



Nederlandse Vereniging voor Manuele Therapie

Aangesloten bij KNGF





Inleiding FT / MT bij patiënten met SP

- door Gerard Koel, FT – MT, MSc, docent



FYSIO
THERAPIE
**WOOLDER
STEEN**



Inhoud



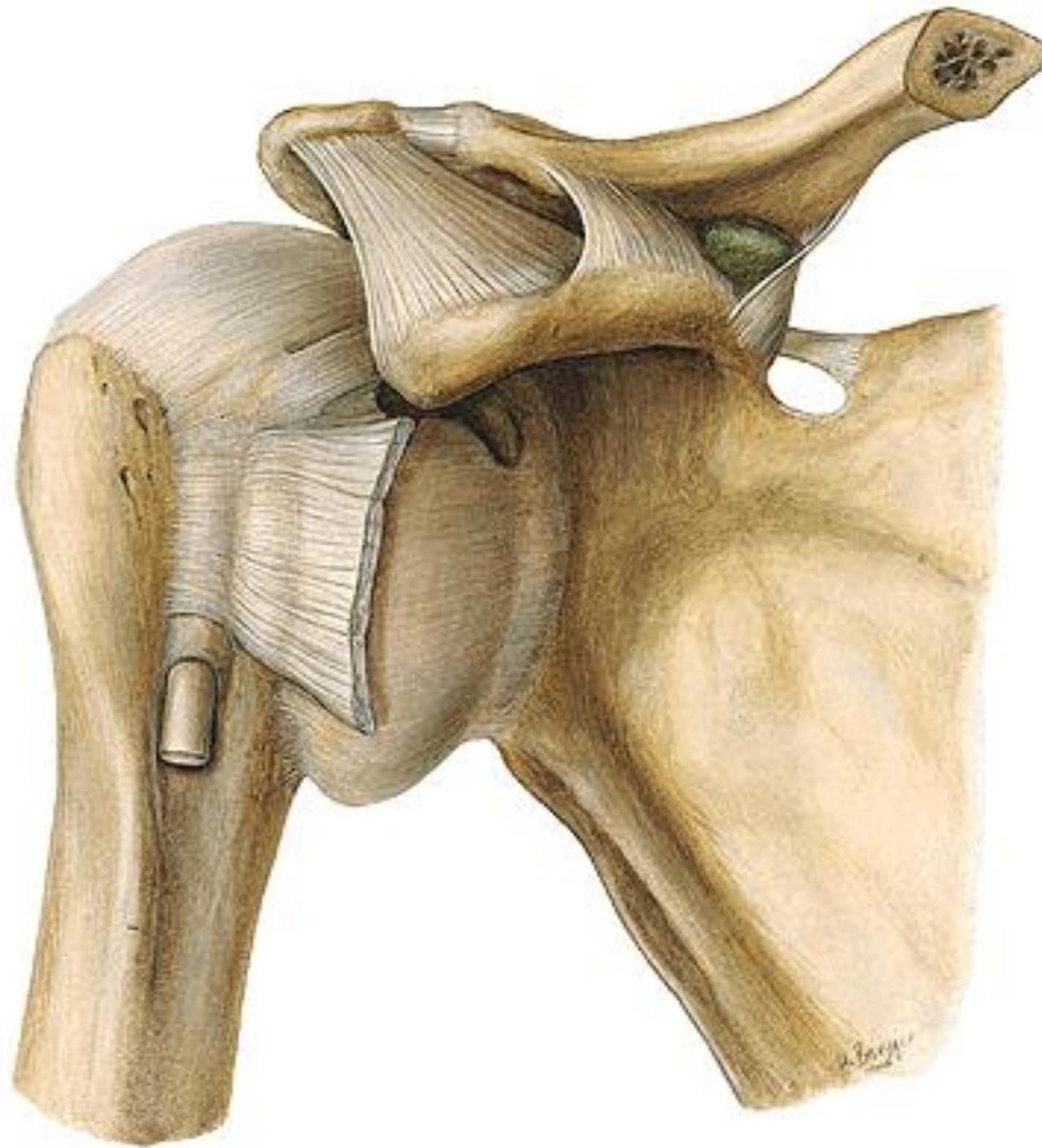
1. Inleiding / anatomie - KR model
 - *relatie met ShoTime programma*
2. Chronologisch beloop (1976 – 2019)
 - *betreffende FT – MT diagnostiek heeft dat überhaupt zin?*
 - *betreffende FT – MT behandelen zie ‘Best Practice’ video NVMT website*
3. Samenvatting

