

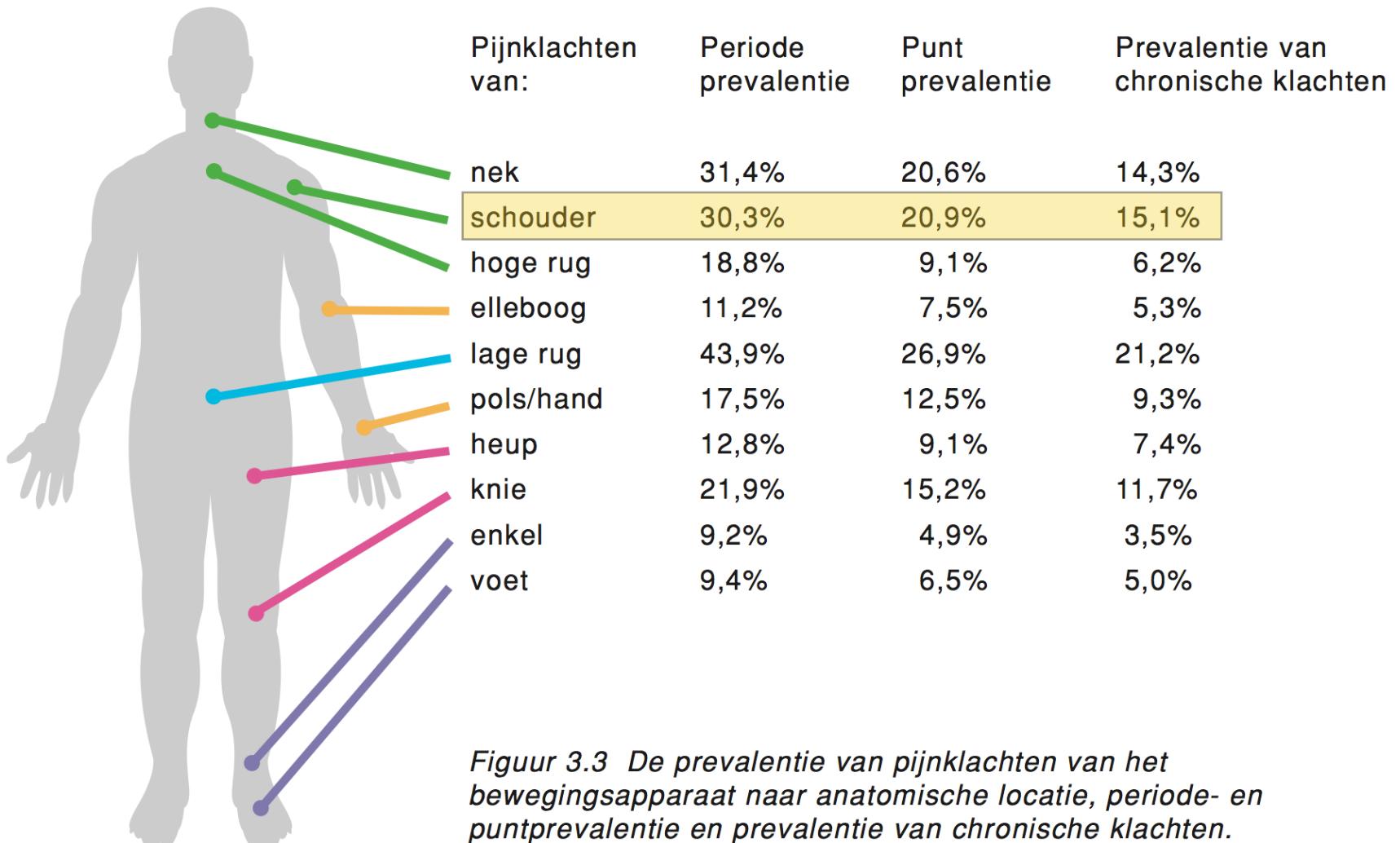
Anesthesiologische behandelmogelijkheden schouderpijn

Xander Eijsbouts
Anesthesioloog – Pijnspecialist

GOED Medisch Centrum Breda

Bravis Ziekenhuis Roosendaal





Figuur 3.3 De prevalentie van pijnklachten van het bewegingsapparaat naar anatomische locatie, periode- en punt prevalente en prevalentie van chronische klachten.

'Sportblessures kosten 1,5 miljard per jaar'

next.checkt Dat stelde SP-Kamerlid Michiel van Nispen in een motie die opriep tot meer preventie.

♂ Philip de Witt Wijnen ⌂ 9 december 2015

Inhoud

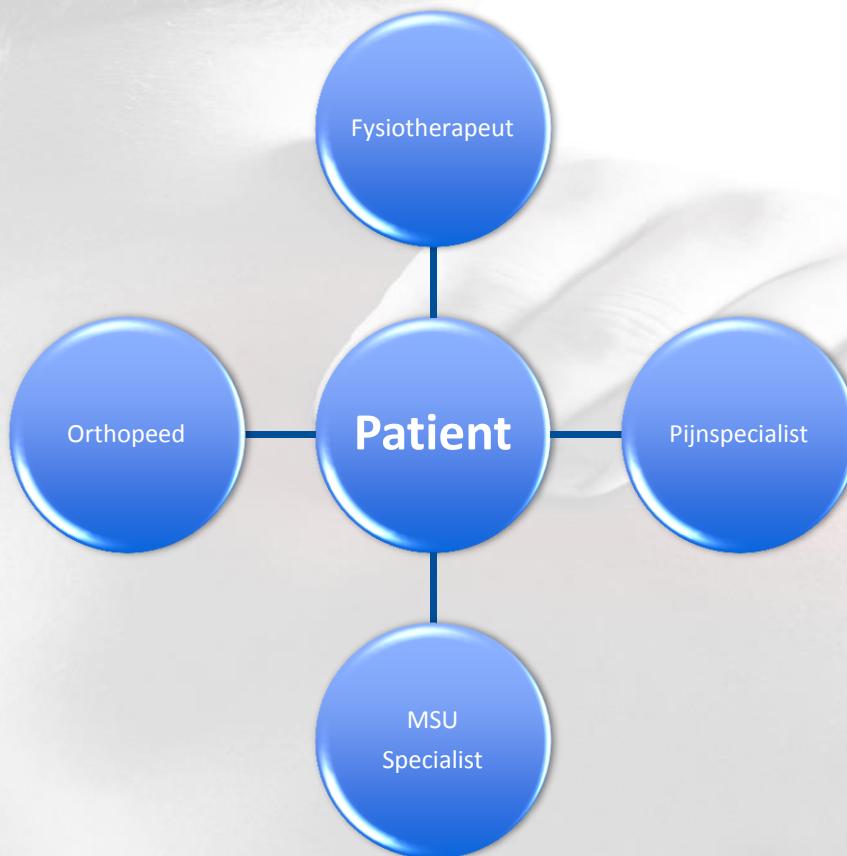
- Interdisciplinaire samenwerking
 - “schouderstraat”
- “Anesthesiologische behandelingen”
 - Innervatie schouder
 - Literatuur
 - Techniek Pulsed-RF
- Eigen data
- Conclusie



