

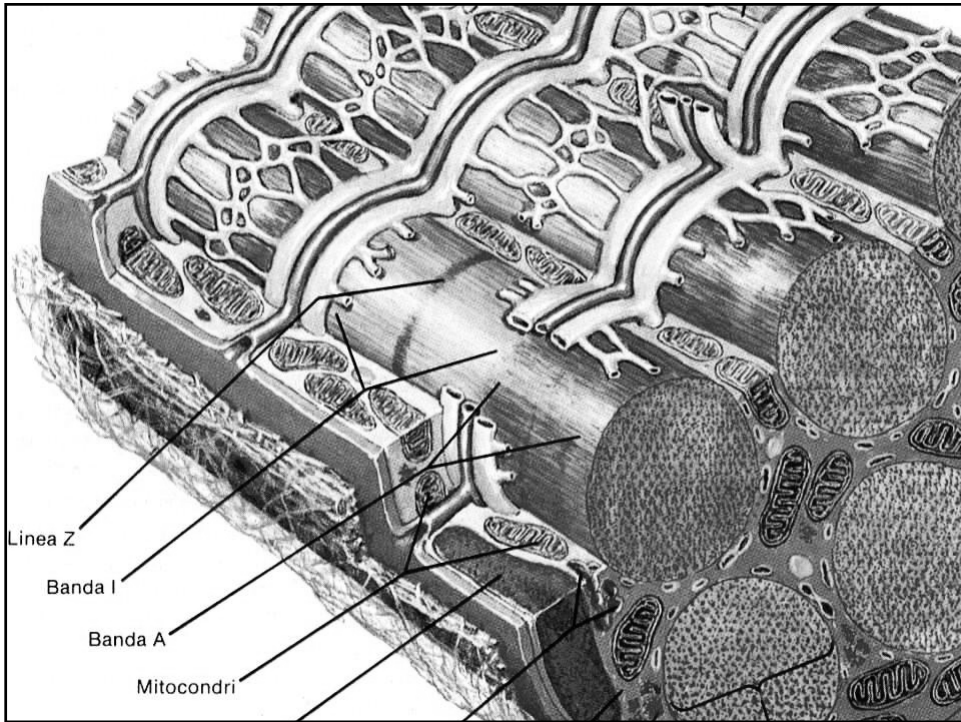
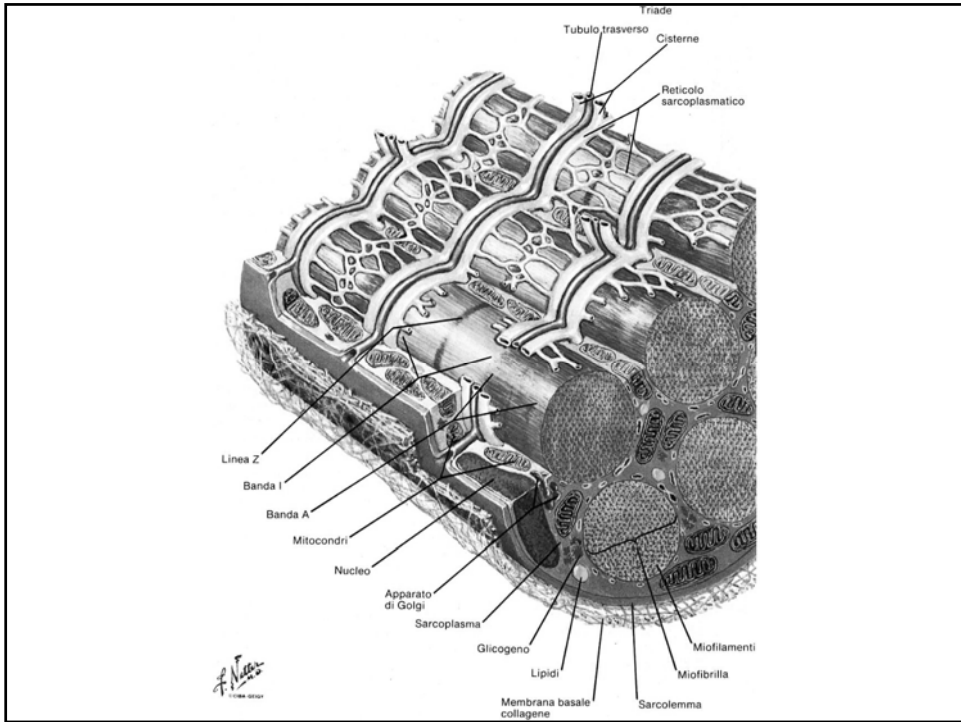
### How Muscles Work