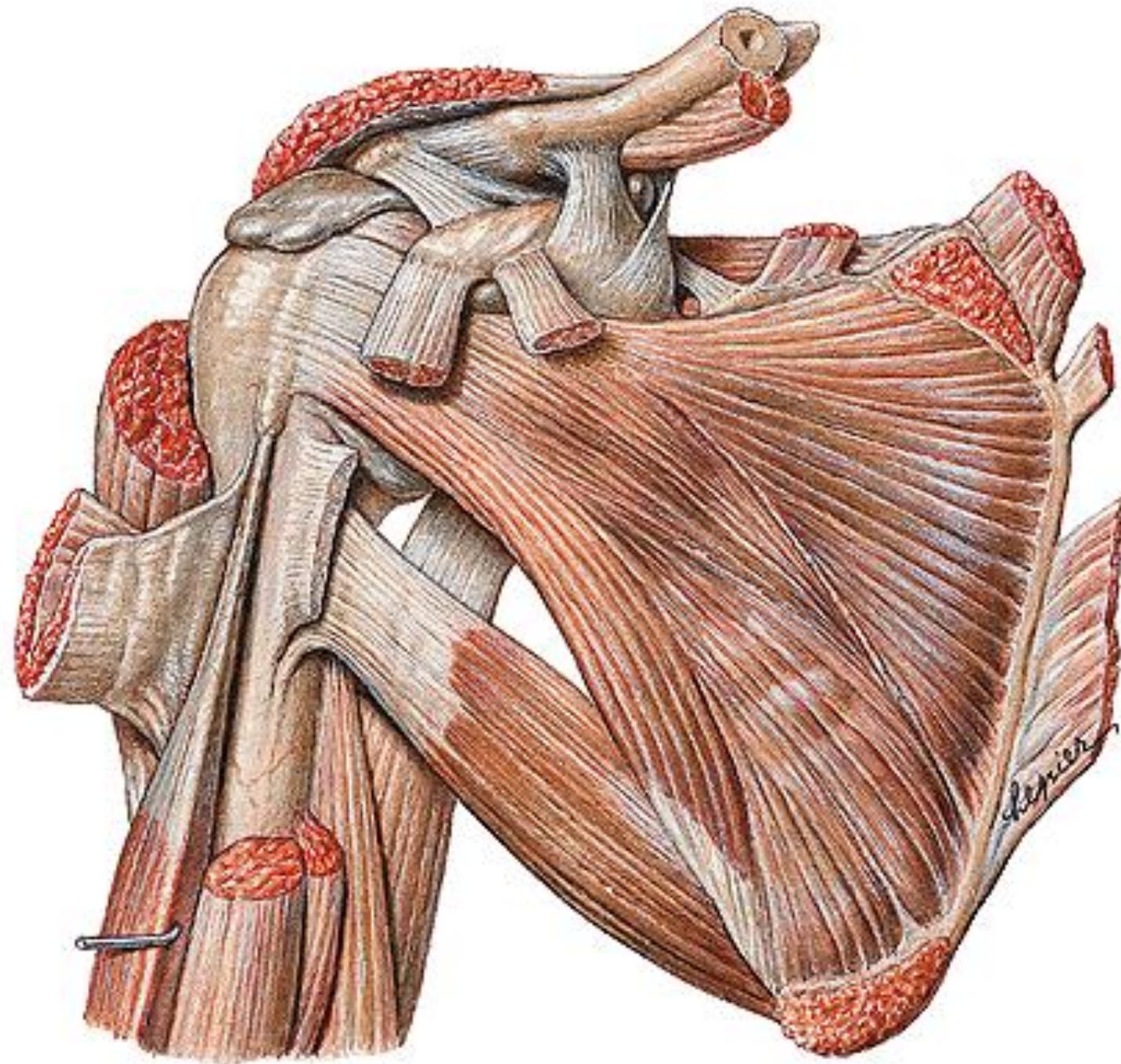
Introductie sprekers

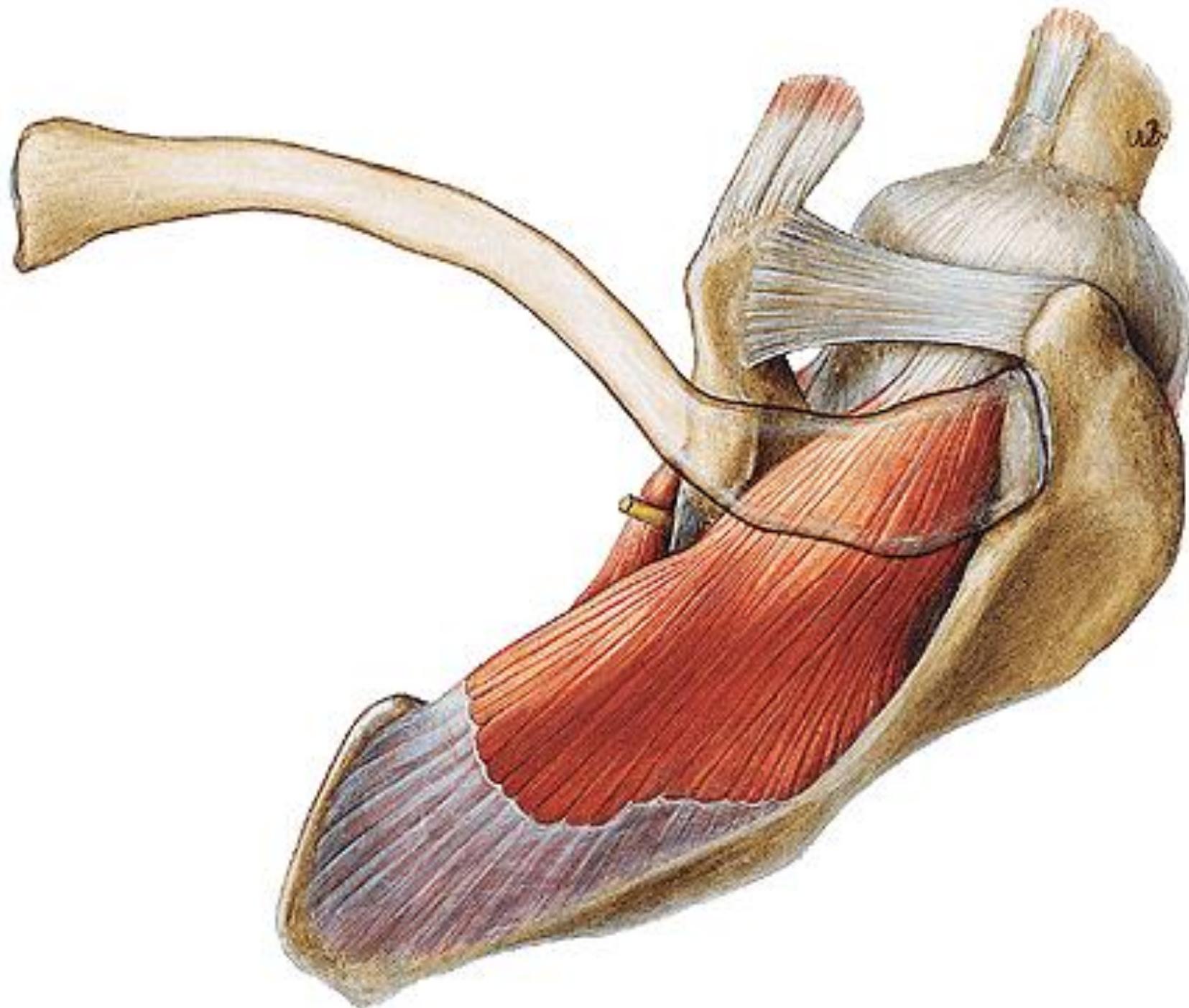
Inleiding



- Anatomie
- Model voor klinisch redeneren









Video Rotator Cuff Anatomie



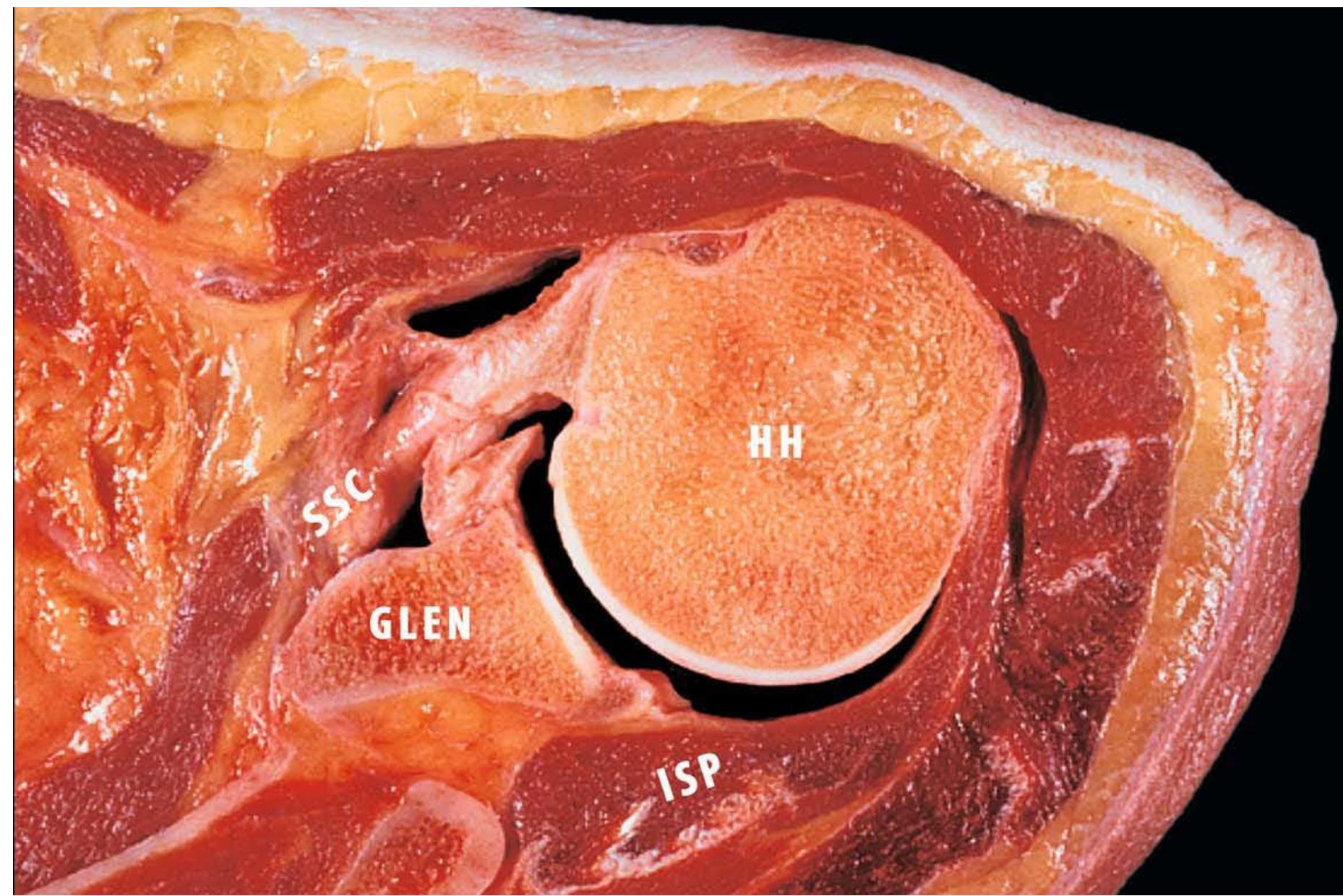
SSP

GLEN

HH

DEL

Video Cuff Artropathie

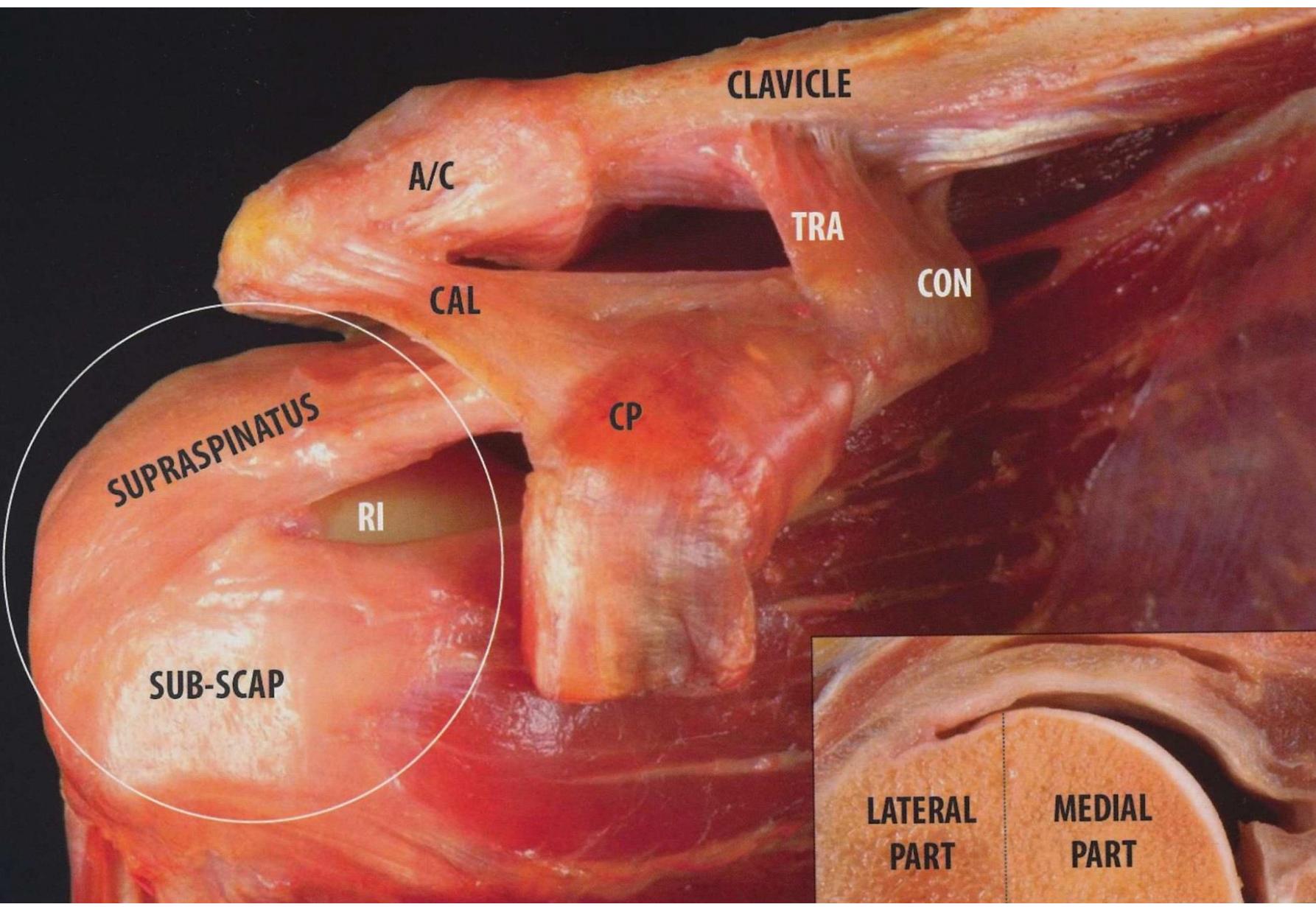


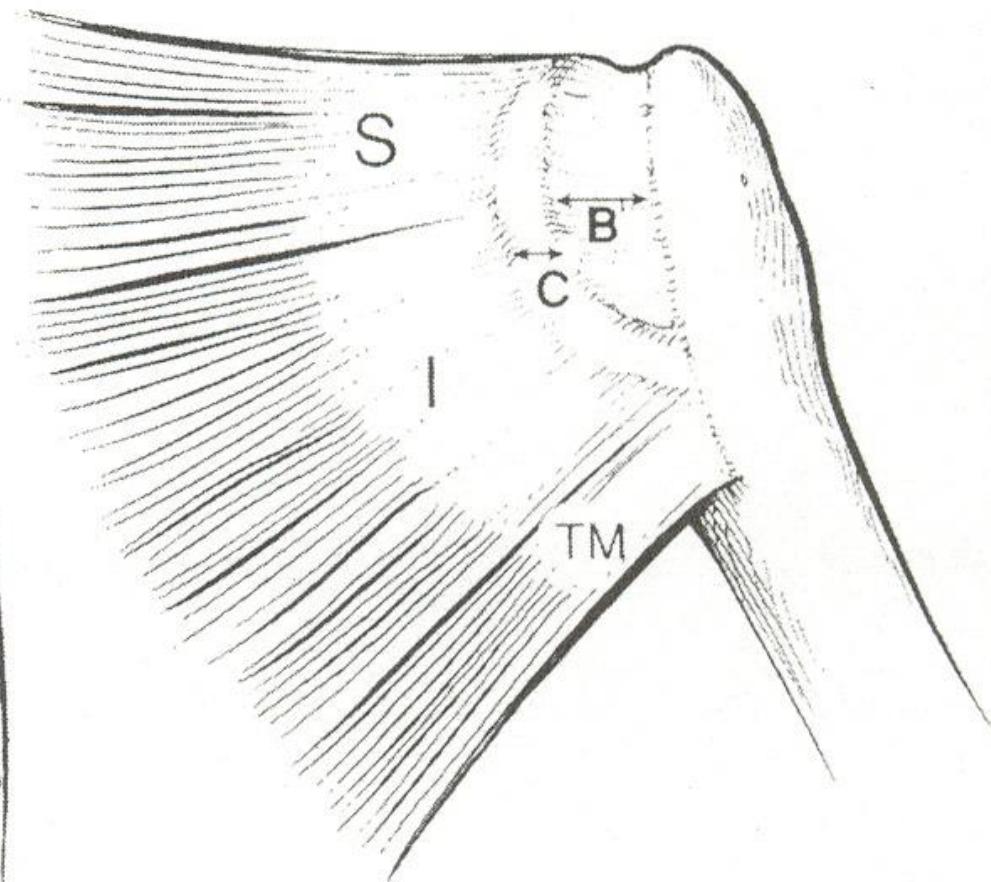
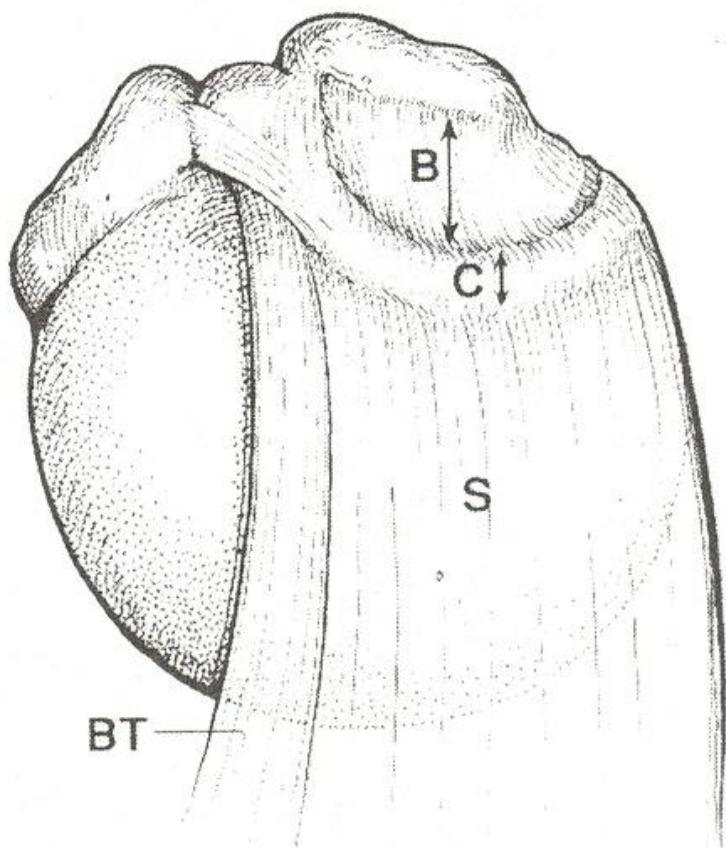
ANTERIOR MUSCLE BELLY

