Effect of Medicines on Blood Sugar Levels and Diabetes

This handout explains how your body’s blood sugar levels may change because of medicines you are taking.

What Is Diabetes?
Diabetes is a disease that affects the way your body uses food. Your body turns the food you eat into a form of sugar called glucose. The bloodstream carries glucose to your body’s cells. Insulin (a hormone produced by the pancreas) helps glucose enter your cells where it is changed into energy and used or stored for future use.

If the body does not make enough insulin or if the insulin doesn’t work as well as it should, blood glucose builds up in the bloodstream. This causes high blood glucose levels.

Types of diabetes
1. Type 1
2. Type 2
3. Gestational (occurs during pregnancy)
4. Medicine induced
5. Stress or hospital-induced

What is medicine-induced diabetes?
High blood sugar levels can occur if you start to take certain medicines like steroids. Even though your body still makes insulin, these medicines prevent insulin from working well enough to keep blood sugar levels normal.

What medicines might raise blood glucose levels?
- Cyclosporine (Neoral®)
- Tacrolimus (Prograf®)
- Prednisone or dexamethasone

What are the risk factors?
- Age greater than 45
- Glucose intolerance (fasting blood glucose 100-125mg/dL)
- A family history of type 2 diabetes
- Ethnic background: African American, Native American, Hispanic/Latino, Pacific Islander, Asian American

What are normal blood sugar levels?
- Fasting and before meals: 70 – 99 mg/dL
- After meals: 70 – 140 mg/dL

Why does it matter?
Keeping blood glucose levels as normal as possible will help you heal. Also, there is less chance for problems like rejection and infection. You might feel better and have more energy when blood glucose levels are normal.

Will I have diabetes forever?
Some people have high blood glucose levels only when taking these drugs. Others may still need to check blood glucose levels after the drugs are stopped.
Steps for Managing Diabetes

1. **Blood sugar monitoring at home**
   Many people are taught to use a blood glucose meter to measure blood sugar values at home. Results should be written in a record book. This book is reviewed at clinic visits to decide on any changes in treatment.

2. **Healthy eating**
   Limit your intake of high fat foods to avoid weight gain. Also avoid foods and drinks with sugar that cause a rapid rise in blood sugar levels. We suggest a weight loss program for patients who are overweight. Even a small weight loss can improve your control.

3. **Activity**
   Activities such as walking or biking burn sugar in your bloodstream. This can help your blood sugar control while taking medicines that raise your blood sugar levels. Check your blood glucose levels before, during, and after activity. You may be at risk for low blood sugars up to 24 hours after activity.

   Before starting an activity program, talk with your health care team about any restrictions you may have.

4. **Medicine (if needed)**
   Some people are able to control their blood sugar levels with healthy eating and more activity. Some people need medicines to keep their blood sugars controlled.

   **Pills** – Diabetes pills work by helping to make more insulin or by helping insulin to work better. These pills do not work for all patients.

   **Insulin** - Some people must inject insulin in order to control blood sugar levels. You will be taught how to do this if needed.

   Blood sugar levels vary based on the dose of medicine you are taking. When your dose is large, your blood sugar levels can be high. You might need insulin. After the dose is decreased, you may be able to manage your blood sugars without insulin or pills.

   If you have any concerns or questions, please feel free to ask your health care team.

References: