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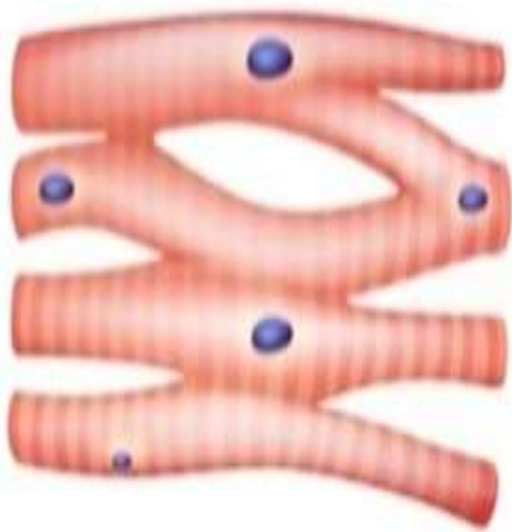
Ergometry & Dynamometry

Introduction

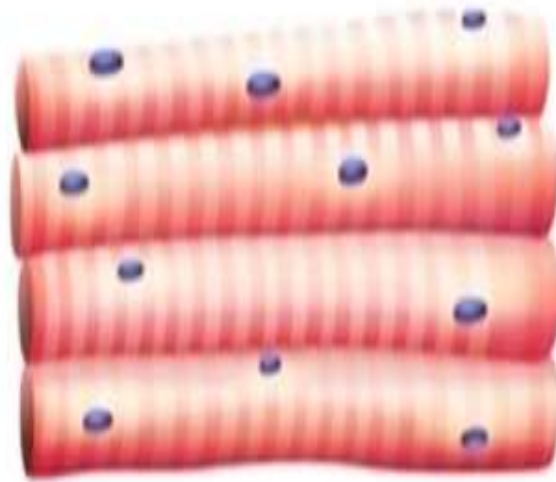
Muscle :

A tissue of the body consisting of long cells that can contract and produce motion