POSTERIOR MUSCLE BELLY

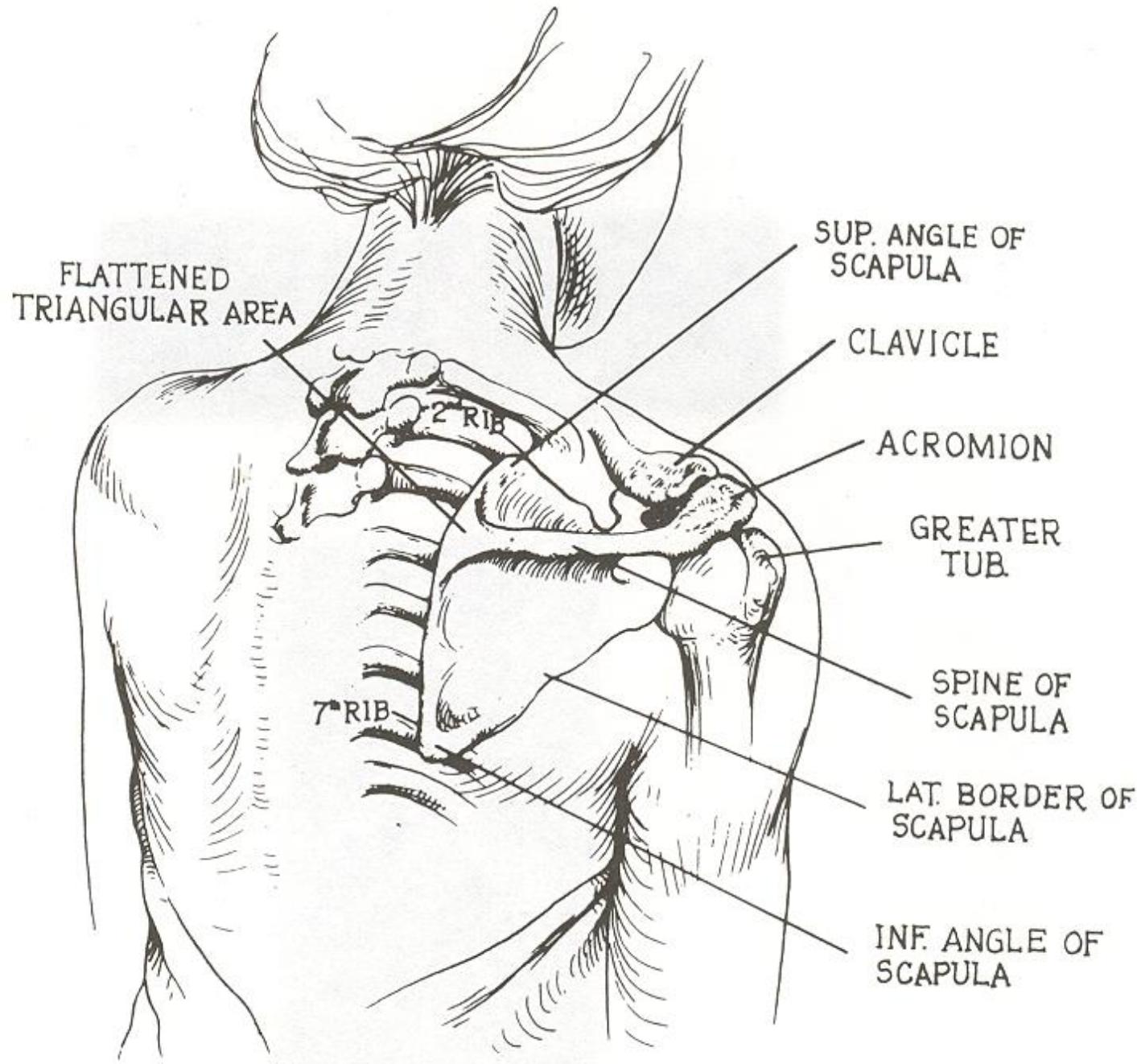
ISP

SS



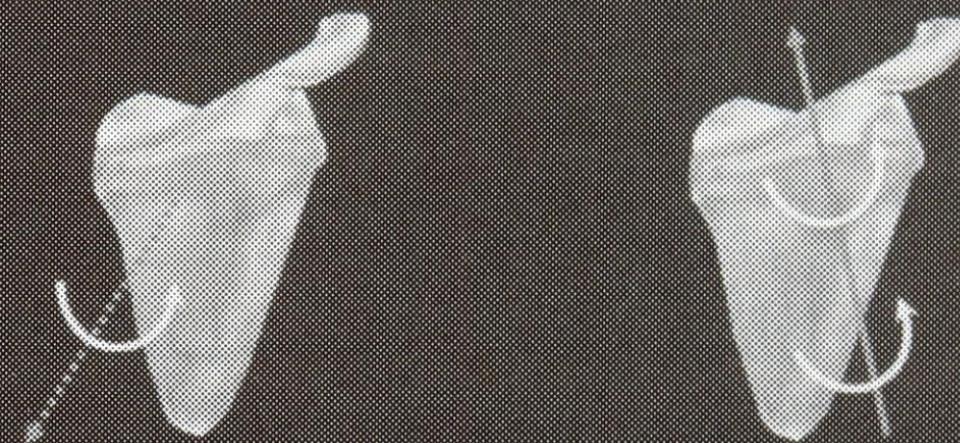


C = Rotator Cable (stevige dwarsverbinding);
B = Rotator Crescent (dunne insertie).

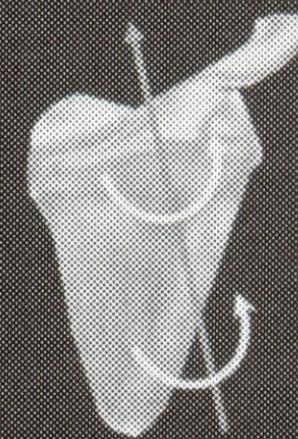




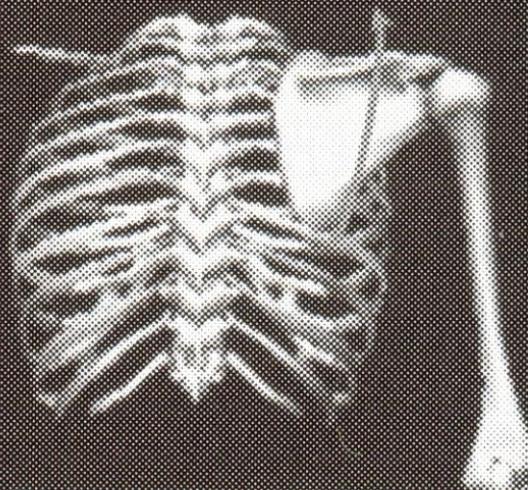
ANTERIOR/POSTERIOR
TIPPING



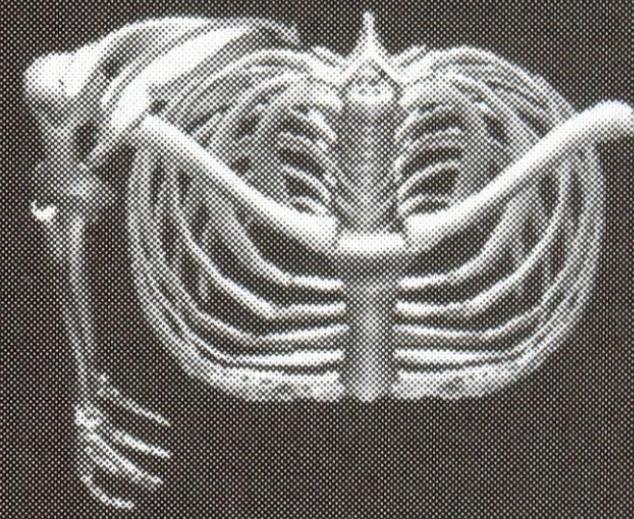
UPWARD/DOWNWARD
ROTATION



INTERNAL/EXTERNAL
ROTATION



ELEVATION/DEPRESSION



PROTRACTION/RETRACTION

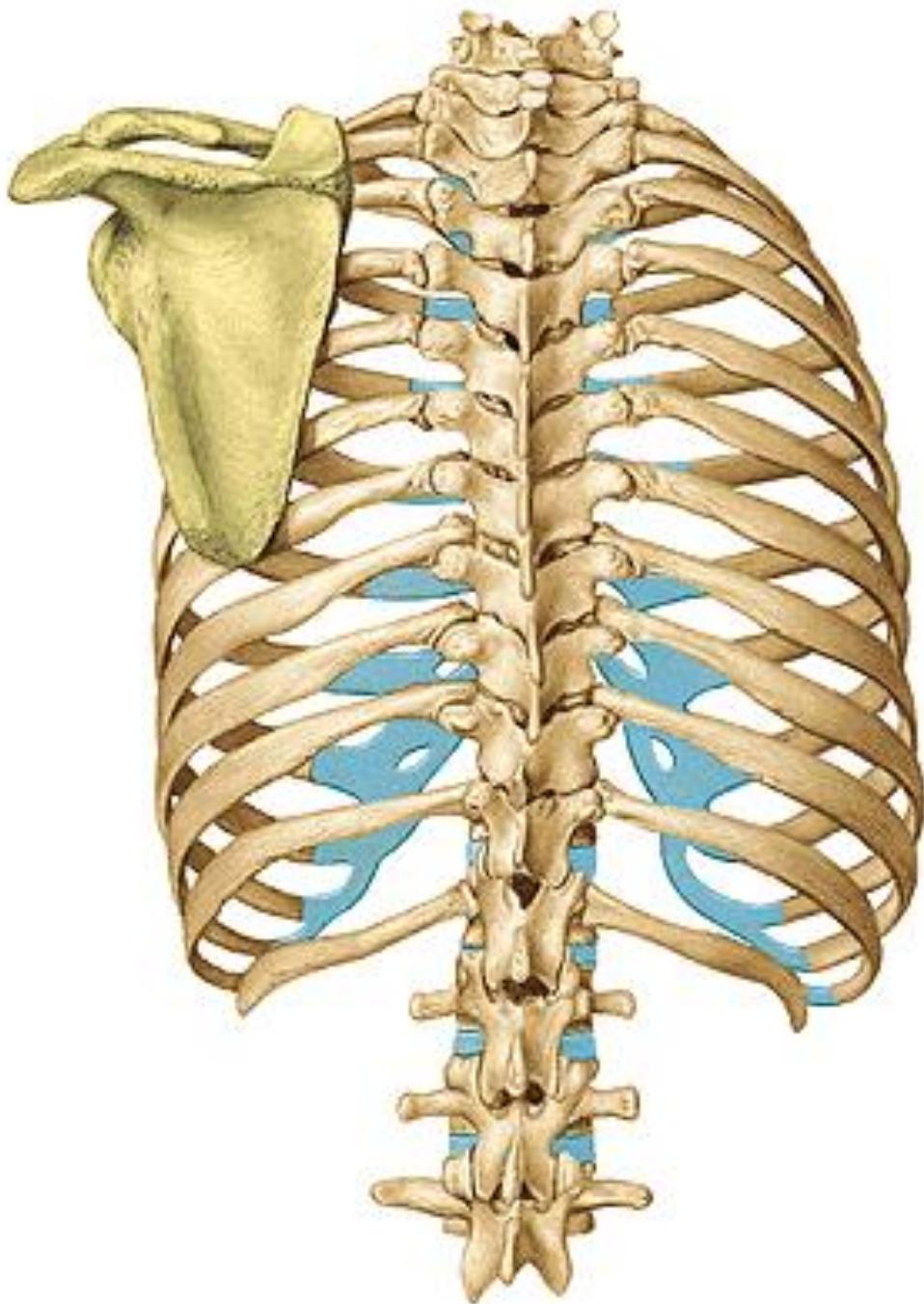
60°

A detailed anatomical illustration of a canine forelimb joint, likely a shoulder or elbow. The joint is shown from a lateral perspective, with the humerus bone extending downwards and slightly laterally. A vertical reference line passes through the center of the joint. Three angles are indicated: one angle of 60° is shown between the humerus and the joint capsule; another angle of 60° is shown between the joint capsule and the ulna; and a third angle of 30° is shown between the ulna and the radius.