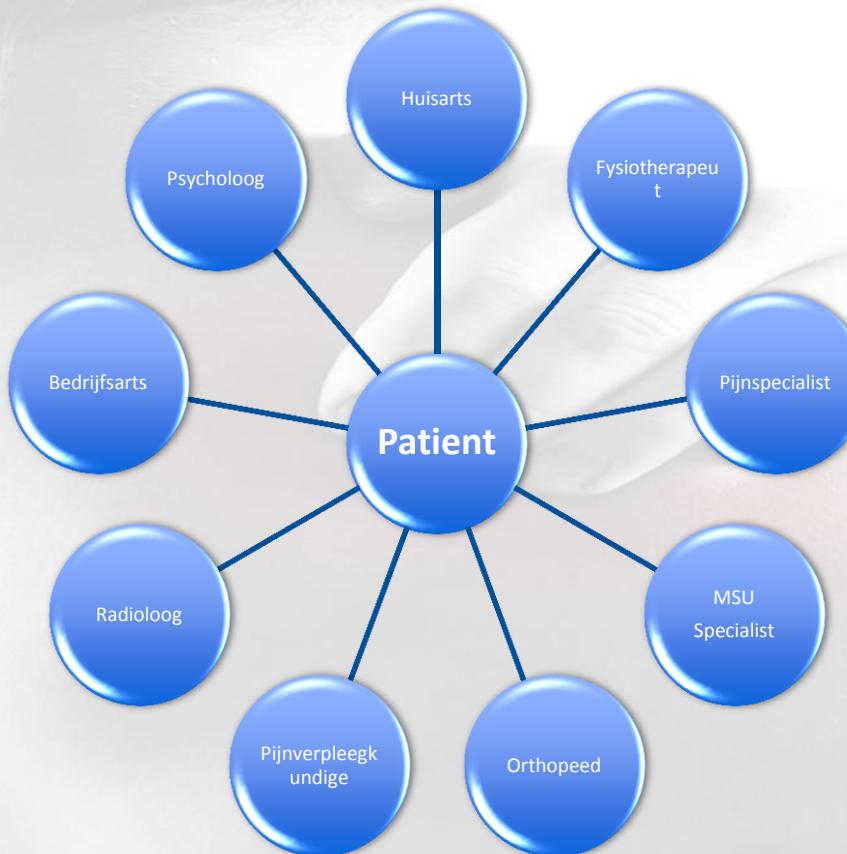
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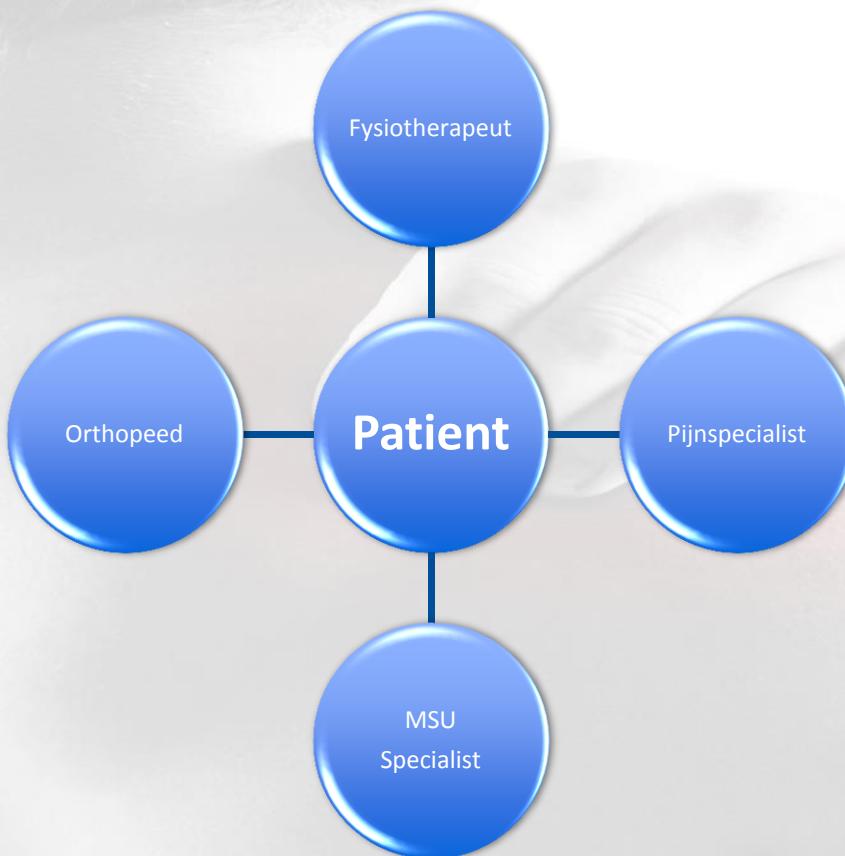
Teamwork



Teamwork



Teamwork



24

Congress of the European Society for
Surgery of the Shoulder and the Elbow

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**SECEC
Istanbul
2014**

“Schouderstraat”

Intake

- Orthopeed
- (*MSU specialist*)

Diagnose

- Operatie
- Conservatief (Fysiotherapie)
- **Fysiotherapie + Pijnspecialist**

“Schouderstraat”

