

Obesity in Wayne County



THE UNIVERSITY
of NORTH CAROLINA
at CHAPEL HILL

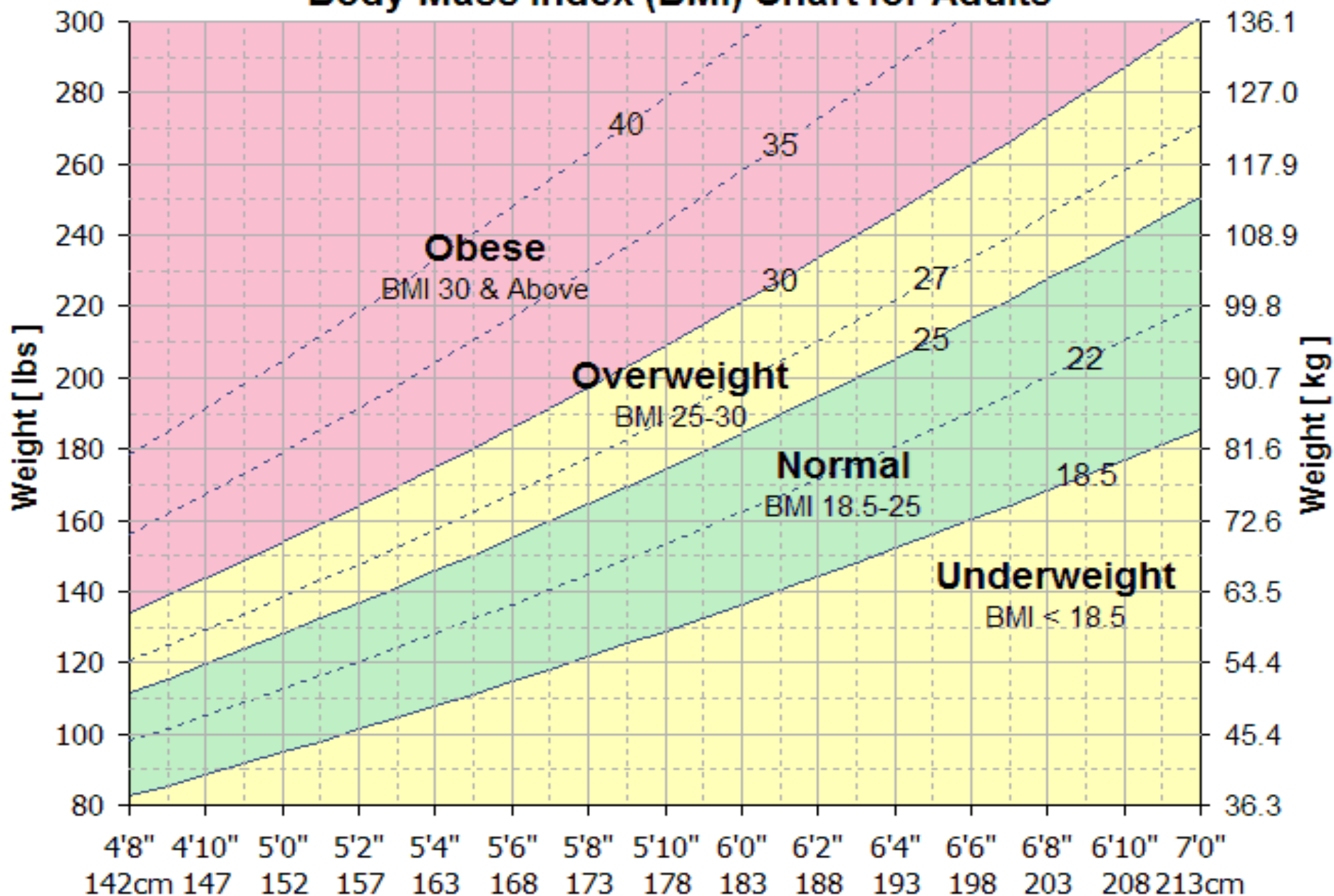
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Defining Obesity