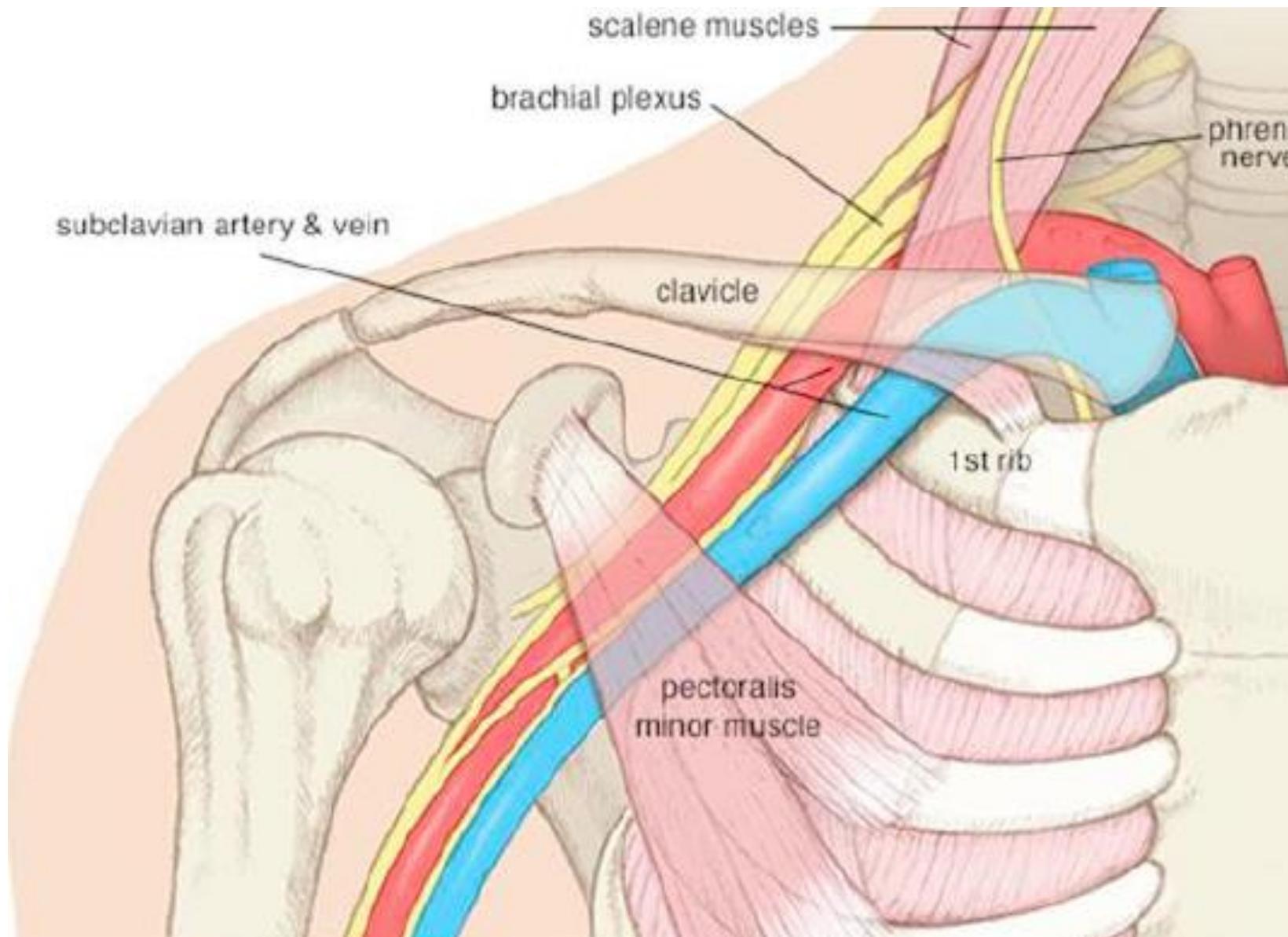
**Scaptie
30°**

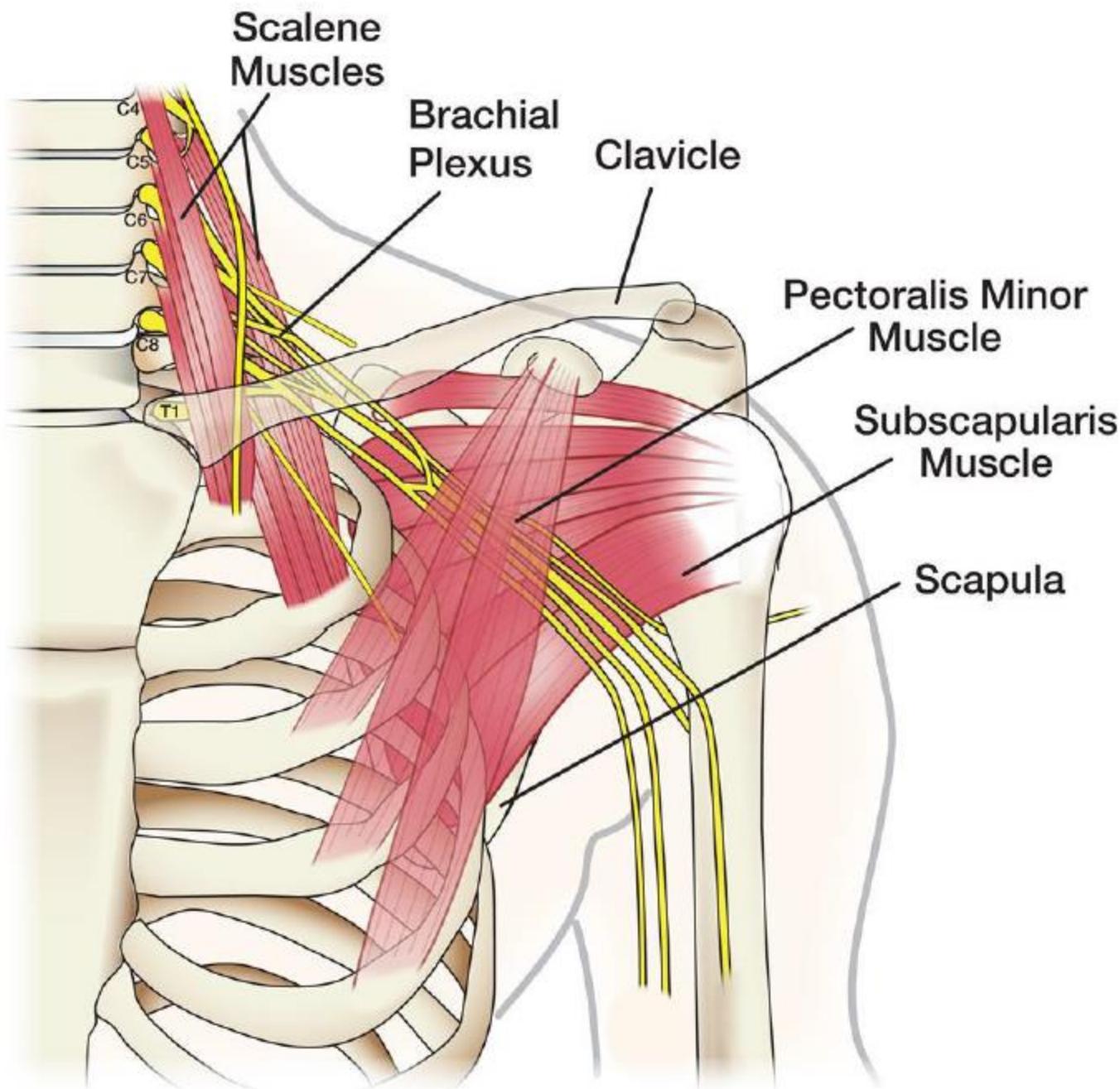
60°

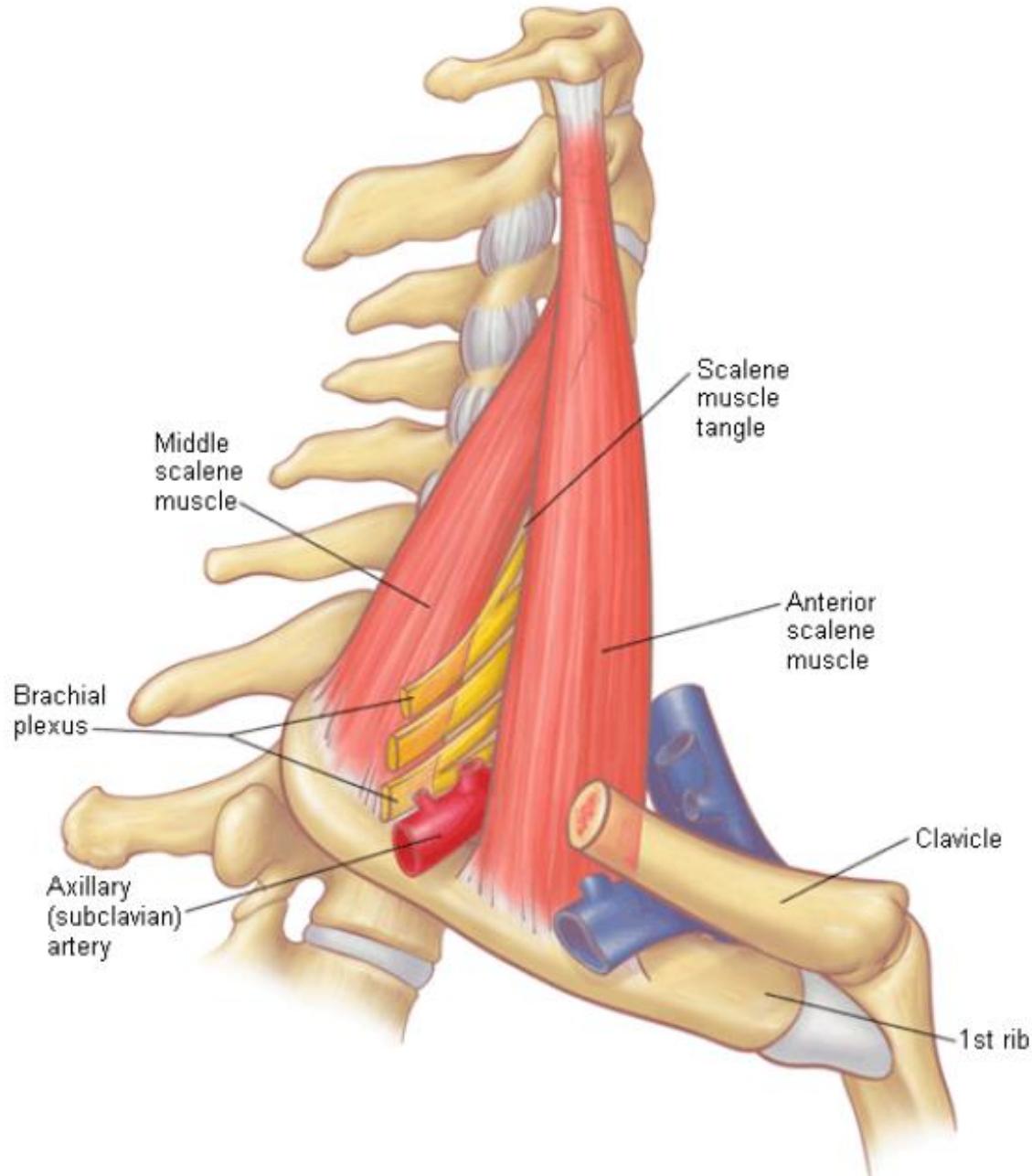
60°

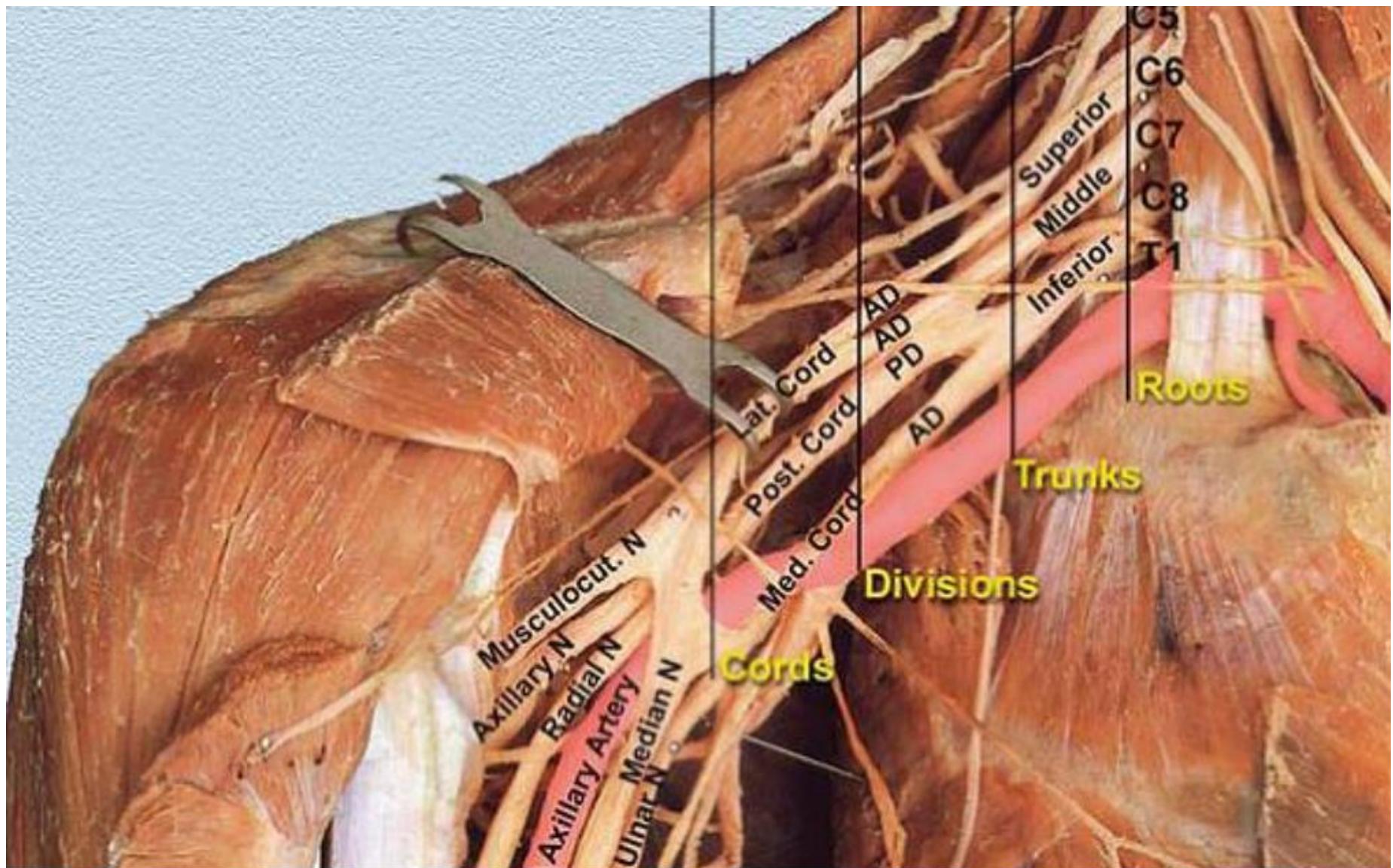


**Scapula
t.o.v.
thorax.**







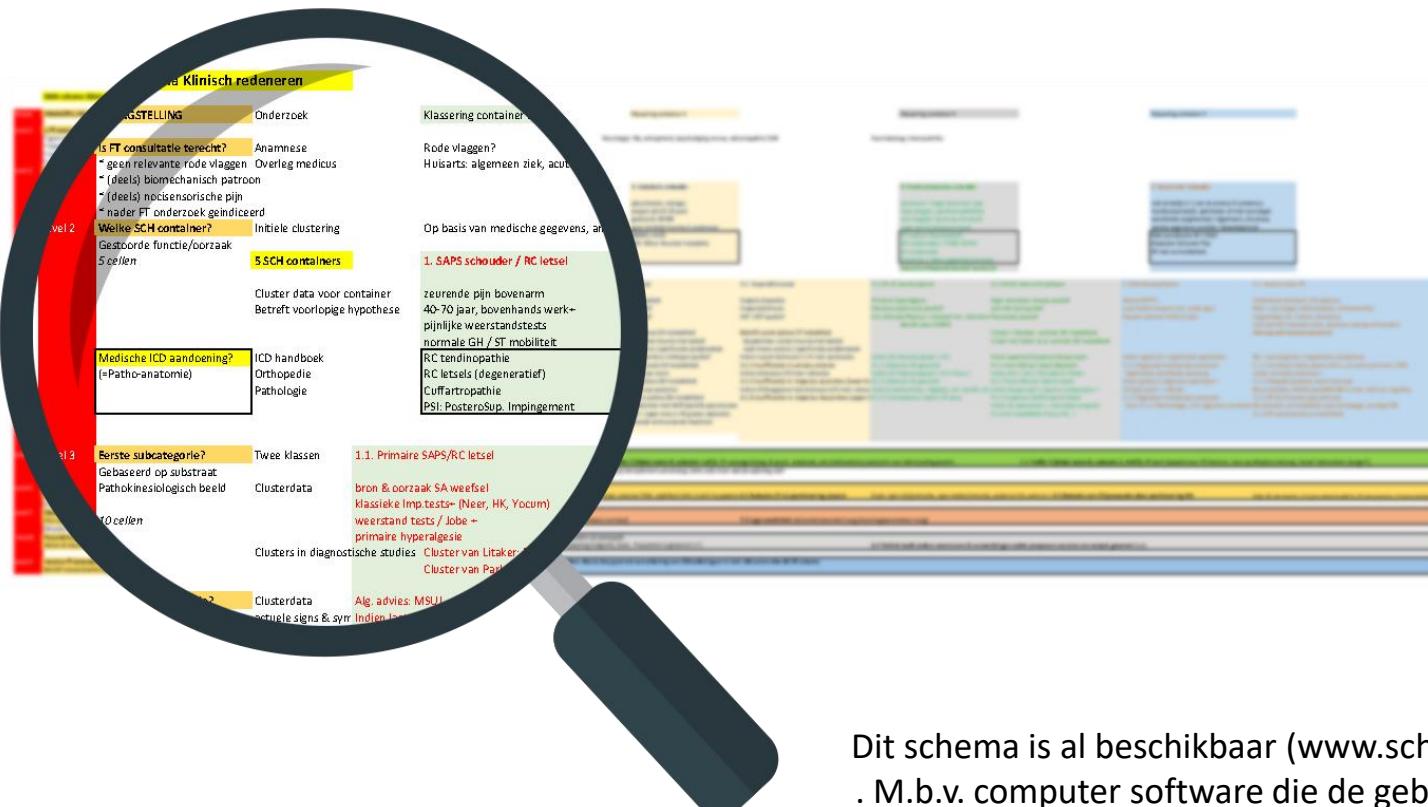


Globaal overzicht KR schema SNN

Zie

<https://schoudernetwerk.nl/page/snn-kr-model-3s>

Globaal >> meer specifiek



Dit schema is al beschikbaar (www.schoudernetwerk.nl) . M.b.v. computer software die de gebruiker stapsgewijs door het schema leidt, ontstaat een CDST (Clinical Decision Support Tool)

5 Containers.

1. SAPS schouder / RC lateraal	2. Beperkte schouder	3. Instabiele schouder	4. Partreumatische schouder	5. Roterend schouder
zeurende pijn bovenarm 40-70 jaar, bovenhand werkt pijnlijke weerstandstreks normale GH / ST mobiliteit RC tendinopathie RC laterale (degeneratief) Cufftendinopathie PSI: PectoraSup. Impingement	beperkte ROM enamnose beperkte PROM Frozen Shoulder GH/ am-arthrosis	pijncheuten, tuinier jongere pt (15-35 jaar) goede AROM Goed duidelijk trauma in anamnese AMRI/AIOS MSL: Minor Sh. Instability	enamnose + begin (trauma) / pijn Veel jongere, sportieve patiënten sok maakt 'scutum chronisch' veel veel functiestoornissen RC ruptuur (traumatisch) GH (rub)luxatie / TUBS / ALPSA AC (rub)luxatie Fracturen (+ Bony apprehension test) Consult orthopedie meestal uiterlijk	niet passend in andere container myofasciaal beeld, spierketen, rompstabiliteit Serratus (segmentaal / algemeen), directe slechte algemene conditie / belastbaarheid

