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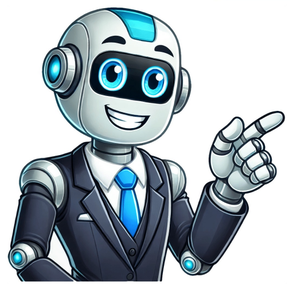

# Dieta prediabete pdf

 Predisease state of hyperglycemia with high risk for diabetes Medical conditionPrediabetesWhite hexagons in the image represent glucose molecules, which are increased in the lower image. Hyperglycemia is the only major sign of prediabetes.SpecialtyEndocrinology ComplicationsDiabetic complications Prediabetes is a component of metabolic syndrome and is characterized by elevated blood sugar levels that fall below the threshold to diagnose diabetes mellitus. It usually does not cause symptoms, but people with prediabetes often have obesity (especially abdominal or visceral obesity), dyslipidemia with high triglycerides and/or low HDL cholesterol, and hypertension.[1] It is also associated with increased risk for cardiovascular disease (CVD). Prediabetes is more accurately considered an early stage of diabetes, as health complications associated with type 2 diabetes often occur before the diagnosis of diabetes. Prediabetes can be diagnosed by measuring hemoglobin A1c, fasting glucose, or glucose tolerance test. Many people may be diagnosed through routine screening tests. The primary treatment approach includes lifestyle changes such as exercise and dietary adjustments. Some medications can be used to reduce the risks associated with prediabetes. There is a high rate of progression to type 2 diabetes but this does not develop for everyone with prediabetes.[2] Prediabetes can be a reversible condition with lifestyle changes. For many people, prediabetes and diabetes are diagnosed through a routine screening at a check-up. The earlier prediabetes is diagnosed, the more likely an intervention will be successful. Prediabetes typically has no distinct signs or symptoms except the sole sign of high blood sugar.[3] Patients should monitor for signs and symptoms of type 2 diabetes mellitus such as increased thirst, increased urination, and feeling tired.[4] The cause of prediabetes is multifactorial and is known to have contributions from lifestyle and genetic factors. Ultimately prediabetes occurs when control of insulin and blood glucose in the body becomes abnormal, also known as insulin resistance.[5] Risk factors for developing prediabetes include being overweight or obese, physical inactivity, an unhealthy diet, a family history of diabetes, having a genetic predisposition to prediabetes or diabetes, older age, and women who have a history of gestational diabetes or high birth weight infants (greater than 9 lbs.).[6][7] The increasing rates of prediabetes and diabetes suggest lifestyle and/or environmental factors that contribute to prediabetes. It remains unclear which dietary components are causative and risk is likely influenced by genetic background.[8] Increasing physical activity and following a healthy diet can reduce the risk of progressing to type 2 diabetes.[6] Normal glucose homeostasis is controlled by three interrelated processes. These processes include gluconeogenesis (glucose production that occurs in the liver), uptake and utilization of glucose by the peripheral tissues of the body, and insulin secretion by the pancreatic beta islet cells. The presence of glucose in the bloodstream triggers the production and release of insulin from the pancreas' beta islet cells. The main function of insulin is to increase the rate of transport of glucose from the bloodstream into certain cells of the body, such as striated muscles, fibroblasts, and fat cells. It also is necessary for transport of amino acids, glycogen formation in the liver and skeletal muscles, triglyceride formation from glucose, nucleic acid synthesis, and protein synthesis. In individuals with prediabetes, a failure of pancreatic hormone release, failure of targeted tissues to respond to the insulin present or both leads to blood glucose rises to abnormally high levels.[9] Prediabetes can be diagnosed with three different types of blood tests:[10] Fasting blood sugar (glucose) level of: 110 to 125 mg/dL (6.1 mmol/L to 6.9 mmol/L) – WHO criteria 100 to 125 mg/dL (5.6 mmol/L to 6.9 mmol/L) – ADA criteria Glucose tolerance test: blood sugar level of 140 to 199 mg/dL (7.8 to 11.0 mM) 2 hours after ingesting a standardized 75 gram glucose solution (WHO and ADA criteria)[10] Glycated hemoglobin (HbA1c) between 5.7 and 6.4 percent, i.e. 38.9 and 46.4 mmol/mol[10] Levels above these limits would justify a diagnosis for diabetes. Main article: Impaired fasting glycaemia Impaired fasting glycemia or impaired fasting glucose (IFG) refers to a condition in which the fasting blood glucose is elevated above what is considered normal levels but is not high enough to be classified as diabetes mellitus. It is considered a pre-diabetic state, associated with insulin resistance and increased risk of cardiovascular pathology, although of lesser risk than impaired glucose tolerance (IGT). IFG sometimes progresses to type 2 diabetes mellitus.