

ACTIVE/ PASSIVE MOVEMENT

Movement - the act or process of changing physical location or position, or having this changed (Merriam-Webster Dictionary).

The capability of a joint to go through its complete spectrum of movements is called range of motion. It can be passive or active. Passive range of motion can be defined as what is achieved when an outside force, such as a therapist, causes movement of a joint. It is usually the maximum range of motion. Active range of motion is what can be achieved when opposing muscles contract and relax, resulting in joint movement. Active range of motion is usually less than the passive range of motion.

Range of motion therapy is beneficial in recovery from soft-tissue and joint lesions, maintaining existing joint and soft-tissue mobility, minimizing the effects of contracture formation, assisting neuromuscular re-education, and enhancing synovial movement. Measurement of range of motion can be used to evaluate available motion, determine joint stability, and determine soft-tissue elasticity as well as response to therapy over time.

As the ROM of a joint improves, it is helpful to continue to perform passive ROM and stretching to achieve as complete ROM as possible, and then perform active ROM through this increased motion to emphasize more complete use of the limb. Greater strength is required to perform active ROM, and some of the special conditions require more muscle strength than normal ambulation during walking or trotting. Therefore for those exercises, a transition between active assisted and active ROM may be necessary. Active ROM exercises may be a prelude to other strengthening activities.

Active range of motion helps build muscle strength. This means improving the fitness of the muscles and joints at the same time. If a person is able to fully move the limb, active exercises are better to improve toning and strength. Passive ROM does not improve strength, but provides enough movement to maintain joint flexibility.

Scientific Information:

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4625657/pdf/jer-11-5-276.pdf>

<https://bmcmusculoskeletdisord.biomedcentral.com/track/pdf/10.1186/1471-2474-15-229.pdf>

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7476461/pdf/main.pdf>