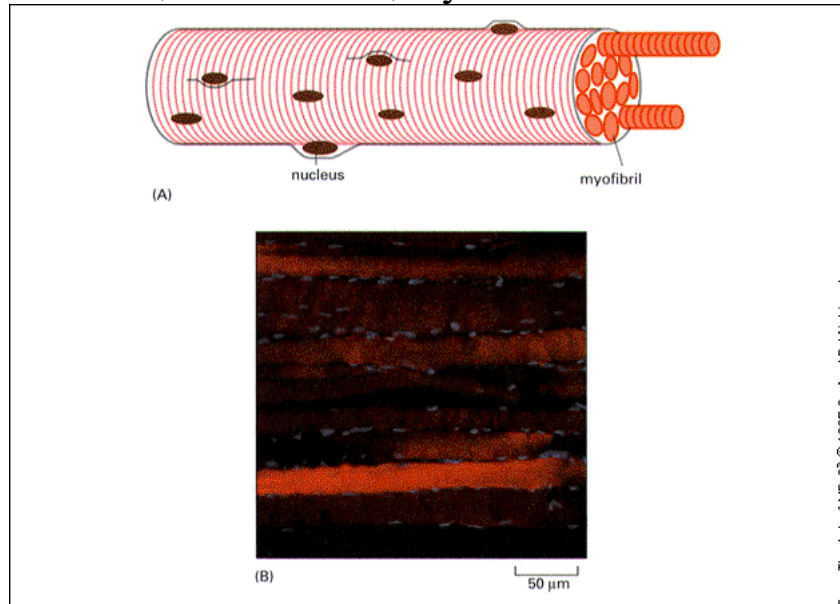


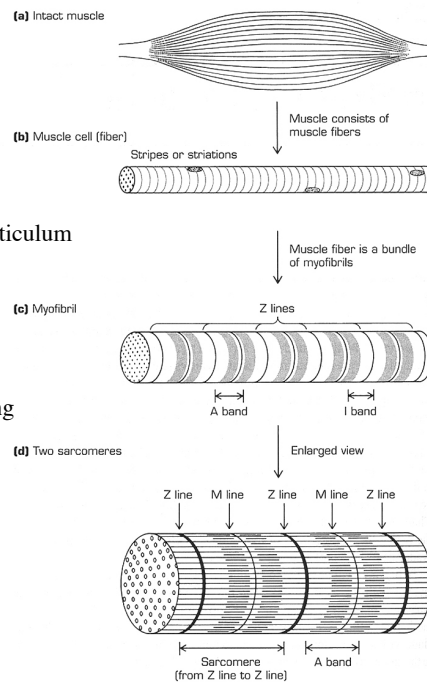
Muscle, muscle fiber, myofibril



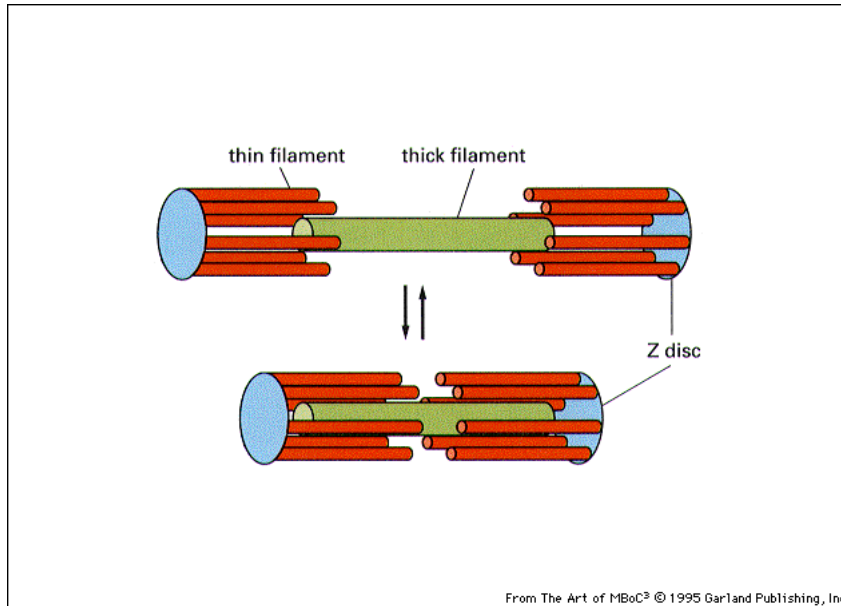
Terms

Muscle cell = muscle fiber
 Plasma membrane = sarcolemma
 Smooth endoplasmic reticulum = sarcoplasmic reticulum
 Mitochondrion = sarcosome
 Segment of myofibril from Z to Z = sarcomere

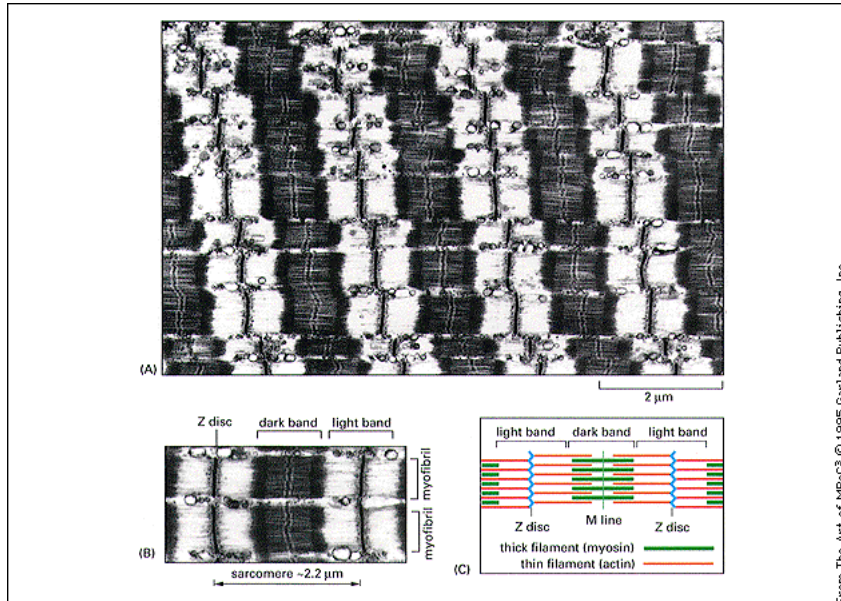
- I band: isotropic (band has no directional filtering effect on light waves)
- A band: anisotropic (band filters out light waves vibrating in some directions)
- Z line: Zwischenscheibe (between + disc)
- H band: Helles (clear, light in color)