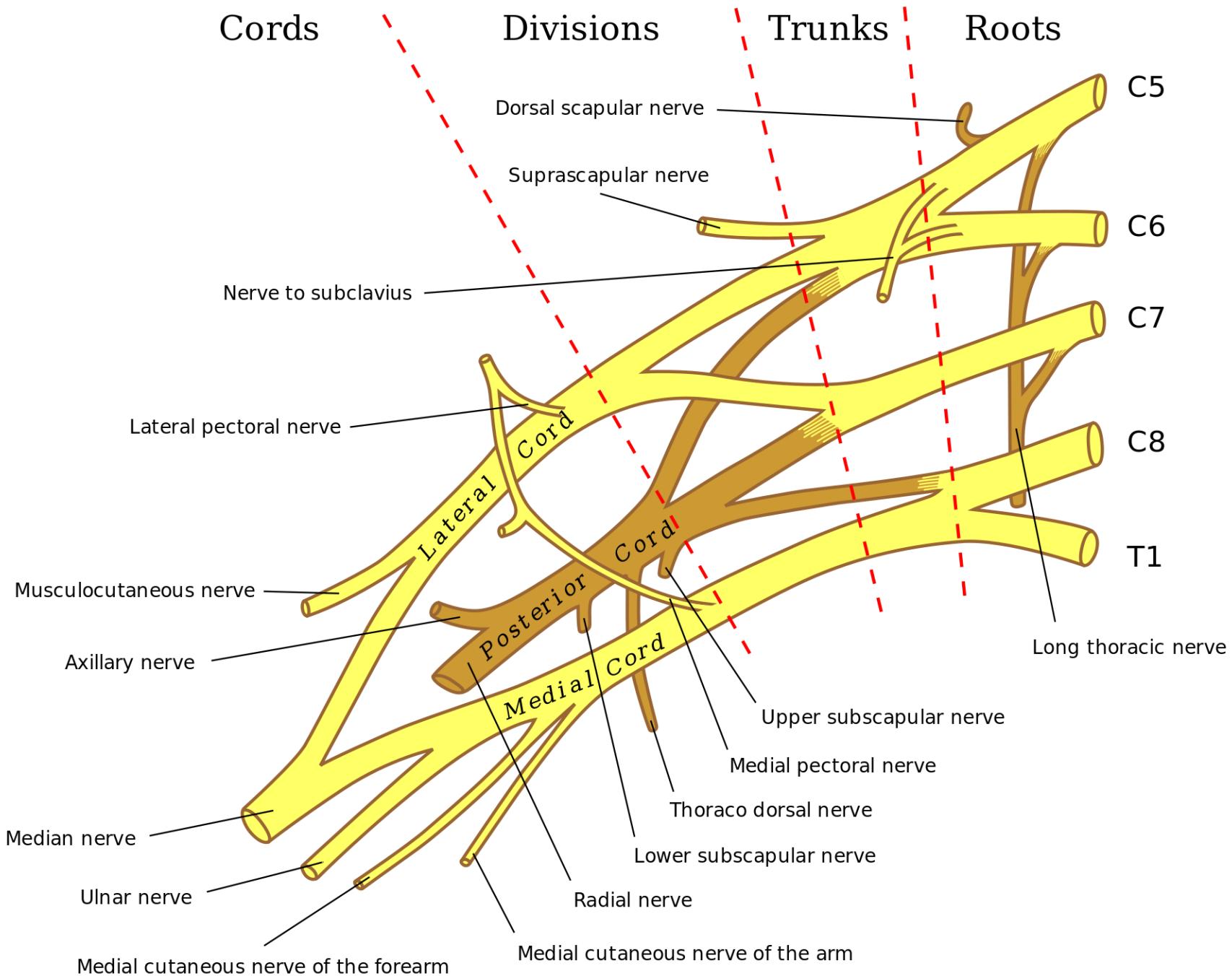


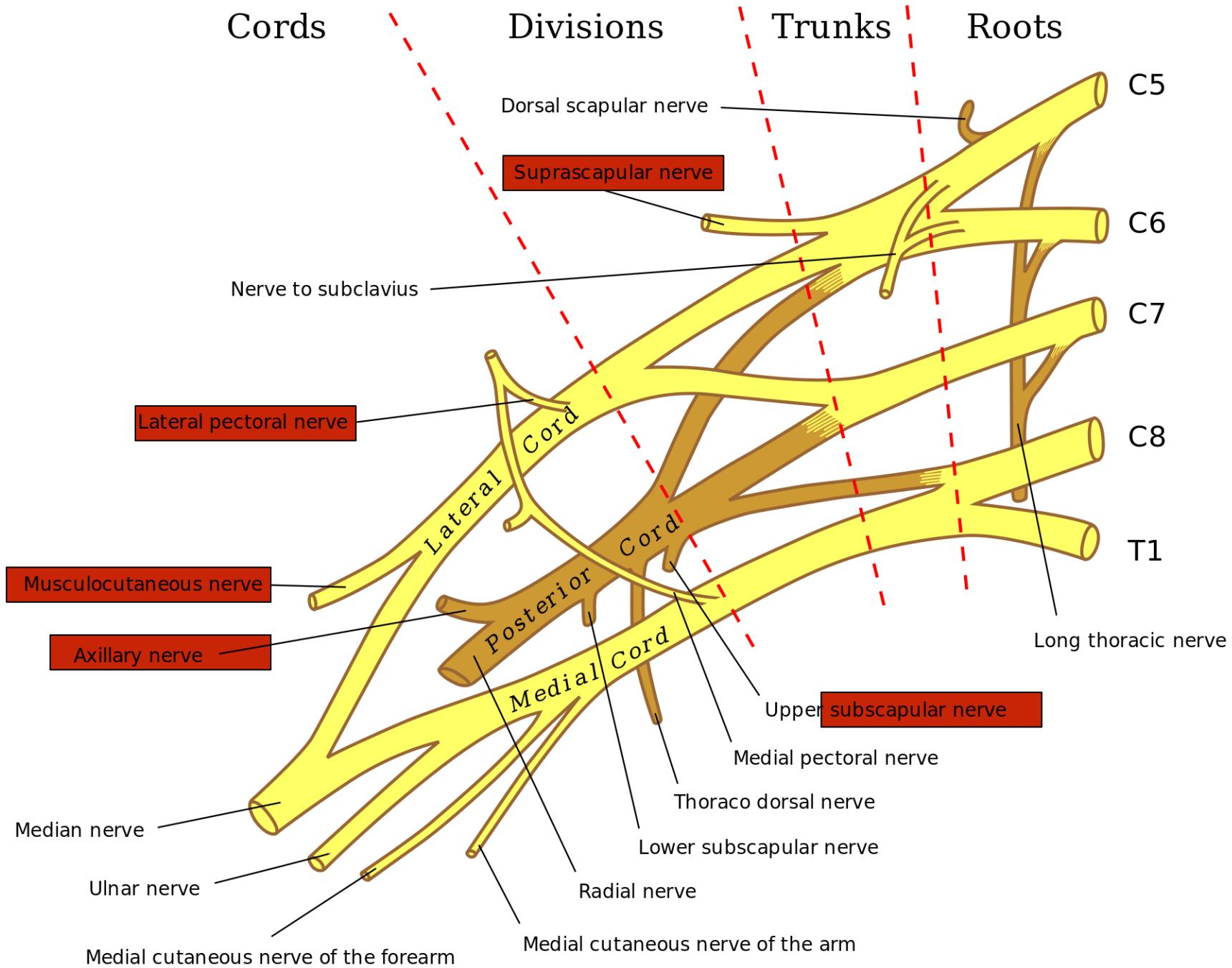
“Schouderstraat”



Anesthesiologische behandelingen

- Pulsed-RF perifere zenuwen
- Barbotage calcificaties cuff
- Locale infiltraties
 - Corticosteroiden
 - Hyaluronzuur
 - Autoloog Geconditioneerd Bloed (ACP)
- Medicamenteus
- (Revalidatie programma)





	n Suprascapularis	n Axillaris
Spieren	Supraspinatus Infraspinatus Teres minor	Deltoides Teres minor
Bot	Glenoid Acromium + AC gewricht Scapula posterior surface	Humeral head Proximal humeral neck
Synovium	Kapsel: Superior Anterior Posterior Medial Subacromial bursa	Kapsel: Lateral Inferior
Huid	Niet	Gebied deltoideus

Innervatie schouder door n Suprascapularis en n Axillaris

How To

PubMed

pulsed radiofrequency suprascapular nerve |



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1. [Chatterjee N, Roy C.](#)
Wu YT, Ho CW, Chen YL, Li TY, Lee KC, Chen LC.
Anesth Analg. 2014 Sep;119(3):686-92. doi: 10.1213/ANE.0000000000000354.
PMID: 25010824 [PubMed - in process]
[Related citations](#)

- [Pulsed radiofrequency for the suprascapular nerve for patients with chronic headache.](#)
2. [Shabat S.](#)
Chatterjee N, Roy C.
J Neurosurg Anesthesiol. 2014 Jul;26(3):267. doi: 10.1097/ANA.0000000000000009. No abstract available.
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- [Pulsed radiofrequency for the suprascapular nerve for patients with chronic headache.](#)
3. [Jang JS, Choi HJ, Kang SH, Yang JS, Lee JJ, Hwang SM.](#)
Shabat S.
J Neurosurg Anesthesiol. 2014 Jul;26(3):264. doi: 10.1097/ANA.0000000000000010. No abstract available.
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- [Effect of pulsed radiofrequency neuromodulation on clinical improvements in the patients of chronic intractable shoulder pain.](#)
4. [Jang JS, Choi HJ, Kang SH, Yang JS, Lee JJ, Hwang SM.](#)
Chatterjee N, Roy C.
J Korean Neurosurg Soc. 2013 Dec;54(6):507-10. doi: 10.3340/jkns.2013.54.6.507. Epub 2013 Dec 31.
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1. Rana H, Matchett G.

