

Manual medicine in (older) children

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Ruth Kamping

Pediatric orthopedic

Course instructor of Manual medicine in children (ÄMKA)

Hannover, Germany

Sensorimotor dysfunction

Orthograde body control and
spatial ability
are the neurophysiological targets
of early childhood development



Impacts in adults – late impacts



Sensorimotor dysfunction

Common diagnosis:

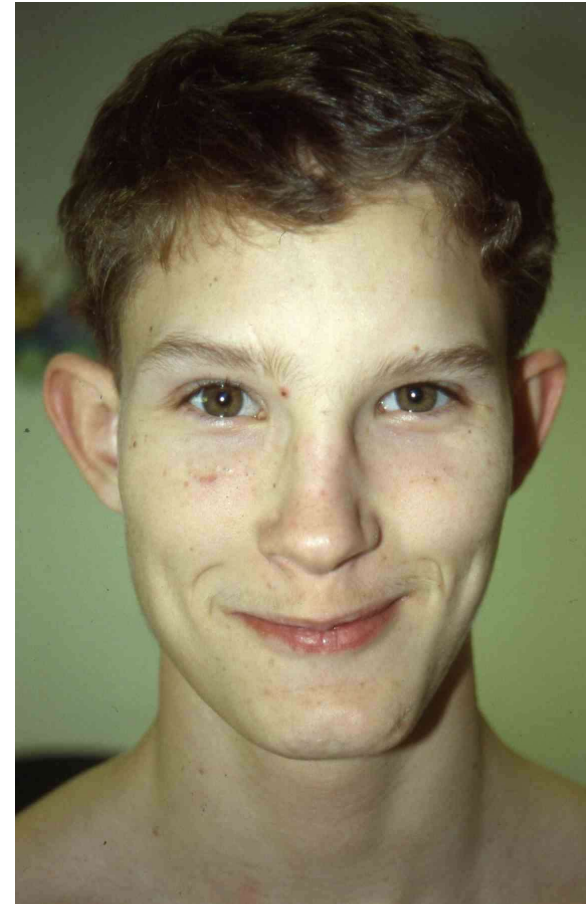
gait disturbance

Postural deformity

foot deformity

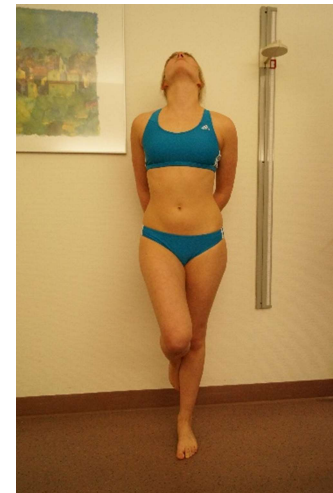
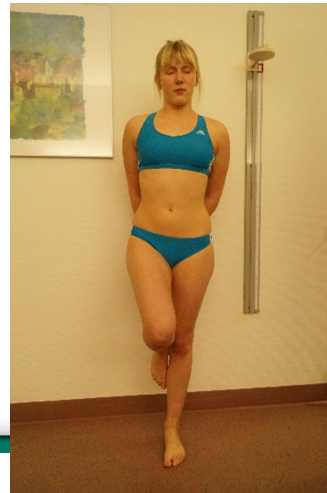
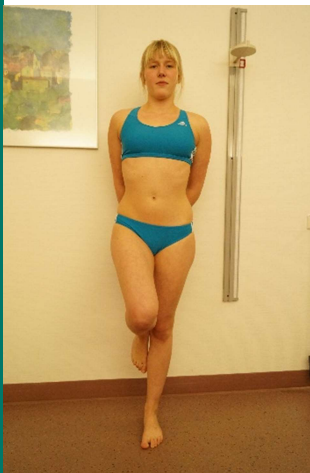
leg deformity

„weekness“ of connective tissue



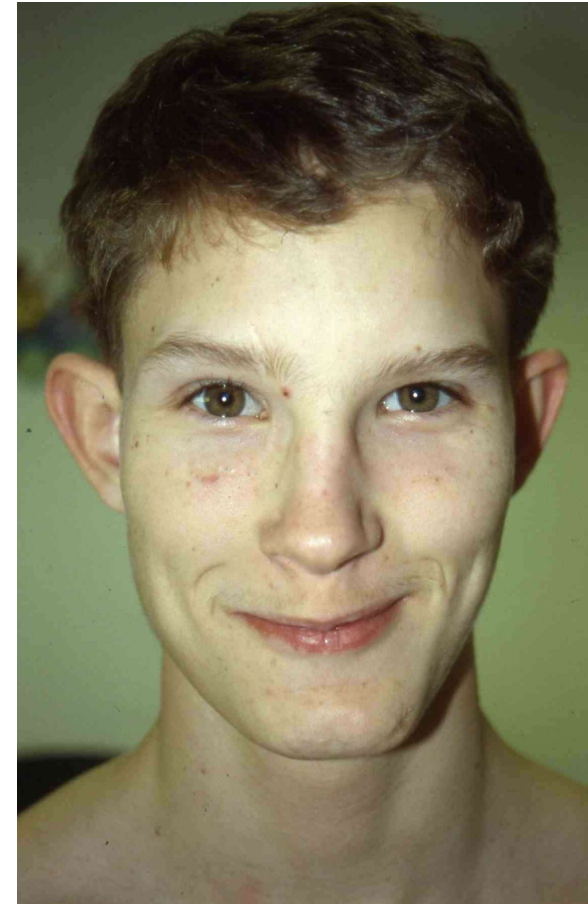
Sensorimotor dysfunction

- Impairment of musculoskeletal performance due to erroneous idea (= information) of movement in **space and time**

