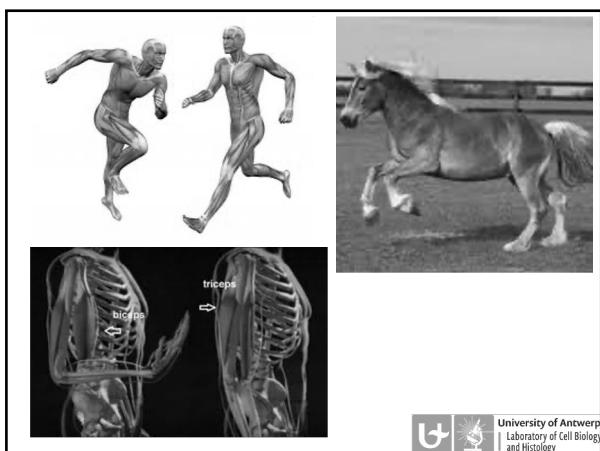


Skeletspierweefsel

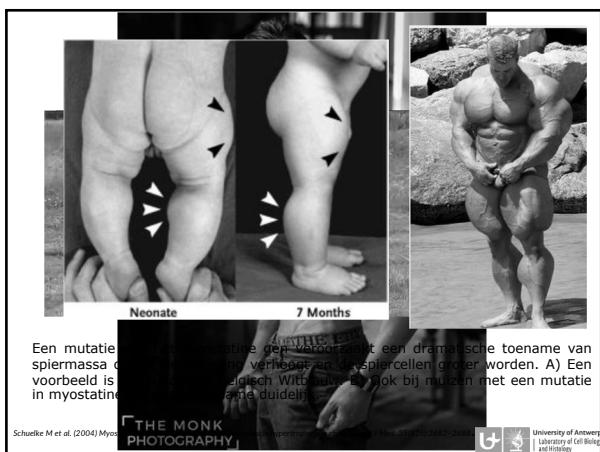


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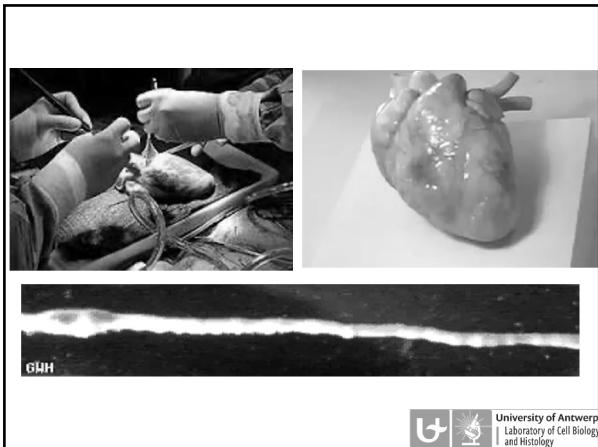
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2



3

Skeletspierweefsel



4

3 hoofdtypen:

1. Skeletspierweefsel
2. Hartspierweefsel
3. Glad spierweefsel

Specifieke terminologie:

- sarcolemma
- saroplasma
- saroplasmatisch reticulum
- sarcosoom
- sarcolemma

The diagram, titled 'GRAPHIC 6.2. Types of Muscle', shows three main types of muscle tissue.
Skeletal Muscle: Shows a large muscle fiber with multiple nuclei. Labels include Epimysium, Perimysium, Endomyxium, Sarcosoma, Nucleus, and Myofibril. It also shows a smaller 'Fascicle' and a 'Total muscle'.
Smooth Muscle: Shows a single muscle fiber with one nucleus. Labels include Myoblast and (Relaxed).
Cardiac Muscle: Shows a muscle fiber with a single nucleus. Labels include Isolated fibers, Innervated disk, Endomyxium, Purkinje fiber, and Nucleus.
The diagram illustrates how each type of muscle is organized at different levels of organization.

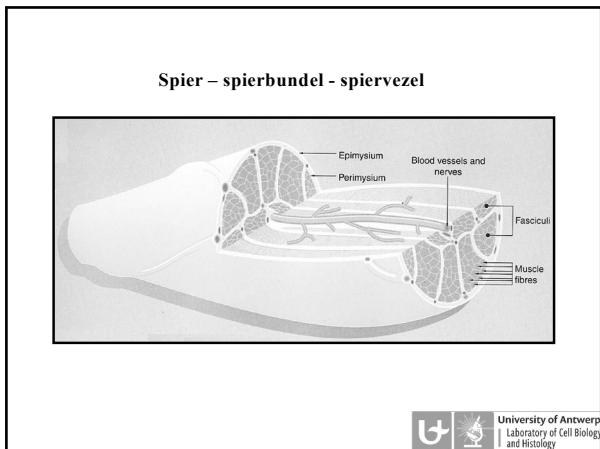
5

Lengte spiercel: 1mm - 30/50 cm
Doormeter spiercel: 10 - 100 μm
Meerkernig, wandstandige kernen
Niet vertakt
Snelle, krachtige contractie (meestal willekeurig)
Training: hypertrofie (celvolume \uparrow)
(geen weefselgroei door hyperplasie wat wel kan bij gladde spier)
Langdurige immobilisatie: atrofie

