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Welcome to the Revolution Obesity in Clinical Practice

Disclosures

- **Relationships with commercial interests**:
  - **Grants/Research Support**: Astra Zeneca, Sanofi Aventis, Boeringher Engelheim, Eli Lilly
  - **Speakers Bureau/Honoraria**: Astra Zeneca, Sanofi Aventis, Boeringher Engelheim, Eli Lilly, Amgen, Novo Nordisk
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  - **Other**: Medical Director Live Medical and Exercise Clinic

Objectives

- Understand Obesity as a chronic disease
- Establish some parametres on how to assess patients with obesity
- Understand how to start the conversation of obesity management in the office
- Become familiar with the tools available to us in obesity management

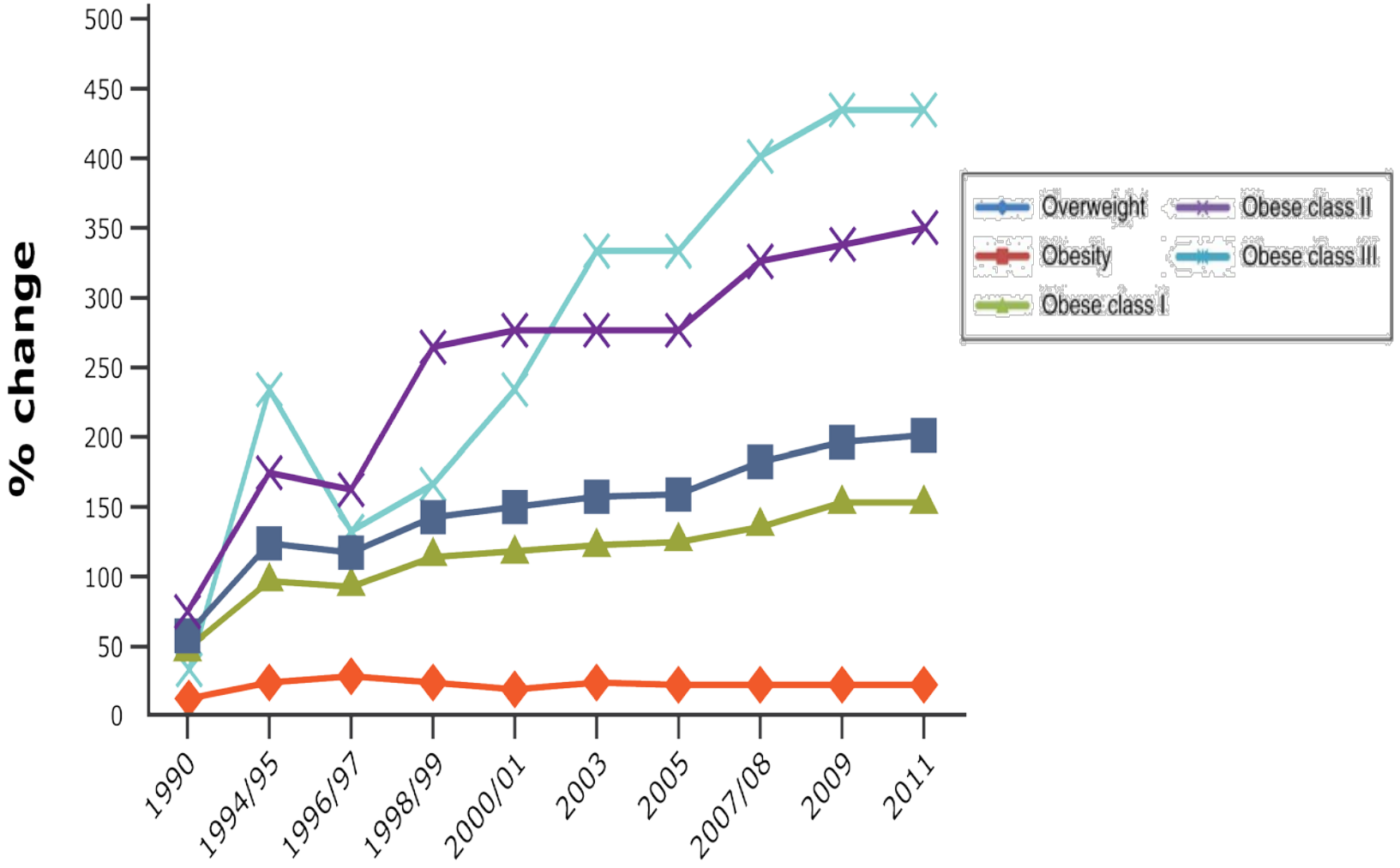
Worldwide epidemic

- In 2014, more than 1.9 billion adults, 18 years and older, were overweight. 600 million were obese.

- 39% of adults aged 18 years and over were overweight in 2014, and 13% were obese.

- Most of the world's population live in countries where overweight and obesity kills more people than underweight.

Prevalence of overweight and obesity in Canada



Adapted from Twells LK, et al. CMAJ Open 2014.