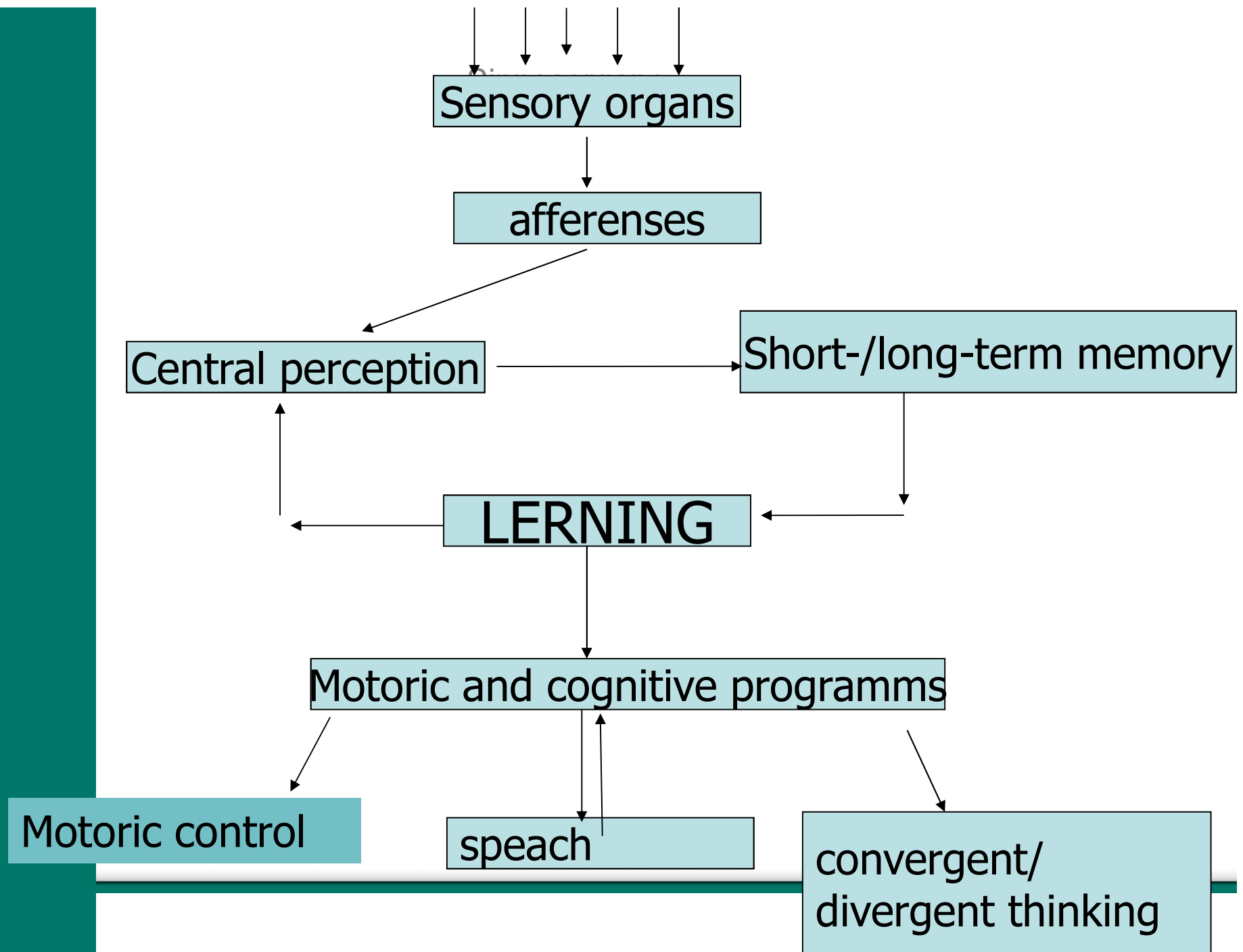


Sensorimotor dysfunction

- Problems in:
 - fine tuning of complex motion patterns
 - postural body control
 - Sense of space and balance
 - motion planning
 - Motion dosage and coordination



