SOUTH DAKOTA OBESITY TOOLKIT

A Clinical Toolkit for Healthcare Providers

2014 Revised Edition

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Live better. Grow stronger.

SOUTH DAKOTA DEPARTMENT OF HEALTH

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TABLE OF CONTENTS

Acronyms

AAFP – American Academy of Family Physicians
AAP – American Academy of Pediatrics
ACC – American College of Cardiology
AHA – American Heart Association
AND – Academy of Nutrition and Dietetics
BMI – Body Mass Index
BP – Blood Pressure
CDC – Centers for Disease Control and Prevention
CKD – Chronic Kidney Disease
CQ – Critical Questions
CV – Cardiovascular
CVD – Cardiovascular Disease
DASH – Dietary Approaches to Stop Hypertension
DBP – Diastolic Blood Pressure
EMR – Electronic Medical Record
FDA – Federal Drug Administration
IOM – Institute of Medicine
LVH – Left Ventricular Hypertrophy
NHLBI – National Heart, Lung, and Blood Institute
NIDDK – National Institute of Diabetes and Digestive and Kidney Diseases
NIH – National Institute of Health
PCP – Primary Care Practitioner
RCT – Randomized Controlled Trial
SBP – Systolic Blood Pressure
TOS – The Obesity Society
VCHIP – Vermont Child Health Improvement Program
WHO – World Health Organization

Formatting Notes

Hyperlinks are Orange
Links to another section within the document are Blue

INTRODUCTION

Obesity is increasing rapidly among South Dakota children, adolescents, and adults.

- 15.3% of 2-5 year olds are obese (BMI-for-age 95th percentile and above) and an additional 17.9% are overweight (BMI-for-age 85-94th percentile). (14c)
- 15.9% of 5-19 year olds are obese and an additional 16.6% are overweight. Check out the South Dakota Department of Health School Height and Weight Report for more statistics. (14d)
- 65.7% of adults are overweight with 27.7% obese. (14a)

South Dakotans depend upon their personal physicians for health and nutrition information. Studies show that even short 3 to 5 minute conversations during routine visits can contribute to patient behavior change. In one study, patients who were obese and were advised by their health care professionals to lose weight were three times more likely to try than patients not advised. Research has also shown that patients who were counseled in a primary care setting about the benefits of healthy eating and physical activity lost weight and exercised more than patients who did not receive counseling. (12c) When possible, use an interdisciplinary care team consisting of physicians, registered dietitians, nurses, behaviorists, and social workers to provide expertise in all areas that contribute to obesity.

In 2006, South Dakota developed a State Plan for Nutrition and Physical Activity to Prevent Obesity and Other Chronic Diseases. This was the state's first comprehensive plan to suggest that healthier eating and increased physical activity were viable ways to reduce overweight and obesity and their subsequent risk for chronic disease such as cardiovascular disease, hypertension, and diabetes. This plan was updated and a revision released in April 2010. (14b) Implementation is now underway and each year an update is released summarizing key activities being implemented throughout South Dakota. The 2013 Update is now available. (14e) One of the goals in this plan is to increase support for physical activity and healthy eating within South Dakota healthcare systems and among health care providers in order to achieve a healthy body mass index (BMI) for all South Dakotans.

The purpose of this toolkit is to make it easier for South Dakota primary care providers to address the obesity epidemic with their patients. The toolkit is designed to help practitioners develop their own approach to the management of obesity. The tools may be used individually or as a collective group, based on the practitioner's preferences.

Additional Tools

Refer to the Order Form section to request additional tools to facilitate use of this online toolkit.

ADULT ASSESSMENT

Four suggested areas of assessment to determine the degree of overweight or obesity:

1. Body mass index (10b)
2. Presence of abdominal obesity based on waist circumference (10b)
3. Presence of associated disease risk (10b)
4. Weight and lifestyle histories (5a)

Body Mass Index

Obesity is defined clinically by BMI, a measure of adiposity. BMI is calculated by dividing weight by height squared.

English Formula:

$$= \frac{\text{(WEIGHT in Pounds)}}{\text{(HEIGHT in Inches)}^2} \times 703$$

An online BMI calculator is available on the Centers for Disease Control and Prevention (CDC) website at http://www.cdc.gov/healthyweight/assessing/bmi/index.html

In addition, downloadable software is available without charge for personal digital assistant devices from the National Heart, Lung, and Blood Institute.

BMI Calculator for use on **Palm OS** and **PocketPC 2003** Device
hp2010.nhlbihin.net/bmi_palm.htm

BMI Calculator for use on **iPhones**
http://apps.usa.gov/bmi-app.shtml

Reference the section How to Weigh and Measure for more information.

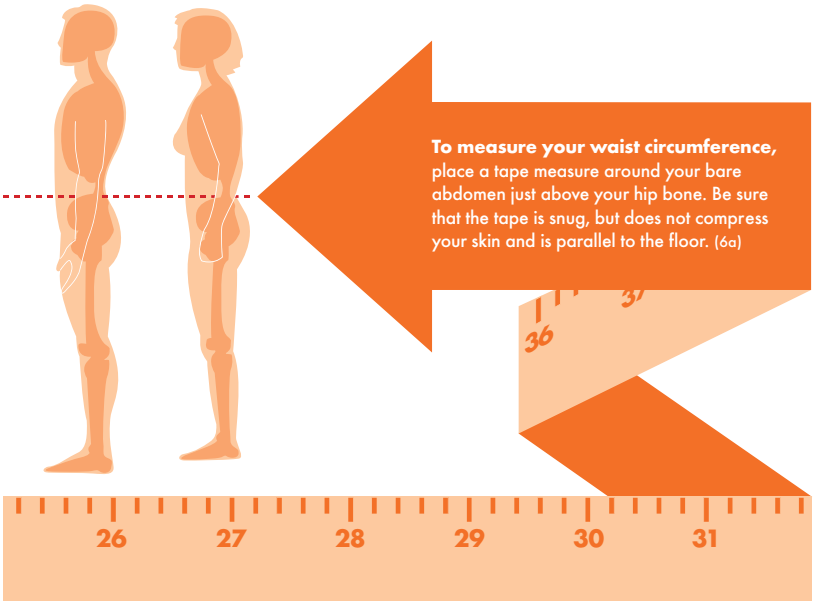
Waist Circumference

In addition to BMI calculation, waist circumference is an important vital sign. High waist circumference is associated with an increased risk of type II diabetes, dyslipidemia, hypertension, and CVD. Waist circumference is interrelated to BMI but waist circumference also provides an independent prediction of risk over and above that of BMI. (10e) Men with a circumference > 40 inches and women with a circumference > 35 inches are at particular risk. According to NHLBI, waist circumference measurement is particularly useful in patients who are categorized as normal or overweight on the BMI scale. It is not necessary to take waist circumferences on persons with a BMI > 35 as it has little added predictive power of disease risk beyond that of BMI. Waist circumference cutpoints can generally be applied to all adult ethnic or racial groups. (10e)

A color-coded body tape measure can be ordered from the Order Form section. The measuring tape is divided into sections for men and women and has green areas for acceptable waist circumference, yellow signifying caution, and red indicating waist circumference exceeds guidelines.

See the graphic on the following page to learn how to position the measuring tape for measuring waist circumference.

MEASURING TAPE POSITION FOR WAIST (ABDOMINAL) CIRCUMFERENCE



Associated Disease Risk

The table below incorporates both BMI and waist circumference in the classification of overweight and obesity, and provides an indication of disease risk. Individuals with waist circumferences > 40 inch for men and > 35 inches for women should be considered one risk category above that defined by their BMI. (10d)

TABLE IV-2:

Classification of Overweight and Obesity by BMI, Waist Circumference, and Associated Disease Risk* (10a, 10d)

Disease Risk* Relative to Normal Weight and Waist Circumference

BMI	BMI (kg/m2)	Obesity Class	Men ≤ 102 cm (≤ 40 in.) Women ≤ 88 cm (≤ 35 in.)	Men ≥ 102 cm (≥ 40 in.) Women ≥ 88 cm (≥ 35 in.)
UNDERWEIGHT	18.5		—	—
NORMAL+	18.5 - 24.9		—	—
OVERWEIGHT	25.0 - 29.9		Increased	High
OBESITY	30.0 - 34.9	I	High	Very High
	35.0 - 39.9	II	Very High	Very High
EXTREME OBESITY	40	III	Extremely High	Extremely High

* Disease risk for type II diabetes, hypertension, and CVD.
+ Increased waist circumference can also be a marker for increased risk even in persons of normal weight.

RECOMMENDATION:
For adult patients with a BMI of 25 to 34.9 kg/m², sex-specific waist circumference cutoffs should be used in conjunction with BMI to identify increased disease risk.

Associated disease risk should be assessed to determine overall risk beyond BMI and waist circumference. The 2013 AHA/ACC/TOS Obesity Guidelines recommend by expert opinion that intensive management of CVD risk factors (hypertension, dyslipidemia, prediabetes or diabetes) or other obesity-related medical conditions (sleep apnea) be instituted if they are found, regardless of weight loss efforts. (5a)

Reference the section Guidelines for Comorbidities for further information.

Assess Weight and Lifestyle Histories

Assessment may provide additional insight into the client's origin of weight issues, previous successes and challenges, appropriate advice for lifestyle changes, and recommendations for treatment. (5a) Questions can include but are not limited to:

- History of weight gain and loss over time
- Details of previous weight loss attempts
- Dietary habits
- Physical activity or inactivity
- Family history of obesity
- Other medical conditions that may affect weight
- Medications that may affect weight

CHILD/ADOLESCENT ASSESSMENT

Growth Monitoring and Assessment

CDC recommends that health care providers:

Use the WHO growth charts to monitor growth for infants and children ages 0 to 2 in the U.S.
Use the CDC growth charts to monitor growth for children age 2 years and older in the U.S.

Prior to 2006, CDC growth charts were used for all infants and children. Why the change? WHO growth charts for ages 0-2 years reflect normal child growth under *optimal environmental conditions*. There were 3 main reasons for utilizing the WHO growth standards: (6e)

1. The WHO standards establish growth of the breastfed infant as the norm for growth. Breastfeeding is the recommended standard for infant feeding. The WHO charts reflect growth patterns among children who were predominantly breastfed for at least 4 months and still breastfeeding at 12 months.
2. The WHO standards provide a better description of physiological growth in infancy. Clinicians often use the CDC growth charts as standards on how young children should grow. However the CDC growth charts are references; they identify how typical children in the US did grow during a specific time period. Typical growth patterns may not be ideal growth patterns. The WHO growth charts are standards; they identify how children should grow when provided optimal conditions.
3. The WHO standards are based on a high-quality study designed explicitly for creating growth charts. The WHO standards were constructed using longitudinal length and weight data measured at frequent intervals. For the CDC growth charts, weight data were not available between birth and 3 months of age and the sample sizes were small for sex and age groups during the first 6 months of age.

WHO Growth Charts: 0-2 years of age (6e)

For infants, birth to 24 months, clinical growth charts reflect weight-for-length, length-for-age, weight-for-age, and head circumference-for-age. Infants and children under age 24 months using these charts are to be measured in recumbent length. Specific information regarding nutrition and activity for infants and toddlers under age one is not included in this toolkit.

CDC Growth Charts: 2-20 years of age (6b)

The CDC growth charts can be used continuously from ages 2-20. In contrast the WHO growth charts only provide information on children up to 5 years of age. For children 2-5 years, the methods used to create the CDC growth charts and the WHO growth charts are similar. BMI-for-age is the preferred term for children and adolescents aged 2 to 20 years as BMI is age and gender specific. These children and adolescents are measured with a standing height utilizing charts that have stature-for-age and weight-for-age in addition to BMI-for-age.

CHILDREN & ADOLESCENTS 2 YEARS AND OLDER

1. Weigh at each visit.
2. Measure height using stadiometer at each visit.
3. Calculate BMI and plot on CDC growth chart.
4. Inform parent/patient of assessment.

The Early Childhood Obesity Prevention Policies developed by the Institute of Medicine in June 2011 recommend health professionals assess and monitor the following areas at every well-child visit. (9a)

1. Children's attained weight-for-length or BMI ≥ 85th percentile
2. Children's rate of weight gain
3. Parental weight status as risk factors in assessing which young children are at highest risk of later obesity and its adverse consequences

ANTHROPOMETRIC INDEX	PERCENTILE CUT-OFF VALUES	NUTRITIONAL STATUS INDICATOR
WHO GROWTH CHARTS 2ND AND 98TH PERCENTILES		
Length-for-age	< 2nd	Short Stature
Weight-for-length	< 2nd	Low weight-for-length
Weight-for-length	> 98th	High weight-for-length
CDC GROWTH CHARTS 5TH AND 95TH PERCENTILE		
BMI-for-age	≥ 95th	Obesity
BMI-for-age	≥ 85th and < 95th	Overweight
BMI-for-age	< 5th	Underweight
Stature-for-age	< 5th	Short Stature

The cutoff values are not the same between the WHO and CDC growth charts because different methods are used to create the charts. Historically, CDC used the 5th percentile to define shortness and low weight-for-length, and the 95th percentile was used to define high weight-for-length. Theoretically, children in the WHO population would be expected to be healthy. Thus, more extreme cutoff values are more appropriate to define the extremes of growth of children rather than the values used in the CDC growth reference. (6d)

Refer to the section How to Weigh and Measure for more information. Practitioners may find a transparent overlay helpful to accurately plot the intersection of weight/BMI and stature on growth charts.

If growth charts are embedded in your EMRs, be sure to check that the recommended chart is being used for each age group.

GUIDELINES FOR COMORBIDITIES

Children and adults carrying excess weight are at risk for developing numerous associated comorbidities including hypertension, prediabetes, type II diabetes, metabolic syndrome, and cardiovascular disease. The following tools are included to assist in evaluating these conditions.