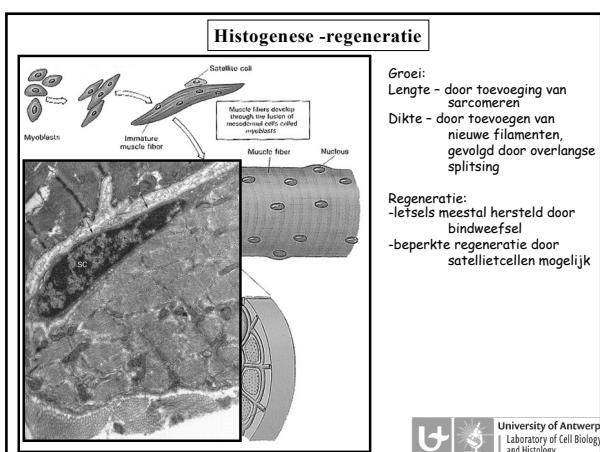
The diagram, titled 'GRAPHIC 6.1. Molecular Structure of Skeletal Muscle', shows a cross-section of a muscle fiber. It highlights the 'One muscle fiber' containing 'Myofibrils' and 'Motor neuron'. A detailed inset shows the internal structure of a myofibril, specifically the 'Transverse (T) tubule', 'Sarcoplasmic reticulum', 'Myofibril', 'Disk', 'H band', and 'B band'. Below this, a larger inset shows the 'A band' and 'Z line'. At the bottom, a legend identifies 'Myosin', 'Troponin', 'Actin', 'Tropomyosin', and 'Filament'. A note states: 'Each thick filament is surrounded by a hexagonal array of thin filaments.'

6

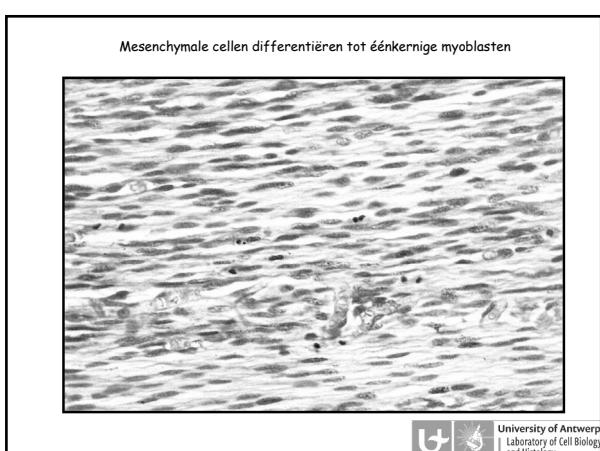
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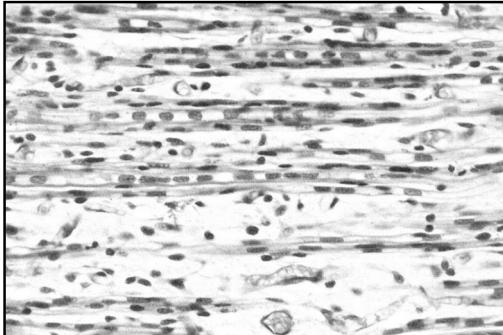
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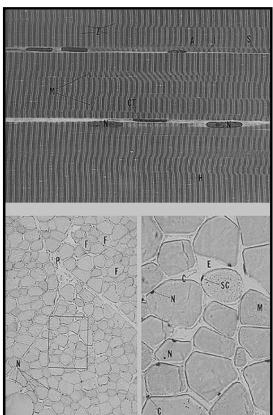
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Skeletspierweefsel

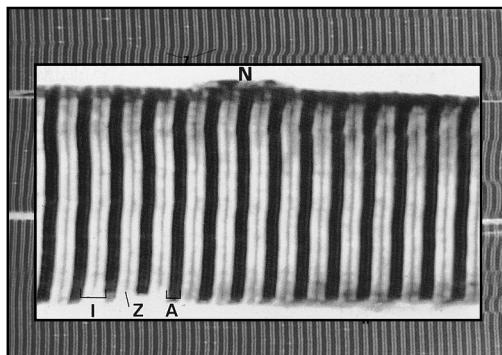
Myoblasten fuseren en vormen langwerpige meerkerige cellen ("myotubes")



10

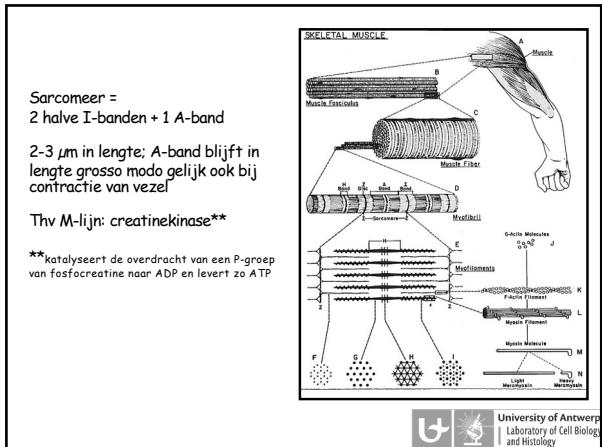


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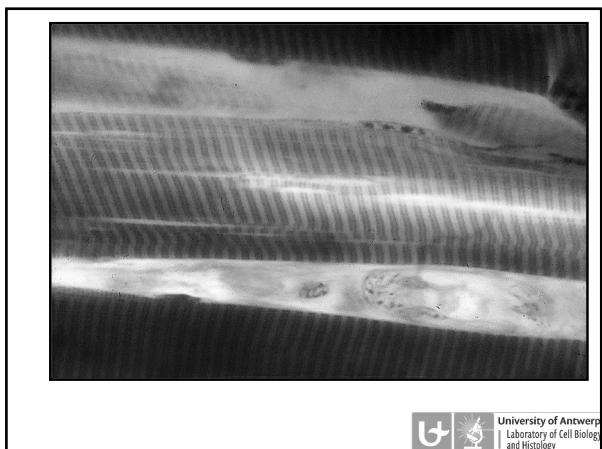


