Prediabetic and Metabolic Syndrome

Note: Strongly recommend coordination of care between all providers to facilitate optimal outcomes.

PREDIABETES

Prediabetes identifies individuals who are at increased risk for type 2 diabetes and cardiovascular disease but do not yet meet the criteria for type 2 diabetes.

The American Diabetes Association (ADA) defines prediabetes as individuals who:

- Have an impaired fasting glucose of 100–125 mg/dL (which is lower than the World Health Organization's criteria of 110–125 mg/dL), and/or
- Have an impaired glucose tolerance defined by a 2-hour plasma glucose of between 100–199 mg/dL after a 75g oral glucose load, and/or
- Have a hemoglobin A1c between 5.7% and 6.4%

Note: Refer for further care and/or initiate treatment as clinically indicated if impaired fasting glucose, impaired glucose tolerance, or elevated HgA1c (>5.7%).

METABOLIC SYNDROME

According to the American Heart Association and the National Heart, Lung, and Blood Institute, there are five factors that make up metabolic syndrome:

- Large waist size (40 inches or larger for men, 35 inches or larger for women)*
- High triglycerides (either 150 mg/dL or higher or using a cholesterol medication)
- Low levels of high-density lipoprotein or HDL (HDL less than 40 mg/dL for men, less than 50 mg/dL for women, or any patient using a cholesterol medication)
- High blood pressure (blood pressure of 135/85 mmHg or greater or using a blood pressure medication)
- High fasting glucose level (100 mg/dL or higher)

Note: Waist circumference may not be as informative for children as for adults.

The following tables review antipsychotic medication effects on development of metabolic syndrome, review cutoff waist circumference values in different ethnic populations, and provide recommended guidelines for management of these risk factors when they are present.

Table 8.

Antipsychotic Medications and Metabolic Syndrome Risk				
Medication	**Low**	**Mild**	**Moderate**	**High**
Typical Antipsychotics				
Chlorpromazine (Thorazine)	—	—	—	✔
Haloperidol (Haldol)	✔	—	—	—
Perphenazine (Trilafon)	✔	—	—	—
Atypical Antipsychotics				
Aripiprazole (Abilify)	✔	—	—	—
Asenapine (Saphris)*	✔	—	—	—
Brexpiprazole (Rexulti)	—	✔	—	—
Cariprazine (Vraylar)	—	✔	—	—
Clozapine (Clozaril)	—	—	—	✔
Iloperidone (Fanapt)*	—	✔	—	—
Lurasidone (Latuda)*	✔	—	—	—
Olanzapine (Zyprexa)	—	—	—	✔
Quetiapine (Seroquel)	—	—	✔	—
Risperidone (Risperdal)	—	✔	—	—
Ziprasidone (Geodon)	✔	—	—	—

Adapted from Hert, et al., 2011a.

Note. *mg/dL=milligrams per deciliter; mmHg=millimeters of mercury; mg/dL= milligrams per deciliter.*

*Limited data with these medications. Some of the second-generation antipsychotics above have not been extensively studied with regard to metabolic syndrome.

ETHNICITY-SPECIFIC CUTOFF VALUES OF WAIST CIRCUMFERENCE INDICATING ABDOMINAL OBESITY

Annual monitoring is recommended in a primary care setting.

Table 9.

Waist Circumference and Race Ethnicity		
	Females	**Males**
North Americans	≥88 cm (≥ 35 in)	≥102 cm (≥ 40 in)
European, Mediterranean, Middle Eastern, Sub-Saharan Africans	≥80 cm (≥ 32 in)	≥94 cm (≥ 37 in)
South Asians, Chinese, Ethnic South and Central Americans	≥80 cm (≥ 32 in)	≥90 cm (≥ 35 in)
Japanese	≥82-85 cm (≥ 32–34 in)	≥90 cm (≥ 35 in)

Adapted from Hert, et al., 2011a.

Note. *cm = centimeter; in = inch.*

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