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CCM NEWSLETTER

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Beyond Sugar Checks: A More Complete Review for Diabetes Care

Have you ever wondered why you have to see your doctor so often when you have diabetes?

It's a good question.

I'm going to let you into the mind of a physician. A new patient walks into the clinic. I'm going to make this simple- so let's just say that this patient only has a medical diagnosis of Type 2 Diabetes Mellitus. Immediately a checklist starts to download in my mind. I know that having diabetes puts this patient at risk of kidney disease, heart and blood vessel disease (heart attacks and strokes), high cholesterol, infections (like skin infections, urinary tract infections, common colds, etc.), nerve problems, and eye problems. In addition to making sure that this patient has their blood sugars under control, I am also thinking of all the ways I need to manage or prevent complications from diabetes.

Below are lists of lab work and other screenings that should be done on a routine basis. We'll go through each item on the list and give you a little more information on why that particular test is needed.

Annual Items

- *Urine Microalbumin*
- *Monofilament Foot Exam*
- *Dental and Eye Exam*
- *Lipid Panel*
- *CBC*

Every Visit (3-6 months)

- *hA1C*
- *CMP*
- *Blood Pressure Check*

Vaccinations

- *Pneumovax 23 and Prevnar 13*
- *Influenza Vaccine Annually*
- *COVID Vaccine*
- *Tetanus Booster (every 10 years)*
- *Shingles vaccine (> 60 yrs old)*
- *Hepatitis B Vaccine (19-59 years old with risk factors)*

Diabetic Kidney Disease

Approximately 20% of the 400 million people with diabetes have DKD. Diabetic kidney disease is associated with an increased risk of cardiovascular disease and mortality. Therefore, catching kidney disease early and starting treatment is critical.

Your physician monitors for DKD through a couple of ways.

- 1) **Urine Microalbumin test:** This is a yearly test that is done to detect small levels of blood protein (albumin) in your urine. As you may remember from prior newsletters, kidneys filter out waste from your blood but hangs on to the healthy stuff like proteins. If your kidneys are damaged, the filter isn't working well and the proteins will pass into your urine. We measure for albumin because it is one of the first proteins to leak into your urine when your kidneys are damaged.
- 2) **Complete Metabolic Panel (CMP):** This is blood work that is done every 3-6 months. This test looks at many aspects of your blood, but particularly looks at your blood urea

nitrogen (BUN) and your creatinine (Cr) level. These specific tests can tell your doctor about your kidney function as well.

- 3) **Blood Pressure:** This is checked at every visit for many reasons, but for diabetic patients, it is important to have a healthy blood pressure as high pressures can damage the kidney as well.

Cardiovascular and Microvascular Disease

You may have already had a hunch that cardiovascular disease is one of the leading causes of death in persons with diabetes. Having diabetes puts you at risk for having heart failure, heart attacks, stroke, circulation problems and irregular heart rhythms. Therefore, it is extremely important for doctors to screen for cardiovascular disease with blood tests and with certain physical exam techniques.

Microvascular disease is a complication of diabetes that affects the very small blood vessels in the body. Uncontrolled blood sugar can really damage those small and delicate blood vessels leading to some long-term complications.

- 1.) **Lipid Panel:** People with diabetes should have their cholesterol (or lipids) checked every year. Most diabetic patients are on a cholesterol medicine to help decrease their risk of having a serious cardiovascular event.
- 2.) **Annual Eye Exam:** The delicate blood vessels that supply your eye (specifically your retina) can get damaged from high blood sugar levels. This disease is called Retinopathy. In the early stages, you may not have any symptoms. This is why your annual eye exam is so important- even if you are not having any symptoms. Your eye doctor has special equipment that can detect the silent changes in your eye. Symptoms such as blurriness, floaters, and eventual vision loss can be seen if the damage progresses. Careful management of your blood sugars is the best way to prevent vision loss.

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- 3.) **Dental Exam:** If you have diabetes, you are more likely to have dental problems like cavities, root and gum disease. This is because diabetes can damage the blood supply to your gum and bones that hold your teeth in place. Seeing your dentist every 6 months for a cleaning and exam is vital in keeping one step ahead of any potential dental catastrophes.
- 4.) **Foot exam:** I know many people are a bit uncomfortable with the thought of someone touching their feet- but this is actually a super important exam for people with diabetes. We start by looking for evidence of good blood flow to your legs and feet. Remember that diabetes can damage all blood vessels- not just the ones in your heart and brain. We are looking for warm feet with a good pulse and a typical skin tone coloring. Having weak foot pulses, cool legs and a purple or mottled discoloration are concerning and may indicate impaired blood supply to your legs and feet. When your feet and legs are not getting an adequate blood supply, your ability to heal from an injury to that area is not good. Additionally, poor sugar control can lead to damage to the nerves. This is called NEUROPATHY. Depending on how severe the damage is, you could have symptoms that range from numbness and tingling in your feet to actual pain. This is why we do the MONOFILAMENT exam. We touch different parts of your feet with a clear semi-stiff wire to determine what part of your foot can still sense touch. You can see how having both poor circulation and neuropathy can become a perfect storm situation.

