



## Twitch Muscles

The two different types of metabolism that take place in your body do so mainly in two different kinds of muscle cells. Individual muscle groups are a mix of fibers (or muscle cells) called fast twitch fibers and slow twitch fibers.

- **Fast twitch** muscle fibers correspond with anaerobic processes (strength and speed)
- **Slow twitch** muscle fibers correspond with aerobic processes (conditioning and endurance)

This is where our fuel selection process happens. Carbohydrates are burned to produce ATP when the fast-twitch anaerobic muscle cells are contracting during anaerobic exercise and more fat fuels are burned to make more ATP when the slow-twitch aerobic muscle cells are contracting during aerobic exercise.

<b>Carbohydrates</b>	<b>&gt;&gt;&gt;&gt;</b>	<b>Anaerobic Metabolism</b>	<b>&gt;&gt;&gt;&gt;</b>	<b>Fast Twitch Muscles</b>
<b>Fat</b>	<b>&gt;&gt;&gt;&gt;</b>	<b>Aerobic Metabolism</b>	<b>&gt;&gt;&gt;&gt;</b>	<b>Slow Twitch Muscles</b>

You don't have to become a marathoner to turn yourself into a fat-burning machine. All of our muscle groups are a combination of fast and slow twitch. But they also have the ability to change the dominant twitch type to accommodate different types of activities. It's kind of like our political system—our muscle cells can share duties with the opposing party. Just as there are conservative liberals or liberal conservatives, our muscle cells can take on more fast or slow twitch qualities depending upon how we train them.

This is why I am a strong proponent of incorporating both aerobic and anaerobic exercise into your training program, a method popularly known as cross-training. It enables you to reap the benefits of both types of muscle fibers for better all around fitness. If you decide however that you prefer one type of exercise over the other, that's all right too. It all depends on the results you are looking for.

### Twitch Muscles Helped the Chicken Cross the Road?

Twitch is a funny scientific term used to describe the kind of activity muscles are capable of performing. Human muscles are usually an even mix of both fast- and slow-twitch muscle fibers. Rather than looking at it in human terms though, let's take a bird's eye view, quite literally, and simplify this issue with our good friend, the turkey. Yes, pass the cranberry sauce and let's explore this fast- and slow-twitch issue!

Unlike our mixed muscle types a turkey has predominant fast and slow twitch muscle groups that are different in color and texture—what we know as white meat and dark meat. The dark meat (legs and thighs) has more surrounding vessels (arteries and veins) because the muscle cells need oxygen to efficiently maintain the aerobic metabolism required to walk and forage for food all day. The physical makeup of this dominant muscle area is the reason for its darker color. The texture is due to the type of fuel these muscles use: primarily fat. This accounts for the smoother or greasier feel of cooked dark meat. Conversely, the wing and breast meat are used for speed and strength, which require a dominant anaerobic metabolism. This involves carbohydrates as a primary fuel source; these muscle cells do not need the pigmented components and vascular nature of dark muscle. The result is a bulkier muscle that is lighter in color and drier (less oily) in texture.