**Q&A taken from Red Ants Crawling to My Urine**

1. **Q:** What is the difference between “Cholesterol-free” and “Fat-free”? **A:** Food labelled “cholesterol-free” does not mean that it does not contain fat. It only indicates that the food has been made with vegetable fat. Unsaturated fat is derived mainly from plants and can be monosaturated, as in olive and canola oil, or polyunsaturated, as in corn and peanut oil. Most non-dairy creamers, 2-in-1 and 3-in-1 beverages usually contain saturated vegetable fat (from palm oil and coconut products) and are not suitable for diabetics. It is best if you can avoid creamers, evaporated milk and full cream milk because they contain more saturated fat and calories than low-fat or skimmed milk. It is important to note that animal fat contains cholesterol (saturated fat). It may also be wise to limit your fat intake to 5g per serving in any type of food. Making healthy food choices is important for diabetics. It does not mean depriving yourself of certain types of foods, but you should consume in moderation. Choose foods that are vitamin and calcium enriched, whenever possible.*Source: Red Ants Crawling to My Urine*
2. **Q:** What is so good about protein?  
   **A:** Protein helps the body to repair skin tissues, bones and muscles. Fish, meat, eggs, beans and dairy products contain protein. Most protein-rich food have some fat as well. For example, eggs contain protein in the whites and fat in the yolks. Adults are advised to limit themselves to three eggs per week, regardless of the types of eggs. All types of nuts have protein and fat. Soya beans and soy products, which are also protein-rich, are recommended. Protein is a complex food, which is not easily digested, and should not be taken in large quantities. It is also not wise for diabetics to compromise by eating more protein as it can overload the kidneys. About two 3-ounce servings, about the size of a clenched fist of fish or lean meat, are recommended per day.  
   *Source: Red Ants Crawling to My Urine*
3. **Q:** What is a healthy lifestyle?  
   **A:** A healthy lifestyle is one that includes three regular, moderate meals a day, and an exercise programme of at least three days a week. In addition, limit alcohol intake, abstain from smoking and unhealthy snacking. Research has shown that regular, brisk walking can prevent and delay the onset of type 2 diabetes. On the other hand, watching television or playing on the computer for long hours increases the risk of diabetes. Please note that this is meant to be a general guide. Do consult your dietician for specific guidelines about your diet if you have diabetes, heart diseases or other health problems. For additional advice, please consult your doctor and other healthcare professionals.  
   *Source: Red Ants Crawling to My Urine*
4. **Q:** Why do I feel sleepy after a heavy lunch? **A:** When you have too much blood glucose in the body, your brain cannot work efficiently and you will feel lethargic. You cannot think properly and tend to forget easily. This can affect people with diabetes. Too much glucose in the blood can affect the absorption of vitamins and oxygen for the body systems to work efficiently. Remember, our red blood cells carry oxygen essential for every activity.*Source: Red Ants Crawling to My Urine*
5. **Q:** How do I check if I am overweight? **A:** There are many ways to check if you are overweight. The tools include the Body Mass Index (BMI), Waist – Hip Ratio (WHR), and measurement of waist circumference.*Source: Red Ants Crawling to My Urine*
6. **Q:** What is Body Mass Index (BMI)? **A:** BMI is a tool to assess your body fat by calculating the ratio: BMI = Weight (kg) / (Height x Height (m)). International Obesity Task Force recommends BMI for Asians: 18.5 to 22.9 kg/m^2. People with BMI of 27 kg/m^2 or more are prone to diabetes.  
   *Source: Red Ants Crawling to My Urine*
7. **Q:** How do I calculate my Body Mass Index (BMI)?  
