

In the Spotlight



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June 12, 2016

Taylor: Proper use of insulin medication is extremely important **Columbia County News Times**

Did you know that the pancreas, an organ located in the abdomen, prepares and releases one of our most important hormones? That hormone is insulin, a major regulator of the amount of glucose (sugar) in our body.

As a part of its effects, insulin assists in moving glucose from the bloodstream into our cells, where it can be used to provide energy. Unfortunately, sometimes the pancreas does not provide enough insulin to keep blood glucose within its normal range, or our cells become resistant and don't receive the glucose as they should. In these situations, blood glucose levels rise to higher-than-normal levels (hyperglycemia), and a condition known as diabetes mellitus may be diagnosed.

If diabetes is present, insulin as a medication may be prescribed as treatment. Insulin usually given by injection lowers blood glucose levels to more normal amounts, in an effort to reduce the health problems that may be related to diabetes.

When glucose levels in the blood are in the normal range, patients with diabetes are said to be "controlled." Along with attention to proper diet and exercise, insulin doses must be adjusted to fit a patient's specific needs. All patients using insulin must understand the relationships between diet, exercise and insulin and carefully adhere to their physician's directions.

Using insulin correctly is extremely important. Currently there are a number of insulin preparations available. Patients or caregivers must calculate the amount required for each dose, measure it precisely and administer it correctly at the appropriate body location. Insulin is most commonly administered subcutaneously, into the tissue below the skin.

Once administered, depending upon the exact preparation, insulin's onset and duration of action may vary considerably. Because of these differences, the time required for a particular insulin product to reach its full effect after the dose and the time that these effects will continue also vary.

Once the dose has been administered, its outcome must be monitored carefully. Monitoring requires at least two approaches. First, each patient must become familiar with how he/she feels minutes to hours over the day after the dose. In addition, the actual blood glucose amount must be measured periodically by a glucose meter to be sure that the dose given has achieved its desired goal for lowering blood glucose. Since goals for blood glucose vary for specific patients according to their overall health, each patient should know the glucose goals stated by the prescribing healthcare provider.

Long-term evaluation of an individual's blood glucose is accomplished by laboratory measurements of hemoglobin A1c. Healthcare providers usually order this test as needed to evaluate the effects of overall insulin therapy over the previous three months. Other important laboratory studies may be ordered, especially blood mineral levels such as potassium, which might be decreased by insulin use.

Because insulin assists in moving glucose from the blood into cells, lower-than-normal glucose levels may occur in the blood. Low blood glucose levels, known as hypoglycemia, may be dangerous for patients and should be avoided if possible. If symptoms of hypoglycemia, such as dizziness, shakiness, sweating, weakness, racing heart, confusion or changes in consciousness occur, the blood glucose should be measured quickly and treated if necessary. Treatment may include the use of juice, oral glucose, glucagon injection or other means. All patients using insulin should thoroughly understand the issues related to hypoglycemia and the treatment options available to increase the blood glucose level back to normal. For additional information on insulin therapy, patients should consult their physician or pharmacist.

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