

JARINGAN OTOT

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Chapter 49:
Movement &
Support



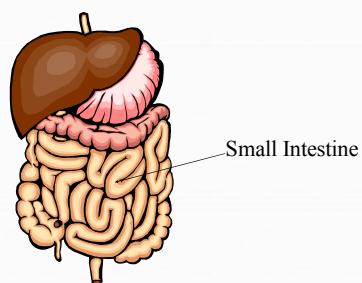
Jaringan Otot

- Mengandung protein kontraktil
- Sel otot & substansi interselularis
- Berdasarkan struktur & fungsinya:
 1. Otot polos (textus muscularis non striatus)
 2. Otot seran lintang (otot rangka/textus muscularis striatus)
 3. Otot jantung (textus muscularis cardiacus)

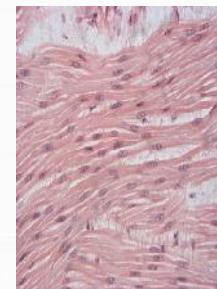
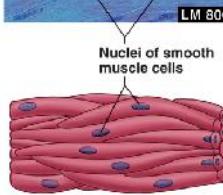
Otot Polos

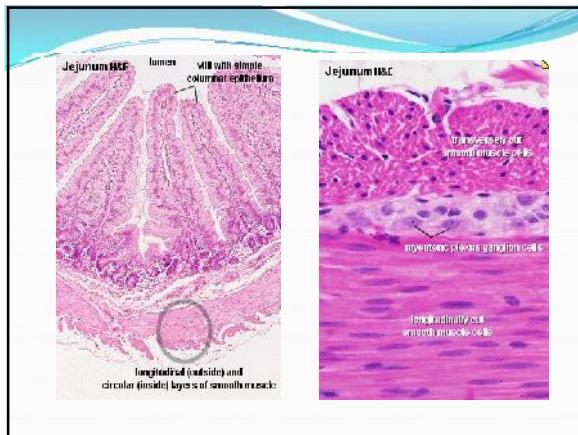
- Bentuk seperti kumparan (fusiform)
- Inti di tengah sel
- Sitoplasma: homogen
- Otot polos terkecil: pembuluh darah, terbesar: uterus saat wanita hamil.
- Lokasi: pd semua alat yg mampu melakukan kontraksi di luar kehendak kita

Contoh Otot Polos



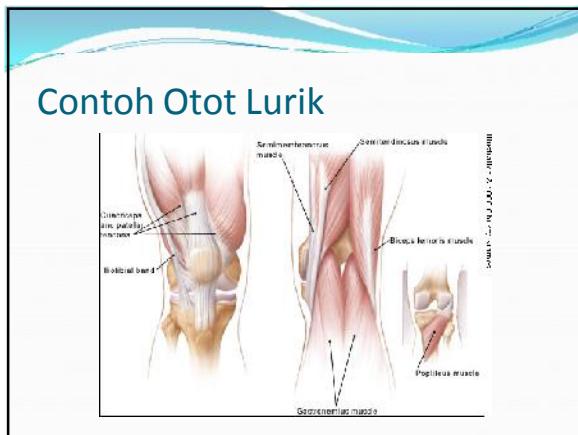
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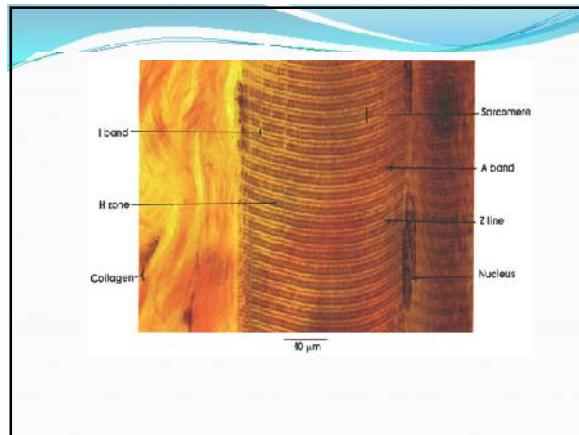
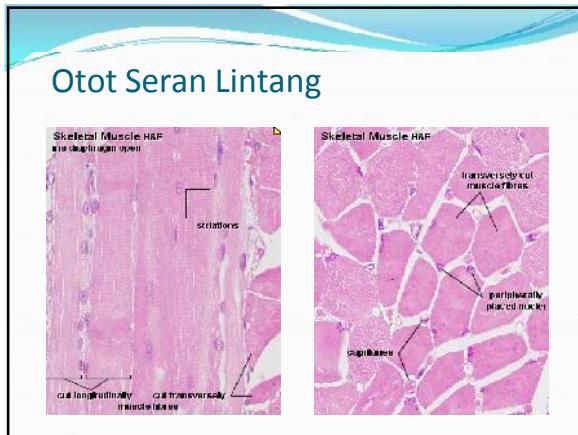
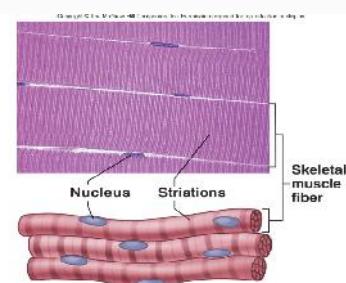