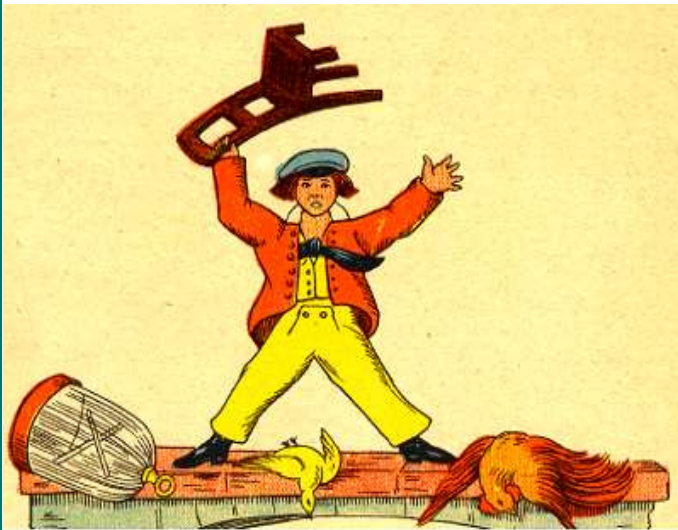
-> Jumping jack



Sensorimotor dysfunction (smD)

- Common property of all children with sensorimotor dysfunction is the disturbed **proprioception !**
- -> impairment of body/posture control:
orientation in space and gravity coping

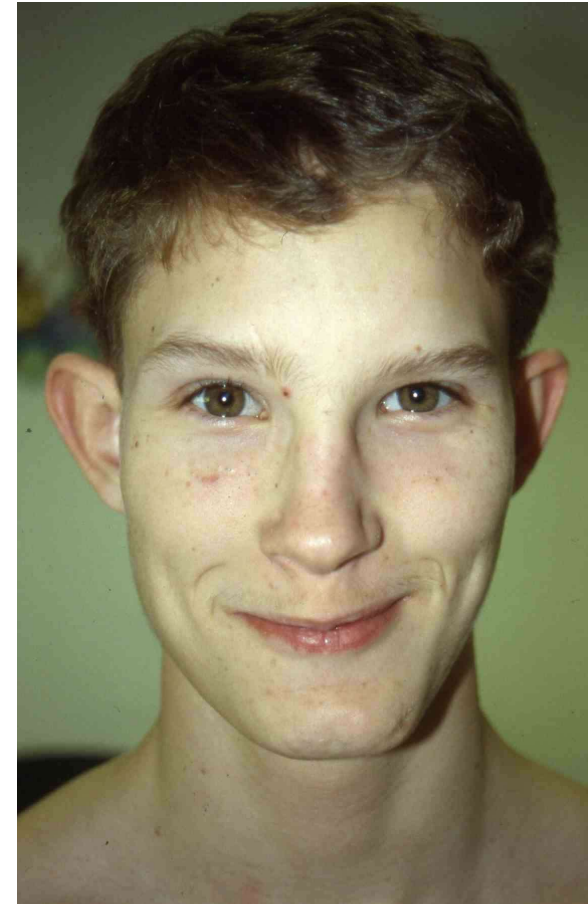
characteristics of behaviour in smD (by Inge Flehmig)



Pictures: Heinrich Hoffmann, 1845: Der Struwwelpeter

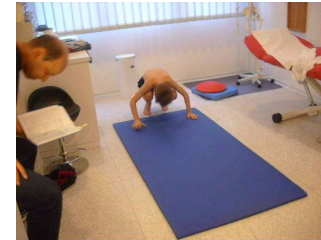
Sensorimotor dysfunction: risk or reason?

- 183 patients between 6 und 11 years
 - pregnancy at risk 16 %
 - delivery at risk 89 %
 - asymmetrical muscle tone in infancy 61% (picture album)
 - late sitting 64%
 - late standing 76%
 - walking onset after 16 months 82%



Motokybernetic test by Coenen

16 different tasks



coordination

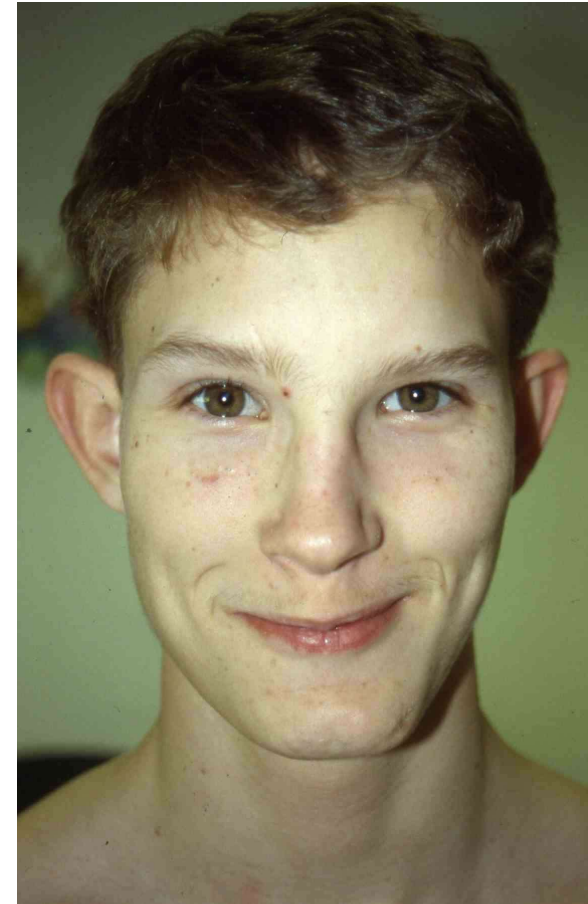


equilibration

conception of motion

Sensorimotor dysfunction

Travelers) check	When you need
Pass -> Scheck	a paper for a trip put a
	a traveler's check
vacancy	here hotel room
free's times	which no one is using
to be full's cup	We have no rooms -
will be left rem	We're full up
Don't be on the road with Tom	
depot	place where the trucks start from
Depot Zentrale	and come back to
tom	when something weighs a ton,
Tom's Gewicht	is very heavy
to save	Doctor always try to save
vetter	people live
gear	When a car goes faster or slower
gang	the driver must change gear