Pain Physician. 2013 May-Jun;16(3):E311-4.

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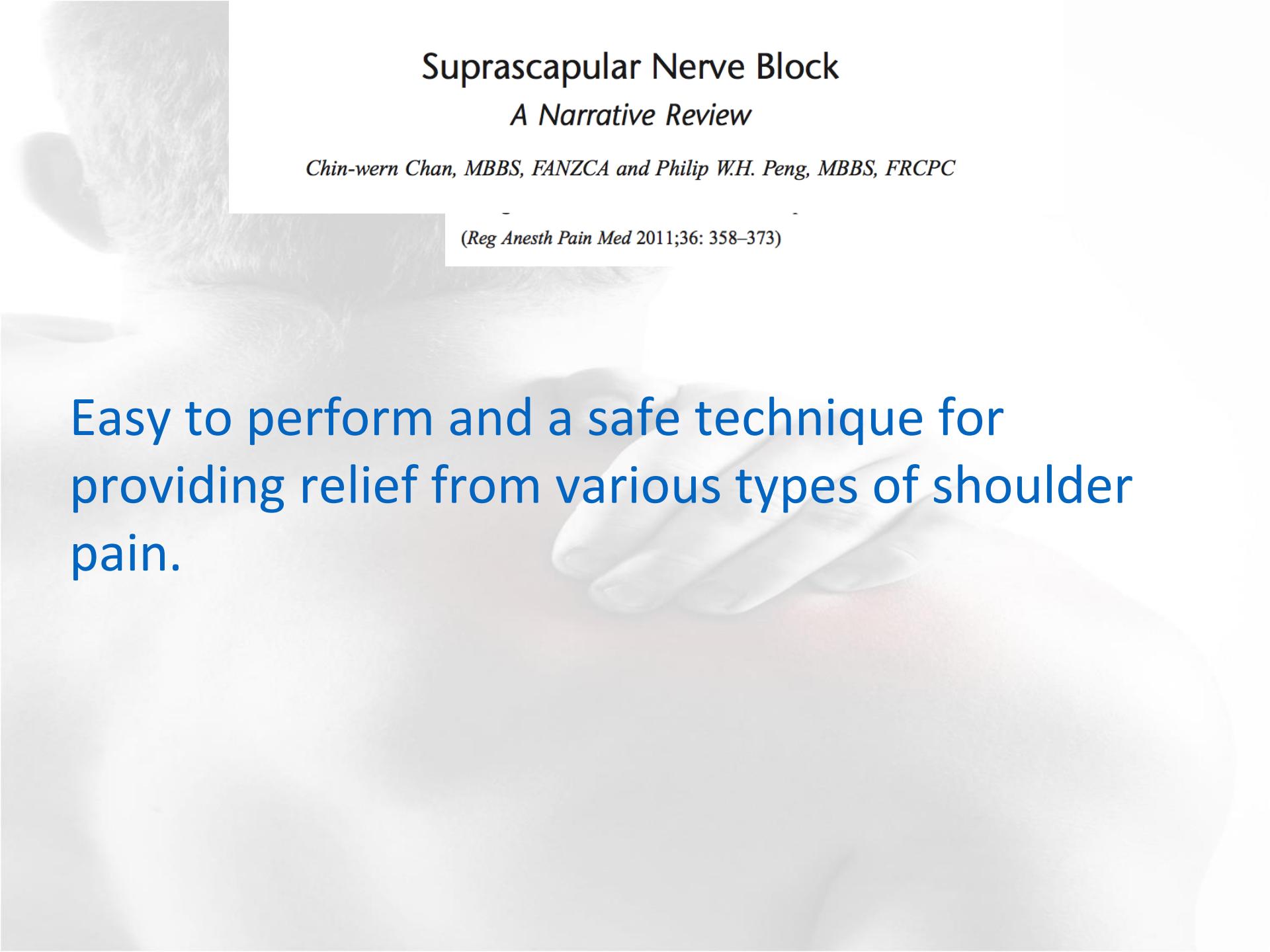
- [Pulsed radiofrequency lesioning of the axillary and suprascapular nerve in calcific tendinitis.](#)

2. Kim JS, Nahm FS, Choi EJ, Lee PB, Lee GY.

Korean J Pain. 2012 Jan;25(1):60-4. doi: 10.3344/kjp.2012.25.1.60. Epub 2012 Jan 2.

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Suprascapular Nerve Block

A Narrative Review

Chin-wern Chan, MBBS, FANZCA and Philip W.H. Peng, MBBS, FRCPC

(*Reg Anesth Pain Med* 2011;36: 358–373)

Easy to perform and a safe technique for providing relief from various types of shoulder pain.

Clinical Article

Effect of Pulsed Radiofrequency Neuromodulation on Clinical Improvements in the Patients of Chronic Intractable Shoulder Pain

Ji Su Jang, M.D.,¹ Hyuk Jai Choi, M.D.,² Suk Hyung Kang, M.D.,² Jin Seo Yang, M.D.,² Jae Jun Lee, M.D.,¹ Sung Mi Hwang, M.D.¹

Departments of Anesthesiology and Pain Medicine,¹ Neurosurgery,² School of Medicine, Hallym University, Chuncheon, Korea

- Markedly improved chronic shoulder pain and shoulder function up to 9 months.
- Easily performed and is a safe treatment modality from various types of chronic shoulder pain disorders.

Ultrasound-Guided Pulsed Radiofrequency Stimulation of the Suprascapular Nerve for Adhesive Capsulitis: A Prospective, Randomized, Controlled Trial