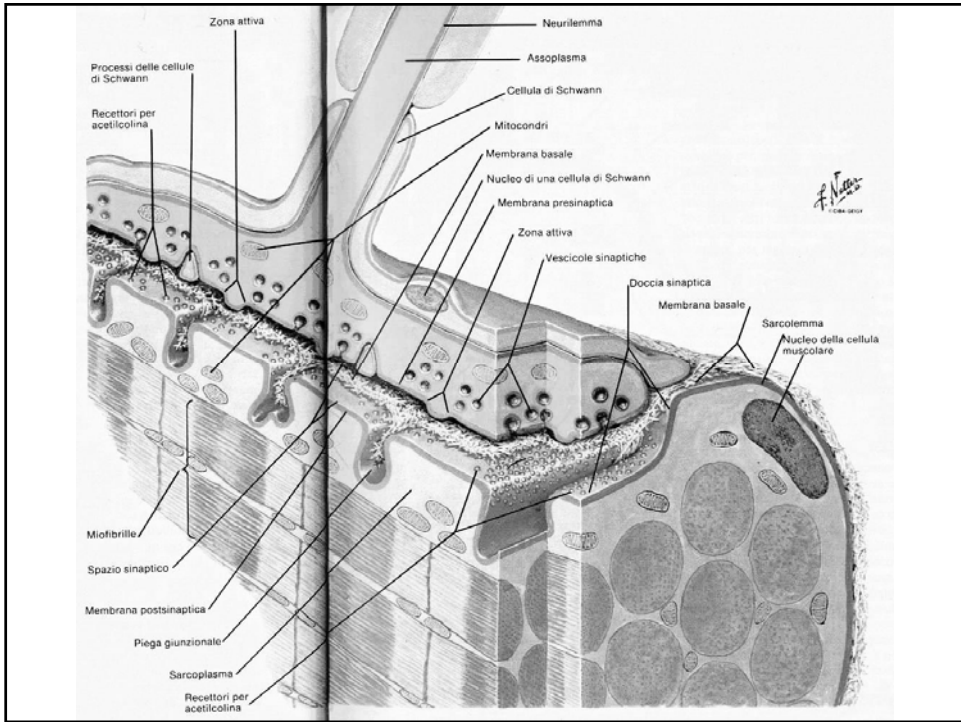
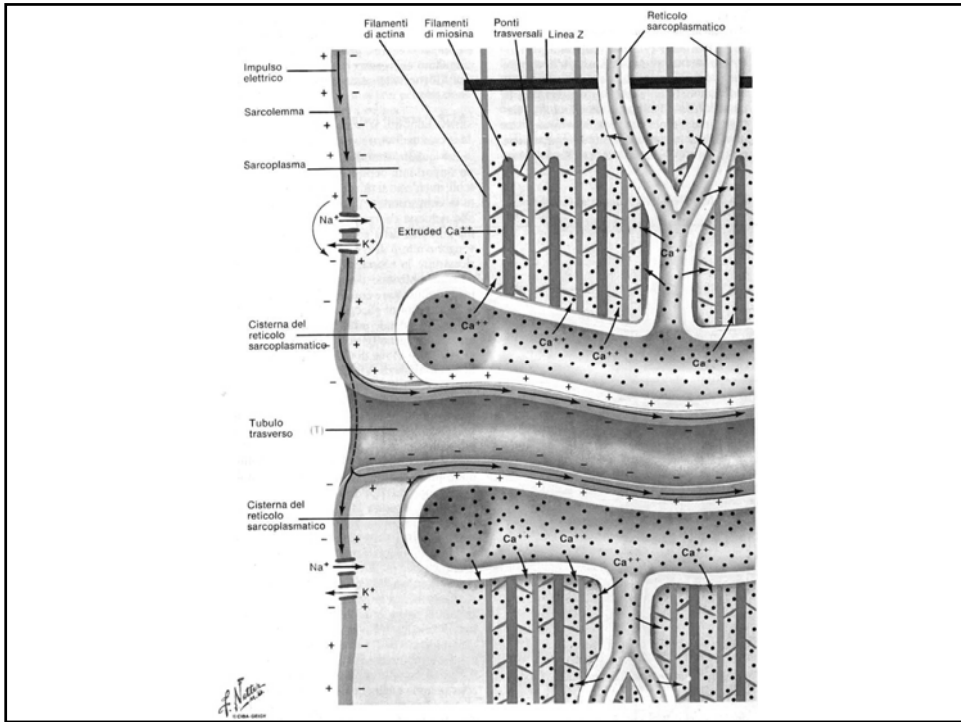
Labels: Tropomyosin, Myosin binding sites, Myosin head, ADP,  $\text{P}_i$ , Troponin complex, Thick filament, Thin filament, Actin.

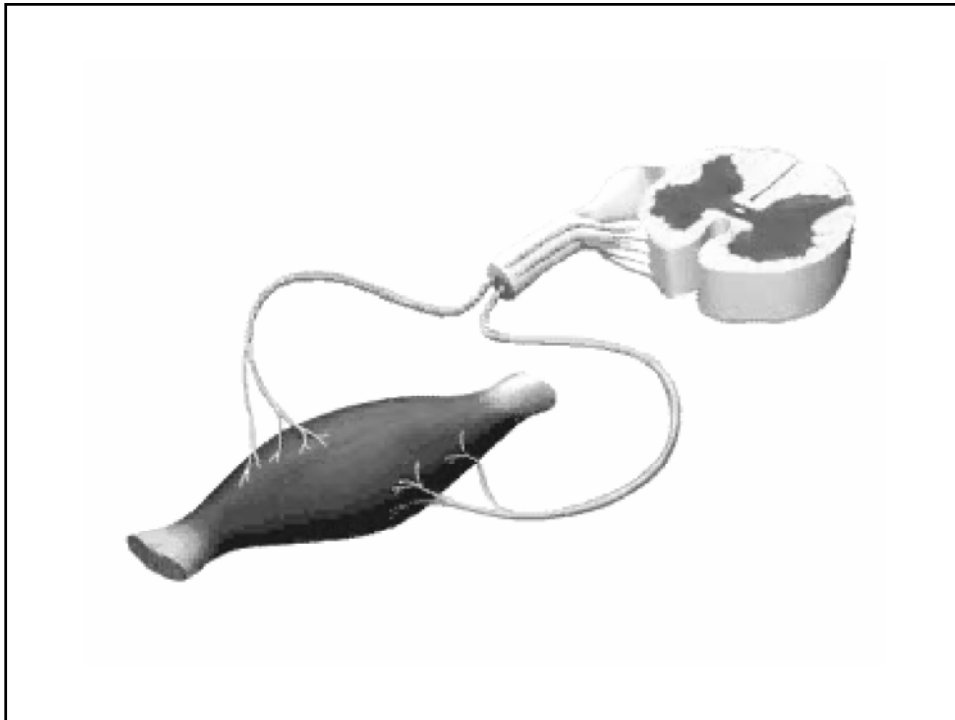
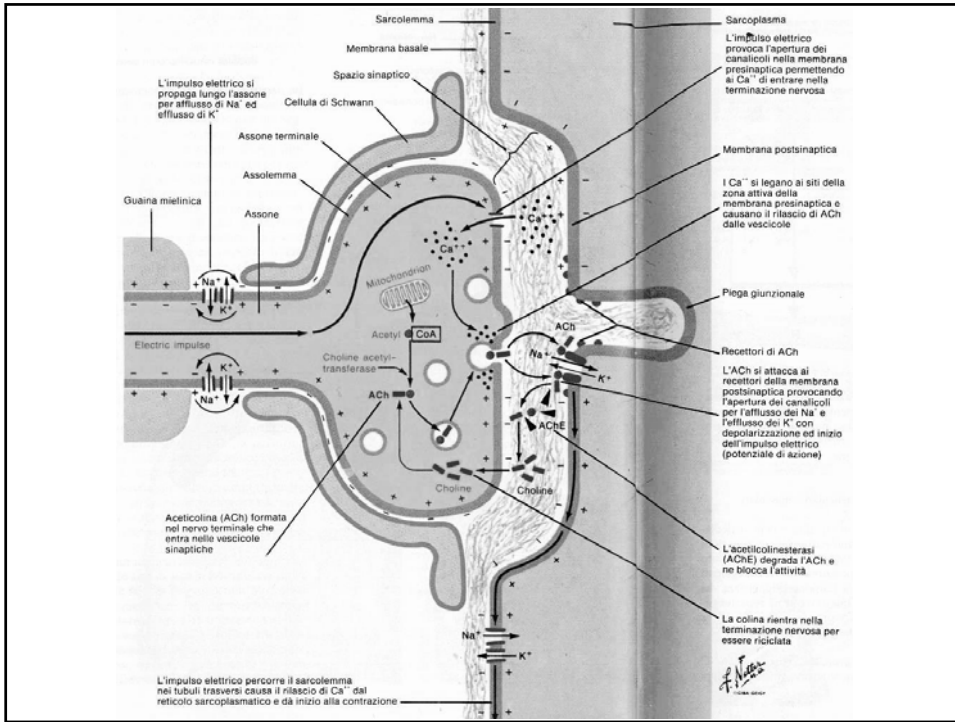
The introduction of Calcium causes the Troponin complex and the Tropomyosin to shift, thereby, exposing the Myosin binding sites to the Myosin heads.