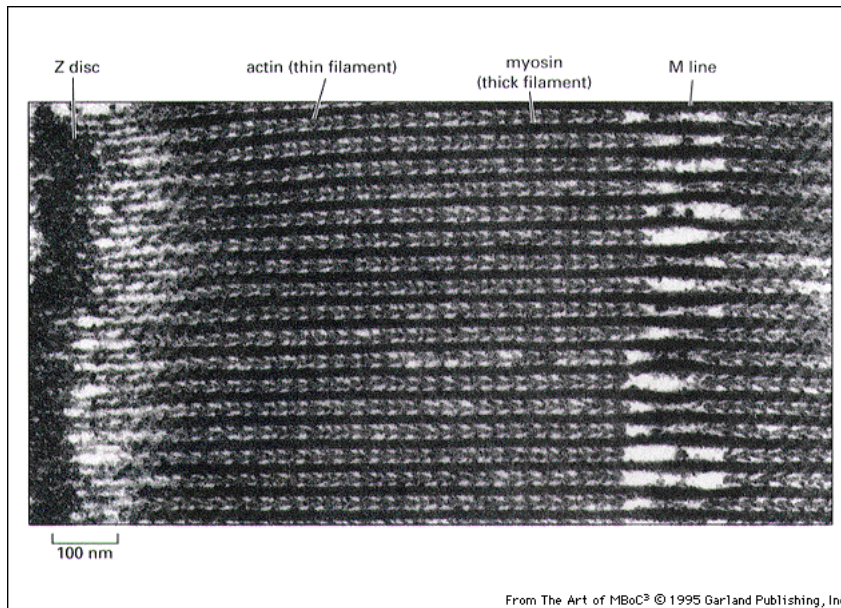
Contraction cartoon



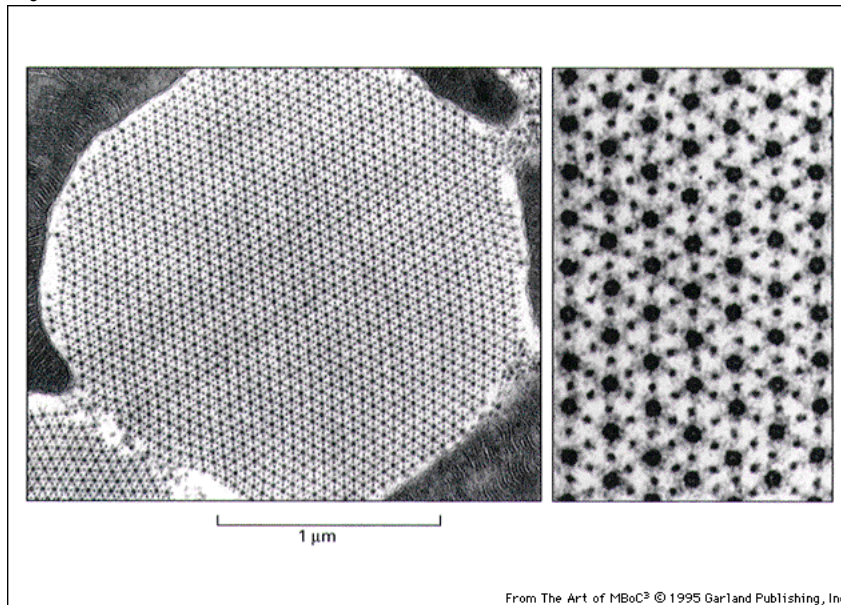
Myofibril ultrastructure



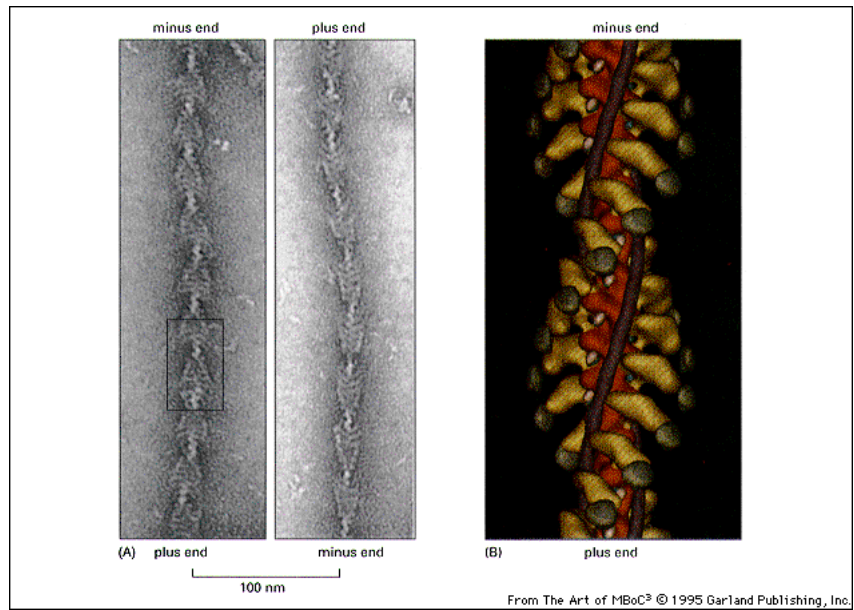
Ultrastructure



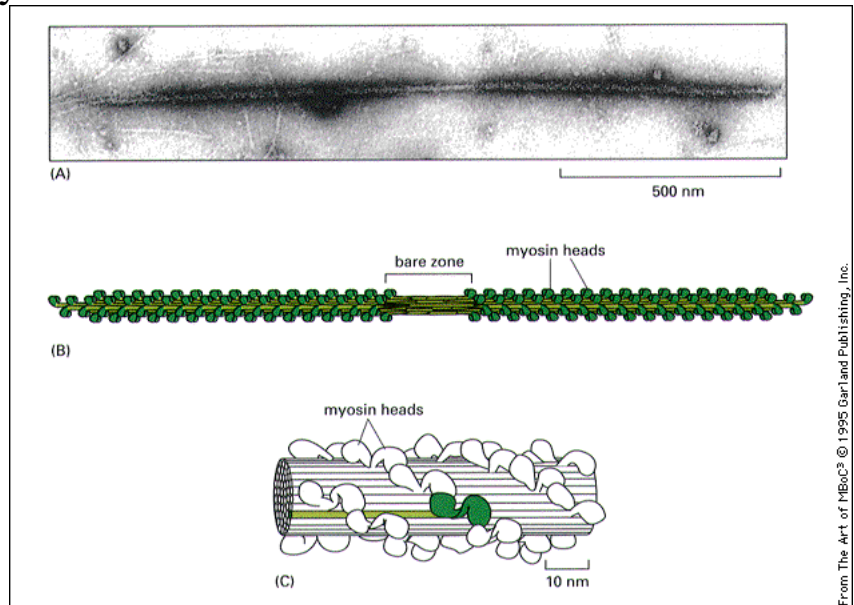
Myofibril ultrastructure, transverse