Hypertension in Adults:

2014 Evidence-Based Guideline for the Management of High Blood Pressure in Adults Report From the Panel Members Appointed to the JNC 8 (10g)

Hypertension in Children:

Use the following 2 charts to determine high blood pressure in children and adolescents:

1. Blood Pressure Norms for Boys and Girls by Age and Height Percentiles (%iles) (10c)
2. Classification of Hypertension in Children and Adolescents, with Measurement Frequency and Therapy Recommendations (10f) Chart included below.

CLASSIFICATION OF HYPERTENSION IN CHILDREN AND ADOLESCENTS, WITH MEASUREMENT FREQUENCY AND THERAPY RECOMMENDATIONS

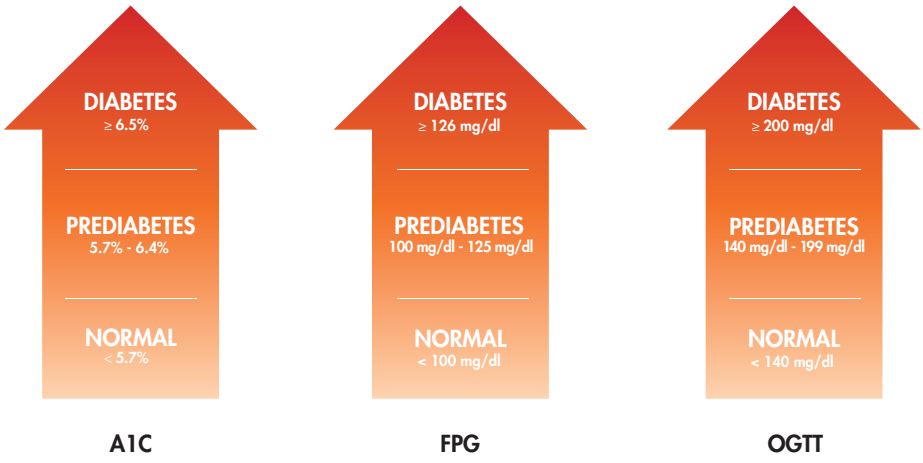
	SBP OR DBP PERCENTILE*	FREQUENCY OF BP MEASUREMENT	THERAPEUTIC LIFESTYLE CHANGES	PHARMACOLOGIC THERAPY
NORMAL	< 90th	Recheck at next scheduled physical examination.	Encourage healthy diet, sleep and physical activity.	–
PRE-HYPERTENSION	90th to < 95th or if BP exceeds 120/80 mm Hg even if below 90th percentile up to < 95th percentile**	Recheck in 6 months.	Weight-management counseling if overweight, introduce physical activity and diet management.***	None unless compelling indications such as CKD, diabetes mellitus, heart failure, or LVH exist.
STAGE 1 HYPERTENSION	99th percentile to the 99th percentile plus 5 mm Hg	Recheck in 1-2 weeks or sooner if the patient is symptomatic; if persistently elevated on two additional occasions, evaluate or refer to source of care within 1 month.	Weight-management counseling if overweight, introduce physical activity and diet management.***	Initiate therapy if: symptomatic hypertension, secondary hypertension, hypertension target-organ damage, diabetes (type 1 and 2), persistent hypertension despite nonpharmacologic measures or if compelling indications as above.
STAGE 2 HYPERTENSION	> 99th percentile plus 5 mmHg	Evaluate or refer to source of care within 1 week or immediately if the patient is symptomatic.	Weight-management counseling if overweight, introduce physical activity and diet management.***	Initiate therapy.****

BP, blood pressure; CKD, chronic kidney disease; DBP, diastolic blood pressure; LVH, left ventricular hypertrophy; SBP, systolic blood pressure.
*For sex, age, and height measurement on at least three separate occasions; if systolic and diastolic categories are different, categorize by the higher value.
**This occurs typically at 12 years old for SBP and at 16 years for DBP.
***Parents and children trying to modify the eating plan to the Dietary Approaches to Stop Hypertension (DASH) eating plan could benefit from consultation with a registered or licensed nutritionist to get them started.
****More than one drug may be required.

Source: The Fourth Report on the Diagnosis, Evaluation, and Treatment of High Blood Pressure in Children and Adolescents.

Prediabetes and Type II Diabetes in Adults

Prediabetes (impaired glucose tolerance) is increasing in adolescents and adults. It can lead to type II diabetes if the patient does not take steps to change their lifestyle. There are several ways to diagnose prediabetes or type II diabetes: A1C, FPG, and OGTT. (4a)



American Diabetes Association®

A1C. The A1C test measures average blood glucose for the past 2 to 3 months. The advantage of being diagnosed this way is it requires no fasting or ingestion of a glucose solution.

- Prediabetes is diagnosed at 5.7-6.4%
- Diabetes is diagnosed at ≥ 6.5%

FPG – Fasting Plasma Glucose. This test is usually done first thing in the morning, before breakfast. Patient should not eat or drink (except water) for at least 8 hours before the test.

FASTING BLOOD SUGAR LEVELS	
NORMAL	Less than 100 mg/dl
PRE-DIABETES	Between 100 mg/dl and 125 mg/dl
DIABETES	126 mg/dl or greater

OGTT – Oral Glucose Tolerance Test. The OGTT is a two-hour test that checks blood glucose levels via blood draw before and 2 hours after drinking a 75 gram glucose solution.

- Prediabetes is diagnosed at 2 hour blood glucose of 140 mg/dl -199 mg/dl
- Diabetes is diagnosed at 2 hour blood glucose of ≥ 200 mg/dl

Prediabetes and Type II Diabetes in Children

Particular attention should also be focused on the occurrence of type II diabetes in children as it is being diagnosed more often. Less than a generation ago, type II diabetes was seen almost strictly as an adult disease, with less than 2% of new diabetic cases in children. Today, this number has increased to between 25% and 60% of new-onset childhood diabetics. With obesity being a major risk factor, pediatric care providers must now view type II diabetes as a pediatric illness. (2b)

Metabolic Syndrome in Adults

Metabolic syndrome is increasingly being used to describe a group of risk factors that indicate an increased risk of developing type II diabetes mellitus and premature CVD in adults. Metabolic syndrome is also known by many names including syndrome X and insulin resistance syndrome. Several diagnostic criteria have been proposed for metabolic syndrome. The criteria by the U.S. National Cholesterol Education Program (NCEP) Adult Treatment Panel III (ATP III), with minor modifications, are currently recommended and widely used.

Diagnostic Criteria of the Metabolic Syndrome (must meet 3 of 5 criteria)
• High fasting plasma glucose ≥100 mg/dL
• Abdominal obesity: waist circumference > 40 inches (men) or > 35 inches (women)
• Hypertrigylceridemia: TG ≥ 150 mg/dL
• HDL < 40 mg/dL (men)
• HDL < 50 mg/dL (women)
• Blood pressure ≥ 130/85 mm Hg

Metabolic Syndrome in Children

The definition of metabolic syndrome in the pediatric population is nonexistent. However, metabolic syndrome in adults has been shown to have its roots in childhood. Early recognition and intervention by the pediatrician or family physician is critical to the treatment of metabolic syndrome. (2b)

Cardiovascular Disease in Children

Atherosclerosis begins in youth and is related to the presence and intensity of the known CV risk factors shown below: (10c)

- Family history
- Age
- Gender
- Nutrition/diet
- Physical inactivity
- Tobacco exposure
- Blood pressure
- Lipids
- Overweight/obesity
- Diabetes mellitus
- Predisposing conditions
- Metabolic syndrome
- Inflammatory markers
- Perinatal factors

New pediatric CV guidelines in 2011 were developed based on these known risk factors. The guidelines will assist all primary pediatric care providers in both the promotion of CV health and the identification and management of specific risk factors from infancy into young adulthood. (10c)

The Integrated Cardiovascular Health Schedule includes eight of the known risk factors and age-based recommendations from birth to 21 years of age. Detailed information can be found on page 8 of the Health Schedule. (10c)

Other Obesity-Related Conditions and Complications in Children

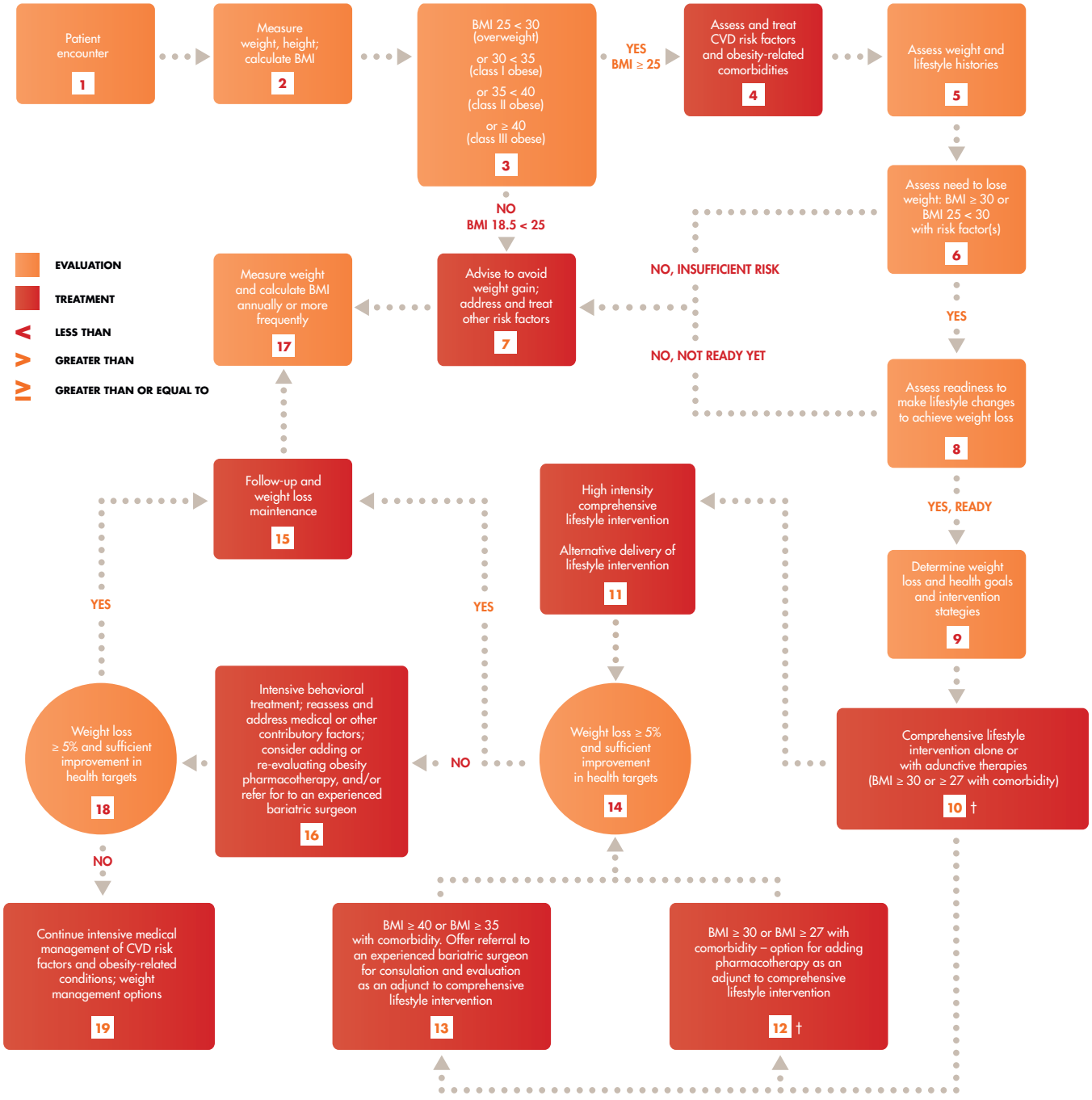
Weight and BMI are not the only indicators of weight problems in children and adolescents. The following table from Nebraska's Clinical Childhood Obesity Model describes symptoms or signs of suspected diagnosis associated with obesity. (13a)

SYMPTOMS AND SIGNS OF COMORBIDITIES

SYMPTOMS OR SIGNS	SUSPECTED DIAGNOSIS
Elevated blood pressure	HTN (Hypertension)
Polydipsia, polyuria, weight loss, acanthosis nigricans	Type 2 Diabetes
Small stature (decreasing height velocity), goiter	Hypothyroidism
Small stature (decreasing height velocity), purple striae, Cushingoid facies	Cushings' Syndrome
Hirsutism, excessive acne, menstrual irregularity	Polycysitc Ovary Syndrome
Abdominal pain	GE Reflux, Constipation, Gall Bladder Disease
Hepatomegaly, increased LFTs	Nonalcoholic Fatty Liver Disease
Snoring, daytime somnolence, tonsillar hypertrophy, enuresis, headaches, elevated BP	Sleep Apnea, Hypoventilation Syndrome
Hip or knee pain, limp, limited hip range of motion, pain walking	Slipped Capital Femoral Epiphysis
Lower leg bowing	Blount Disease
Severe headache, pappilledema	Pseudotumor Cerebri
Depression, school avoidance, social isolation, sleep disturbance	Depression
Binge eating, vomiting	Bulimia
Dysmorphic features, small hands and feet, small genitalia, no menses, undescended testes	Prader-Willi Syndrome

Treatment Algorithms: Adult

Treatment Algorithm – The Chronic Disease Management Model for Primary Care of Patients with Overweight and Obesity* (5a)



Jensen MD, et al.
2013 AHA/ACC/TOS Obesity Guideline

*This algorithm applies to the assessment of overweight and obesity and subsequent decisions based on that assessment. Each step (designated by a box) in this process is reviewed in this section and expanded upon in subsequent sections.
†BMI cutpoint determined by the FDA and listed on the package inserts of FDA-approved obesity medications.
BMI indicates body mass index; CVD, cardiovascular disease; and FDA, Food and Drug Administration.

