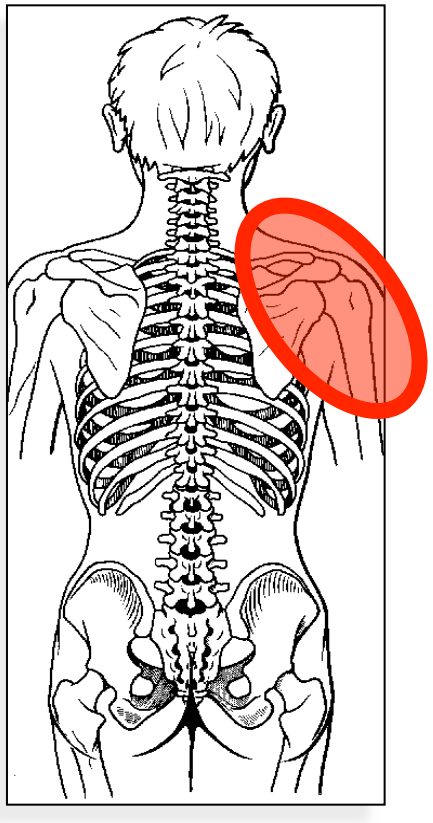
A demonstration of how to manually examine a patient with arm-, shoulder- and neck-pain and a talk about the different reasons for these symptoms

