

Resting muscle recovery and growth technique theory



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Abstract

The amount of blood flow in muscle tissue determines resting muscle recovery and growth (theory). In resting muscle most of the capillaries are closed (fact). This can be changed by massage locally or by contract the muscle with repetitions. This opens up the capillaries in the muscle. Blood contains naturally nutrients, hormones and growth factors to speed up the muscle recovery and growth. Postexercise vasodilatation and postexercise skeletal muscle hyperemia are covered more in the references (1-5). These references are supporting my theory since they discuss about the postexercise state in the muscle (postexercise means occurring after exercise).

You probably haven't heard of the fattening huts in Uganda and Mauritania. There the bride will get lots of massage and food, no training. The massage is there because they without educational facts about calories and how massage locally works, knows that the high calorie food and massage together will better shape the body bigger and muscle larger. They are gaining weight fast (4). I don't take sides considering cultural issues here considering these women. Science approach with calories and massage did get my attention. From this I started forming my theory. Why not turn this fattening hut practice in favor to serve muscle recovery and growth from training and to possible help sarcopenia, but in a different form in practice.

This theory isn't about high calories and getting more fat. It's about timing. Giving massage or dry pump (flexing repetitions for the muscle/s without weights) after 1-2 hours after eating. Combining the known facts how massage works locally and with your body's anabolic/anti-catabolic insulin with nutrients after eating, working together for the muscle maintenance. Dry pumps or massage locally opens the closed blood vessels in the muscle. Therefore, serving better the calories, body's hormones, growth factors and nutrients for the recovery and growth with in the muscle.

Why not help the insulin to get better in to your muscles thru these supporting natural ways? After eating, your insulin goes up, taking glucose and fatty acids to its place. The blood will also carry all the other hormones, vitamins, minerals and growth factors what are needed for growth and recovery. Massage as it is taken now by many has its place and purpose, nothing wrong there, but if your muscles gets also a few minutes of massage/dry pump after every meal/supplements, then we are closer to help that growth and recovery in muscle.

Example; Dry pump your biceps 1-2 hours after every meal/supplements , just a few

minutes and you can do it almost everywhere. It only takes a few minutes per muscle. You can dry pump every muscle separately by yourself. Massage example; You don't have to massage all body at ones, just pick those favorite muscles or weak point muscles that need extra attention.

Deeper into the subject

Muscle has white and red muscle cells. White uses mostly glycogen and red uses mostly fatty acids. We all have these cells, just in different proportions. These proportions is taking place also differently in different muscles in the body. This is connected to main three body types; ectomorph, endomorph and mesomorph. Mesomorph is the naturally talented to muscle growth.

This theory will cover the only area which is also the most important one, helped recovery in resting muscle state. When skeletal muscle is resting, only 20% to 25% of the capillaries are open, whereas during exercise 100% of the capillaries are open. In resting muscles white cells blood flow is 2-3 and in red cells 30-50ml/min/100 ml (5). Exercise blood flow in muscles white cells can grow to 40-60 and in red cells at least to 150 ml/min/ 100 ml(2). A massage/dry pump opens in the muscle many capillaries which are normally closed. In a square millimeter of a muscle cut there are 30 up to 300 capillaries open at rest. After the massage/dry pump this number may go up to 1300 open capillaries (6).

How can you use this for muscle growth and recovery? Insulin level goes up after you have eaten. Insulin is the major hormone which delivers glycogen to the muscle. Open capillaries in the muscle naturally is beneficial for receiving all that glycogen for the muscle throughout. The muscle growth takes place mostly while in rest state, getting enough of good sleep, healthy food and recovery time overall.

Muscle has approximately 1,4g/100g glycogen. This is in the white cells. Red cells have a much lesser amount, because they use mostly fatty acids. Muscle glycogen storage after use will recover 40% in five hours, but to recover fully it takes several days. In the white cells the recovery time is faster than in the red cells. Carbohydrate food will speed that recovery time 10 times to low carb diet. When carbohydrate is stored to muscle, 2,7g water to one gram carbohydrate is stored. It has calculated that from 100g carbohydrate 15g goes to muscles. In red cells the muscle blood flow regulates the amount fatty acids are used, the more blood flow, the more is used. Red cells use 10 times more fatty acids than white cells(3). Elevated blood flow can potentially influence skeletal muscle glucose uptake (7).

Muscle growth and recovery thereby needs attention for both muscle cell types and their needs. This theory could give new hope against doping problem and more understanding of the body's capability for natural training and exercise. Sarcopenia could also get natural help from this theory in practice, and how to better get those sarcopenia

drugs/supplements to the whole muscle.

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