Yung-Tsan Wu, MD,* Cheng-Wen Ho, MD, PhD,† Yi-Ling Chen, MD,* Tsung-Ying Li, MD,*
Kuei-Chen Lee, PT, MS,* and Liang-Cheng Chen, MD, MS*

www.anesthesia-analgesia.org

September 2014 • Volume 119 • Number 3

Ultrasound guided SSN combined with physical therapy provided better and faster relief from pain, reduced disability, and improved PROM than physical therapy alone in patients with adhesive capsulitis

n Suprascapularis

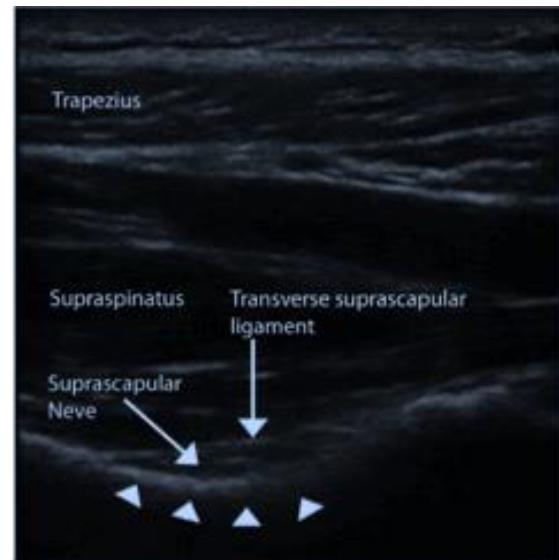
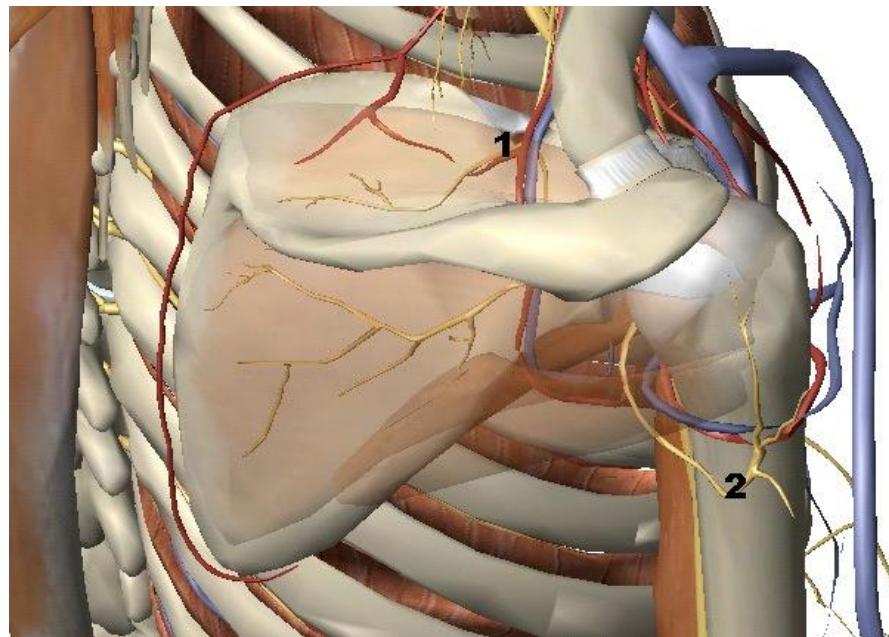
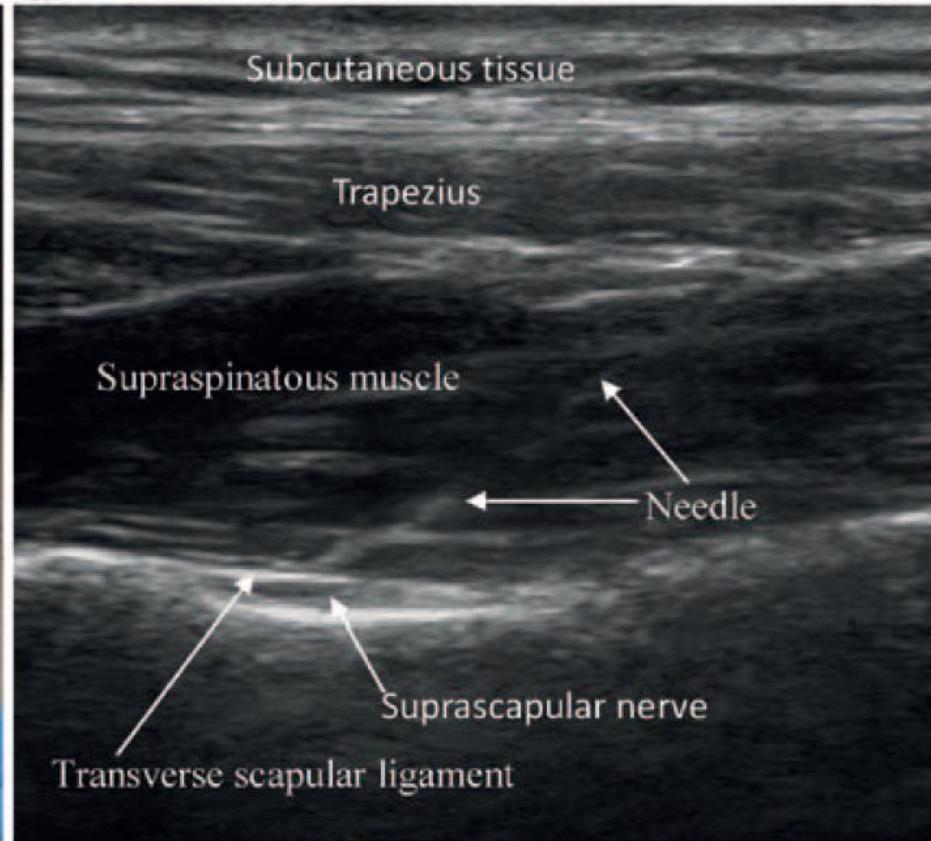
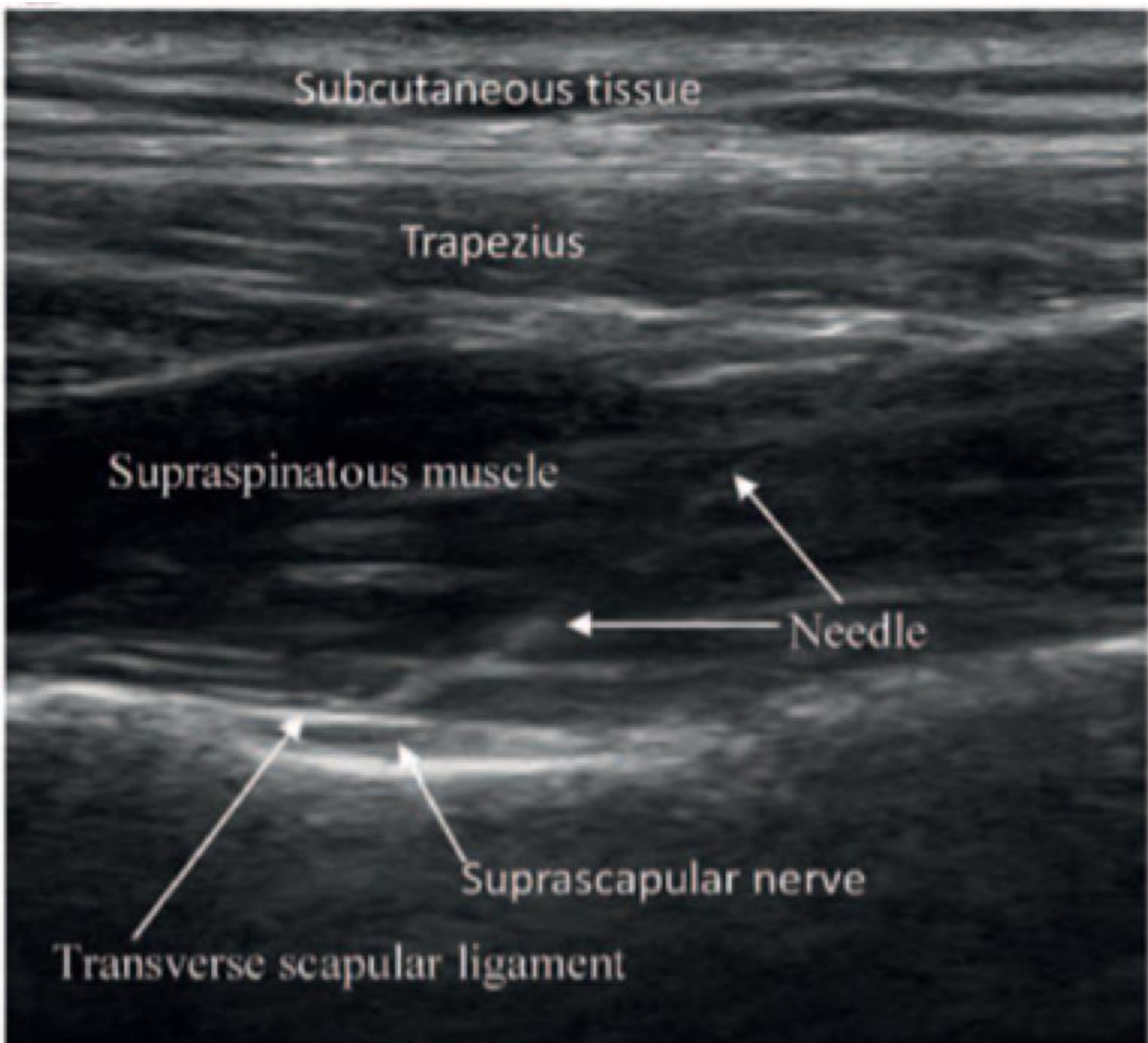