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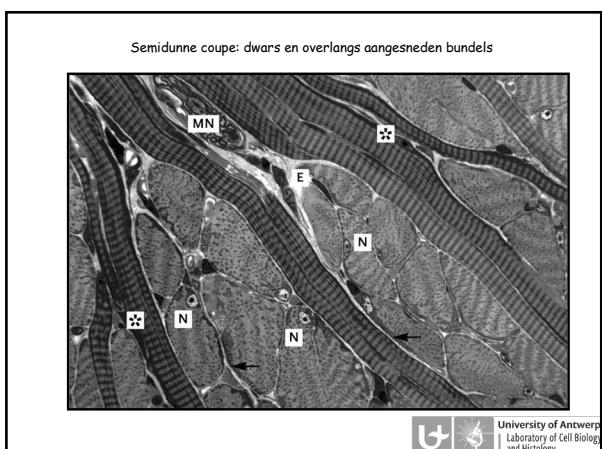
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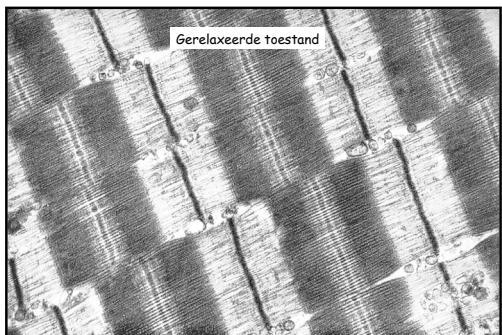
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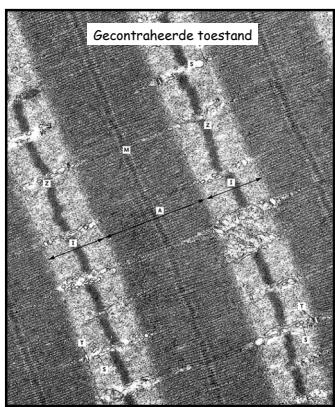
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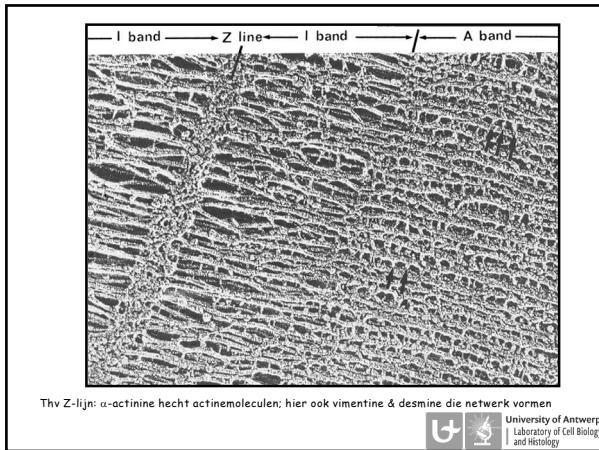
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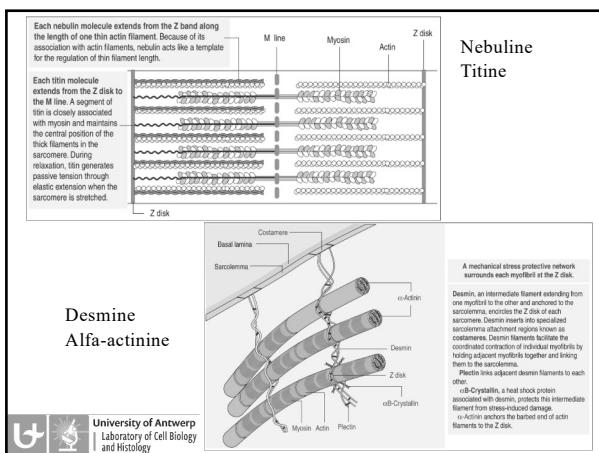
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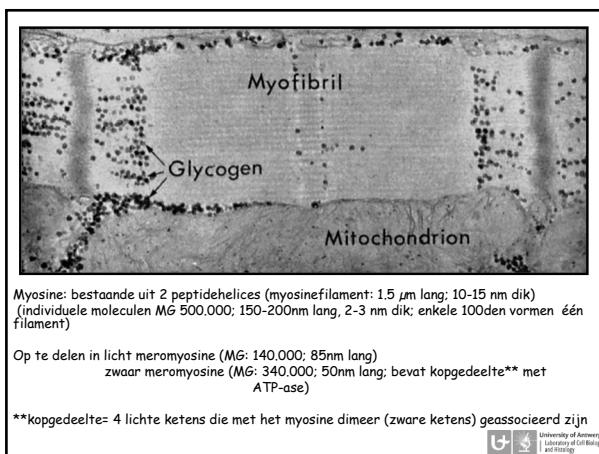
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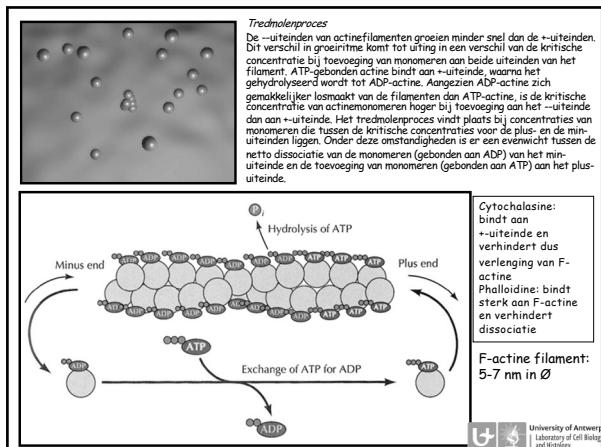


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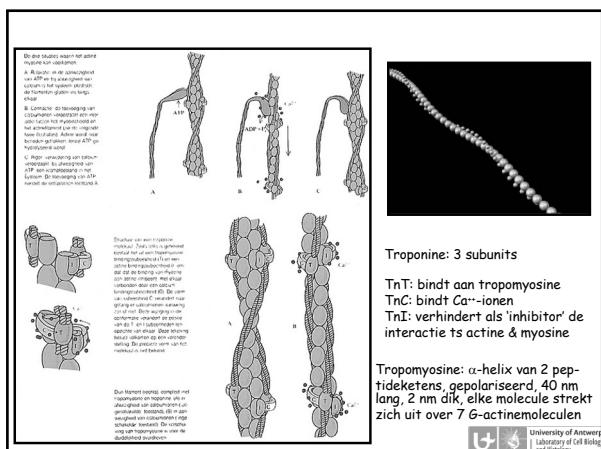


