

# Martin J. Stevens, MD

Dr. Stevens is researching how diabetes increases oxidative stress.



## 1. What new developments in the treatment of diabetes will have the greatest impact on the field?

New therapies that stimulate pancreatic beta-cell regeneration, the so-called incretin mimetics, are very exciting. These glucagon-like peptide (GLP-1) treatments offer a lot of promise. Not only do they appear to preserve beta-cell function, but they are also associated with some weight loss. This is unlike most other therapies that we use currently.

## 2. What made you choose diabetic microvascular complications as a subspecialty?

I saw the rising epidemic of diabetes, and I wanted to contribute to the understanding of its underlying cause and attempt to find ways to protect people from developing chronic complications.

## 3. Since you first began practicing medicine, what do you think has been the greatest advance in the treatment of diabetes?

I would have to say for treatment it would be the development of thiazolidinediones as a class of drugs. We believe that these agents are the first that are available now, that will alter the natural history of beta-cell failure and directly target insulin resistance. I think those have been a revolutionary new development in the management of patients.

## 4. What advice would you give to the next generation of physicians who are going to specialize in treating diabetic patients?

My advice would be to have perseverance and patience with individuals. It is important to offer personal guidance to help patients achieve their own individualized goals. Treating diabetes takes a lot of time and persistence, in

order to form an interactive relationship with the patient. A team approach with other physicians and nurses is also key in establishing that interactive relationship. In fact, one of the most challenging areas of the field is trying to involve patients in their own care. I think it is something that we are lacking at the moment. We have to try harder to motivate patients and get them to understand what their individualized goals are. I believe strongly that patient motivation and getting them to understand exactly what their individualized goals are will be a major help in trying to achieve our targets. I think many people still don't know what their blood sugars are, what the average is, what the goals are supposed to be. If we could achieve that, it would be a huge step forward.

## 5. What is the focus of your current research?

I specialize in understanding the cause of diabetic complications and then trying to develop and test new treatments. Specifically, we are very interested in oxidative stress. We have an oxidative stress center here, funded by the Juvenile Diabetes Research Foundation. We are exploring how diabetes increases oxidative stress within tissues that are prone to complications. We are in the middle of a clinical trial to see whether we can reverse established complications with a combination of antioxidant therapy.

Some of the antioxidants we are using are unusual ones; we do not think vitamins E and C are any help. We are using a combination of an agent to inhibit oxidative stress (allopurinol), an agent to quench oxidative stress (alpha-lipoic acid), and something to inhibit some of the downstream damage from oxidative stress (nicotinamide). ■

### FAST FACTS

- Associate Professor in the Department of Internal Medicine, Division of Endocrinology and Metabolism, University of Michigan Health System
- Received his medical degree in 1983 from the University of Wales
- Recently Dr. Stevens has received support from the Juvenile Diabetes Research Foundation to study the role of oxidative stress in the development of chronic diabetic complications
- He is co-director of the JDRF Center of Excellence at the University of Michigan Medical Center