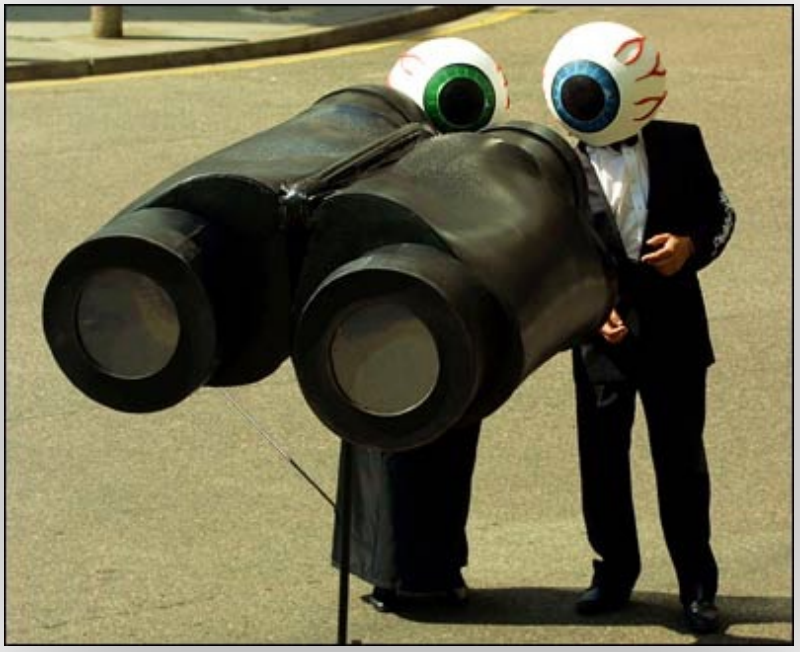


Peter Silbye &
Charlotte Voglhofer

A guide for a practical examination of neck and shoulder

Locating the pain

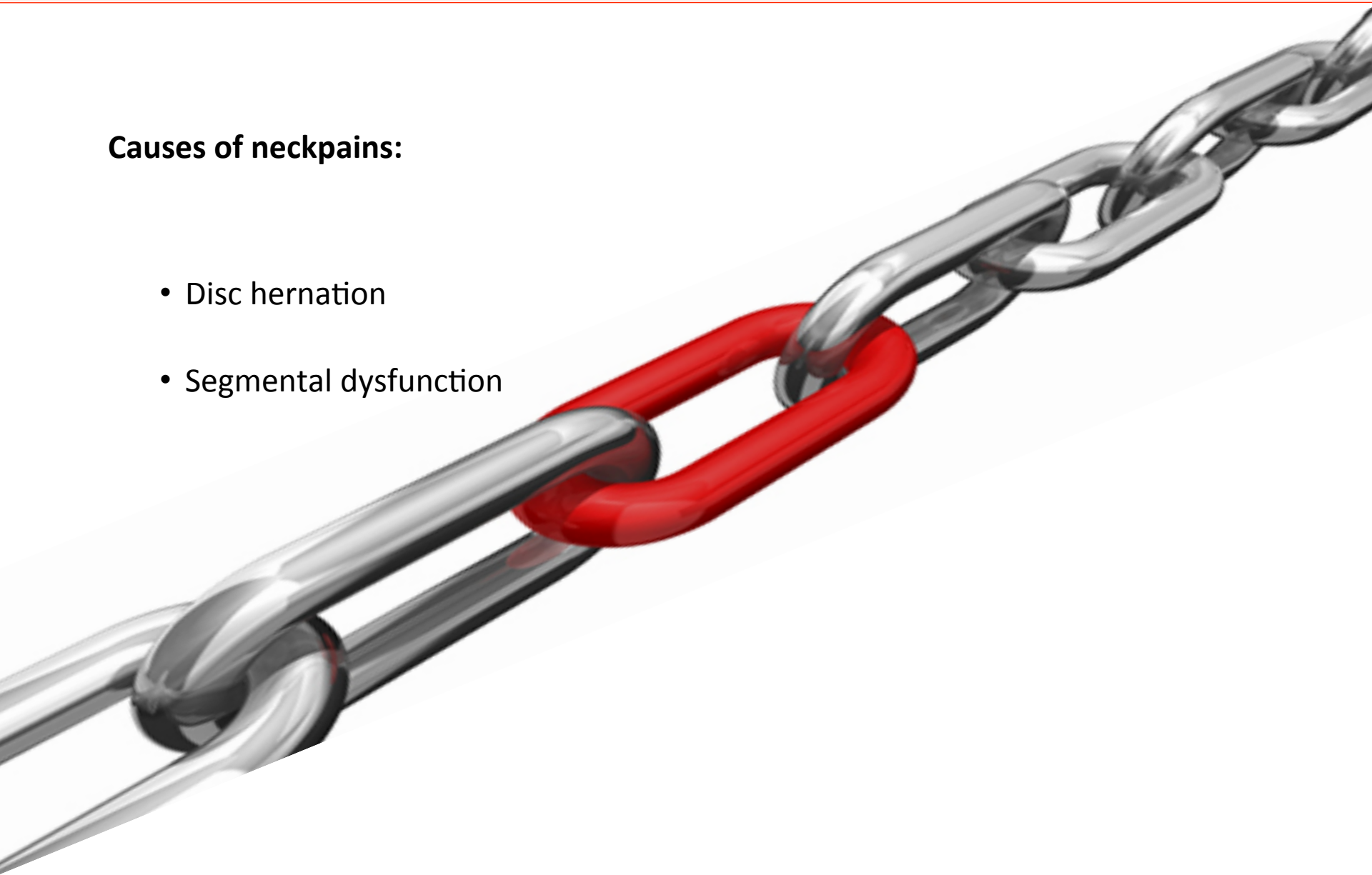
- The columna cervicalis?
- The columna thoracalis?
- The shoulder?



Columna cervicalis

Causes of neckpains:

- Disc hernation
- Segmental dysfunction



Columna cervicalis

1. Foraminal compression test
2. Motoric test of the cervical nerveroots
3. Reflexes and sensibility
4. Palpation of the scalene muscles
5. Palpation of the suboccipital muscles
6. Movement of the neck
7. Segmental motion testing of the col cervicalis

Columna cervicalis

Foraminal compression test #1

The purpose:

To reduce the foramina to induce a radicular pain.

Execution:

Make a passive sidebending, then rotate folowed by a little extension. A light axial pressure can be applied.