[citation needed] Fasting blood glucose levels are in a continuum within a given population, with higher fasting glucose levels corresponding to a higher risk for complications caused by the high glucose levels. Some patients with impaired fasting glucose also may be diagnosed with impaired glucose tolerance, but many have normal responses to a glucose tolerance test. Fasting glucose is helpful in identifying prediabetes when positive but has a risk of false negatives.[11] World Health Organization (WHO) criteria for impaired fasting glucose differs from the American Diabetes Association (ADA) criteria, because the normal range of glucose is defined differently by each. Fasting plasma glucose levels 100 mg/dL (5.5 mmol/L) and higher have been shown to increase complication rates significantly, however, WHO opted to keep its upper limit of normal at under 110 mg/dL for fear of causing too many people to be diagnosed as having impaired fasting glucose, whereas the ADA lowered the upper limit of normal to a fasting plasma glucose under 100 mg/dL.[12] WHO criteria: fasting plasma glucose level from 6.1 mmol/L (110 mg/dL) to 6.9 mmol/L (125 mg/dL)[13][14] ADA criteria: fasting plasma glucose level from 5.6 mmol/L (100 mg/dL) to 6.9 mmol/L (125 mg/dL)[12] Impaired glucose tolerance (IGT) is diagnosed with an oral glucose tolerance test. According to the criteria of the World Health Organization and the American Diabetes Association, impaired glucose tolerance is defined as:[13][14] two-hour glucose levels of 140 to 199 mg per dL (7.8 to 11.0 mmol/L) on the 75-g oral glucose tolerance test. A patient is said to be under the condition of IGT when he/she has an intermediately raised glucose level after 2 hours, but less than the level that would qualify for type 2 diabetes mellitus. The fasting glucose may be either normal or mildly elevated. From 10 to 15 percent of adults in the United States have impaired glucose tolerance or impaired fasting glucose.[15] Hemoglobin A1c is a measure of the percent of red blood cells that are glycated, or have a glucose molecule attached. This can be used as an indicator of blood glucose level over a longer period of time and is often used to diagnose prediabetes as well as diabetes. HbA1c may not accurately represent blood glucose levels and should not be used in certain medical conditions such as iron-deficiency anemia, Vitamin B12 and folate deficiency, pregnancy, hemolytic anemia, an enlarged spleen, and end-stage kidney failure.[5] Estimate of insulin resistance (IR) and insulin sensitivity (%S) according to the Homeostatic model assessment (HOMA). Patterns were modeled as a function of fasting plasma insulin and varying fasting plasma glucose. Calculated using HOMA Calculator. Adapted from [16] Hyperinsulinemia due to insulin resistance may occur in individuals with normal glucose levels and therefore is not diagnosed with usual tests. Hyperinsulinemia precedes prediabetes and diabetes that are characterized by hyperglycemia.[16] Insulin resistance can be diagnosed by measures of plasma insulin, both fasting or during a glucose tolerance test.[17][18] The use of fasting insulin to identify patients at risk has been proposed, but is currently not commonly used in clinical practice.[19] The implications of hyperinsulinemia is the risk of comorbidities related to diabetes that may precede changes in blood glucose,[20][21][16] including cardiovascular diseases.