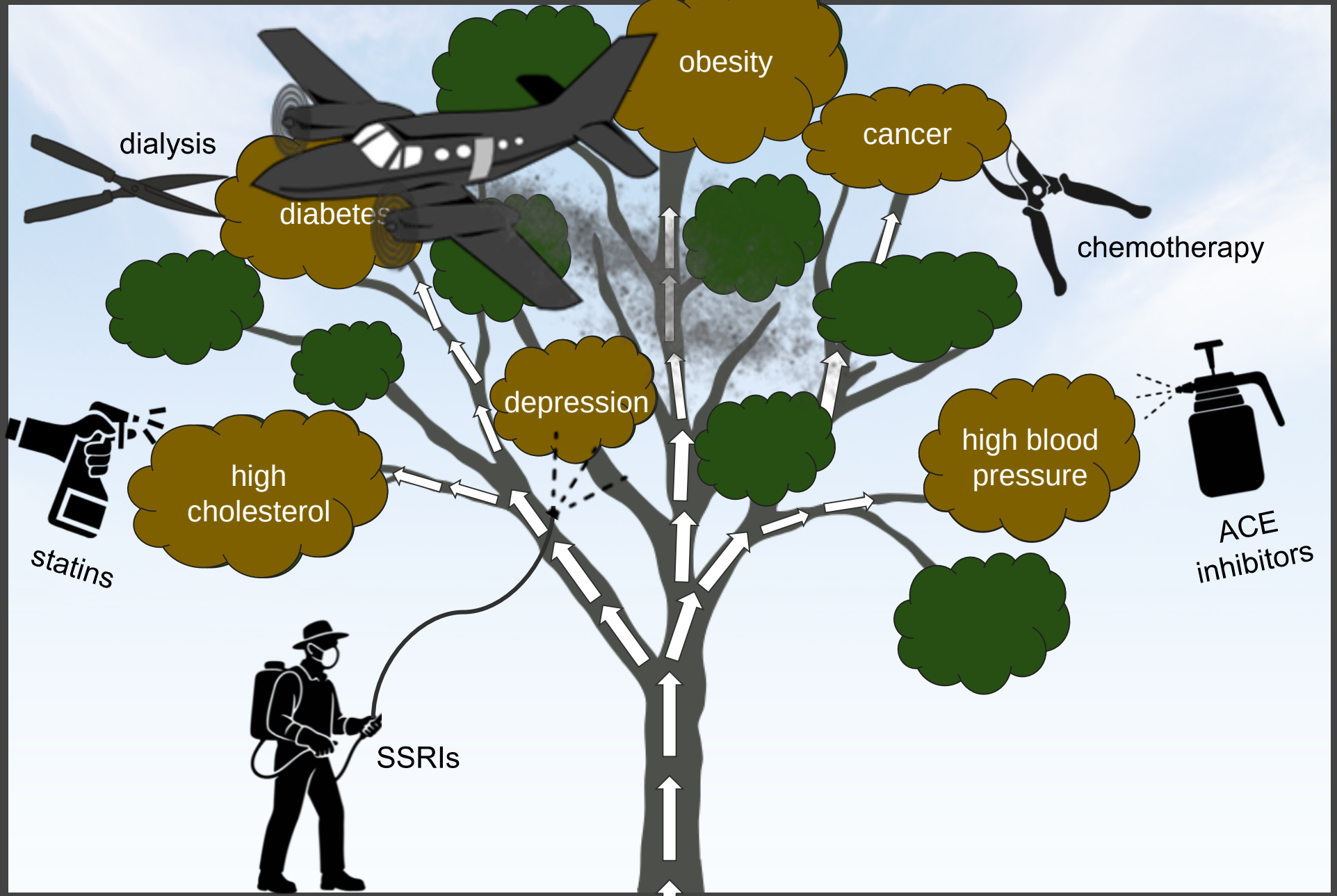

Endocrine-Disrupting Chemicals
Sedentary Lifestyle
Poor sleep
Seed oils
Ultra-processed foods
Chronic stress

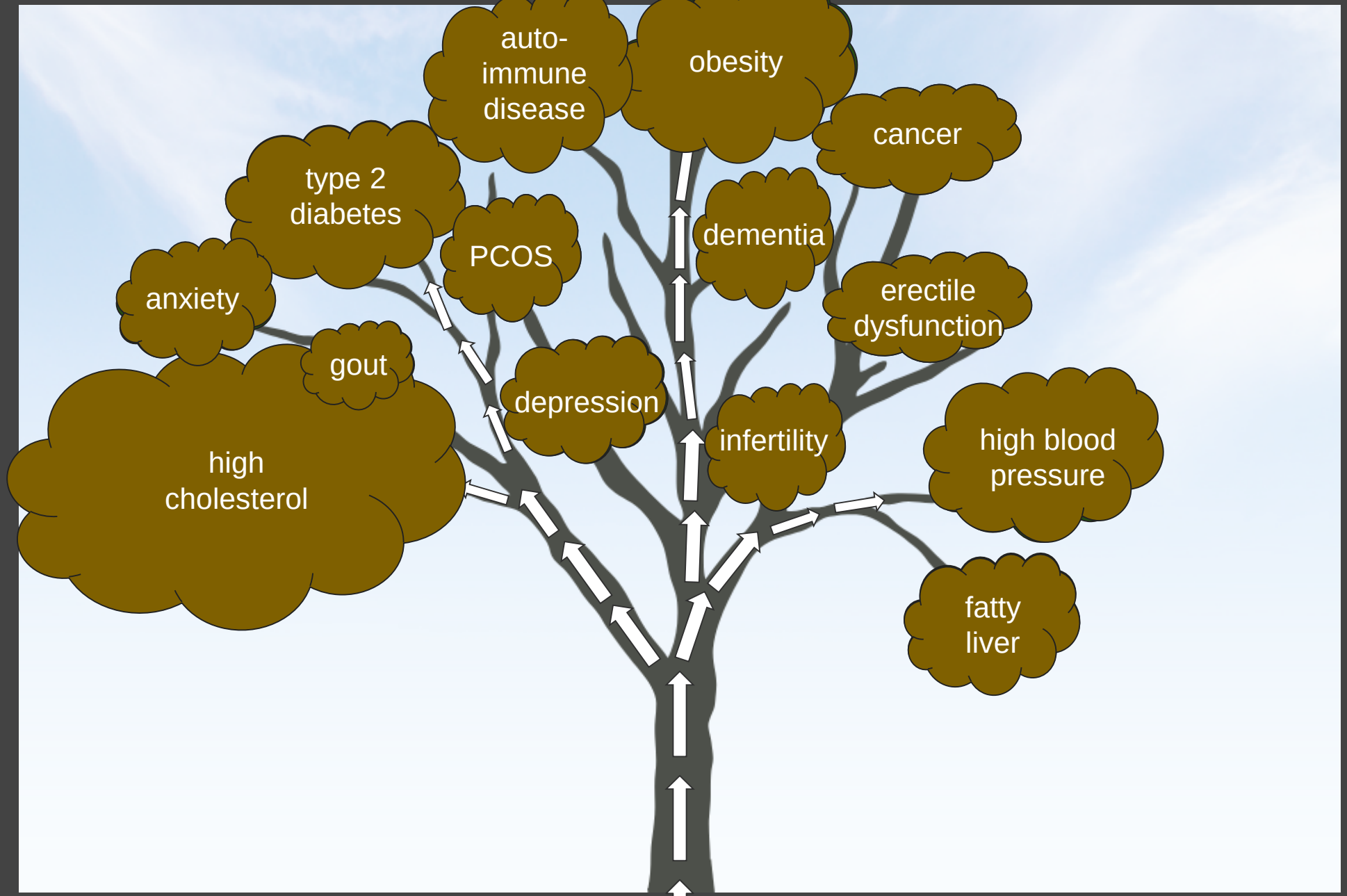

auto-
immune
disease
obesity
cancer
type 2
diabetes
PCOS
dementia
anxiety
erectile
dysfunction
gout
depression
infertility
high blood
pressure
high
cholesterol
fatty
liver
inflammation
insulin resistance