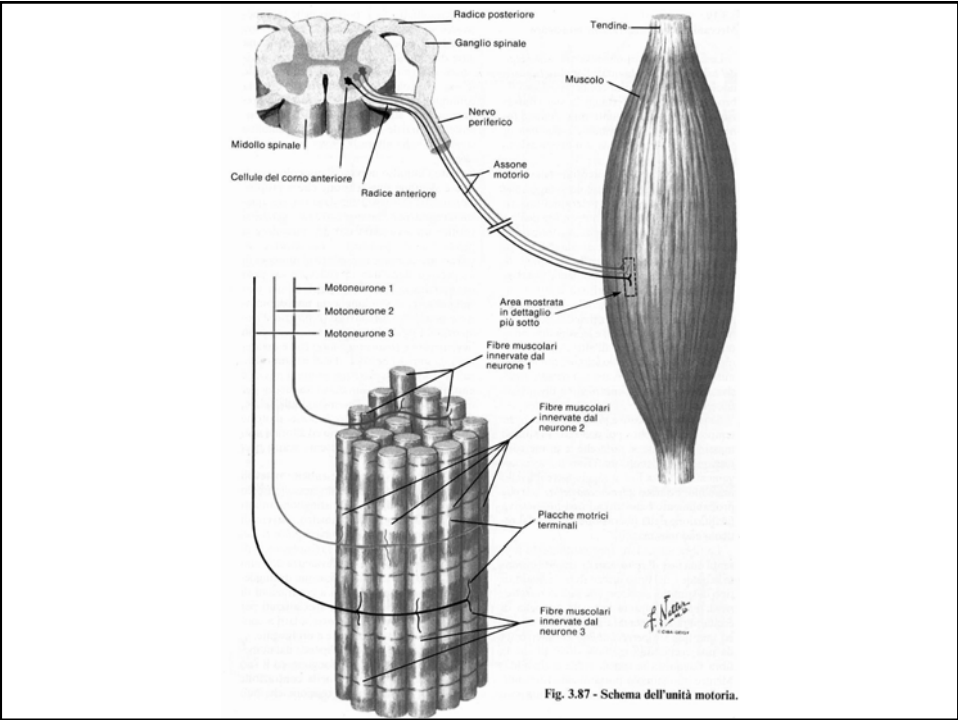
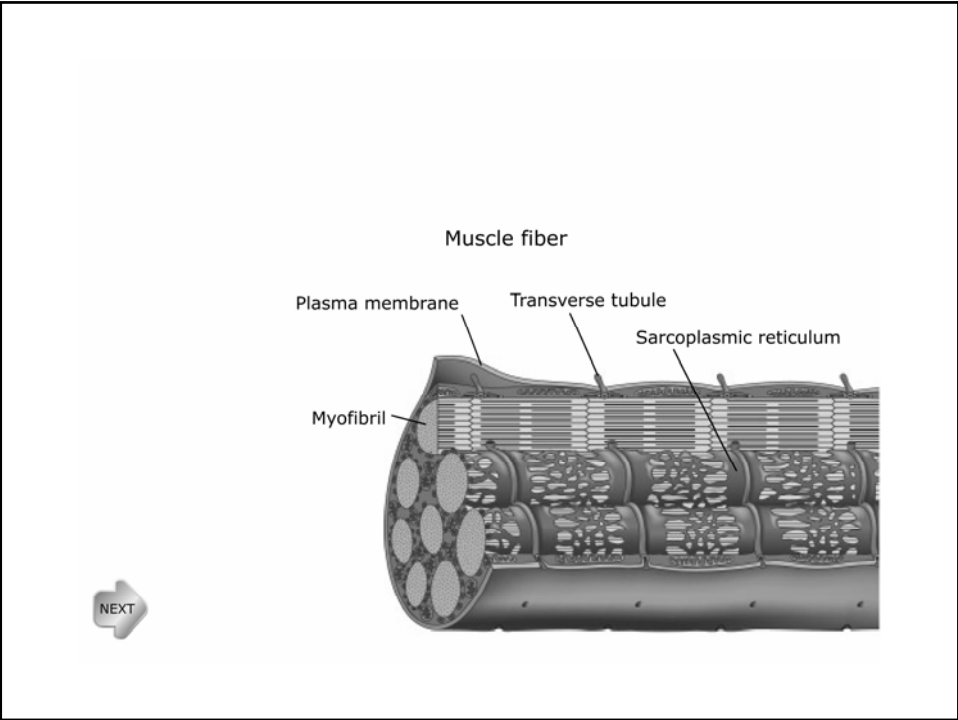
Play

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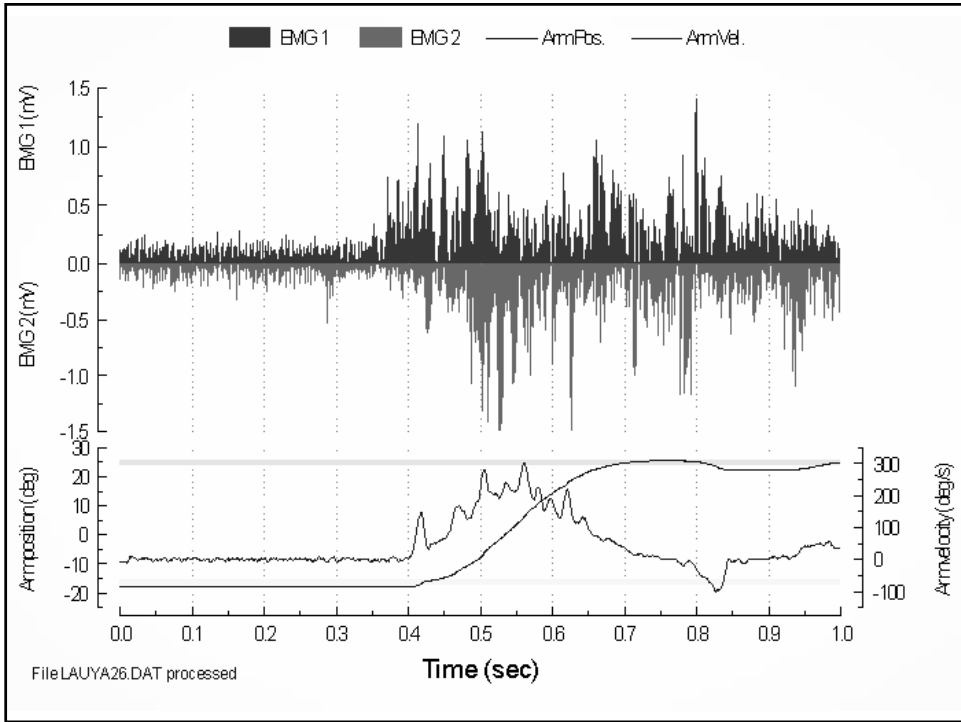
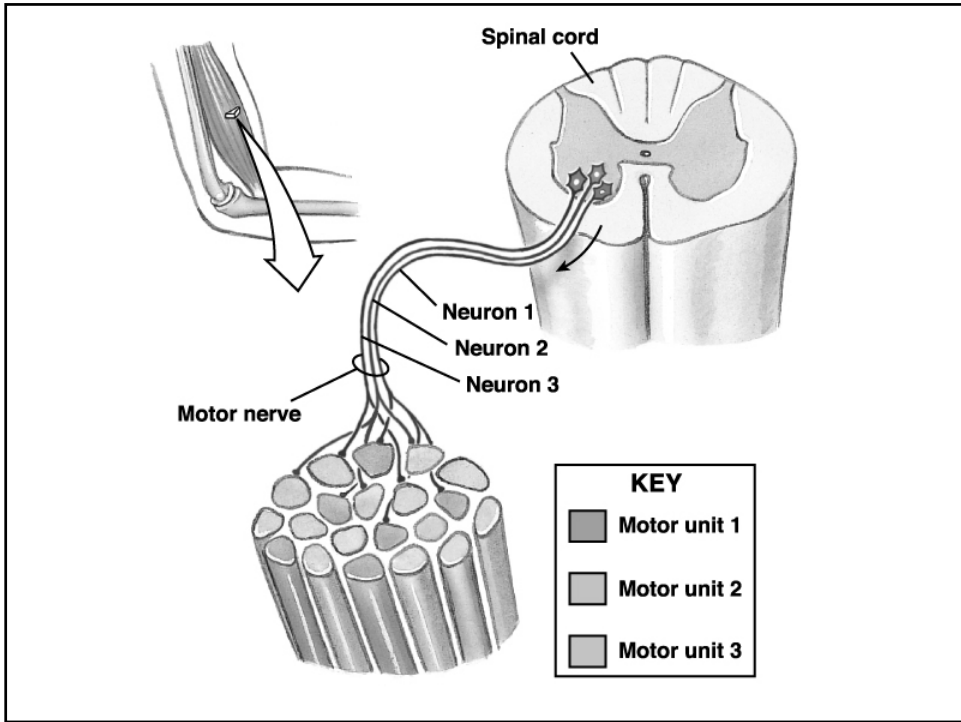


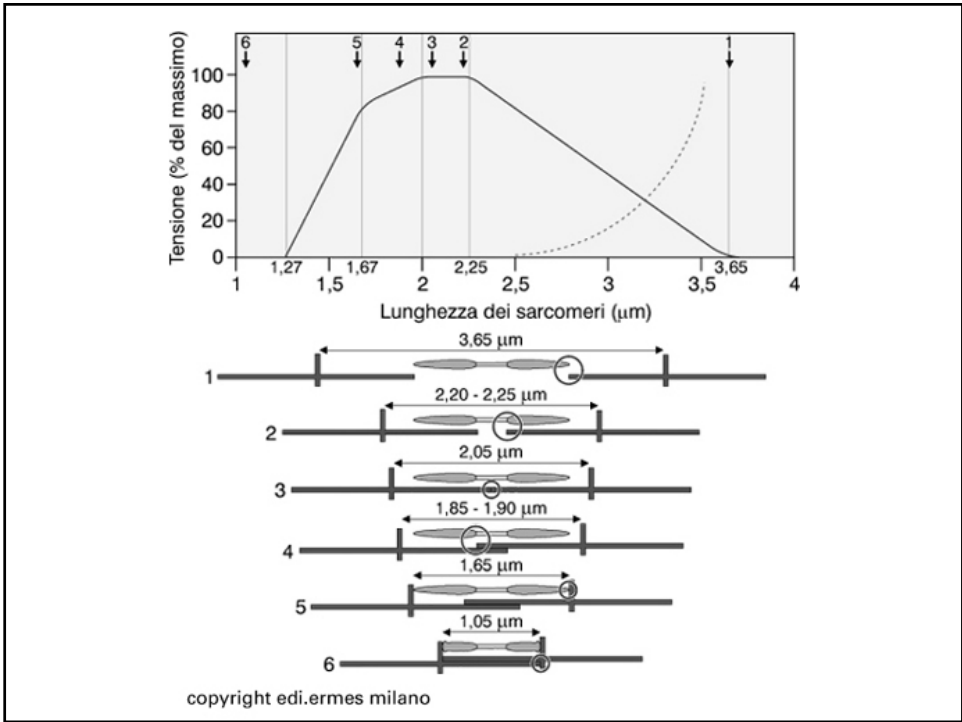
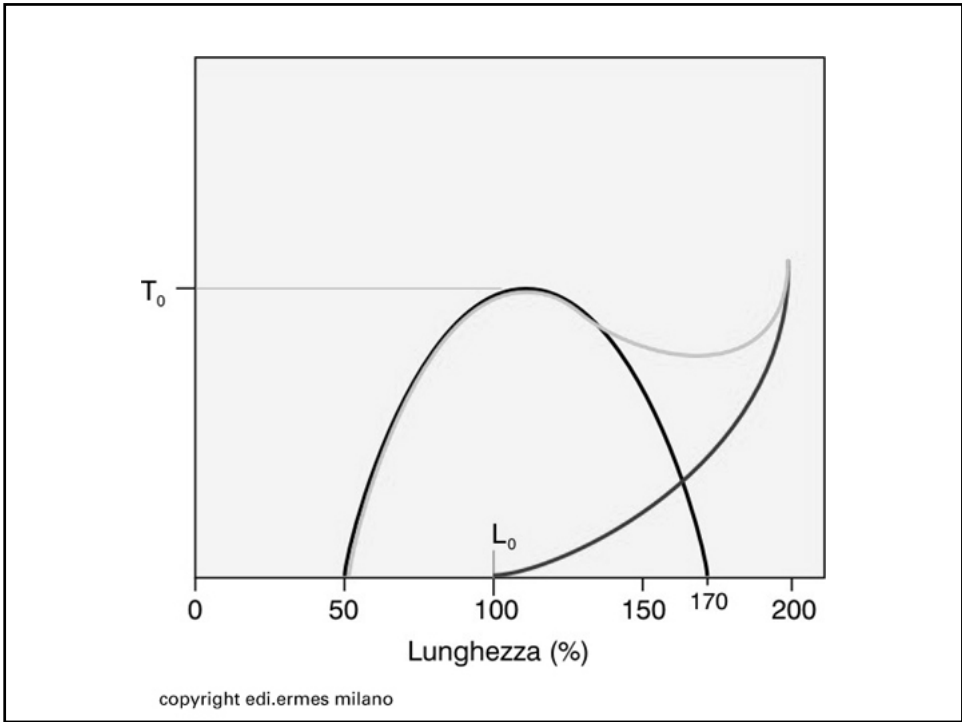


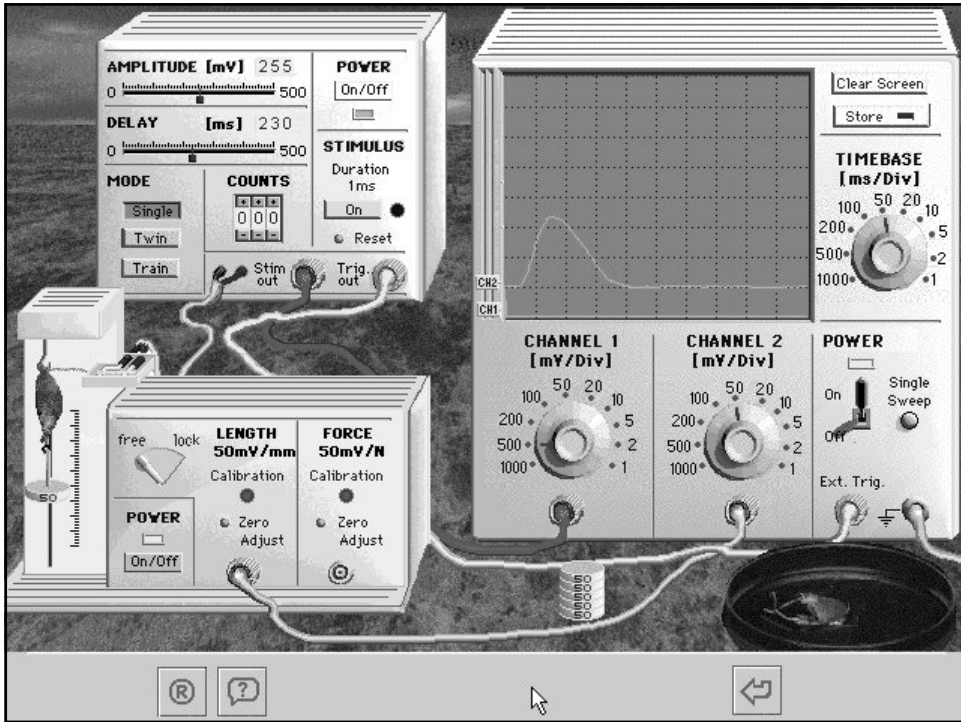




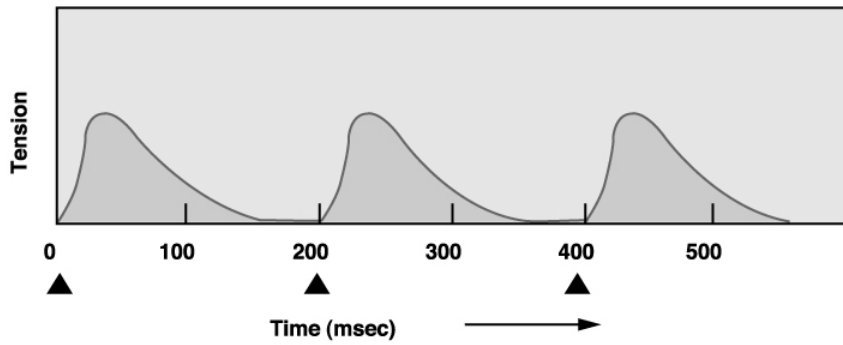




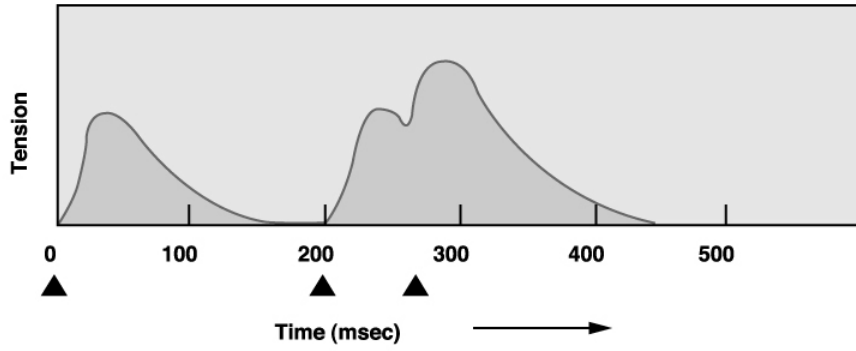




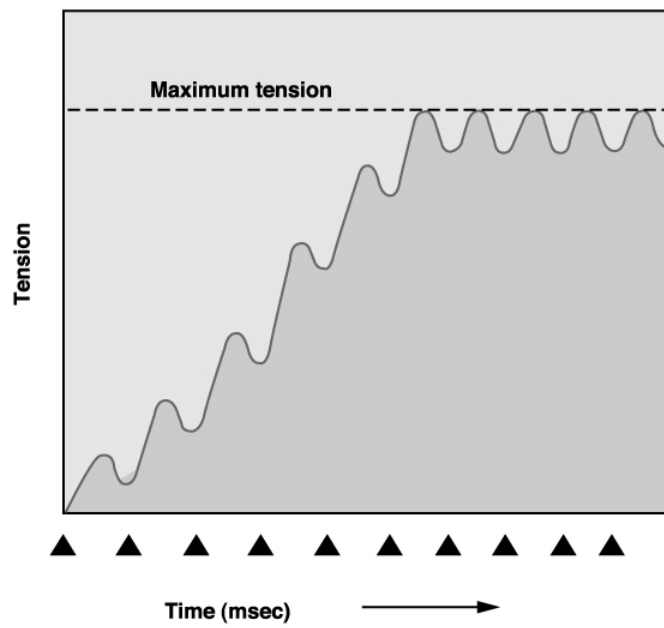
(a) Single twitches

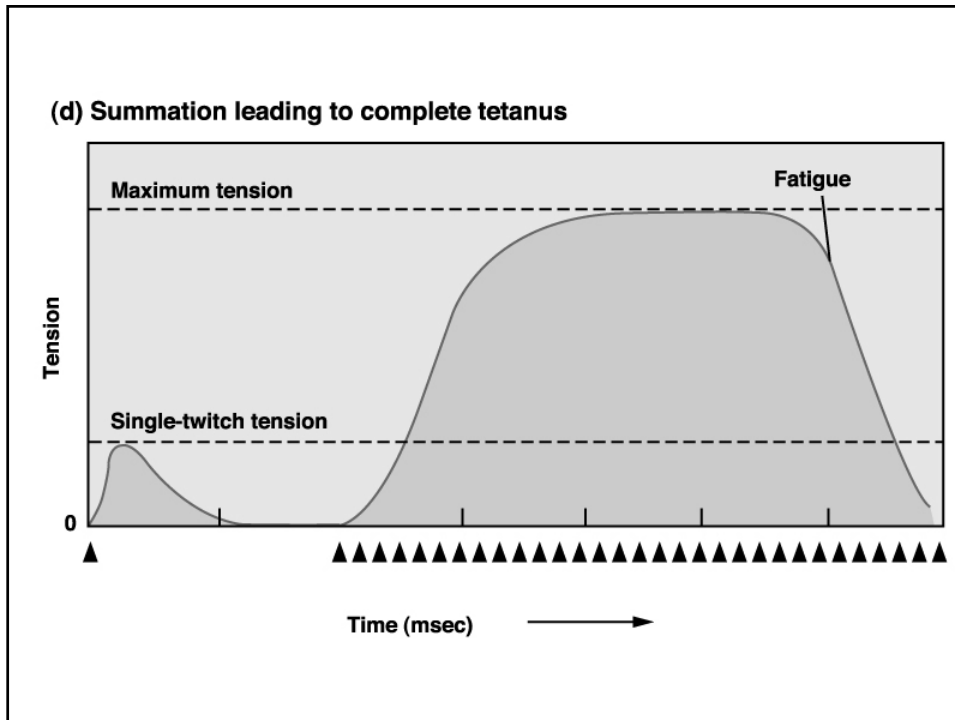
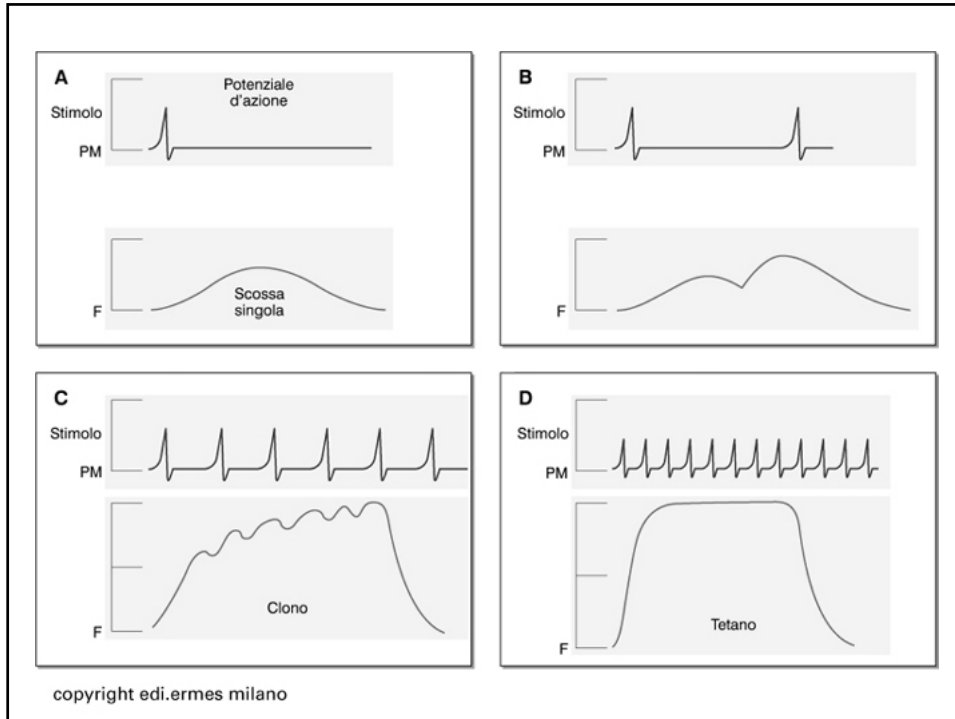


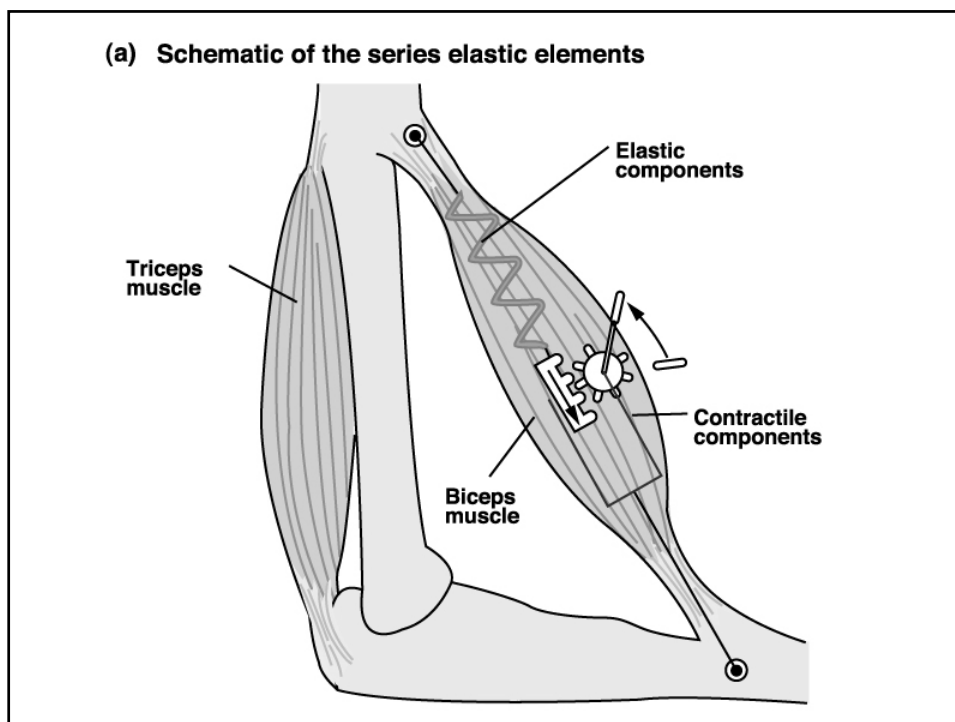
(b) Summation



(c) Summation leading to unfused tetanus



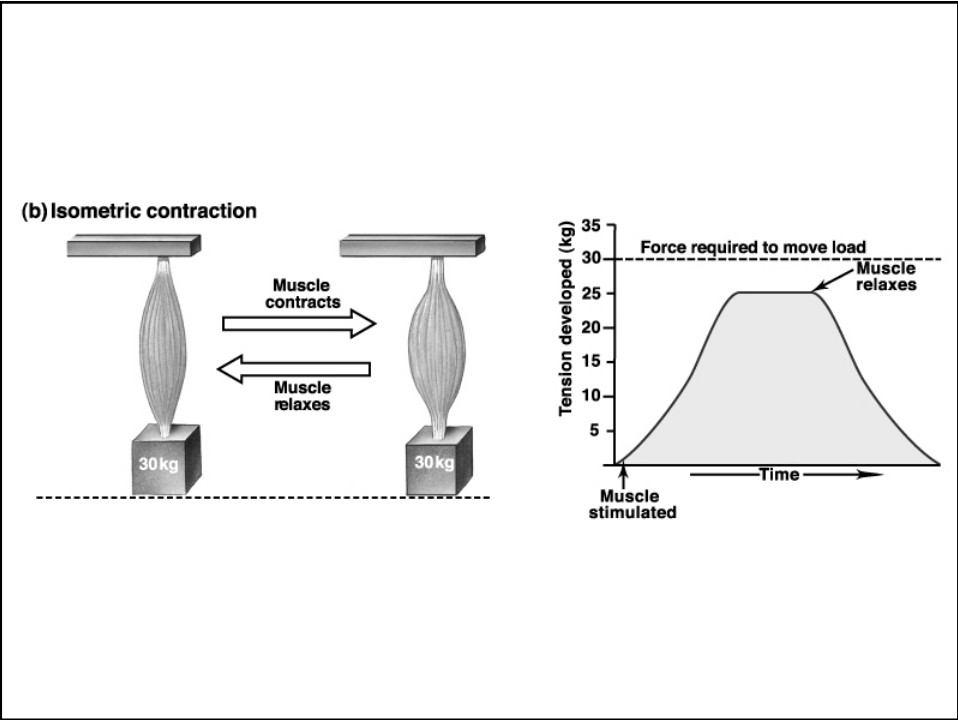