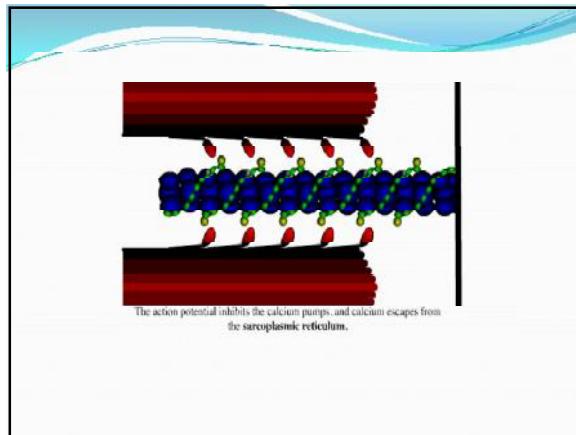
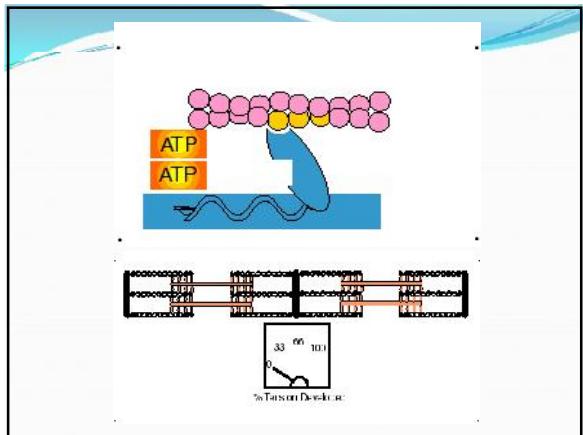
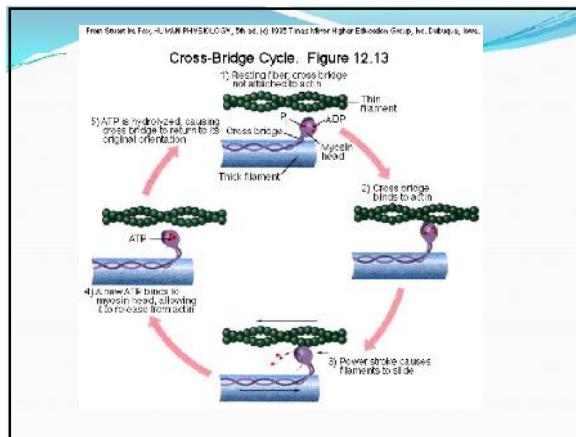
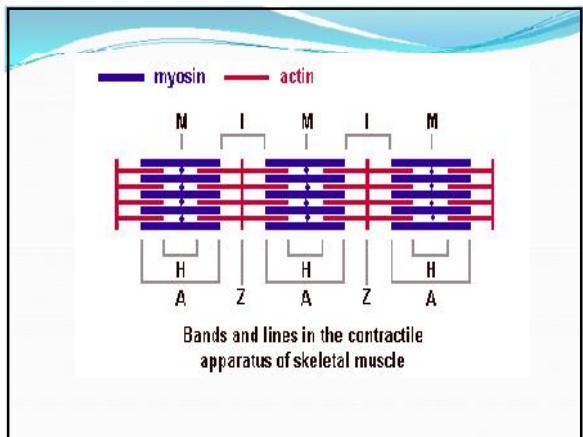
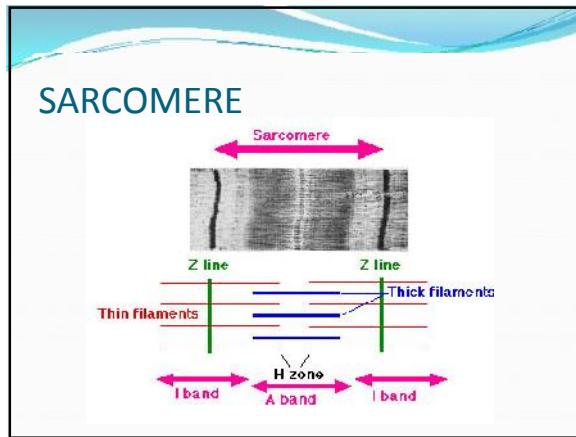
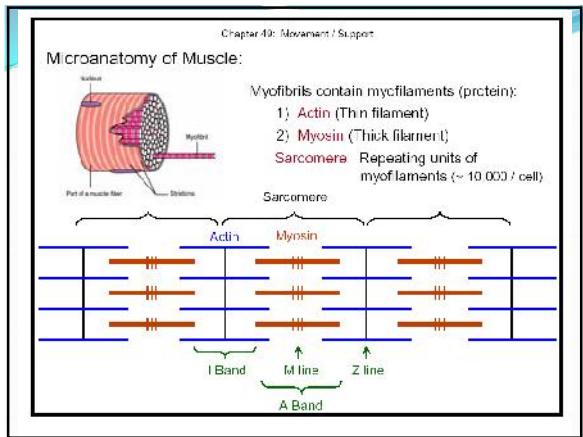
Otot Lurik / Seran lintang

- Struktur sel otot rangka
- Inti di tepi sel
- Sitoplasma mpy myofibril, pd mikroskop elektron tampak myofilamen
- Pd potongan membujur: sel-sel berdampingan, menunjukkan batas sel yg tdk jelas spt sinsitium, shg nukleus tampak banyak
- Kontraksi: disadari



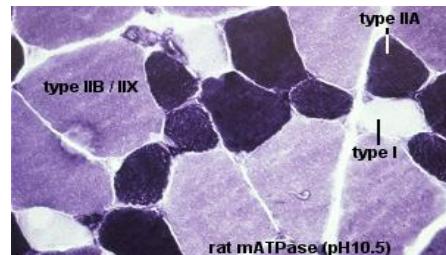
Otot Seran lintang





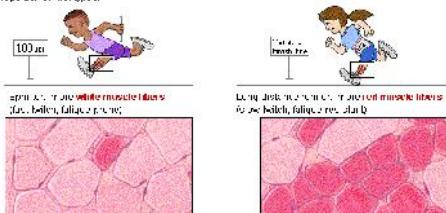
- The action potential inhibit the Ca pump & Ca escapes from the sarcoplasmic reticulum.
- Ca binds to troponin (yellow), causing a conformational change & movement of tropomyosin (green). This exposes the myosin head binding site (white) on the actin (blue).
- After the myosin head (red) binds to the actin, the energy from ATP is necessary to produce movement of the myosin head. This process repeats itself many times in a single contraction, pulling the Z-lines (black line) closer together.

Tipe serabut otot skelet



Tipe serabut otot lurik

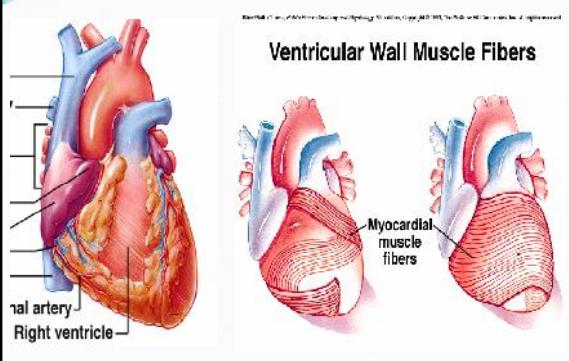
All muscles contain a mixture of fiber types. However, strong individuals have the same muscle containing the proportion of fast type.