1 Patient Encounter for Obesity Prevention and Management

A patient encounter for obesity prevention and management is defined as an interaction with a PCP who assesses a patient's weight status in order to determine presence of overweight or obesity and need for further assessment and treatment.

2 Measure Weight and Height; Calculate BMI

Weight and height are measured with the patient wearing light clothing or an examination gown and no shoes and the BMI calculated. BMI can be calculated manually **(weight in kg/[height in meters]^2)**, or electronically using the EMR or other resources and documented in the patient medical record.

3 BMI 25 < 30 (overweight) or BMI 30 < 35 (class I obese) or BMI 35 < 40 (class II obese) or BMI ≥ 40 (class III obese [extreme obesity])

These BMI cutpoints define overweight and class I to III obese individuals and identify adults who may be at increased risk for CVD and other obesity-related conditions. Within these categories, additional personal risk assessment is needed because degree of risk can vary (Box 4 and CQ 2).

4 Assess and Treat CVD Risk Factors and Obesity-Related Comorbidities

Assess risk for CVD and/or presence of obesity-related comorbidities. Risk assessment for CVD and diabetes in a person with overweight or class I to III obesity includes history, physical examination, clinical and laboratory assessments, including BP, fasting blood glucose, and fasting lipid panel (expert opinion). A waist circumference measurement is recommended for individuals with BMI 25 < 35kg/m^2 to provide additional information on risk. It is not necessary to measure waist circumference in patients with BMI ≥ 35 because the waist circumference will likely be elevated and it will add no additional risk information. The Panel recommends, by expert opinion, using the current cutpoints (> 88 cm or > 35 in for women and >102 cm or > 40 in for men) as indicative of increased cardiometabolic risk.

Because obesity is associated with increased risk of hypertension, dyslipidemia, diabetes, and a host of other comorbidities the clinician should assess for associated conditions. The Panel recommends by expert opinion that intensive management of CVD risk factors (hypertension, dyslipidemia, prediabetes or diabetes) or other obesity-related medical conditions (e.g., sleep apnea) be instituted if they are found, regardless of weight loss efforts.

5 Assess Weight and Lifestyle Histories

The Panel recommends, by expert opinion, that the clinician assess weight and lifestyle histories and determine other potential contributory factors: Ask questions about history of weight gain and loss over time, details of previous weight loss attempts, dietary habits, physical activity, family history of obesity, and other medical conditions or medications that may affect weight. This may provide useful information about the origins of or maintaining factors for overweight and obesity, including success and difficulties with previous weight loss or maintenance efforts. This information can assist the clinician in determining any adjustments to the patient's medical regimen that can assist weight management efforts, in providing appropriate advice on lifestyle change, and may also impact recommendations for treatment.

6 Assess Need to Lose Weight

YES – BMI > 30 or BMI 25 < 30 with additional risk factor(s):

Weight loss treatment is indicated for 1) obese individuals and 2) overweight individuals with 1 or more indicators of increased CVD risk (e.g., diabetes, prediabetes, hypertension, dyslipidemia, elevated waist circumference) or other obesity related comorbidities.

NO – BMI < 25 or BMI 25 < 30 without additional risk.

Normal weight patients (BMI 18.5 < 25) should be advised to avoid weight gain (Box 7). Patients who are overweight (BMI 25 < 30), and who do not have indicators of increased CVD risk (e.g., diabetes, prediabetes, hypertension, dyslipidemia, elevated waist circumference) or other obesity-related comorbidities should be advised to avoid additional weight gain (Box 7).

7 Advise to Avoid Weight Gain, Address other Risk Factors

A. Normal Weight: Individuals who are normal weight (BMI 18.5 < 25) and do not have a history of overweight/obesity should be counseled on the desirability of avoiding weight gain to prevent the health risks of increased body weight.

B. Overweight without additional risk factors or normal weight with a history of overweight/obesity: For individuals who are overweight (BMI 25 < 30), and who do not have indicators of increased CVD risk (e.g., diabetes, prediabetes, hypertension, dyslipidemia, elevated waist circumference) or other obesity-related comorbidities and individuals who have a history of overweight and are now normal weight with risk factors at acceptable levels, advise to frequently measure their own weight, and to avoid weight gain by adjusting their food intake if they start to gain more than a few pounds. Also, advise patients that engaging in regular physical activity will help them avoid weight gain.

C. Overweight or obese individuals who would benefit from weight loss but who are not currently prepared or able to lose weight: Periodically assess the patient's interest in and readiness for weight loss, as shown in Box 8 and counsel the patient on the desirability of avoiding additional weight gain to prevent greater health risk. Regardless of patient's interest in or readiness for weight loss intervention, any CVD risk factors and obesity-related health conditions should be evaluated and treated.

8 Assess Readiness to Make Lifestyle Changes to Achieve Weight Loss and Identify Barriers to Success

The Panel advises (expert opinion) that the clinician and patient agree on whether weight loss is appropriate. The clinician, together with the patient, should assess if the patient is prepared and ready to undertake the measures necessary to succeed at weight loss before undertaking comprehensive counseling efforts. The clinician can ask, "How prepared are you to make changes in your diet, to be more physically active, and to use behavior change strategies such as recording your weight and food intake?" These are the components of a comprehensive lifestyle intervention. The decision to undertake weight loss efforts must be made in the context of competing priorities (e.g., smoking cessation may supersede a weight loss effort and life events may make the effort at weight reduction futile until a future time). If the patient is not prepared to undertake these changes, attempts to counsel them regarding how to make lifestyle changes are likely to be counterproductive.

9 Determine Weight Loss and Health Goals and Intervention Strategies

Clinician and patient devise weight loss and health goals and comprehensive lifestyle treatment strategies to achieve these goals.

Recommended goals for weight loss: A realistic and meaningful weight loss goal is an important first step. Although sustained weight loss of as little as 3% to 5% of body weight may lead to clinically meaningful reductions in some CVD risk factors, larger weight losses produce greater benefits. The Panel recommends as an initial goal the loss of 5% to 10% of baseline weight within 6 months.

Recommended methods for weight loss: Weight loss requires creating an energy deficit through caloric restriction, physical activity, or both. An energy deficit of ≥ 500 kcal/day typically may be achieved with dietary intake of 1,200 to 1,500 kcal/day for women and 1,500 to 1,800 kcal/day for men. The choice of calorie restricted diet can be individualized based on the patient's preferences and health status (CQ3). Very low-calorie diets (< 800 kcal/day) should be used only in limited circumstances in a medical care setting where medical supervision and a high-intensity lifestyle intervention can be provided. If a specialized diet for CVD risk reduction, diabetes, or other medical conditions is also prescribed, referral to a nutrition professional* is recommended (CQ3).

Recommendations for management of medical conditions during weight loss: While weight loss treatment is ongoing, manage risk factors such as hypertension, dyslipidemia and other obesity-related conditions. This includes monitoring the patient's requirements for medication change as weight loss progresses, particularly for antihypertensive medications and diabetes medications that can cause hypoglycemia.

10 Weight Loss Options – Comprehensive Lifestyle Intervention Alone or With Adjunctive Therapies*

All patients for whom weight loss is recommended should be offered or referred for comprehensive lifestyle intervention (Box 11a and 11b). Comprehensive lifestyle intervention, preferably with a trained interventionist† or nutrition professional* is foundational to weight loss (Box 11a), regardless of augmentation by medications or bariatric surgery.

By expert opinion, if the weight and lifestyle history indicates that the patient has NEVER participated in a comprehensive lifestyle intervention program, as defined in CQ4 and in Box 11a, it is recommended that he or she be encouraged to undertake such a program prior to adding adjunctive therapies, as a substantial proportion of patients will lose sufficient weight with comprehensive lifestyle treatment alone to improve health. This recommendation may be modified by the availability of comprehensive lifestyle intervention or by patient factors, such as medical conditions that warrant earlier initiation of more intensive treatment.

If the patient has been unable to lose weight or sustain weight loss with comprehensive lifestyle intervention and they have a BMI ≥ 30 or ≥ 27 with comorbidity, adjunctive therapies may be considered.

Patients who are otherwise appropriate candidates for obesity drug treatment or bariatric surgery, whose weight and lifestyle history indicates a history of being unable to lose weight or sustain weight loss and who have previously participated in a comprehensive lifestyle intervention, may be offered the option to add pharmacotherapy at the time of initiation of a lifestyle intervention program (BMI ≥ 30 or ≥ 27 with comorbidity) or to be referred for evaluation for bariatric surgery (BMI ≥ 40 or BMI ≥ 35 with comorbidity) (expert opinion).‡

11a Offer or Refer for High Intensity Comprehensive Lifestyle Intervention

The most effective behavioral weight loss treatment is in-person, high-intensity (i.e., ≥ 14 sessions in 6 months) comprehensive weight loss interventions provided in individual or group sessions by a trained interventionist† (CQ4). The principal components of an effective high-intensity, on-site comprehensive lifestyle intervention include: 1) prescription of a moderately-reduced calorie diet; 2) a program of increased physical activity; and 3) the use of behavioral strategies to facilitate adherence to diet and activity recommendations. As shown in CQ4, comprehensive lifestyle intervention consisting of diet, physical activity, and behavior therapy produces average weight losses of approximately 8 kg in a 6 month period of frequent, in-person treatment. This approximates losses of 5% to 10% of initial weight. The observed average weight loss of approximately 8 kg includes people who have variable weight loss (i.e., some more and some less than average), so accurate prediction of individual weight loss is not possible. After 6 months, most patients will equilibrate (caloric intake balancing energy expenditure) and will require adjustment of energy balance if they are to lose additional weight. As demonstrated in CQ4, continued intervention contact following initial weight loss treatment is associated with better maintenance of lost weight (Box 15).

11b Options for Alternative Modes of Delivery of Lifestyle Intervention

In primary care offices where frequent, in-person individual or group sessions led by a trained interventionist† or a nutrition professional* are not possible or available by referral, the physician may consider alternative modes of delivery. As found in CQ4, emerging evidence supports the efficacy, albeit with less weight loss, of electronically delivered interventions (e.g., by internet or telephone) that provide personalized feedback by a trained interventionist†, and for some commercial programs using counseling (face-to-face or telephonic) with or without prepackaged meals. The Panel recommends by expert opinion that physicians may refer to these alternative sources provided their outcomes are supported by scientific evidence of safety and efficacy. An additional option if a high-intensity comprehensive lifestyle intervention program is not available or feasible is referral to a nutrition professional† for dietary counseling.

12 Option for Adding Pharmacotherapy as an Adjunct to Comprehensive Lifestyle Intervention‡

The Panel did not review comprehensive evidence for pharmacotherapy for weight loss. Based on expert opinion, the panelists recommend that for individuals with BMI ≥ 30 or BMI ≥ 27 with at least 1 obesity-associated comorbid

condition who are motivated to lose weight, pharmacotherapy can be considered as an adjunct to comprehensive lifestyle intervention to help achieve targeted weight loss and health goals. Medications should be FDA-approved, and clinicians should be knowledgeable about the product label. The provider should weigh the potential risks of the medication being considered against the potential benefits of successful weight loss for the individual patient. The rationale for use of medications is to help patients adhere to a lower calorie diet more consistently in order to achieve sufficient weight loss and health improvements when combined with increased physical activity. The available medications work through effects on appetite or fat absorption. Medications work to reinforce lifestyle change and should be prescribed as an adjunct to lifestyle interventions, as defined in Boxes 11a and 11b.

13

Offer Referral to an Experienced Bariatric Surgeon for Consultation and Evaluation

Advise adults with a BMI ≥ 40 or BMI ≥ 35 with obesity-related comorbid conditions who are motivated to lose weight and who have not responded to behavioral treatment (with or without pharmacotherapy) with sufficient weight loss to achieve targeted health outcome goals that bariatric surgery may be an appropriate option to improve health, and offer referral to an experienced bariatric surgeon for consultation and evaluation (CQ5 for additional information). Because bariatric surgery leads to improvements in both weight-related outcomes and many obesity-related comorbid conditions, the benefit-to-risk ratio may be favorable in appropriately selected patients at high risk for obesity-related morbidity and mortality. In the absence of RCTs to identify the optimal duration and weight loss outcomes of nonsurgical treatment prior to recommending bariatric surgery, the decision to proceed to surgery should be based on multiple factors: patient motivation, treatment adherence, operative risk, and optimization of comorbid conditions, among others. Bariatric surgery should be considered an adjunct to lifestyle treatment: behavioral treatment, appropriate dietary modification, and physical activity.

14

Weight Loss ≥ 5% of Initial Body Weight AND Sufficient Improvement in Health Targets? Achieving the goals noted in Box 9 of approximately 5% to 10% of initial weight with a comprehensive lifestyle intervention should be considered successful weight reduction that leads to decreased risk for development or amelioration of obesity-related medical conditions and CVD risk factors for many patients. Some patients will require additional weight loss to achieve targeted health outcome goals.

If the patient achieves the weight loss and the health outcome goals previously identified by clinician and patient, the clinician should consider the weight loss maintenance strategies described in Box 15 using the disease management model of obesity treatment. If these weight loss or health outcome goals are not achieved with current treatment, the clinician can consider intensification of behavioral treatment (Box 16), and/or the addition or re-evaluation of obesity pharmacotherapy (Box 12), or referral for evaluation for bariatric surgery (Box 13) in patients otherwise meeting BMI and comorbidity criteria.