Columna cervicalis

Motoric test of the cervical nerveroot #2

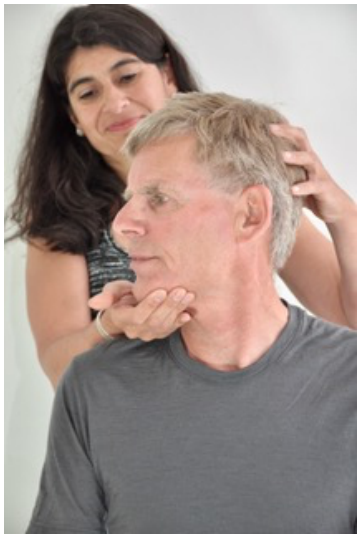
Nerve root	Muscle	Endurance	Sensibility	Reflex
C1 and C2	Deep anterior neck muscles	Ventralflexion of col. cervicalis	Regio occipitalis	-
C3 and C4	M. levator scapulae	Shoulder lift	Reg. subman-dibularis C3 Reg.colli lat.et subclav. C4	-
C5 and C6	m. Biceps, C5 m. infraspin. m. Terres min, C6	Elbow flexion Shoulder joint external rotation	Radialside upper arm,C5 Radialside lower arm, 1. and 2.finger,C6	Biceps (C5-6)
C7 and C8	M. Triceps m. abd. Poll. (C7) m. abd. Dig. V (C8)	Elbow extension Abd. 1. finger Abd. 5. finger	3rd Finger (C7) Ulnarside fore-arm and 4th + 5th finger (C8)	Triceps (C6-7) Brachioradialis (C5-C8)

Columna cervicalis

Palpation of the scalenemuscles #4

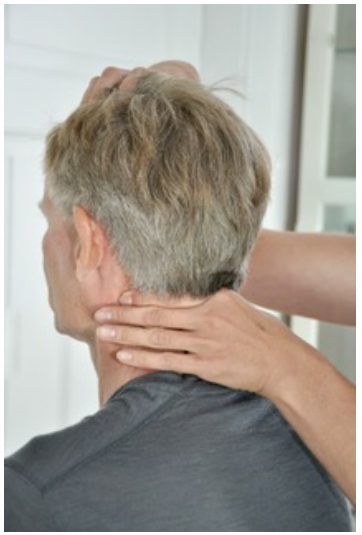
Palpation of the scalene muscles as a screening

Movement of the neck #6



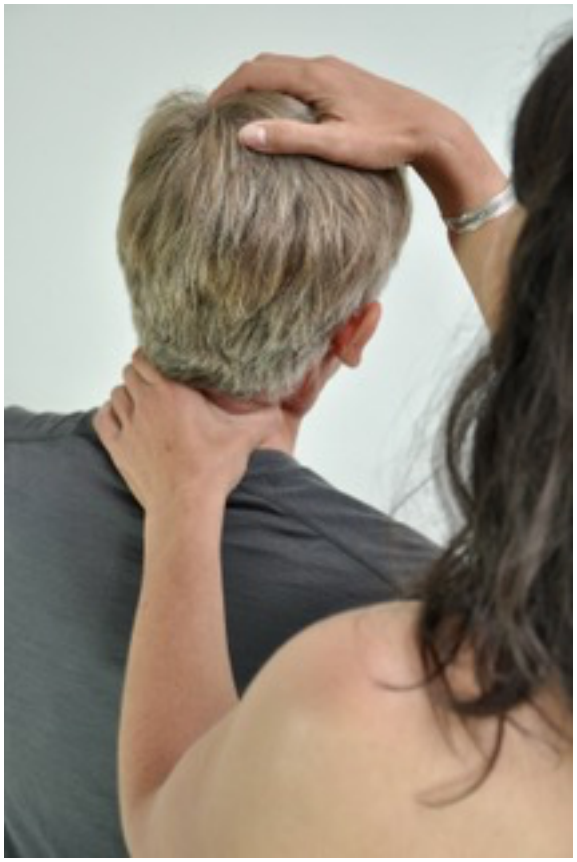
1. Flextion / extention
2. Rotating
3. Sidebending