   **A:** This is the widely accepted method of categorising your weight, based on a formula derived from your height and weight. Body Mass Index or BMI is calculated as: weight (kg) / (height (m) x height (m)). A BMI of 18.5 – 22.9 is considered healthy, whereas a result over 23 means your health is at risk. You are considered obese if you have a BMI of 30 and above.  
   *Source: HealthHub (https://www.healthhub.sg/live-healthy/764/its-not-a-small-world-after-all#:~:text=Waist%20circumference&text=If%20your%20waist%20size%20is,the%20lower%20ribs%20and%20navel.)*
8. **Q:** What is Waist – Hip Ratio (WHR)? **A:** This tool determines body fat distribution. People with an excessive amount of fat over the waist, or an apple-shaped body have a higher risk of lifestyle diseases than those with a pear-shaped body, with more fat around the hips and thighs. WHR = Waist circumference (cm) / Hip circumference (cm). Normal WHR for women is less than 0.8, and for men is less than 1.0.*Source: Red Ants Crawling to My Urine*
9. **Q:** How do I check if I am overweight by measuring waist circumference? **A:** Monitor your waist circumference as well as your weight. Compared to BMI, waist circumference is a better measure of body fat and is often used to assess cardiovascular risk. If your waist size is above 80cm for Asian women, and 90cm for Asian men, take care! This implies abdominal obesity. You can measure your waist circumference using a measuring tape. This is done close to the skin and ensuring that the tape is in between the lower ribs and navel. Measure during exhalation.  
   *Source: HealthHub (https://www.healthhub.sg/live-healthy/764/its-not-a-small-world-after-all#:~:text=Waist%20circumference&text=If%20your%20waist%20size%20is,the%20lower%20ribs%20and%20navel.)*
10. **Q:** If I have to drink alcohol, what must I take note of? **A:** It is advisable to drink after a meal and not on an empty stomach, to prevent hypoglycaemia, low blood glucose reaction or unstable blood glucose. It may cause adverse reaction if taken with diabetes medicine, especially Metformin. It is important to limit to one drink, defined as a can of beer, about 360mls (12 ounces), or a glass of wine, 150mls (5 ounces) or a small glass of hard liquor (distilled spirit) about 45mls (1.5 ounces). You can exchange your fruit for a glass of red wine. Too much alcohol means too many calories, which is converted into fats (triglycerides) and can cause fatty liver.*Source: Red Ants Crawling to My Urine*
11. **Q:** What are the health risks associated with being overweight? **A:** Being overweight increases your risk of high blood pressure, diabetes, certain cancers, bone and joint disorders (e.g., osteoarthritis), coronary heart disease, and early death.  
    *Source: Red Ants Crawling to My Urine*
12. **Q:** How do I quit cigarette smoking?  
    **A:** If you are smoking twenty cigarettes a day, you can choose to quit with help from a smoking cessation clinic or on your own. If you decide to quit smoking, set a realistic goal and then stick to it. For example, you can reduce gradually by smoking one cigarette less per week. Inform your friends and family members about your plan and seek their support. Do not lose faith in yourself, even if those around you are sceptical. Be it alcohol or cigarettes, you have to take steps to reduce and quit eventually. Never mind if you decide to take ‘baby-steps’. What is important is that you have the will to change for the better.  
    *Source: Red Ants Crawling to My Urine*
13. **Q:** What can life be like for a person with diabetes? **A:** People with type 1 diabetes must learn to estimate carbohydrates, balance their food intake with physical activities and adjust their insulin dose by monitoring their blood glucose levels using a glucometer at least four times a day. Most type 2 diabetics require oral medication, such as Sulphonylureas to be taken before meals to have better effects. ‘Starch blockers’ are usually taken together with food. Biguanides are to be taken after meals. Some people with type 2 diabetes may need to have basal injection at bedtime, or two to three times per day (depending on their condition and duration of diabetes).  
    *Source: Red Ants Crawling to My Urine*
14. **Q:** Can I only rely on diet control to manage my diabetes?  