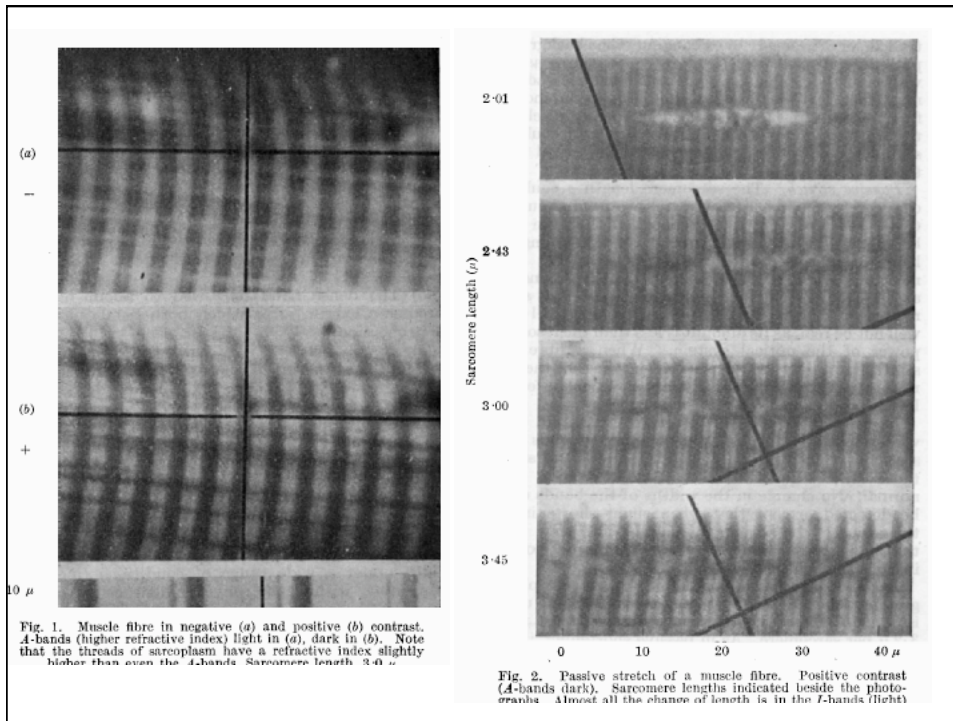
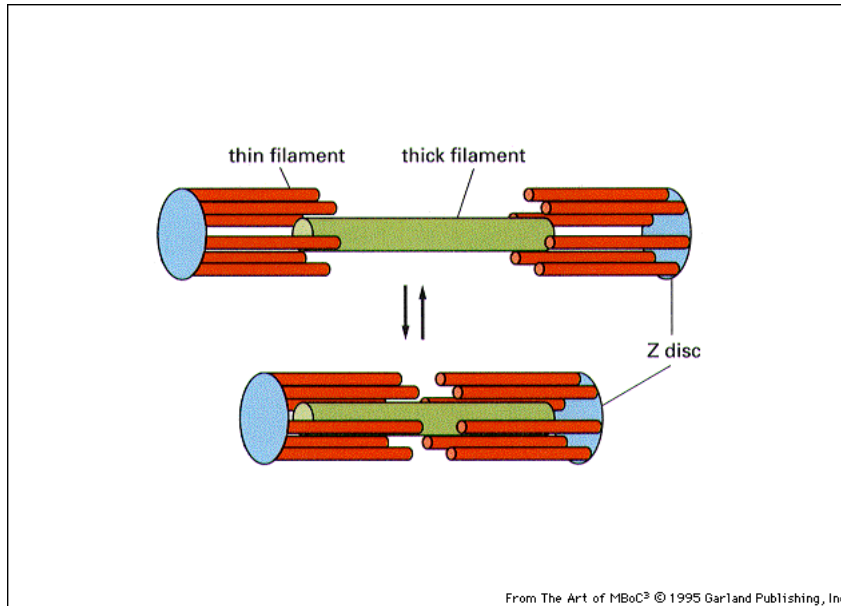
Actin structure



Myosin Structure



Contraction cartoon



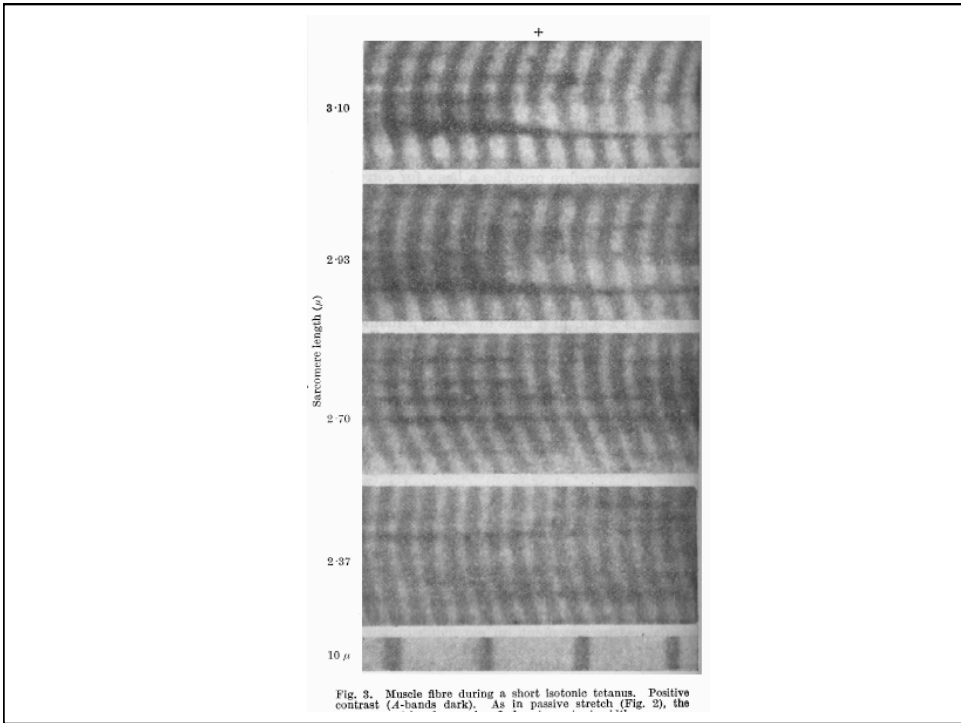
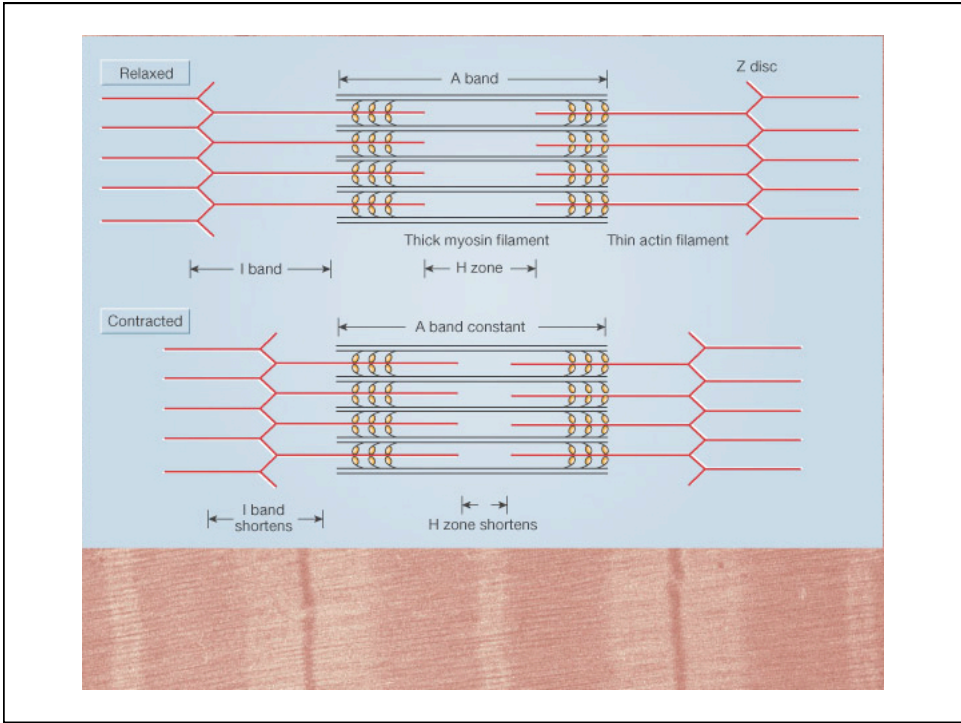
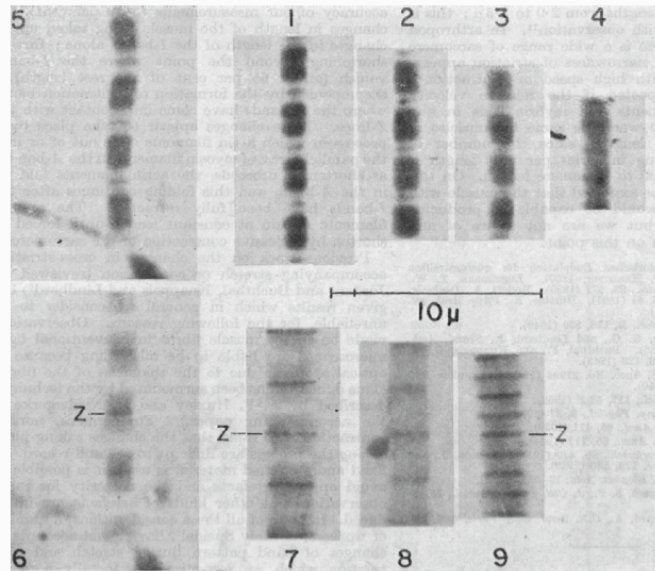