15

Weight Loss Maintenance

Typically, obesity is a chronic condition that develops over an individual's life time. The prevalence of obesity has greatly increased over the past 30 years, most likely because of environmental changes that promote increased consumption of high-calorie palatable foods, decreased physical activity, and more sedentary behavior. In this environment, it is difficult to maintain a healthy weight and prevent weight gain. Long-term research has shown that continuing weight loss maintenance interventions produce better long-term results when compared to limited-term intervention programs. Clinicians must acknowledge the life-long challenge that patients experience with obesity, provide support and encouragement, be prepared to assist patients with addressing small weight gains before they become larger ones, and to reinstitute weight management efforts as early as possible in the course of regain.

The usual pattern of weight loss in patients undergoing a lifestyle intervention is that maximum weight loss is achieved at 6 months, followed by plateau and gradual regain over time. This is also true for medication-assisted weight loss, although weight regain may be slower with continued medication use. For bariatric surgery patients, it may take much longer for weight to plateau (CQ3, CQ4, and CQ5).

The strategies for weight maintenance after successful loss differ from the strategies for achieving weight loss. Flexibility and willingness to try different approaches are recommended. Patients should be advised that participation in a long-term (≥ 1 year) comprehensive weight-loss maintenance program with monthly or more frequent contact, in-person or by telephone can improve successful weight maintenance. Strategies such as frequent self-weighing (at least weekly), consumption of a reduced calorie diet, and high levels of physical activity (> 200 minutes/week) are associated with better weight maintenance over time.

16 **Unable to Lose Enough Weight With Current Treatment to Meet Weight or Targeted Health Goals** By expert opinion, if patients are unable to lose enough weight to meet weight or targeted health outcome goals with their current treatment, consider offering or referring for more intensive behavioral treatment than currently being attempted, an alternate diet including options for meal replacement, referral to a nutrition professional*, the addition of obesity pharmacotherapy, or referral for evaluation for bariatric surgery if otherwise appropriate. The clinician should also assess the patient's medication regimen for drugs that may contribute to weight gain and consider adjustments if medically appropriate. If the patient is currently taking an obesity medication but has not lost at least 5% of initial body weight after 12 weeks on a maximal dose of the medication, the provider should reassess the risk-to-benefit ratio of that medication for the patient, and consider discontinuation of that drug.

17 **Measure Weight and Calculate BMI Annually or More Frequently**
Weight should be measured and BMI calculated and documented by the clinician at least annually in all patients. For those who have never been overweight or who are weight stable, a 1-year interval is appropriate for the reassessment of BMI. For overweight or obese individuals or those of normal weight with a history of overweight, more frequent monitoring may be appropriate. While these follow-up intervals are not evidence based, they are a reasonable compromise between the need to identify weight gain at an early stage and the need to limit the time, effort, and cost of repeated measurements.

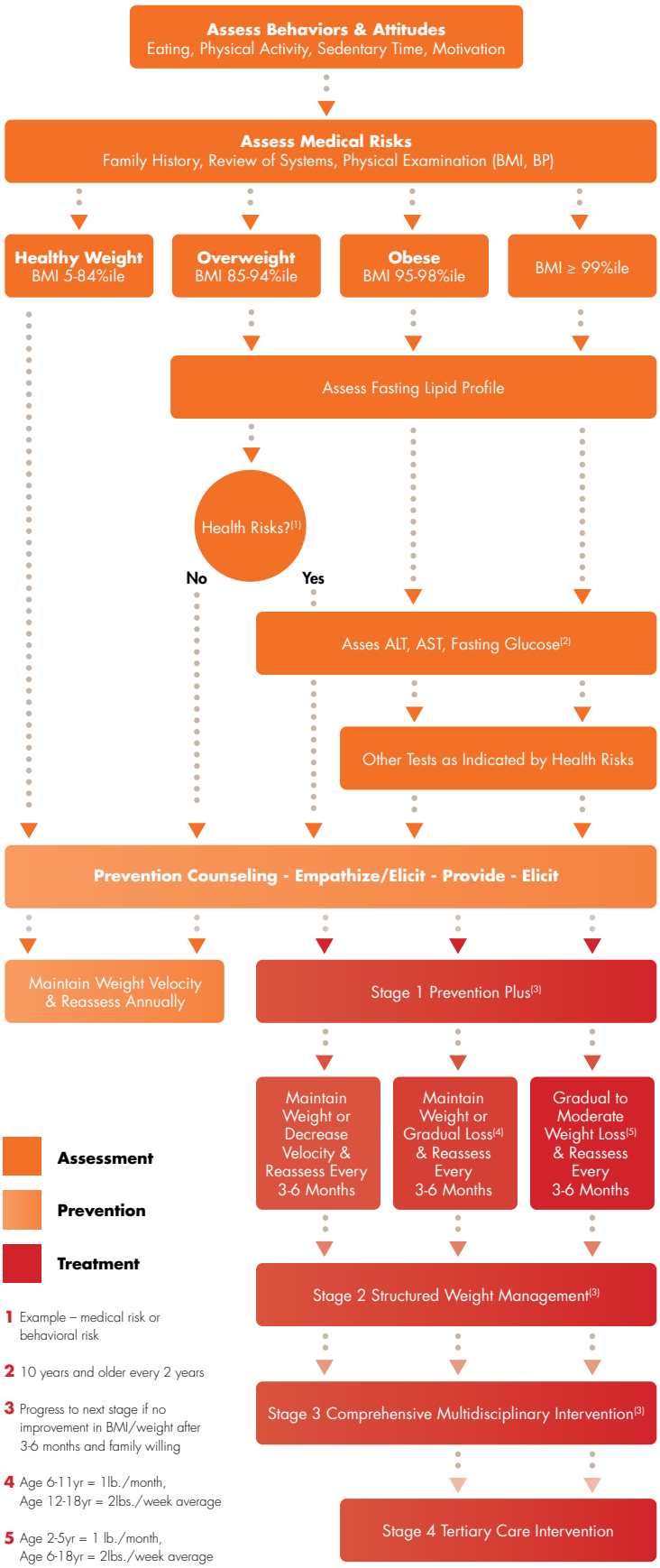
18 **Weight Loss ≥ 5% of Initial Body Weight AND Sufficient Improvement in Health Targets?** Determine if the intensified treatment strategies instituted in Box 16 have led to both successful weight loss and sufficient risk factor/comorbidity reduction to achieve the health goals determined by patient and clinician.

19 **Continue Intensive Medical Management of CVD Risk Factors and Obesity Related Conditions and Periodic Assessment of Weight Management Options**
Actively and intensively manage CVD risk factors and obesity-related conditions, regardless of the patient's ability to achieve or sustain weight loss. Periodically reassess and address medical or other contributory factors and the potential to institute or reinstitute additional weight management options, as shown in Box 16.

*Nutrition professional: In the studies that form the evidence base for this recommendation, a registered dietitian usually delivered the dietary guidance; in most cases, the intervention was delivered in university nutrition departments or in hospital medical care settings where access to nutrition professionals was available.
†Trained interventionist: In the studies reviewed, trained interventionists included mostly health professionals (e.g., registered dietitians, psychologists, exercise specialists, health counselors, or professionals in training) who adhered to formal protocols in weight management. In a few cases, lay persons were used as trained interventionists; they received instruction in weight management protocols (designed by health professionals) in programs that have been validated in high-quality trials published in peer-reviewed journals.

‡BMI cutpoint determined by the FDA and listed on the package inserts of FDA-approved obesity medications.

BMI indicates body mass index; BP, blood pressure; CQ, critical questions; CVD, cardiovascular disease; EMR, electronic medical record; FDA, Federal Drug Administration; PCP, primary care practitioner; and RCT, randomized controlled trial.



Treatment Algorithms: Child/Adolescent

National Initiative for Children's Healthcare Quality (NICHQ) Childhood Obesity Algorithm – Assessment, Prevention & Treatment (11a)

**Important Note: ASSESS FASTING LIPID PROFILE - All Children age 9-11 years should have a universal lipid profile screening. This new guideline was sponsored by the National Heart, Lung, and Blood Institute (NHLBI) as part of the National Institutes of Health (NIH), and endorsed by the American Academy of Pediatrics (AAP) in 2011.

Childhood Obesity Algorithm – Assessment, Prevention, & Treatment was downloaded from http://www.healnh.org/ with permissions from National Initiative for Children's Healthcare Quality.

HOW TO WEIGH AND MEASURE

1. Scales and measuring boards should be located in as private a location as possible. Locations such as hallways where others can see weight results should be avoided. Consider scales that will weigh extremely obese patients if appropriate to caseload.

2. For children ages 2 years and older, ideally a wall-mounted unit (stadiometer) should be used to obtain the most accurate height measurement. If a stadiometer is not available, improvise by attaching a paper or metal tape or yardstick to the wall, position the patient adjacent to the tape, and place a three-dimensional object, such as a thick book or box on top of the head. Rest the side of the object firmly against the wall to form a right angle. DO NOT USE THE MEASURING ROD ON THE ADULT BALANCE BEAM SCALES.

- ✔ Have individual remove shoes, hats, and hair barrettes. Lightweight clothes are appropriate. Have the patient stand with his/her back against the wall on a flat surface directly in front of the measuring tape. The patient should stand so that the tape meets the center of their back.
- ✔ Feet should be slightly apart and the back as straight as possible. The heels, buttocks, and shoulder blades should touch the wall or measuring surface.
- ✔ The patient should look straight ahead with their line of vision parallel to the floor.
- ✔ Once the patient is in position the headpiece or book/box should be placed flat against the wall at a right angle. Lower it until it firmly touches the crown of their head.
- ✔ Hold the book or headpiece steady and have the patient step away.
- ✔ Read the measurement at eye level where the lower edge of the headpiece/book intersects the measuring tape. Care should be taken when measuring individuals who are taller than the person taking the height. A step-stool may be needed to receive accurate results.
- ✔ Repeat the procedures until two measurements are within ¼ inch of each other. Record the average of the two measurements.

3. For weight, use an adult beam balance scale or good quality digital scale if at all possible. Scale needs to be placed on uncarpeted floor if possible for an accurate weight.
   - ✔ Have individual take off shoes or heavy outer clothing. Lightweight clothes are appropriate.
   - ✔ Patient needs to stand on the center of scale platform and not be touching other objects or person.
   - ✔ Read the measurement to the nearest ¼ pound. (If the measurement reads ⅛ pound or more, round up.)
   - ✔ Repeat the procedures until two measurements are within ¼ pound of each other. Record the average of the two measurements.

See www.cdc.gov/growthcharts for online training regarding how to measure and how to use and interpret individual growth charts.

TALKING TO PATIENTS ABOUT WEIGHT ISSUES

Adults:

Primary care providers are in an ideal position to offer weight guidance to adult patients who are overweight or obese and to reinforce healthy weight. The key is starting that conversation.

NIH's National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK) offers the following suggestions about what patients want from their healthcare professional regarding weight (12c):

- **Talk.** Many patients want to talk about weight with health care professionals who offer respect and empathy for their struggles with weight control. However, before starting a conversation about weight control with your patients, give them a few minutes to discuss other issues that may be affecting their physical or emotional well-being.
- **Non-offensive terms.** Patients prefer the terms *weight* or *excess weight,* and dislike the terms *obesity, fatness*, and *excess fat.* Be careful to communicate a nonjudgmental attitude that distinguishes between the weight problem and the patient with the problem.
- **Advice they can use.** Many patients want help setting realistic goals. They may want to know what to eat and what and how much physical activity is appropriate. For example, some patients will want to know how to become more physically active without causing injury or aggravating problems such as joint pain. Others will want advice on choosing appropriate weight-loss products and services. More information is available in sections Key Messages and Referral Options.

NIDDK continues with these tips for talking about weight:

1. **Address your patient's chief complaint first, independent of weight.** You can assume your patient already knows he or she is overweight. Patients do not want health care professionals to place blame or attribute all of their health problems to weight.

2. **Open the discussion.** Open the conversation by finding out if your patient is willing to talk about weight, or expressing your concerns about how his or her weight affects health. Then, you might ask your patient to describe his or her weight. Here are some sample discussion openers:

   "Mr. Lopez, could we talk about your weight? What are your thoughts about your weight right now?"

   "Mrs. Brown, I'm concerned about your weight because I think it is causing health problems for you. What do you think about your weight?"

   Be sensitive to cultural differences that your patients may bring to the discussion regarding weight, food preferences, and related issues. Patients may be more open when they feel respected.

3. **Decide if your patient is ready to control weight.** Ask more questions to find out how ready a patient is to control weight. The provider, together with the patient, should assess if the patient is ready. Some sample questions are below.

   "What are your goals concerning your weight?"

   "What changes are you willing to make to your eating and physical activity habits right now?"

   "What kind of help would you like from me regarding your weight?"

   "How ready are you to make changes in your diet, to be more physically active, and to use behavior change strategies such as recording your weight and food intake?" (5a)

A patient who is not yet ready – The provider should reassess readiness at the next office visit. Attempts to counsel the patient regarding how to make lifestyle changes are likely to be counterproductive. (5a)

A patient who is ready to control weight - The patient will benefit from the following tips which focus on setting a weight-loss goal, receiving advice about healthy eating and regular physical activity, and follow up.

4. **Set a weight goal.** A 5-10% reduction in body weight over 6 months is a reasonable weight-loss goal for adults. (5a) 1-2 pounds per week is a safe rate of weight loss. A goal of maintaining current weight and preventing weight gain may be appropriate for some patients. Setting too high a weight loss goal sets the patient up for failure. Focus on healthy eating and physical activity habits.

5. **Prescribe healthy eating and physical activity behaviors.** Give your patient concrete actions to take to meet his or her weight goal over the next 6 months. Write a prescription for healthier eating and increased physical activity on a prescription pad. Physical activity prescription pads can be ordered through the South Dakota Department of Health. Click on the physical activity category and scroll down to "RX for Exercise". Key Message - Part A provides specific physical activity guidelines and recommendations for all ages.

   Some patients may benefit from a weight-loss medication or obesity surgery. NIDDK's fact sheets "Prescription Medications for the Treatment of Obesity" (12b) and "Gastrointestinal Surgery for Severe Obesity" (12a) offer information about these two treatments.

   You can also direct your patients to credible online information about weight, healthy eating, and physical activity such as those at www.healthysd.gov. See the section Key Messages for additional information. Another option is to refer to others who can provide more in-depth counseling and treatment. See the section Referral Options.

6. **Set realistic daily/weekly goals.** Together with the client, base goals on your discussion about healthy eating and physical activity in order to achieve the weight goal set previously. Do not make the goals for them. Allow the client to ultimately set their goals with your guidance.

7. **Follow up.** When you see your patient again note progress made on behavior changes, such as walking at least 5 days a week. If your patient has made healthy behavior changes, offer praise to boost self-esteem and keep him or her motivated. Likewise, discuss setbacks to help your patient overcome challenges and be more successful. Note any advances in blood pressure, blood sugar, and cholesterol to help improve motivation especially if weight loss has been slow.

   Set a new weight goal with your patient. This may be for weight loss or prevention of weight gain. Discuss and modify eating and physical activity goals to meet the new weight goal.

   Evidence suggests that over 80% of persons who lose weight will gradually regain it. Patients who continue on weight maintenance programs have a greater chance of keeping weight off. Maintenance consists of continued contact with the health care practitioner for continued education, support, and medical monitoring.

   If you aren't getting through to the patient, change is minimal, or his/her goals are not being met try using motivational interviewing to promote change. Motivational interviewing is a way to produce positive behavior change by allowing the patient to convince themselves that they should change, that they can change, and that they will change. (2c)

Some older models of doctor-patient communication have included confrontation (you must lose weight), education (obesity is harmful), and authority (you should listen to me because I'm your doctor). In contrast, motivational interviewing relies on collaboration (walk alongside or partner with the patient), evocation (the clinician elicits the patient's arguments for change), and autonomy (the patient decides what and if to change). (2c)

See the Resources section for more information on motivational interviewing.

Children and Adolescents:

Parents or other caregivers of children and adolescents may not recognize that their child weighs more than they should but an open discussion (with or without the child present) may help start the process. All ages can benefit from healthy eating and physical activity habits. As with adults, open the conversation by finding out if the parent is willing to talk about their child's weight or express your concerns about how his or her weight affects current or future health. Here are some sample discussion openers:

"Mrs. White, could we talk about your child's weight? What are your thoughts about his weight right now?"

"Mr. Jones, I'm concerned about your child's weight because I think it is starting to cause health problems for her. What do you think about your child's weight?"

Parents may be extra sensitive if they also battle with weight issues. Initiating a conversation about the family's health may also provide an opportunity to help parents prevent the health problems that come with excess weight in their children.

Consider the following when discussing weight with parents of overweight children (18a, 17b):

- **Ask Permission.** Ask the parents and child, if age appropriate, for their permission to discuss the child's weight.
- **Identify Strengths.** Ask one or two questions to help identify strengths and let patients know these are important aspects of their lives.
  - Ask children: *"What are you good at? What responsibilities do you have at home? At school? Who are the important adults in your life?"*
  - Ask parents: *"Tell me about the things your child does well. What are some of the things you do together as a family? What makes you most proud of your son/daughter? Of your family?"*
  - Then begin the conversation with a positive: *"It's great that you are doing so well in school. That tells me you know how to work hard to achieve goals for yourself."*
- **Use Reflective Listening.** Here's an example: A parent responds negatively to a request to discuss weight, saying "I'm sick and tired of people getting on my case about Amber's weight."
  - DON'T say - *"Well, you know she's at high risk for diabetes and heart disease when she gets older."*
  - DO say - *"You're feeling frustrated with people blaming you for Amber's being big."*
- **Avoid Blaming.** Avoid using language that places blame on parents. Communicate that the parents have an important role in their child's health, but without associating blame.
- **Focus on Healthy Behaviors.** Focus on the child's health behavior, not just the number on the scale.
- **Make it a Family Affair.** Discuss making healthy changes as a family, rather than imposing a certain health plan only on the child. Stress the importance of parents being healthy role models.
- **Have Resources Available.** There is so much nutrition and dietary information available that parents can get easily confused and overwhelmed. Have pamphlets they can take home and guide parents to appropriate websites and resources.

Suggestions for helping parents talk to their kid about weight issues and/or anxiety. (1a)

1. **Don't Talk, Do Something!**
   In general, if your child is elementary age or younger and you're concerned about his or her weight, don't talk about it - just start making lifestyle changes as a family. The best thing you can do is make it easy for kids to eat smart and move often. Serve regular, balanced family meals and snacks. Turn off televisions, video games and computers. Look for ways to spend fun, active time together.

2. **Don't Play the Blame Game**
   Never yell, scream, bribe, threaten or punish children about weight, food, or physical activity. If you turn these issues into parent-child battlegrounds, the results can be disastrous. Shame, blame and anger are setups for failure. The worse children feel about their weight, the more likely they are to overeat or develop an eating disorder.

3. **A United Front**
   As with any other important issue, make sure both parents and other important relatives are on the same page. Mixed messages about weight can have unhealthy consequences.

4. **Focus On the Big Picture**
   The key is health, not weight. If your family starts eating better and moving more, your children may "grow into" their weight as their height increases. Compliment your children on lifestyle behaviors ("Great snack choice," or "You really run fast") rather than on the loss of a pound or two.

5. **What to Do if Your Child Says, "I'm So Fat"**
   Learn where the fat thoughts came from. Did a friend or classmate tease your child about weight? Did another relative mention the size of his or her belly or thighs? Was there something on television or online about overweight kids? If another child or an adult is bullying your child, confront the situation directly and as soon as possible. If your child's weight, eating and activity are normal for his or her age, reassure your child and don't focus on weight.

See the Resources section for a Family Readiness Questionnaire provided by the Texas Pediatric Society which includes specific questions to measure the family's knowledge, culture, and readiness for change.

KEY MESSAGES

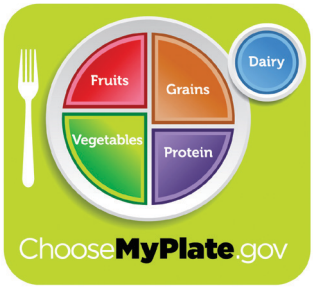
Chronic Disease Risk Reduction

- Small improvements in diet and physical activity can make big changes in overall health even if weight loss is not achieved. Decreasing intake by 100 calories or expending an additional 100 calories through physical activity per day will result in 10 pounds weight loss in a year's time. For example, a daily 20 minute walk or decreasing a regular can of soda pop per day.
- Decreasing weight by 5-7% body weight (i.e., 10# for 200# person) decreases diabetes incidence by 58% for persons at high risk for type II diabetes.
- 5-15% loss of excess body weight reduces risk of cardiovascular disease resulting in lower blood pressure, lower blood sugar, and improved lipid levels.
- Regular physical activity of 30-60 minutes most days of the week can decrease blood pressure 4-9 mmHg.
- A DASH-style diet (low in saturated fat, cholesterol, and total fat and high in fruits, vegetables, and fat-free or low-fat milk products) can decrease blood pressure by up to 14 mmHg.
- Eating fruits and vegetables more than three times a day reduces the risk of having a stroke or death from cardiovascular disease by nearly a quarter compared with those who eat them less than once per day.

Calorie Reduction for Adults

- A calorie is a calorie whether it comes from fat or carbohydrates. Anything eaten in excess will lead to weight gain. Weight loss requires creating an energy deficit through caloric restriction, physical activity, or both. Using both strategies is the best recommendation for overall health improvement.
- It takes 3,500 kcals to equal 1 pound; therefore, a weight loss goal should be kept to 1-2 pounds per week. This means 3,500-7,000 kcals per week needs to be cut from the diet and/or exercise needs to be increased to burn an equivalent amount.
- A general recommendation for dietary intake would be 1,200-1,500 kcal/day for women and 1,500-1,800 kcal/day for men. (5a) Caloric restrictions can and should be individualized based on the patient's preference and health status for best results.
- Very low-calorie diets (< 800 kcal/day) should be used only in limited circumstances in a medical care setting where medical supervision and a high-intensity lifestyle intervention can be provided. (5a)

Healthy Eating



- Moderation and balance is the key.
- Follow MyPlate (15b):
  - Fill 1/2 your plate with a colorful mix of fresh, frozen, canned, or dried fruits and vegetables. Pre-prepare to have as quick snacks between meals. Focus on whole foods versus juice.
  - Choose whole grains: Whole wheat bread, whole wheat pasta, brown rice, whole grain oats, barley, quinoa, and popcorn (hold the salt and butter).
  - Choose lean protein: Chicken, turkey, seafood, beans, eggs, and nuts. To find lean beef and pork look for the words "round," "chuck" or "loin". Remove skin and fat from meat and poultry before cooking.
  - Guidelines for lean and extra lean meat, poultry, or seafood:
    - » Lean: Each 3½ ounces of the product must contain < 10 grams of total fat, < 4.5 grams of saturated fat, and < 95 milligrams of cholesterol.
    - » Extra lean: < 5 grams of total fat, < 2 grams of saturated fat, and < 95 milligrams of cholesterol.
  - Pick fat-free or low-fat dairy like milk, cheese, and yogurt.
  - www.ChooseMyPlate.gov has numerous tools and resources.

- The 2010 Dietary Guidelines for Americans provide recommendations and information for choosing a healthy eating pattern consistent with the MyPlate guidelines. (15a) The guidelines encompass two overarching concepts:
  - » Maintain calorie balance over time to achieve and sustain a healthy weight.
  - » Focus on consuming nutrient-dense foods and beverages.

- Look at nutrition fact labels.
  - Determine the serving size and how many servings are in the container.
  - Pay attention to total calories, fat, sodium, carbohydrates, fiber, and protein **per serving**.
  - Compare products to determine which is healthier.

- Understand the difference between a portion and a serving.
  - Eat smaller portions of each food and allow for seconds if still hungry.
  - Learn how much a serving is on your usual plates, bowls, and cups at home.
  - Handouts on specific adult and child portion sizes can be found in the Resources section.

- Limit sweetened beverages and alcohol.
  - Limit soda pop, fruit drinks, sweet tea, and specialty coffees. Children do not need any of these!
  - Encourage water and low-fat milk.
  - Don't overdo on fruit or vegetable juice. Four to six ounces per day for children and eight ounces per day for adults is plenty. Only drink 100% juice.
  - Alcohol provides unneeded calories and displaces more nutritious foods. (10e)

- Children Age 1 Year and Older:
  - Children should not be on a diet. Healthy eating and daily activity is very different from dieting.
  - Maintaining a positive feeding relationship demands a division of responsibility. (7a)
    - » **The parent or caregiver** is responsible for the what, when, and where of feeding.
      - › Choose and prepare the food. Provide regular meals and snacks. Make eating times pleasant. Show your child what she has to learn about food and mealtime behavior such as manners, eating only at the table, and always eating as a family.
      - › Do not let your child graze for food or beverages (except water) between meal and snack times.
    - » **The child** is responsible for if they will eat and how much.
      - › You must trust your child. It can take 7-10 times before a child decides to try or like a food. Don't become a short order cook. Offer your child the same, healthy foods that the rest of the family is eating as long as they can't choke on them.
      - › If the child decides not to eat, don't worry! Simply let them know they will need to wait until the next meal or snack to eat again.

Increase Physical Activity

- Encourage family physical activity outings, such as devoting ½ day per weekend for family fun time.
- Incorporate physical activity into each day. Take the stairs when possible, walk to the store when able, or park further away from store entrances.
- Dress for the season. Outdoor physical activity can happen all year round if dressed appropriately.
- Recommend options in your community such as community trails, parks, and recreation options. Check out Healthy SD Trails on Facebook to learn more about trail options in your patient's community.
- Refer to Key Messages – Part A for specific physical activity guidelines and recommendations.

Limit "Screen Time"

- No TV for children under two years and no more than two hours of total screen time a day for older kids. Screen time includes television, movies, video games, computer, phone, iPads, tablets, etc.
- No TV in bedrooms or dining areas.
- Keep TV in a cabinet or closet, out-of-sight except when in use.

Other Messages

- Exclusive breastfeeding is best. In accordance with the Surgeon General's Office, WHO, the AAP, and the AAFP, exclusive breastfeeding is recommended for the first 6 months of life. Continued breastfeeding is recommended to at least 12 months, with the addition of complementary foods. If breastfeeding *per se* is not possible, feeding human milk by bottle is second best, with formula feeding as the third choice. (10c)
- Limit fast foods and eating out to special occasions.
- Pay attention to feelings of hunger. Stop eating when you are satisfied, not full. If there is still food on your plate or on the table, put it away.
- Parents need to lead by example. Tell your child about the healthy food you are eating, let your children see you cook in a healthy way, and let them help. Exercise every day and be authentic by doing things you enjoy, invite the family to join you, and in your free time avoid screen time. Kids are much less likely to turn screens on if they are off and you are doing something they can get involved in. (8a)
- Take control, you can do this! Recognize that you have more control than you might think. You can turn off the TV and the video game. You can choose to park further from the store and walk the rest of the way, especially when you are with your kids. You can give your family more vegetables for dinner. (8a)

See the Resources section for more information and educational material on each of these key messages.

KEY MESSAGES PART A – PHYSICAL ACTIVITY

People who exercise can avoid many common health issues, including obesity, high blood pressure and high cholesterol. Regular physical activity improves sleep, increases energy, lowers stress levels, helps with maintenance of independence, and improves overall quality of life. The key to maximize the benefits of exercise is to find activities you really enjoy and follow a well-designed program so it becomes a lifelong behavior, while at the same time incorporating physical activity into daily routines.