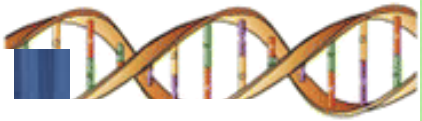
Obesity

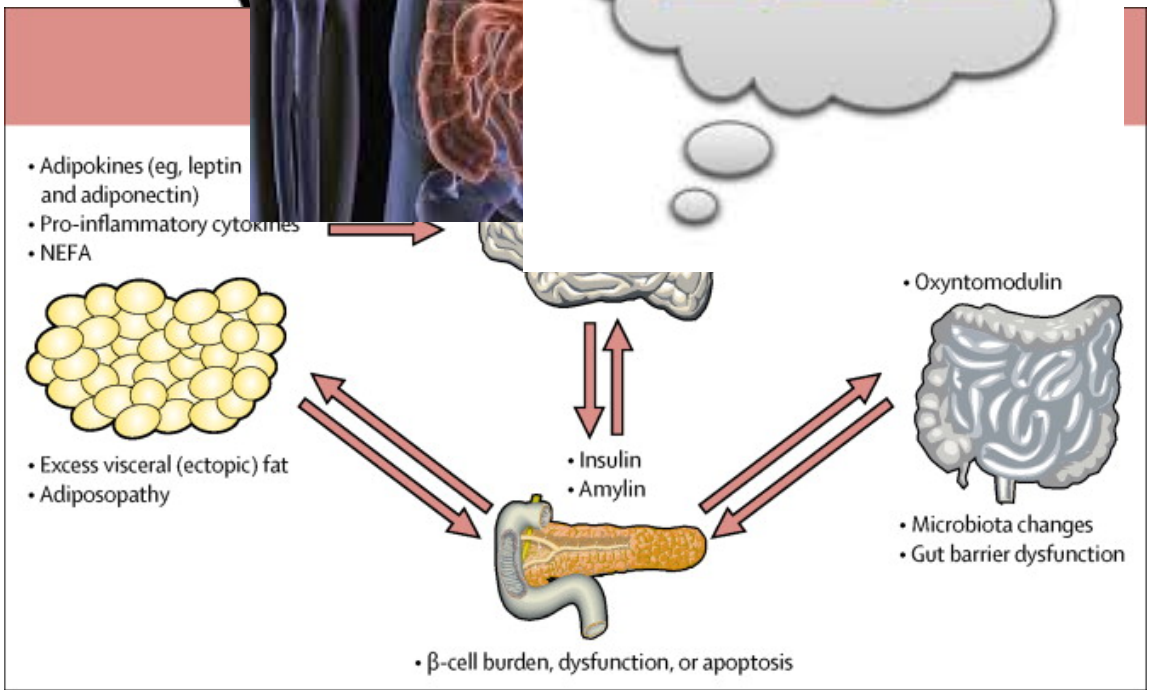
- Is a disease
- Impacts every subspecialty in medicine
- Is the greatest public health crisis our profession is facing

Environment and lifestyle

Taste & Smell Palatability | **Cost/Reward Optimization** | **Availability** | **Clock** | **Cues & Social Habits**

Genetic variation

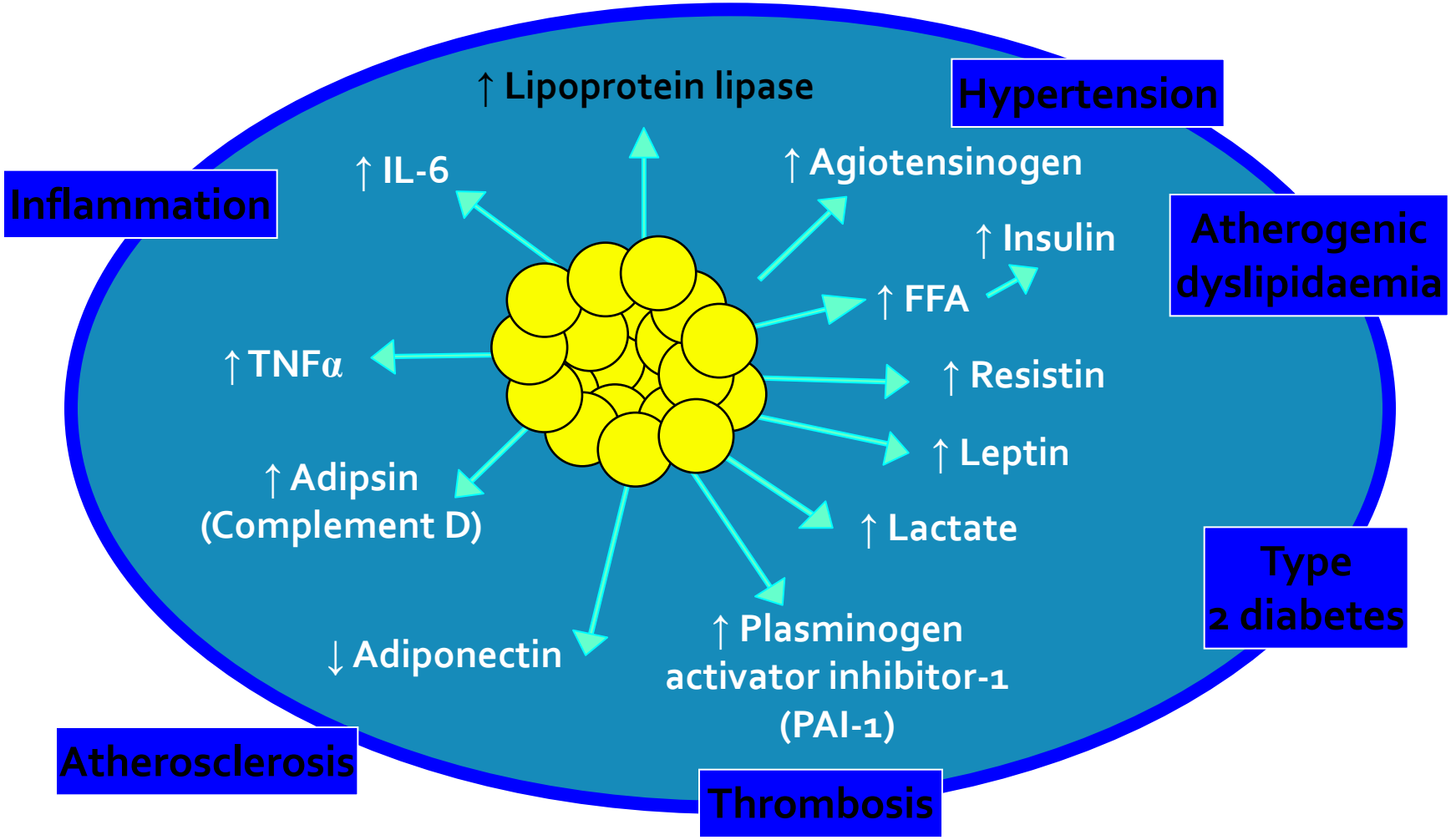




Individual predisposition/"Wiring"