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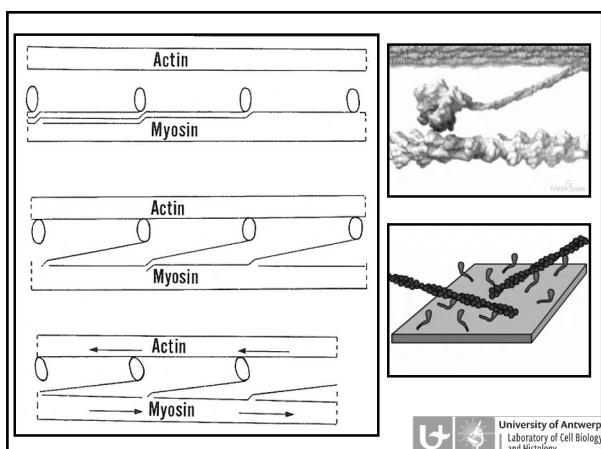
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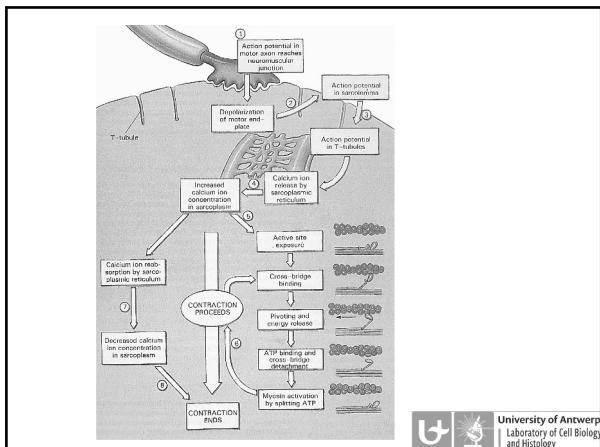


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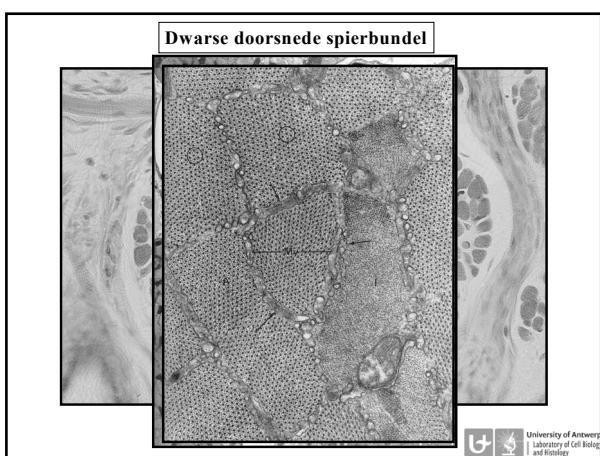


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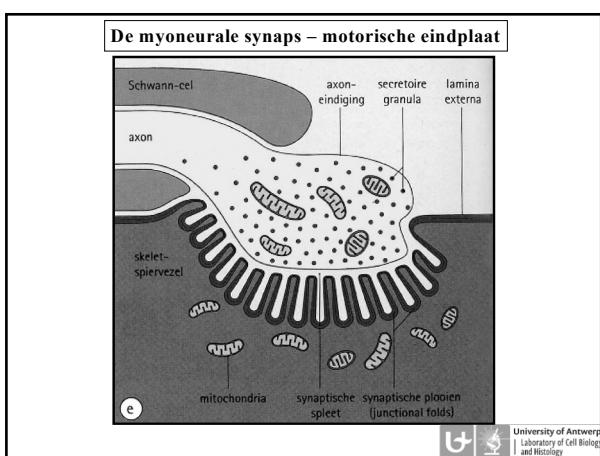
Skeletspierweefsel



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Skeletspierweefsel

De myoneurale synaps – motorische eindplaat

Verschil met neuro-neuronale synaps:

- bredere synaptische spleet (50-100 nm) (cfr neuro-neuronale synaps: 20 nm)
- contactoppervlak is groter dan bij neuro-neuronale synaps
- groter aantal synaptische vesikels
- glycocalyx van spiercel loopt door in synaptische spleet
- postsynaptische membraan vertoont instulpingen*, niet gevuld door presynaptische membraan, wel door glycocalyx

*subneuraal apparaat

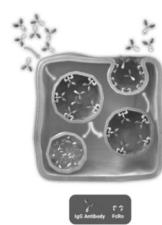
Motorische eindplaat is plaats waar electromechanische koppeling geïnitieerd wordt

Pathologie: cfr Myasthenia gravis (Argenx: Efgartigimod)

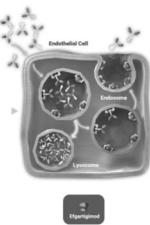


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IgG Recycling in Vascular Endothelium

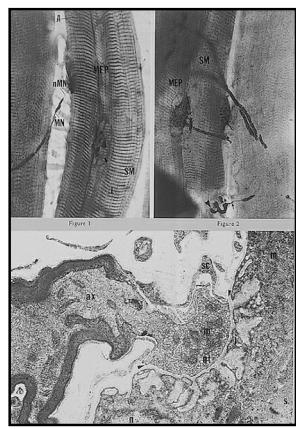


Efgartigimod[®]: Proposed Mechanism of Action



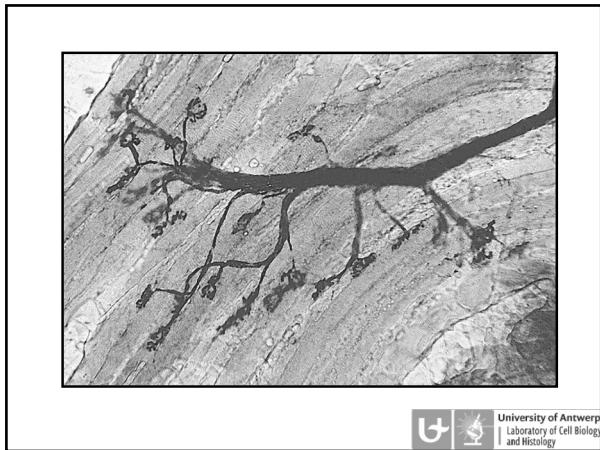
The neonatal Fc receptor (FcRn) is known to extend half-life and availability of pathogenic IgG antibodies.