Fig. 3. Muscle fibre during a short isotonic tetanus. Positive contrast (A-bands dark). As in passive stretch (Fig. 2), the



Myofibrils photographed in phase contrast. Magnification, 4,000 \times . Photographs of extracted fibrils are printed as contrast, and the fibrils are in fact much less dense than they appear here.

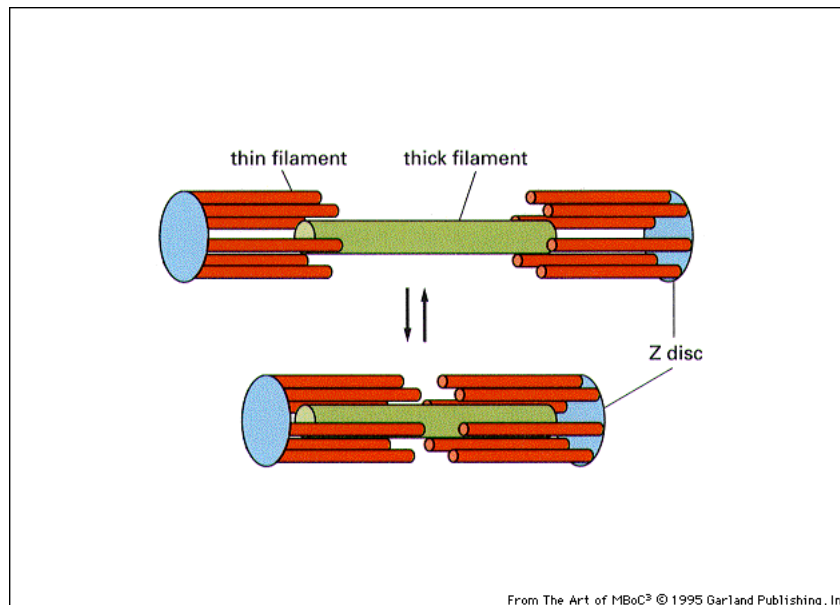
Figs. 1-4. The same four sarcomeres of one fibril photographed during contraction induced by adenosine triphosphatase down to 50 per cent rest length, when contraction bands have formed.

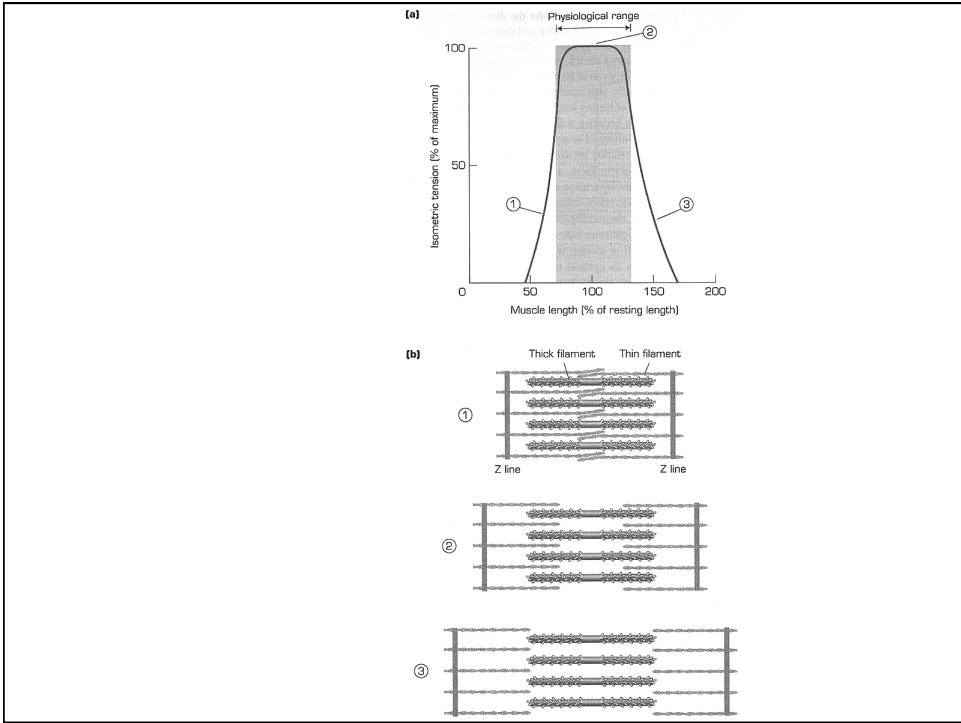
Figs. 5 and 6. Stretched fibril (115 per cent rest length) before (Fig. 5) and after (Fig. 6) extraction of myosin.

Figs. 7, 8 and 9. Fibrils after extraction of myosin. Fig. 7: rest length. Fig. 8: 90 per cent rest length. Fig. 9: 50 per cent rest length.