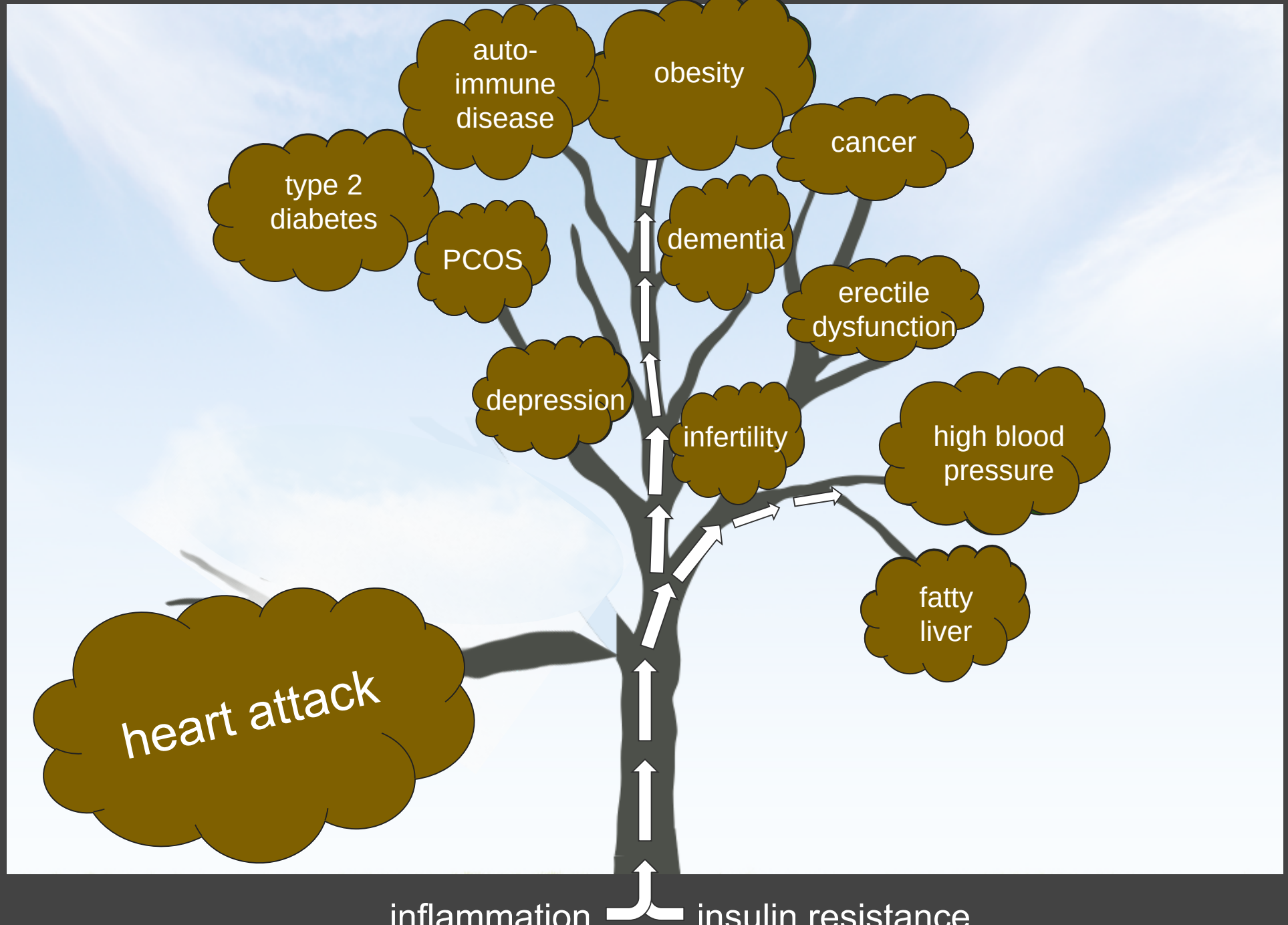

obesity
high cholesterol
inflammation
insulin resistance

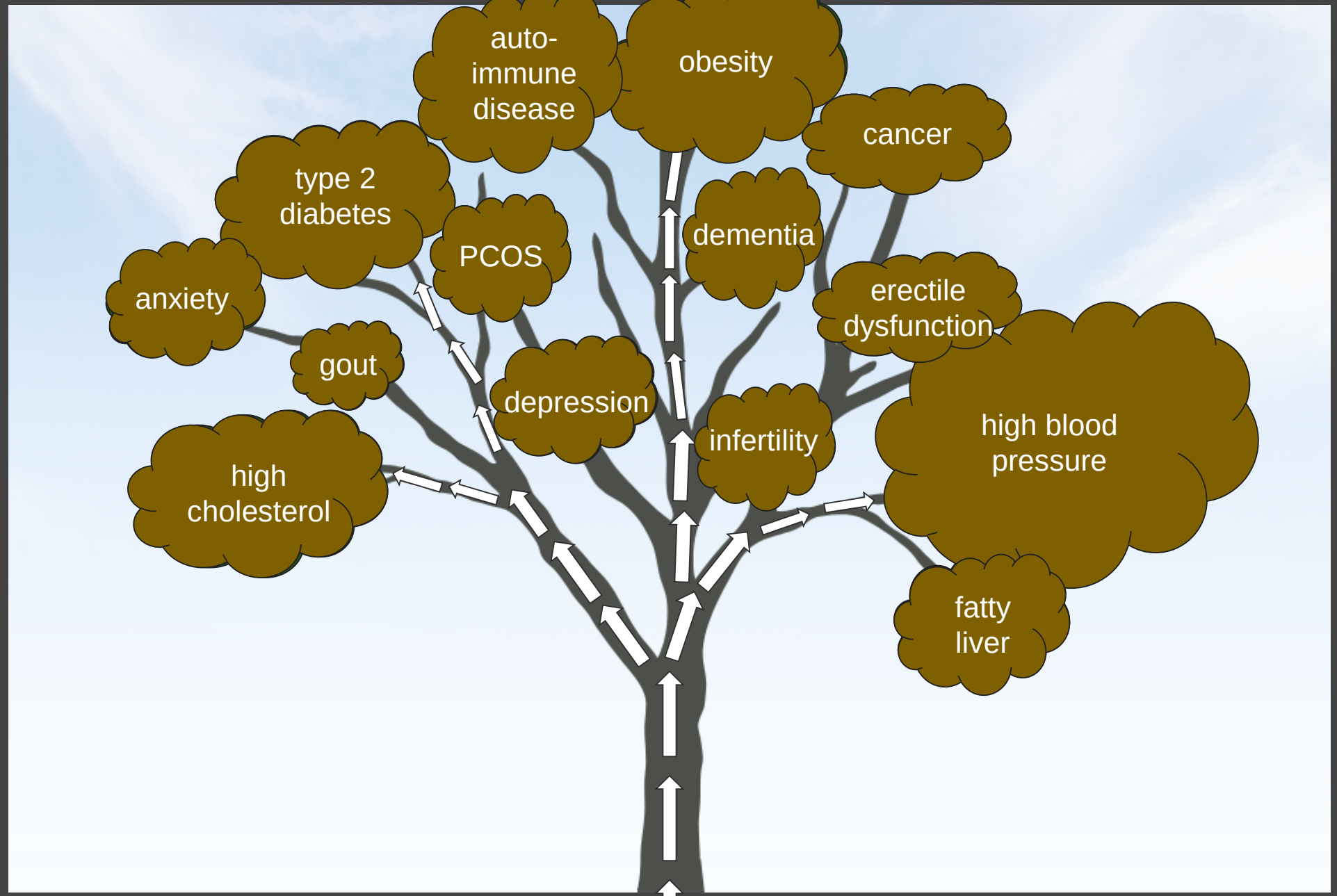

PCOS
high blood pressure
inflammation
insulin resistance

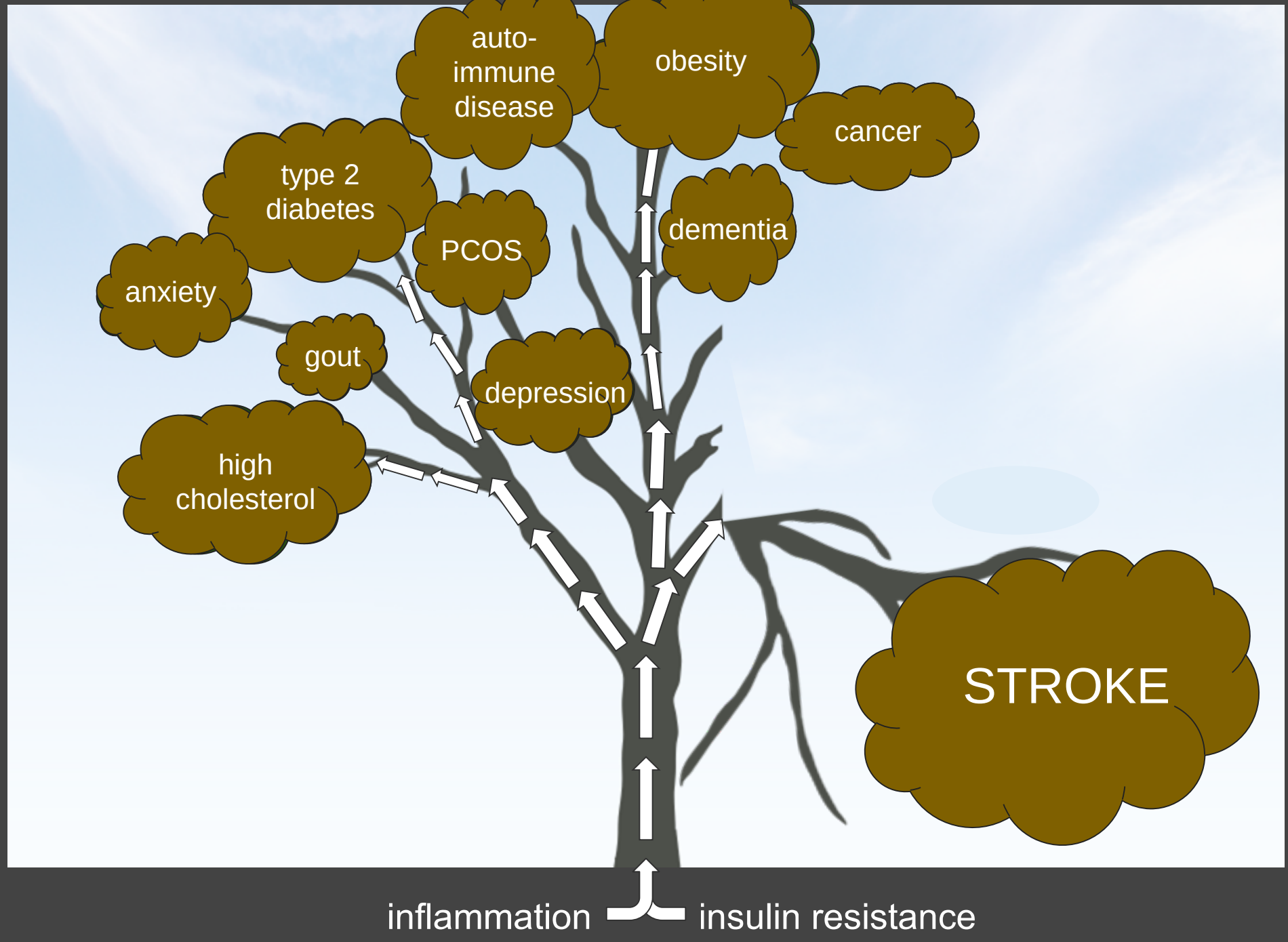

auto-
immune
disease
infertility
fatty
liver
inflammation
insulin resistance

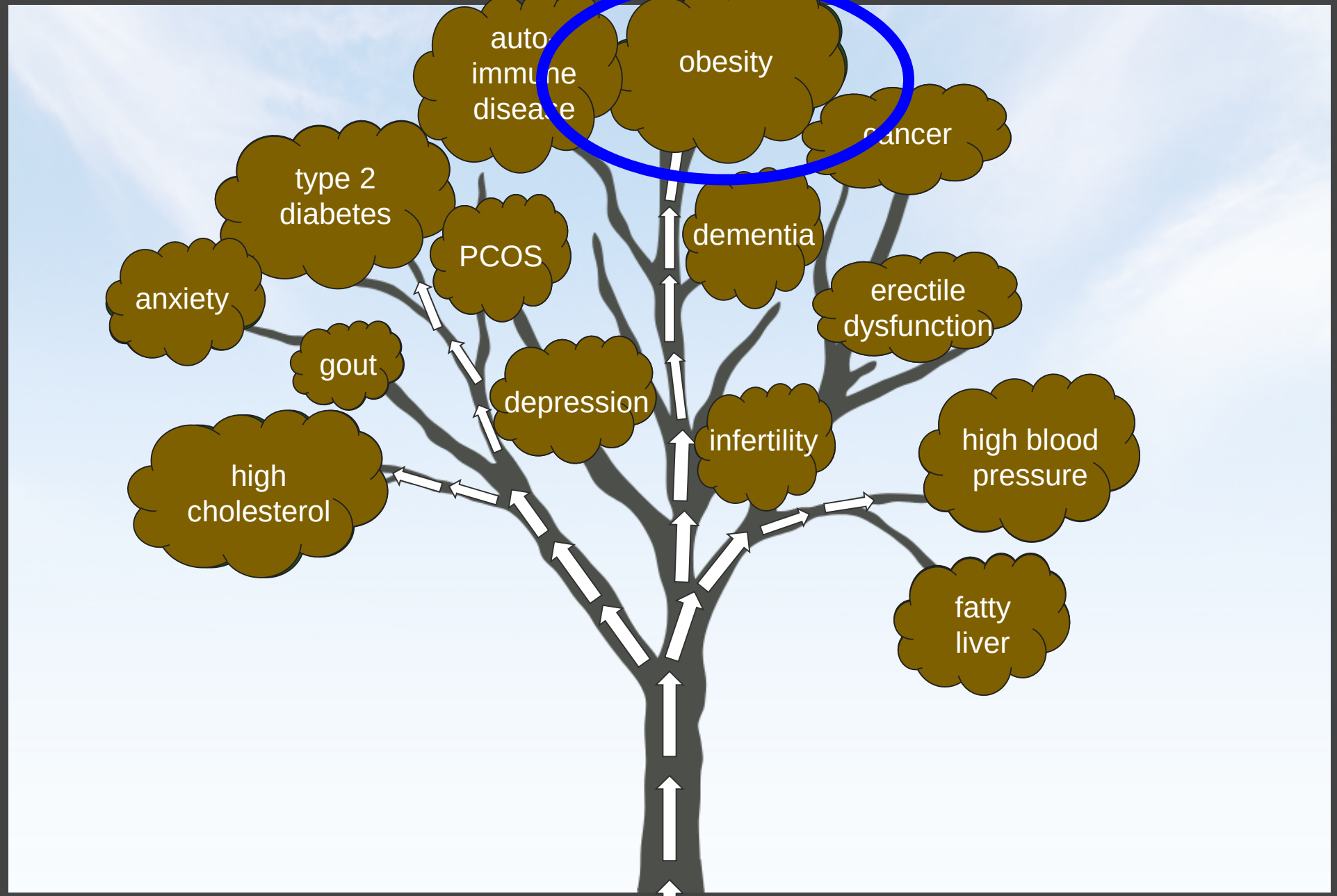

obesity
cancer
dialysis
diabetes
chemotherapy
depression
high blood pressure
high cholesterol
statins
ACE inhibitors
SSRIs
inflammation
insulin resistance


auto-
immune