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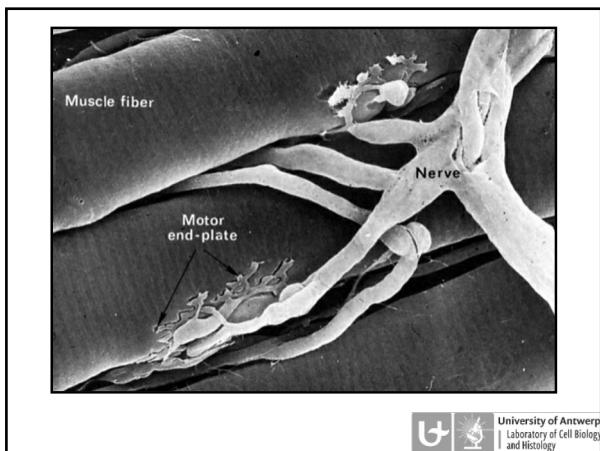
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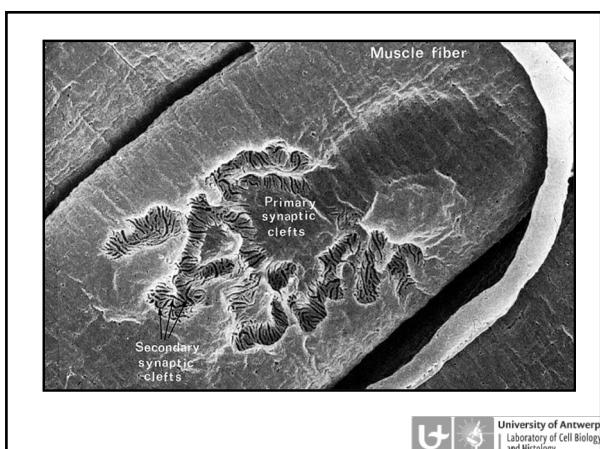
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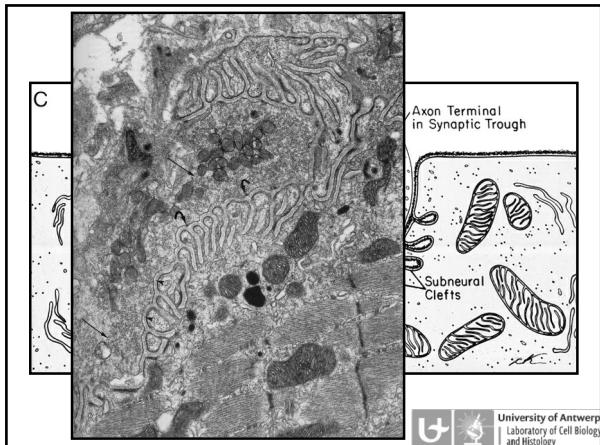
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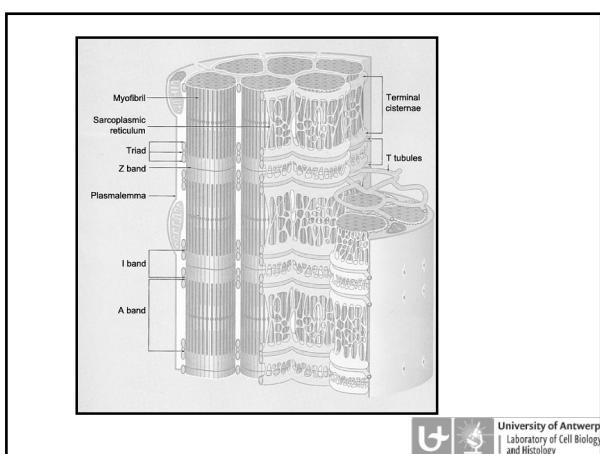
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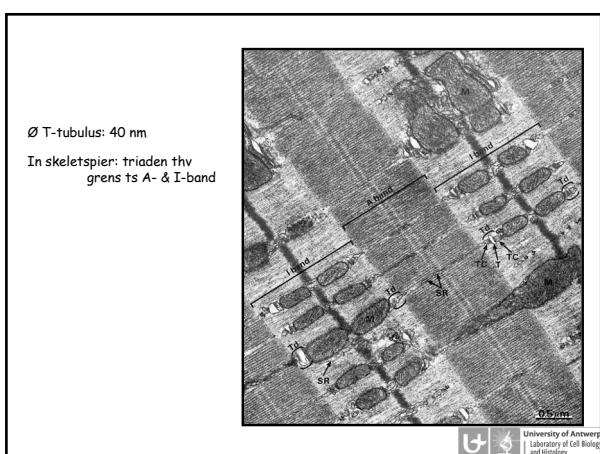
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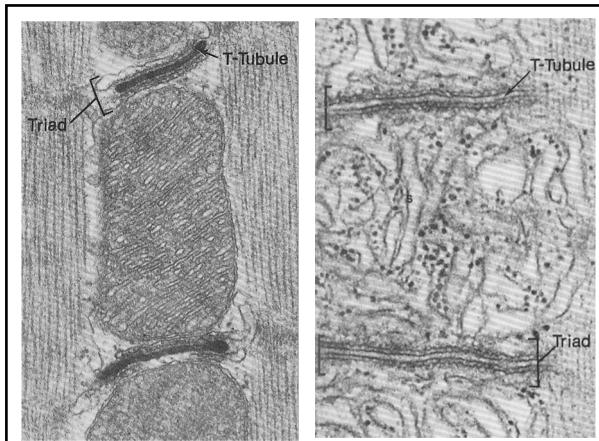