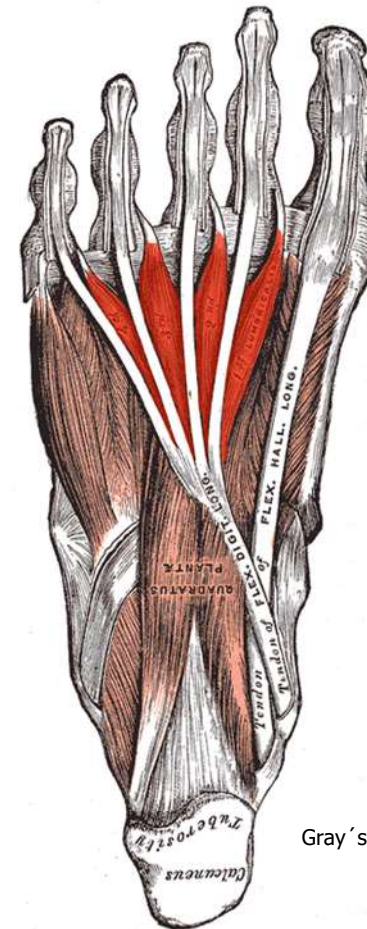
Proprioception: hand and foot

M. lumbricalis II:
34 – 49 Msp/gM



•M.
opponens:
17,6 Msp/gM

M. abductor poll. brev. :
29,3 Msp / g M



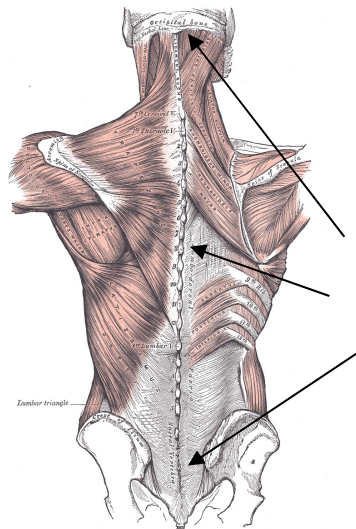
Mm. lumbricales pedis:
bis zu **38** Msp/gM

Gray's anatomy, 1918

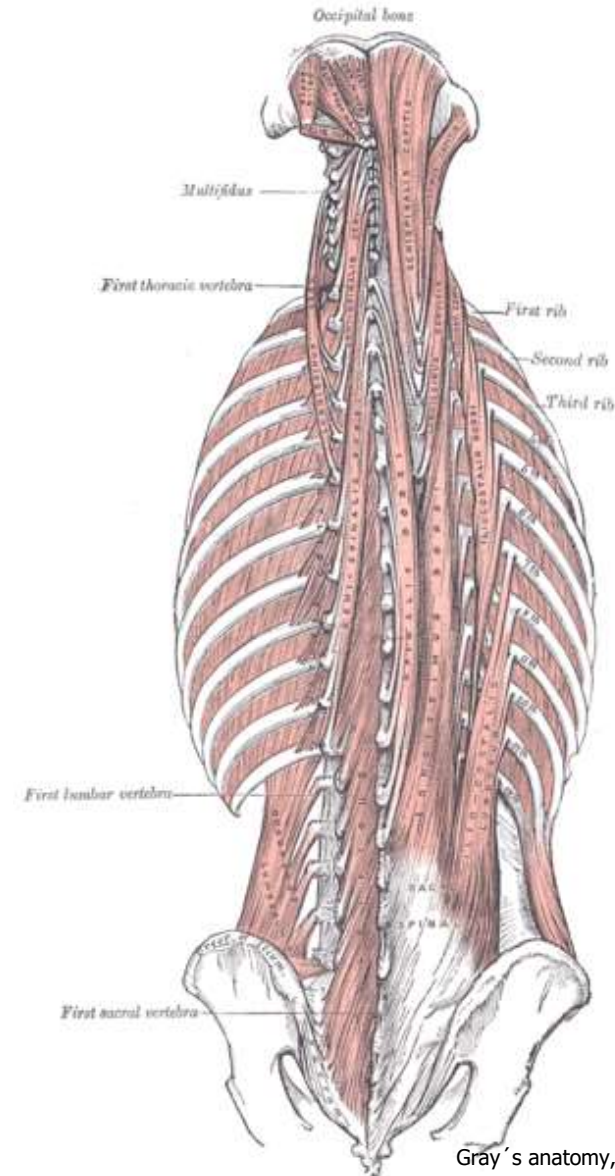
M. quadratus plantae (flexor
accessorius): **9,4** Msp/gM