Level 1	Isprake van indicatie FT? Anamnese Overleg medicus	
Level 2	Welke SCH conteine? Initiale clusteris Gestandaard functie/oorzaak Scallies	5 SCH conte
		Clusterdata.
	Medische ICD aanduiding; ICD handbook (-Patho-anatomie)	Orthopedie
Level 3	Eerste sub-categorie Twee klassen Gebareerd op substructuur Pathokinematologisch beeld	Clusterdata
	Micellies	
		Clusterz
Level 4	Tweede sub-categorie Clusterdata Gebareerd op substructuur Pathokinematologisch beeld	
	20 cellen (floparts/FT cellen)	
	Per FysioTopic: 12 cellen	
Level 5	Personenkenmerken	3S lijst 3risicoprofielen
Level 6	Functionele aspecten	SSMP's
	Kinemiopathologisch beeld	reductietests +
Level 7	Mate van reactiviteit	3stadia
Level 8	Invullen FT behandeling	per colaanvullende van bepalingen

8 Levels.

Container indeling SP.

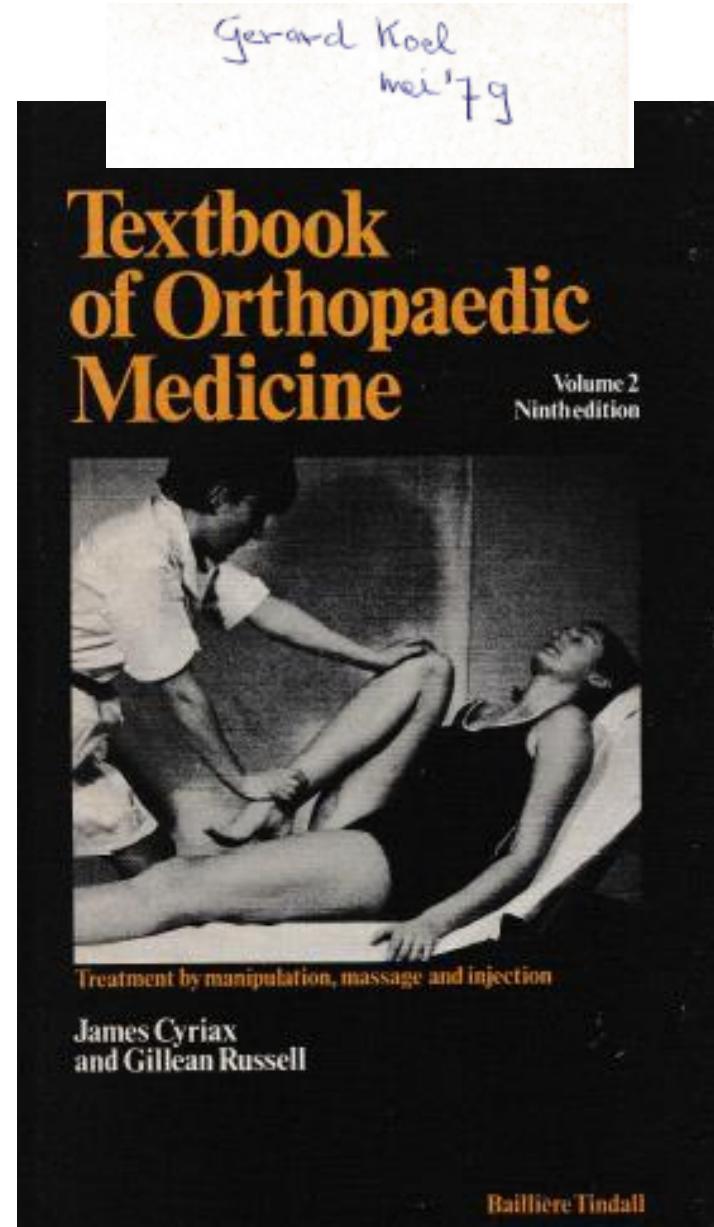
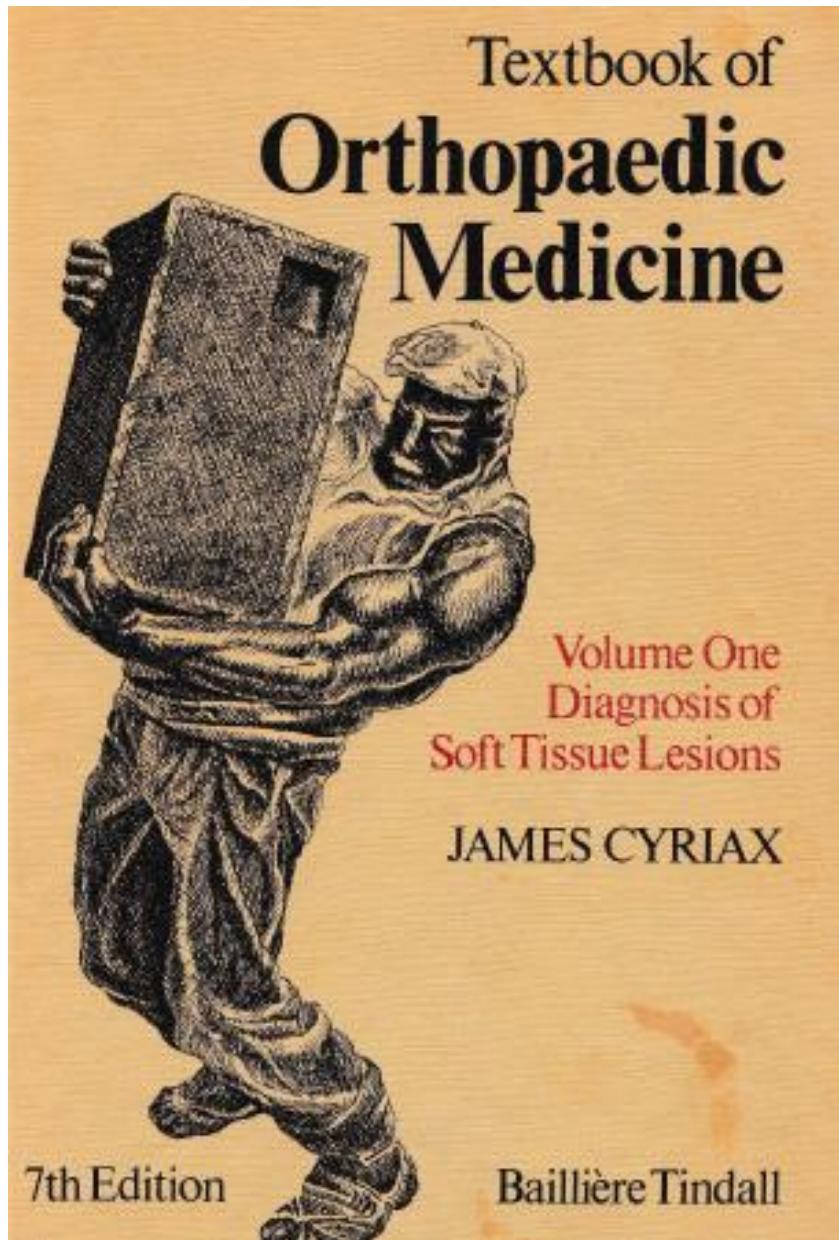
- SAPS schouder / RC letsel / RCR-SP
- Stijve, beperkte schouder
- Instabiele schouder
- (Post) Traumatische schouder
- Pijnlijke / sensitieve schouder
 - Myofasciale pijnsyndromen
 - Chronisch pijnlijke schouder
 - Neuropatische pijn: NA, nTOS
 - Met / zonder segmentale / centrale sensitisatie

