INTRODUCTION

Assessment and Treatment of Adult Overweight and Obesity

The United States is in the midst of an escalating epidemic of obesity. Over one-third of the adult population in the United States is currently obese and the prevalence of obesity is growing rapidly. Physicians can play a critical role in stemming this growing epidemic through their frequent patient contact and have unique opportunities to encourage physical activity, dietary and behavior changes. This tool kit proposes a model for the assessment and treatment of obesity in clinical practice, including assessment of risk factors for obesity, recommending lifestyle and behavior modifications, and instituting pharmacologic therapy or surgery when appropriate. Resources to help guide your patient in making these changes are also provided as handouts. By utilizing this tool kit, physicians can unite with other health care professionals in the fight to effectively help prevent and treat the chronic disease of obesity.

Missouri Statistics

- 62% of Missouri adults are overweight or obese. (Centers for Disease Control and Prevention [CDC] Behavioral Risk Factor Surveillance System, 2004)
- 24% of non-Hispanic white adults and 39% of non-Hispanic black adults in Missouri are obese. (CDC BRFSS, 2004)
- Only 20.2% of adults eat 5 servings of fruits and vegetables daily.
- Only 45.1% of adults meet the CDC's physical activity recommendations.

Causes of Overweight and Obesity

- Overweight and obesity result from an imbalance involving excessive calorie consumption and/or inadequate physical activity.
- Body weight is the result of a combination of behavioral, genetic, metabolic, environmental, cultural, and socioeconomic influences and is different for each individual.
- Behavioral and environmental factors are large contributors to overweight and obesity and provide the greatest opportunity for actions and interventions designed for prevention and treatment. (Department of Health and Human Services [DHHS]).

Health Consequences of Obesity

According to the 2001 *U.S. Surgeon General's Call to Action to Prevent and Decrease Overweight and Obesity,* those who are overweight or obese are at a greater risk for the following health conditions:

Premature Death:

- Individuals who are obese have a 50 to 100% increased risk of premature death from all causes, compared to individuals with a healthy weight.
- An estimated 300,000 deaths per year may be attributable to obesity.
- The risk of death rises with increasing weight.

- Even moderate weight excess (10 to 20 pounds for a person of average height) increases the risk of death, particularly among adults aged 30 to 64 years.

Heart Disease:

- The incidence of heart disease is increased in persons who are overweight or obese.
- High blood pressure is twice as common in adults who are obese than in those who are at a healthy weight.
- Obesity is associated with elevated triglycerides and decreased HDL cholesterol.

Diabetes:

- A weight gain of 11 to 18 pounds increases a person's risk of developing type 2 diabetes to twice that of individuals who have not gained weight.
- More than 80% of people with diabetes are overweight or obese.

Cancer:

- Overweight and obesity are associated with an increased risk for some types of cancer including endometrial (cancer of the lining of the uterus), colon, gallbladder, prostate, kidney and postmenopausal breast cancer.
- Women gaining more than 20 pounds from age 18 to midlife double their risk of postmenopausal breast cancer, compared to women whose weight remains stable.

Breathing Problems:

- Obesity is associated with a higher prevalence of asthma.

Arthritis:

- For every two-pound increase in weight, the risk of developing arthritis is increased by 9 to 13%.

Reproductive Complications:

- In addition to many other complications, women who are obese during pregnancy are more likely to have gestational diabetes and problems with labor and delivery.

Benefits of Weight Loss

- Weight loss, as modest as 5 to 10% of total body weight in a person who is overweight or obese, reduces the risk factors for some diseases, particularly heart disease.
- A person with a Body Mass Index (BMI) above the healthy weight range may benefit from weight loss, especially if he or she has other health risk factors, such as high blood pressure, high cholesterol, smoking, diabetes, a sedentary lifestyle, and a personal and/or family history of heart disease.
- Weight loss can result in lower blood pressure, lower blood sugar, and improved cholesterol levels.

Obesity-Related Medical Conditions (American Obesity Association)

The prevalence of various medical conditions increases with overweight and obesity for men and women as shown below.