Fig. 2 Transverse sonogram of the scapular notch (arrowheads), the transverse suprascapular ligament, and the SSN.

A**B**



Pulsed Radiofrequency Lesioning of the Axillary and Suprascapular Nerve in Calcific Tendinitis

Departments of Anesthesiology and Pain Medicine, *Diagnostic Radiology,
Seoul National University Bundang Hospital, Seongnam, Korea

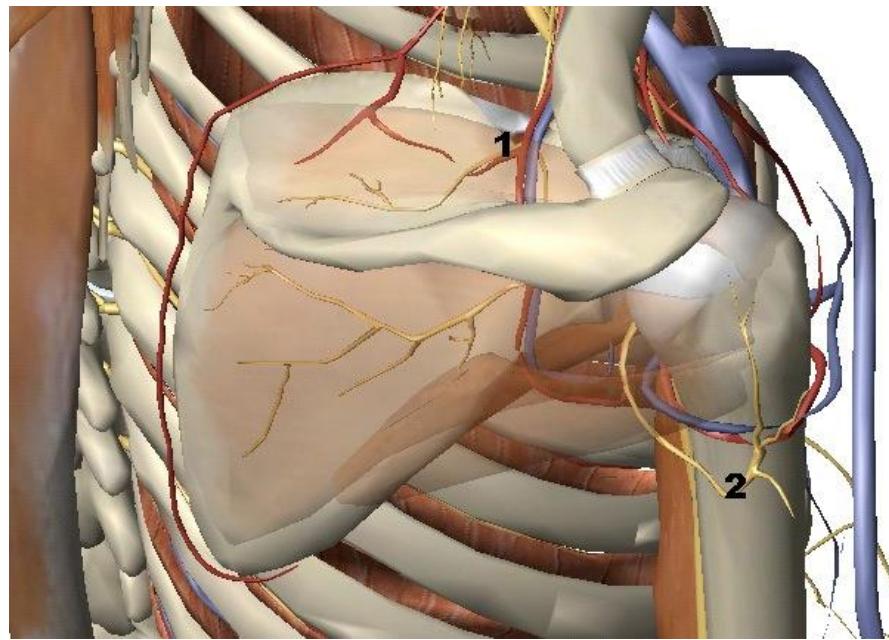
**Jun Sik Kim, MD, Francis Sahngun Nahm, MD, Eun Joo Choi, MD,
Pyung Bok Lee, MD, and Guen Young Lee, MD***

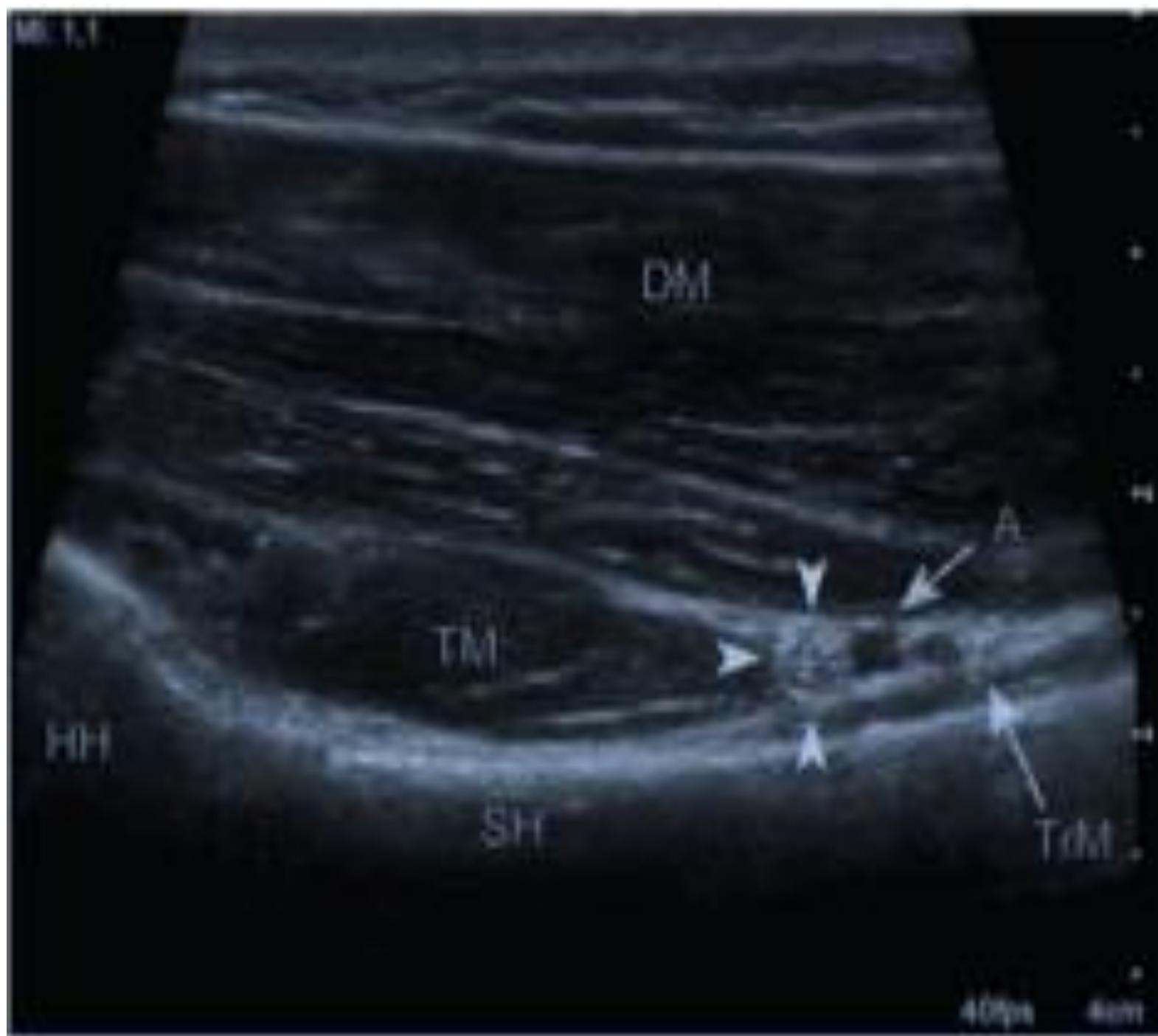
Ultrasound-guided block of the axillary nerve: a volunteer study of a new method