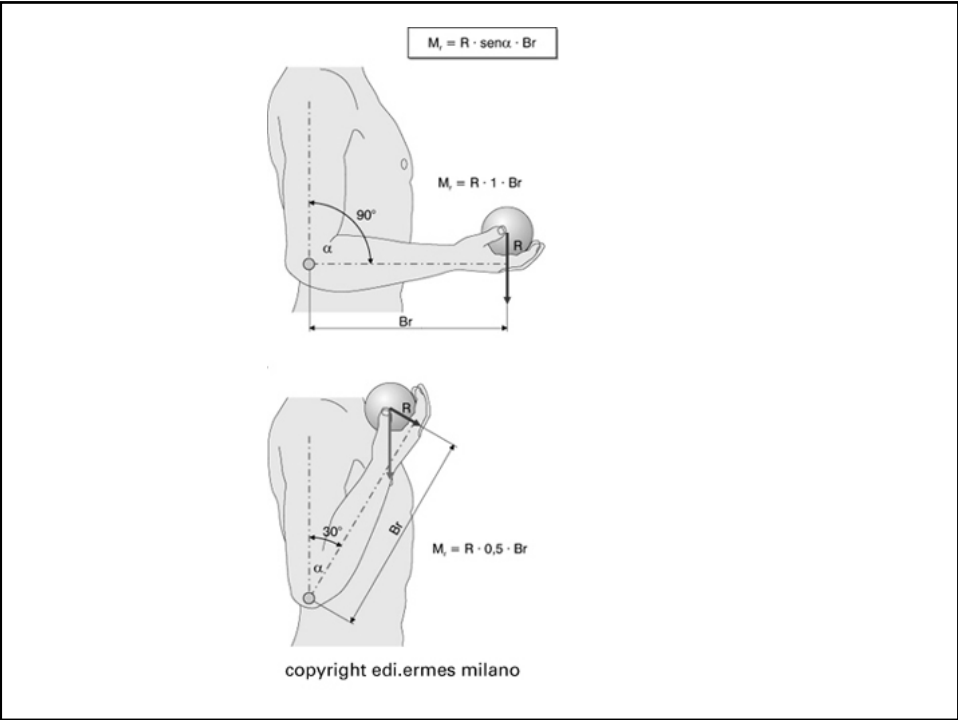


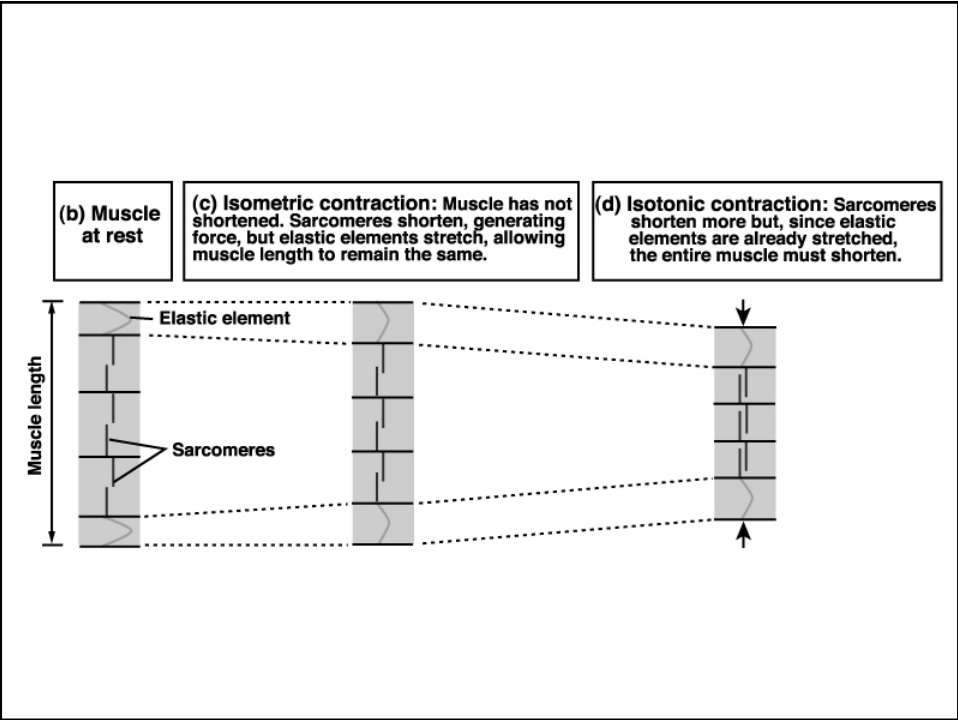
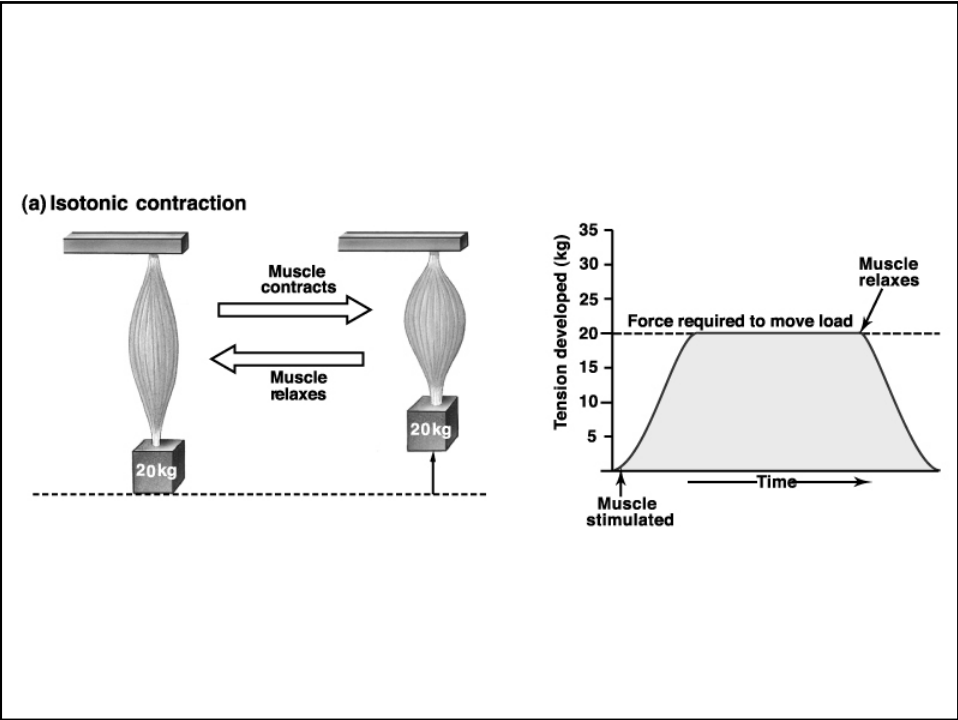