disease
obesity
cancer
type 2
diabetes
PCOS
dementia
anxiety
erectile
dysfunction
gout
depression
high
cholesterol
infertility
high blood
pressure
fatty
liver
inflammation
insulin resistance


auto-
immune
disease
obesity
cancer
type 2
diabetes
PCOS
dementia
erectile
dysfunction
depression
infertility
high blood
pressure
fatty
liver
heart attack
inflammation
insulin resistance


auto-
immune
disease
obesity
cancer
type 2
diabetes
PCOS
dementia
anxiety
erectile
dysfunction
gout
depression
infertility
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high
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fatty
liver
inflammation
insulin resistance

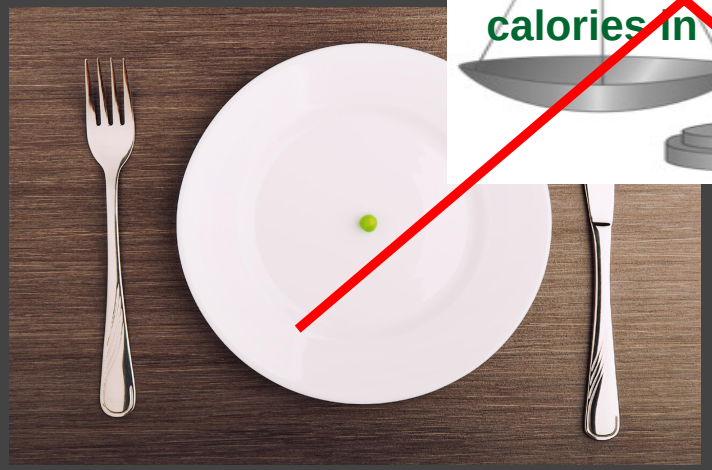

auto-
immune
disease
obesity
cancer
type 2
diabetes
PCOS
dementia
anxiety
gout
depression
high
cholesterol
STROKE
inflammation
insulin resistance


auto immune disease
obesity
cancer
type 2 diabetes
PCOS
dementia
anxiety
erectile dysfunction
gout
depression
infertility
high blood pressure
high cholesterol
fatty liver
inflammation
insulin resistance