[22][23][24] Fasting plasma glucose screening should begin at age 30–45 and be repeated at least every three years. Earlier and more frequent screening should be conducted in at-risk individuals. The risk factors for which are listed below: Family history (parent or sibling) Dyslipidemia (triglycerides > 200 mg/dL or HDL < 35 mg/dL) Overweight or obesity (body mass index > 25 kg/m2) History of gestational diabetes or infant born with birth weight greater than 9 lb (4 kg) High risk ethnic group (such as of being of African American, Hispanic, Native American, Asian American or Pacific Islander heritage) Hypertension (systolic blood pressure >140 mmHg or diastolic blood pressure > 90 mmHg) Prior fasting blood glucose > 99 mg/dL Known vascular disease Markers of insulin resistance (PCOS, acanthosis nigricans)[25][26] The United States Preventative Services Task Force (USPSTF) recommends adults who are overweight/obese and aged 40–70 years old to get screened during visits to their regular physician. The American Diabetes Association (ADA) recommends normal testing repeated every three years and recommends a larger range of people get tested: anyone over the age of 45 regardless of risk; an adult of any age who is obese or overweight and has one or more risk factors, which includes hypertension, a first degree relative with diabetes, physical inactivity, high risk race/ethnicity, Asian Americans with BMI of ≥23 kg/m2, HDL < 35 mg/dL or TG > 250 mg/dL, women who have delivered child >9 lbs or with gestational diabetes, A1c ≥ 5.7%, impaired fasting glucose (IFG) or impaired glucose tolerance (IGT).[27] In the UK, NICE guidelines suggest taking action to prevent diabetes for people with a body mass index (BMI) of 30. For people of Black African, African-Caribbean, South Asian and Chinese descent the recommendation to start prevention starts at the BMI of 27,5.[28] A study based on a large sample of people in England suggest even lower BMIs for certain ethnic groups for the start of prevention, for example 24 in South Asian and 21 in Bangladeshi populations.[29][30] Over half the people who are diagnosed with prediabetes eventually develop type 2 diabetes and once diagnosed with prediabetes, people experience a range of emotions: distress and fear; denial and downplay of risks; guilt and self-criticism; and self-compassion. While prediabetes is a reversible condition, it requires diet change and exercise, which may be more difficult for people diagnosed prediabetes because facing the risk of a chronic condition is associated with negative emotions, which further hinder the self-regulation that is required in reversing a prediabetes diagnosis.[31] Still, without taking action, 37% of individuals with prediabetes will develop diabetes in only 4 years, and lifestyle intervention may decrease the percentage of prediabetic patients in whom diabetes develops to 20%.[32] The National Diabetes Prevention Program (DPP) has a Center of Disease Control (CDC)-recognized lifestyle change program that showed prediabetic people following the structured program can cut their risk of developing type 2 diabetes by 58% (71% for people over 60 years old).[33] Considering the possibility to recover from the prediabetic status but also this emotional struggle upon diagnosis, it is encouraged for higher risk patients to get tested early. Having an additional screening option in the dental setting may offset some of the emotional struggle because it is more regularly visited and therefore has the potential to initiate earlier recognition and intervention.[citation needed] The American College of Endocrinology (ACE) and the American Association of Clinical Endocrinologists (AACE) have developed lifestyle intervention guidelines for preventing the onset of type 2 diabetes:[citation needed] Healthy diet (a diet with limited refined carbohydrates, added sugars, trans fats, as well as limited intake of sodium and total calories) Physical fitness (30–45 minutes of cardiovascular exercise per day, 3–5 days a week) Weight loss by as little as 5–10 percent may have a significant impact on overall health Prediabetes is a curable disease state, and people can routinely return to normoglycemia (normal glucose metabolism) with interventions.[34] Although some drugs can delay the onset of diabetes, lifestyle modifications play a greater role in the prevention of diabetes.[15][35] Intensive weight loss and lifestyle intervention, if sustained, may improve glucose tolerance substantially and prevent progression from IGT to type 2 diabetes. The Diabetes Prevention Program (DPP)[36] study found a 16% reduction in diabetes risk for every kilogram of weight loss. Reducing weight by 7% through a low-fat diet and performing 150 minutes of exercise a week is the goal. The ADA guidelines recommend modest weight loss (5–10% body weight), moderate-intensity exercise (30 minutes daily), and smoking cessation.[37] There are many dietary approaches that can reduce the risk of progression to diabetes. Most involve the reduction of added sugars and fats but there remains a lack of conclusive evidence proving the best approach.