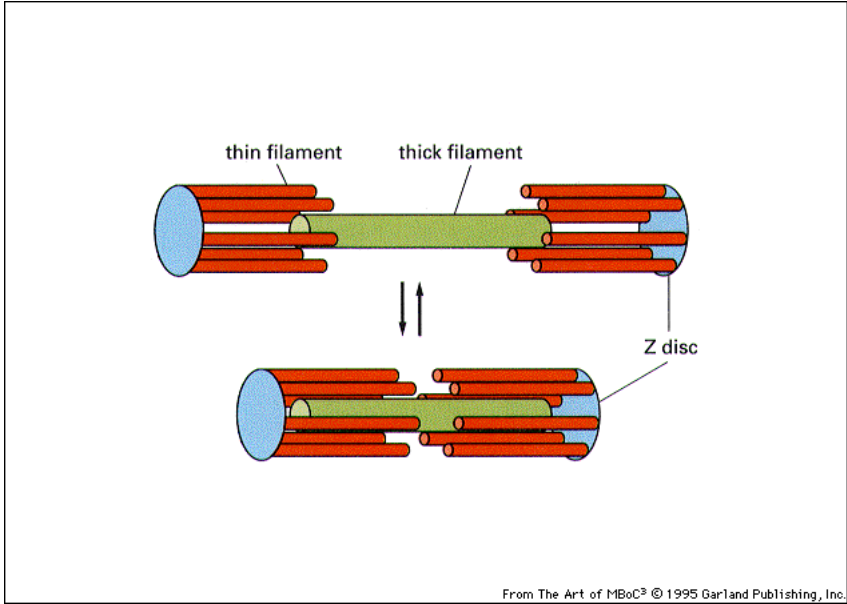
Figs. 10 and 11. Fibril with contraction bands (50 per cent rest length) before (Fig. 10) and after (Fig. 11) extraction of myosin.

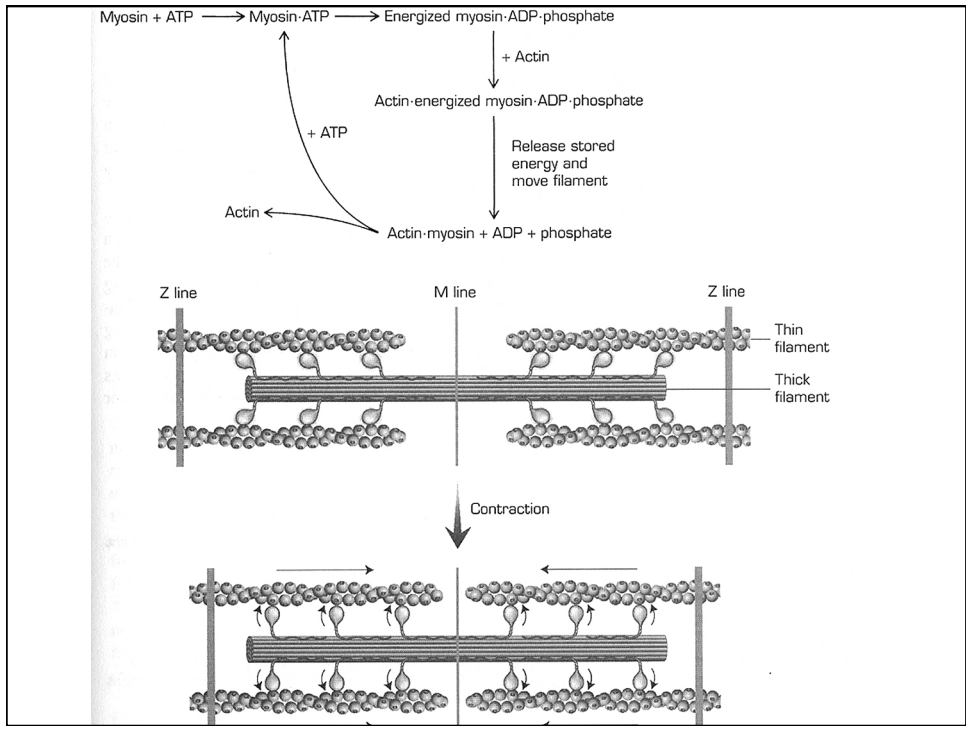
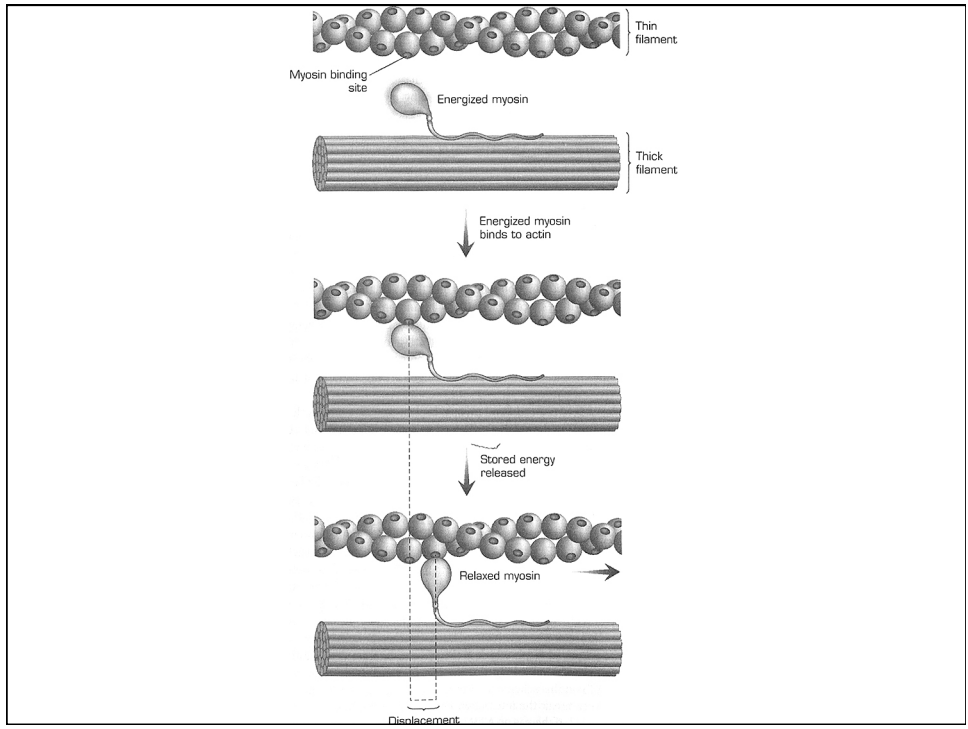
Contraction cartoon