- Genetic
- Epigenetic
- Imprinted
- Early life events

Adverse cardiometabolic effects of products of adipocytes

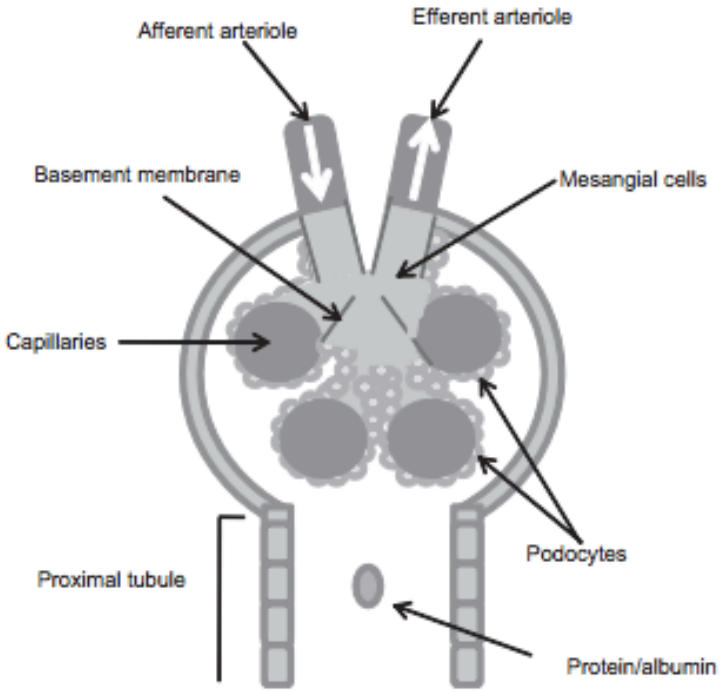


Lyon 2003; Trayhurn et al 2004; Eckel et al 2005

Mechanism of Obesity related Kidney Disease

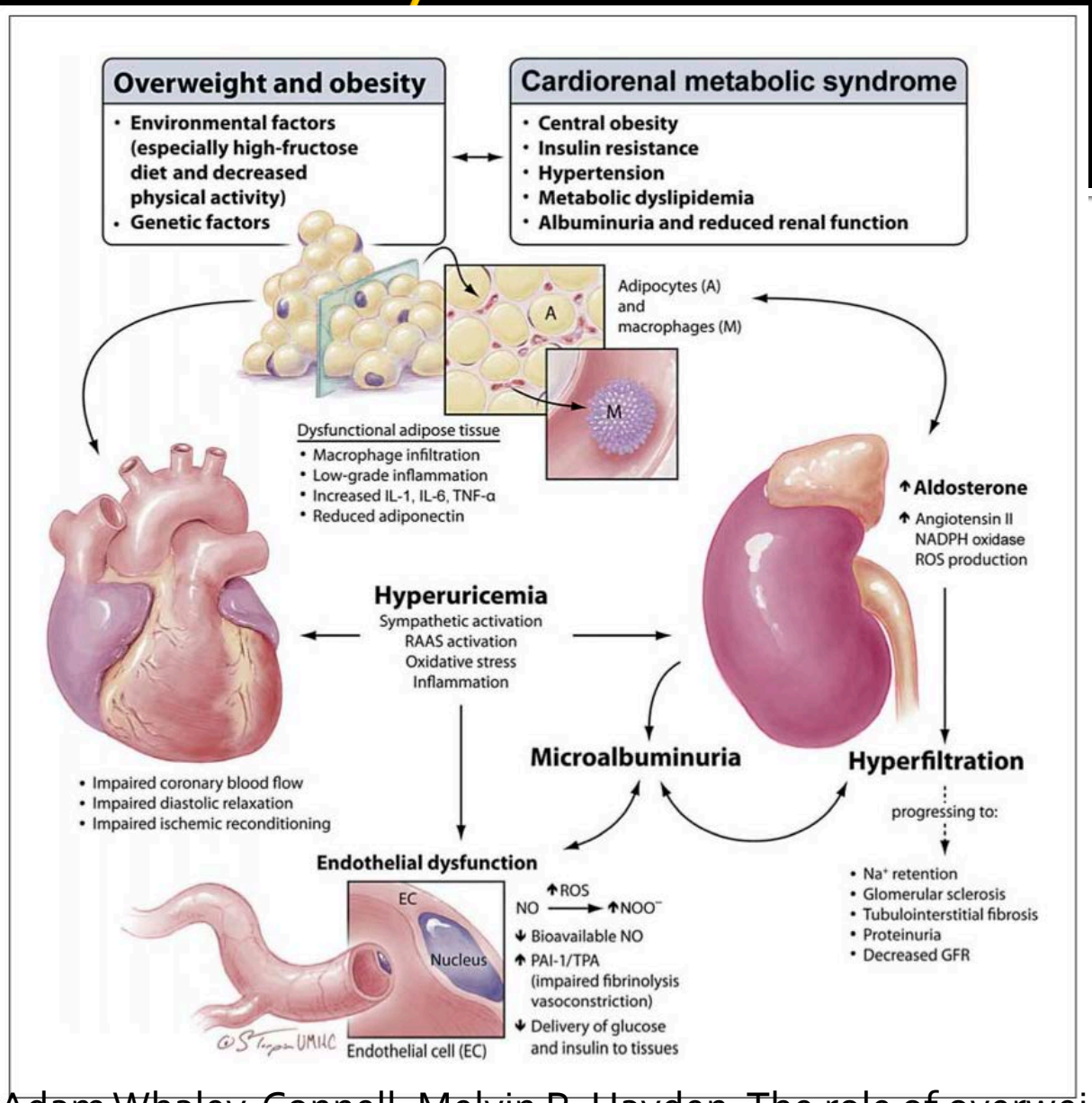
- Insulin resistance
- Inflammatory Mediators
- Endothelial Dysfunction
- Hypertension
- Diabetes
- Hyperuricemia

Pathophysiology of Obesity Nephropathy



Adipokine	Glomerulus	Proximal Tubule	Result
↑ leptin	Mesangial cell hypertrophy; Basement membrane thickening	↓ metabolic activity; ↓ protein content per cell	Albuminuria; Glomerular sclerosis; Activation of apoptotic pathways
↓ adiponectin	Fusion of podocytes	↓ AMPK	Albuminuria; ↓ GFR; Tubular inflammation
↑ resistin	?	?	↓ GFR; Tubular inflammation
↑ visfatin	Oxidative stress	?	Altered GFR

Obesity and the kidney



Sowers, James R., Adam Whaley-Connell, Melvin R. Hayden. The role of overweight and obesity in the cardiorenal syndrome. Cardiorenal Medicine. 1 no.1 (2011): 5-12.

