Obesity: Beyond the Golden Arches – an Evidence-Based Discussion of Obesity's Causes and Effects

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I. Introductory Remarks
   a. Why Address Obesity as an Optometrist?
      i. Diabetes and diabetic retinopathy
         1. Statistics and Future Predictions
      ii. Hypertension and hypertensive retinopathy
      iii. Macular Degeneration
      iv. Cataracts and Glaucoma
      v. Pseudotumor cerebri
      vi. Sleep Apnea
         1. Keratoconus
         2. Seizure Disorder
         3. Other associated ocular conditions

II. Defining Terms: Obesity and Overweight, BMI and GI
   a. BMI
      i. Definition
      ii. Benefits and drawbacks
   b. Height/weight tables
      i. Origin of these
      ii. Benefits and drawbacks
   c. Glycemic Index vs. Glycemic Load
      i. Why is there so much confusion and disagreement?

III. Statistical trends in body weight and obesity in the U.S.
   a. Is there any good news?
      i. Childhood obesity "holding steady" for the first time in decades
   b. Predictions for future

IV. The Psychosocial Impact of Obesity
   a. Perceptions and Reality
      i. Studies from nurses
      ii. Studies from college students
      iii. Perceptions of school-aged children
      iv. Perceptions of hospital personnel
      v. Financial aspects of being obese

V. Theories of weight modulation
   a. Hormonal
      i. Estrogens
      ii. Neuropeptide Y
      iii. Ghrelin

iv. Leptin
v. Cortisol
vi. Serotonin

vii. Hedonic Mechanisms in Obesity
    1. What is the hedonic system and how is it regulated?
    2. What have animal studies shown us?
    3. What have human studies shown us?
    4. What implications might this have in future obesity treatments?

b. What interferes with hormonal balance?
    i. Stress
        1. Cortisol
        2. Sleep disruption

    ii. Aging
        1. Estrogens
        2. Testosterone

    iii. Appetite signaling

    iv. "Toxic Fat"
        1. Tumor necrosis Factor (TNF)-a
            a. Theories and "cures"
                i. Anti-inflammatory diets
                    1. Mediterranean and others
                    2. Omega-3 fatty acids
        2. C-Reactive Protein
            a. Omega-3 fatty acids, dietary modulation theories
        3. Leptin and Leptin Resistance
            a. Theories
            b. Evidence
            c. Potential "cures"
            d. The "Leptin Resistance Diet"
            e. The "Leptin Reset Diet"

    v. Depression
        1. Association with Vitamin D
        2. Serotonin imbalance
        3. Association with mood/affect centers and appetite centers
        4. Theories and "cures"
            a. Omega-3 fatty acids
            b. Anti-depressants - ?
            c. Role of high dose Vitamin D

VI. The Genetics of Obesity

a. How much is genetic vs. environmental?

b. Brown vs. white fat

c. What is the research telling us about specific genetic codes for obesity?

d. What are the ingredients for an obese, diabetic lab rat?

e. What research is currently underway to identify this component of obesity?

VII. Food hypersensitivity, intolerance, and allergy
a. "Leaky Gut" syndrome
b. Diagnosis, treatment, and "cures"

VIII. Quick Review of current and past popular diets

a. HCG diet
    i. What is it?
    ii. What is the science behind it?
    iii. What are the potential risks and benefits?
b. Atkins/South Beach
    i. What does the literature tell us?
c. Paleolithic/Caveman
    i. Why are these diets so popular?
d. Zone
e. Weight Watchers
f. Others….

IX. Why do some diets "work" for some people and not others?
a. Quick overview of food intolerance and food allergy

X. What role does lifestyle and exercise play?

XI. How can optometrists incorporate this information into daily practice?

a. How do you begin the discussion with a patient who is overweight or obese?
b. What recommendations can you make without "overstepping" your bounds?