

Title: Intensive glycemic control in Type 2 diabetes mellitus has both benefits and risks: a review of the VADT study

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Abstract:

Intensive glycemic control (A1c ~ 7%) in patients with Type 2 diabetes mellitus has no significant effect on the rates of major cardiovascular events, death, peripheral neuropathy, and retinopathy compared with standard therapy (A1c ~ 8.5%) when measured within a mean 5.6 year treatment period. Intensive glycemic control does decrease the progression of albuminuria ( $P = 0.01$ ) in this treatment window, but is associated with higher overall rates of adverse events ( $P = 0.05$ ), including hypoglycemia ( $P < 0.001$ ) and dyspnea ( $P = 0.006$ ).

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Hypoglycemia can result from the use of certain diabetes medications such as insulin and sulfonylureas. It can lead to potentially serious accidents such as falls and car crashes.

### Symptoms of hypoglycemia:

- confusion, headache
- blurred or double vision
- anxiety, sweating, tremor
- heart palpitations
- clumsiness
- tingling around the mouth
- seizures
- fainting

Mild hypoglycemia can be treated by eating sugary foods or beverages. Loss of consciousness requires an injection of glucagon or emergency room treatment. See your doctor if you have been having problems with hypoglycemia.

### Diet, exercise, and weight loss are some of the most effective treatments for Type 2 diabetes.

These lifestyle modifications can have far-reaching health benefits without the side effects of medications. In many cases, they can be used in place of medications. **Talk to your doctor before starting any diet or exercise programs.**

## For more information about diabetes...

American Diabetes Association

[www.diabetes.org](http://www.diabetes.org)

National Diabetes Education Program

[www.ndep.nih.gov](http://www.ndep.nih.gov)

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MS-4

## Managing Blood Sugars for Type 2 Diabetes



**University of Minnesota  
Family Medicine Rotation  
Patient Education Tool**

## What is Diabetes?

Diabetes is a disease in which the amount of a type of sugar called glucose in a person's blood is not properly regulated. Glucose comes from the food we eat and is also released by our liver. It is an important source of energy for our bodies, but too much or too little of it can be harmful.

## How does insulin relate to diabetes?

Insulin is an important hormone that our bodies produce to regulate blood sugar levels. People with diabetes produce too little insulin and/or are unable to use it properly. As a result, sugar levels in their blood are not properly regulated. Some diabetics need to inject extra insulin as a medication to help control their blood sugar.



[www.mydiabetescentral.com](http://www.mydiabetescentral.com)

## Why are blood sugar levels important?

Sugar needs to be maintained within a certain concentration in our blood for our bodies to function properly.

**Hyperglycemia** = too much sugar in the blood, a common problem in diabetics. Over time, this can be very damaging to the heart, eyes, kidneys, feet, and other organs of the body.

**Hypoglycemia** = too little sugar in the blood, often as the result of taking too much insulin. This is a dangerous condition that can cause confusion and fainting.

**Normal blood sugar levels between meals range between 80-110 mg/dL.**

Portable glucose meters are quick, reliable ways to measure blood sugar levels.



[www.diabetes.org](http://www.diabetes.org)

## Why is hemoglobin A1C important?

**Hemoglobin A1C is a simple lab test that measures average blood sugar levels over the past 2-3 months.** It is one of the best indications of how well a person's diabetes is controlled.

**Non-diabetics generally have A1C values around 4-6%.** A1C values can be significantly higher in uncontrolled diabetes. With proper diet, exercise, weight loss, and/or medications, A1C values in diabetes can be lowered.

## What is a good A1C value for Type 2 diabetes?

Nearly all doctors agree that maintaining lower A1C values is important to prevent complications in diabetes, but not all doctors agree on how low A1C values need to be. **The American Diabetes Association currently recommends that A1C values be maintained below 7%.**

Maintaining A1C values at this level may require several medications and can have certain side effects in some patients, such as hypoglycemia.