Weight bias

- Refers to:
  - Attitudes/actions towards people with obesity that negatively affect clinical interactions
  - Stigmatizing patients because of their obesity
  - Applying stereotypes to a person because of their obesity which translate into prejudices, unfair treatment and discrimination

Assessment

Take a proper Obesity History
BMI
Waist circumference
Risk Stratify
Weight bias

It's kind of like a chest pain history?

- Chronicity?
- Impact of disease?
- Comorbidities?
- Behavioural patterns?
- Barriers to treatment?

Details:

- How long have you carried extra weight?
- Are you an emotional eater?
- How many glasses of juice do you drink? Sugar drinks?
- Take me through your day?
- What weight loss programs have you tried in the past?

Impact

- Obesity affects several domains of health and well-being (the "4 Ms").[1]

Mental	Mechanical	Metabolic	Monetary
• Cognition • Depression • Attention deficit • Addiction • Psychosis • Eating disorder • Trauma • Insomnia	• Sleep apnea • Osteoarthritis • Chronic pain • Reflux disease • Incontinence • Thrombosis • Intertrigo • Plantar fasciitis	• Type 2 diabetes • Dyslipidemia • Hypertension • Gout • Fatty liver • Gallstones • Polycystic ovary syndrome • Cancer	• Education • Employment • Income • Insurance • Benefits • Disability • Weight-loss programs • Bariatric supplies

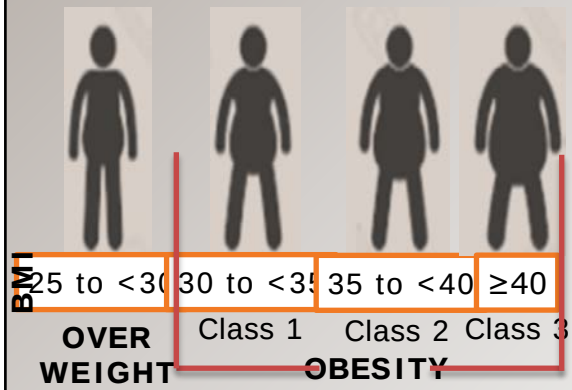
1. The 5 As of obesity management: practitioner guide. Canadian Obesity Network 2011. Accessed November 25, 2014 at http://www.obesitynetwork.ca/files/Practitioner_Guide_Personal_Use.pdf

Assessing obesity and weight-related risks

1 Obesity, by definition:

Measure **height**
Measure **weight**
Calculate **BMI**

BMI = kg/m²



2 Abdominal adiposity:

Measure
waist circumference*
*If BMI is >25 and ≤35 kg/m²

European, Sub-Saharan African, Eastern Mediterranean and Middle Eastern (Arab)

♂ **94 cm** | ♀ **80 cm**

South Asian, Chinese, Japanese, South and Central American

♂ **90 cm** | ♀ **80 cm**

3 Other weight-related health risks and comorbidities:

Assess
obesity-related health risks

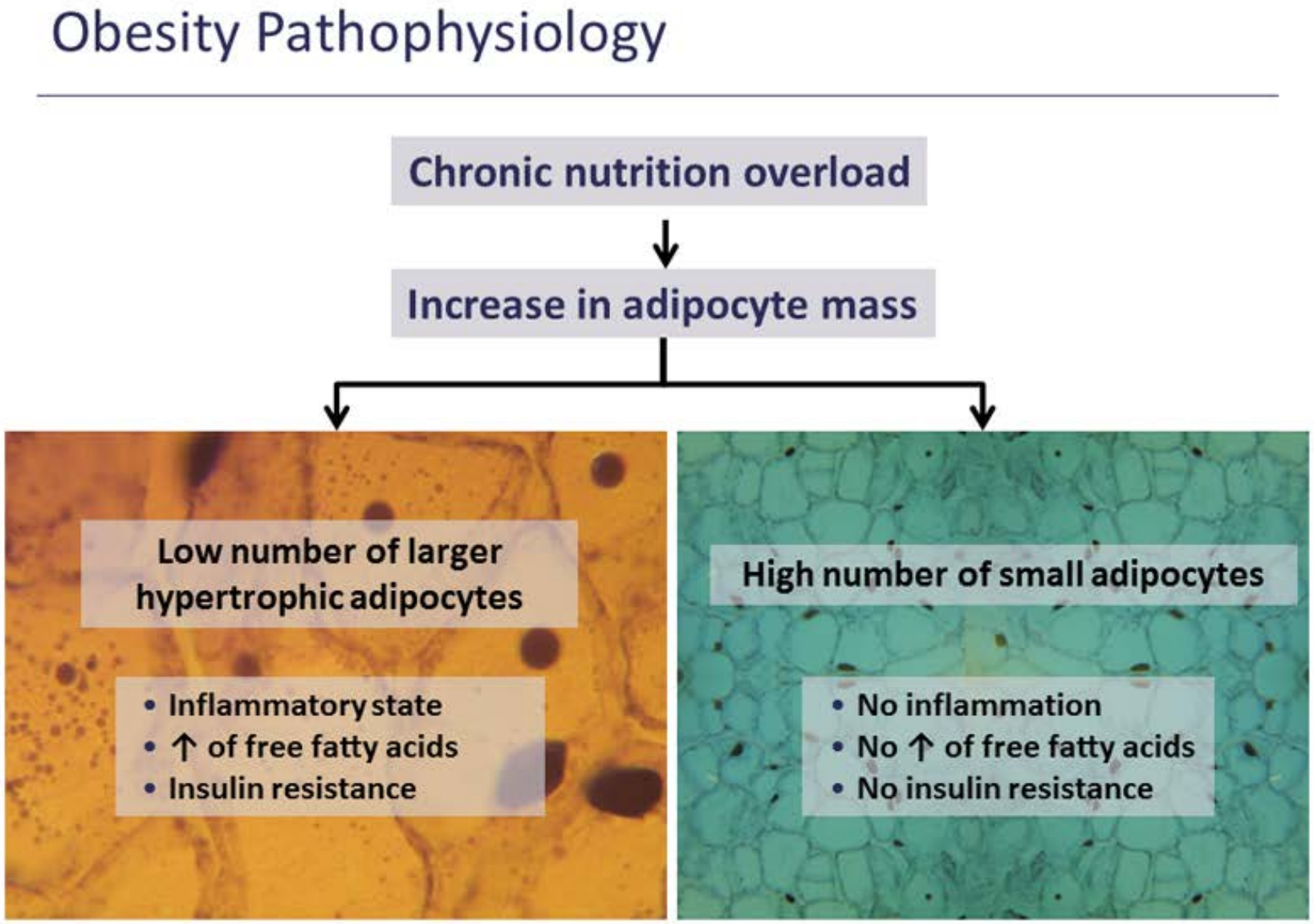
Diabetes: **FPG, A1C**
Hypertension: **Blood pressure (BP)**
Dyslipidemia: **Lipid profile**
NAFLD: **ALT**