    **A:** If you have an underlying condition or heart disease, diet control itself is not enough. You may need tablets or insulin, or a combination of both insulin and tablets, to control your blood glucose, cholesterol and high blood pressure. You may even need medication to prevent kidney damage.*Source: Red Ants Crawling to My Urine*
15. **Q:** Can diabetes be cured?  
    **A:** Every person with diabetes, regardless of type 1 or type 2, must know that diabetes cannot be cured, but it can be controlled. Mild diabetes can be controlled with diet and regular exercise. This does not mean, however, that the person does not have diabetes. Mild diabetes, if poorly controlled, can worsen. With good control, you will feel your best and diabetes is less likely to damage your eyes, kidneys or nerves.  
    *Source: Red Ants Crawling to My Urine*
16. **Q:** What are oral hypoglycaemic agents (OHA)?  
    **A:** Oral hypoglycaemic agents (OHA) are used mainly to lower blood glucose. There are many types of OHAs with different actions and can be taken at different mealtimes. Your doctor may prescribe more than 1 type of OHA to control your diabetes effectively. This depends on your blood glucose level, HbA1c, other underlying conditions and circumstances. Here are the different types of OHAs: Sulphonylureas, Meglitnides, Biguanides, Alpha-glucosidase Inhibitors (“Starch blockers”), and Thiazolidinediones.  
    *Source: Red Ants Crawling to My Urine*
17. **Q**: Can I take oral hypoglycaemic agents (OHA) if I am pregnant or planning to conceive?  
    **A**: Most OHAs are not tested on pregnant women. Therefore, it is important for you to inform your doctor if you are planning to conceive. You may need to have insulin injection. During early pregnancy when the unborn baby (foetus) is growing and developing, it may not be safe to continue with OHA.  
    *Source: Red Ants Crawling to My Urine*
18. **Q:** I have mild diabetes, and I noticed that I am losing weight drastically. Is this a bad sign? **A:** A patient’s treatment for mild diabetes is diet control. If you had three moderate meals a day, you should not have lost weight drastically. A gradual weight loss is expected with your change of diet and regular exercise. But if your drastic weight loss is coupled with high blood glucose, there are two possible factors to consider: 1) Many years of diabetes or poor control; and 2) Other illnesses e.g., cancer and pancreatitis.*Source: Red Ants Crawling to My Urine*
19. **Q:** I have type 2 diabetes. What can I do to control my blood glucose better?  
    **A:** Firstly, by knowing that you have limited amount of insulin, it would be better to have small to moderate amount of food. Next, a high fibre diet can prevent blood glucose spikes and allow more time for the insulin to work effectively. Lastly, exercise can enhance the action of insulin and allow more glucose to enter into the cells.  
    *Source: Red Ants Crawling to My Urine*
20. **Q:** What must I remember with insulin injections?  
    **A:** There are 3 important things you must remember when you are on insulin: 1) Regular blood glucose testing to adjust insulin; 2) Regular injection time to stabilise blood glucose level; 3) Regular mealtimes to prevent hypoglycaemia.  
    *Source: Red Ants Crawling to My Urine*
21. **Q:** Why is it important to do blood glucose testing?  
    **A:** Blood glucose fluctuates with our daily activities and the different types of food we eat. Regular exercise of at least 30 minutes can lower blood glucose. At the same time, stress and illness can cause blood glucose to rise. All these factors have to be taken into consideration when deciding on the insulin dosage. It is important to discuss this with your doctor and he may allow you to adjust your insulin dosage.*Source: Red Ants Crawling to My Urine*
22. **Q:** Why is it important to have regular injections? **A:** Regular dosage ensures sufficient insulin in the body and prevents low blood sugar reaction, hypoglycaemia (too much insulin in the body). This can cause giddiness, fainting, “cold sweats” and shivers. Blood glucose levels, which are too low or too high, can damage the brain over a period of time. It can also affect vision and result in poor coordination. All these can be dangerous for drivers who are diabetic.*Source: Red Ants Crawling to My Urine*