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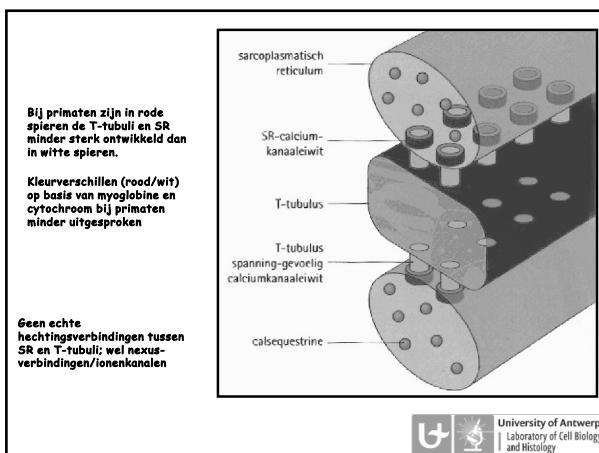


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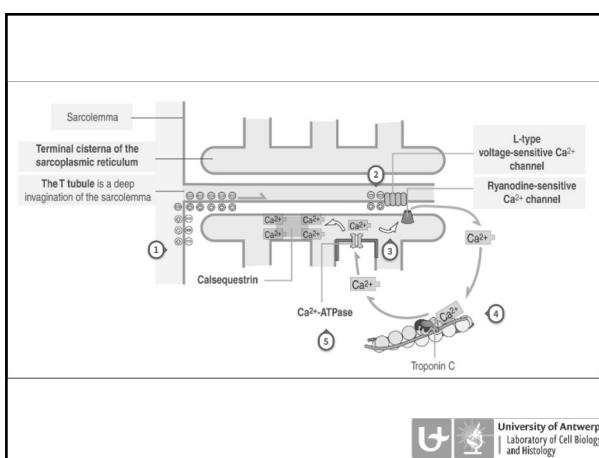
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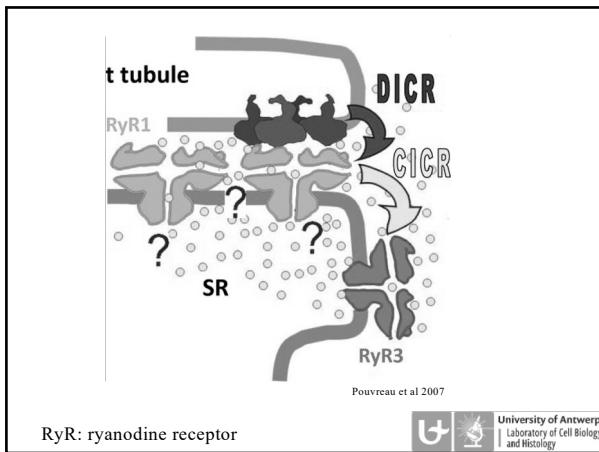


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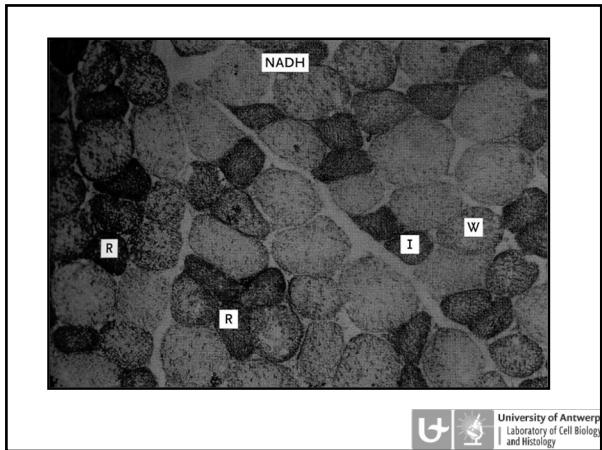
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SKELETPIERVEZELS : Typen					
	Type I	Type 2A	Type 2B	Type 2C	Type 2X (2D)
Twitch-contractie	slow	fast	fast	-	fast
Vermoeibaarheid (fatigability)	resistant	resistant	fatigable	-	fatigable
Myosine ATP-ase					
PH=9,8	licht	donker	donker	donker	donker
PH=4,5	donker	licht	donker	donker	licht
PH=4,3	donker	licht	licht	donker	licht
Succinaatdehydrogenase	donker	donker	licht	donker	licht
α-glycerofosfaatdehydrogenase	licht	intermediair	donker	-	donker
Andere nomenclatuur :	I	II	II	II	II
	β-rood	α-rood	α-wit	-	α-wit
	S	FOG	FG	-	FG
(Slow twitch contraction)	(Fast twitch, oxidative, glycolytic)	(Fast twitch, glycolytic)	(Fast twitch, glycolytic)		(Fast twitch, glycolytic)
In pathologie:	Type I*: rode spiervezels -> eerder anaerob metabolisme				
	Type II**: witte spiervezels -> eerder anaerob metabolisme				
	Type III: intermediaire spiervezels				
* vleugelspieren van trekkers	** borstspieren van hoenderachtigen (2B)				
ledematen van mammalia	oogspieren van primaten (2B)				
rugspieren van primaten					