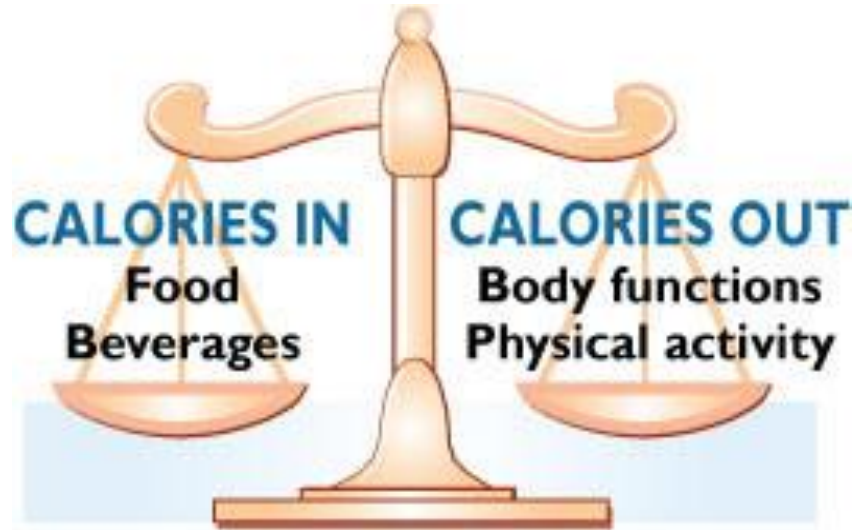
- WHO defines as “abnormal or excessive fat accumulation that may impair health.¹”
- Adult Body Mass Index
 - Weight (kg) / height (m²)
 - BMI ≥ 25 = Overweight
 - BMI ≥ 30 = Obese
- Child Body Mass Index²
 - Age and sex percentiles
 - BMI ≥ 85TH percentile = Overweight
 - BMI ≥ 95th percentile = Obese
- No current % body fat to define obesity

Body Mass Index (BMI) Chart for Adults



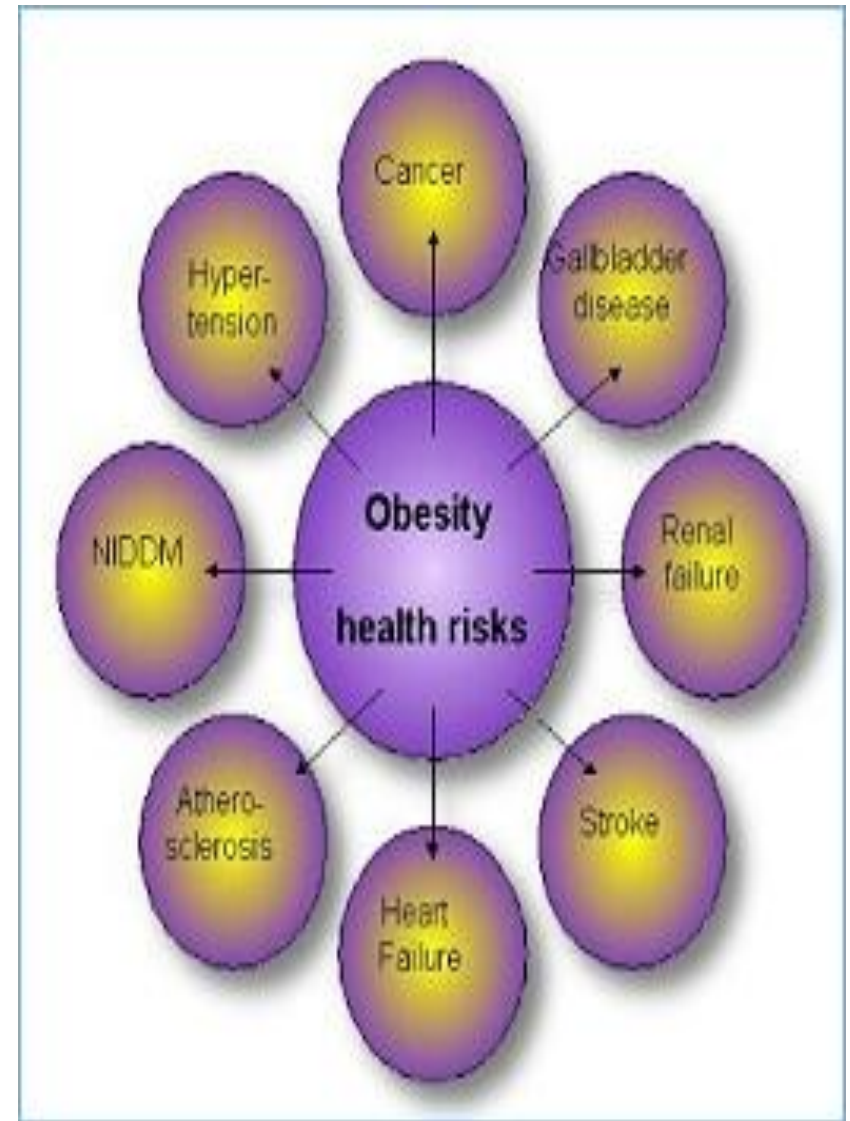
Risk Factors

- Genetics
- Environment
- Behavior
- Psychological
- Medications
- Culture & Socioeconomic Status