Other weight-related comorbidities

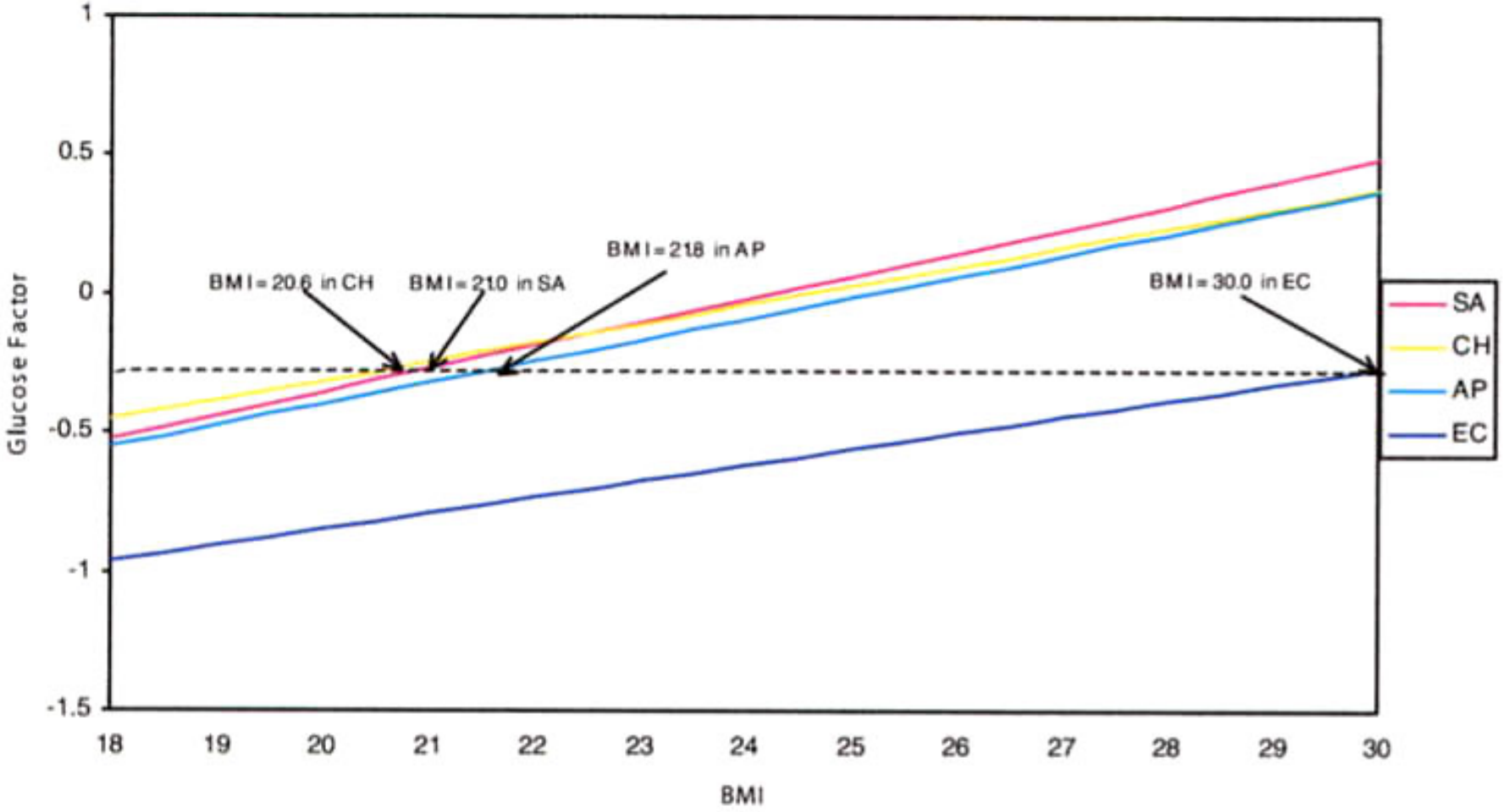
ALT = alanine aminotransferase; BMI = body mass index; FPG = fasting plasma glucose; NAFLD = non-alcoholic fatty liver disease.