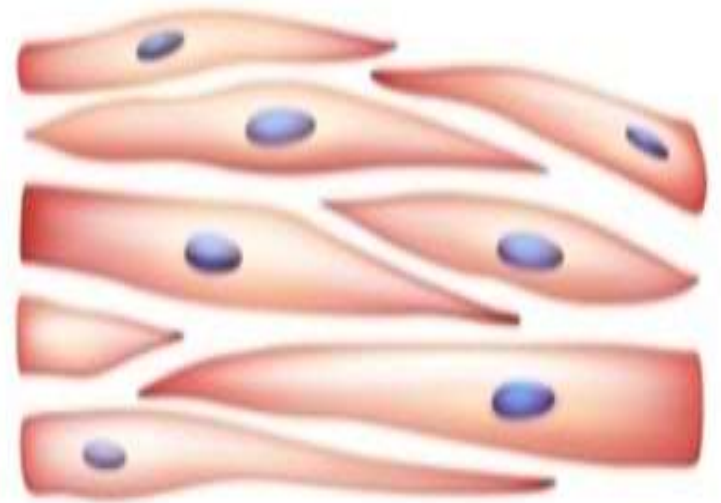
Types of Muscle



Cardiac muscle



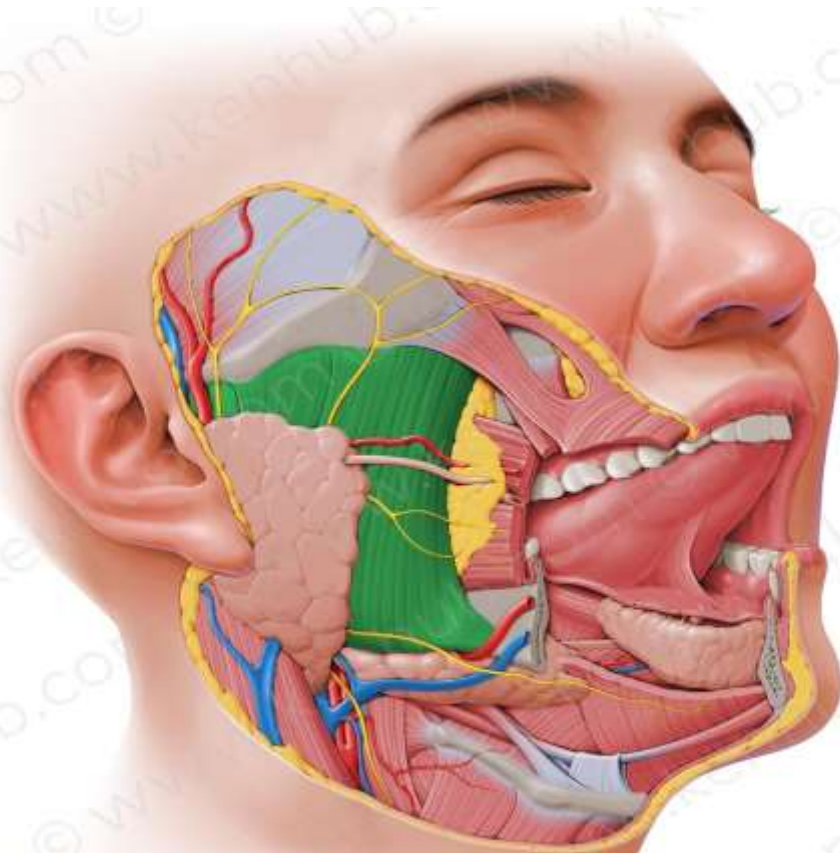
Skeletal muscle



Smooth muscle

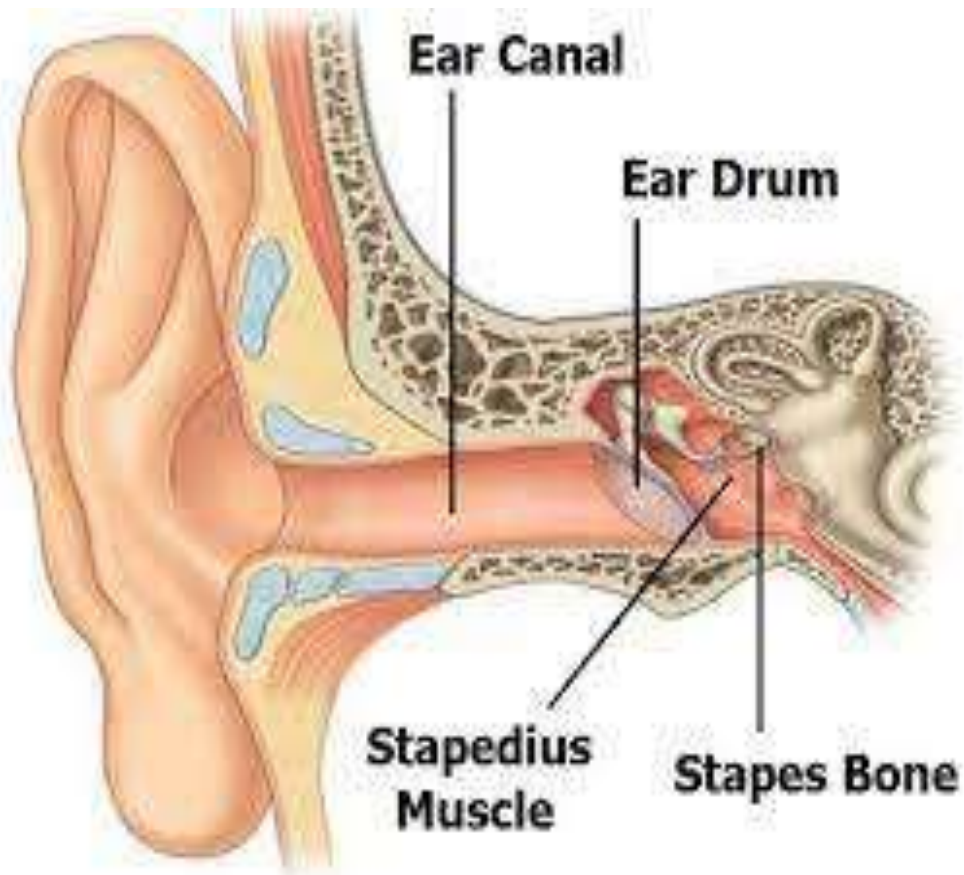
- The strongest muscle based on its weight is the masseter. With all muscles of the jaw working together it can close the teeth

The masseter muscles



- The stapedius is the smallest skeletal muscle in the human body. At just over one millimeter in length, its purpose is to stabilize the smallest bone in the body, the stapes or stirrup bone of the middle ear , and it is the weakest muscles in the human body

The stapedius



- In physiology, and also in common language, we distinguish two kinds of tests: tests of **strength** and tests of **endurance**.

Strength:

is the amount of force you can put out or the amount of weight you can lift.

Endurance :

is how many times you can move that weight without getting exhausted.

Endurance test:

It measures the maximum duration of effort

Dynamometer:

An instrument used to measure endurance, and resistance to fatigue, all qualities that are quite distinct from the energy of momentary effort

- Louis Mathieu (1817-1879) proposed in 1862 the first dynamograph to visualize the characteristics of repetitive contractions of the hand.

Dynamometers



- Instead of pressing the instrument once, the subject is asked to perform a series of presses with each hand alternately.

- So the classical dynamometer was not suited to measure continuous efforts.

- It is for this reason that from the 1880s, physiologists and psychologists were led to construct new devices or instruments designed specifically to measure physical endurance

- Two classes of instruments were then introduced in laboratories: dynamographs and ergographs.