Health Consequences

- Increased risk of developing:
 - Type II Diabetes
 - Cardiovascular Disease
 - Cancer
 - Pulmonary diseases
 - Osteoarthritis
 - Dyslipidemia
 - Psychological & Emotional consequences
- Medical Costs



Treatment

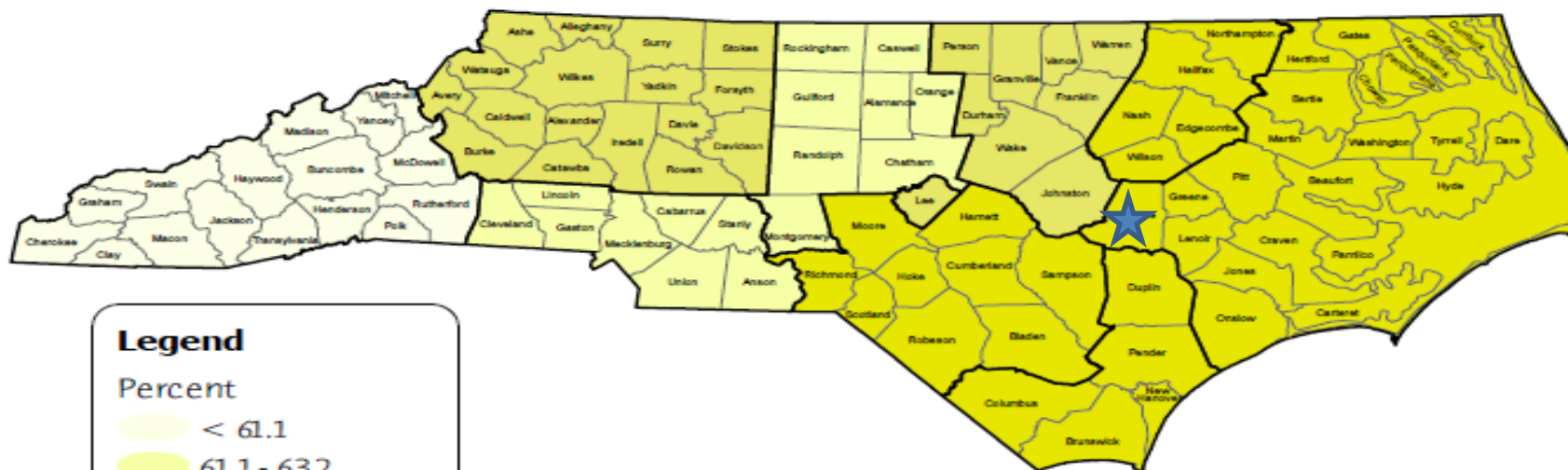


- Diet
- Exercise
- Behavior Modification
- Medical Management
 - Medications, surgery

North Carolina Adult Obesity



Percentage of North Carolina Adults Who Are Overweight or Obese* by Area Health Education Center (AHEC) Regions



Legend

Percent

- < 61.1
- 61.1 - 63.2
- 63.3 - 66.0
- > 66.0
- AHEC Regions
- County Boundary

Source: 2009 Behavioral Risk Factor Surveillance System (BRFSS)

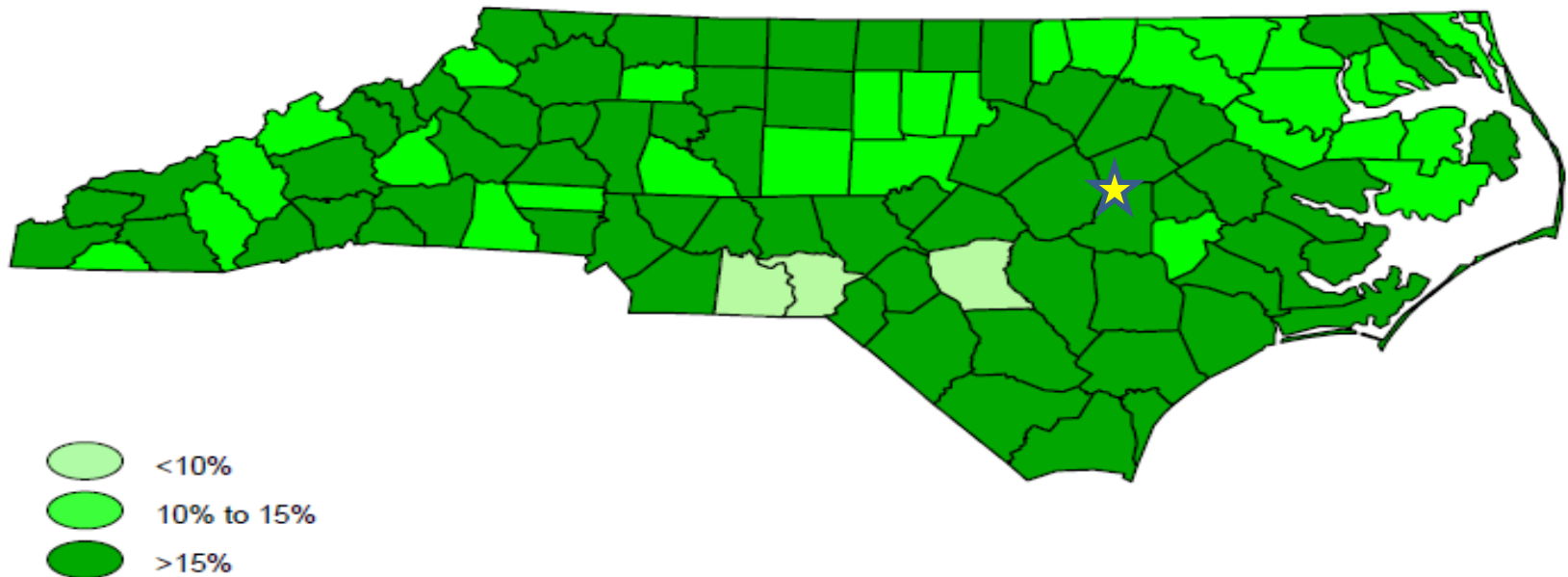
*Body mass index is computed as weight in kilograms divided by height in meters squared: (kg/ m²). BMI is an intermediate variable used in defining overweight and obesity. Underweight=BMI less than 18.5, Recommended Range= BMI 18.5 to 24.9, Overweight= BMI 25.0 to 29.9 and Obese= BMI greater than 30.0



NC State Center for Health Statistics

North Carolina Childhood Obesity

Percentage of Overweight Children¹, 2-18 Years of Age
NC-NPASS² 2009



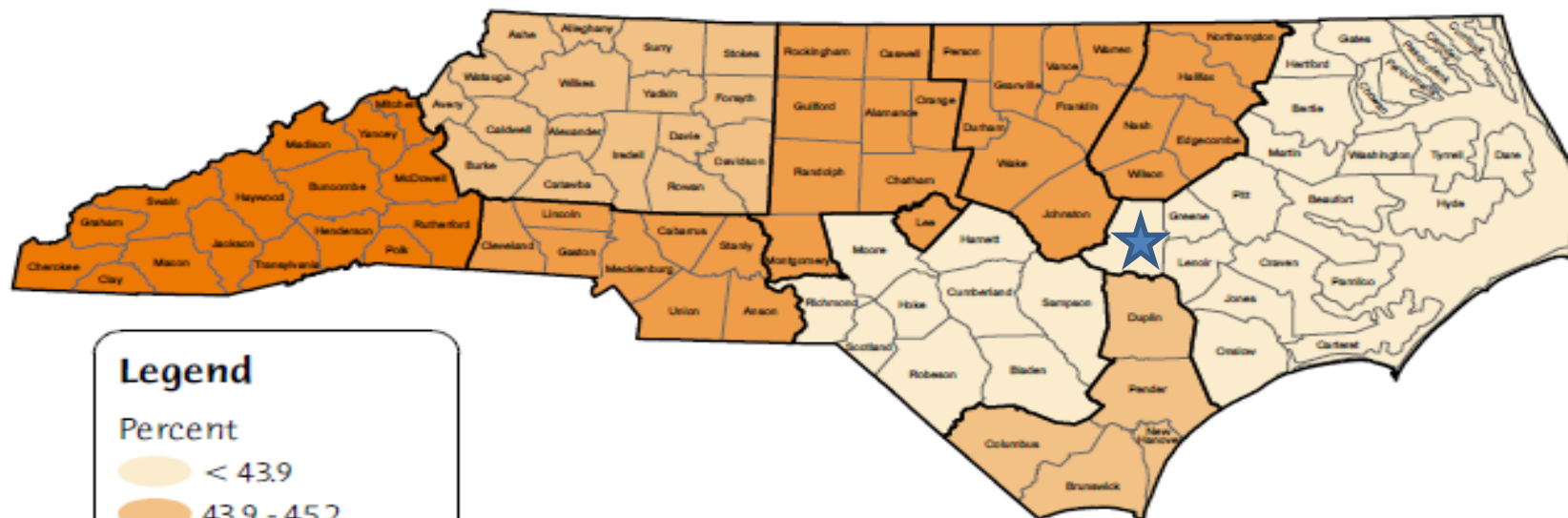
¹BMI-for-Age Percentiles ≥ 85 th and < 95 th Percentile