Contrazione isometrica: durante la contrazione non varia la lunghezza totale del muscolo - la forza, invece, può variare.

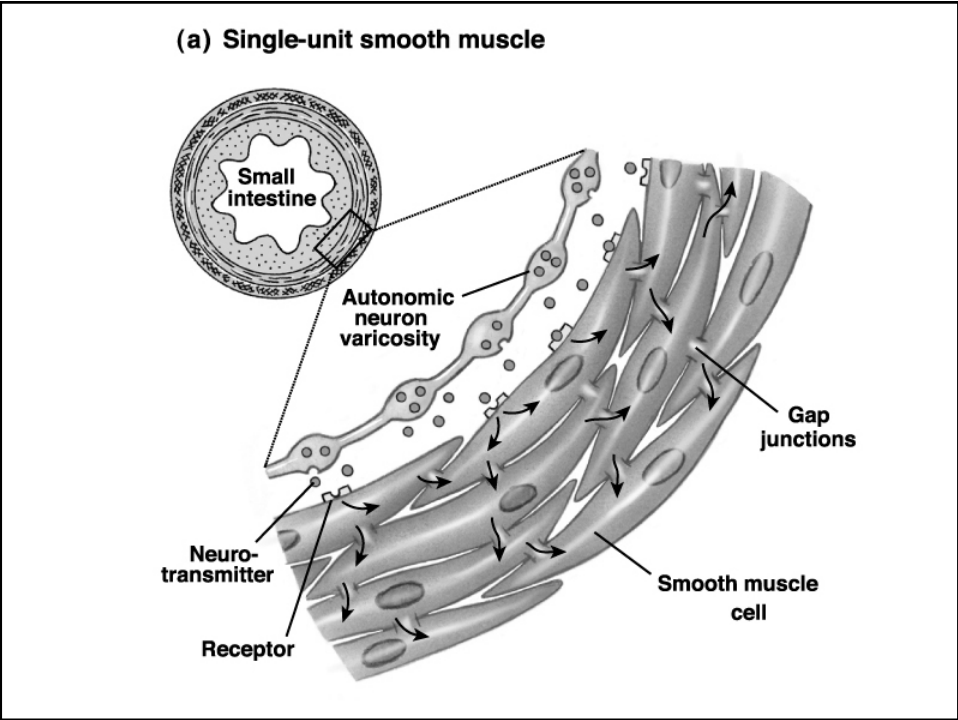
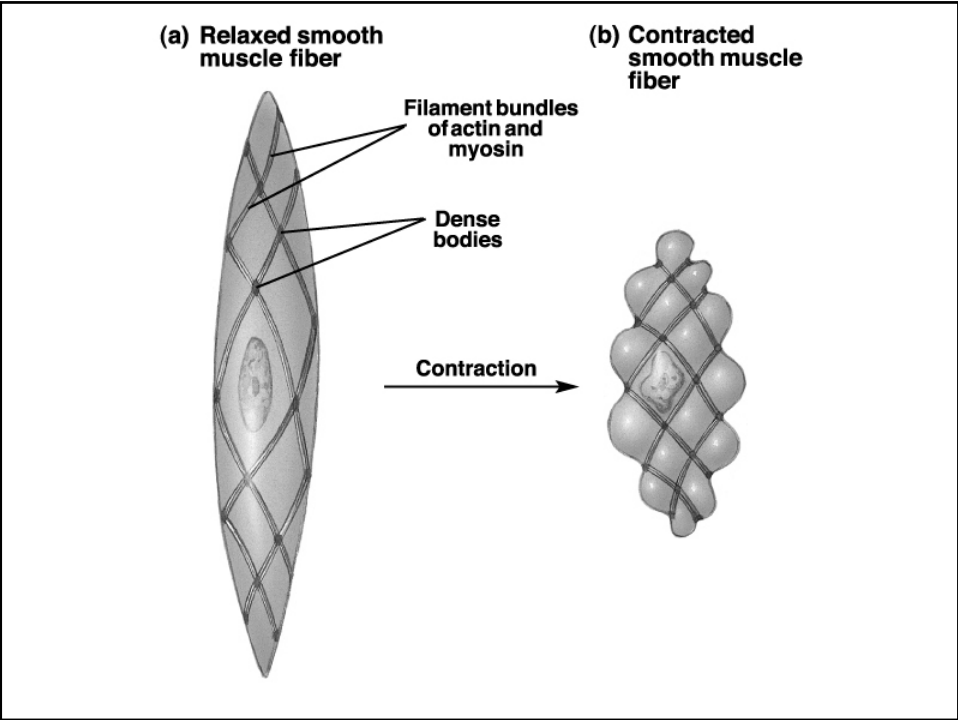
Contrazione isotonica: durante la contrazione il muscolo sviluppa sempre la stessa forza - la lunghezza, invece, può variare.

Il più delle volte la contrazione di un muscolo è isometrica nella prima fase, per poi diventare isotonica.









**(b) Multi-unit smooth muscle**