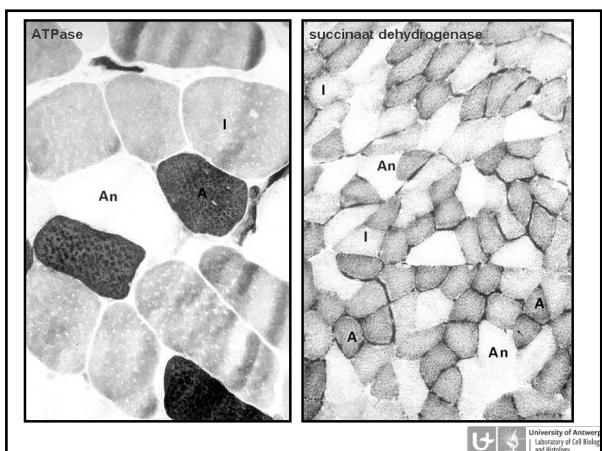
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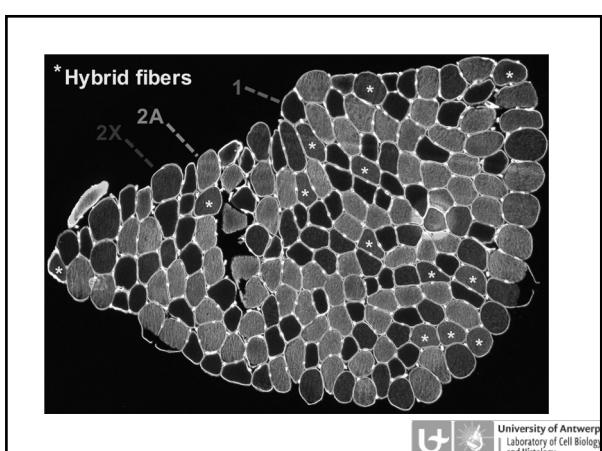
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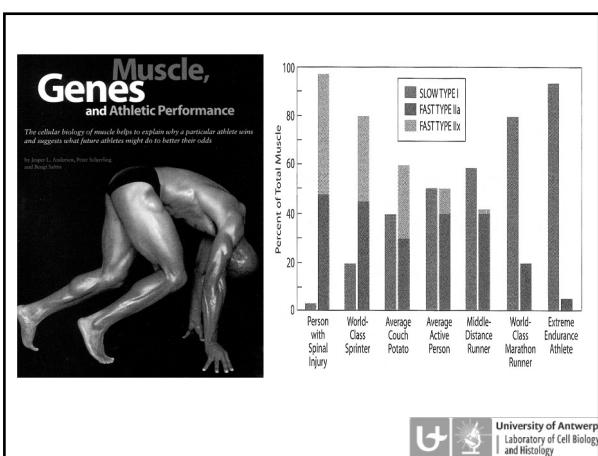


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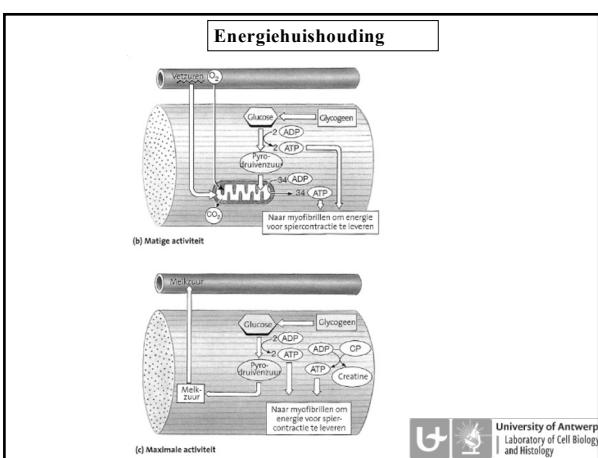
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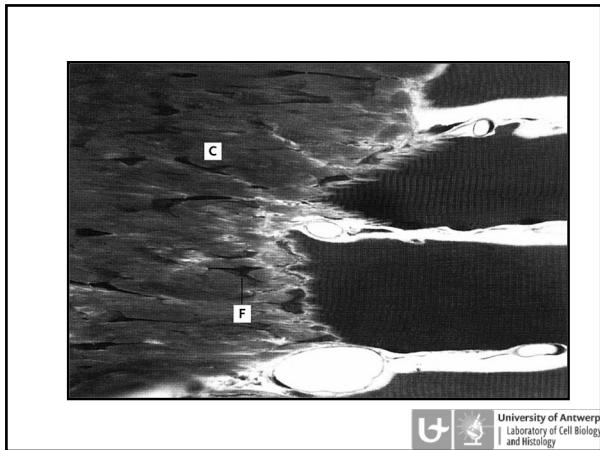


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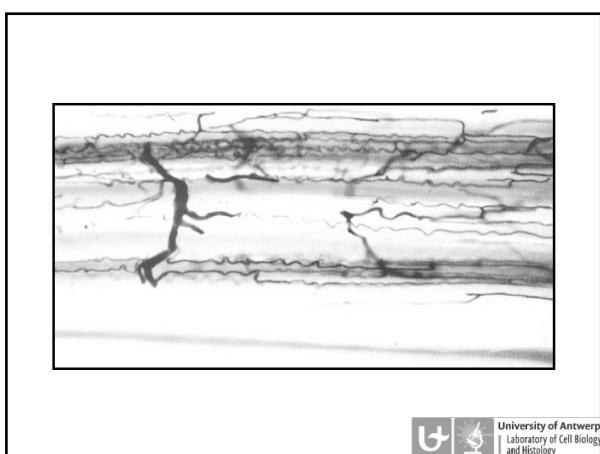


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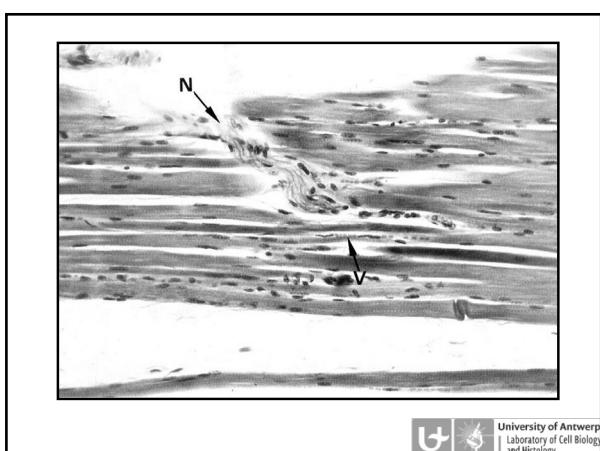
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Skeletspierweefsel