Proprioception: Autochthone muscles

- one fascia (thoracolumbalis)
- Innervation from rami dorsales
- 3D
- Quantity of receptors



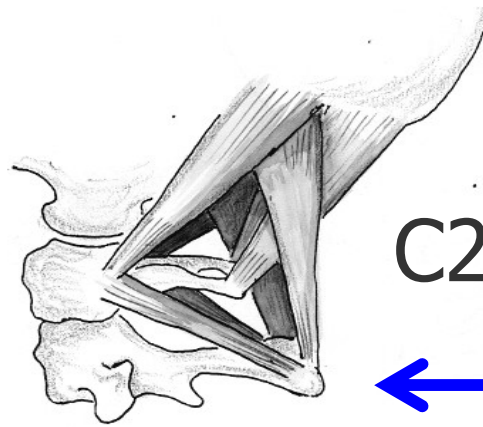
Gray's anatomy, 1918



Gray's anatomy, 1918

Anatomy

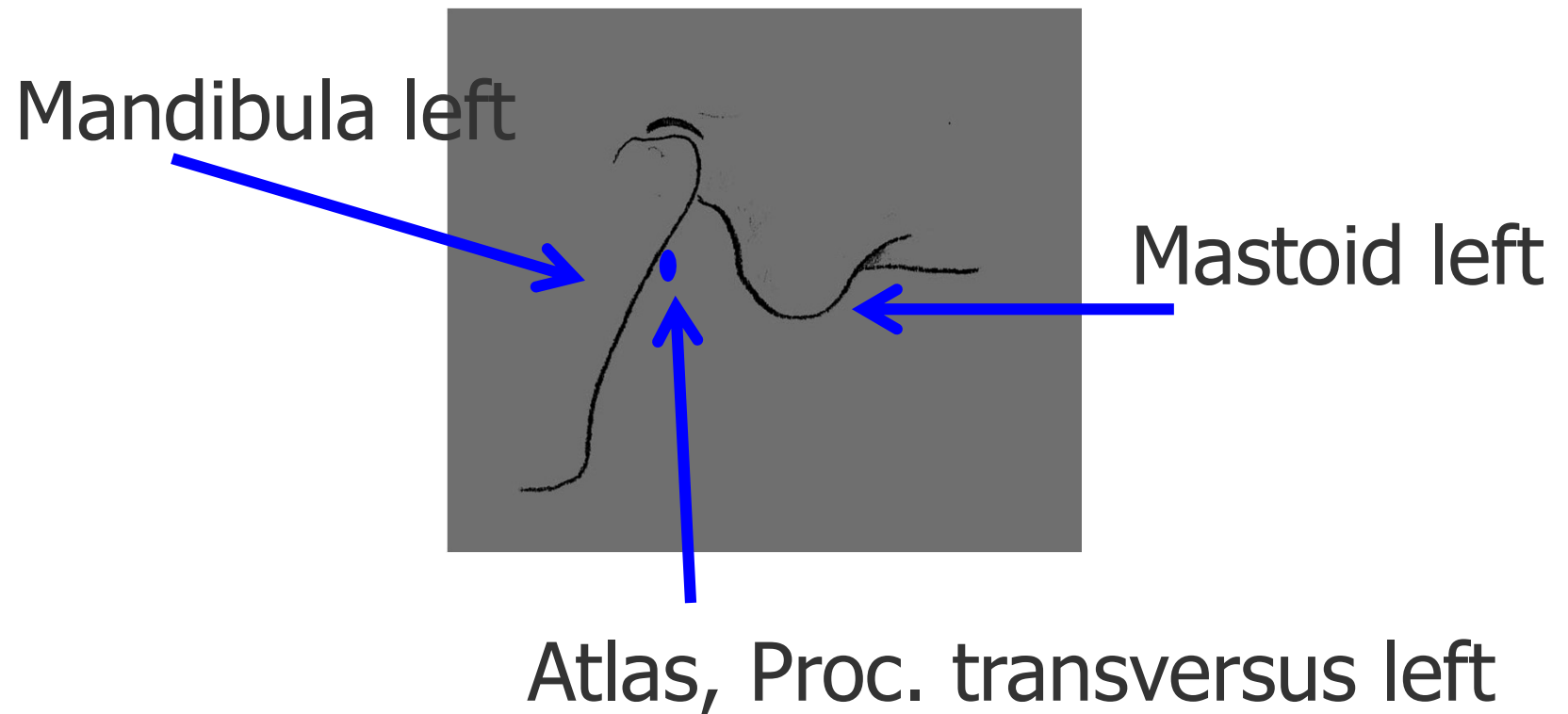
Exercise of palpation



C2 (Axis), Proc. spinosus

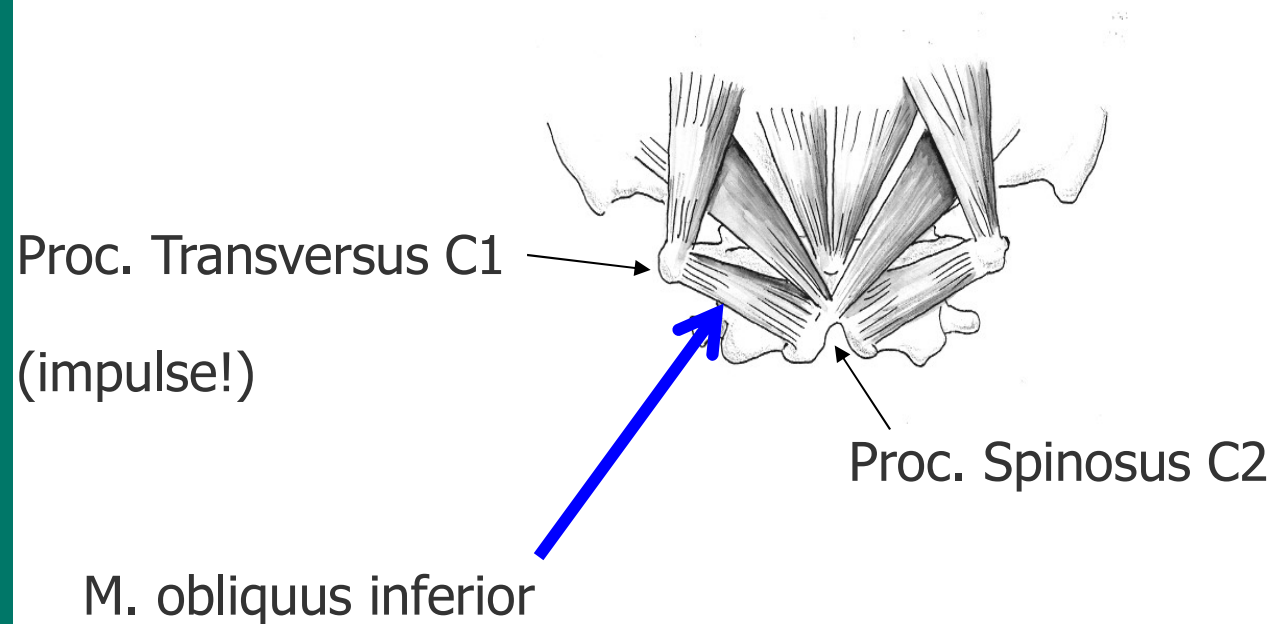
Anatomy

- Exercise of palpation



Anatomy

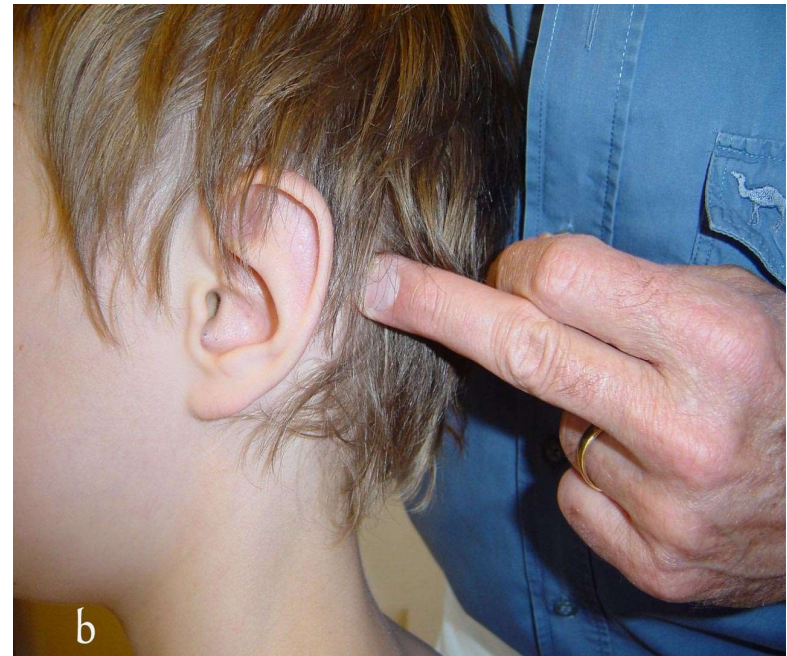
Exercise of palpation



Anatomy

Exercise of palpation

- Between Mastoid and
- Mastoid „notch“ =
