

**What is juvenile diabetes?** The full name is Diabetes Mellitus. Juvenile diabetes is where the pancreas stops producing insulin. (Johannah) Since the pancreas stops producing insulin, glucose stays in the bloodstream instead of entering cells in the body. (C Health, 2006) Other organs in the body try and fix this problem, like the kidneys, which takes the extra glucose and remove it through urine. (Johannah) Because of this problem, the body can be deprived of energy. (Johannah)

**Juvenile diabetes has two main conditions.** They are hypoglycaemia and hyperglycaemia. Hypoglycaemia occurs when a diabetic suffers from low blood glucose levels, while in hyperglycaemia you suffer from high blood glucose levels. (Juvenile Diabetes Research Foundation International, 2006) In Greek, “hypo” means low, while “hyper” means high. “glyc” refers to blood glucose, and “emia” refers to blood. (Juvenile Diabetes Research Foundation International, 2006) The most common cause of hypoglycaemia is too much insulin, while hyperglycaemia is not enough. These two conditions contradict themselves! Someone experiencing hypoglycaemia might feel shaky, cold (Juvenile Diabetes Research Foundation International, 2006), clammy, or hungry. They might also have a fast heartbeat. Someone experiencing hyperglycaemia will be very thirsty, because the kidneys will work harder, riding of more urine, dehydrating the body. (Juvenile Diabetes Research Foundation International, 2006)

**The history of diabetes.** Diabetes has been studied from more than one thousand years, where it was most common in Egypt. (C Health, 2006) In Egypt, it was not named diabetes. In the year 1552 B.C.E, an ancient Egyptian doctor named Hesy-Ra examined a patient who had to go to the bathroom often. (C Health, 2006) He did not know what was causing the illness, but he thought that a special diet might help. (C Health, 2006) The foods he suggested were fruits, grains, and honey. (C Health, 2006) The diet helped, but didn't cure the patient. (C Health, 2006) Around the same time as Hesy-Ra, doctors in China and India saw patients with similar problems. (C Health, 2006) Like Hesy-Ra, the doctors did not know how to treat the illness. (C Health, 2006) The doctors from India thought that the patients were eating too much, so they told them to cut down on the food. Around 100-175 C.E, the disease was mostly known as diabetes. (C Health, 2006) (Juvenile Diabetes) The name diabetes might have been Galen of

Pergamum, Apollonius of Memphis, or Aretaeus of Cappadocia. These men were Greek doctors. Back when diabetes was just becoming a disease, many people died because a cure was not yet found. This cure is insulin. (Hicks, 2001) This was given to the first human in 1922, an eleven year old boy. (Hicks, 2001) Diabetes comes from the Greek word "siphon". Siphon is a tube that is used to drain liquids. The siphon in this case is the penis, which urinates all of the sugar out obtained by the kidney out of the body. (Hicks, 2001)

**The causes of juvenile diabetes.** Diabetes is a hereditary disease, which means it is mostly passed on from parents, and if any siblings in the family have it you run a high risk of getting it to. (Hicks, 2001) Diabetes can take years to develop inside the body until it finally shows. (Hicks, 2001) Juvenile diabetes is caused because the Pancreatic islets of Langerhan are being destroyed, causing a severe lack of insulin which results of the body attacking and destroying it's own cells in the pancreas – known as autoimmune. (Hicks, 2001) There are many other ways to get diabetes, like; Infection with a specific virus or bacteria, exposure to food-borne chemical toxins, exposure as a very young infant to cow's milk, where an as yet unidentified component triggers the autoimmune reaction, but the first reasons stated are the most common. (Insulin Pump Therapy, 2006) A lot of people think that eating sweets of the wrong kind of food causes diabetes...think again, because it doesn't! That is the case in type 2 diabetes. (Insulin Pump Therapy, 2006) Stress does not cause diabetes either, although it may be a trigger for the body turning against itself, as in type 1 diabetes. But it does make the symptoms worse for people who already have diabetes. Diabetes is NOT contagious. (Juvenile Diabetes Research Foundation International, 2006)

**The Pump.** The pump is a computer driven device that gives the body fast acting insulin (NovoLog or HumaLog) via an infusion set, which is a thin plastic tube ending in a small, flexible plastic cannula or a very thin needle. (Regulations, 2005) This insulin is transferred in precise amounts you ask it for in pre-programmed times. (Hicks, 2001) It is a little smaller than a pager & is usually placed on your belt. The pump gives many people tighter control and more flexibility in their schedule. This includes advantages

such as; eating what you want, when you want, worrying less about low blood sugars and living life on your terms, not a schedule of snacks and shots. (Advances in Drug Discoveries, 2005)