Adapted from Jensen MD et al. J Am Coll Cardiol. 2014;63:2985-3023; Lau DCW et al. CMAJ. 2007;176:1103-6; CPA Guidelines. Can J

Advantages of waist circumference

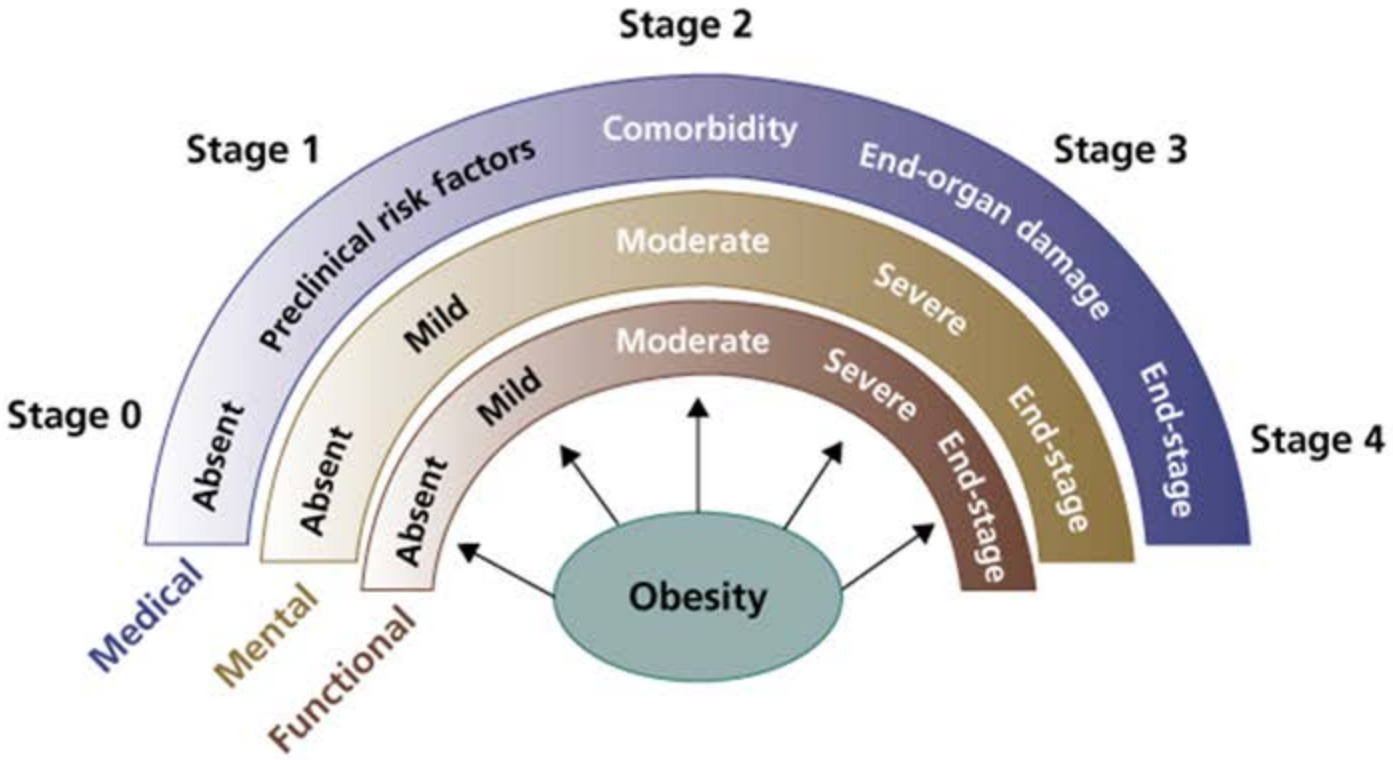


Relationship between Glucose Factor and BMI Among South Asians, Chinese, Aboriginals, and Europeans



From Razak F et al. Circulation 2007; 115:2111-2118

The Edmonton Obesity Staging System (EOSS)

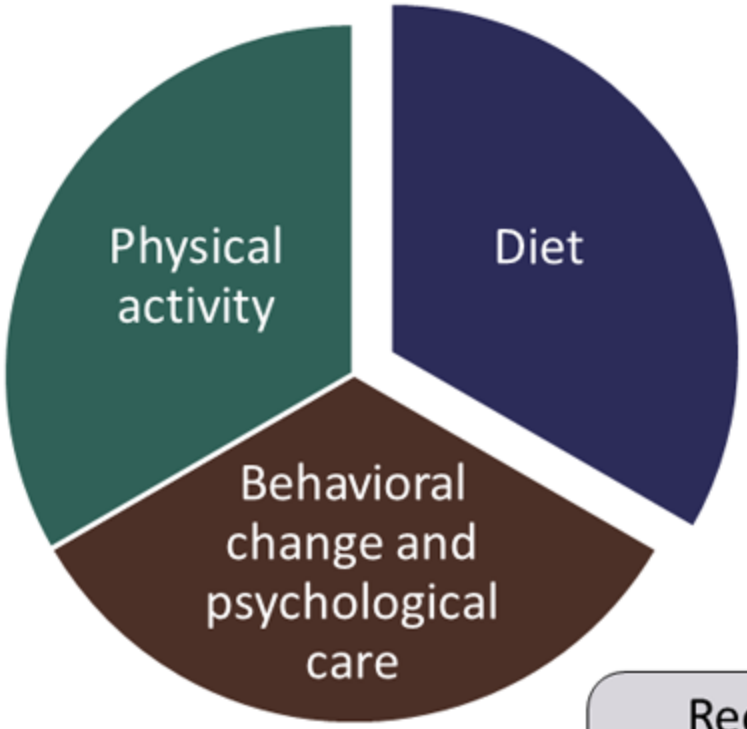


Sharma AM, Kushner R. *Int J Obes (Lond)*. 2009;33:289-295.

Redefine the Relationship for treatment

- Behavioural Therapy
- Nutrition
- Exercise
- Medications
- Surgery

Lifestyle Management



Recommendations must be practical, achievable, and realistic for the patient's lifestyle.

Do you hand a patient a diet?

- NO
- Patients could teach you a thing or two about dieting

Your job is to build a bridge

- Between knowledge and action
- Food Diary
- Exercise prescription

Dieting Heterogeneity

- There is variability in how people will respond to certain macronutrients
- Can we predict who fits best?

Not simple apple vs pear but rather what kind of apple

ORIGINAL INVESTIGATION

A Randomized Trial of a Low-Carbohydrate Diet vs Orlistat Plus a Low-Fat Diet for Weight Loss

William S. Yancy Jr, MD, MHS; Eric C. Westman, MD, MHS; Jennifer R. McDuffie, PhD, RD, MPH; Steven C. Grambow, PhD; Amy S. Jeffreys, MStat; Jamiyla Bolton, MS; Allison Chalecki, RD; Eugene Z. Oddone, MD, MHS

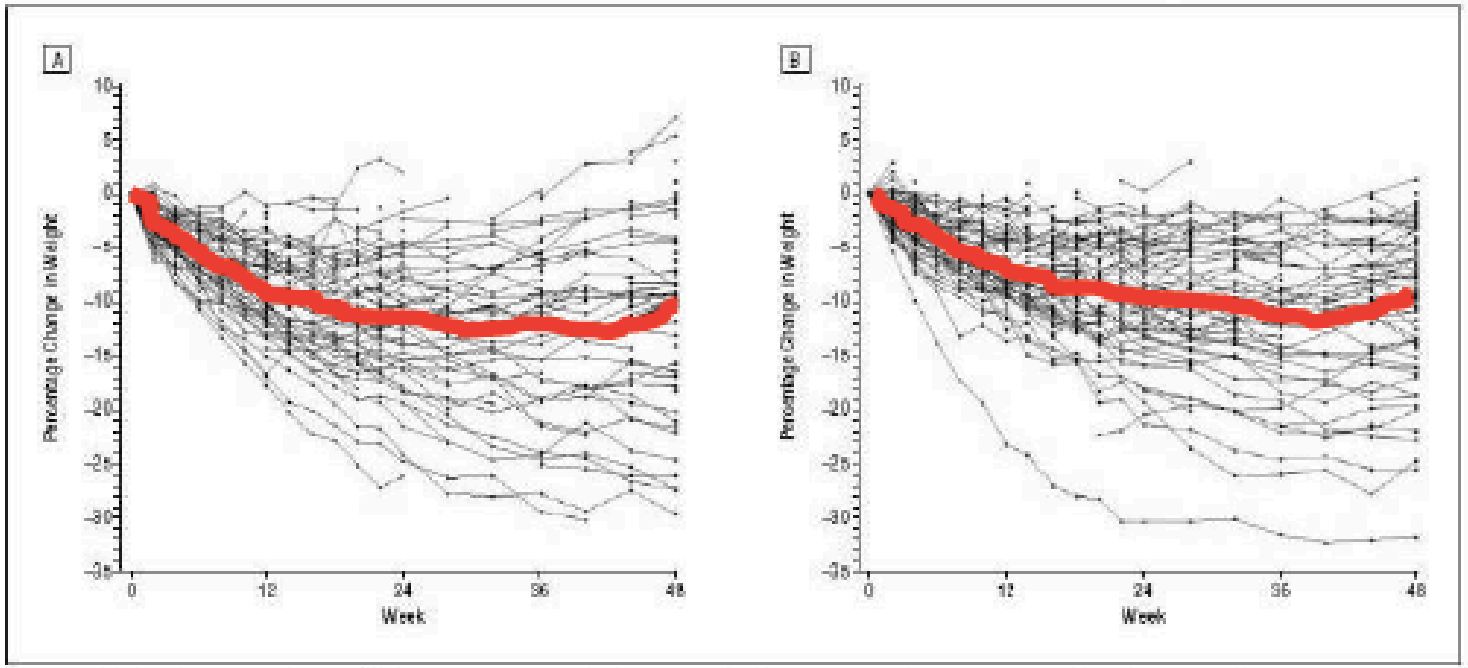


Figure 3. Individual percentage body weight change trajectories by diet group. The bold line represents a smoothed spline of the observed trajectory for the mean percentage body weight change in the low-carbohydrate, ketogenic diet group (A) or the orlistat plus low-fat, reduced-calorie diet group (B).

WEIGHT BIAS

- FAT SHAMING
- THE NEXT PREJUDICE?

Weight bias in clinical practice

- Addressing weight bias in clinical practice is challenging because it is **pervasive** and **more socially acceptable** than other types of bias

- Two types of weight bias exist in practice:
  - **Explicit**: Deliberate and consciously expressed (e.g., telling a patient they are "fat and unmotivated")

  - **Implicit:** Subconscious and hidden (e.g., chairs that don't fit, a scale that won't weigh, lack of a large blood pressure cuff)