23. **Q:** Why must I eat after injecting insulin?  
    **A:** You must eat soon after each injection as it works faster and more effectively. It is important to have regular insulin injections and meals (at about the same time) to maintain a stable blood glucose level. It is advisable for people on insulin to have four to five small meals rather than two to three heavy meals a day. It is important to have a light snack such as a fruit or biscuits between lunch and dinner, especially if your dinner is more than 6 hours after lunch. This is also to synchronise your blood glucose level with the peak action of insulin to prevent hypoglycaemia, especially if you are on two types of insulin.  
    *Source: Red Ants Crawling to My Urine*
24. **Q:** Why is self-blood glucose monitoring important? **A:** It is important to do your own blood glucose monitoring to manage your diabetes effectively. Initially, you may need your family’s support, especially if you have a phobia of pricking yourself to get a drop of blood onto the test-strip. This type of monitoring is called home blood glucose monitoring (HBGM) or self blood glucose monitoring (SBGM). Diabetes is unlike other illnesses; besides taking medication, your daily living and quality of life are affected. It is important for you to take charge and be in control of your diabetes. Close monitoring of your blood glucose level will help you understand how your body reacts to medication, food and activities.  
    *Source: Red Ants Crawling to My Urine*
25. **Q:** What are the things I must do before pricking my finger?  
    **A:** Before you prick your finger, remember to:   
    1. Wash and clean dry your hands.  
    2. Check that your glucometer is in good working condition.  
    3. Change calibration code if you use new test strips. Your meter code must tally with the test strip code to ensure accuracy.  
    4. Check the expiry date of your test strip. Some individually wrapped test-strips can last longer.  
    5. Remember to close tight the container after taking a test-strip.  
    *Source: Red Ants Crawling to My Urine*
26. **Q:** How often should I monitor my blood glucose? **A:** If you are on OHA, it is recommended that you test at least twice a day, before medication and meals, and 2 hours after meals. Try to do it at different times of the day to monitor the blood glucose level, and your body’s reaction to different types of food and activities. It is also to check the effectiveness of the medication. If you are on insulin, you need to check at least four times a day: particularly before injection and breakfast (FBG), lunch, dinner, and at bedtime. Do discuss with your doctor.  
    *Source: Red Ants Crawling to My Urine*
27. **Q:** Why is regular check-up important?  
    **A:** You need to have regular check-ups to assess your diabetes condition and to exclude diabetes-related complications to the eyes, nerves, feet, heart and kidney. If abnormal results are detected, your doctor may refer you to a specialist and prompt treatment can be carried out to prevent complication.*Source: Red Ants Crawling to My Urine*
28. **Q:** What is the purpose of a urine test?  
    **A:** The doctor will request for a urine test for the following reasons:  
    1. To review your kidney function.  
    2. To exclude or confirm urinary tract infection.  
    3. To exclude or check progress on kidney (renal) impairment or failure.  
    *Source: Red Ants Crawling to My Urine*
29. **Q:** Why do I experience ‘burning’ pain when I am passing urine?  
    **A:** You may be having a urine tract infection. Urinary tract infection is very common among people with diabetes, because blood glucose is a good medium for germs to multiply. If recurrent, urine tract infections can lead to kidney problems. Therefore, it is important to consult a doctor and be treated early to prevent kidney complication. If the urinary tract infection is not treated properly, urine retention occurs and causes back-flow with germs spreading upward and thus damaging the kidney.  
    *Source: Red Ants Crawling to My Urine*