²North Carolina-Nutrition and Physical Activity Surveillance System (NC-NPASS) is limited to data on children seen in North Carolina Public Health Sponsored WIC and Child Health Clinics and some School Based Health Centers. Percentiles were based on the CDC/NCHS Year 2000 Body Mass Index (BMI) Reference.

North Carolina Physical Activity



Percentage of North Carolina Adults Who Are Meeting Daily Physical Activity Requirements* by Area Health Education Center (AHEC) Regions



Legend

Percent

- < 43.9
- 43.9 - 45.2
- 45.3 - 48.4
- > 48.4
- AHEC Regions
- County Boundary

Source: 2009 Behavioral Risk Factor Surveillance System (BRFSS)

*Moderate physical activity for 30 or more minutes per day, five or more days per week or vigorous physical activity for 20 or more minutes per day, three or more days per week.

Wayne County

- Rural vs Urban
 - Wayne County 45% rural; NC is 40%
- Rural Healthy People 2010
- Obese Adults
 - Wayne County = 33%
 - North Carolina = 29%
- Diabetes
 - Wayne County = 11%
 - North Carolina = 10%
- Physical Inactivity
 - Wayne County = 32%
 - North Carolina = 24%

Treatment: Exercise

- ACSM FITT Guidelines¹⁶

- Frequency
- Intensity
- Time
- Type

- CDC Guidelines¹⁷

- Guidelines for Children¹⁸



Treatment:

Exercise

- Special Considerations
 - Monitor Vitals
 - Orthopedic Injuries
- Benefits
 - Improved Cardiopulmonary Function
 - Reduced Risk for Coronary Artery Disease
 - Psychological Benefits

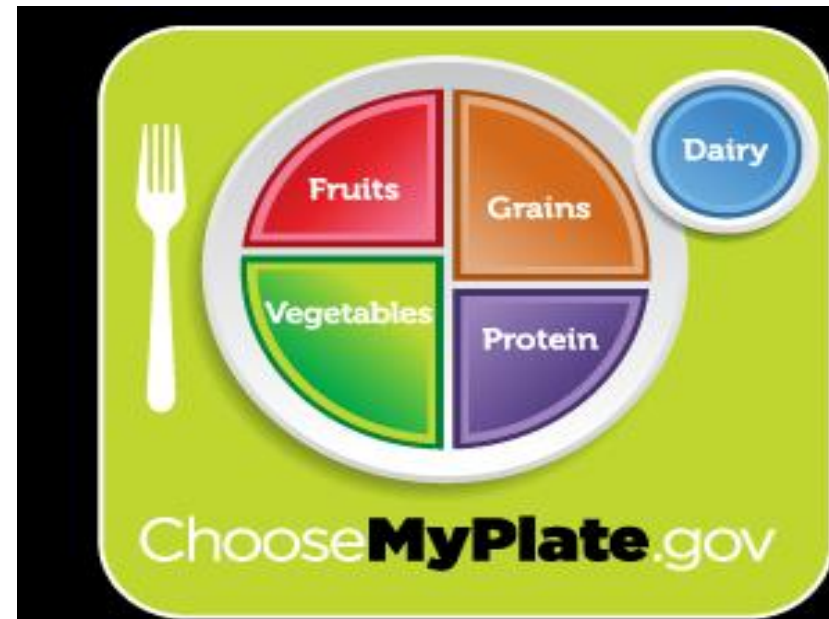
Treatment:

Diet

- \downarrow Calories Consumed + \uparrow Calories Expended = Weight Loss
- ACSM Guidelines¹⁶
- U.S. Department of Agriculture 2010 Guidelines²⁰
 - Limit Sodium < 1500mg/day
 - Limit Dietary Cholesterol < 300mg/day
 - Limit Trans Fatty Acids and Refined Sugars
 - Increase Vegetable and Fruit Intake
 - Increase Fat-Free Dairy
 - High Fiber Foods

CDC Dietary Guidelines

- Dietary Fat
 - Children 4-18 years old: 25-35% total calories
 - Adults: 20-35% total calories
- Protein
 - Children 4-18 years old: 19 grams/day
 - Women: 46 grams/day
 - Men: 56 grams/day
- Water
- The DASH Eating Plan
- ChooseMyPlate.Gov



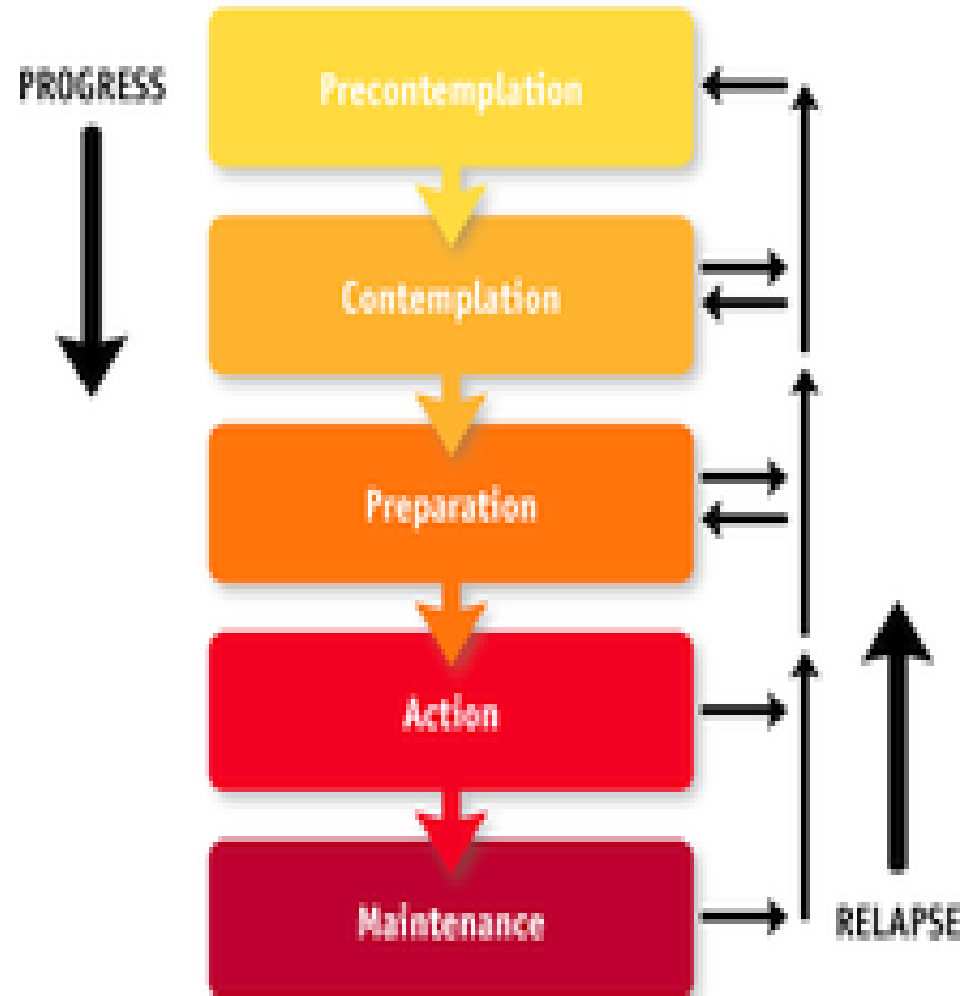
Treatment: Psychological

- Transtheoretical Model^{22.23}

- Stages of Change
- Clinical Implications

- Enhancing Exercise Adherence

- Support System
- Motivation



Evaluation: Outcome Measures

- Healthy Eating Index ²⁴
 - Updated HEI-2005
- International Physical Activity Questionnaire ²⁵
- Impact of Weight on Quality of Life- Lite ²⁶

Obesity Resources

- Physical Fitness
 - Goldsboro Parks and Recreation
 - YMCA
 - State Parks
 - Eat Smart, Move More, Weigh Less
- Diet
 - Registered Dieticians
 - Grocery Stores
- Support Groups
- State Programs
 - EatsmartmovemoreNC.com