**Insulin.** Insulin is a hormone that regulates carbohydrates. Patients who are diagnosed with type one diabetes need to rely on external insulin because their pancreas does not produce its own insulin. (Juvenile Diabetes Research Foundation International, 2006) The Pancreas is an organism in the digestive system. (Juvenile Diabetes Research Foundation International, 2006) The Pancreas supports the insulin needed to stay healthy. (Juvenile Diabetes Research Foundation International, 2006) Patients who suffer type one diabetes have a malfunction in their Pancreas and need to rely on an external source of insulin. (Juvenile Diabetes Research Foundation International, 2006) Insulin regulates the sugar needed to stay healthy and contains 51 amino acids and was founded by two Canadians Best and Banting in 1921-1922. (Juvenile Diabetes Research Foundation International, 2006) Insulin acts as a protein for the pancreas and helps patients survive insulin. (Juvenile Diabetes Research Foundation International, 2006) Insulin helps the cells access calories, without insulin the cells would not be able to do so. (Juvenile Diabetes Research Foundation International, 2006) If cells are not able to access calories one who has type one diabetes would always be hungry. (Juvenile Diabetes Research Foundation International, 2006) The Carbohydrates is sugar and the insulin provides the things needed to get the sugar. (Juvenile Diabetes Research Foundation International, 2006) Patients who suffer type one diabetes fail to produce insulin from their Pancreas and do not get the right sugar levels, the patient then gets insulin from various ways and their sugar level is balanced. (Juvenile Diabetes Research Foundation International, 2006)

Patients who currently are diagnosed with diabetes have a problem with their pancreas. (Juvenile Diabetes Research Foundation International, 2006) Their pancreas does not produce

insulin like a regular body. (Juvenile Diabetes Research Foundation International, 2006) The insulin regulates the sugar levels and allows the cells to access calories. (Juvenile Diabetes Research Foundation International, 2006) Therefore Patients who have Diabetes need to rely on an external way of getting the insulin needed. (Insulin Pump Therapy, 2006) Patients who have type 1 diabetes have a higher than normal sugar level, they use insulin to lower or regulate their levels of sugar. (Insulin Pump Therapy, 2006) Our bodies need the blood sugar to maintain a normal and narrow range. (Insulin Pump Therapy, 2006) The two hormones which allow this to happen are insulin and glucagons. (Insulin Pump Therapy, 2006) Both of these hormones come from the pancreas and are known as the pancreatic endocrine hormones. (Insulin Pump Therapy, 2006) Patients who have type 1 diabetes can sometimes have the glucagons however do not have the insulin. (Insulin Pump Therapy, 2006)

**How can one consume external insulin?** There are various ways in which patients who suffer diabetes can get external insulin. (Juvenile Diabetes) Firstly, they can get insulin from Syringes. (Regulations, 2005) Syringes are the same as a normal needle and are used in most places. (Juvenile Diabetes) Another way of getting insulin is the Jet injector which is not like most injection. (Juvenile Diabetes Research Foundation International, 2006) The jet injector uses profaned speeds to rush the fluids inside the blood without any needle. (Johannah) The jet needle is like a jet gun that injects the fluids inside your arm. Another way of getting insulin is the insulin pump which is a very safe way of getting insulin and is a very effective way. (Juvenile Diabetes Research Foundation International, 2006) The insulin pump is a miniature machine that attaches to ones stomach and injects insulin when it is needed automatically. Insulin is very important to patients who suffer diabetes and is the main reason for patients to stay healthy. (Juvenile Diabetes Research Foundation International, 2006)

**Is there a cure?** Scientists are always researching for solution for diabetic patients. (C Health, 2006) However, is there a cure? The FDA Center for Biologics Evaluation and Research is the main research group for diabetes. (C Health, 2006) They try many ways diabetes can end they tried to recombinant of proteins to treat type 1 and 2 diabetes. (C Health, 2006) However, they are not sure if there new method will work or not, if they are a viable solution, they are still researching for a deeper analysis. (Hicks, 2001) They are trying many ways to cure diabetes and they test near infrared to spectroscopy measures glucose through skin. (Juvenile Diabetes Research Foundation International, 2006) This says the amount of glucose by shining a beam of light on the skin and is painless. (Juvenile Diabetes Research Foundation International, 2006) All these methods are still being examined. (Advances in Drug Discoveries, 2005) They are testing new ideas of reasons someone might receive diabetes. (C Health, 2006) Scientists and researchers test new things every day to improve the life of diabetic patients. A cure has not yet been found however researches every hour are creating new concepts. (Hicks, 2001)