The heart and bypass surgery

Your heart is an amazing organ, ticking away thousands of times every day. What are the ticks you wonder? This beating, racing, pounding, pumping and even the breaking can be simplified into a “lub-dub” sound.

This sound is caused by the valves in the heart as they close. Blood comes into the heart and one set of valves close, giving the “lub;” then the heart squeezes out the blood, and “dub” is heard when the second set of valves close to keep the blood flowing in the correct direction.

Your heart will “lub-dub” about 5 million gallons of blood over the course of your life.

To get right to the heart of the matter; the heart is a muscle that is about the size of your fist. To do its job, the heart needs to get blood to all of its muscle cells so they can continue to function.

However, the heart cannot use the blood it is pumping. The heart has its own set of arteries that wrap around it, allowing blood to get to those muscles.

If one of the arteries that feed the heart gets clogged, it causes a heart attack. The arteries can get clogged with fatty deposits. When a person has a lot of fat in their body, especially cholesterol, the fat will build up in these vessels and, over time, the walls will get more and more fat deposited in them. This leaves a smaller inside to the vessel.

This is what can cause angina, or chest pain when someone tries to exercise. The clogged arteries cannot let extra blood pass; as the heart beats faster the muscles in the heart need to use more blood to work harder, and the muscles of the heart begin to scream for help since they are essentially suffocating.

When too much fat builds up, it can become unstable and part of it can break off. The piece that breaks off will then plug the artery and no more blood is able to pass. This is a heart attack. The muscle cells that were getting their blood from that artery are now starved to death and the area that is fed by this artery can die.

How bad the heart attack is depends on how big of an artery was plugged. Small arteries getting plugged will kill a small part of the heart, but the person may be able to survive if enough of the heart is still able to function. If a large part of the heart dies, unfortunately the heart cannot function and the person cannot function either.

When someone has clogged arteries around the heart, a surgeon can perform a bypass surgery. This means the surgeon will go to the heart and sew in a new vessel that will go around and literally bypass the area of the artery that is clogged. This allows blood to get to the areas that are beyond the plugged part of the vessel. Three clogged arteries need a triple bypass, and four lead to a quadruple bypass.

Fortunately, there are a few vessels in the body the doctor can steal and use to bypass the heart—certain areas in the chest and legs have vessels that they can do without, so they can be transported to the heart to help maintain its function there.

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This column is about health related issues with a focus on a rural community. The purpose of this column is to be informative and to comment on interesting medical and health related topics. Any questions or concerns that may arise regarding topics covered by this article should be addressed to your primary care doctor.

Justin can be reached by email at Justin.Tyler.Newman@gmail.com with comments or ideas for topics that you may desire to be addressed in this column. The goal of this column is that you find it not only entertaining and informative but also that it creates a desire to take a life-long

interest your health and body.