# Diabetes in the Workplace

## What is diabetes?

Diabetes is a medical condition where people cannot produce enough insulin or their body cannot adequately use the insulin it has produced. Insulin is the hormone that controls the level of glucose, which is a form of sugar, in the bloodstream by regulating its movement into your cells. Insulin is necessary because glucose is a main source of energy for the body's cells. The human body can produce glucose or get it from food.

There are three types of diabetes:

- **Type 1 diabetes** is an autoimmune disease where the pancreas does not produce insulin. Type 1 diabetes is not preventable. Persons living with type 1 diabetes require insulin.
- **Type 2 diabetes** develops when the pancreas stops producing enough insulin or when the body stops effectively using the insulin that is produced. Many people with type 2 diabetes can manage the condition with diet and exercise, while others may also need to take medications.
- **Gestational diabetes** develops when a woman's body stops adequately producing or using insulin while she is pregnant. Affecting 2%-4% of all pregnancies, this form of diabetes usually goes away once the baby is born. However, mother and child remain at a higher risk of developing type 2 diabetes later in life.

### What are the complications or effects of diabetes?

When the pancreas does not produce insulin, glucose builds up in your blood. This condition is known as hyperglycemia. Fluctuations of blood glucose levels outside of the target range can lead to serious health problems involving the blood vessels and nerves, including heart disease, stroke, kidney failure, heart attack, and blindness.

When the body does not have glucose for fuel, it starts to use fat.  As a result of that process, the cells produce ketones that are then released into the blood. Some of these ketones will pass out of the body through the urine. However, high levels of ketones in the blood can cause the blood to become acidic. In people with diabetes, this is called diabetic ketoacidosis or DKA. DKA can lead to coma or death if not treated. DKA is more common in those with type 1 diabetes, but can also happen to those with type 2 diabetes.

Hypoglycemia can also occur. Hypoglycemia is too little glucose in the blood.  It can occur when insulin removes too much glucose from the blood as a result of increased physical activity, too much medication, too little food (or a missed or delayed snack or meal), and the effects of drinking alcohol.

## Long term Complications

Other impacts of diabetes will happen gradually.  Risk of these complications increases the longer someone has diabetes, and the less controlled their blood sugar is. Complications include:

- Cardiovascular disease, including high blood pressure, cholesterol issues and other heart issues
- Nerve damage (neuropathy)
- Kidney damage (nephropathy)
- Eye damage (retinopathy) and other vision conditions, such as cataracts and glaucoma
- Nerve damage in feet, legs, hands due to poor circulation
- Infections due to cuts and blisters
- Skin conditions, including bacterial and fungal infections
- Hearing impairment
- Alzheimer’s disease and dementia
- Depression

## What are the symptoms of diabetes?

Symptoms or signs linked to the development of diabetes include:

- Unusual or increased thirst
- Frequent need to urinate
- Blurry vision
- Extreme hunger
- Frequent or recurring infections
- Unexplained weight loss or weight gain
- Fatigue or lack of energy
- Irritability
- Disorientation
- Slow-healing cuts or sores
- Tingling or numbness in the hands or feet
- Not all people will show signs and symptoms.

## How is diabetes diagnosed?

Diagnosis of diabetes must be made by a doctor. There are several blood tests that may be conducted to help diagnose the condition. Those with symptoms of diabetes or high risk factors should be tested. Early diagnosis and co-operating with health care professionals will help prevent serious complications that can result from untreated or poorly managed diabetes.

## What are the risk factors for developing diabetes?

The cause of type 1 diabetes is unknown. Risk factors may include family history, environmental factors (e.g., some viral illnesses may play a role), and the presence of immune system cells known as autoantibodies.

Causes of type 2 diabetes are also uncertain, but are strongly linked to being overweight (although not everyone with type 2 is overweight). Risk factors include weight, inactivity, family history, race, age, gestational diabetes, polycystic ovary syndrome, and high blood pressure and/or high cholesterol.