2a Diagnostiek



1. Chronologisch beloop (1976 – 2019)
 - 70'er jaren: *SIS by Charles Neer, Orthopaedic Medicine (James Cyriax)*
 - 80'er jaren: *Ben Kibler / Derk Stenvers >> rol van scapula / schoudergordel*
 - 2000: *Bestaat tendinitis eigenlijk wel?*
 - *Methodologische criteria voor OST's.*
 - 2010: *Bestaat SIS eigenlijk wel?*

2. Waarom FT / MT onderzoek?



Schematic Examination of the Shoulder
 (prepared by R. Barber)

Thirteen movements	Arthritis (capsulitis)	Chronic sub- acromial bursitis	Acromioclavi- cular joint strain	Supraspinatus tendinitis	Infraspinatus tendinitis	Subscapular tendinitis	Adductor strain	Biceps bursitis
Active elevation	+	+	+	+	+	-	-	-
Passive elevation	+	-	-	-	-	-	-	-
Passive scapulohumeral abduction	30°*	-	-	-	-	-	-	-
Passive lateral rotation	60°*	-	-	-	-	-	-	-
Passive medial rotation	5°*	-	-	-	-	-	-	-
Passive adduction	-	-	-	+	-	-	-	-
Painful arc	-	-	-	-	-	-	-	-
Resisted abduction	-	-	-	+	+	-	-	-
Resisted adduction	-	-	-	+	+	-	-	-
Resisted lateral rotation	-	-	-	+	+	-	-	-
Resisted medial rotation	-	-	-	+	+	-	-	-
Resisted extension of elbow	-	+	-	-	-	-	-	-
Resisted flexion of elbow	-	+	-	-	-	-	-	-

* Limitation in these proportions = capsular pattern



aktieve elevatie armen



passieve elevatie arm



"painful arc"



passieve abduktie scapulo-humeraal



passieve exorotatie



passieve endorotatie



weerstand adductie



weerstand abduktie



weerstand endorotatie



weerstand exorotatie



weerstand flexie elleboog



weerstand extensie elleboog

13 tests >>
leiden tot een
klinische diagnose

First diagnosis !



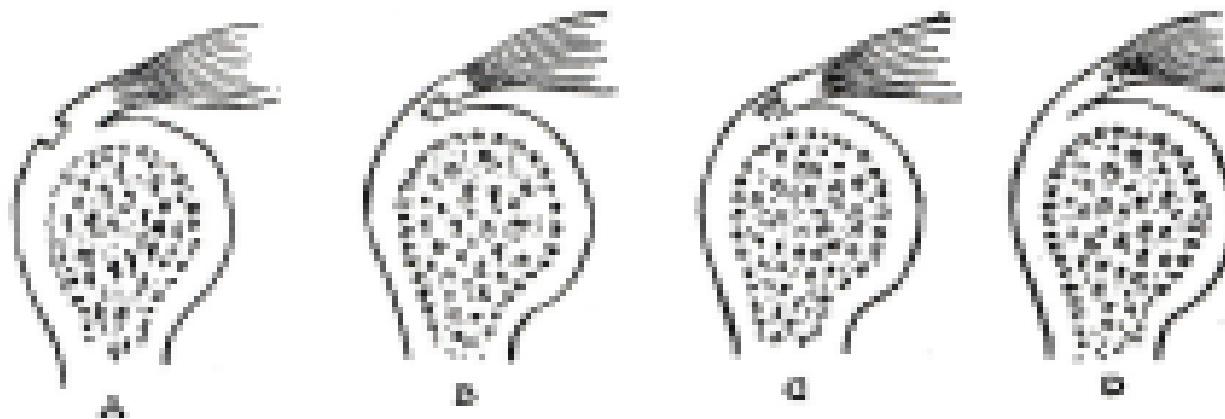
James' Quotes:

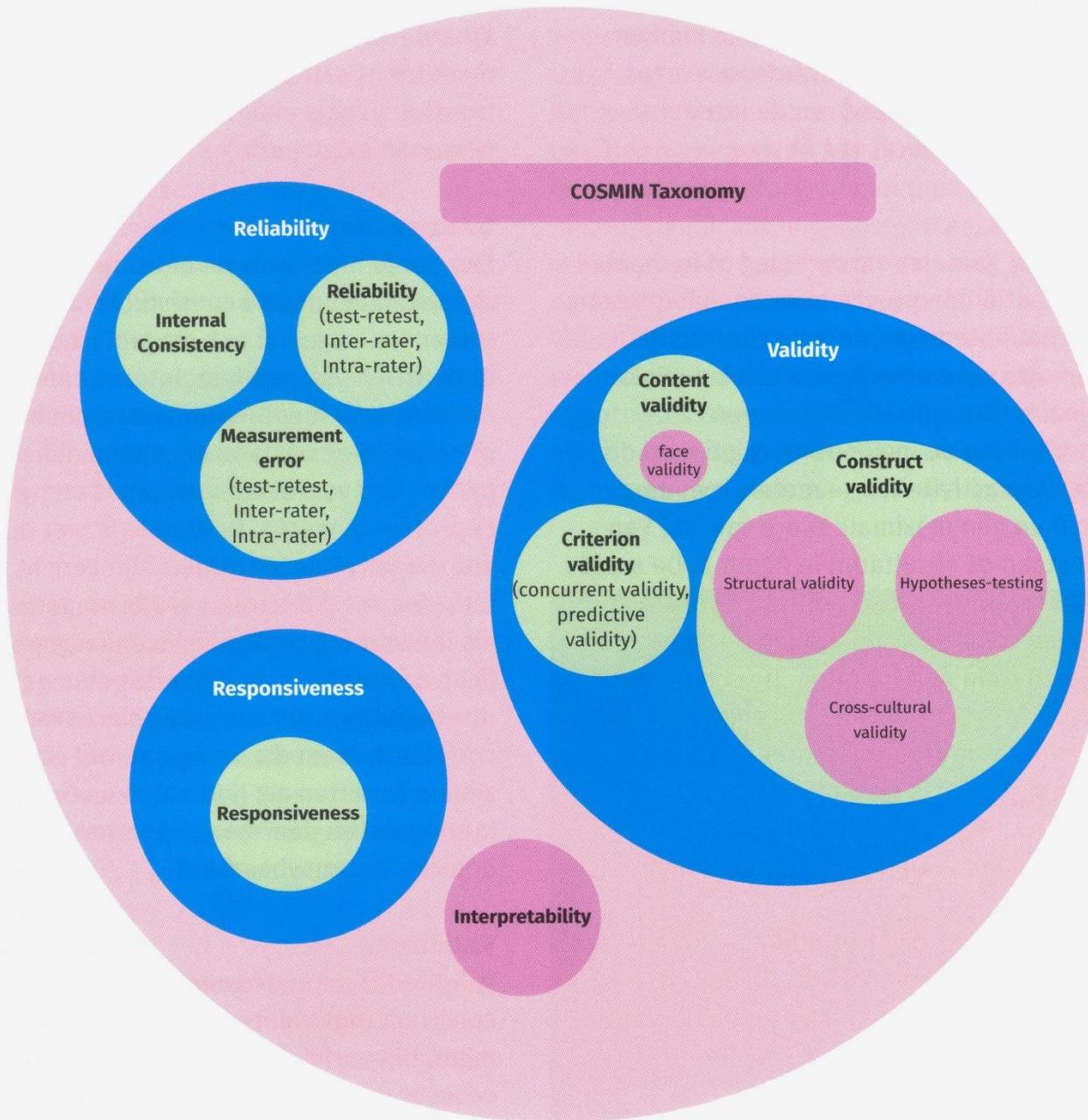
"Every patient contains a truth...
The (clinician) must adopt a conscious humility,
not towards the patient, but towards the truth
concealed within the patient"

"All pain has a source"
"All treatment must reach the source"
"All treatment must benefit the lesion"

Sterk biomechanisch / orthopedisch bepaald!

<i>Anatomical</i>	<i>Absent or limited by</i>	<i>Lateral rotation limited by</i>	<i>Medial rotation limited by</i>
Slight	0°	30°	Pain and painful
Medium	45°	60–70°	10–15°
Gross	70–80°	90–100°	30°





Cosmin Taxonomie 2010

CO nsensus based
S tands for the
selection of health
M easurements
IN struments

www.cosmin.nl

Figuur 1. COSMIN-taxonomie. De blauwe bollen geven de domeinen aan, de groene en paarse bollen de klinimetrische eigenschappen.

Meetinstrumenten (Cosmin): klinimetrische eigenschappen

1. Betrouwbaarheid
(betrouwbaarheid & meetfout
& ook nog: *consistentie*)
 2. Validiteit
 3. Responsiviteit
- 4- *Interpreteerbaarheid*
 - 5- *Praktische hanteerbaarheid*

Hegedus 1, 2012, stand alone OST's.

Table 3 Summary estimates from meta-analysis

Diagnosis Test	No. Studies Sample Size (n)	SN(95% CI)	SP(95% CI)	+LR(95% CI)	-LR(95% CI)	DOR(95% CI)
Impingement						
Neer*	7(n=946)	0.72(0.60, 0.81)	0.60(0.40, 0.77)	1.79(1.24, 2.58)	0.47(0.39, 0.56)	3.83(2.51, 5.84)
H-K*	7(n=944)	0.80(0.72, 0.86)	0.56(0.45, 0.67)	1.84(1.49, 2.26)	0.35(0.27, 0.46)	5.18(3.64, 7.35)
Painful Arc*	4(n=756)	0.53(0.31, 0.74)	0.76(0.68, 0.84)	2.25(1.24, 4.08)	0.62(0.37, 1.03)	3.66(1.24, 10.81)
SLAP						
Active Compression*	6(n=782)	0.67(0.51, 0.80)	0.37(0.22, 0.54)	1.06(0.90, 1.25)	0.89(0.67, 1.20)	1.19(0.76, 1.86)
Speeds*	4(n=327)	0.20(0.05, 0.53)	0.78(0.58, 0.90)	0.90(0.43, 1.90)	1.03(0.86, 1.23)	0.87(0.35, 2.55)
Anterior Slide*	4(n=831)	0.17 (0.03, 0.55)	0.86(0.81, 0.89)	1.20(0.22, 6.51)	0.97(0.96, 1.36)	1.24(0.16, 9.47)
Crank†	4(n=282)	0.34(0.19, 0.53)	0.75(0.65, 0.83)	1.36(0.84, 2.21)	0.88(0.69, 1.12)	1.54(0.75, 3.18)
Yergason's	3(n=246)	12.4(6.60, 20.6)	95.3(90.6, 98.1)	2.49(0.97, 6.40)	0.91(0.84, 0.99)	2.67(0.99, 7.73)
Relocation	3(n=246)	51.6(41.2, 61.8)	52.4(44.0, 60.6)	1.13(0.88, 1.45)	0.93(0.72, 1.20)	1.23(0.72, 2.11)
Biceps Palpation	2(n=114)	38.6(26.0, 52.4)	66.7(52.9, 78.6)	1.06(0.66, 1.68)	0.95(0.74, 1.22)	1.13(0.51, 2.50)
Compression Rotation†	2(n=355)	24.5(13.8, 38.3)	78.0(72.9, 82.5)	2.81(0.20, 39.70)	0.87(0.66, 1.16)	3.39(0.15, 74.78)
Anterior Instability						
Relocation†	3(n=509)	64.6(54.9, 73.4)	90.2(86.8, 93.0)	5.48(0.56, 53.8)	0.55(0.24, 1.27)	10.64(0.32, 354.10)
Apprehension	2(n=409)	65.6(52.7, 77.1)	95.4(93.3, 97.8)	17.21(10.02, 29.55)	0.39(0.22, 0.68)†	53.60(24.29, 118.30)
Surprise	2 (n=128)	81.8(69.1, 90.9)	86.1(72.1, 94.7)	5.42(0.96, 30.52)†	0.25(0.08, 0.78)†	28.10(7.71, 102.45)
Tendinopathy						
H-K	3(n=738)	65.5(60.3, 70.5)	62.8(57.3, 68.1)	1.86(1.47, 2.34)	0.46(0.36, 0.60)	4.68(3.35, 6.53)
Labral Tear						
Crank	3(n=187)	57.3(47.2, 67.0)	72.6(61.8, 81.8)	2.44(0.69, 8.59)	0.51(0.21, 1.22)	5.81(0.47, 71.50)

SN= sensitivity, SP=specificity, +LR=positive likelihood ratio, -LR=negative likelihood ratio, DOR=diagnostic odds ratio

CI=confidence interval, SLAP=....., *HSROC/Bivariate models and all others use DerSimonian-Laird random-effects models. †indicates those studies and properties demonstrating significant heterogeneity ($p>0.10$).

