

MANITOBA ADDICTIONS AWARENESS

TOPIC:	Alcohol and diabetes
AUDIENCE:	All ages
OUTCOME:	Raising alcohol and diabetes awareness

Alcohol, Diabetes and your Health

What is diabetes?

Diabetes mellitus is a disorder of the endocrine system. It affects the blood levels of insulin, which is a hormone in the pancreas that helps convert blood sugar into energy. Diabetes affects approximately 1.8 million adults in Canada. Ten per cent of Canadians ages 65+ have the disease. There are two main types of Diabetes, Type 1 and Type 2.

Type 1 Diabetes

Type 1 Diabetes used to be known as Juvenile Diabetes and occurs when the body stops producing insulin, a hormone excreted by the pancreas. Insulin is needed to convert carbohydrates into energy. Without adequate insulin, blood sugar levels are high, which can damage internal organs and lead to complications.

- People with Type 1 Diabetes must take daily insulin injections to survive.
- To prevent complications, people with Type 1 Diabetes must carefully balance food intake, insulin injections, and physical activity to keep blood sugars as close to normal as possible.
- Type 1 Diabetes cannot be prevented and is not linked to eating habits. Many scientists believe Type 1 Diabetes is an auto-immune disease in which the body mistakenly attacks its own pancreas cells.

Type 2 Diabetes

Type 2 Diabetes used to be called adult onset diabetes and results from the body's inability to produce enough insulin, or use the insulin it makes effectively. Almost 90% of all people with diabetes have Type 2. Being overweight and having a family history of diabetes are the strongest predictors of Type 2 Diabetes. Lifestyle factors such as alcohol consumption and being inactive may play a role in the development of the disease.

- People with Type 2 Diabetes produce insulin, but not efficiently.
- It is linked with obesity, eating habits and inactivity.
- Although Type 2 Diabetes was associated with aging and was formerly called "Adult Onset" Diabetes, children are now developing the disease.
- However, high blood sugar levels over time can lead to detrimental consequences such as blindness, kidney failure and limb amputation. Seventy-eight percent of people who have Type 2 diabetes will experience some degree of vision loss.

How does alcohol affect diabetes?

In order to use alcohol wisely and safely, it is important to understand how our bodies handle alcohol. Alcohol is very rapidly absorbed after intake and quickly appears in the blood stream. About 20% of the alcohol is absorbed directly into the bloodstream through the stomach walls and 80% is absorbed into the bloodstream through the small intestine. Alcohol is diluted in the water volume. It is then carried in the bloodstream to the liver where it is processed (detoxified).

Note: *There is metabolism of ethanol in the stomach/intestine.*

The liver removes the alcohol from your system slowly. The liver can only remove the equivalent of 1 drink per hour. Under normal conditions, blood sugar levels are not affected by moderate use of alcohol (1 – 2 drinks a day for men and 1 drink a day for women under the age of 60 – 65). If an alcoholic drink contains sugar or is mixed with a sugar-containing beverage the blood sugar may be affected.

Dangers of using alcohol

The greatest danger for someone with diabetes who drinks more than the recommended amount of alcohol is the increased risk of developing hypoglycemia (low blood sugar). This happens because the liver cannot make new glucose while it is processing alcohol. This prevents the body's normal protective mechanism from kicking in if the blood sugar level falls while you are drinking. The liver's ability to release glucose into the blood stream when you haven't eaten for a while is an important protection against low blood sugar.

As the alcohol goes through your system it can also affect the pancreas which produces insulin that regulates the amount of sugar in the blood. Drinking causes a steep rise in the blood sugar; the pancreas responds by producing insulin which causes a fast drop in blood sugar (hypoglycemia). Alcohol can also have a delayed effect on lowering your blood sugar for up to 14 hours.

Alcohol is not recommended if you:

- Have high triglycerides (blood fats)
- Have high blood pressure
- Have liver problems
- Are pregnant or breastfeeding

Particular concerns for women

Women are more vulnerable to the effects of alcohol and organ damage than men. Women have fewer of the enzymes in their stomachs and liver necessary to breakdown the alcohol, and women's bodies contain more fat and less muscle tissue than men. Therefore, alcohol goes into the bloodstream and throughout the body water in higher concentrations. Women who consume more than the recommended amounts of alcohol (one drink per day) can experience organ damage such as cirrhosis of the liver, pancreatitis, cardiomyopathy and breast cancer after only 5 to 7 years.

Particular concerns for older adults

There are several concerns with older adults who have diabetes and continue to use alcohol.

- Older people can have a harder time telling when their blood sugar is low.
- As people age, the liver's ability to metabolize alcohol decreases. This profoundly affects glucose levels. Women are particularly vulnerable as the enzymes (which are already lacking in their stomach) continue to deteriorate as they age. Older adults should be cautioned to further reduce alcohol intake, to no more than 1 drink a day for older men and somewhat less than that for older women.
- Older adults may experience nutritional deficiencies and weight gain as alcohol contains a lot of empty calories. Both of these conditions can throw the blood glucose levels out of balance.
- When they are drinking they may not be taking the oral medications properly, monitoring their glucose levels or attending a physician regularly.

Alcohol consumption guideline: To decrease chance of low blood sugar

- Never drink on an empty stomach – stick to your usual meal plan
- Avoid drinks that contain large amounts of sugar
- Adhere to the recommended amounts (2) for men (1) for women
- Carry identification – tell at least 1 person you have diabetes
- Check your blood sugar before going out
- Take your glucose meter with you
- Take snacks and fast-acting sugar (glucose tablets, jelly beans, etc.)
- Check your blood sugar before going to bed