Spierspoel -proprioceptor

-3-20mm lang, 0,2mm dik

- 2 typen intrafusale vezels:
kernzakevezels (nuclear bag fibres):
b1: zure ATPase
b2: zure + alkalische ATPase

1-2 zeer dunne vezels die zich over ganse lengte van spierspoel uitstrekken

- kernkettingvezels (nuclear chain fibres):
c: alkalische ATPase

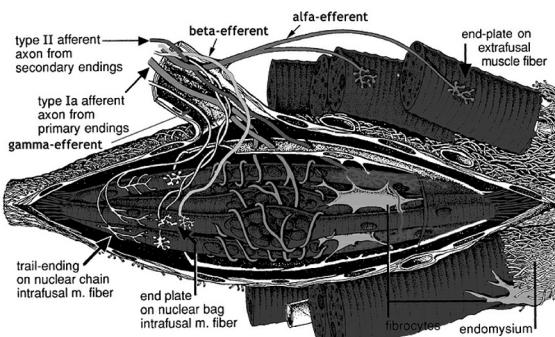
>2 vezels, dunner en niet de ganse lengte van spierspoel overspannend



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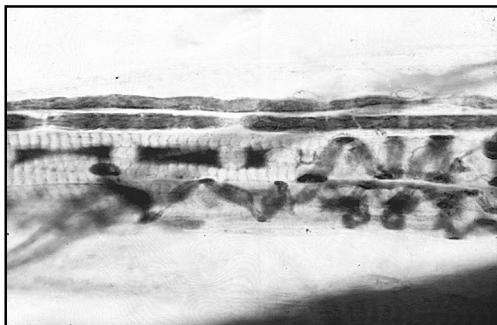
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Spierspoel -proprioceptor



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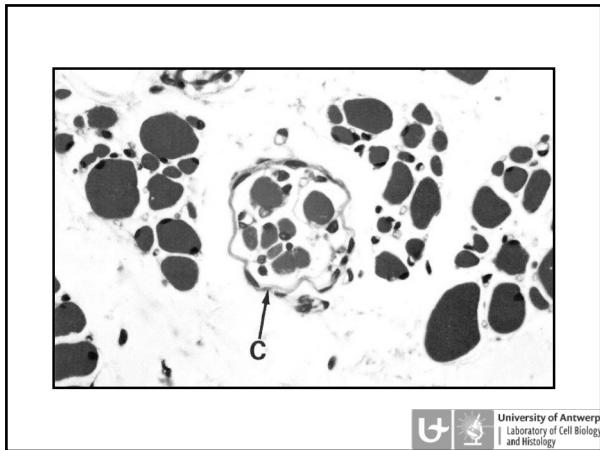
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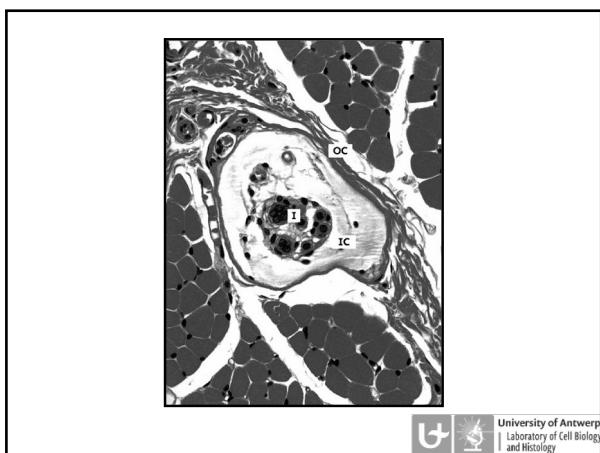
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Skeletspierweefsel



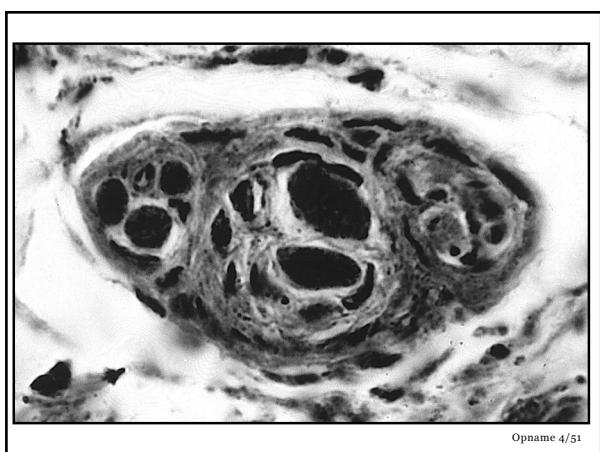
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Opname 4/51

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Skeletspierweefsel

Peeslichaampjes van Golgi

-analoog aan spierspoel, echter geen efferente innervatie
-Is-aferente vezel
-50% kleiner in vgl met spierspoel
-meten van spanning in collagene vezels

Cfr. kniepeesreflex
-quadriceps femoris wordt geroken wat resulteert in reflexmatige contractie van deze extensor.

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Peeslichaampjes van Golgi

-analoog aan spierspoel, echter geen efferente innervatie
-Is-aferente vezel
-50% kleiner in vgl met spierspoel
-meten van spanning in collagene vezels

Cfr. kniepeesreflex
-quadriceps femoris wordt geroken wat resulteert in reflexmatige contractie van deze extensor.

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Myopathiën= primaire spieraandoeningen

-kunnen congenitaal, metabolismisch of inflammatoir zijn

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