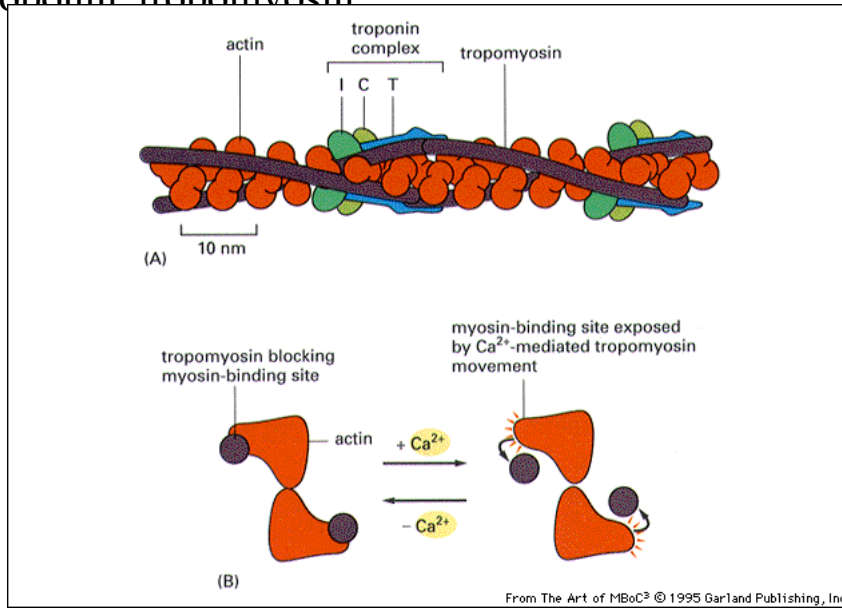


Contraction cartoon

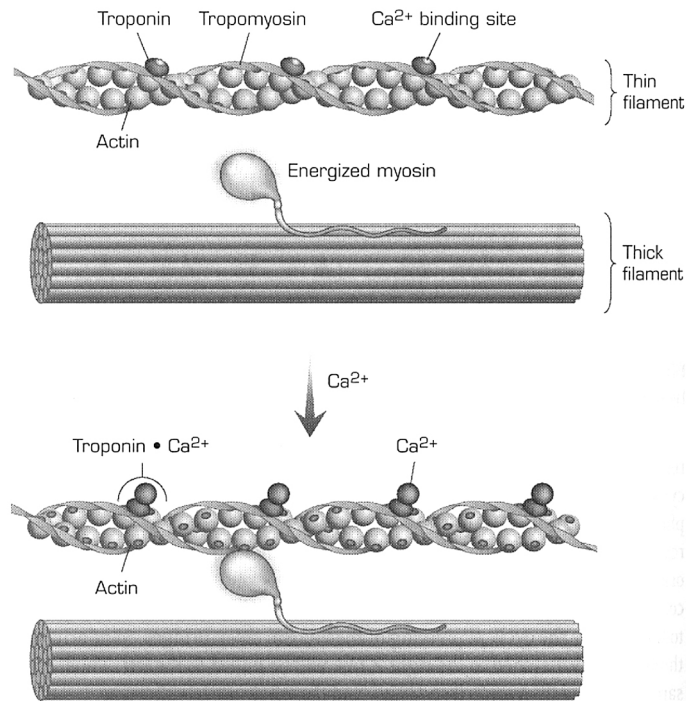




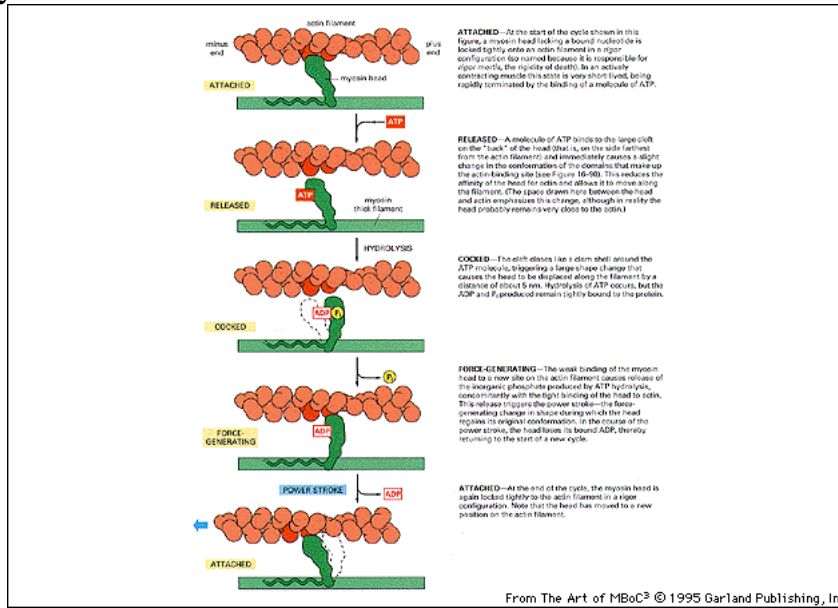
Troponin tropomyosin



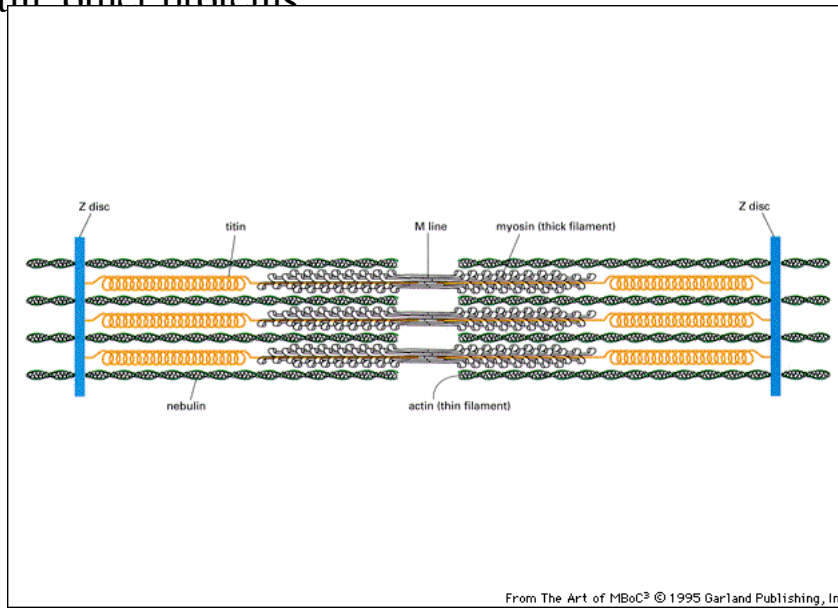