**Q&A taken from MSD Manual**

1. **Q:** What are the different types of diabetes?  
   **A:** There are two types of diabetes mellitus, type 1 and type 2. In type 1 diabetes, the body produces almost no insulin, a hormone produced by the pancreas that helps sugar (glucose) move from the blood into the cells. In type 2 diabetes, the body produces insulin, but cells fail to respond normally to the insulin. In both types of diabetes, the amount of sugar (glucose) in the blood is elevated.  
   *Source: https://www.msdmanuals.com/en-sg/home/hormonal-and-metabolic-disorders/diabetes-mellitus-dm-and-disorders-of-blood-sugar-metabolism/hyperosmolar-hyperglycemic-state-hhs*
2. **Q:** What is hyperosmolar hyperglycemic state (HHS)?  
   **A:** Hyperosmolar hyperglycemic state (HHS) is a complication of diabetes mellitus that most often occurs in type 2 diabetes. Its symptoms include extreme dehydration and confusion, and it is diagnosed by blood tests that show very high levels of glucose and very concentrated blood. Treatment involves intravenous fluids and insulin. Extreme complications, however, can lead to coma, seizures, and death.  
   *Source: https://www.msdmanuals.com/en-sg/home/hormonal-and-metabolic-disorders/diabetes-mellitus-dm-and-disorders-of-blood-sugar-metabolism/hyperosmolar-hyperglycemic-state-hhs*
3. **Q:** What causes hyperosmolar hyperglycemic state (HHS)?  
   **A:** Hyperosmolar hyperglycemic state (HHS) can occur for two main reasons: 1) People stop taking the medications for their diabetes; 2) An infection or other illness stresses the body. Also, certain medications, such as corticosteroids, can raise blood glucose levels and cause HHS. Medications such as diuretics, which people often take to treat high blood pressure, can worsen dehydration and trigger HHS.  
   *Source: https://www.msdmanuals.com/en-sg/home/hormonal-and-metabolic-disorders/diabetes-mellitus-dm-and-disorders-of-blood-sugar-metabolism/hyperosmolar-hyperglycemic-state-hhs*
4. **Q:** What are the symptoms of hyperosmolar hyperglycemic state (HHS)?  
   **A:** The main symptom of hyperosmolar hyperglycemic state (HHS) is a mental change. The change ranges from mild confusion and disorientation to drowsiness and coma. Some people have seizures and/or temporary partial paralysis resembling a stroke. Up to 20% of people die. Other symptoms that may precede the change in mental state include frequent urination and extreme thirst.  
   *Source: https://www.msdmanuals.com/en-sg/home/hormonal-and-metabolic-disorders/diabetes-mellitus-dm-and-disorders-of-blood-sugar-metabolism/hyperosmolar-hyperglycemic-state-hhs*
5. **Q:** How is hyperosmolar hyperglycemic state (HHS) diagnosed?  
   **A:** Doctors suspect the diagnosis of hyperosmolar hyperglycemic state (HHS) when people who have recently developed confusion are found to have a very high blood glucose level. They confirm the diagnosis by doing additional blood tests that show very concentrated blood and low ketones or acidity in the bloodstream.  
   *Source: https://www.msdmanuals.com/en-sg/home/hormonal-and-metabolic-disorders/diabetes-mellitus-dm-and-disorders-of-blood-sugar-metabolism/hyperosmolar-hyperglycemic-state-hhs*
6. **Q:** How is hyperosmolar hyperglycemic state (HHS) treated?  
   **A:** Hyperosmolar hyperglycemic state (HHS) is treated much like diabetic ketoacidosis. Fluids and electrolytes must be administered and replaced intravenously (into the vein). Usually, people are given insulin intravenously so that it works quickly and the dose can be adjusted frequently. The level of glucose in the blood must be restored to normal gradually to avoid sudden shifts of fluid within the brain. The blood glucose level tends to be more easily controlled than in diabetic ketoacidosis, and blood acidity problems are not severe.  
   *Source: https://www.msdmanuals.com/en-sg/home/hormonal-and-metabolic-disorders/diabetes-mellitus-dm-and-disorders-of-blood-sugar-metabolism/hyperosmolar-hyperglycemic-state-hhs*
7. **Q:** What is diabetic ketoacidosis? **A:** Diabetic ketoacidosis is an acute complication of diabetes that occurs mostly in type 1 diabetes mellitus. Symptoms include nausea, vomiting, abdominal pain, and a characteristic fruity odor on the breath. Diabetic ketoacidosis is diagnosed by blood tests that show high levels of glucose, ketones, and acid. Treatment involves intravenous fluid replacement and insulin. Without treatment, diabetic ketoacidosis can progress to coma and death.  
