

Diagram referenced as "Mechanical equivalent diagram of contraction typical of those shown in Fig 3"

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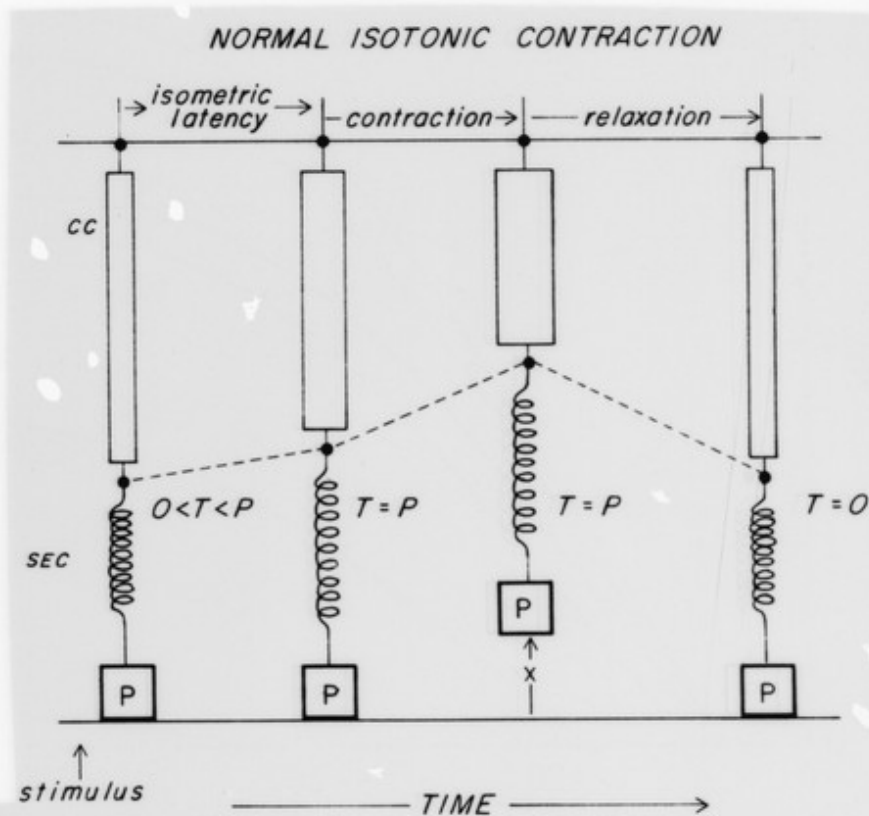
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shortening, in which occurs (a) a mechanical latency and then (b) an added period of isometric contraction. During the isometric latency the CC is shortening and building up tension by stretching the SEC. When the tension equals the load, the muscle becomes able to lift the load, and contraction and relaxation proceed as outlined previously for Fig. 2.



Mechanical equivalent diagram of contraction typical of those shown in Fig. 3.

The records of actual isotonic contractions included in Fig. 3 show several features of interest. At 0°C the true latent period (the time from instant of stimulation to onset of shortening at zero load) for the frog sartorius is about 20 to 25 msec (8, 27). There is a time lapse before onset of any of the shortening curves of Fig. 3, the sum of the times for true latency and isometric latency, the latter is greater the greater the load. If the load is just great enough, no external shortening at all occurs: this load, in a twitch, measures the peak twitch tension, and, in tetanus, P_0 . From these data can be plotted givin