2008 Physical Activity Guidelines for Americans (16a)

- **Adults:** For health benefits, adults should engage in at least 150 minutes of moderate-intensity or 75 minutes of vigorous-intensity physical activity, or an equivalent combination of both, each week. Adults should also perform muscle-strengthening activities that are moderate to high-intensity two or more days per week. Muscle strengthening activities should include all major muscle groups (i.e. legs, hips, back, chest, stomach, shoulders, and arms). Exercises for each muscle group should be repeated 8 to 12 times per session.
- **Older Adults:** Guidelines for adults also apply to older adults. When older adults cannot do 150 minutes of aerobic activity, they should be as active as their conditions and abilities allow.
- **Children and Adolescents:** Children and adolescents should engage in 60 minutes or more of physical activity daily. Most of the 60 minutes should consist of aerobic activity. For part of their 60 minutes, children should engage in muscle-strengthening physical activity three days per week and bone-strengthening physical activity 3 days per week.

For more information about the 2008 Physical Activity Guidelines, visit: www.health.gov/paguidelines/guidelines/default.aspx#toc

Exercise Smart

- Many adults are highly sedentary, and perform very little physical activity for a variety of reasons. It is important to evaluate each patient's behavior to provide options to fit their needs, interests, and abilities.
- Being overweight can be tough on joints. Thus, activities such as swimming and water exercises are good low-impact choices; they minimize risk for injury and are great alternatives for those who find other forms of exercise uncomfortable.
- Weight loss requires commitment and behavior change. Consider having your patient set goals with a close friend or family member; develop a non-food rewards system for meeting smaller weight loss goals to stay motivated.
- Encourage consumption of fluids before, during, and after exercise. Extra weight makes it easier for the body to overheat, so encourage your patient to not overdo their exercises.
- An exercise program should be designed to maximize benefits with the fewest risks of aggravating your patient's health or physical condition. Consider referring your patient to a certified health and fitness professional who will collaborate with you to establish realistic goals and design a safe and effective exercise program that addresses the patient's specific needs. (3a, 3b)

For specific exercise recommendations for chronic diseases, visit: http://exerciseismedicine.org/YourPrescription.htm

10 Minutes at a Time

Encourage your patient to slowly build amount of time for physical activity. Start slow and go low or low-impact. Physical activity can be a combination of moderate and vigorous activity. Encourage physical activity in bouts of 10 minutes or more.

Some great 10 minute activity ideas include:

- Take a brisk 10 minute walk
- Work in the yard for 10 minutes
- Have a 10 minute dance session
- Sweep the floors for 10 minutes
- Go up and down stairs for 10 minutes
- Do 5 minutes of jumping jacks and 5 minutes of push-ups
- Take a 10 minute bike ride
- Clean house for 10 minutes

Overcoming barriers to physical activity (6c)

LACK OF TIME	Identify available time slots. Monitor your daily activities for one week. Identify at least three 30 minute time slots you could use for physical activity.
	Add physical activity to your daily routine. For example, walk or ride your bike to work or shopping, organize school activities around physical activity, walk the dog, exercise while you watch TV, park farther away from your destination, etc.
	Select activities requiring minimal time, such as walking, jogging, or stair climbing.
SOCIAL INFLUENCE	Explain your interest in physical activity to friends and family. Ask them to support your efforts.
	Invite friends and family members to exercise with you. Plan social activities involving exercise.
	Develop new friendships with physically active people. Join a group, such as the YMCA or a hiking club.
LACK OF ENERGY	Schedule physical activity for times in the day or week when you feel energetic.
	Convince yourself that if you give it a chance, physical activity will increase your energy level; then, try it.
LACK OF MOTIVATION	Plan ahead. Make physical activity a regular part of your daily or weekly schedule and write it on your calendar.
	Invite a friend to exercise with you on a regular basis and write it on both your calendars.
	Join an exercise group or class.
FEAR OF INJURY	Learn how to warm up and cool down to prevent injury.
	Learn how to exercise appropriately considering your age, fitness level, skill level, and health status.
	Choose activities involving minimum risk.
LACK OF SKILL	Select activities requiring no new skills, such as walking, climbing stairs, or jogging.
	Take a class to develop new skills.
LACK OF RESOURCES	Select activities that require minimal facilities or equipment, such as walking, jogging, jumping rope, or calisthenics.
	Identify inexpensive, convenient resources available in your community (community education programs, park and recreation programs, worksite programs, etc.).
WEATHER CONDITIONS	Develop a set of regular activities that are always available regardless of weather (indoor cycling, aerobic dance, indoor swimming, yoga, jumping rope, stair climbing, mall walking, dancing, etc.)
TRAVEL	Put a jump rope in your suitcase and jump rope.
	Walk the halls and climb the stairs in hotels.
	Stay in places with swimming pools or exercise facilities.
	Join the YMCA or YWCA (ask about reciprocal membership agreement).
	Visit the local shopping mall and walk for half an hour or more.
	Bring your mp3 player with your favorite aerobic exercise music.

FAMILY OBLIGATIONS	Trade babysitting time with a friend, neighbor, or family member who also has small children.
	Exercise with the kids: go for a walk together, play tag or other running games, get an aerobic dance or exercise tape for kids (there are several on the market) and exercise together. You can spend time together and still get your exercise.
	Jump rope, do calisthenics, ride a stationary bicycle, or use other home gymnasium equipment while the kids are busy playing or sleeping.
	Try to exercise when the kids are not around (e.g., during school hours or their nap time).
RETIREMENT YEARS	Look upon your retirement as an opportunity to become more active instead of less. Spend more time gardening, walking the dog, and playing with your grandchildren. Children with short legs and grandparents with slower gaits are often great walking partners.
	Learn a new skill you've always been interested in, such as ballroom dancing, square dancing, or swimming.
	Now that you have the time, make regular physical activity a part of every day. Go for a walk every morning or every evening before dinner. Treat yourself to an exercycle and ride every day while reading a favorite book or magazine.

Winter physical activity ideas:

- Go sledding as a family
- Encourage use of local state parks to participate in snow shoeing, hiking and winter sport opportunities
- Go ice skating, skiing, or snowboarding
- Build a snowman or snow fort
- Walk at a local school gym or around a local mall
- Go for a walk around your local neighborhood
- Join a competitive sport, winter league

Summer physical activity ideas:

- Gardening or yard work
- Running, walking, or biking
- Swimming
- Hiking
- Join a competitive sport, summer league
- Participate in water sports (skiing, canoeing, paddle boarding)

Anytime physical activity ideas:

- Replace a few car trips per week with active travel to destinations – walking, biking
- Try a new fitness class
- Try a new workout DVD
- Use stationery equipment (treadmill, elliptical)
- Walk
- Self-weight muscle strengthening (push-ups, sit-ups)
- Go up and down steps
- Sign up for a charity run or walk
- Jump rope
- Clean house (vacuum, sweep, dust)
- Dance to your favorite music
- Step aerobics routine
- Stretching

REFERRAL OPTIONS

The 2013 AHA/ACC/TOS obesity guidelines state:

"All patients for whom weight loss is recommended should be offered or referred for comprehensive lifestyle intervention [CLI]. CLI, preferably with a trained interventionist or nutrition professional is foundational to weight loss, regardless of augmentation by medication or bariatric surgery." (5a)

Further recommendations by expert opinion: (5a)

If the patient has never participated in CLI (per weight and lifestyle history assessment),

- CLI alone should be encouraged prior to adding adjunctive therapies.

If motivated but unable to lose weight or sustain weight loss with CLI and BMI ≥ 30 or ≥ 27 with comorbidity,

- CLI and adjunctive therapies

If motivated but unable to lose weight or sustain weight loss with CLI and are otherwise appropriate for obesity drug treatment or bariatric surgery,

- Consider option to add pharmacotherapy at the time of initiation of a lifestyle intervention program (BMI ≥ 30 or > 27 with comorbidity) or to be referred for evaluation for bariatric surgery (BMI ≥ 40 or BMI ≥ 35 with comorbidity).

Referral Options in South Dakota:

A Registered Dietitian Nutritionist (RDN), also known as a Registered Dietitian (RD), is a food and nutrition expert who can be utilized as part of your medical team. Medical nutrition therapy is covered by a variety of insurance plans.

- **Medicare:**
  - Effective with dates of service on or after November 29, 2011, Medicare covers Intensive Behavioral Therapy (IBT) for obesity, defined as a body mass index (BMI) > 30 kg/m^2, for the prevention or early detection of illness or disability. RDNs can provide these services as auxiliary personnel in primary care settings. (1b, 16b) Refer to the section Obesity Coding for more details and guidelines involved with this benefit as well as billing and coding information.
  - Under the Medicare Part B Program, a patient can also receive medical nutrition therapy from a RDN for diabetes and kidney disease. Possible eligibility for at least 3 hours of medical nutrition therapy services in the first year of care and 2 hours each additional year. (1b, 16b)
- **Private Insurance:**
  - If your patient has private insurance, have them check their insurance plan for specific medical nutrition therapy coverage details as more private payers are expanding obesity counseling benefits under the Affordable Care Act provisions. Plans may cover nutrition counseling for a wide variety of chronic conditions and health concerns, such as heart disease, diabetes, and obesity.

Utilize the expertise of an RDN in your hospital or clinic. If you do not have an RDN on staff, the Academy of Nutrition and Dietetics (AND), formerly known as the American Dietetic Association, offers referrals to RDNs throughout the United States at www.eatright.org. AND also offers weight management certification for both adults and pediatrics. Dietitians who have this certification have passed a specific examination on key content and counseling areas. For adult certification, see http://cdrnet.org/weight-management-adult-program and for childhood and adolescent certification, see http://cdrnet.org/weight-management-childhood-adolescent-program.

Weight Loss Programs and Groups Available in South Dakota:

Referral options may be limited in many communities of the state. Listed below are programs available at the time of this publication. The listing is provided for informational purposes only and does not constitute endorsement or recommendation by the Department of Health. Please contact the specific provider for more information. The list does not include bariatric surgery clinics.

ADULTS

- Profile, Sanford Hospital in Sioux Falls
  - Utilizes a Certified Profile Coach to design and implement an individualized plan for each member. The plan focuses on nutrition, activity, and lifestyle adaptations. Virtual coaching is also an option for members. One-year membership is $295.00. Profile™ foods are promoted with this program at an additional cost.
  - Contact: LeAnn Grate at 605-370-6323 leann.grate@sanfordhealth.org

- Ideal Living, Avera Prairie Center in Sioux Falls
  - Utilizes the *Ideal Protein* weight loss method to promote fat loss while preserving lean tissue. The program is a structured low calorie and low carbohydrate diet plan that includes food products and dietary supplements. It provides ongoing educational support, weekly weigh-ins and measurements, and medical oversight from a professional health coach and medical staff.
  - Provides a unique experience through integrative, holistic therapies, like acupuncture, massage, aromatherapy, mind body movement classes, and weight management with an emphasis on the maintenance plan.
  - No set cost or timeline as it depends on the weight loss goal.
  - The Ideal Living weight loss clinic is part of the Avera Medical Group Integrative Medicine Clinic located at the Avera Prairie Center at 1000 E. 23rd Street, Suite 140, Sioux Falls, SD.
  - Contact: Marcia Jones at 605-322-3241

- Fit Smart, Avera McKennan Fitness Center in Sioux Falls
  - 12 week program for anyone 15 years of age and older. Meet with a personal trainer for 30 minutes two times a week and meet with a Registered Dietitian once a week. Includes individual membership to the fitness center. Total cost around $1,000.
  - Contact: Jenni Struck at 605-322-5314
  - For information about child and pediatric programs at Avera Fitness Center contact Jenni Struck.

- Optifast & Optitrim, Regional Weight Management Center in Rapid City
  - Optifast – 18 week program targeting candidates to lose ≥ 50 pounds. $3,500
  - Optitrim – 12 week program targeting candidates to lose 20-30 pounds. $1,900
  - Both programs include medical supervision by a physician, behavior counselor, and registered dietitian.
  - The weight management center also offers surgical consultation as well as individual sessions with a personal trainer and/or nutrition wellness counselor.
  - Contact: 605-719-1375. Located in the Regional Rehab Institute.

- Compulsive Eating Group, Dakota Psychological Center in Sioux Falls
  - 10-12 week group program for overweight adults. The program takes a holistic approach including physiological, environmental, behavioral, and psychological components. It is focused on determining co-morbidities often associated with obesity such as underlying eating disorders, depression, history of trauma, anxiety disorders, etc.
  - 1-on-1 sessions are available
  - Prices vary but the average cost is $30-40 per session. Some insurance plans will cover part or all of the cost.
  - Contact: Lyn Shroyer, Licensed Psychologist at 605-373-9066 Extension 2

CHILDREN/ADOLESCENTS

- *Don't Let Your Weight Weigh You Down,* Dakota Psychological Center in Sioux Falls
  - 10 week group for overweight adolescents age 12-20. The program takes a holistic approach including physiological, environmental, behavioral, and psychological components.
  - 1-on-1 sessions are available for any age and may use a family approach
  - Contact: Lyn Shroyer, Licensed Psychologist at 605-373-9066 Extension 2

- *Camp Fuel,* Sanford Wellness Center in Sioux Falls
  - Week long summer camp for kids ages 9-12 years that focuses on healthy living. Kids learn about healthy eating, the importance of being active, and the effect all types of media have on the choices we make with our health. Weekly activities include swimming, cycling, zumba, play games, going to the park, making healthy snacks, a trip to a local organic farm and radio station, and an interactive cooking demonstration with Sanford Hospital chefs.
  - Camp is run by registered dietitians and exercise specialists. The camp is typically held the 3rd week in June at the Sanford Wellness Center 4201 S Oxbow Ave, Sioux Falls, SD 57106
  - Contact: Sanford Nutrition at 605-328-1505.

