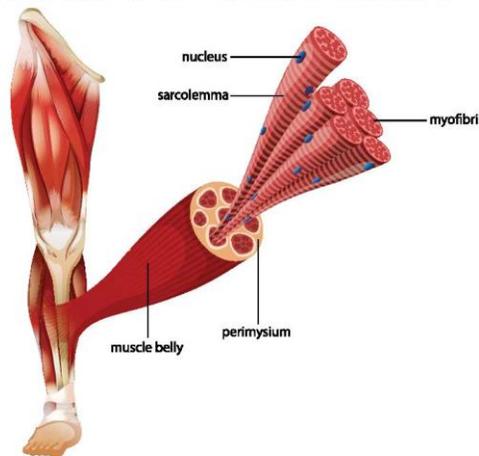


## Another Reason Why You Need to Build Strong Muscle Mass!

2019 was a good year for new research studies on the impact muscle health has on disease prevention/management. The research is clear that maintaining a healthy muscle mass as one ages is critical to either preventing disease, delaying the onset of disease or increasing survivability of certain diseases. In some cases, a healthy muscle mass helps to better manage certain diseases by allowing a lower dose of a prescription drug or no prescription drug at all.

### Structure of Human Muscle



In October 2019 in the Medicine & Science in Sports & Exercise, an article was published by Brandon Shad, et. al. entitled *One Week of Step Reduction Lowers Myofibrillar Protein Synthesis Rates in Young Men*.

This was a fascinating study even though it was a small sample size – 11 young men with an average age of 22 years. But the researchers looked microscopically at their muscle tissue before and after being forced into a highly sedentary activity. For seven days, the men walked on average 13,000 steps per day followed by 7 days when they took no more than 1,300 steps per day (a 92% reduction in physical activity).

The results of this highly sedentary activity are alarming. The microstructure of the muscle began to deteriorate (genetic alteration), protein synthesis decreased by 27% and insulin sensitivity was greatly reduced. All of this within just 7 days.

What is the implication for the worker?

First, loss of muscle is associated with loss of strength, function and performance. Bottom line, the worker is at greater risk for injury and disease.

Second, placing the worker into a highly sedentary lifestyle occurs more often than not.

- Every time a worker is injured (work or non-work related) and a limb is immobilized for any length of time, microscopic changes begin to occur almost immediately to the muscle which is harmful to performance, function and safety.
- Or, every time the worker is bed ridden due to illness the same thing happens.
- Before a worker returns to work following a highly sedentary activity, a physical reconditioning program should be required.

For the most part, every effort is made to prevent injuries/illness, but they do happen. Keeping the body strong with a healthy muscle mass will enhance recovery from an injury/illness. This is absolutely critical as the workforce ages because recovery from injury/illness takes longer since, as I have previously written, the worker loses muscle mass/strength with age. This loss of strength **can** be prevented with proactive strength and conditioning programs-ultimately creating a healthier more functional individual and overall workforce!