C. ROTHE¹, S. ASGHAR¹, H. L. ANDERSEN², J. K. CHRISTENSEN³ and K. H. W. LANGE¹

¹Department of Anesthesia and Intensive Care, Hillerød Hospital, Hillerød, Denmark, ²Department of Anesthesia, Frederiksberg Hospital, Frederiksberg, Denmark and ³Department of Radiology, Hillerød Hospital, Hillerød, Denmark

n Axillaris





(Pulsed)-Radiofrequency

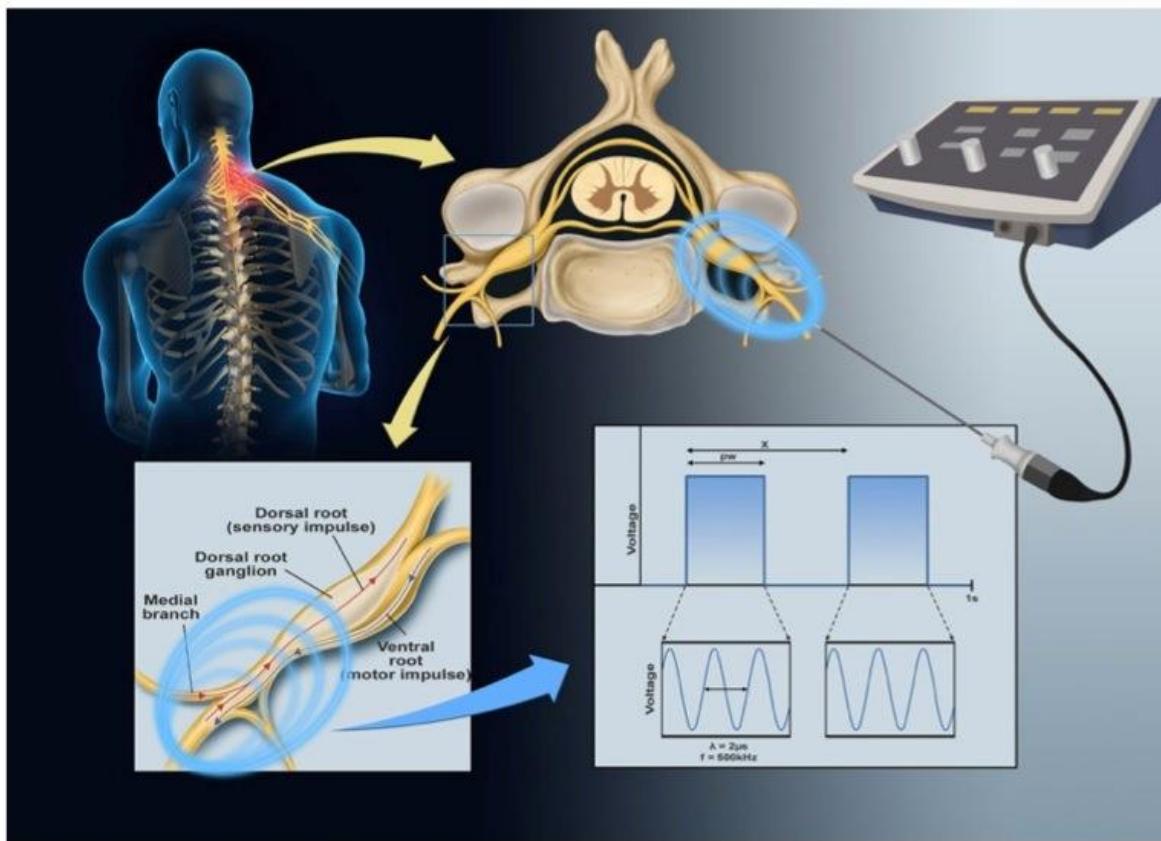


Fig. 1 Components of a PRF current in 1 s. λ wavelength of intrinsic RF current; f frequency of intrinsic RF current at usually 500 kHz; pw pulse width; x duration of each pulse cycle and therefore **Pulse Frequency** = $1/x$

(Pulsed)-Radiofrequency

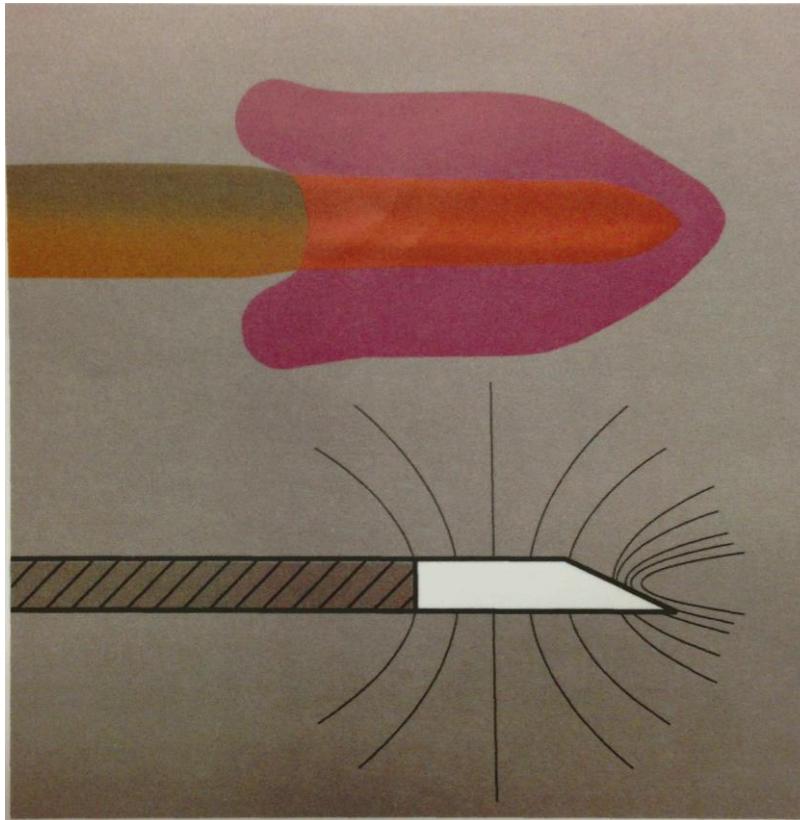


Fig. 1 RF current; lesion (above) and electric field (below)

Radiofrequency

Pulsed

- Electromagnetisch veld
- Max 42 graden Celcius
- Beïnvloeding pijngeleiding
- Reversibel effect