   *Source: https://www.msdmanuals.com/en-sg/home/hormonal-and-metabolic-disorders/diabetes-mellitus-dm-and-disorders-of-blood-sugar-metabolism/diabetic-ketoacidosis*
8. **Q:** What causes diabetic ketoacidosis?  
   **A:** Diabetic ketoacidosis is sometimes the first sign that people (usually children) have developed diabetes. In people who know they have diabetes, diabetic ketoacidosis can occur for two main reasons: 1) People stop taking their insulin; 2) An illness stresses the body. Rarely, some medications, especially the sodium-glucose co-transporter-2 (SGLT-2) inhibitors, can cause diabetic ketoacidosis, even in people with type 2 diabetes. Some people with type 2 diabetes are also prone to develop ketoacidosis. This type of diabetes is called ketosis-prone diabetes, but is sometimes referred to as Flatbush diabetes. This type of diabetes is an unusual variant that is more likely to occur in people with obesity and in people of African ancestry.  
   *Source: https://www.msdmanuals.com/en-sg/home/hormonal-and-metabolic-disorders/diabetes-mellitus-dm-and-disorders-of-blood-sugar-metabolism/diabetic-ketoacidosis*
9. **Q:** How do illnesses cause diabetic ketoacidosis?  
   **A:** An illness usually increases the body's need for energy. Thus, when people become ill, they often need more insulin to move extra glucose into their cells. If people do not take extra insulin when they are ill, they can develop diabetic ketoacidosis.  
   *Source: https://www.msdmanuals.com/en-sg/home/hormonal-and-metabolic-disorders/diabetes-mellitus-dm-and-disorders-of-blood-sugar-metabolism/diabetic-ketoacidosis*
10. **Q:** What are some common illnesses that can trigger diabetic ketoacidosis? **A:** Some common illnesses that can trigger diabetic ketoacidosis include:   
    - Infections (such as pneumonia and urinary tract infections)  
    - Heart attack  
    - Stroke  
    - Pancreatitis  
    *Source: https://www.msdmanuals.com/en-sg/home/hormonal-and-metabolic-disorders/diabetes-mellitus-dm-and-disorders-of-blood-sugar-metabolism/diabetic-ketoacidosis*
11. **Q:** What are the symptoms of diabetic ketoacidosis?  
    **A:** The initial symptoms of diabetic ketoacidosis include excessive thirst and urination, weight loss, nausea, vomiting, fatigue, and—particularly in children—abdominal pain. Breathing tends to become deep and rapid as the body attempts to correct the blood’s acidity. The breath has a fruity odor similar to nail polish remover because of the smell of the ketones escaping into the breath. Without treatment, diabetic ketoacidosis can progress to coma and death (especially in children).  
    *Source: https://www.msdmanuals.com/en-sg/home/hormonal-and-metabolic-disorders/diabetes-mellitus-dm-and-disorders-of-blood-sugar-metabolism/diabetic-ketoacidosis*
12. **Q:** How is diabetic ketoacidosis diagnosed?  
    **A:** Doctors diagnose diabetic ketoacidosis by measuring the level of ketones and acid in the blood and urine. People with diabetic ketoacidosis also have high blood glucose levels, but people may have high glucose levels without having diabetic ketoacidosis (read up on Hyperosmolar Hyperglycemic State). Doctors typically also do tests, such as a chest x-ray and urine analysis, to look for an underlying infection and electrocardiography (ECG) to look for a heart attack.  
    *Source: https://www.msdmanuals.com/en-sg/home/hormonal-and-metabolic-disorders/diabetes-mellitus-dm-and-disorders-of-blood-sugar-metabolism/diabetic-ketoacidosis*
13. **Q:** How is diabetic ketoacidosis treated?  
    **A:** Diabetic ketoacidosis is a medical emergency. Hospitalization, usually in an intensive care unit, may be necessary. Large amounts of fluids are given intravenously along with electrolytes, such as sodium, potassium, chloride, and sometimes phosphate, to replace those fluids and electrolytes lost through excessive urination. Insulin is generally given intravenously so that it works quickly and the dose can be adjusted frequently. Blood levels of glucose, ketones, and electrolytes are measured every few hours. Doctors also measure the blood’s acid level. Sometimes, additional treatments are needed to correct a high acid level. However, controlling the levels of glucose in the blood with insulin and, giving fluids, and replacing electrolytes usually allow the body to restore the normal acid-base balance.  
    *Source: https://www.msdmanuals.com/en-sg/home/hormonal-and-metabolic-disorders/diabetes-mellitus-dm-and-disorders-of-blood-sugar-metabolism/diabetic-ketoacidosis*

