

## Inflammation: Diabetes Culprit and How to Eliminate it

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Inflammation is an important body function. It often helps us to fight infection and repair injury. It is our primary system for fighting germs, toxic chemicals and other health challenging events. It is the first line of defense in healing. For individuals with diabetes, however, it is a terrorist. How can this be? Diabetes is actually an immune system disorder where inflammation is the culprit. This inflammation causes insulin resistance to develop and continues to drive inflammation in diabetes. It is a silent killer. It occurs within the body without any noticeable symptoms. Insulin resistance can be a result which (<http://www.niddk.nih.gov/health-information/diabetes/overview/what-is-diabetes/prediabetes-insulin-resistance>) prevents individuals from being able to manage digestion of foods and controlling carbohydrate (i.e. sugar and processed foods) management even though there may be excess insulin secretion present. It is a vicious cycle that never stops. (<https://www.askdrs.org/healthcare-advances/inflammation-long-term-solutions-for-life/125.html>).

This inflammation occurs within the energy center of each cell of our body and is where changes occur and drive chronic inflammation. Low grade chronic inflammation advances because of these energy cell malfunctions through exposure to certain types of fats. Recent research has proven that glucose is not the culprit as was believed (<https://www.sciencedaily.com/releases/2019/08/190821082238.htm>). This finding does not interfere with the carbohydrate-insulin model of obesity which suggests insulin secretion has the effect of creating weight gain. A diet which contains significant dietary fat and causes increased insulin secretion, can promote weight gain and subsequent diabetes.

Type 2 diabetes is the most prevalent human metabolic disease and its effects are now the leading cause of human morbidity and mortality ([https://nature.com/articles/s/41598\\_017\\_07230\\_8](https://nature.com/articles/s/41598_017_07230_8)). This occurs because the hyperglycemic condition is strongly associated with coronary artery disease, stroke, and other complications including various neuropathies of the eye and feet.

What can be done to reduce inflammation and slow the resulting diabetes impact? Is there an anti-inflammation approach or diet to help slow diabetes and its negative effects on other organs? Low long term chronic hyperglycemic blood glucose levels with diabetes is associated with end organ failure! The role of obesity, both white and brown fat connective tissue (adipose tissue), gut microbiome and pancreatic cell function in diabetes is an opportunity to better understand how this can occur (<http://www.askdrs.org/primary-care/adiponectin-what-is-your-number/135.html>) ([www.science-daily.com/terms/adipose\\_tissue.html](http://www.science-daily.com/terms/adipose_tissue.html)). Loose connective tissue stores energy in the form of fat although it also cushions and insulates the body from temperature challenge. Too much white fat is bad. It is often associated with weight gain contributing to diabetes.

Complications from diabetes are a major concern for both Type 1 and Type 2 diabetes patients. Many factors can encourage the impact of insulin resistance mentioned earlier in this article. This includes genetics, a sedentary lifestyle, obesity and other chronic conditions. The different challenges that can cause this insulin resistance accelerate coronary artery closure (atherosclerosis) and even contribute to

periodontal disease. Inflammation, diabetes onset, neuropathy disease and periodontal pathologies are all connected (<http://researchgate.net/publication/23143155-the-role-of-inflammatory-cytokines-in-diabetes-and-its-complications>).

Is there help available to control inflammation? There is a best diet which individuals can adopt to counter this low level chronic inflammation that is the culprit in causing diabetes. As a pharmacist I recommend use of a low glycemic high protein diet ([www.Askdrs.org/healthcare-advances/the-lghp-diet-is-optimal-metabolism/138/html](http://www.Askdrs.org/healthcare-advances/the-lghp-diet-is-optimal-metabolism/138/html)).

This diet offers opportunities to reduce inflammation naturally. It avoids consuming high amounts of sugar and high-fructose corn syrup. It contains none of these harmful ingredients. It does not retain carbohydrates, while offering needed levels for daily body function. It does not contain processed trans fats that promote inflammation. The vitamins and minerals, including amino acids, support body involvement with special immune agents called bioactive proteins and peptides which support necessary immune support ([www.askdrs.org/healthcare-advances/bioactive-peptides-as-pharmacological-agents-for-metabolic-syndrome/122/html](http://www.askdrs.org/healthcare-advances/bioactive-peptides-as-pharmacological-agents-for-metabolic-syndrome/122/html)).

What is the answer to a best diet that will counter this low-level chronic inflammation that is the culprit in causing diabetes? Eat fewer inflammatory foods and more anti-inflammatory foods. What does this mean? Eat nutrient-dense foods that contain antioxidants and avoid processed products. It must include a healthy balance of protein, carbs and fat at each meal with supplemental vitamins, minerals and amino acids. A diet with these foods and ingredients will provide your body the needed daily allowance of necessary ingredients to maintain energy, mental focus and resistance to immune challenge needed to be healthy and well. The diet is the key to your health and wellness. Constant exercise will not help you outrun a poor diet.

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