Conventioneel

- Hitte
- 80 graden Celcius
- Zenuwbeschadiging

Pulsed-RF

werkingsmechanisme

- Niet geheel duidelijk
- Veranderen van neurale membranen
 - neuromodulatie
- Selectief effect op C-vezels en verhoogde c-Fos imuunoreactiviteit in de dorsale hoorn (ratten)

Bijwerkingen / Complicaties

- Injectie
 - Bloeding
 - Infectie
 - Lichte na-pijn
- Lokaal anesthetica
 - Reversibele sensibele en motorische uitval
- Corticosteroid
 - “Opvlieger” gevoel
- Pulsed-Radiofrequency
 - nihil

Studie opzet

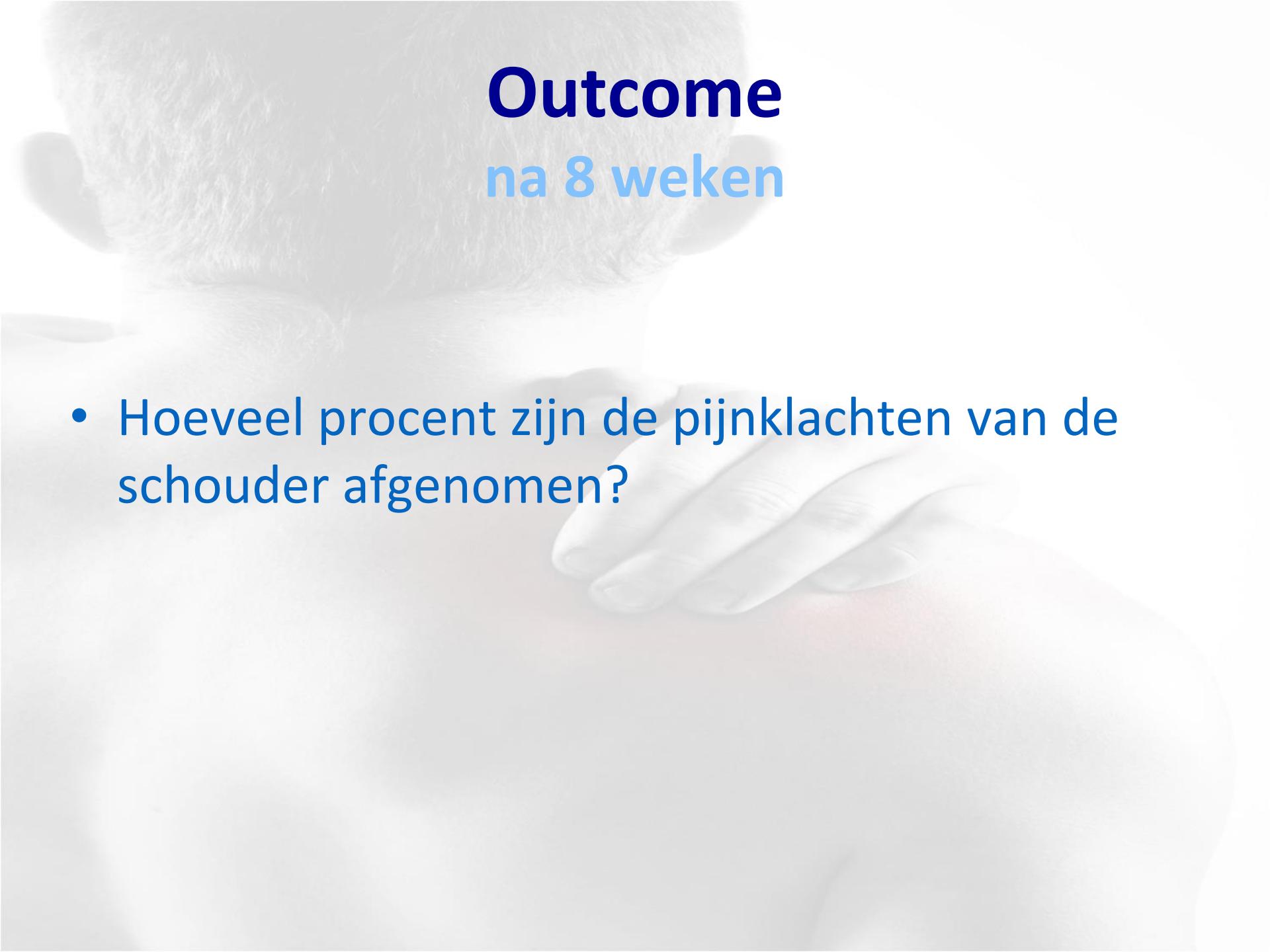
- 2012 – 2013
- Prospectief
- Opeenvolgende patienten (N=110)
- Verwezen door orthopeed
- Chronische schouderpijn (> 3 maanden)

Behandeling

- Pulsed-RF n Suprascapularis en / of n Axillaris
 - Pulsed-RF 240 sec 45V
 - Ropivacaine 0,75% 4ml + Methylprednisolon 40mg

Fysiotherapie

- Oefeningen volgens principes Ann Cools
- E-coaching



Outcome

na 8 weken

- Hoeveel procent zijn de pijnklachten van de schouder afgenomen?

Resultaten behandeling schouder 2012 -2013 (n=110)

(8 weken na behandeling)

Diagnose	Aantal	> 30% pijn ↓	> 50% pijn ↓	> 75% pijn ↓
Supraspinatus tendinopathie	28	68	57	36
Supraspinatus (partiele) ruptuur	35	66	60	23
Frozen shoulder	17	65	54	41
Omartrose	9	79	51	18
Schouderprothese	6	83	50	17
Overig	15	54	31	8
Totaal	110	67	55	28

Resultaten behandeling schouder 2012 -2013 (n=110)

(8 weken na behandeling)

Behandeling	N	> 30% pijn ↓	> 50% pijn ↓	> 75% pijn ↓
PRF Suprascapularis	67	69	57	28
PRF Axillaris	12	67	56	22
PRF Supra + Axillaris	31	65	52	32
Totaal	110	67	55	28

Resultaten behandeling schouder 2012 -2013 (n=110)

(8 weken na behandeling)

Schouder operatie	Aantal	> 30% pijn ↓	> 50% pijn ↓	> 75% pijn ↓
Ja	40	69	54	23
Nee	70	67	56	31
Totaal	110	67	55	28



Functionele outcome

Conclusie

- Pulsed-RF van de n Suprascapularis en / of n Axillaris, in combinatie met fysiotherapie, verbeterd chronische pijnklachten van de schouder.
- Pulsed-RF van de n Axillaris is een goede aanvulling op de behandeling van chronische pijnklachten van de schouder

Resumé

- **Interdisciplinaire samenwerking**
 - Pijnspecialist
 - Orthopeed
 - MSU specialist
 - Fysiotherapeut
- **Kwaliteit**
 - Specialisatie
 - Echogeleide behandelingen
 - Communicatie
 - Dataverzameling
- **Innovatief**
 - Interdisciplinaire en extramurale samenwerking
 - One-stop-total-treatment
 - Pijnbehandeling
 - n Axillaris

Xander Eijsbouts
Anesthesioloog - Pijnspecialist

GOED Medisch Centrum Breda
Bravis Ziekenhuis Roosendaal

Voor vragen

Email: xandereijsbouts@goedmedischcentrum.nl