[38] For patients with severe risk factors, prescription medication may be appropriate. The American Diabetes Association recommends that prescription medications may be considered for those with prediabetes, including those in a specific subgroup who are more likely to have a greater benefit from medications and are at a higher risk of progressing to diabetes. This subgroup of people includes those with a BMI greater than 35, age less than 60, women with a history of gestational diabetes, a fasting plasma glucose greater than 110 or an A1c greater than 6%.[7] This may also be considered in patients for whom lifestyle therapy has failed, or is not sustainable, who are at high-risk for developing type 2 diabetes, or who prefer to take a medication.[39] Metformin[40] and acarbose help prevent the development of prediabetes, and also have a good safety profile. Evidence also supports thiazolidinediones but there are safety concerns, and data on newer agents such as GLP-1 receptor agonists, DPP4 inhibitors or meglitinides are lacking.[41] The progression to type 2 diabetes mellitus is not inevitable for those with prediabetes. The progression into diabetes mellitus from prediabetes is approximately 25% over three to five years.[42] This increases to 50% risk of progressing to diabetes over 10 years. Diabetes is a leading cause of morbidity and mortality. Effects of the disease may affect larger blood vessels (e.g., atherosclerosis within the larger arteries of the cardiovascular system) or smaller blood vessels, as seen with damage to the retina of the eye, damage to the kidney, and damage to the nerves.[9] Prediabetes is a risk factor for mortality and there is evidence of cardiovascular disease developing prior to a diagnosis of diabetes.[43] The prevalence of prediabetes worldwide is expected to increase. In 2021, 720 million people worldwide had prediabetes, and this is estimated to increase to 1 billion people by 2045.[7] Other sources estimate that the worldwide prevalence of prediabetes will increase to 11% by 2045.[7] In the United States, 38% of all adults have prediabetes.[7] In the United States, the prevalence rates of prediabetes are similar across ethnicities.[7] The incidence of diabetes is also growing. In 2014, 29.1 million people or 9% of the US population had diabetes.[44] In 2011–2012, the prevalence of diabetes in the U.S. using hemoglobin A1C, fasting plasma glucose or the two-hour plasma glucose definition was 14% for total diabetes, 9% for diagnosed diabetes, 5% for undiagnosed diabetes and 38% for prediabetes.[45] The clinical role of continuous glucose monitoring (CGM) is unclear. Comparing results of CGM studies is problematic as study parameters are non-standardized. The IFCC supported a review to provide recommendations that encourage developing standards for CGM performance studies.[46] Metabolic syndrome Diabetes Insulin resistance Cardiovascular disease ^ American Diabetes Association (January 2017). "2. Classification and Diagnosis of Diabetes". Diabetes Care. 40 (Suppl 1): S11 – S24. doi:10.2337/dc17-S005. PMID 27979889. ^ Bennasar-Veny M, Fresneda S, López-González A, Busquets-Cortés C, Aguiló A, Yañez AM (May 2020). 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Data related to Prediabetes at Wikidata Diabetes.org Retrieved from " We know that diabetes is a major problem in the U.S., and prediabetes is not less of an issue — but it’s also a wakeup call that can jolt someone into action. Prediabetes symptoms may go unnoticed, but the first sign is that you no longer have normal blood sugar levels. A prediabetes diagnosis is a warning sign to people who will develop diabetes if they don’t make serious lifestyle changes. The Centers of Disease Control and Prevention National Diabetes Statistics Report says that 37 percent of United States adults older than 20 years and 51 percent of those older than 65 exhibit prediabetes symptoms. When applied to the entire population in 2012, these estimates suggest that there are nearly 86 million adults with prediabetes in the United States alone. Furthermore, the International Diabetes Federation projects an increase in prevalence of prediabetes to 471 million globally by 2035. (1) Luckily, research shows that lifestyle intervention may decrease the percentage of prediabetic patients who develop diabetes from 37 percent to 20 percent. (2) What Is Prediabetes? Prediabetes is a condition defined as having blood glucose levels above normal but below the defined threshold of diabetes. It’s considered to be an at-risk state, with high chances of developing diabetes. Without intervention, people with prediabetes are likely to become type 2 diabetics within 10 years. For people with prediabetes, the long-term damage to the heart and circulatory system that is associated with diabetes may have started already. (3) There are several ways to diagnose prediabetes. The A1C test measures your average blood glucose for the past two to three months. Diabetes is diagnosed at an A1C of greater than or equal to 6.5 percent; for prediabetes, the A1C is between 5.7 percent and 6.4 percent.Ad Fasting plasma glucose is a test that checks your fasting (not eating or drinking for at least 8 hours) blood glucose levels. Diabetes is diagnosed at fasting blood glucose of greater than or equal to 126 milligrams per deciliter; for prediabetes, fasting glucose is between 100 to 125 milligrams per deciliter. The oral glucose tolerance test is a two-hour test that checks your blood glucose levels before and two hours after you drink a specific sweet drink. It explains how your body processes glucose. Diabetes is diagnosed at a two-hour blood glucose of greater than or equal to 200 milligrams per deciliter; for prediabetes, the two-hour blood glucose is between 140 and 199 milligrams per deciliter. (4) Prediabetes is not a new condition; it’s a new name for a disorder that doctors have known about for a long time. A prediabetes diagnosis is a clear way of explaining that a person has higher than normal blood glucose levels and is in danger of developing diabetes, plus at a higher risk of chronic kidney disease and heart disease. When people understand that they ‘e prediabetic, they’re more likely to make lifestyle changes that can reduce their risk of developing type 2 diabetes, which is why noticing prediabetes symptoms is vital. (5) The rationale behind the treatment of prediabetes is the prevention of diabetes development, prevention of consequences of diabetes and prevention of the consequences of prediabetes itself. Several research studies have displayed the success of interventions designed for treatment of prediabetes with sustained reduction in the incidence of diabetes. (6) Prediabetes Symptoms There are often no prediabetes symptoms and signs, and the condition can go unnoticed. People with prediabetes may experience some diabetes symptoms, such as feeling very thirsty, urinating often, feeling fatigued, having blurred vision and urinating often. Sometimes people with prediabetes develop acanthosis nigricans, a skin condition that causes one or more areas of the skin to darken and thicken. Evidence shows that acanthosis nigricans is often associated with hyperinsulinemia and may indicate an increased risk of type 2 diabetes mellitus. (7) Some people with prediabetes experience reactive hypoglycemia two to three hours after a meal. Hypoglycemia is also called low blood glucose or low blood sugar. It occurs when the level of glucose in your blood drops below normal. For many people with diabetes, that means a level of 70 milligrams per deciliter or less. Hypoglycemia is one of the more common prediabetes symptoms and a sign of impaired insulin metabolism indicative of impending development of diabetes. (8) Hypoglycemia symptoms tend to come on quickly, and they can vary from person to person — but common symptoms include feeling shaky or jittery; sweating; feeling sleepy or tired; becoming pale, confused and hungry; and feeling dizzy or lightheaded. Several studies have shown an association of increased risk of chronic kidney disease with prediabetes. Research shows that many people with prediabetes or diabetes were found to have state 3 or 4 chronic kidney disease. A 2016 study published in Diabetes Medicine found that prediabetes is modestly associated with an increase in chronic kidney disease risk. Chronic kidney disease screening among people with prediabetes and aggressive management of prediabetes in those with chronic kidney disease are recommended by researchers. (9) 7 Natural Treatments for Prediabetes Symptoms 1. Lose Excess Pounds Several studies have shown the efficacy of lifestyle interventions in the prevention of diabetes with a relative risk reduction of 40 percent to 70 percent in adults with prediabetes. Research shows that lifestyle interventions that focus on weight loss, such as increasing physical activity and making dietary changes, can significantly reduce the risk of developing diabetes. One study published in the New England Journal of Medicine found that after implementing these lifestyle changes, patients had a 58 percent diabetes risk reduction. (10) Another study conducted at George Washington University showed that for every kilogram (2.2 pounds) decrease in weight, the risk of developing diabetes in the future was reduced by 16 percent. (11) By reducing saturated fat intake, increasing fiber intake and exercising at least four hours per week, patients experienced positive results. 