Palpation of the suboccipital muscles #5

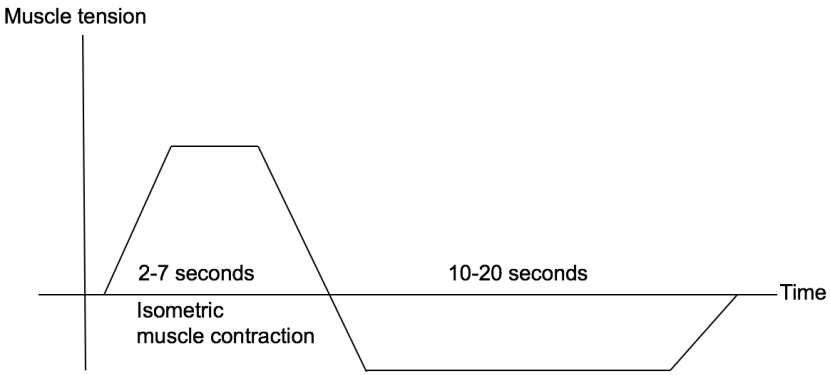


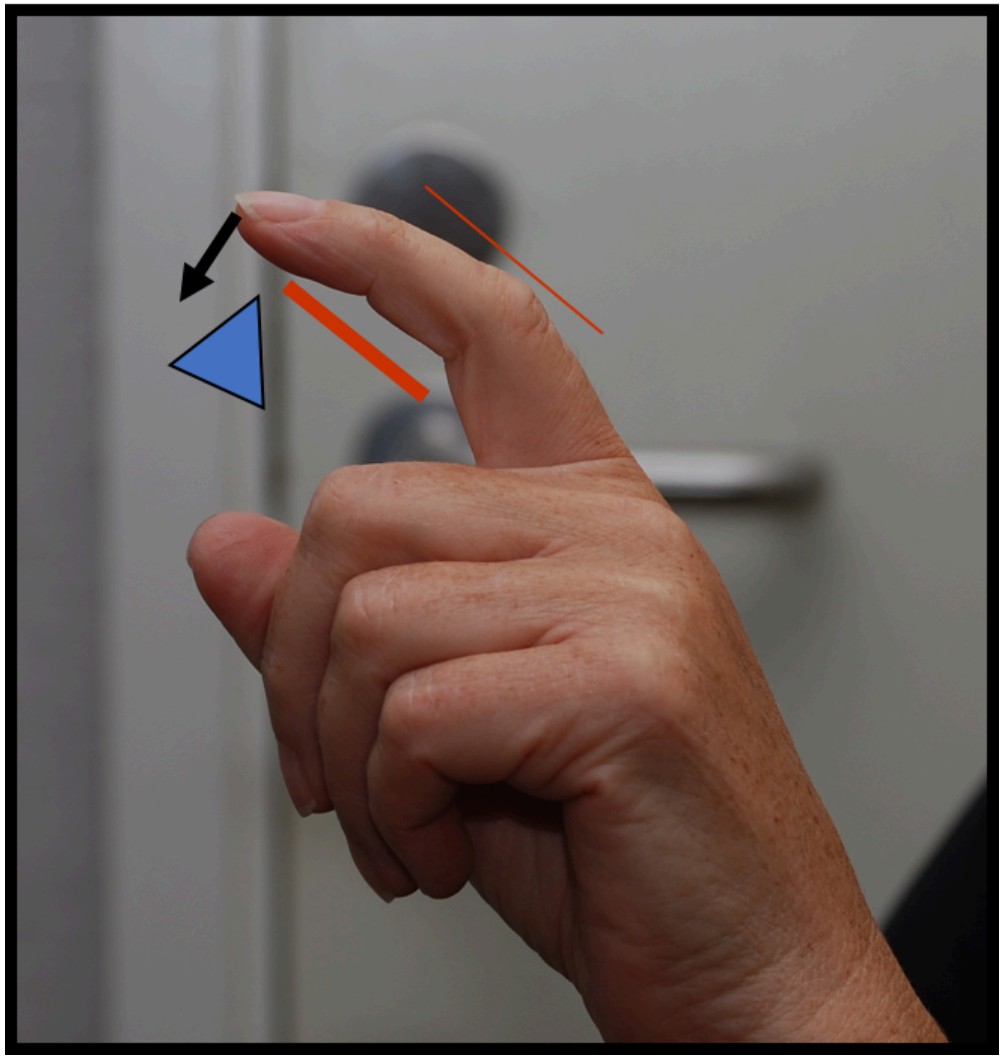
Columna cervicalis

Segmental motion testing and treatment of columna cervicalis #7



The principle in Muscle Energy Technique / MET





Columna cervicalis

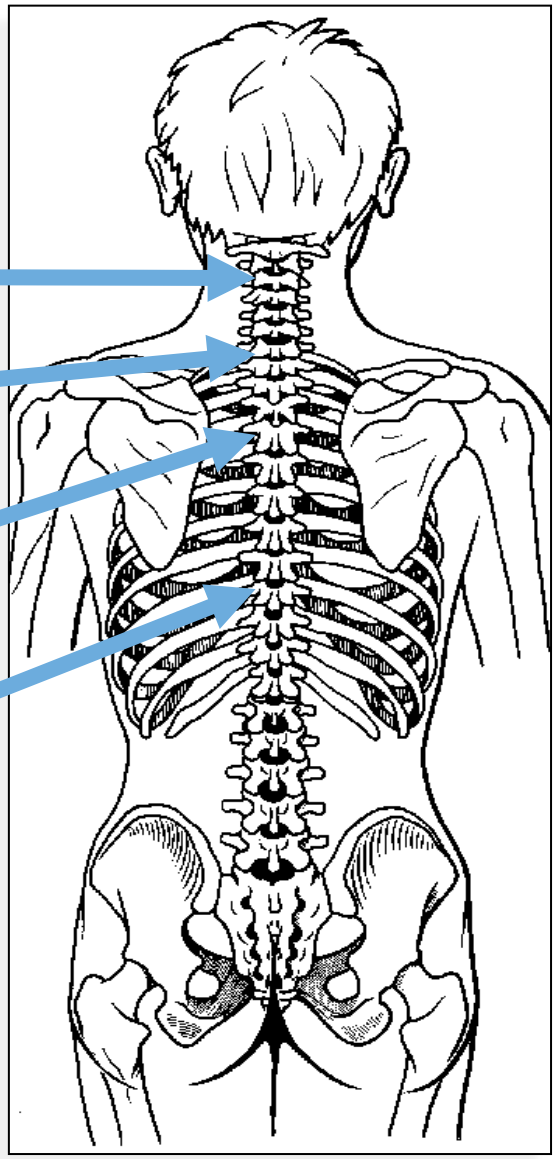
How to make the identification:

C2: The first nob to be felt under the cranium

C7: Under an extension of col cervicalis , the C7 will remain in its position while the C6 will extend

TH3: The proc spinosus is located on a line between the 2. proc. spinae scapulae

TH7: The proc spinosus is located on a line between the 2. ang inf of the scapula



Columna thorakalis

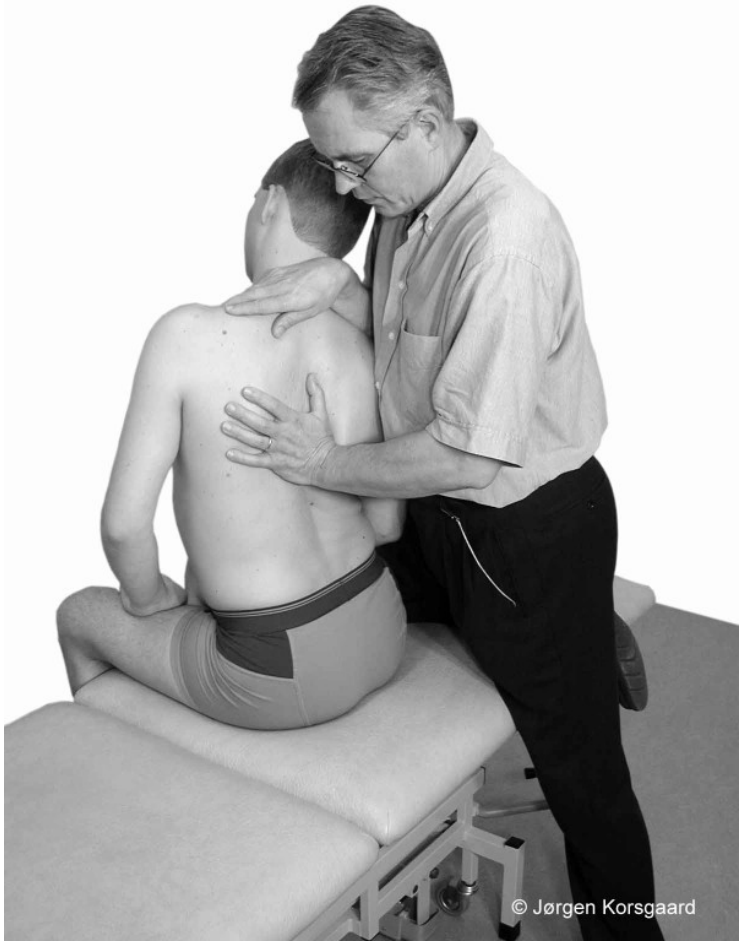
Rotating motion test and treatment in a sitting position

Locate side of tightness

Columna thorakalis

A segmental motion test and treatment incolumna thoracalis

A specific test and treatment of a restriction of vertebral motion in sideflexion on each level of the columna thoracalis

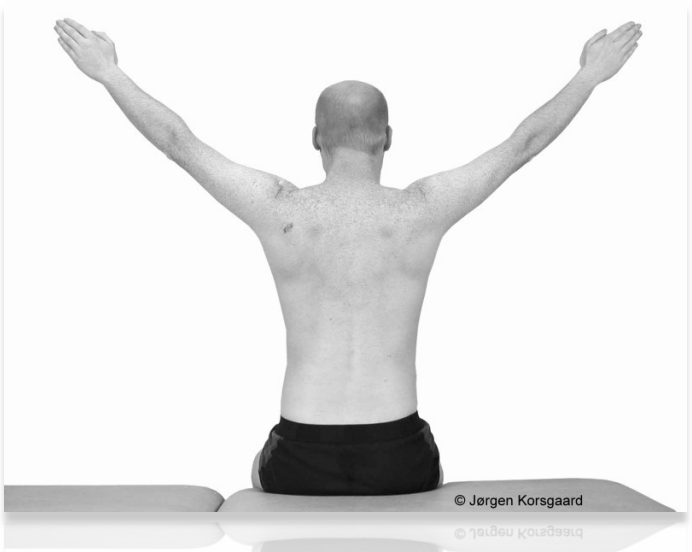


The Shoulder

1. Abduction test
2. Springing test
3. Hammerlock test
4. Test for muscle activity
5. Test for movement and impingement
6. Test for AC- and GH joints
7. Test for surgical problems

The Shoulder

Screening test of the upper extremity with abduction test #1



Ask pt to place his arms straight out to the side and move them vertically up until the back of both hands touch each other

The goal is a symmetrical scapulohumeral rhythm and end position

The Shoulder

Springing test is for the muscles on the front #2

Is the springing the same on the both sides ?