Imagine that you step outside to get the mail. You forget to wear your shoes, but you think “That’s okay! It’s only at the end of the driveway.” You accidentally step on a small shard of glass, or sharp rock, or wayward thorn. You have neuropathy- so you don’t really feel it. It doesn’t bleed because it’s so small. You don’t really notice that you have a foreign body in your foot so you continue to walk on it. You also have poor blood supply to your legs and feet due

to diabetes. Now the small injury has become a larger wound that is infected and the healing process is long and complicated. And this folks- is one example of how people with diabetes can end up with an amputation.

The foot exam also includes looking at the skin of your legs, between your toes and soles of your feet. We get it, people don't routinely inspect their feet, but it can be a very common place for infections to crop up and get out of control. Fungal infections between the toes, cracked skin on the soles of your feet, exposed nail beds from clipping toe nails to short- can all be dangerous scenarios. Your doctor may even recommend regular visits to the podiatrist for proper nail and foot care.

- 5.) **Blood sugar tests:** Doctors can monitor your blood sugar in a variety of ways. What type of diabetes that you have and the medications that you are on determine the type and frequency of blood sugar testing. There are three types of blood sugar testing: ***Fingerstick blood sugar checks, Fasting blood sugar blood draw, and Hemoglobin A1c blood draw.***

[Fun Fact: An average red blood cell has a lifespan of 3 months. An A1c blood test tests for the sugar that is attached to those red blood cells; therefore drawing an hA1c every 3 months will give you an average of your sugar levels.]

- a.) **Diet Controlled Diabetes:** This means that you are not on any medications. You are able to keep your blood sugars controlled simply with diet and maintaining a healthy weight. It is not recommended to do the daily fingerstick blood checks. Your doctor will check an A1c every 3-6months
- b.) **Non-Insulin Controlled Diabetes:** This means you take medication like metformin, glyburide, Januvia, etc. You do not take any form of insulin to control your blood sugar. While you may think you need to do fingerstick checks of your blood sugar- you actually don't. Your doctor will check the hA1c every 3-6 months and make adjustments based on that lab work.

c.) **Insulin Dependent Diabetes:** This means you take medication by mouth AND use insulin. You may only use long acting insulin (which is once a day) or use both short and long acting insulin. Your doctor will recommend that you use both a fingerstick sugar meter and get A1c levels in this case. Why is this you ask? Well, a number of things can affect the amount of sugar in your blood- what you eat, physical exercise, and medications (especially insulin). It's important to understand how your blood sugars move up and down during the day in order to appropriately dose your insulin. Just as having high blood sugar levels is bad, having low blood sugar (hypoglycemia) is very dangerous. It is usually recommended to check before meals and at bedtime if you are taking insulin multiple times a day. If you are using only long acting insulin you may only need to test before breakfast and dinner. Remember to bring your meter with you to your doctor visit so your doctor can make adjustments to your medications as needed.

Vaccines

Diabetes, even if well controlled, can weaken your immune system and make it harder to fight infections. You may be more at risk in getting the serious complications like lung infections, blood infections, and infections of the brain and spinal cord lining. It is recommended that you get the Influenza vaccine every year- as it has been shown that the flu can raise the levels of sugar in your blood to very high levels. The pneumonia vaccine, hepatitis B vaccine, and the shingles vaccine have also all been recommended by the CDC for people with diabetes. Lastly, the COVID vaccine has been approved to be safe for individuals with diabetes. The risk of complications from the COVID infection outweighs any risk from the COVID vaccine.

Whew! That was a long checklist of things to think about when managing diabetes. It goes to show that if you have diabetes, not only is it dangerous to ignore your condition, but you

truly need the partnership of an attentive and informed medical team. The Chronic Care Management (CCM) program was initiated to tackle chronic medical conditions, just like Diabetes. Let our CCM team help you take control of your chronic medical conditions so you can continue to live your life to the fullest.

If you are managing Diabetes, have you completed all of your recommended screenings and tests? Our CCM team has reviewed your chart and made a checklist to help keep you on track.

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