

Diabetes

Clinical Practice Guideline



Overview of the Condition/Disease

Definition: condition in which the body's ability to produce or respond to the hormone insulin is impaired, resulting in abnormal metabolism of carbohydrates causing elevated levels of glucose in the body and urine

Pathophysiology:

Type 1 Diabetes: In Diabetes Type I, the immune system mistakenly destroys the cells in the pancreas that make insulin. When enough beta cells are destroyed, the pancreas makes little or no insulin.

Type 2 Diabetes: In Diabetes Type II, the body does not use insulin properly. The pancreas will make extra insulin to adjust but over time the pancreas is not able to make enough insulin to manage glycemic control. The body breaks down food eaten into glucose and sends glucose into the blood. Insulin is needed to move the glucose from the blood into the cells. Glucose is used as fuel for energy once it enters the cells or is stored in the cells for future use.

Gestational Diabetes: A condition that develops during pregnancy. Similar to other types of diabetes, gestational diabetes causes an elevation in blood glucose (sugar).

PreDiabetes: blood sugar levels that are higher than normal but not high enough to be diagnosed with diabetes. Typically A1C levels between 5.7 and 6.5.

Categories:

Uncontrolled: Hemoglobin A1C (HbA1C) results greater than or equal to 9

Controlled: Hemoglobin A1C (HbA1C) results less than 9 but most individuals should have results less than or equal to 8



Best Practice Standards for Prevention and Management

Education: Stress the importance of medication adherence, dietary compliance, care plan adherence, and maintaining doctor/endocrinologist appointments

Interventions:

- Blood glucose monitoring including A1C testing at least twice a year if you're meeting your treatment goals

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- Routine lab work (e.g., fasting lipid profile, liver function tests, urine albumin excretion, serum creatine, estimated glomerular filtration rate (eGFR), microalbumin to creatine is required annually)
- Routine eye exams (annually if retinopathy is present otherwise every 2 years)
- Foot care protocol with monofilament testing at least annually
- Clinic visits with established PCP or Endocrinologist at least once annually
- Pharmacologic therapy: oral antidiabetic agents, insulin, ACE-inhibitors, ARBs, statins, aspirin

Lifestyle Changes: Meal planning to achieve carbohydrate consistency, physical activity, smoking cessation avoid drinking alcohol

Additional conditions that negatively impact the condition/disease:

• Obesity	• Irregular access to food
• Hypertension	• Homelessness, poverty, literacy
• Dyslipidemia	• Excessive alcohol use
• Fatty liver disease	• Poor/imbalanced nutrition
• Depression/anxiety	• Heart disease
• Vascular diseases	• Steroid therapy

Anticipating, Recognizing, and Responding to Symptoms



Seek timely medical attention when current interventions and/or medications are not managing symptoms.

Potential symptoms: Shakiness and irritability due to hypoglycemia or extreme thirst and urination, fruity smelling breath from ketoacidosis

Manifestation of symptoms: Confusion, tachycardia, hunger, loss of consciousness, seizure, coma, or death due to hypoglycemia; pain due to neuropathy, vision loss, blurred vision, floaters due to retinopathy



Interventions to manage symptoms:

- Anti-diabetic medications (e.g., Metformin, Januvia, Invokana and Trulicity) to lower insulin use which is associated with weight gain and other complications of a higher BMI
- Insulin—fast acting and long acting
- Angiotensin-converting enzyme inhibitor (ACE Inhibitor) or Angiotensin Receptor Blocker (ARB) for patients with diabetes **AND** hypertension, chronic kidney disease,

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- or proteinuria
- Aspirin as a secondary prevention strategy in those with diabetes **AND** a history of atherosclerotic cardiovascular disease
- Fast acting carbohydrate foods such as candy, fruit juice, glucose tablets for hypoglycemia
- Anti-seizure medications for nerve pain (e.g., gabapentin, pregabalin, and carbamazepine)
- Antidepressants may provide relief for mild to moderate pain by interfering with the chemical processes in the brain that feel pain
- Statins to reduce cholesterol levels and reduce the risk of cardiovascular events
- Laser eye surgery for treatment for retinopathy



Guidelines and Process for Interdisciplinary Team

- Care teams will assess member every 6 months for pre-diabetes or diabetes diagnosis and document in member's assessment per program protocol.
- Care teams will document A1C lab results for member's diagnosed with pre-diabetes and diabetes.
- Care teams will encourage member to seek preventative diabetic examinations (ie. eye exams, routine lab exams, A1C testing and foot care with annual examination) and document such appointments in the respective electronic health record.
- Care teams will ensure member has access to appropriate diabetic testing supplies to reduce risk of hypoglycemia, hyperglycemia or diabetic ketoacidosis.



Cultural Considerations

- In general, ethnic and cultural minority groups experience a disproportionate burden of disease, injury, premature death, and disability when compared to the Caucasian population
- Health disparities can mean lower life expectancy, decreased quality of life, and loss of economic opportunities
- Health disparities result in decreased productivity, increased health care costs, and social inequity
- Contributing factors to ethnic and cultural disparities:
 - Mistrust in the health care system (stemming from historical mistreatment and peripheral trauma. Ex: Tuskegee Study)
 - Experiences of discrimination
 - Health literacy
 - Provider prejudice
 - Provider unconscious bias
 - Lack of cultural competency and humility among health care providers
 - Discordance in patient-provider race

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- Lack of minority representation among health care providers (only 19% of RNs in the workforce are from racial or ethnic backgrounds)
- All ethnicities and genders can be affected by diabetes, but research shows some are at higher risk.
- Please be considerate of members at higher risk and make sure to provide education when necessary.
- • Type 1 Diabetes: In the United States, Caucasians are more likely to develop type 1 diabetes than Latinx or African Americans
- • Type 2 Diabetes and Prediabetes: African Americans, Latinx, American Indians, and Alaskan Natives are at higher risk of developing Type 2 Diabetes. Some Pacific Islanders and Asian American people are also at higher risk.
- Diabetes is more common among individuals with less than a high school education and beneficiaries earn less than \$25,000 a year



Quality Assurance Monitoring

Quality Management identifies the eligible population and provides care teams with a list to monitor and encourage screenings throughout the year.



Additional Resources

See Care Management Resource: Diabetic Testing Supplies Quick Reference



References

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