2. Follow a Diabetic Diet PlanAd In your quest to lose weight and avoid prediabetes symptoms, you need to follow a diabetic diet plan and choose foods that help balance blood sugar levels. Choose meals that are high in protein, fiber and healthy fats. High-protein foods include wild salmon, grass-fed beef and free-range eggs. Foods that are high in fiber include berries, figs, peas, Brussels sprouts, acorn squash, beans, flaxseeds and quinoa. These foods support detoxification and help you maintain healthy blood sugar levels. Healthy fats, like coconut oil and avocados, benefit your blood glucose levels and help you reverse prediabetes symptoms. (12) A very important component of a diabetic diet is staying away from sugar and reducing your carbohydrate intake. Refined sugar spikes blood glucose levels. Sugar from soda, fruit juice and other sugary beverages enters the bloodstream rapidly and can cause extreme elevations in blood glucose. Instead of using sugar, use stevia or raw honey in moderation. 3. Chromium Chromium is needed by the body in small amounts for healthy functioning. Trivalent chromium supplements can be used to maintain proper carbohydrate and lipid metabolism, reduce carbohydrate cravings and appetite, prevent insulin resistance and glucose intolerance, and regulate body composition. Dietary deficiency of chromium leads to disturbances in carbohydrate metabolism, increases risk of glucose intolerance and insulin resistance, and may lead to obesity and type 2 diabetes. (13) 4. Magnesium Magnesium deficiency is one of the leading nutrient deficiencies in adults, with an estimated 80 percent being deficient in this vital mineral. A magnesium deficiency can lead to other nutrient deficiencies, trouble sleeping and hypertension, all risk factors for developing prediabetes symptoms. A 2014 study published in Diabetes Care found that magnesium supplements were beneficial in offsetting the risk of developing diabetes among those at high risk. Compared with those with the lowest magnesium intake, those with the highest intake had a 37 percent lower risk of incident metabolic impairment, and higher magnesium intake was associated with a 32 percent lower risk of incident diabetes. (14) You can also get magnesium from green leafy vegetables, avocados, legumes, nuts and seeds. 5. Cinnamon Cinnamon is a rich botanical source of polyphenolics that has been used for centuries in Chinese medicine and has been shown to affect blood glucose and insulin signaling. Research has shown that cinnamon has the power to help reverse diabetes naturally. A 2011 study published in the Journal of Medicinal Food found that cinnamon intake, either as whole cinnamon or as cinnamon extract, resulted in a statistically significant lowering in fasting blood glucose. (15) 6. Coenzyme Q10 CoQ10 is an antioxidant that protects cels from the effects of aging and helps treat inflammatory health conditions like diabetes. Low-grade inflammation and oxidative stress are the key factors in the development of diabetes and its complications, and CoQ10 has a vital role in reducing these dangerous health risks. A 2014 study published in the Journal of Diabetes and Metabolic Disorders found that fasting plasma glucose and hemoglobin A1C levels were significantly lower in the group that took CoQ10 supplements. (16) 7. Ginseng Ginseng is an herb that works as a natural appetite suppressant. Other ginseng benefits include its ability to boost your metabolism and help you burn fat at a faster rate. A study done at the Tang Center for Herbal Medicine Research in Chicago measured the anti-diabetic and anti-obesity effects of Panax ginseng berry in adult mice. After five days of ingesting 150 milligrams of ginseng berry extract, the mice had significantly lower fasting blood glucose levels. After day 12, the glucose