Hegedus 2, 2015, clusteren help!

Best test clusters from current literature

Author(s)*	Pathology*	Test*Cluster*	LR+*	LR-*
(Litaker,*et*al.,*2000)	Rotator cuff tear	1.*Age*>*65*and* 2.*Weakness*in*external* rotat. 3.*Night*pain*	9.84*	0.54*
(Park,*et*al.,*2005)*	Rotator cuff tear (FTR)	1.*Age*>*60*and* 2.*+*painful*arc*test*and* 3.*+*drop*arm*test*and* 4.*+*infraspinatus*test*	28.0*	0.09*
(Park,*et*al.,*2005)*	Impingement*	1.*+*Hawkins-Kennedy* and* 2.*+*painful*arc*test*and* 3.*+*infraspinatus*test*	10.56*	0.17*
(Farber,*et*al.,*2006)*	Anterior*instability* (traumatic)*	1.*+*apprehension*test** and* 2.*+*relocation*test*	39.68*	0.19*
(Guanche*&* Jones,*2003)*	Labral*tear*	1.*+*relocation*test*and* 2.*+*active*compression* test*	4.56	0.65*
(Guanche*&* Jones,*2003)*	Labral*tear*	1.*+*relocation*test*and** 2.*+*apprehension*test*	5.43*	0.67

WAARDERING Kappa:

De betrouwbaarheid

is:

- < 0.20 : *slecht,*
- $0.21\text{--}0.40$: *matig,*
- $0.41\text{--}0.60$: *redelijk,*
- $0.61\text{--}0.80$: *goed,*
- $0.81\text{--}1.00$: *zeer goed.*

Video Neer sign

Inter-beoordelaars betrouwbaarheid van de test van Neer .

Referentie	Overeenstemming	Kappa waarde
Nanda 2008 (Cohen's K)	75,4%	0.10
Razmjou 2004 (Cohen's K)	77,0 %	0,51
Nomden 2008 (gewogen K)	91,0%	0,62
Johansson 2008 (Cohen's K)	100%	1,00

Referentie	Overeen-stemming	Kappawaarde	Kenmerken diagnostische studie	Verklaring kappawaarde
Nanda (2008) ²⁶ (Cohen's κ)	75,4%	0,10	n=63, orthopeed & orthopeed i.o., 2e lijn, 9 OST's, Neer-test in scaptie	Testers hebben verschillende ervaring. Oefenpilot niet beschreven.
Razmjou (2004) ²⁷ (Cohen's κ)	77,0 %	0,51	n=136, orthopeed & FT, 2e lijn, 2 OST's: HK- en Neer-test (in scaptie)	Testers hebben verschillende professie. Oefenpilot wel beschreven.
Nomden (2008) ²⁸ (gewogen κ)	91,0%	0,62	n=91, FT en MT, 1e lijn, 7 OST's waaronder Neer-test in abductie	Testers hebben dezelfde professie. Oefenpilot wel beschreven.
Johansson (2008) ²⁹ (Cohen's κ)	100%	1,00	n=33, 2 FT, 1e lijn, 4 OST's met Neer-test in endorotatie en anteflexie	Testers hebben dezelfde professie. Oefenpilot wel beschreven.

Inter-beoordelaars betrouwbaarheid van de test van Neer .

Referentie	Overeenstemming	Kappa waarde
Nanda 2008 (Cohen's K)	75,4%	0.10
Razmjou 2004 (Cohen's K)	77,0 %	0,51
Nomden 2008 (gewogen K)	91,0%	0,62
Johansson 2008 (Cohen's K)	100%	1,00
Vind 2011 (Cohen's K)	78%	0,95
Burns / Cleland 2016 (Cohen's K)	75%	0,51
Apeldoorn 2019 (Cohen's K)	83%	0,43

Video SSMP's

Is betrouwbaar / valide onderzoek mogelijk? JA, MITS JE

- De test goed beschrijft / demonstreert.
- Correcte afkappunten afspreekt.
- Vooraf goed oefent / samen oefent.
- Voldoende vaardigheid om op patiënt te letten.

- Geen stand-alone tests gebruikt, maar clustert.
- Goede beslismodellen gebruikt.

2a Waarom FT / MT onderzoek?

1. Pathologisch anatomisch substraat !

2a Waarom FT / MT onderzoek?

1. Pathologisch anatomisch substraat !
Maar ook:
2. Prognostische factoren.
3. Welke richting voor oefeningen (SSMP's).
4. Bewegings angst of perseverance.
5. Mentale factoren: durf / zelfvertrouwen.
6. Gedragsfactoren: zelfredzaamheid, fit
7. Evaluatieve metingen. *Etcetera*

2b Behandelen



1. Chronologisch beloop (1976 – 2019)
 - 1980: *diepe dwarse fricties* (Cyriax)
 - 2000: *excentrische oefentherapie* (Alfredson)
later ook: Holmgren / Bjornsson
 - 2005: *coördinatie* (Mottram, Cools)
 - 2008: *shockwave therapie*
 - > 2010: *decompressie chirurgie vnl. placebo*
 - > 2015: *MT i.e.z. is voornamelijk placebo*
 - *idem: oefentherapie meest relevante interv.*
2. Evidence Based FT / MT



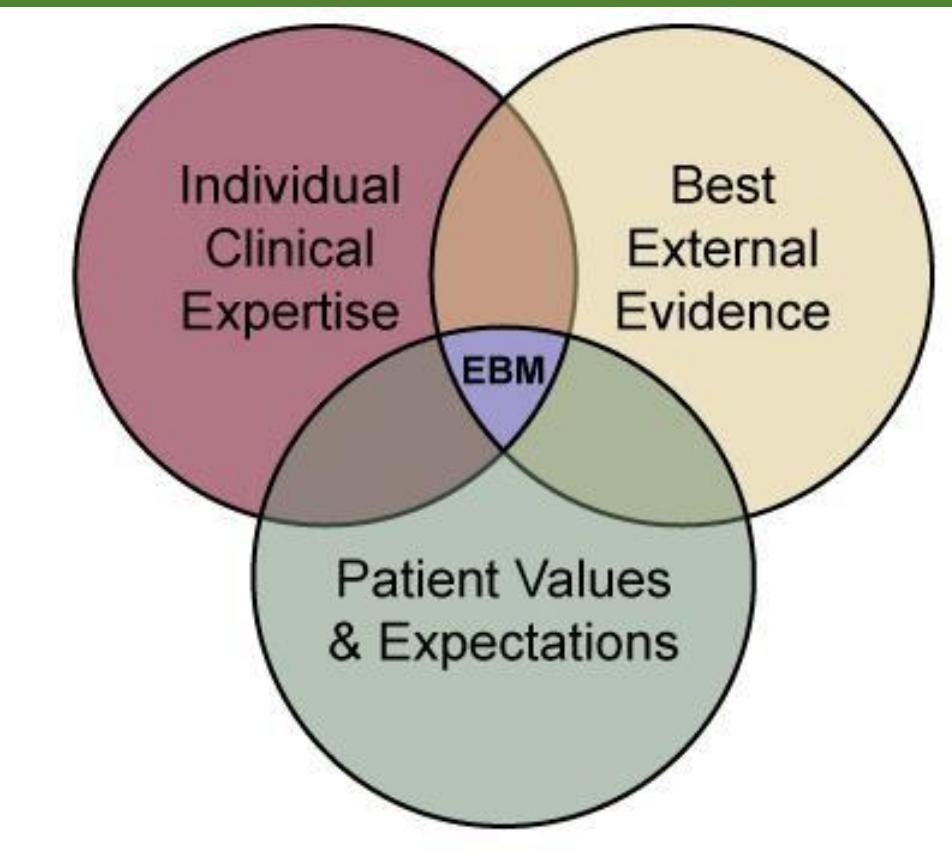
Physical Therapy: Best Practice for Shoulder Pain patients



A video by Gerard Koel, PT.



Physical Therapy: Best Practice for Shoulder Pain patients



EBM stands for:
Evidence Based Medicine;

EBPT for:
Evidence Based Physical Therapy

EBPT has three major
cornerstones (see left)

Best Practice is about realising the
best treatment based upon EBPT
for your individual patient.



Option 1: Improve PT diagnosis by additional diagnostic US.

Downloaded from <http://bmjopen.bmj.com/> on December 10, 2016 - Published by group.bmj.com

Open Access

Research

BMJ Open Ultrasound imaging to tailor the treatment of acute shoulder pain: a randomised controlled trial in general practice

Ramon P G Ottenheijm,¹ Jochen W L Cals,¹ Bjorn Winkens,² René E Weijers,³ Rob A de Bie,⁴ Geert-Jan Dinant¹



Option 2: Manual therapy for patients with SP / SAPS

[RESEARCH REPORT]

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ROBERT E. BOYLES, PT, DSc⁵ • AMBER R. BEARDSLEE, DPT⁶ • SCOTT A. BURNS, DPT^{7,8}
MATTHEW D. HABERL, DPT⁹ • LAUREN A. HINRICHES, DPT¹⁰ • LORI A. MICHENER, PT, PhD¹¹

Cervicothoracic Manual Therapy Plus Exercise Therapy Versus Exercise Therapy Alone in the Management of Individuals With Shoulder Pain: A Multicenter Randomized Controlled Trial



Option 3: Therapy with Surgery (Subacromial Arthroscopic Decompression)



RESEARCH



OPEN ACCESS

Subacromial decompression versus diagnostic arthroscopy for shoulder impingement: randomised, placebo surgery controlled clinical trial

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Option 4: Exercise therapy for patients with SP / SAPS.

BMJ

RESEARCH

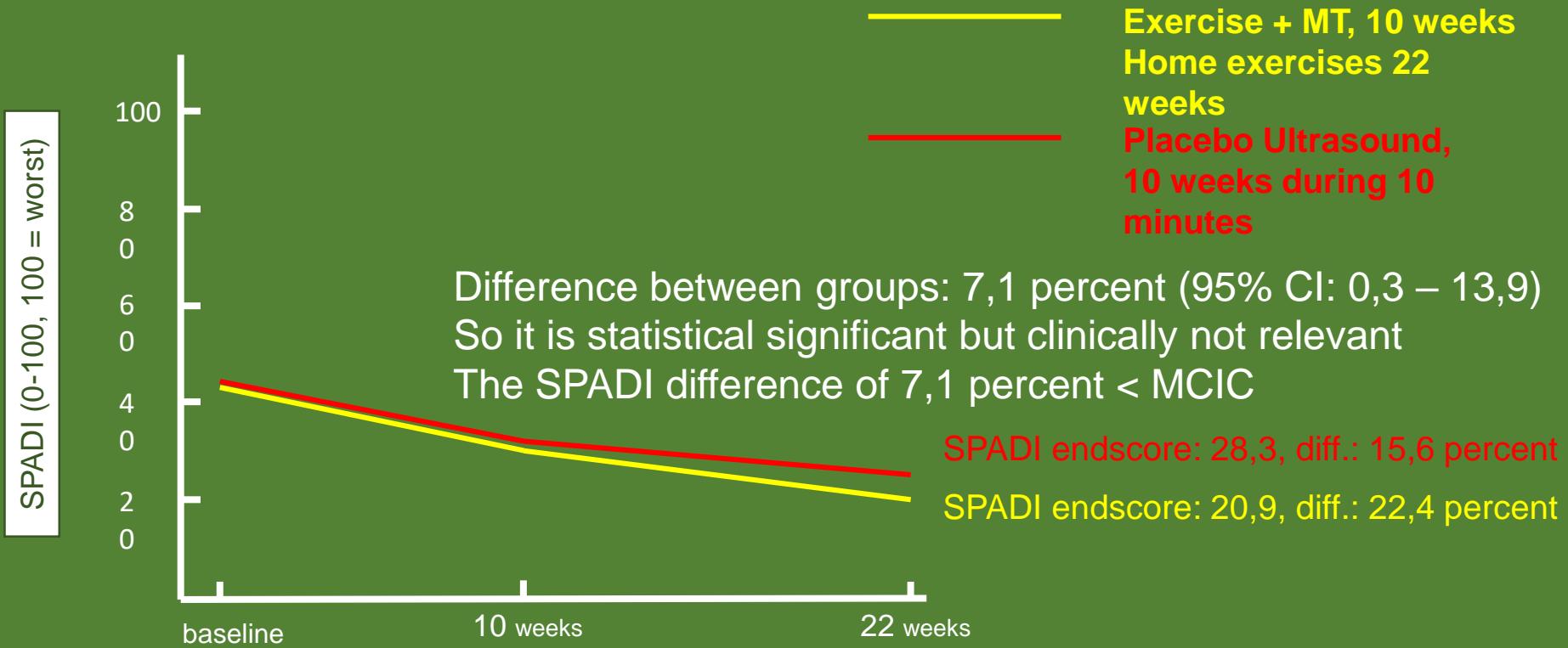
Efficacy of standardised manual therapy and home exercise programme for chronic rotator cuff disease: randomised placebo controlled trial

Kim Bennell, professor,¹ Elin Wee, physiotherapist and research assistant,¹ Sally Coburn, physiotherapist,^{1,2} Sally Green, professor,³ Anthony Harris, professor,⁴ Margaret Staples, biostatistician,^{5,6} Andrew Forbes, professor,⁶ Rachelle Buchbinder, professor^{5,6}



Option 4: Exercise therapy for patients with SP / SAPS

Bennell K et al, Melbourne Australia, BMJ, 2010





However 2; most relevant level 1 SR is Page et al 2016:



Cochrane
Library
Cochrane Database of Systematic Reviews

Manual therapy and exercise for rotator cuff disease (Review)

Page MJ, Green S, McBain B, Surace SJ, Deitch J, Lytle N, Mrocki MA, Buchbinder R



RESEARCH

Efficacy of standardised manual therapy and home exercise programme for chronic rotator cuff disease: randomised placebo controlled trial

Kim Bennell, professor,¹ Elin Wee, physiotherapist and research assistant,¹ Sally Coburn, physiotherapist,^{1,2} Sally Green, professor,³ Anthony Harris, professor,⁴ Margaret Staples, biostatistician,^{5,6} Andrew Forbes, professor,⁶ Rachelle Buchbinder, professor^{5,6}

- The Bennell study is judged as having the highest methodological score and therefore the most important study, leading to the conclusion that Cochrane authors state
- There is high quality evidence to suggest that exercise therapy is just a bit better than placebo therapy.