Table 1. Prevalence of Medical Conditions by Body Mass Index (BMI) for Men

Medical Condition	Body Mass Index			
	18.5 to 24.9	25 to 29.9	30 to 34.9	≥ 40
	Prevalence Ratio (%)			
Type 2 Diabetes	2.03	4.93	10.10	10.65
Coronary Heart Disease	8.84	9.60	16.01	13.97
High Blood Pressure	23.47	34.16	48.95	64.53
Osteoarthritis	2.59	4.55	4.66	10.04

Source: National Health and Nutrition Examination Survey (NHANES) III, 1988 - 1994.

Table 2. Prevalence of Medical Conditions by Body Mass Index (BMI) for Women				
Medical Condition	**Body Mass Index**			
	18.5 to 24.9	**25 to 29.9**	**30 to 34.9**	**≥40**
	Prevalence Ratio (%)			
Type 2 Diabetes	2.38	7.12	7.24	19.89
Coronary Heart Disease	6.87	11.13	12.56	19.22
High Blood Pressure	23.26	38.77	47.95	63.16
Osteoarthritis	5.22	8.51	9.94	17.19

Source: NHANES III, 1988 - 1994.

Metabolic Syndrome

According to the National Cholesterol Education Program Expert Panel on Detection, Evaluation, and Treatment of High Blood Cholesterol in Adults (Adult Treatment Panel III), metabolic syndrome is defined as having three or more of the traits shown below. Identification of metabolic syndrome requires even greater urgency for the treatment of overweight or obesity.

Risk factor	Defining level
Abdominal obesity *Men* *Women*	Waist circumference >40 in (>102 cm) >35 in (>88 cm)
Triglycerides	>150 mg/dL
High-density lipoprotein (HDL) cholesterol *Men* *Women*	 <40 mg/dL <50 mg/dL
Blood pressure	≥130/≥85 mmHg
Fasting glucose	110-125 mg/dL (ATP III defines as ≥110)

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Framework for Implementing an Adult Weight Loss Program

Indicated for BMI levels of 25.0 and over

Initial Visit:

- ❑ Determine BMI.
- ❑ Measure waist circumference.
- ❑ Determine risk status (blood pressure, triglyceride and cholesterol levels, blood sugar level).
- ❑ Assess nutrition and physical activity habits and readiness to change health behaviors.
- ❑ Determine if patient should be treated. If yes:
    - o Identify patient's contributing factors (for example: depression, environmental influences on food choices and physical activity, such as access to healthy foods and a safe place to engage in physical activity, family dynamics and support systems).
    - o Assist patient in setting goals for making health behavior changes related to eating and/or physical activity utilizing patient-centered counseling techniques.
    - o Prescribe weight loss medication, if indicated. A referral to a licensed psychologist and/or licensed registered dietitian may also be helpful to assist with behavior changes before medication is considered.

First Four Months:

- ❑ Weekly communication for the following purposes:
    - o Weight monitoring.
    - o Problem resolution, if indicated (medicine, diet or physical activity).
    - o Group meetings on exercise, nutrition and behavior change.

Second Four Months:

- ❑ Biweekly meetings for the following purposes:
    - o Weight monitoring.
    - o Group meetings on exercise, nutrition and behavior change.
    - o Problem resolution, if indicated (medicine, diet or physical activity).
    - o If after six months, patient has not made or been able to maintain any behavior changes related to eating, consider pharmacotherapy. A referral to a licensed psychologist and/or licensed registered dietitian may also be helpful to assist with behavior changes before medication is considered.

Follow-up Visits:

- ❑ **Six months after initial visit:**
    - o Weight monitoring.
    - o Problem-resolution, if indicated (medicine, dietary or physical activity).
    - o Monthly group meetings for next six months on exercise, nutrition and behavior change topics.

- ❑ **One year after initial visit:**
    - o Weight monitoring.
    - o Problem resolution, if indicated (medicine, dietary or physical activity).
    - o Corrective actions, as needed (medication, re-education, etc.).
    - o If no or limited weight loss has occurred by the end of one year, consider surgery.
    - o Referral to local support groups for continued weight maintenance.

- ❑ **Continued follow-up at annual visits:**
    - o The amount of follow-up provided will depend on your patient's needs (recommendation should be based on what the patient has done previously - were they not ready for change, but now they are? Did they participate in a program, but regained weight? Did they agree to make behavior changes but did not follow through?).
    - o Weight monitoring.
    - o Problem resolution, if indicated (medicine, dietary and/or physical activity).