Troponin, tropomyosin



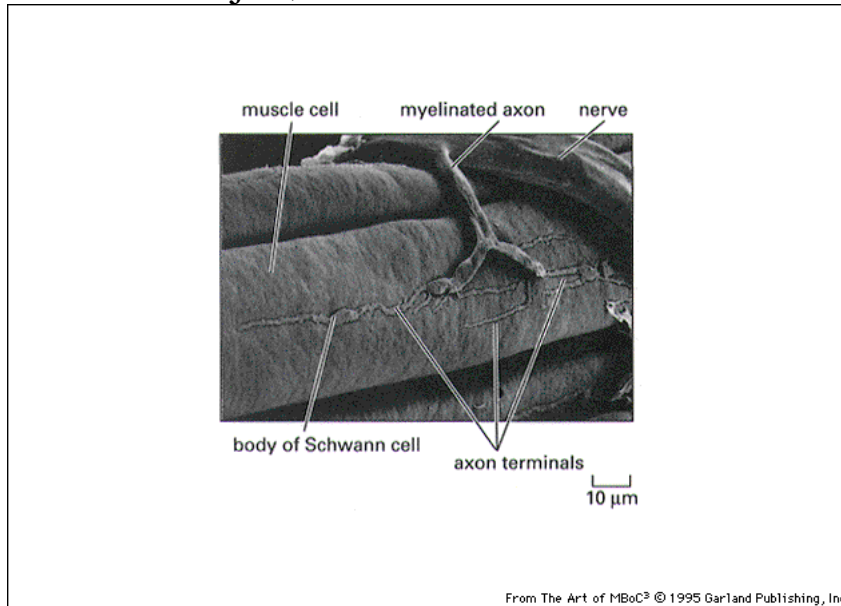
Myosin as a molecular motor



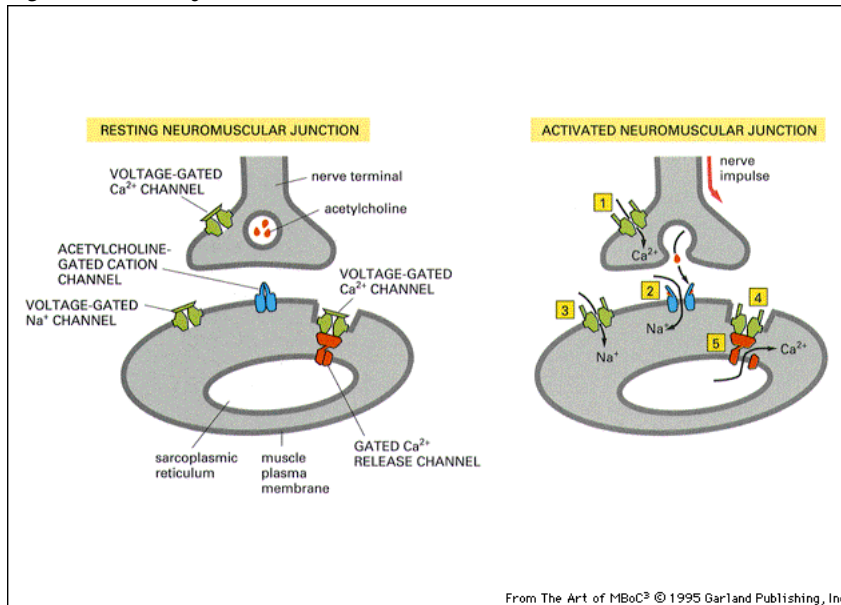
Titin, other proteins



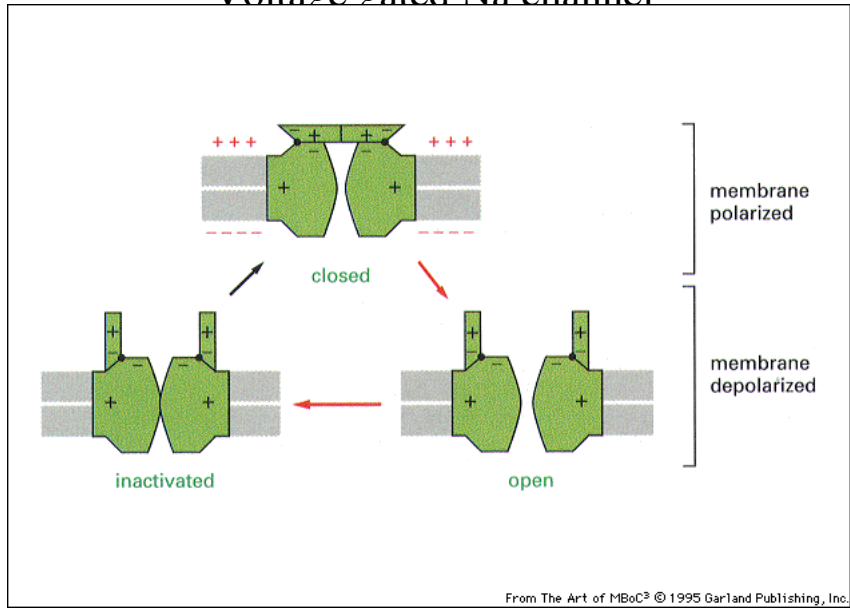
Neuromuscular jxn, S.E.M.



