When it comes to treating type 2 diabetes, metformin is the most widely used and effective drug in the world. It was first approved for use in the U.S. in 1995. Metformin helps keep blood glucose (sugar) levels under control. It makes the liver, muscle, fat and cells more sensitive to the insulin made by your body. It also decreases the amount of glucose you absorb from your food and the amount made by your liver.

Metformin can cause vitamin B12 (cobalamin) deficiency in older patients, patients taking higher doses and patients that have been taking it for a long time.

A vitamin B12 deficiency can be serious. Vitamin B12 is an essential micronutrient that’s needed for DNA synthesis, nerve and brain function and cellular repair. And, without it, your body can't make red blood cells, which carry oxygen throughout the body. If you're B12 deficient, you may become anemic.

Metformin can also—very rarely—cause lactic acidosis, which can be fatal.

The average adult needs 2.4 micrograms of vitamin B12 per day and it can't be made in the body. Instead, it comes from the animal foods you eat, like meat, dairy products, eggs and seafood. Vegetarians and vegans are more likely to become vitamin B12 deficient if they don't eat grains that have been fortified with B12 or take supplements. People who take proton pump inhibiting medications, like Nexium or Prevacid, or an H2 blocker, like Pepcid or Zantac, may also become vitamin B12 deficient.

As we grow older (over 50) we're more prone to a vitamin B12 deficiency because of age-related problems with absorption from the gastrointestinal tract.

Symptoms of vitamin B12 deficiency are generally slow to develop, but they intensify over time. They may include:

- Weakness
- Fatigue
• Trouble thinking (cognitive difficulties)
• Memory loss
• Anemia
• Tingling, numbness or strange sensations in the hands, legs or feet (neuropathy)
• Swollen tongue
• Paranoia or hallucinations

Some damage, particularly to the nerves, can't be reversed.

A **blood test** is the surest way to find out if you’re vitamin B12 deficient. A serious deficiency can be treated with weekly B12 injections and/or supplements. But the best way to be sure you won’t become vitamin B12 deficient is to **take a daily multivitamin**.

For more information about diabetes, vitamins and other health issues, visit [HealthLine](http://www.healthline.com).

References:

- Stehouwer, C.D.A. et al. (2010, Feb. 25) Long Term Treatment With Metformin In Patients With Type 2 Diabetes and Risk of Vitamin B12 Deficiency: Randomized Placebo Controlled Trial. BMJ. Retrieved on February 20, 2014 from [http://www.bmj.com/content/340/bmj.c2181](http://www.bmj.com/content/340/bmj.c2181)
I'm Shelby, aka Diabetic Foodie. If you have diabetes, cook for someone who has diabetes or just want to eat healthy, you're in the right place. I firmly believe a diabetes diagnosis is not a dietary death sentence.
“Diabetes is not a death sentence; it is a life sentence.” Once you are diagnosed with diabetes you need to be treated properly, monitored, followed up and managed for the rest of your life. “If you do the right thing by following the rules, looking after yourself as a diabetic and keeping your blood pressure and cholesterol under control, you can live a long life with diabetes.” There are three types of diabetes - GESTATIONAL DIABETES – a form of diabetes that occurs during pregnancy because of hormonal changes, genetics and lifestyle factors. Most South Africans with diabetes have type 2 diabetes. The highest prevalence of diabetes among South Africans is in the Indian population (11% to 13%) as this group has a strong genetic predisposition for diabetes. Because I am a cancer specialist, people are frequently surprised to hear that I love my job. They assume it must be depressing and hopeless, and that pets could not possibly handle cancer treatment or benefit from it. Treatment only makes pets more ill, right? I disagree. Cancer is not a death sentence. While we all want a cure for cancer, I encourage us to consider many cancers as chronic conditions that may require chronic therapy, such as kidney or heart disease. There are so many myths and misconceptions about cancer in pets, but one important fact is that treatment is often very well-tol. After my diagnosis, I considered it a given certainty that I would pass away as the long-term survival rate for patients with brain tumors is eye-openly low. My biggest fear: to leave my parents without one of their two sons. I was not going to let that happen. I fought through thirty rounds of chemo, thirty radiation treatments, and two surgeries, all while going to college. I never took a moment to think about what I would do after college because frankly, it was too far away. After a cycle of chemotherapy, I would start to think I was in the clear, but only 3 or 6 months later told that I n