**Q&A taken from Diabetes Singapore**

1. **Q:** What is Type-1 Diabetes Mellitus?  
   **A:** Type-1 diabetes occurs when your immune system (body’s defense against infection) attacks and destroys the insulin-producing beta cells (islet or langerhans) in your pancreas. Symptoms may not appear for months or years before the process begins. Some people have certain genes (pattern passed on from parent to child) that increase the likelihood of developing type-1 diabetes, though many will not develop type-1 diabetes despite having the genes. Type-1 diabetes may also be caused by being exposed to a trigger in the environment, such as a virus. Type-1 diabetes is not caused by diet or lifestyle habits.  
   *Source: https://www.diabetes.org.sg/about-diabetes/causes-of-diabetes/*
2. **Q:** What is Type-2 Diabetes Mellitus?  
   **A:** People with type-2 diabetes make insulin, unlike those with type-1 diabetes. However, either their body does not recognize and use insulin properly, or their pancreas does not release enough insulin, which happens during the later stages of the disease. Consequently, type-2 diabetes may cause chronically high blood glucose levels, which can lead to several symptoms and potentially serious complications. If the body does not have enough insulin or the insulin isn’t used properly, glucose cannot enter the cells and instead builds up in the bloodstream. Many parts of the body can be damaged by this. Additionally, since the cells aren’t getting the glucose they need, they don’t function normally.  
   *Source: https://www.diabetes.org.sg/about-diabetes/causes-of-diabetes/*
3. **Q:** What causes Type-2 Diabetes Mellitus?  
   **A:** There are 2 primary causes of type-2 diabetes. The first cause is insulin resistance, where muscle, fat and liver cells become resistant to insulin. Insulin does not interact with these cells in a normal way, as such they don’t take in enough sugar. The second cause is that blood sugar levels cannot be controlled by insulin produced by the pancreas. As a result, insufficient insulin is produced by the pancreas to control blood sugar levels.  
   *Source: https://www.diabetes.org.sg/about-diabetes/causes-of-diabetes/*
4. **Q:** What is pre-diabetes?  
   **A:** Pre-diabetes may be defined as Impaired Fasting Glucose (IFT) (if you have higher than normal sugar levels after a period of fasting), or as Impaired Glucose Tolerance (IGT) (if you have higher than normal sugar levels after eating). It is characterized by high blood glucose levels that are not yet high enough to be classified as diabetes.  
   *Source: https://www.diabetes.org.sg/about-diabetes/what-is-pre-diabetes/*
5. **Q:** When should I test for pre-diabetes?  
   **A:** Pre-diabetes can go undetected for years because there are no symptoms, so it often goes undetected until serious health problems arise. You should talk to your doctor about getting your blood sugar tested. We highly recommend this to those that have any of the risk factors for pre-diabetes such as:  
   - Obesity

**-** Being 40 years or older  
- Having a parent, brother or sister who has type-2 diabetes  
- Physically active less than 3 times a week  
- A child you gave birth to weighed more than 9 pounds or you had gestational diabetes (diabetes during pregnancy)  
*Source: https://www.diabetes.org.sg/about-diabetes/what-is-pre-diabetes/*

1. **Q:** What is insulin resistance?  
   **A:** People with insulin resistance are unable to easily convert sugar to energy. This is because their muscles, fat, and liver cells don’t respond to insulin well, are resistant or cannot use insulin effectively. Consequently, their pancreas produces more insulin to help glucose enter their cells. Their blood sugar levels therefore rise over time. Type-2 diabetes, high blood pressure, high cholesterol, and obesity are problems related to insulin resistance syndrome.  
   *Source: https://www.diabetes.org.sg/about-diabetes/what-is-insulin-resistance/*
2. **Q**: What are the symptoms of Type-1 Diabetes?

**A**: The symptoms of type-1 diabetes are as follows:  
- Increased/Abnormal thirst (Polydipsia)  
- Frequent urination (Polyuria)  
- Extreme/Frequent hunger (Polyphagia)  
- Dramatic weight loss in a short period of time  
- Mood changes and irritability  
- Weakness and fatigue  
- Blurred vision  
- Bedwetting

*Source: https://www.diabetes.org.sg/about-diabetes/symptoms/*

1. **Q**: What are the symptoms of Type-2 Diabetes?

**A**: Type-1 and type-2 diabetes symptoms are similar. Symptoms are more apparent after meals. Additional symptoms may include:  
- Sores that take a long time to heal  
- Infections that occur frequently  
- A feeling of numbness or tingling in the hands or feet  
- Skin itching, including itching around the genitals  
- Slow healing of cuts or wounds  
- Having frequent yeast infections (Thrush)

- Skin disorders such as psoriasis or acanthosis nigricans  
- Darkened areas of the skin, usually in the armpits and on the neck

*Source: https://www.diabetes.org.sg/about-diabetes/symptoms/*