- Sanford Children's Hospital
  - Refer parents to this Facebook page to learn about classes and activities for children as well as credible information and recipes
  - Contact: www.facebook.com/SanfordChildrensHospitalSiouxFalls

A variety of non-profit or for-profit groups are available in many communities, such as TOPS, Weight Watchers, Boys and Girls Clubs that can provide support and information. The 2013 AHA/ACC/TOS Obesity Guidelines recommend these types of commercial programs using counseling with or without prepackaged meals if supported by scientific evidence of safety and efficacy.

OBESITY CODING

Children:

The following information is taken from the "Obesity Coding Fact Sheet" by the Texas Pediatric Society. (2d)

- Before obesity and/or its complications are diagnosed, do not use "rule out obesity" as the diagnosis. Instead, use as many diagnosis codes as apply to report the patient's signs and symptoms and/or adverse environmental circumstances and to document the patient's complexity.
- Once obesity and/or its complications are diagnosed, report the appropriate definitive diagnosis code(s) as the primary code, plus as many other symptoms/complications that the patient is exhibiting as secondary diagnoses codes.
- Counseling diagnosis codes can be used when the patient is present or when counseling the parent/guardian(s) and the patient is not physically present.
- V-codes are used for occasions when circumstances other than a disease or injury are recorded as "diagnoses" or "problems". Some carriers may request supporting documentation for the reporting of V-codes.

ICD-9 CODE	SIGNS AND SYMPTOMS
783.1	Weight gain (abnormal, excessive)
783.6	Excessive appetite, overeating of unspecified cause
300.11	Excessive appetite, hysterical
308.3	Overeating, as acute reaction to stress
307.51	Overeating of non-organic origin, bulimia, binge eating
307.52	Perverted appetite of non-organic origin, pica
307.59	Overeating, feeding disturbances of infancy
780.79	Fatigue/lethargy
701.2	Acanthosis nigricans, acquired
784.0	Headache, unspecified or vascular
307.81	Headache, emotional (non-organic origin), tension
346.90	Headache, migraine (unspecified), without mention of intractable
346.91	Headache, migraine (unspecified) with intractable migraine
704.1	Hirsutism
788.43	Nocturia
783.5	Polydipsia
783.6	Polyphagia
788.42	Polyuria
V11.9	Unspecified mental disorder
V21.0	Period of rapid growth in childhood

ICD-9 CODE	PRIMARY DIAGNOSES (RELATED TO OBESITY)
278.00	Overweight/obesity (unspecified)
278.01	Morbid obesity
307.50	Eating disorders, unspecified
259.9	Obesity of endocrine origin
V77.8	Special screening for obesity
277.7	Dysmetabolic syndrome X
571.8	Nonalcoholic steatohepatitis
780.79	Fatigue, general
244.9	Hypothyroidism, primary or NOS
V77.0	Screening for thyroid disease
278.8	Pickwickian syndrome (cardiopulmonary obesity)
780.57	Sleep apnea, obstructive
401.9	Hypertension, essential (unspecified)
405.19	Hypertension, essential (benign)
405.91	Hypertension, renovascular (unspecified)
V81.1	Screening for hypertension
272.4	Hyperlipidemia, unspecified
272.0	Hypercholesteremia, pure
272.1	Hypertrygliceridemia, pure
272.2	Mixed Hyperlipidemia
V18.1	Family history of hyperlipidemia
V77.91	Screening for lipid disorders (cholesterol/HDL/other)
759.81	Prader-Willi syndrome
758.0	Down syndrome
256.4	Polycystic ovary syndrome

ICD-9 CODE	SECONDARY DIAGNOSES/ COMPLICATIONS
259.1	Precocious puberty
626.0	Amenorrhea (primary or secondary)
790.6	Hyperglycemia, NOS
V77.1	Diabetes, screening
250.0	Type 2 diabetes mellitus, controlled, no complications
250.02	Type 2 DM, uncontrolled, no complications
250.12	Type 2 DM, with ketoacidosis
250.90	Type 2 DM, with unspecified complications
251.1	Hyperinsulinemia
311	Depression, NOS
313.1	Disturbance of emotions specific to childhood/adolescence, with misery and unhappiness
732.4	Blount's disease (tibia vara)
732.4	Slipped capital femoral epiphysis
732.1	Legg-Calvé-Perthes disease
715.20	Degenerative arthritis, secondary, localized, site unspecified
715.00	Degenerative arthritis, generalized, site unspecified
574.30	Gallstones (cholelithiasis) without obstruction
574.31	Gallstones with obstruction
575.10	Cholecystitis
577.0	Pancreatitis
348.2	Pseudotumor cerebri

Current Procedural Terminology (CPT) Codes

Initial assessment usually involves time to determine the differential diagnosis, establish a diagnostic plan, and consider potential treatment options. Therefore, most clinicians will report an office/outpatient evaluation and management (E/M) code using time as a key factor or a consultation code for the initial assessment.

OFFICE OR OTHER OUTPATIENT E/M CODES	
99201/99202/99203/99204/99205	Use for new patients only; requires 3 of 3 key components or greater than 50% of the visit spent in counseling or coordinating care.
99212/99213/99214/99215	Use for established patients; requires 2 of 3 key components or greater than 50% of the visit spent in counseling or coordinating care.
Modifier 25	Use for separate, significant physician E/M work that goes above and beyond the physician work normally associated with a service or procedure.

OFFICE OR OTHER OUTPATIENT CONSULTATION CODES	
99241/99242/99243/99244/99245	Use for new or established patients; appropriate to report if another physician or other appropriate source (e.g. school nurse, dietitian, psychologist, nurse practitioner) requests an opinion or evaluation of a child who is overweight or obese. Requires 3 of 3 key components or greater than 50% of the visit spent in counseling or coordinating care.

NOTE: Use of these consultation codes requires the following:

- Written or verbal request for consultation documented in the patient's chart.
- Consultant's opinion and physical findings, as well as any services ordered or performed, documented in the chart.
- Consultant's opinion, physical findings, and any services that are performed prepared in a written report, which is sent to the requesting physician or other appropriate source.

PROLONGED PHYSICIAN SERVICES CODES	
99354/99355	Use for outpatient face-to-face prolonged services.
99358/99359	Use for non-face-to-face prolonged services in any setting (such as coordinating dietitian, mental health, or other services).

- Use when a physician provides prolonged services beyond the usual service (e.g., beyond the typical time).
- An alternate to using time as the key factor with the office/outpatient E/M codes (99201-99215).
- Time spent does not have to be continuous.
- Codes are "add-on" codes, meaning they are reported separately in addition to the appropriate code for the service provided (e.g., office or other outpatient E/M codes (99201-99215)).
- If the physician spends at least 30 and no more than 74 minutes beyond the typical time associated with the reported E/M code, he or she can report 99354 (for face-to-face contact) or 99358 (for non-face-to-face contact). Codes 99355 (each additional 30 minutes for face-to-face prolonged service) and 99359 (each additional 30 minutes for non-face-to-face prolonged service) are used to report each additional 30 minutes of service beyond the first 74 minutes.
- Prolonged service of less than 15 minutes beyond the first hour or less than 15 minutes beyond the final 30 minutes is not reported separately.

Other Pediatric Coding Resources:

- American Academy of Pediatrics. Obesity and Related Co-Morbidities Coding Fact Sheet for Primary Care Physicians. 2006 (2a)
  - AAP coding questions: aapcodinghotline@aap.org
- Vermont Child Health Improvement Program (VCHIP). Pediatric Obesity Coding. 2009 (17a)

Adults:

Medicare Coverage of Intensive Behavioral Therapy (IBT) for Obesity (1b, 16b): Effective with dates of service on or after November 29, 2011, Medicare covers Intensive Behavioral Therapy (IBT) for obesity, defined as a body mass index (BMI) > 30 kg/m^2, for the prevention or early detection of illness or disability. IBT for obesity consists of the following:

- Screening for obesity in adults using measurement of BMI
- Dietary (nutritional) assessment
- Intensive behavioral counseling and behavioral therapy to promote sustained weight loss through high intensity interventions on diet and exercise

IBT is currently only covered for individual services, not a group setting. The billing code established for the benefit is HCPCS (Healthcare Common Procedure Coding System) code G0447: Face-to-Face Behavioral Counseling for Obesity, 15 Minutes. G0447 was valued as an individual service and so its use is limited to individual counseling sessions. Medicare will pay for this benefit (G0447) with an ICD-9 code of V85.30-V85.39, V85.41-V85.45 no more than 22 times in a 12-month period, counted from the date of the first claim, in accordance to the following schedule:

- One face-to-face visit every week for the first month.
- One face-to-face visit every other week for months 2 to 6.
- One face-to-face visit every month for months 7 to 12, provided the beneficiary meets the 3-kg (6.6-lb) weight loss requirement during the first 6 months. The required weight loss must be documented in the physician office record for reimbursement of the visits for months 7 to 12.
- For beneficiaries who do not achieve a weight loss of at least 3 kg (6.6 lb) during the first 6 months of intensive therapy, the practitioner must wait for a 6-month period (no IBT for obesity) and then reassess the patient's readiness to change and BMI. If the patient meets the criteria for treatment, the practitioner can re-administer the first 6 months of the program. (Be aware that a patient can only receive 22 visits in a 12-month period, so the restart date should be at least 12 months from the original start date.)

ICD-9 CODE	BMI RANGE (KG/M^2)
V85.30	30.0-30.9
V85.31	31.0-31.9
V85.32	32.0-32.9
V85.33	33.0-33.9
V85.34	34.0-34.9
V85.35	35.0-35.9
V85.36	36.0-36.9
V85.37	37.0-37.9
V85.38	38.0-38.9
V85.39	39.0-39.9
V85.41	40.0-44.9
V85.42	45.0-49.9
V85.43	50.0-59.9
V85.44	60.0-69.9
V85.45	≥ 70.0

RDs can provide services as auxiliary personnel in primary care settings and bill the services as "incident to" in accordance with the Centers for Medicare and Medicaid Services (CMS) guidelines (42 CFR § 410.26(b) or 410.27). CMS notes that the new benefit does not preclude PCPs from referring eligible beneficiaries to other practitioners and/or settings for counseling; however, coverage remains only in the primary care setting.

Billing and Coding

- Medicare coinsurance and Part B deductible are waived for this service
- Code in medical chart before service
- Diagnosis Code: ICD-9 Codes: V85.30-V85.39, V85.41-V85.45
- Note: ICD-10 codes will be Z68.30-Z68.39, Z68.41-Z68.45

For more details and guidelines, you can view the online document Intensive Behavioral Therapy (IBT) for Obesity published by the U.S. Department of Health and Human Services, Centers for Medicare and Medicaid Services. Also, any RDN who is a member of the Academy of Nutrition and Dietetics (AND) can download the document Meeting the Need for Obesity Treatment: A Toolkit for the RD/PCP Partnership for free. For a non-member, the cost as of February 2014 is $40.00.

RESOURCES

Resources can come in a variety of forms including pamphlets, palm cards, websites, social media sites, apps, toolkits, and more. A wide selection of educational material is available from professional organizations, commercial companies, and others. Select materials that fit the needs of your patients in reading level and cultural issues. A resource that is appropriate for one patient may not be for another.

An assortment of educational resources are referenced throughout the toolkit and included here to provide additional information.

Family Readiness Questionnaire
Healthy Food Preparation
Motivational Interviewing
MyPlate Materials
Nutrition Fact Labels
Picky Eating – Ellyn Satter's Division of Responsibility in Feeding
Serving Size: How to Determine a Healthful Portion

Pamphlets

Pamphlets on healthy eating and physical activity may be printed or ordered at no charge from the DOH Online Resource Center. Listed below are pamphlets in the Family, Nutrition, and Physical Activity categories that may be useful when counseling both adults and youth. Additional disease specific materials are available under the Diabetes and Cardiovascular tabs.