tolerance in the mice increased, and overall blood glucose levels decreased by 53 percent. The body weight of the mice also decreased as the same dose. (17) A human study conducted at Northumbria University in the U.K. found that Panax ginseng caused a reduction in blood glucose levels one hour after consumption when ingested with glucose. (18) Prediabetes Causes and Risk Factors People with prediabetes don’t process glucose properly, which causes sugar to build up in the bloodstream instead of fueling the cells that make up muscles and other tissues. Most of the glucose in your body comes from the foods you eat, especially sugary foods and simple carbohydrates. During digestion, the sugar from these foods enters your bloodstream. Then with the help of insulin, sugar enters the body’s cells, where it’s utilized as a source of energy. The hormone insulin is responsible for lowering the amount of sugar in your bloodstream. As your blood sugar level drops, so does the secretion of insulin from your pancreas. For people with prediabetes, this process does not work properly. Sugar is not used to fuel your cells. Instead, it builds up in your bloodstream because the pancreas doesn’t make enough insulin or your cells become resistant to the action of insulin. (19) Researchers have found that there are accessible variables in determining who’s at risk for prediabetes. Risk factors for prediabetes include: Age The risk of developing prediabetes increases as you get older. If you’re over the age of 45, you’re at a greater risk. This may be due to a lack of exercise or gaining weight in older age. Gender Women develop diabetes 50 percent more often than men. Ethnicity Certain races are more likely to develop prediabetes. African-Americans, Hispanics, American Indians, Asian Americans and Pacific Islands are at a higher risk of developing prediabetes. Fasting Glucose Fasting glucose between 100 to 125 milligrams per deciliter is characterized as prediabetes. (20) Systolic Blood Pressure High blood pressure is a risk factor for prediabetes. HDL Cholesterol If your HDL cholesterol is below 35 milligrams per deciliter or your triglyceride level is above 250 milligrams per deciliter, you may be at risk for developing prediabetes. (21) Weight If you’re overweight and have a body mass index above 25, you’re at risk of developing prediabetes. The more fatty tissue you have, especially around your abdomen, the more resistant your cells will become to insulin. Inactivity If you’re inactive, you’re increasing your chances of developing prediabetes. Exercise helps you to stay in control of your weight and ensures that your body uses up glucose as energy, thereby making your cells more sensitive to insulin. (22) History of Diabetes in Parents or Siblings If a first-degree relative, such as your parents or siblings, has diabetes, you’re at a greater risk of developing diabetes. Polycystic Ovarian Syndrome Polycystic ovarian syndrome is a condition characterized by irregular menstrual periods, excess hair growth and obesity. Research showed that polycystic ovarian syndrome was associated with a twofold higher odds of developing diabetes. (23) Gestational Diabetes A risk factor for prediabetes is a history of gestational diabetes or giving birth to a baby weighting more than nine pounds. Researchers suggest that a previous diagnosis of gestational diabetes carriers a lifetime risk of progression to type 2 diabetes of up to 60 percent. (24) Sleep Research has linked sleep issues like obstructive sleep apnea to an increased risk of insulin resistance. In fact, one study found that up to 83 percent of patients with type 2 diabetes suffer from unrecognized sleep apnea, and increasing severity of sleep apnea is associated with worsening glucose control. (25) People who are interrupted numerous time throughout the night or work changing shifts or night shifts are at an increased risk of prediabetes. Conventional Treatment for Prediabetes Symptoms Metformin has been used for several decades for the treatment of prediabetes and diabetes. It’s typically used to help control blood sugar levels. Common metformin side effects include nausea, upset stomach, vomiting and diarrhea. A-glucosidase inhibitors, such as acarbose and voglibose, prolong the overall carbohydrate digestion time and reduce the rate of glucose absorption. These types of medications are used to help people with type 2 diabetes whose blood sugar is highest after eating complex carbohydrates