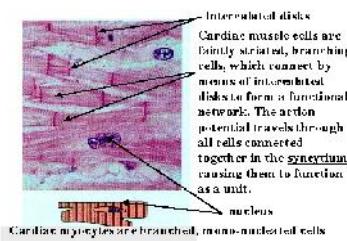
Otot Jantung

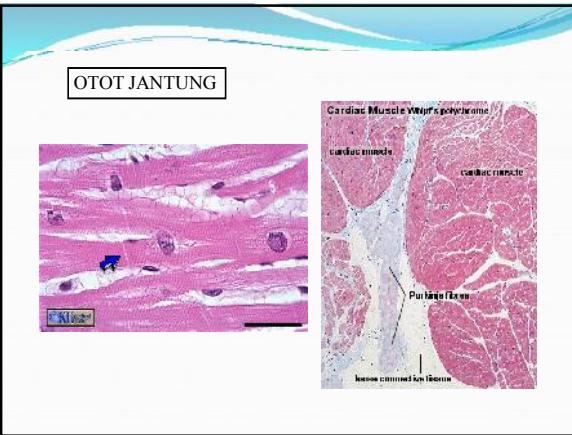
- Sel-sel berbentuk silinder, saling berhubungan dg hubungan khusus → discus intercalatus
- Sitoplasma mirip otot rangka
- Nukleus terlihat jelas, di pusat sel

Jantung



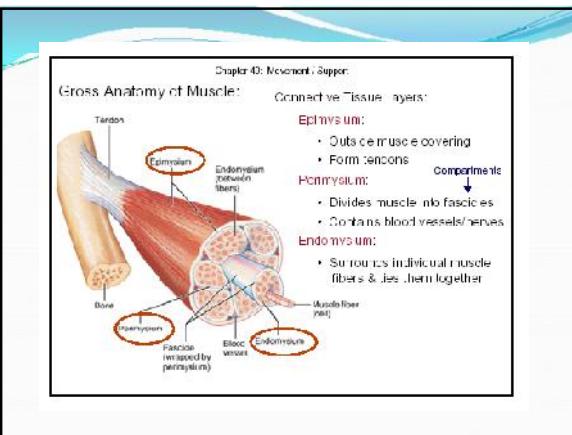
Cardiac Muscle Characteristics





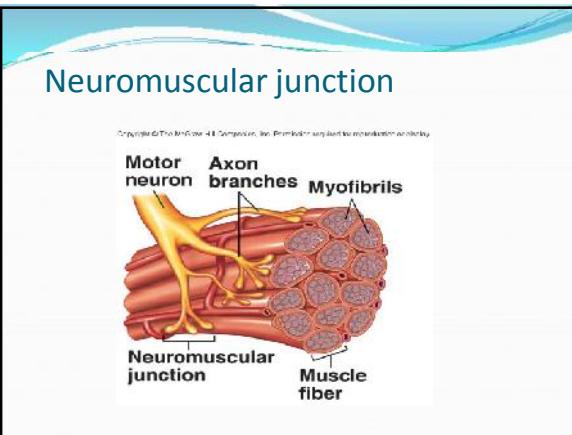
Selubung Otot

- Merupakan serabut penyusun otot, terakit menjadi berkas-berkas yg rapi
- Yg disebut muskulus (makroanatomi): gabungan berkas otot yg dibungkus oleh jaringan kolagen padat.



Jenis Selubung Otot

- **Epimisium:** bungkus yg terletak di luar muskulus. Pd makroanatomi: fascia profunda.
- **Perimisium:** percabangan epimisium, merupakan sekat yg membungkus kesatuan otot yg lebih kecil. Pd makroanatomi: fascia muscularis
- **Endomisium:** percabangan perimisium, menyelubungi berkas otot yg lebih kecil. Dikenal dg: myofibra (disusun oleh sinsitium sel otot)



Muscle Tissue Types

