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## For Better Health Series (7) Diabetes Management and COVID-19, Part Two

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We have learned in part one article about the importance of glucose monitoring, and that the best results in avoiding diabetes complications are achieved when we start as early as diabetes is discovered. We also learned how to monitor glucose and control diabetes using home measurement devices or through periodic blood tests. It is useful to say here that positive coexistence with diabetes is the best way to deal with it.

In this article, I will talk about the general guidelines and ways to control sugar based on the results obtained from home measurement devices. We will differentiate between the case of taking several injections of insulin and the case of treatment with sugar-lowering medications without insulin. In both cases, the importance of a healthy lifestyle, from the regulation of food times, the quantity and quality of food, and motor and athletic effort always come to the fore and are often a very important co-factor in controlling sugar.

### **When using sugar-lowering medications without injecting insulin:**

Calibration of sugar several times per week, but at different times, as mentioned previously, may be enough to take decisions in adjusting and controlling doses.

We usually start treating type 2 diabetes with drugs that do not cause hypoglycemia under the normal level and that do not lead to an increase in insulin in the body such as METFORMIN or enzyme inhibitors DPP4 or drugs that help release sugar from urine (SGLT2 inhibitors) or a group of these drugs at the same time. These medications give the patient the flexibility to follow a diet without fear of low sugar.

The level of morning sugar before meal indicates good monitoring if it is less than 140 mg and this level should not exceed 180 mg two hours after meal.

When these numbers are exceeded repeatedly and the cumulative average (HBA1C) is more than 7.5 – 8%, this indicates that the sugar is not sufficiently monitored.

If diet and exercise do not work, it is necessary to consult the treating doctor to modify the treatment. In this case, hormonal injection (GLP1) may be added if it was not previously prescribed or adding drugs that increase the rate of insulin, such as SULFANURIA compounds or a long-term (basal) insulin injection once every day. This is done only under the supervision of the treating physician and to be reassessed after 2 – 3 months to determine the effectiveness of the treatment. In this case, attention should be paid to low blood sugar that may occur at different times. Low blood sugar occurrences must be recorded, and the doctor should be informed of their times and conditions to adjust doses and change food to eat.

### **When using several insulin injections daily:**

In this case, we need to monitor sugar more and do multiple calibrations daily to obtain a chart of high and low sugar incidence. As for the normal ranges required, it does not differ from the previous and the patient here must adhere to more regular times for meals.

The insulin used is usually long-term once or twice daily, such as insulin GLARGINE (NPH) in addition to short-term or fast-acting insulin to cover meals two or three times a day, such as ASPART or LISPRO or REGULAR. They may be mixed in one injection.

Irregularity may lead to incompatibility of food absorption with insulin action. Perhaps the most important way to control sugar is the occurrence of harmony between mealtime and rapid insulin action. The golden rule that says: “No food without insulin and no insulin without food” applies only to the fast or mixture types of insulin.

When the level of blood sugar is high before breakfast, this indicates a long-term insulin deficiency (basal insulin), and vice versa when the decrease occurs in the morning and before meals.

Rapid insulin doses are adjusted by calibrating the sugar two hours after meals or before bedtime, and high sugar indicates that the dose was not sufficient or not taken in time and vice versa when declining.

Since meals are not identical in quantity, one of the best ways is to determine the amount of insulin needed for the food according to the amount of carbohydrates in the meal, and this requires continuous training and knowledge that can be obtained online.