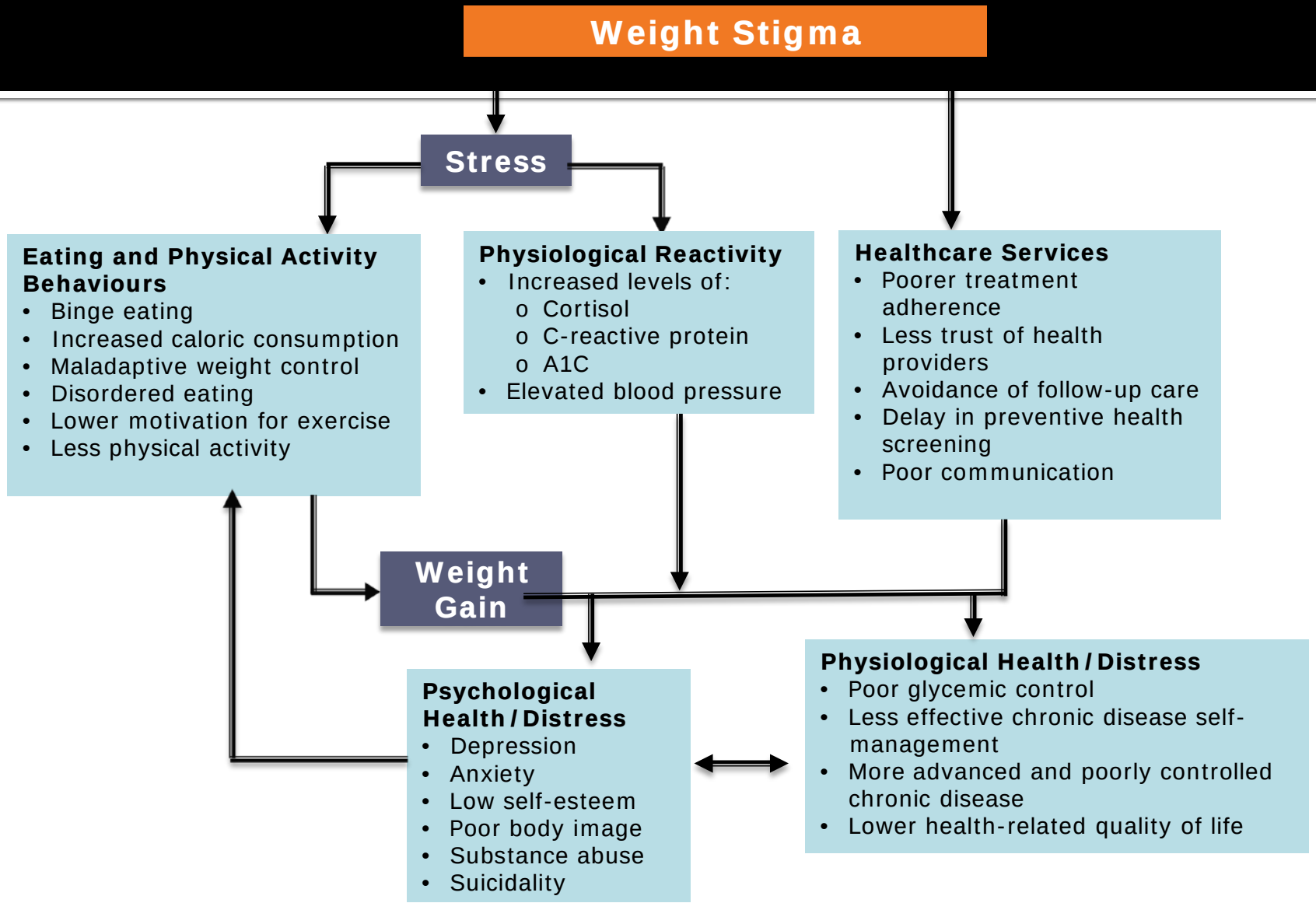
- Weight bias and stigmatizing usually occurs when people believe that excess weight is **controllable** and **due to a lack of personal responsibility**

- Prevalence has increased by **66%** in the last 10 years; similar to racial discrimination in terms of its negative effects on an individual and on a society

- **53%** of patients have received inappropriate comments from their doctors about their weight

- **84%** of patients believe their weight is blamed for all their medical complaints

Negative effects of weight bias



Puhl R, Phelan S, Nadglowski J, Kyle T. Overcoming Weight Bias in the Management of Patients With Diabetes and Obesity. Clinical Diabetes. 2016 Jan 44-50.

Tips to minimize weight bias

- ACKNOWLEDGE IT EXISTS
- Address obesity as a disease
- Ask permission to discuss a patient's weight
- Anticipate patients with obesity will come see you in your office – don't react once they are already there

Tips to minimize weight bias (cont.)

- Be mindful of negative experiences patients with obesity bring to your office
- Refrain from sharing your own personal experiences with weight loss or anecdotal tips
- Weigh patients in a private area
- Focus on health outcomes rather than weight

The 5As framework

- Respects autonomy in a non-judgmental way
- Recognizes obesity as an chronic condition

ASK for permission to discuss weight and explore readiness

ASSESS obesity related risks and 'root causes' of obesity

ADVISE on health risks and treatment options

AGREE on health outcomes and behavioural goals

ASSIST in accessing appropriate resources and providers

The 5 As of obesity management. Canadian Obesity Network 2011. Accessed November 25, 2014 at http://www.obesitynetwork.ca/5As.

Each day culture eats strategy for breakfast

Key principles of MI

- How a patient feels about a therapeutic interaction directly impacts their adherence
- This is imperative in prevention medicine

Motivational Interviewing

- Different than the traditional expert-recipient relationship between clinician-patient → "**Person-centered partnership**"
- Honours the patient as the decision maker
- Designed to strengthen **personal motivation** for and **commitment** to a specific goal by eliciting and exploring the person's **own reasons** for change within an atmosphere of acceptance and compassion

Key strategies in MI

- Open-ended questions
  - Cannot be answered with a "yes" or "no"
  - Patient has to contemplate and form an answer
- Reflective listening
  - "It sounds like…"
- Summarizing
  - Clarifying understanding and creating a framework for decisional balance
- Affirming
  - "I hear and understand your challenges.", rather than praising

Helpful tips for incorporating MI into practice

- Remember: MI is a **collaborative** conversation style
  - Goal is to strengthen the therapeutic relationship
- **Interpersonal skills** are important
- **Change talk** (from the patient) is critical
  - Need ("I should…" or "I might…")
  - Commitment ("I will…" or "I am…")
- Praise should **congratulate the patients' abilities**, rather than the action
  - i.e., patient has *learned* that he is capable of losing weight and that can continue, vs. patient has lost a few pounds
- Continue to **clarify understanding** with reflection and summarizing
  - If the patient answers "yes" or "no", MI is not being incorporated correctly!

Summary

- Obesity is a complex multifaceted disease
- It is the greatest endocrinopathy of our time
- It is the greatest public health crisis of our time
- It deserves a level of understanding from all disciplines
- Weight bias needs to be eradicated from our profession