## Should diabetes be an occupational concern?

Most often, diabetes has little or no impact on an employee’s ability to do their job and employers may not even know the employee has diabetes. The impact of diabetes varies among individuals. Many people manage their diabetes through their diet, regular exercise and maintaining a healthy body weight. Individuals using medications

may take the medication orally, or they may self-administer insulin by syringe, pen or have an implanted insulin pump.

Determine if any concerns are reasonable given the individuals expected duties, and the facts of each individual's symptoms and treatment plan. In most workplace environments, such as offices or retail spaces, an employee`s diabetes will not put themselves or others at risk. Disorientation and fainting episodes are uncommon, but may be caused by hypoglycaemia (low blood glucose levels). However, if an employee could become suddenly disoriented while operating, for example, heavy machinery, the risk of injury is higher.

Employers must accommodate employees with diabetes (unless it can be shown to cause undue hardship to the organization). Employers and employees should work together to address concerns around diabetes respectfully. These accommodations may include time or a private place to administer any medications or to conduct blood sugar tests, the ability to keep food nearby, or a schedule of regular breaks to maintain a prescribed diet. Time off to attend medical appointments would be another example.

## Can occupational factors affect diabetes?

Occupational factors associated with the development of diabetes include:

- Sedentary work
- Schedules that include shift work or inadequate time to rest between shifts
- Schedules that limit a person's time to participate in physical activities
- Difficulty taking medications or eating regularly
- Availability of healthy food choices

## What else can workplaces do?

Be aware of the risk factors that can be controlled. Workplaces can help by:

- Including diabetes prevention and management information in any workplace health or wellness program.
- Educating management and supervisors about diabetes so that they are aware of the needs of employees with diabetes and how best to accommodate them.
- Asking employees with diabetes what accommodations they think would best suit them. Not all people with diabetes will need the same accommodations. Some may need a private area to test their blood sugar levels or to administer insulin injections while others may not.
- Changing an employees work schedule, if necessary.
- Employees with diabetic retinopathy, which is a vision disorder caused by diabetes, may need to use assistive technology to help them see.
- Employees with diabetic neuropathy, which is a nerve disorder caused by diabetes, may need to use a chair or stool while they work.
- Making sure first aiders are trained to recognize common acute symptoms of hypoglycaemia, and related issues so they can provide assistance.
- Providing employees a place to rest until their blood sugar levels become normal.
- Providing "sharps" disposal if insulin is administered with needles.
- Allowing employees to keep food and testing supplies near their workstation or break area.
- Allowing time for medical treatment and recuperation, as well as any educational sessions necessary to learn about their condition and how to manage it.
- Providing employees with breaks to eat or drink, take medication, or test blood sugar levels.
- Encouraging physical activity (e.g., time, equipment, walking paths, etc.).
- Providing healthy food choices in cafeterias, vending machines, meetings, etc.
- Providing access to smoking cessation programs.
- Addressing both organizational factors and mental health factors to help reduce stress.

- Providing access to employee assistance programs, support groups, etc.

## What should a workplace do if a person has hypoglycemia?

Hypoglycemia should be treated by first aid. Symptoms of hypoglycemia include cold, clammy or sweaty skin, blurred vision, dizziness, shakiness/lack of coordination, headache, irritability or hostility, stomach ache, or nausea.

If possible, check the person’s blood glucose level. If a glucose meter is not available, treat the symptoms. It is better to be safe. First aid steps for a conscious individual include to:

- Have the individual drink or eat a fast-acting carbohydrate, such as 15 mg of glucose from a glucose tablet, 15 ml (3 teaspoons) or 3 packets of table sugar dissolved in water, 175 ml (3/4 cup) of juice or regular soft drink, 6 candies (e.g., hard candies like LifeSavers, or jellybeans), or 15 ml (1 tablespoon) of honey.
- Wait 10 to 15 minutes and recheck their blood glucose.
- If still low, treat again. Have a snack (1/2 sandwich, or cheese and crackers) if the next meal is more than 1 hour away.

If the treatment does not work, or if the person becomes confused or disoriented, loses consciousness, or has a seizure, call 911 immediately for medical help.