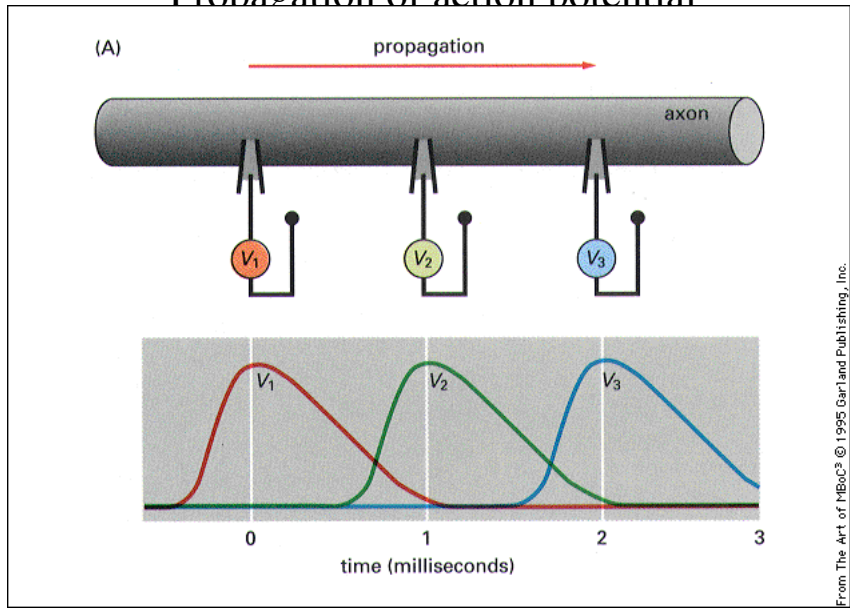
Nmj summary



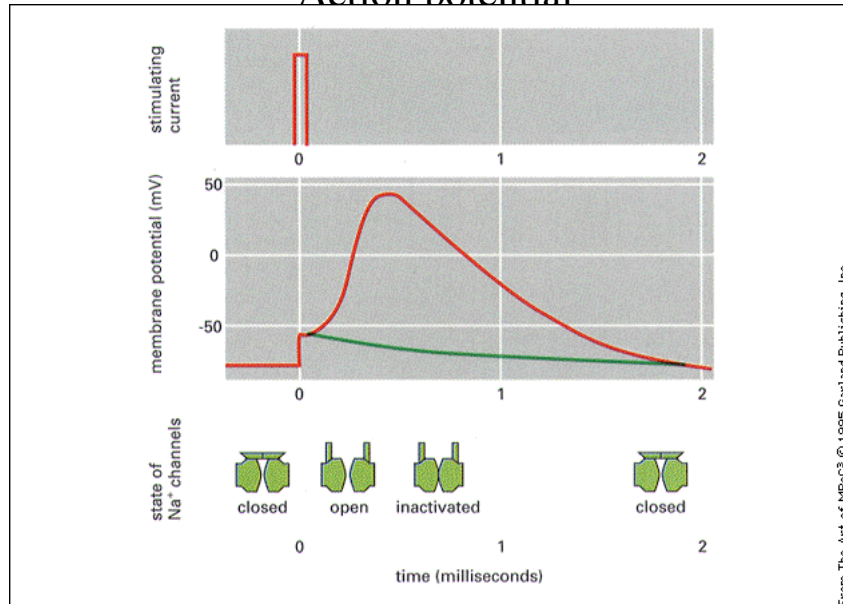
Voltage gated Na channel



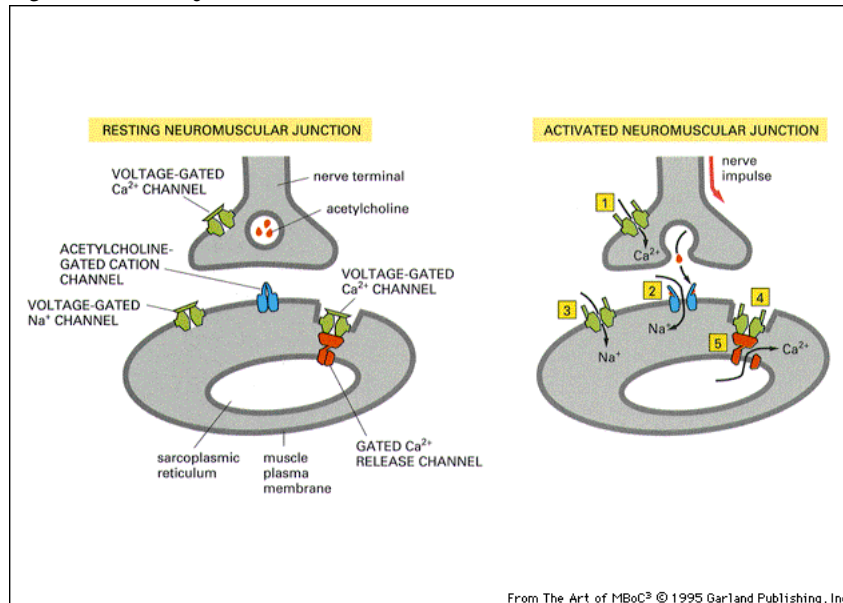
Propagation of action potential



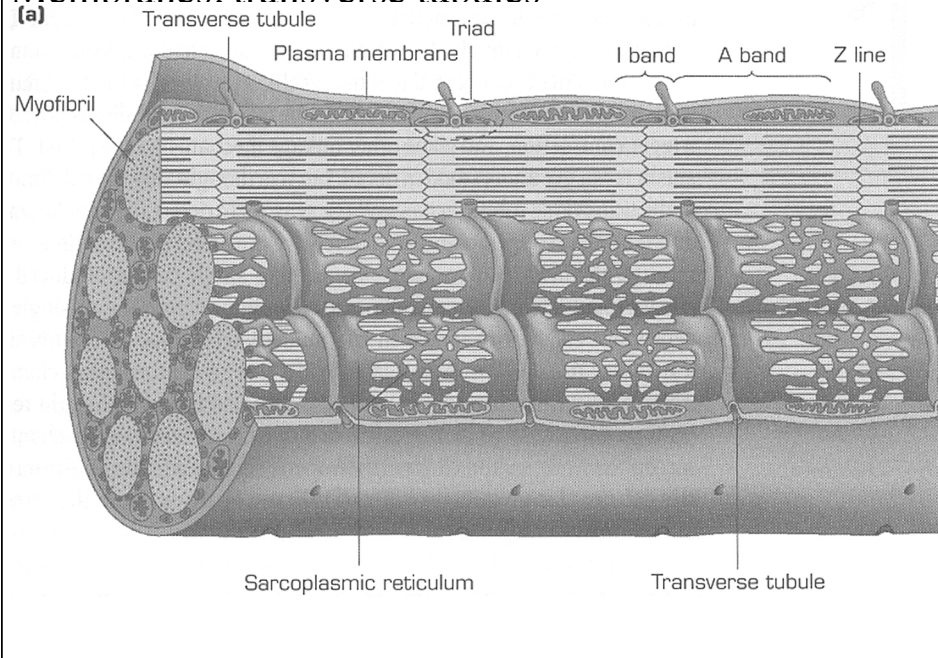
Action potential



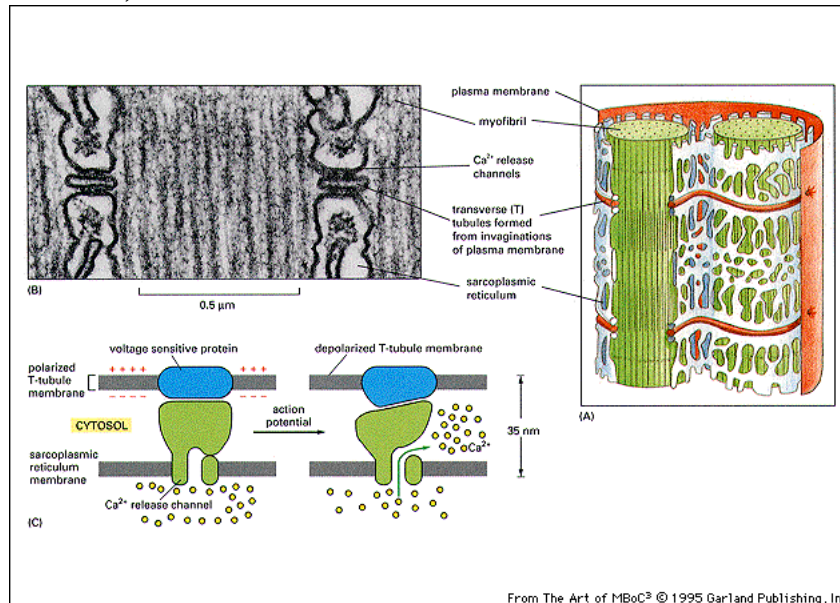
Nmj summary



Membranes, transverse tubules



T tubules, SR



<http://www.youtube.com/watch?v=mWPmUqRZYls>

Nominalization: Zombie nouns

<u>Living word</u>	<u>Zombie word</u>
Form	formation
Pompous	pomposity
Abstract	abstraction
Ambiguous	ambiguity
Participate	participation
Peripheral	peripherality
Consider	consideration

Derived from "Nominalizations Are Zombie Nouns"
Helen Sword. New York Times, July 23, 2012.

The proliferation of nominalizations in a discursive formation may be an indication of a tendency toward pomposity and abstraction.

The *proliferation of nominalizations* in a discursive *formation* may be an *indication* of a *tendency toward pomposity and abstraction*.

Objective considerations of contemporary phenomena compel the conclusion that success or failure in competitive activities exhibits no tendency to be commensurate with innate capacity, but that a considerable element of the unpredictable must invariably be taken into account. (*George Orwell satire*)

Objective *considerations* of contemporary phenomena compel the *conclusion* that success or failure in competitive *activities* exhibits no *tendency* to be commensurate with innate *capacity*, but that a considerable element of the *unpredictable* must invariably be taken into account.

I returned and saw under the sun, that the race is not to the swift, nor the battle to the strong, neither yet bread to the wise, nor yet riches to men of understanding, nor yet favour to men of skill; but time and chance happeneth to them all.

Ecclesiastes 9:11

Derived from "Nominalizations Are Zombie Nouns"; Helen Sword. New York Times, July 23, 2012.

Ach receptor

