Diabetes Essay, Research Paper

Diabetes Some people have a disease that requires them to take daily injections of insulin. This disease is called diabetes, and cannot be cured. But, what if a non functioning pancreatic islet cells could be made to produce insulin once again. That would cure diabetes. The possibility has set the diabetes world excited over the past few months–ever since researchers at McGill University in Canada and the Eastern Virginia Medical School (EVMS) successfully regenerated islet cells in diabetic hamsters. The researchers used a mixture of proteins called Ilotropin to “turn on” nonfunctional islet cells. The treatment also caused new islet cells to grow where there had been few or none. Since then, in a report in the May 1997 Journal of Clinical Investigations, the researchers have identified the gene that Ilotropin triggers, the one involved in regenerating the islet cells. If the human version of the same gene could be turned on in similar fashion, type I insulin dependent diabetics and type II’s who inject insulin might have their natural insulin-producing apparatus restored. What is Diabetes? Well, this disease is known as “diabetes mellitus,” diabetes from the Greek word meaning excessive urination, a symptom the Greeks noticed, and mellitus, from the Latin for honey, which is because diabetic urine is filled with sugar and is sweet. Physicians and medical books use the term diabetes mellitus, but is the most commonly called diabetes. There are two major types of diabetes: type 1 and type 2. Both of them are a little different. But everyone with diabetes has one thing in common: Little or no ability to move sugar–or glucose–out of their blood into their cells, where it is the body’s primary fuel. Everyone has glucose in their blood, whether or not they have diabetes. This glucose comes from food. When we eat, the digestive process breaks down carbohydrates into glucose, which is absorbed into the blood in the small intestine. To get insulin into the blood, do you have to inject it with a needle? Yes, but hopefully not for too much longer. Two new studies show that an experimental new inhaled insulin is at least as effective as injected insulin. A no-injection method of insulin has been the most important study for diabetes research for some time, because it would make blood glucose control much easier. Insulin pills failed because acids in the stomach destroy the pill. Squirting insulin into the nose also proved no good because of dosing problems and nasal irritation. But scientists now seem to have hit on something that works, which is a fine powder inhaled by mouth into the lungs, where it can be absorbed into the blood stream. The hormone is administered with a flashlight-sized inhaler.

Does diabetes cause blindness? Sometimes is does, Compared with non-diabetics, people with diabetes are four times more likely to become blind. Among people who are legally blind, eight percent lost their vision because of diabetes. Each year, diabetes is the underlying cause of twelve percent of new blindness diagnoses. Among new diagnoses of type 2 diabetes, up to 21 percent show some degree of blindness. The most common type of eye disease that diabetics get is retinopathy. Retinopathy is caused by damage to the blood vessels that nourish the retinal nerves. Just as poorly controlled diabetes harms the major arteries, causing heart disease and stroke, the disease also takes a major toll on the tiny blood vessels in the retina. Diabetes also increase risk of cataracts, caused by clouding of the lens of the eye, and glaucoma, caused by an increase in fluid pressure within the eye that damages the optic nerve. In non-diabetic adults, less than 1 percent have glaucoma and 3 percent have cataracts. Among people with diabetes, the figures are 7 percent that have glaucoma and 22 percent have cataracts. These conditions cause much of the vision impairment in people diagnosed with diabetes over age 30 (type 2). Risk of both cataracts and glaucoma increases with age. These conditions are another reason diabetics should have annual eye exams. If cataracts become severe, the eye lens can be replaced with an artificial lens. If glaucoma develops, it can be treated with medications that reduce the fluid pressure in the eye.