- Sutura temporo-occipitalis



3 sign-test by Coenen

Functional test of arm's length (FALT)

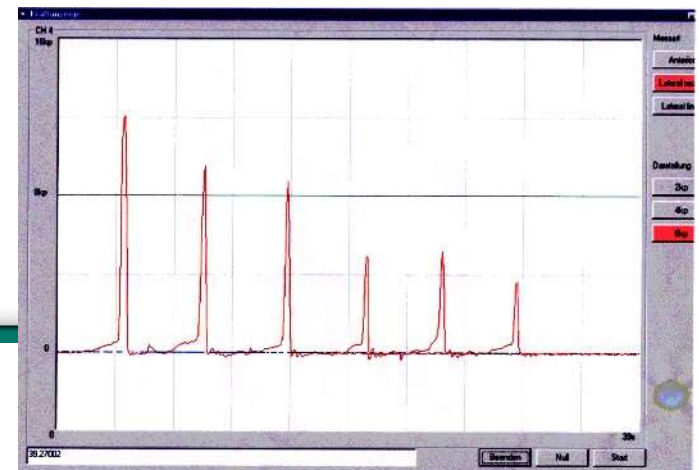


difference is confirmation

Atlas-Therapy



Treatment of motor dysfunction succeed through access to the proprioceptive processing



Atlas-therapy: a successfull method

Disorder of speach development

Improvement in 11 Kindern (n=11)

[Falkenau, H.A., Man Med 1989, 27: 8-10]

Vertebrogeneous dizziness

Atlasterapie and Occipital base release:

82 of 102 Patienten were complete or > 1 year without symptoms.