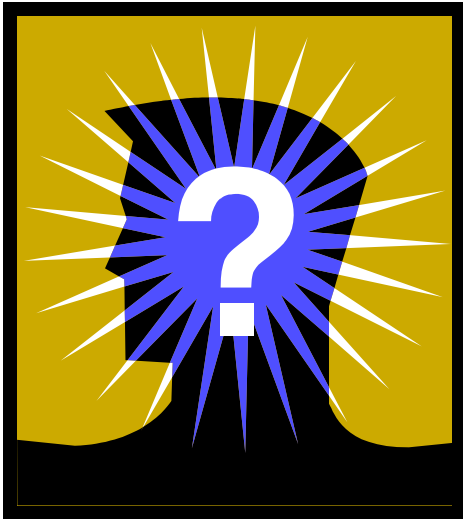
What Does This Mean for Me?

- Health Care Reform
 - Preventative Health Care
 - American Physical Therapy Association
- Physical Therapy = First Line of Defense



Booklet and Handouts

- Clinical Reference Booklet
 - Nutritional References
 - Exercise in Obese Populations
 - Outcome Measure Copies
 - Copies of Patient Handout
- Patient Handout
 - Give to patients as appropriate



Questions



References

1. World Health Organization. Obesity and Overweight. <http://www.who.int/mediacentre/factsheets/fs311/en/>. Updated March 2011. Accessed February 23, 2012.
2. Center for Disease Control and Prevention. Overweight and Obesity: The Basics About Childhood Obesity. <http://www.cdc.gov/obesity/childhood/basics.html>. Updated April 26th, 2011. Accessed February 23, 2012.
3. Center for Disease Control and Prevention. Causes and Consequences. <http://www.cdc.gov/obesity/causes/index.html>. Updated May 16th, 2011. Accessed February 23, 2012.
4. Center for Disease Control and Prevention. Health Consequences. <http://www.cdc.gov/obesity/causes/health.html>. Updated March 3, 2011. Accessed February 23, 2012.
5. Weight-Control Information Network. Understanding Adult Obesity. <http://win.niddk.nih.gov/publications/understanding.htm>. Updated September 13, 2010. Accessed February 23, 2012.
6. Turner S, Thomas A, Wagner P, Moseley G. A collaborative approach to wellness: diet, exercise, and education to impact behavior change. *Journal Of The American Academy Of Nurse Practitioners* [serial online]. June 2008;20(6):339-344. Available from: CINAHL with Full Text, Ipswich, MA. Accessed February 23, 2012.
7. Van Dorsten B, Lindley E. Cognitive and behavioral approaches in the treatment of obesity. *Medical Clinics Of North America* [serial online]. September 2011;95(5):971-988. Available from: CINAHL with Full Text, Ipswich, MA. Accessed February 24, 2012.

References

8. Kushner RF. Pharmacologic management of obesity. *Pediatric Blood Cancer*. 2012 Jan;58(1):140-3. doi: 10.1002/pbc.23366. Epub 2011 Oct 18.
9. Smith B, Schauer P, Nguyen N. Surgical approaches to the treatment of obesity: bariatric surgery. *Medical Clinics Of North America* [serial online]. September 2011;95(5):1009-1030. Available from: CINAHL with Full Text, Ipswich, MA. Accessed February 24, 2012.
10. NC State Info. Obesity Statistics.
www.nchealthinfo.org/health_topics/diseases_conditions/Obesity.cfm . Updated June 15, 2011. Accessed February 24, 2012.
11. America's Health Rankings. 2011 Trends.
<http://www.americashealthrankings.org/NC/Diabetes/2011-2011> . Published 2011. Accessed February 24, 2012.
12. Center for Disease Control and Prevention. Adult Obesity.
<http://www.cdc.gov/obesity/data/adult.html>. Updated July 19, 2011. Accessed February 24, 2012.
13. Center for Disease Control and Prevention. State Indicator Report on Physical Activity, 2010 North Carolina Action Guide. http://eatsmartmovemorenc.com/Data/Texts/PA-Indicator-Report-&-Action-Guide_North-Carolina.pdf. Published 2010. Accessed February 24, 2012.