- Both instruments were used to measure the modalities of muscular effort.
- As physical fatigue increases, the mind takes precedence over the muscle and dominates the pain caused by the weight.

- These instruments, which were present in many psychology laboratories of the turn of the century, first allowed the study of certain psychological factors related to muscular effort, in particular the influence of the will and intellectual activity.

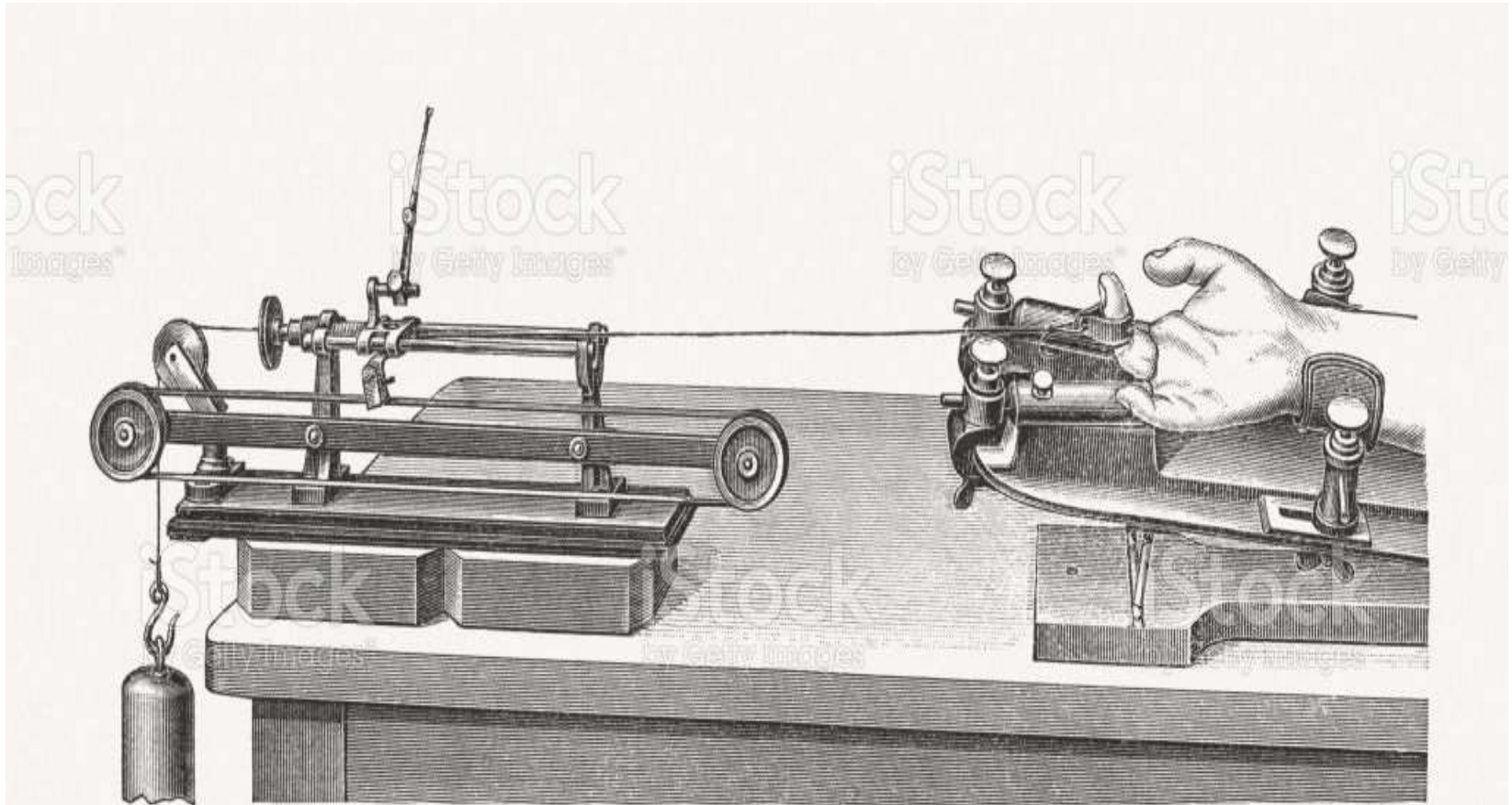
Ergograph

- Angelo Mosso in the early 1880s invented the first instrument specifically built to measure physical endurance called ergograph.
- it made possible to visualize the evolution of fatigue over time and it had the advantage of making a small group of muscles.

Angelo Mosso and his invention ergograph



Ergograph



Ergograph.

1140818507

- in the 1890s it was Mosso's ergograph which became the preferred instrument for physiologists and psychologists to study muscular strength and conditions of fatigue.

Thank you

**Strength does
not come from
physical capacity.
It comes from an
indomitable will.**

~ Mahatma Gandhi



Bizwaremagic's Endurance Quotes