The Shoulder

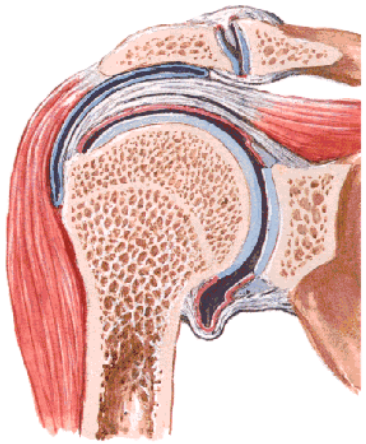
Hammerloch test is for the muscles on the back #3

How far up on the back is it possible to reach

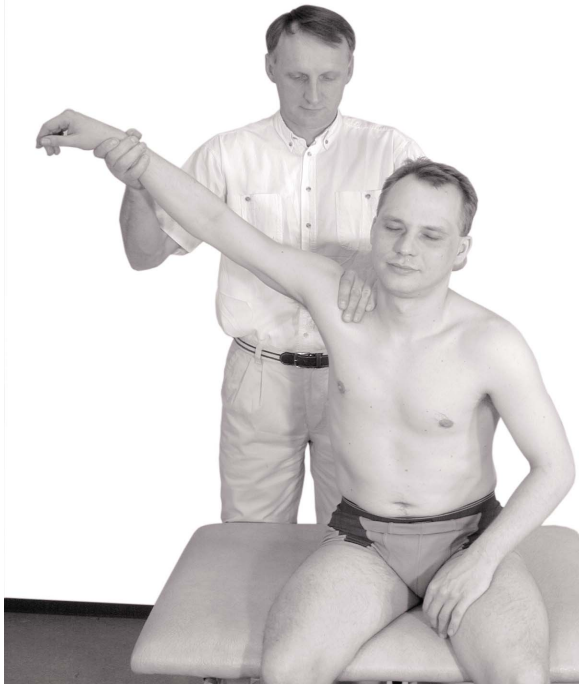
The Shoulder

Test for muscular activation of the Supraspinatus muscle compared to the Deltoideus #4

Supraspinatus will normally be activated before the deltoideus



Testing for problems in the rotator cuff #5



Impingment test / Subacromial collision test

Testing for problems in the AC-joint #6

Compression test of the joint – ”cross over test”

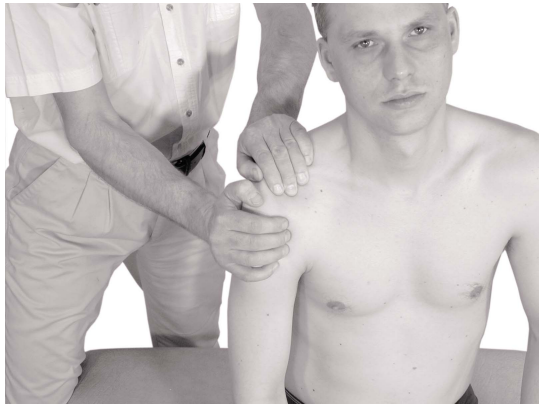
Testing of the movement in the GH-joint - especially external rotation #6

