
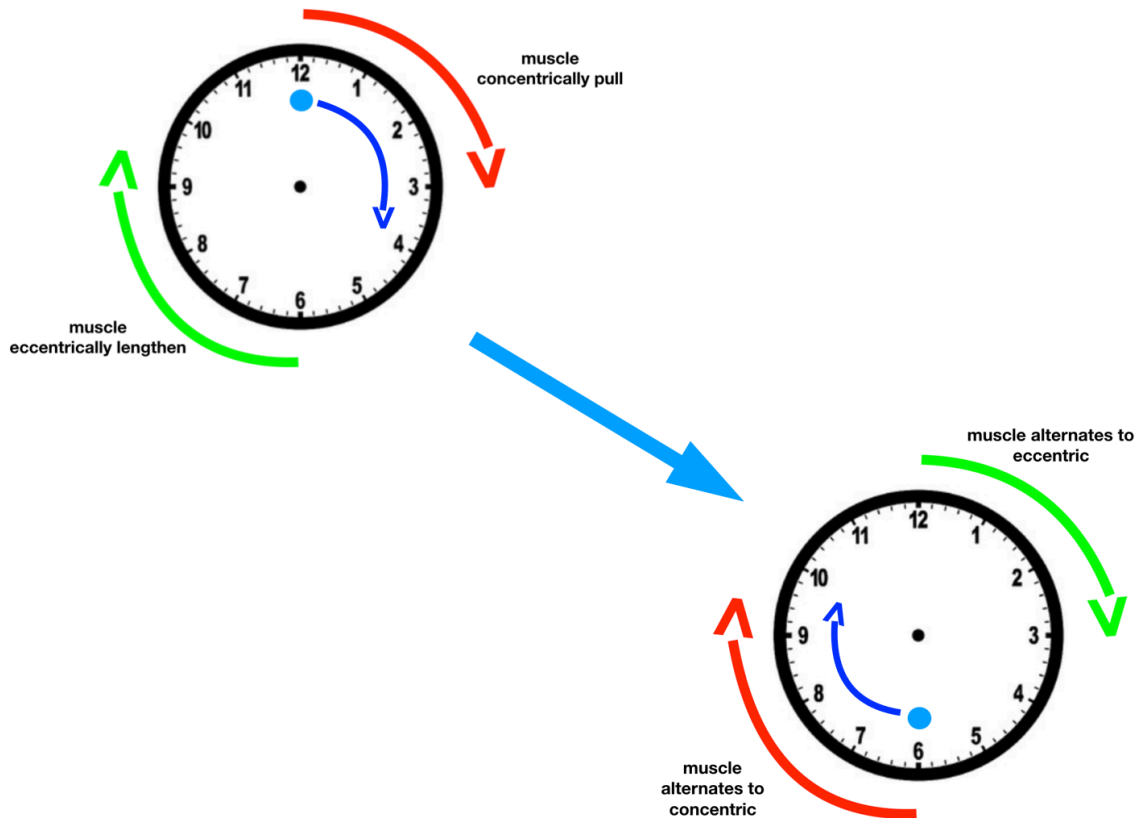


## Does the direction of spinning the ball make a difference ? Any difference between clockwise vs counterclockwise rotation ?

(See attached image for additional clarification)

There is no difference. Imagine the face of a clock. As the ball is moving in a clockwise direction from 12 to 3, this is equal to the muscle is "pulling" (concentric contraction) from 12 to 3. Simultaneously, the *opposite* muscle from 6 to 9 must 'eccentrically' contract — ie muscle fibers contract in a controlled 'lengthening'. SO, in the beginning, the muscle is concentric contraction from 12 to 3; while the muscle is eccentric contraction from 6 to 9. BUT !, as the ball is revolving around the clock, as it is coming around and moving from 6 to 9 — those muscles initially eccentric, now become concentric and 'pull' the ball from 6 to 9; while the *opposite* muscle from 12 to 3 now alternates to be eccentric — it ALL depends on where the ball is and the direction the ball is moving.... so, the ONLY difference between rotating clockwise vs counterclockwise is in the very beginning to START as being concentric — but as soon as the ball starts revolving, ALL muscles must rapidly alternate from eccentric to concentric and back to eccentric. If the opposing muscles *do not* alternate, then there is no way for the ball to continuously rotate. THAT is why if the ball bounces and not rotate, it is signifying shutting down of one part of the rotator cuff muscles— in order to continuously rotate, there MUST be a concentric-eccentric alternation 😊👍. The only way to make a perfect circle is if the circumference is perfect  and not broken.



Opposing muscles alternate — depending on where the ball is —> the leading muscles contract concentrically . Once the ball starts revolving, the same muscles alternate between concentric to eccentric, 🖱️ so there is no difference, each muscle take turns in being concentric one moment, then eccentric at another moment— all depends on where the ball is at that moment in time.

Sine wave graphic representation —

Rotator Cuff- How ShoulderSphere Works

<https://youtu.be/OPf8nd9oG04>