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Craig Hospital 

Caring exclusively for patients with spinal cord and brain injuries.

Your Heart

Heart Disease. Is it something people with spinal cord injuries should worry about? The honest answer is “yes – probably.” You probably should worry about your heart’s health at least as much as people who don’t have spinal cord injuries – and maybe even a little bit more. Why? There are several reasons...

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First of all, when someone has a spinal cord injury, the *signs* of heart problems are often harder to detect. Moreover, many of the tests we do have for detecting those problems and evaluating your heart’s health don’t work as well in people with spinal cord injuries.

Second, the *risk factors* for heart disease may affect people with spinal cord injuries more than people who don’t have disabilities.

Third, the activities and interventions that we have for maintaining heart health and *preventing* heart disease simply may not work the same as they do in nondisabled people. Before you panic, however, read on...

Symptoms

Why on earth would SCI make it harder to see heart problems? It turns out that some of the common symptoms of heart problems can appear for other reasons among SCI survivors. Shortness of breath, for example, is quite common among people with higher level injuries who have control over only some of the muscles that control breathing. Postural problems can also cause breathing problems that look a lot like shortness of breath. This shortness of breath is then more likely to be blamed on the obvious stuff rather than the possibility of problems with your heart. Another big symptom of heart problems is chest pain. If you can’t feel your chest that well, will you feel chest pain? Maybe, maybe not. If you do, will it be easy to blame it on indigestion? Very likely.

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Diagnosis

Testing for heart disease is tricky, too. Even though the Americans with Disabilities Act has helped to make a lot of things more wheelchair friendly, many heart-related tests either can't or haven't been well adapted to wheelchair users. The problem is obvious: if you can't do the test, you can't diagnose the problem.

The most difficult tests to administer to SCI survivors are the treadmill and related tests. These tests are designed to make the heart work hard while technicians closely monitor the heart function. The problem is that spinal cord injury automatically makes it difficult to move vigorously enough to get the heart really pumping. Even adaptations like using a hand-powered stationary bike can't always get the heart sufficiently stressed.

Other tests, like stress echocardiograms, are performed on tables so there are possible accessibility problems. The most viable alternative, the thallium test – which involves injecting a chemical into the bloodstream to impose a stress on the heart that mimics strenuous exercise – is expensive. It is rarely prescribed without lots of already documented symptoms of heart problems. So that means your insurance company and your injury can get in the way of an effective test.

The answer is vigilance and persistence. The more you know about your symptoms and the more you know about your injury, the better you can be at asking for what you need to get things properly checked out.

Risk Factors

Some of the most common and most important risk factors for heart disease are:

- Your family history
- Being a male
- Having a sedentary inactive lifestyle
- Being overweight
- Eating a high fat diet
- Smoking

None of us can do much about the first two – our family and our sex are simply things we were born with. If your dad had heart problems and his dad had heart problems, your risk is probably higher, too. That doesn't mean you can just blame your family, since some of your relatives' heart disease could come from their weight or their smoking, so look carefully. And, women take heed: gender matters less the older you get. The risk for heart disease increases dramatically after menopause as well.

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Even if you can't escape your gender or your genes, you can benefit from increased knowledge of these risk factors. Knowing your risk can help motivate you to do something about the risk factors you *can* control. Even better, knowing something about your family history, in particular, can help a physician justify the more expensive heart tests that are more likely to work well for people with spinal cord injuries.

There still are the risk factors *you* can do something about – smoking, eating a fatty diet, weight gain, and activity. Though it's tough enough to get control of the first two, getting a handle on activity and weight can be equally troublesome for people with spinal cord injuries. As you already know, sitting in a wheelchair makes it fairly difficult to keep those pounds off. And, it's pounds around the tummy – at least for men – that researchers believe is related to a greater risk for heart disease.

Non-disabled people frequently choose exercise as a way to control their weight. Aerobic exercise, in particular, both helps you either lose or maintain your weight and it “exercises” your heart by making it beat faster, helping it “stay strong.” The best, most effective way to exercise aerobically is by *sustained* activity in your large, leg muscles – typically, activities like walking, running, bicycling, etc. Needless to say, all of these are difficult, if not impossible, in the face of paralysis. Without your leg muscles, it is more difficult to have the total body, aerobic effects that lead to heart strengthening. Does upper extremity or arm exercise make a difference? Yes, perhaps, but not as much or as quickly as leg exercise.

There is another reason why exercise may be less effective for *some* SCI survivors. For people with spinal cord injuries above T6, damage to autonomic nerves *may* prevent the heart from increasing its speed as they exercise. As a result, they may just get too fatigued before their heart has a chance to get any of the benefits of aerobic exercise. Regardless, this doesn't mean you shouldn't try exercise, just be aware that it may take some creativity to get it to work well for you.

What Can You Do?

The common theme from the beginning of this piece has been vigilance. There are things you can do to understand and manage the risk, or, at the least, to get diagnosed before your ticker stops ticking. Risk factors for heart disease include family history, gender, diet, weight, and smoking.

- If you can exercise, do it. Even if it isn't as effective as it was *before* your injury, it still may help. Even if it accomplishes nothing more than helping you keep some weight off, that will be a huge benefit for your heart.
- If you smoke, quit NOW. If you don't smoke, don't start.
- Cut your intake of fatty foods. These foods are not only high in calories, causing you to gain weight much more quickly, but the deposits from fatty foods too often end up lodged in the blood vessels that nourish your heart. As these vessels become clogged, they get narrower and narrower. The result: decreased heart function, chest pain, and, potentially, a heart attack.

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- If you have diabetes, work to keep it under control, as diabetes itself may add to the risks for heart disease listed on the previous page. Diet will be doubly important.
- If you have high blood pressure, have it treated. Follow your physician's instructions for medications and diet carefully. And keep in mind – autonomic dysreflexia or hyper-reflexia means high blood pressure! Researchers don't totally understand how or if the high blood pressure from recurring bouts of dysreflexia may affect your heart, but until they do, minimizing episodes and treating them when they do occur seems to be sound advice.
- Stress may play a role in heart disease too. Learn ways to manage your stress.
- Tune into the many different symptoms of heart problems. In addition to chest pain, don't overlook an increased or new type of shortness of breath.
- In some people with spinal cord injuries, arm pain, jaw pain, and even *tooth* pain are possible symptoms that "replace" the more typical chest pains that send nondisabled people to hospital emergency rooms and cardiologists. Beware of symptoms like these. Don't ignore them.

Let your physician know if you believe you have symptoms – or, if you are extremely worried about multiple risk factors that you might have.

It is difficult to accurately test for heart disease in spinal cord injury, but it is not impossible. If the need is there, the appropriate test, even if it is more expensive and more complicated, can be given. Remember, the squeaky wheel gets the oil, and this is a case "squeaking" intelligently but persistently can save your life.

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