[Hülse, M., Hölz, M., ManMed 2003, 41: 453-458]

Cry babys (with Tonus-asymmetry)

of 101 infants: Atlasterapie and other manualmed.

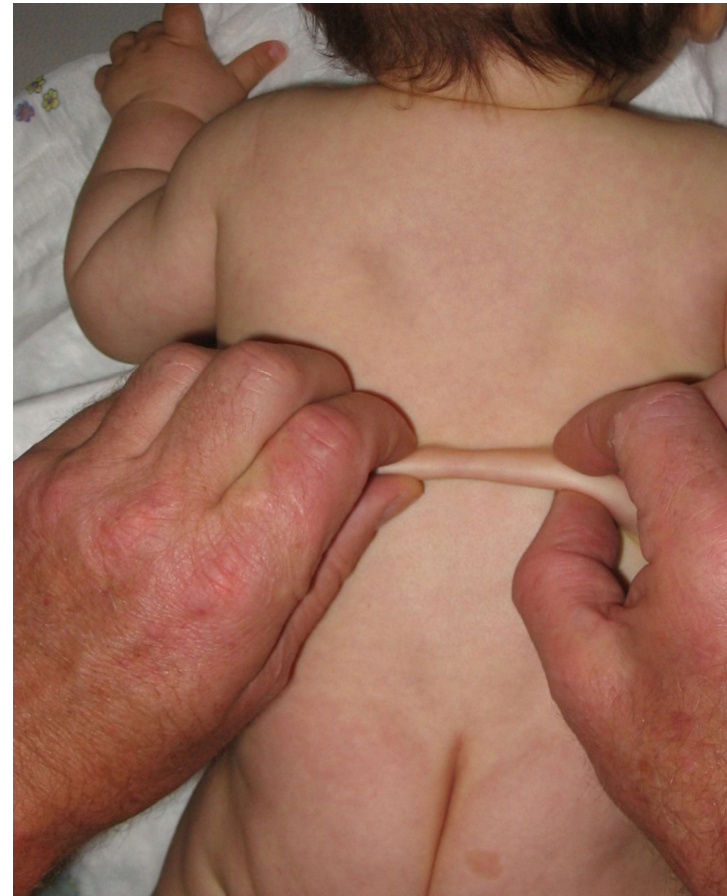
Methods: significant improvement in 88 infants, in 13 no improvement [Kemlein, 2007, ManMed]

Skoliosis (progressive idiopathic)

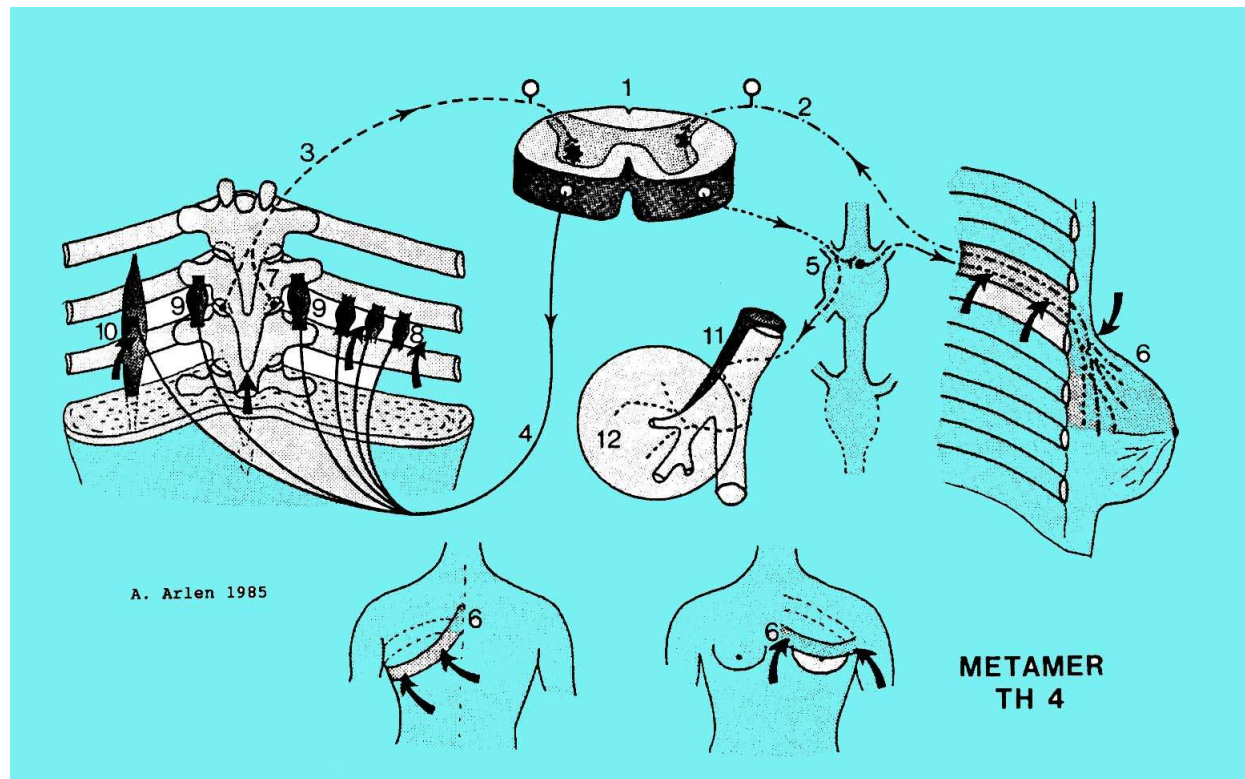
Atlasterapie and other manual treatment: skoliosis can be influenced positively, n=50

[Meißner, J., 1996, Manuelle Medizin, Hrsg. Lohse-Busch]

Metamer: Kibler-folt



Metamer

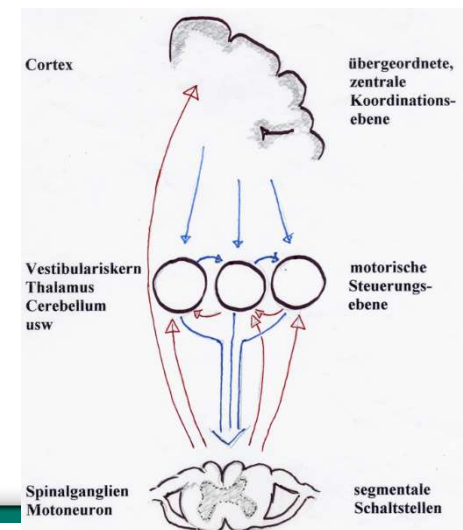


Cerebral palsy and manual medicine

- Janda: „ ... Every dysfunction is an origin of a modified proprioception..“

The consequences of reversible dysfunction to the total motor skills are much more pronounced with cerebral palsy than in healthy people

- -> reduced number of neurons
- -> reduced variabilities of neural connection
- -> sensomotoric abilities are less
- -> reduced variations of reactions



Rotation-manipuation S1



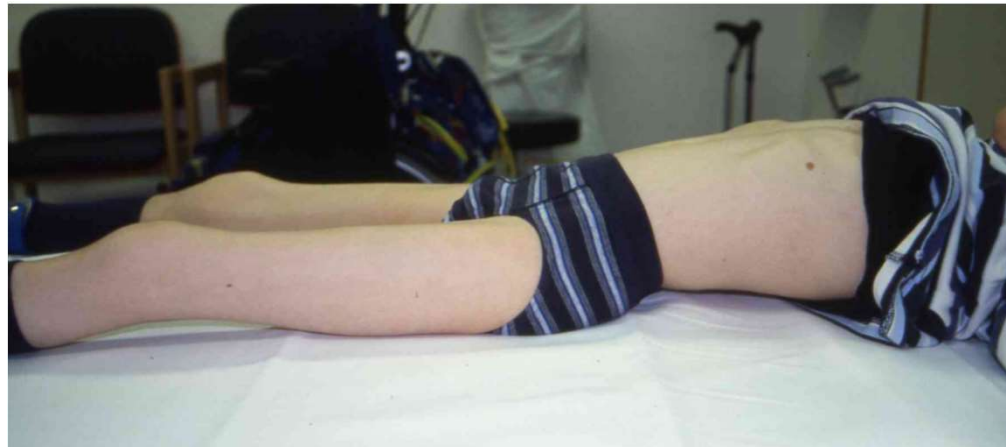
Cerebral palsy and manual medicine

- pain while sitting in wheel chair
- Segmental dysfunction S1 left



Cerebral palsy and manual medicine

- After rotation manipulation S1
- Painless sitting



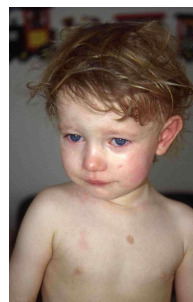
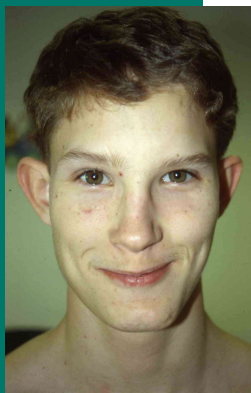
Reciproke detonisation – tendon reflex



Cerebral movement disorder/ cerebry palsy

Target of therapy-concept:

-> improvement of quality of live!



Сегодня, 22.10

Lukas stand eben vor der Toilette und hat mich gerufen, dass ich mal gucken soll..er konnte sein linkes Bein fast gerade strecken im Stehen...cool..er hat sich total gefreut.. 😊😊😊😊