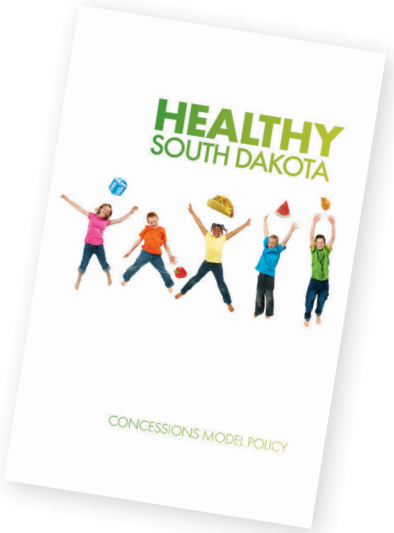
FAMILY:

A Healthy Mom's Daily Food Guide
Breastfeeding is Best
Choking - What Every Parent Needs to Know
Eat Your Vegetables - They Are Good For You
Eating - Parents Provide, Kids Decide
Health in a Hurry - Preparing Quick & Healthy Meals at Home
Healthy Choices for Healthy Families
Healthy in a Hurry - Eating Smart at Fast Food Restaurants
Healthy Kids, Healthy Weight, Healthy Lives
Juice Tips for Parents
Key Nutrient - Folate
Key Nutrients - Salt
Key Nutrients - Water
Owner's Manual: The Nutrition Facts Food Label
Sizing Up Portions to Create a Better Plate
Snack Bites
Weight Control: Positive Eating Behaviors
Your Growing Child

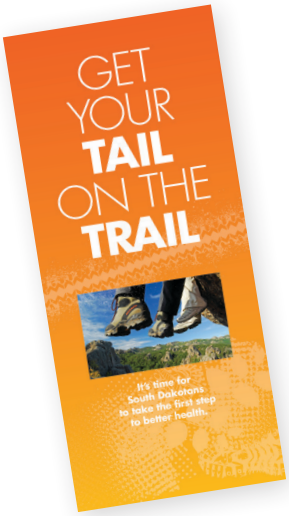
NUTRITION:

Breastfeeding and Returning to Work
Breastfeeding for Employers
CAUTION: Sweetened Beverages
Finding Balance with Fruits and Vegetables
Fruit & Vegetable Guide to Good T.A.S.T.E... for Kids

Get More... because more matters fruit & veggie guide
Healthy South Dakota
How to avoid portion size pitfalls to help manage your weight
Plant A Garden Poster
SODABRIETY Poster
The Snacking Secret
What's In Your Drink? Drink Water Instead!
What's In Your Drink? Make it a Healthy One!
YUM! Fruit & Veggies MORE Matters



PHYSICAL ACTIVITY:
Be Active, Be Well, Be Healthy Through the Years
Be Scratch Resistant Poster
Break Free From Arthritis
Get an Exercise Buddy Poster
Get Your Tail on the Trail
Healthy Communities Live Work Play Healthy & Safe
How Much TV Do You Watch?
Physical Activity for Children - 1 to 2 Years Old
Physical Activity for Children - 2 to 3 Years Old
Physical Activity for Children - 3 to 4 Years Old
Physical Activity for Children - 5 Years Old
Physical Activity for Children - 6 to 8 Years Old
Physical Activity for Children - 8 to 10 Years Old
Ride A Bike Poster
RX for Exercise (25 sheets to a pad)
Stretch Band Exercises
Take the Stairs Poster
Track it One Day at a time
What is Body Mass Index (BMI)



Websites

The Healthy South Dakota website, www.healthysd.gov, offers a wealth of information for patients and health professionals. Other credible websites that may provide useful information include but are not limited to:

www.goodandhealthysd.org
www.sdharvestofthemonth.com
www.bestfeeding.org
www.sdbreastfeedingcoalition.com
www.choosemyplate.gov
www.eatright.org
www.healthykidshealthyfuture.org
www.fruitsandveggiesmorematters.org
www.igrow.org/healthy-families/health-and-wellness

www.healthychildren.org – "Growing Healthy"

(If prompted for a username and password with any healthychildren.org link, select "cancel" and it will allow you to continue to the website.)

The "Growing Healthy" section of the AAP HealthyChildren.org website has age-appropriate, plain language, strength based, action oriented, and parent informed healthy active living content (categorized by food and feeding, physical activity and parenting tips). The content addresses parent identified barriers and motivators and provides realistic strategies. This was developed by the Healthy Active Living for Families (HALF) project and includes a series of resources developed for both pediatricians and parents to foster healthy active living (obesity prevention).

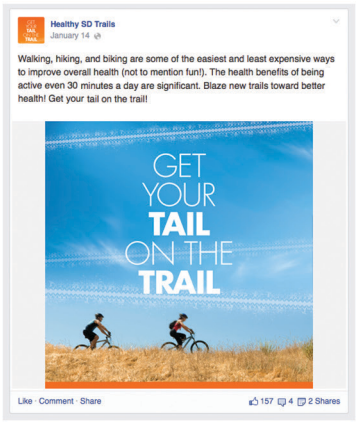
HALF Interactive Tools:

1. The "Quick Tips: Keep Your Child Healthy" widget allows patients to get tailored, realistic, parent-derived and evidence informed action strategies about areas of healthy active living that are most important to them. Topics include breastfeeding, bottle-feeding, starting solid foods, picky eaters, snack time, routines, physical activity, screen time and sleep.
2. The "Are You Raising a Healthy, Active Child?" quiz widget is a fun way to dispel some of the common myths around food and feeding, physical activity, and healthy active living.

Social Media

The following are Facebook pages from the South Dakota Department of Health Nutrition and Physical Activity team:

YUM! – South Dakota Fruit and Vegetable Initiative
Munch Code – South Dakota Healthy Concessions
Healthy SD Trails – South Dakota Trails

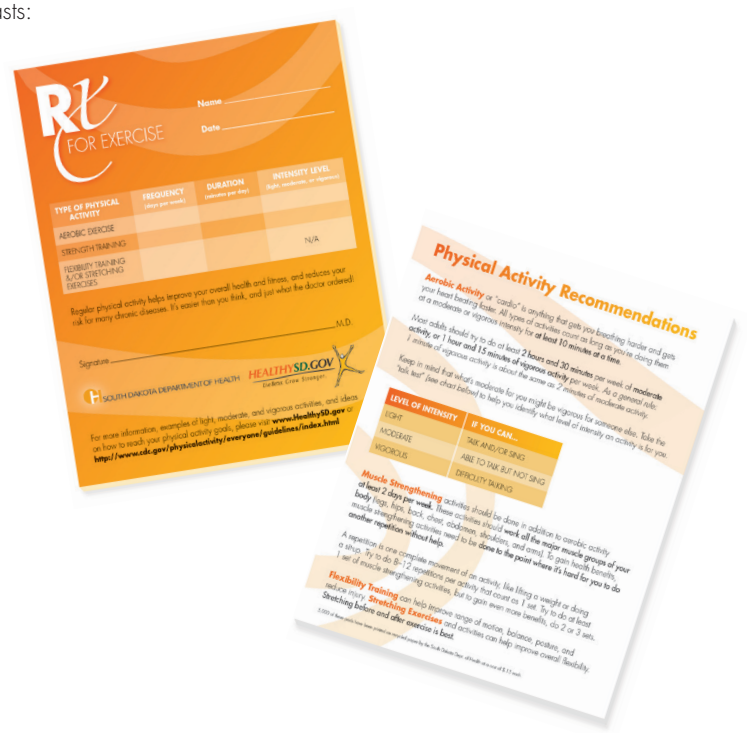


ORDER FORM

Additional tools may be ordered as long as supply lasts:

- Exercise Prescription Pads
- Measuring Tapes

Send request to doh.info@state.sd.us



REFERENCES

1. **Academy of Nutrition and Dietetics**
   - 1a. How to talk to kids about weight and obesity. 2012
     http://www.eatright.org/Public/content.aspx?id=6848
   - 1b. Meeting the Need for Obesity Treatment: A Toolkit for the RD/PCP Partnership. 2012
     https://www.eatright.org/Shop/Product.aspx?id=6442473941

2. **American Academy of Pediatrics**
   - 2a. Obesity and Related Co-Morbidities Coding Fact Sheet for Primary Care Physicians. 2006
     http://www.nichq.org/childhood_obesity/tools/AAPcodingfactsheet.pdf
   - 2b. Texas Pediatric Society. Childhood Obesity Diagnosis.
     http://txpeds.org/childhood-obesity-diagnosis#table3
   - 2c. Texas Pediatric Society. Motivational Interviewing.
     http://txpeds.org/motivational-interviewing
   - 2d. Texas Pediatric Society. Obesity Coding Fact Sheet.
     http://txpeds.org/obesity-coding-fact-sheet

3. **American College of Sports Medicine - Exercise is Medicine**
   - 3a. Exercising While Losing Weight.
     http://exerciseismedicine.org/documents/YPH_LosingWeight.pdf
   - 3b. Your Prescription for Health Series.
     http://exerciseismedicine.org/YourPrescription.htm

4. **American Diabetes Association**
   - 4a. Diagnosing Diabetes and Learning About Prediabetes.
     http://www.diabetes.org/diabetes-basics/diagnosis/?loc=DropDownDB-diagnosis

5. **American Heart Association**
   - 5a. 2013 AHA/ACC/TOS Guideline for the Management of Overweight and Obesity in Adults.
     http://circ.ahajournals.org/content/early/2013/11/11/01.cir.0000437739.71477.ee

6. **Center for Disease Control and Prevention**
   - 6a. Assessing Your Weight.
     http://www.cdc.gov/healthyweight/assessing/index.html
   - 6b. CDC Growth Charts.
     http://www.cdc.gov/growthcharts/cdc_charts.htm
   - 6c. Promoting Physical Activity: A Guide for Community Action. 1999
     http://www.cdc.gov/physicalactivity/everyone/getactive/barriers.html
   - 6d. Use and Interpretation of the WHO and CDC Growth Charts for Children from Birth to 20 Years in the United States. 2013
     http://www.cdc.gov/nccdphp/dnpa/growthcharts/resources/growthchart.pdf
   - 6e. WHO Growth Standards Are Recommended for Use in the U.S. for Infants and Children 0 to 2 Years of Age.
     http://www.cdc.gov/growthcharts/who_charts.htm

7. **Ellyn Satter Institute**
   - 7a. Secrets of Feeding a Healthy Family – How to Eat, How to Raise Good Eaters, How to Cook. 2008
     https://www.ellynsatterinstitute.org/

8. **HelpGuide.org**
   - 8a. Weight Problems and Obesity in Children Helping Your Child Reach and Maintain a Healthy Weight. 2013
     www.helpguide.org/mental/childhood_obesity.htm

9. Institute of Medicine

9a. Early Childhood Obesity Prevention Policies. June 2011
http://www.iom.edu/Reports/2011/Early-Childhood-Obesity-Prevention-Policies.aspx

10. National Heart, Lung, and Blood Institute

10a. 3 Steps to Initiate Discussion About Weight Management with Your Patients. 2002
http://www.nhlbi.nih.gov/health/prof/heart/obesity/aim_kit/steps.pdf

10b. Clinical Guidelines on the Identification, Evaluation, and Treatment of Overweight and Obesity in Adults: The Evidence Report. September 1998.
http://www.nhlbi.nih.gov/guidelines/obesity/ob_gdlns.pdf

10c. Blood Pressure Levels for Boys and Girls by Age and Height Percentile
http://www.nhlbi.nih.gov/guidelines/hypertension/child_tbl.pdf

10d. Guidelines on Overweight and Obesity: Electronic Textbook
http://www.nhlbi.nih.gov/guidelines/obesity/e_txtbk/txgd/4142.htm

10e. Obesity Education Initiative Expert Panel: The Practical Guide. Identification, Evaluation, and Treatment of Overweight and Obesity in Adults. 2000
http://www.nhlbi.nih.gov/guidelines/obesity/prctgd_c.pdf

10f. The Fourth Report on the Diagnosis, Evaluation, and Treatment of High Blood Pressure in Children and Adolescents. 2005
http://www.nhlbi.nih.gov/health/prof/heart/hbp/hbp_ped.pdf

10g. 2014 Evidence-Based Guideline for the Management of High Blood Pressure in Adults Report From the Panel Members Appointed to the Eighth Joint National Committee (JNC 8). 2014
http://jama.jamanetwork.com/article.aspx?articleid=1791497

11. National Initiative for Children's Healthcare Quality (NICHQ)

11a. Childhood Obesity Algorithm – Assessment, Prevention, & Treatment
http://www.healnh.org/images/pdffiles/StayNHealthy/childhoodobesityalgorithm.pdf

12. National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK)

12a. Bariatric Surgery for Severe Obesity.
http://win.niddk.nih.gov/publications/gastric.htm

12b. Prescription Medications for the Treatment of Obesity.
http://win.niddk.nih.gov/publications/prescription.htm

12c. Talking with Patients about Weight Loss: Tips for Primary Care Providers. 2012
http://win.niddk.nih.gov/publications/PDFs/TalkingWPAWL.pdf

13. Nebraska Department of Health and Human Services/Childhood Obesity Prevention Project

13a. Pocket Reference Clinical Algorithm.
http://www.teachakidtofish.org/copp/toolkit/pocket_reference_clinical.html

14. South Dakota Department of Health

14a. 2010 SD BRFSS - Behavioral Risk Factor Surveillance System.
http://doh.sd.gov/statistics/2011BRFSS/Overweight-Obese.pdf

14b. 2010 South Dakota State Plan for Nutrition and Physical Activity to Prevent Obesity and Other Chronic Diseases.
http://www.healthysd.gov/Documents/NPAPlan/2010PlanUpdate.pdf

14c. 2011 South Dakota Pediatric Nutrition Surveillance System Data.
https://doh.sd.gov/documents/Family/WIC/2011PedNSS.pdf

14d. 2011-2012 School Height and Weight Report - South Dakota Students.
http://doh.sd.gov/statistics/assets/2011-2012Report.pdf

14e. 2013 Update - South Dakota State Plan for Nutrition and Physical Activity to Prevent Obesity and Chronic Diseases.
http://www.healthysd.gov/Documents/NPAplan/2013PlanUpdate.pdf

15. United States Department of Agriculture (USDA)

15a. 2010 Dietary Guidelines for Americans.
http://health.gov/dietaryguidelines/dga2010/dietaryguidelines2010.pdf

15b. MyPlate Resources.
www.choosemyplate.gov

16. US Department of Health and Human Services

16a. 2008 Physical Activity Guidelines for Americans.
http://www.health.gov/paguidelines/guidelines/default.aspx#toc

16b. Intensive Behavioral Therapy (IBT) for Obesity. Department of Health and Human Services, Centers for Medicare and Medicaid Services. 2012.
http://www.cms.gov/Outreach-and-Education/Medicare-Learning-Network-MLN/MLNProducts/downloads/ICN907800.pdf

17. Vermont Department of Health/VCHIP/Fit and Healthy Vermonters

17a. Pediatric Obesity Coding. 2009
https://www.med.uvm.edu/VCHIP/Downloads/Fit%20and%20Healthy%20-%20Final%20Obesity%20Coding%20Table%20with%20Table%203%201%205%20(2).pdf

17b. Promoting Healthier Weight in Pediatrics. 2008
http://www.healthvermont.gov/family/fit/documents/Promoting-Healthier-Weight_pediatric_toolkit.pdf

18. Yale Rudd Center for Food Policy and Obesity

18a. Pediatricians: How to discuss weight with parents of overweight children. 2011
http://www.yaleruddcenter.org/resources/bias_toolkit/module6.html