Periartrosis humeroscapularis

The Shoulder

Is it a surgical problem? #7

Ant/post looseness



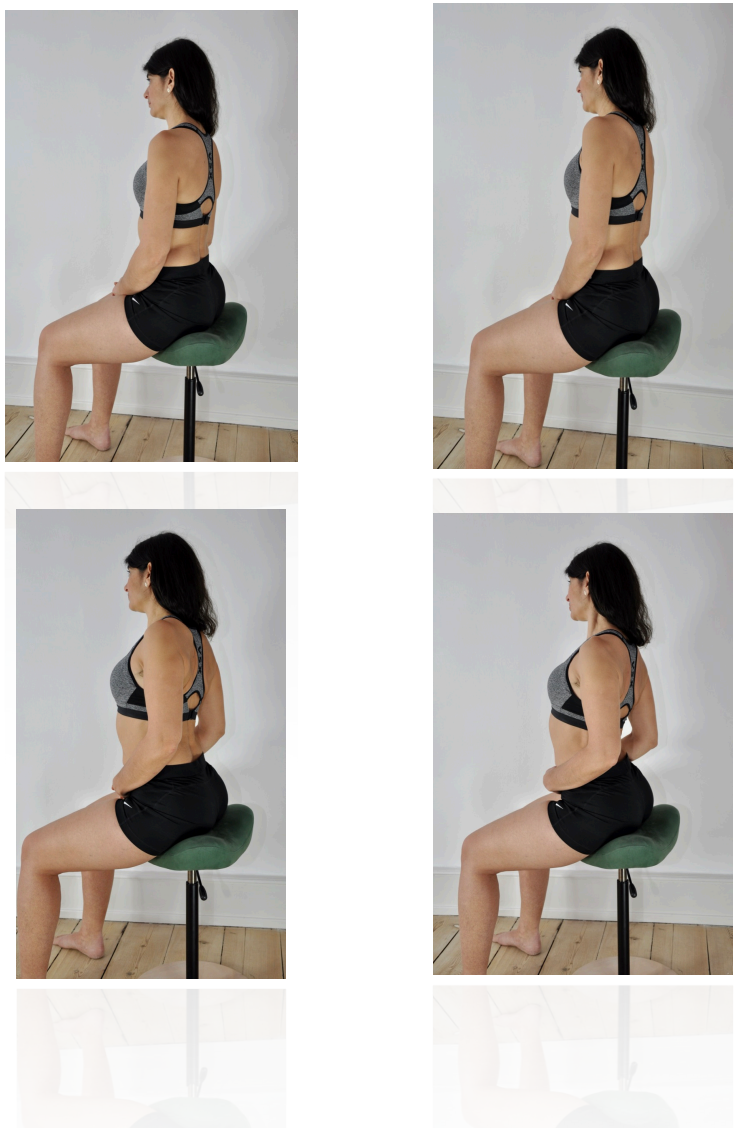
Apprension test

Sulcus test

Subacrominel steroid injektion

1½ cm under and 2 cm medial to the post-lat acromion corner pointing the needle against proc. coracoideus

Universel "Box" shoulder exercise



- Stand or sit with a straight back and look straight ahead
- Lift both shoulders a little bit up against the ears
- Pull the shoulders back without lowering them
- Decrease the shoulder blades towards the waist without bringing them forward
- Keep pulling downwards and hold the head high
- Relax completely and keep the posture

Training of muscular activation of supraspinatus

- First do the box exercise to bring scapula distally
- Lock affected hand on the back with opposite hand
- Pull affected arm laterally and isometrically against counterforce for 2 seconds
- Repeat 10 times in 5 series

Training exercise of the right m. supraspinatus with rubber band

- Start with the”Box-exicise”, where you bring the shoulders down and keep the down
- Turn the right arm untill the littlefinger turns forward
- Use a rubber band like the picture
- Pull the right hand forward, keep the position in a few seconds and bring it slowly back
- Repeat 10 times

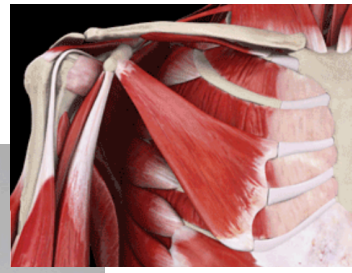
Stretching as treatment of m.trapezius and m. levator scapula

Make an isometric musclecontraction against the treaters hand in the muscles end position where they are fully extended. After a short break where the muscletension will decrease, the lenght of the muscle can be increased by bringing the shoulder a further down or the head further to the right

Home exercise for the right m. trapezius and levator scapula

- Start with the”Box-exicise”, where you bring the shoulders down and keep them in that position
- Put the right arm on the back and hold the left one on the head
- Turn the face 30 degrees obliquely up, press gently to the right for 4 sec while the left hand gives resistance
- After a short break let the head again fall to the left
- After a new short break repeat it for 3 times
- Now turn the face 30 degrees obliquely down and repeat the proceeding as described.

Home exercise to m. pectoralis minor



- Do first the box exicise and keep the shoulder down.

- Stand against a wall, place the arm on the wall and turn around.

- Lean against the wall by using the other arm and feel the stretch on the front of the shoulder

Thank you for your time and thank you for your attention