Traditional View:
Weight = A Problem Of Morality And Willpower

MATH





Source: Canva



Source: Canva

MOTIVATION



Source: Canva



Source: Google

The Cure for Sloth & Gluttony: Personal Responsibility



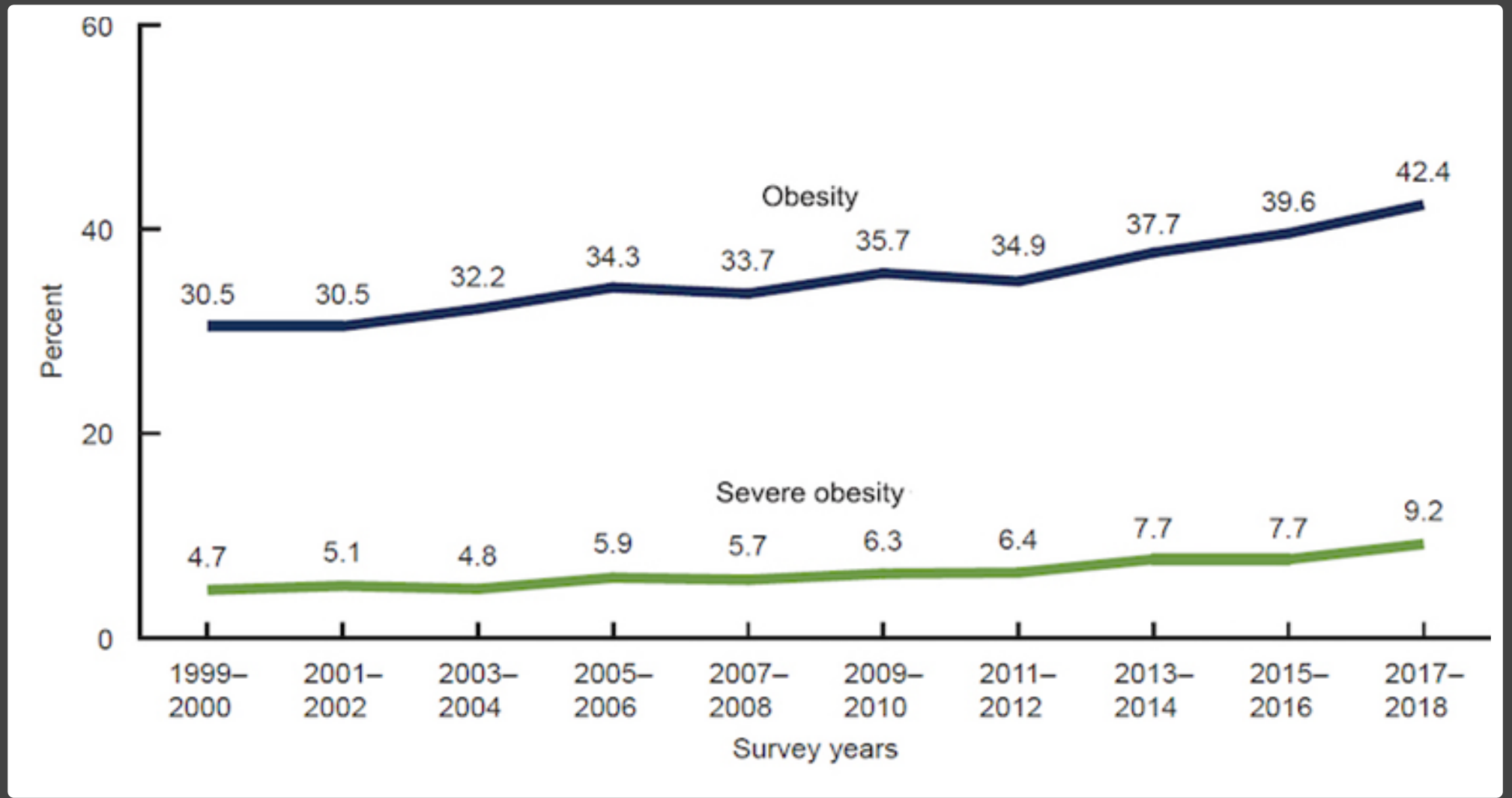






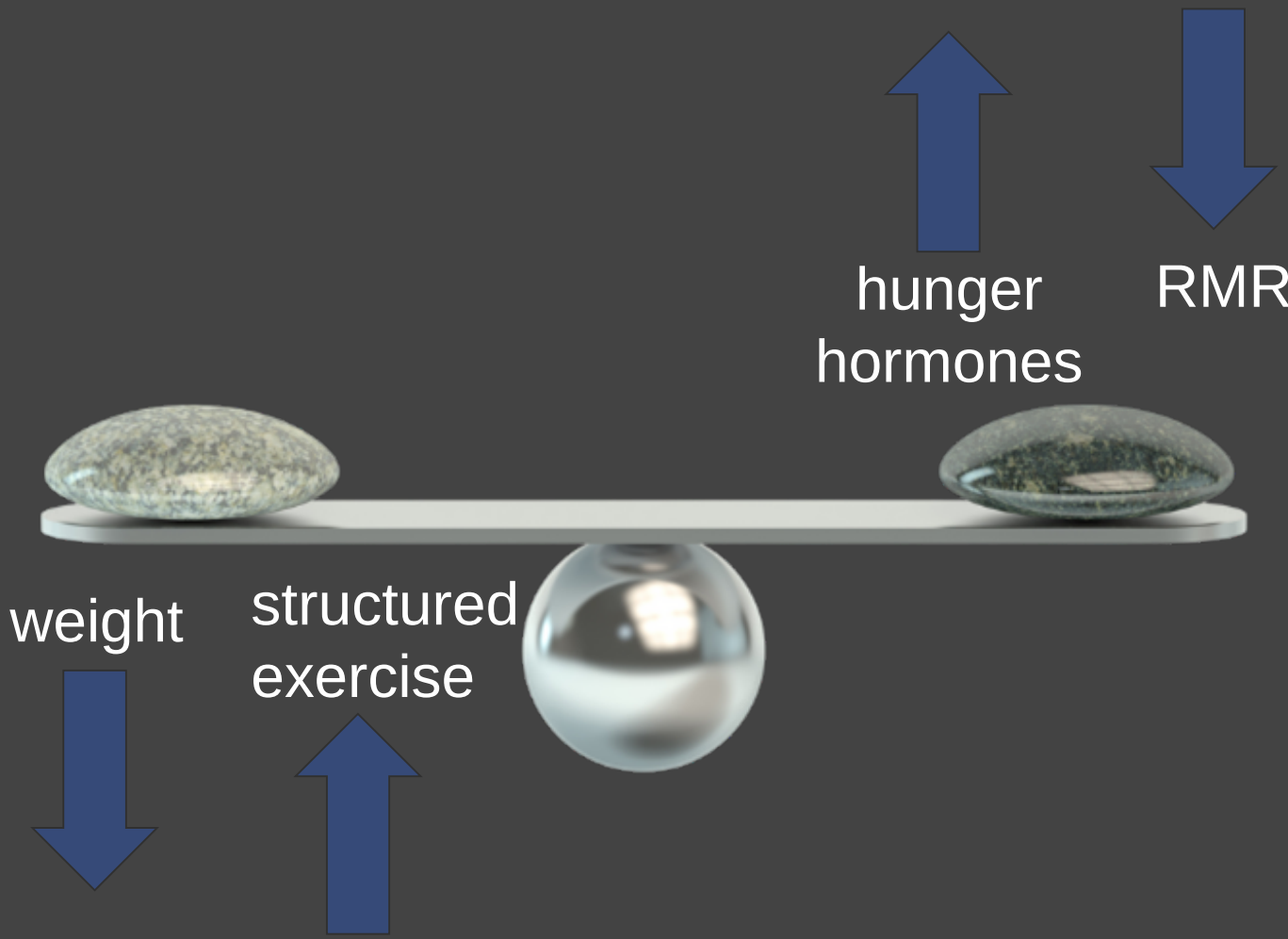


This Personal Responsibility Strategy Isn't Working:



Why Isn’t “Eat Less, Move More” Working?

The first law of thermodynamics doesn’t apply to the human body – because it’s not a closed system!





Source:Canva

Treatment Strategies Grounded in Science:

Carbohydrate-Insulin Hypothesis: (chronic stimulation of insulin results in insulin resistance, which drives abnormal fat storage)

Inflammation/Redox Hypothesis: (inflammation damages cellular signaling)

Protein Leverage Hypothesis: (low protein intake results in increased food intake)

Fructose/Nutrient Switch Hypothesis: (fructose tricks the body into thinking it is in a low-nutrient state, which promotes fat storage, overeating, and insulin resistance)

Dysbiosis Hypothesis: (alterations in the gut microbiome affects energy harvest, inflammation, and host metabolism)

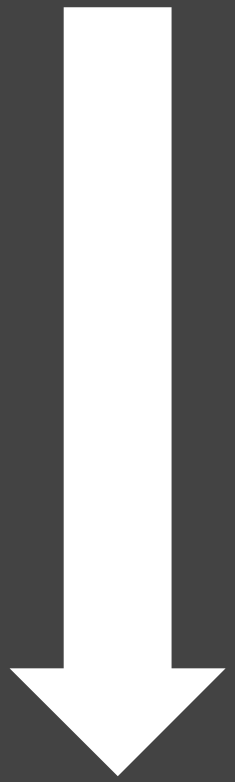
Treatment Strategies:

It’s not simple!



Source: Canva

Treatment Strategies:



insulin

fructose

cortisol

obesogens



protein

fiber

gut flora diversity

This strategy typically naturally decreases intake without a compensatory rise in hunger hormones

Treatment Strategies:

Optimize Health and Weight

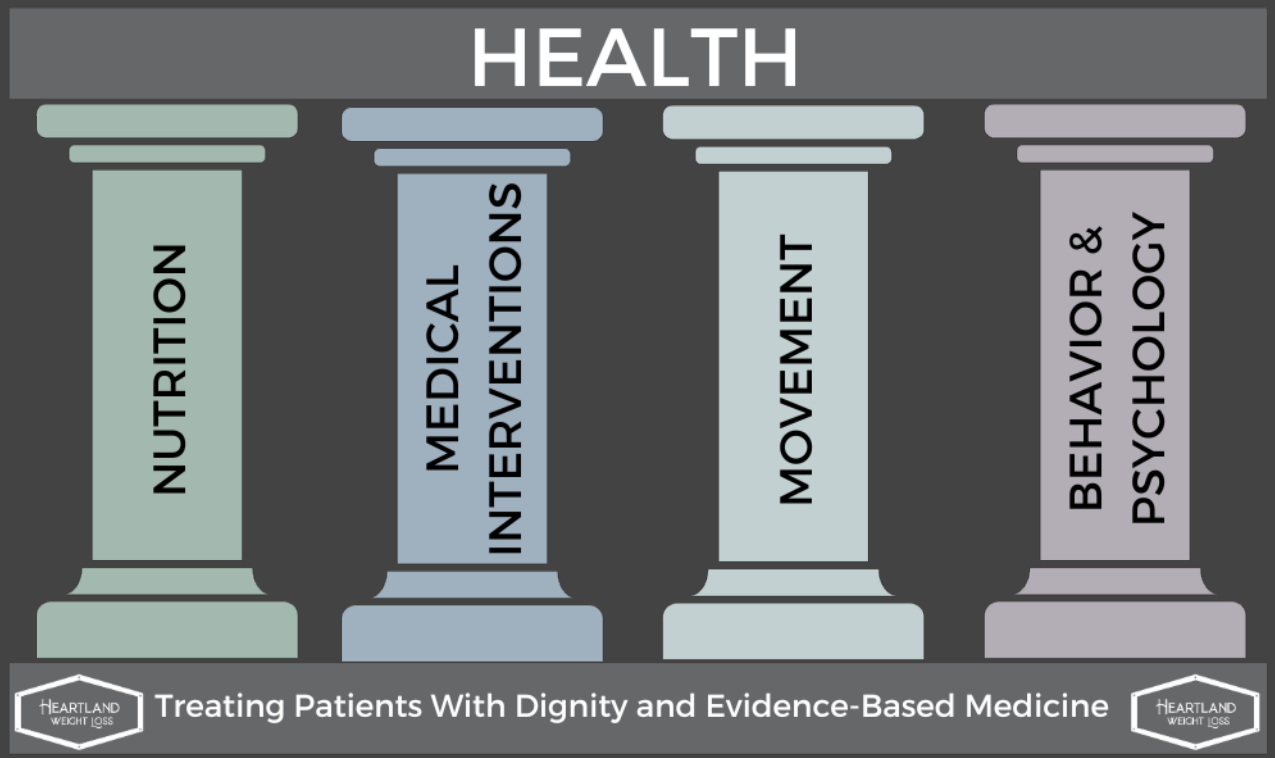


Tondt J et al. Obesity Algorithm, OMA 2025.

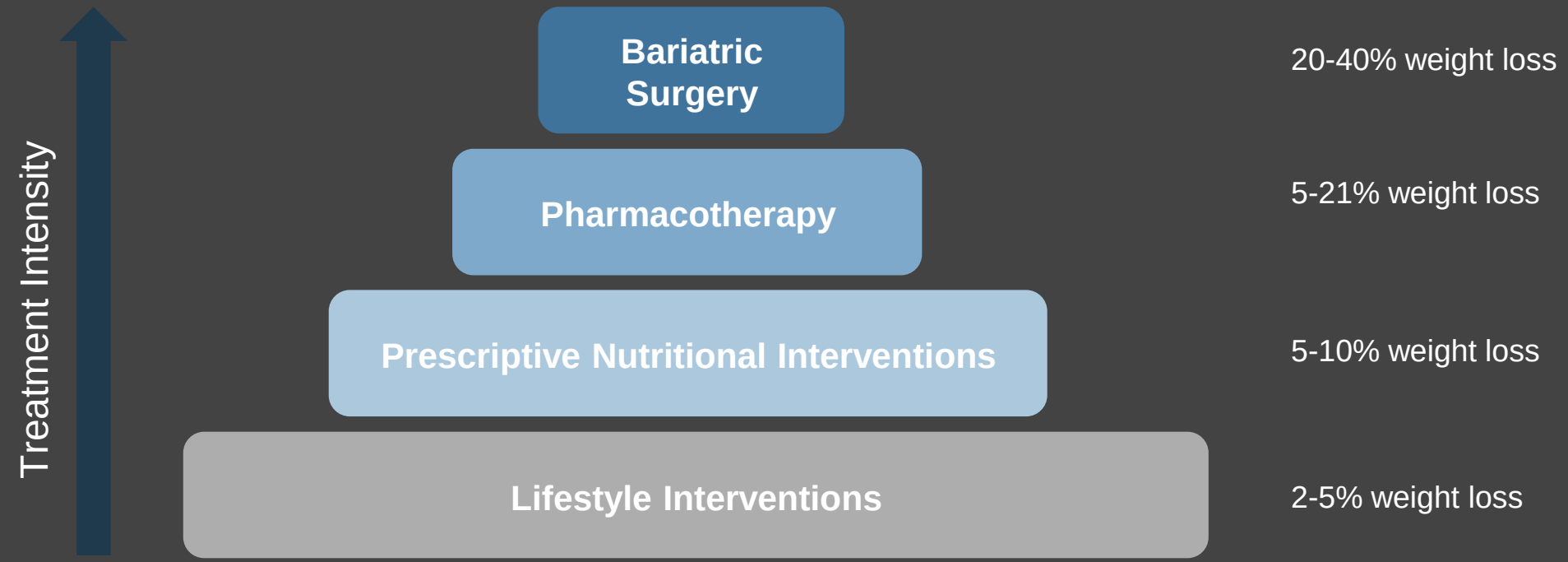
Source: Obesity Medicine Association

Treatment Strategies:

Optimize Health and Weight



Treatment Strategies:



Treatment Strategies:



















Pharmacotherapy

5-21% weight loss

Prescriptive Nutritional Interventions

5-10% weight loss

Lifestyle Interventions

2-5% weight loss

Phentermine

AKA: anorectics, stimulants, appetite-suppressants, etc.



Mechanism of Action: decrease appetite/increase , possibly change resting energy expenditure

Adverse Effects: dry mouth, insomnia, constipation, headache, slight elevations in blood pressure and/or heart rate

Contraindications:

- pregnancy or nursing
- history of CVD (CAD, stroke, arrhythmias, CHF, uncontrolled HTN)
- hyperthyroidism
- narrow angle glaucoma
- agitated states
- history of drug abuse

Mean Weight Loss: 7-10% (v. placebo 2-3%)

Additional Considerations: time-tested, low cost ~ $11/month, only approved for short-term use, although long-term use has been safely documented

Orlistat®

AKA: Xenical, Alli



Mechanism of Action: gastrointestinal lipase inhibitor, prevents absorption of ~ 30% of ingested fat

Adverse Effects: diarrhea, oily stools, fecal incontinence

Contraindications:
- pregnancy or nursing
- chronic malabsorption syndrome
- cholestasis

Mean Weight Loss: 9% (vs. placebo: 6%)

Additional Considerations: inexpensive / available OTC, no central side effect profile, FDA approved for long-term use

Contrave®

AKA: Naltrexone/Bupropion XL



Mechanism of Action: combination antidepressant/opioid agonist. Decreases appetite and reward response. Exact MOA not fully understood.

Adverse Effects: nausea, constipation, headache, vomiting, dizziness, insomnia, dry mouth, diarrhea

Contraindications:
- uncontrolled HTN
- seizure disorder
- narrow angle glaucoma
- bipolar mood disorder
- anorexia nervosa or bulimia
- chronic opioid use

Mean Weight Loss: 7% (v. 2% placebo)

Additional Considerations: additional benefits: EtOH cessation, smoking, depression, excessive cravings, reward pathway, hedonic eating, can get for $99/month via specialty pharmacy

Qsymia®

AKA: Phentermine/Topiramate ER



Mechanism of Action: combination stimulant and anticonvulsant. Decreases appetite/increases satiety and possibly affects resting energy expenditure. Exact MOA unknown.