Physical Therapy: Best Practice for Shoulder Pain patients

But, we think

- MSU indeed is a valuable tool in the CR process in SP patients
- a number of SP patients will respond good after PT with additional MT
- some patients with persistent SAPS will show good results after decompression surgery
- in daily practice 80% of our SP patients can be successfully treated with exercise therapy

However 1; see recent SR's:

- Haik et al; BJSM (2016)
- Green et al; 'old' Cochrane review (2008)
- Henratty et al; Arthritis Rheumatism (2012)
- Hanchard et al, UK guideline (2004)
- Kuhn et al (MOON study), JSES (2009)
- Littlewood et al, Physiotherapy (2012)

.... and a number of recent RCT's:

- Lombardi et al, 2008
- Holmgren et al, 2012
- Bjornsson et al, 2014
- Kukkonen et al, 2015

All studies +ve about effectiveness of exercise therapy in SP patients; or exercise therapy as effective as surgery.



Physical Therapy: Best Practice for Shoulder Pain patients





Physical Therapy: Best Practice for Shoulder Pain patients

Best Practice

=

Daily Practice

≠

External Evidence

3 Samenvatting



1. Relevantie van FT / MT onderzoek
2. Multimodaal analyseren
3. Multimodaal behandelen

Bronnen / oorzaken voor (aanhoudende) SP.

Psychosocial Factors

Referred Pain

- Cervical
- Thoracic
- Abdomen

Peripheral Sensitization Central Sensitization

Stiff Shoulder

- Frozen Shoulder
- Osteoarthritis
- Locked dislocation
- Osteosarcoma

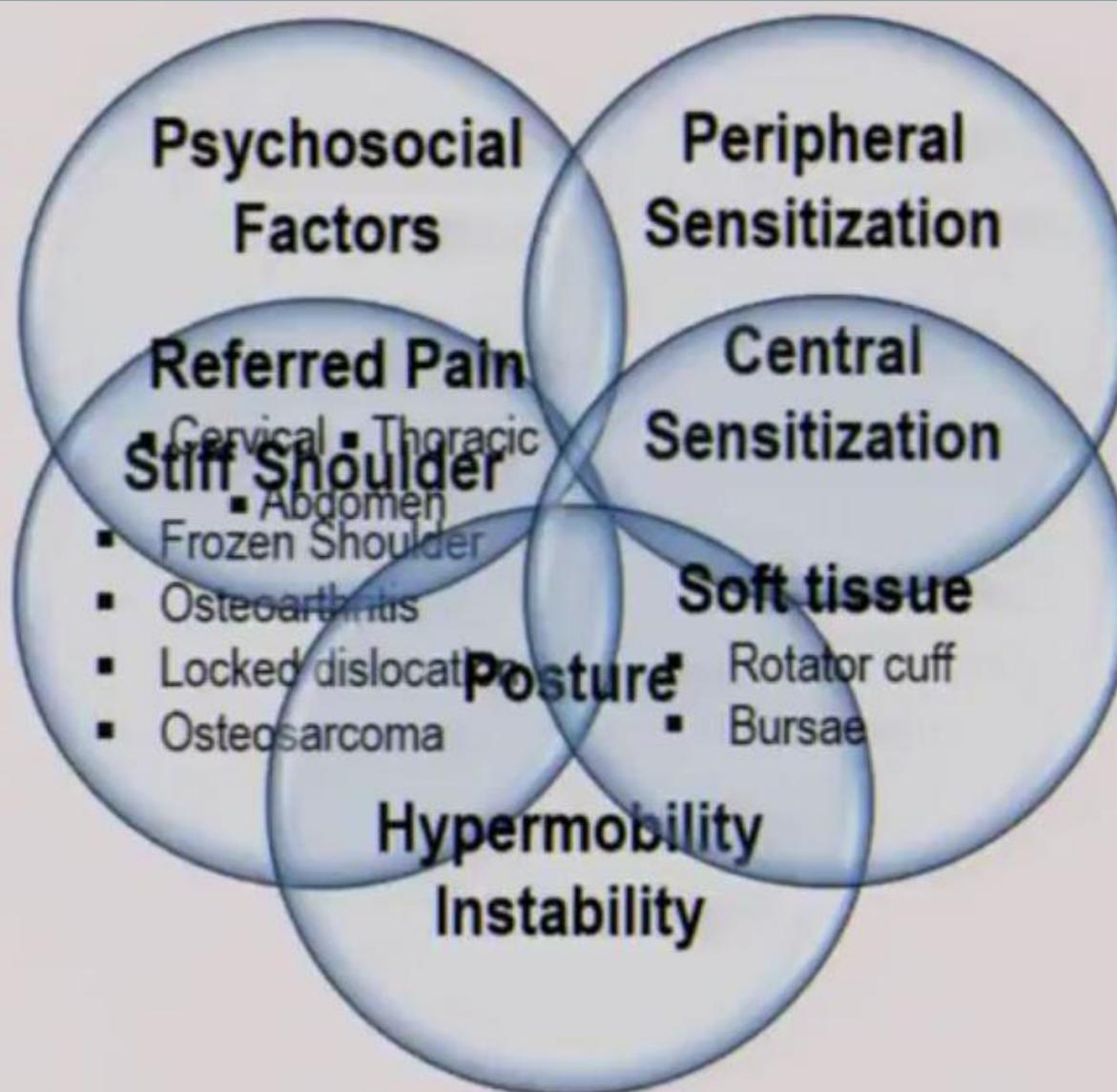


Posture Hypermobility Instability

Soft tissue

- Rotator cuff
- Bursae

Bronnen / oorzaken voor (aanhoudende) SP: IN DE PRAKTIJK ELKAAR NIET UITSUITEND.



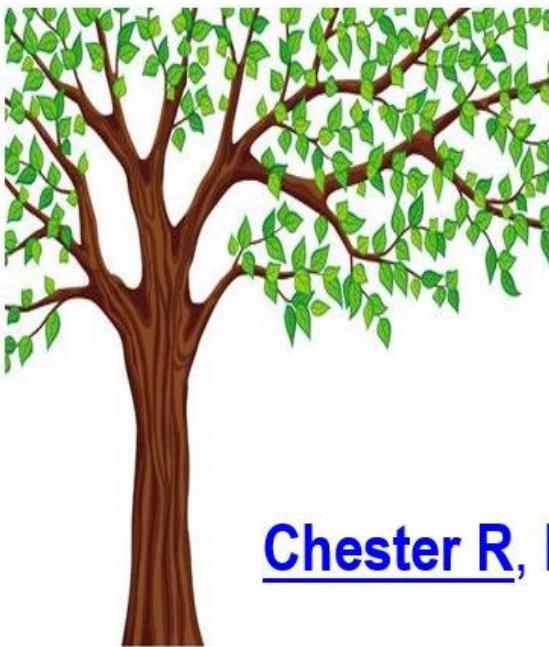
Multimodaal analyseren: de FT / MT als Sherlock Holmes !!



First diagnosis ?



- YES, of course ...
we need a diagnosis
before an appropriate
treatment plan can be
realised &
- YES, but
beside the structural
tissue-related diagnosis
we need to evaluate
other factors as well



Self-Efficacy & Risk of Persistent Shoulder Pain:

Results of a Classification & Regression Tree (CaRT) Analysis

Chester R, Khondoker M, Shepstone L, Lewis J, Jerosch-Herold C

Conclusions Patient expectation and pain self-efficacy are associated with clinical outcome. These clinical elements should be included at the first assessment and a low pain self-efficacy response considered as a target for treatment intervention.

<http://dx.doi.org/10.1136/bjsports-2018-099450>

BJSM

The influence of cognitions, emotions and behavioral factors on treatment outcomes in musculoskeletal shoulder pain: a systematic review

Liesbet De Baets¹ , Thomas Matheve¹ , Mira Meeus^{2,3,4} , Filip Struyf² and Annick Timmermans¹

Abstract

Objective: To examine the predictive, moderating and mediating role of cognitive, emotional and behavioral factors on pain and disability following shoulder treatment.

Clinical Rehabilitation

1–12

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1. SOMATISCHE DISFUNCTIES:

- Beschadigde pijnlijke RC pezen
- Stijfheid GH gewricht
- Instabiliteit GH / ST / gordel
- Onvoldoende kracht
- Scapula diskinesie
- Positieve reductietests / SSMP's
- Keten CTO-TWK-LWK-been

2. MENTALE DISFUNCTIES:

- Te weinig zelfvertrouwen,
te weinig zelfredzaamheid
- Onvoldoende veerkracht (resilience)
- Onvoldoende positief in 't leven
- Bewegings-angst of perseverance
- Catastroferen SP & de prognose SP

Acute / subacute / aanhoudende SCHOUDERPIJN

3. COGNITIEF – PSYCHOLOGISCHE DISFUNCTIES:

- Onvoldoende inzicht oorzaak SP
- Disfunctionele health beliefs
- Onvoldoende inzicht in pijn
- Menen dat acute = chronische SP
- Matige verwachting FT & therapie

4. PROCESMATIGE - GEDRAGSMATIGE DISFUNCTIES:

- Sensitisatie CZS
 - segmentaal: referred pain, MTP's
 - algemeen: arousal, centrale dis-stress
- Gestoorde motorische output
- Onvoldoende fitheid / hardheid
- (te) Externe coping-stijl
- Onvoldoende zelfmanagement

1. SOMATIC DISFUNCTIONS:

- Lesioned / painfull RC tendons
- Stiff / restricted GH joint
- Capsulitis, bursitis
- Instability GH / ST / shoulder girdle
- Insufficient muscle strength
- Scapula diskinesis
- Chain ↓ CT-Thor-Lumbar-Leg

2. MENTAL DISFUNCTIONS:

- Too less self-confidence, too little self-efficacy
- Insufficient resilience
- Insufficient positive life attitude
- KinesioPhobia or Perseverance
- Catastrophing beliefs about SP & prognosis of course SP

Acute / subacute / persistent SHOULDER PAIN

3. COGNITIVE-PSYCHOLOGICAL DISFUNCTIONS:

- Insufficient insight in cause of SP
- Dis-functional health beliefs
- Insufficient insight pain system
- Think that acute = chronic SP
- Poor expectations PT & therapy

4. PROCESS-BASED - BEHAVIORAL DISFUNCTIONS:

- Sensitisation Central Nervous Syst.
 - segmental: referred pain, MTP's
 - general: arousal, central dis-stress
- Altered motor control / AROM
- Insufficient fitt / loadable / resistant
- (too) External coping-style
- Insufficient self-management

SP patients need a multimodal analysis of their health problem and very often also a multimodal treatment plan.

And indeed...., very often they need a shoulder-specialized PT.



Afronding



1. Inleiding / anatomie - KR model
 - *relatie met ShoTime programma*
2. Chronologisch beloop (1976 – 2019)
 - *betreffende FT – MT diagnostiek heeft dat überhaupt zin?*
 - *betreffende FT – MT behandelen zie 'Best Practice' video NVMT website*
3. Samenvatting