References

14. Gamm L, Hutchison L, Bellamy G, Dabney BJ. Rural healthy people 2010: Identifying rural health priorities and models for practice. *Journal of Rural Health*. 2002 Winter;18(1):9-14.
15. County Health Rankings: Mobilizing Action Toward Community Health. 2011 Wayne, North Carolina. <http://www.countyhealthrankings.org/north-carolina/wayne/other-measures>. Published 2011. Accessed February 24, 2012.
16. American College of Sports Medicine. 7th edition. Philadelphia: Lippincott Williams and Wilkins. 2006. pp 216-219.
17. Centers for Disease Control and Prevention. Healthy Weight. http://www.cdc.gov/healthyweight/physical_activity/index.html. Updated September 13, 2011. Accessed March 22, 2012.
18. National Association of Sports and Physical Education. Standards and Position Statements: Physical Education Guidelines. <http://www.aahperd.org/naspe/standards/nationalGuidelines/PEguidelines.cfm>. Accessed March 22, 2012.
19. American College of Sports Medicine. 7th edition. Philadelphia: Lippincott Williams and Wilkins. 2006. pp 7-10.
20. United States Department of Agriculture. Weight and Obesity: Treatment and Prevention Guidelines. <http://health.gov/dietaryguidelines/dga2010/DietaryGuidelines2010.pdf> . Published December 2010. Accessed March 26, 2012.

References

21. Centers for Disease Control and Prevention. Nutrition Basics. <http://www.cdc.gov/nutrition/everyone/basics/index.html> . Updated February 23, 2011. Accessed March 26, 2012.
22. Hoke M, Timmerman G. Transtheoretical model: potential usefulness with overweight rural Mexican American women. *Hispanic Health Care International* [serial online]. March 2011;9(1):41-49. Available from: CINAHL with Full Text, Ipswich, MA. Accessed March 26, 2012.
23. American College of Sports Medicine. 7th edition. Philadelphia: Lippincott Williams and Wilkins. 2006. pp 163-167.
24. Kennedy ET, Ohls J, Carlson S, Fleming K. The healthy eating index: Design and applications. *J Am Diet Assoc.* 1995;95(10):1103-1108. doi: 10.1016/S0002-8223(95)00300-2.
25. Tomioka K, Iwamoto J, Saeki K, Okamoto N. Reliability and Validity of the International Physical Activity Questionnaire (IPAQ) in Elderly Adults: The Fujiwara-kyo Study. [Journal of Epidemiology](#). 2011 Sep 24. Accessed March 26, 2012
26. Brazier J, Kolotkin R, Crosby R, Williams G. Estimating a Preference-Based Single Index for the Impact of Weight on Quality of Life-Lite (IWQOL-Lite) Instrument from the SF-6D. *Value in Health (Wiley-Blackwell)* [serial online]. July 2004;7(4):490-498. Available from: Academic Search Premier, Ipswich, MA. Accessed March 26, 2012.
27. Goldsboro Department of Parks and Recreation. <http://www.goldsboroparksandrec.com/centers.aspx>.. Accessed March 26, 2012 .
28. Goldsboro Family YMCA. Programs. <http://goldsboroymca.org/newsite/programs> . Accessed March 26, 2012.

References

29. North Carolina State Parks. Cliffs of the Neuse State Park.
<http://www.ncparks.gov/Visit/parks/clne/main.php>. Accessed March 26, 2012.
30. Eat Smart, Move More, Weigh Less. How It Works. <http://esmmweighless.com/how-it-works/>. Accessed March 27, 2012. .
31. Academy of Nutrition and Dietetics. Find A Registered Dietitian.
<http://www.eatright.org/programs/rdfinder/> . Accessed March 26, 2012.
32. American Bariatrics. Forum. <http://www.americanbariatrics.org/forum.php> . Accessed March 26, 2012.
33. Obesity Action Coalition. Advocacy and Support: Support Groups.
<http://www.obesityaction.org/advocacy/support-groups/north-carolina-support-groups> . Updated 2012. Accessed March 26, 2012.
34. EatsmartmovemoreNC.com. Programs and Tools.
<http://eatsmartmovemorenc.com/ProgramsNTools/ProgramsNTools.html> . Updated 2011. Accessed March 27, 2012.
35. American Physical Therapy Association. Federal Advocacy: Health Care Reform.
<http://www.apta.org/HealthCareReform/> . Updated February 14, 2011. Accessed March 27, 2012.
36. American Physical Therapy Association. APTA Policies on Health, Wellness, and Fitness.
http://www.apta.org/uploadedFiles/APTAorg/About_Us/Policies/HOD/Practice/PromotePhysicalActivity.pdf . Updated February 3, 2011. Accessed March 27, 2012.