Adverse Effects: paresthesia, dizziness, dysgeusia, insomnia, constipation, dry mouth, disturbance in attention

Contraindications:

- pregnancy or nursing
- history of CVD (CAD, stroke, arrhythmias, CHF, uncontrolled HTN)
- hyperthyroidism
- narrow angle glaucoma
- agitated states
- history of drug abuse

Mean Weight Loss: 9-10% (vs. 2% placebo)

Additional Considerations: can alter the taste of food, especially soda, can get for $98/month via specialty pharmacy

Saxenda®

AKA: Liraglutide, Victoza



Mechanism of Action: increase insulin secretion, decrease glucagon secretion, delays gastric emptying, decreases liver glucose production, increases glucose uptake and storage, increases insulin sensitivity, decreases appetite

Adverse Effects: nausea, constipation, diarrhea, headache, vomiting, injection site reaction, hypoglycemia, dyspepsia, fatigue, dizziness, abdominal pain, increased lipase levels

Contraindications:

- pregnancy or nursing
- personal or family history of medullary thyroid carcinoma or Multiple Endocrine Neoplasia syndrome type 2 (MEN2)

Mean Weight Loss: 8% (v. 3% placebo)

Additional Considerations: Daily injection, molecule FDA-approved to treat T2DM

Wegovy®





AKA: Semaglutide, Ozempic

Mechanism of Action: increase insulin secretion, decrease glucagon secretion, delays gastric emptying, decreases liver glucose production, increases glucose uptake and storage, increases insulin sensitivity, decreases appetite

Adverse Effects: nausea, constipation, diarrhea, headache, vomiting, injection site reaction, hypoglycemia, dyspepsia, fatigue, dizziness, abdominal pain, increased lipase levels

Contraindications:

- pregnancy or nursing
- personal or family history of medullary thyroid carcinoma or Multiple Endocrine Neoplasia syndrome type 2 (MEN2)

Mean Weight Loss: 14-15% (v. 2% placebo)

Additional Considerations: weekly injection or daily pill, molecule FDA-approved to treat T2DM

Zepbound®



AKA: Tirzepatide, Mounjaro

Mechanism of Action: increase insulin secretion, decrease glucagon secretion, delays gastric emptying, decreases liver glucose production, increases glucose uptake and storage, increases insulin sensitivity, increases levels of adiponectin, improves beta cell function, decreases appetite

Adverse Effects: nausea, constipation, diarrhea, headache, vomiting, injection site reaction, hypoglycemia, dyspepsia, fatigue, dizziness, abdominal pain, increased lipase levels

Contraindications:

- pregnancy or nursing
- personal or family history of medullary thyroid carcinoma or Multiple Endocrine Neoplasia syndrome type 2 (MEN2)

Mean Weight Loss: 21% (vs. placebo 3%)

Additional Considerations: weekly injection, molecule FDA-approved to treat T2DM, decreases absorption of oral contraceptive pills x 4 weeks after initiation of therapy and x 4 weeks following any dose increase

Foundayo®



AKA: Orforglipron

Mechanism of Action: increase insulin secretion, decrease glucagon secretion, delays gastric emptying, decreases liver glucose production, increases glucose uptake and storage, increases insulin sensitivity, increases levels of adiponectin, improves beta cell function, decreases appetite

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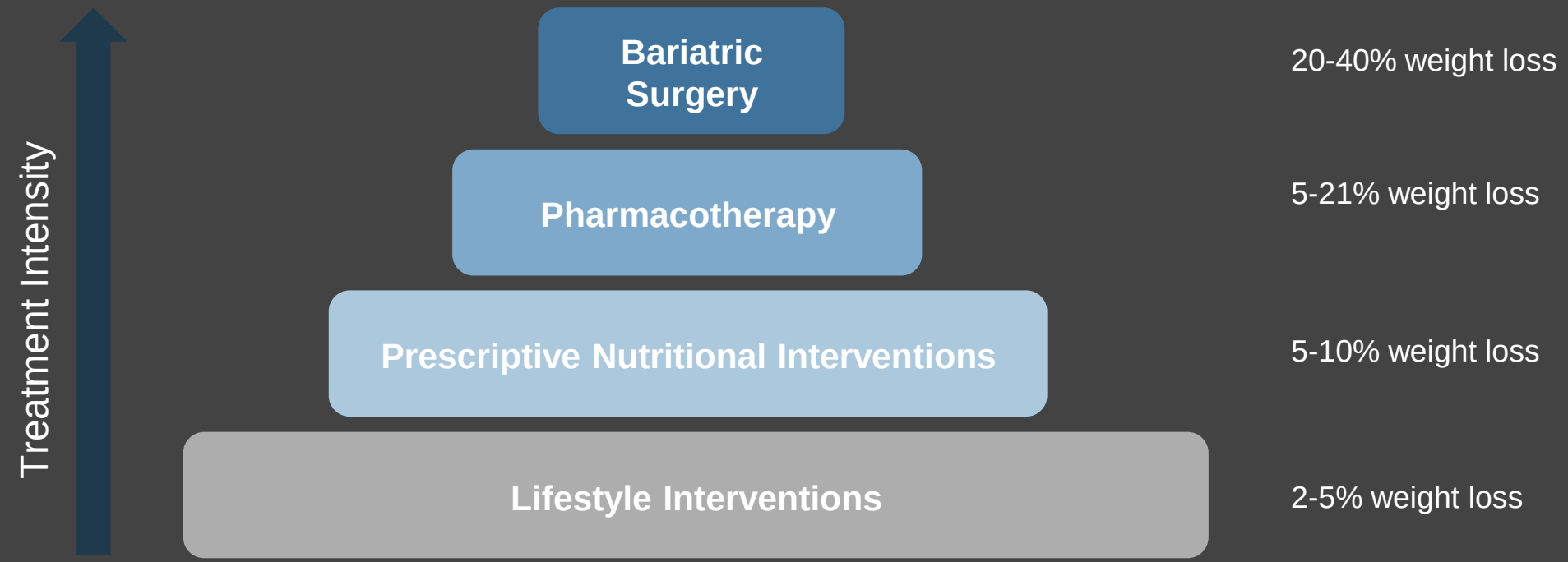
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Mean Weight Loss: 11.1-12.4% (vs. placebo 2%)

Additional Considerations: decreases absorption of oral contraceptive pills x 4 weeks after initiation of therapy and x 4 weeks following any dose increase

Treatment Strategies:



Treatment Goals:

There are two primary drivers that get in the way of executing a lifestyle intervention:



physical hunger

AND



noise

Physical Hunger:

Pretty easy to deal with:







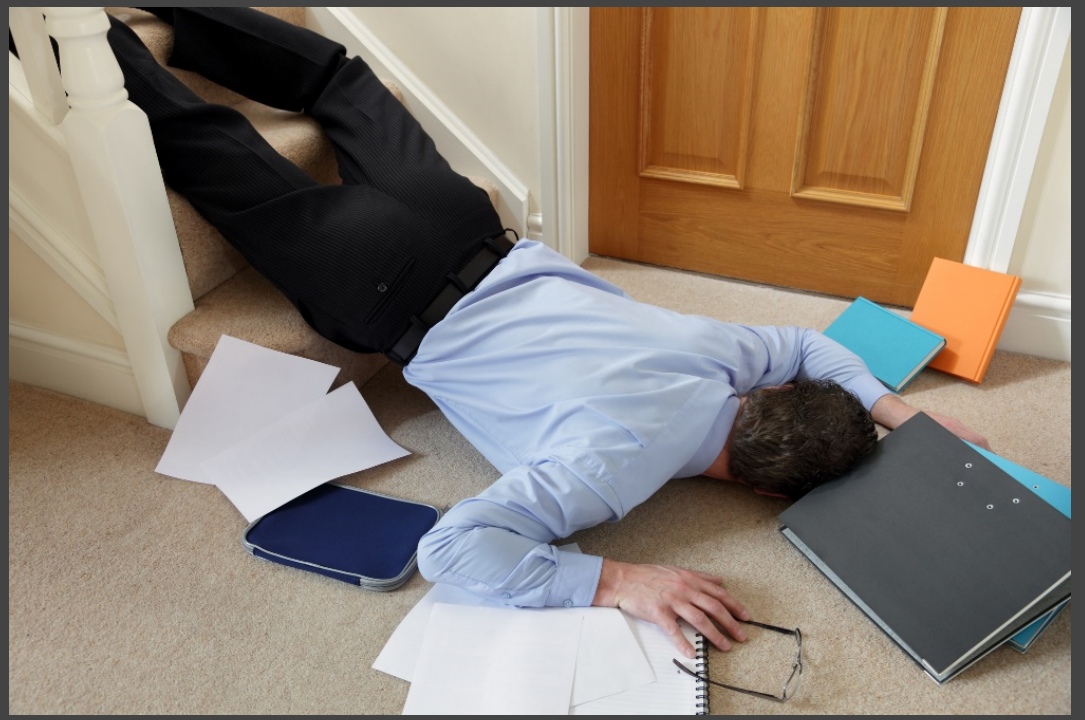


These all create satiety

Noise:

a much bigger issue:





for most, this is the barrier to execution

External Noise:

CONVENIENCE

TIME

TRIGGERS



ACCESS

HABITS &
SYSTEMS

PRESSURE

CONFUSION

Internal Noise:

REWARD

SHAME

BARGAINING

HABITS & SYSTEMS



EXPECTATIONS

EMOTIONAL REGULATION

FEAR

PLEASURE

Noise:



Quieting noise often provides space for people to make lifestyle changes:

The Role of Medications:

- Obesity medications don't CAUSE weight loss – the lifestyle changes do: **It's vital to understand this and leverage this.**
- Improperly utilizing the medications, attacking the wrong driver(s), or using them without implementing lifestyle changes can result in adverse health outcomes.
- Calorie restriction without improving cardiometabolic dysfunction results in predictable compensatory changes within the body. These changes result in an increase in physical hunger and/or a decrease in metabolic rate as the body adapts to the restricted environment.
- Obesity medications can be used to suppress this increase in hunger, but, when used that way, they must be continued indefinitely as once they are withdrawn the hunger returns. In this way, they must be considered a chronic medication.

The Role of Medications:

- Using medications to quiet the noise and implement the lifestyle changes necessary to treat cardiometabolic dysfunction and eventually, prevent or delay its return, means that the medications won’t necessarily be needed indefinitely, and the removal won’t result in rapid weight regain.

- Once a person feels as though the lifestyle changes are sufficient to quiet the noise and they are eating to prevent physical hunger, the medications can often be weaned down/off.

- Because most people live in a toxic food environment and are surrounded regularly by people eating differently, the risk of relapse into eating patterns and behaviors that promote cardiometabolic dysfunction is high.

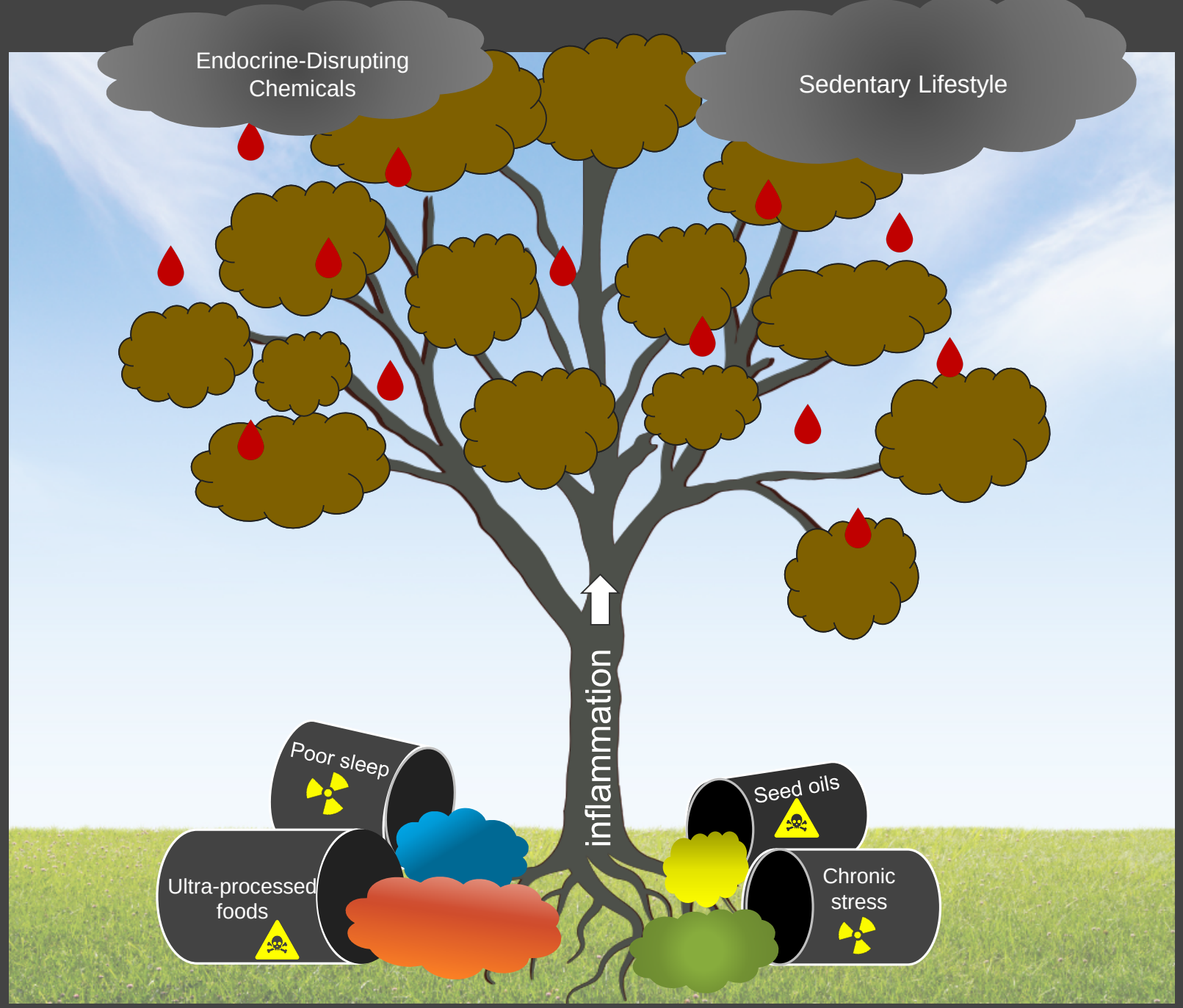
This Rarely Works Long-Term:



This is Common!

This is Exhausting!




Endocrine-Disrupting Chemicals
Sedentary Lifestyle
inflammation
Poor sleep
Seed oils
Ultra-processed foods
Chronic stress

American Heart Association.
Leaders of Impact™

Support Leaders of Impact fundraising by **November 4th at 9pm!**



To donate today, scan the QR code below: