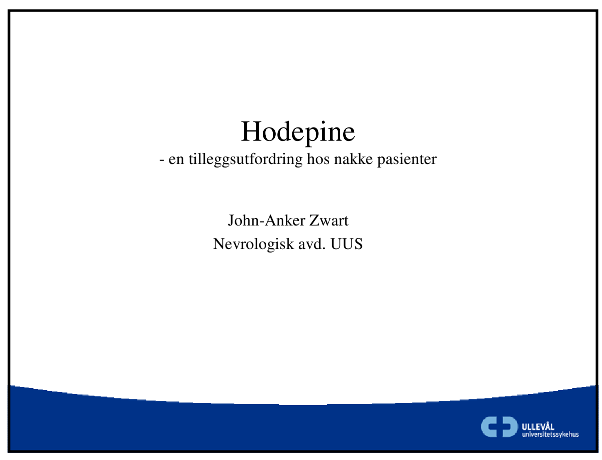

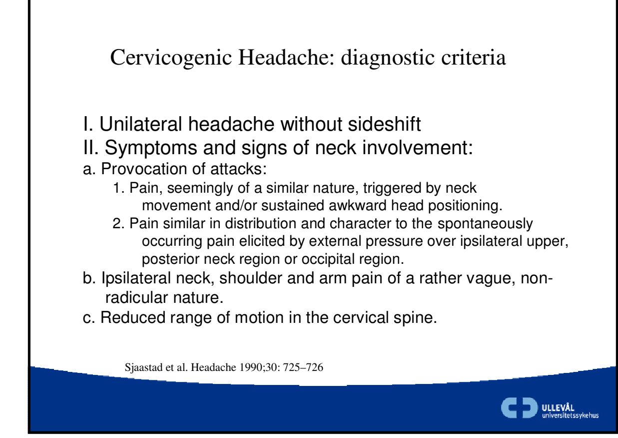

Cervicogenic headache according to the 2004 IHS criteria

A Pain, referred from a source in the neck and perceived in one or more regions of the head and/or face, fulfilling criteria C and D

B Clinical, laboratory and/or imaging evidence of a disorder or lesion within the cervical spine or soft tissues of the neck known to be, or generally accepted as, a valid cause of headache

C Evidence that the pain can be attributed to the neck disorder or lesion based on at least one of the following:

1. demonstration of clinical signs that implicate a source of pain in the neck
2. abolition of headache following diagnostic blockade of a cervical structure or its nerve supply using placebo or other adequate controls

D Pain resolves within 3 months after successful treatment of the causative disorder or lesion

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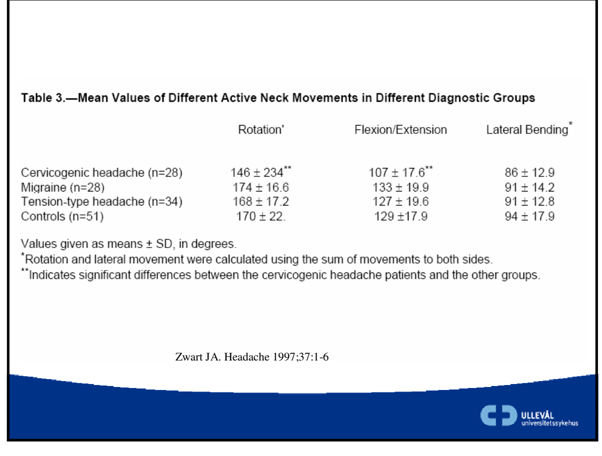


Table 3.—Mean Values of Different Active Neck Movements in Different Diagnostic Groups

	Rotation*	Flexion/Extension	Lateral Bending*
Cervicogenic headache (n=28)	146 ± 234**	107 ± 17.6**	86 ± 12.9
Migraine (n=28)	174 ± 16.6	133 ± 19.9	91 ± 14.2
Tension-type headache (n=34)	168 ± 17.2	127 ± 19.6	91 ± 12.8
Controls (n=51)	170 ± 22.	129 ±17.9	94 ± 17.9

Values given as means ± SD, in degrees.
*Rotation and lateral movement were calculated using the sum of movements to both sides.
**Indicates significant differences between the cervicogenic headache patients and the other groups.

Zwart JA. Headache 1997;37:1-6

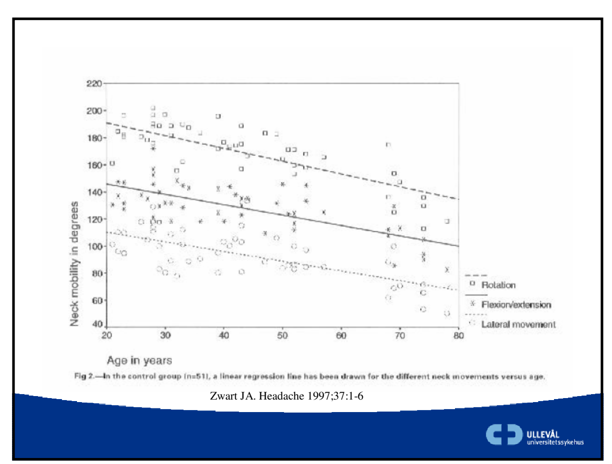
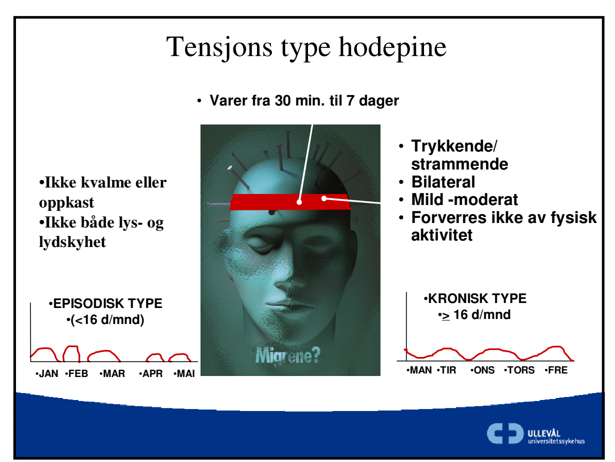
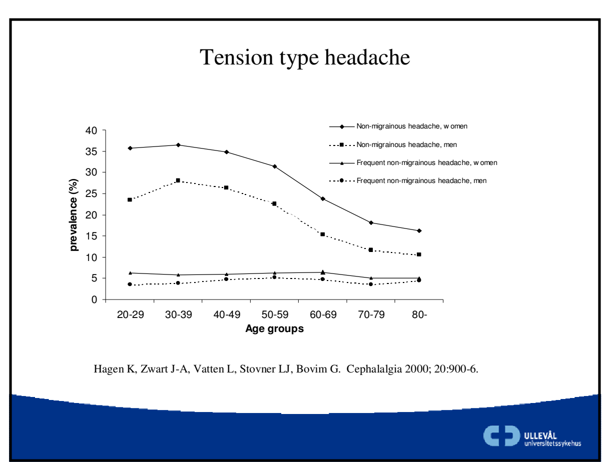


Fig 2.—In the control group (n=51), a linear regression line has been drawn for the different neck movements versus age.

Zwart JA. Headache 1997;37:1-6




Tension type headache
Non-migrainous headache, women
Non-migrainous headache, men
Frequent non-migrainous headache, women
Frequent non-migrainous headache, men
prevalence (%)
Age groups
Hagen K, Zwart J-A, Vatten L, Stovner LJ, Bovim G. Cephalalgia 2000; 20:900-6.
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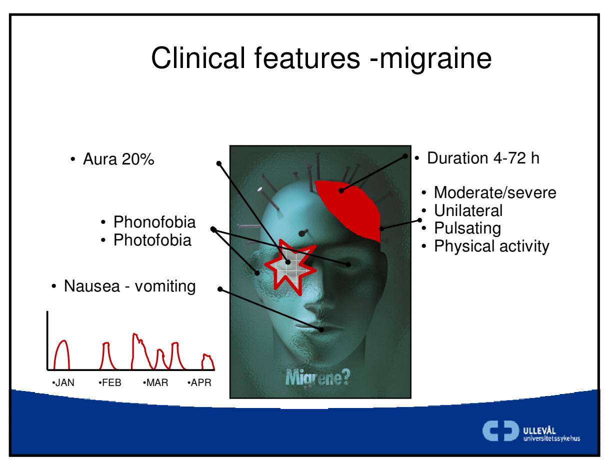
Clinical features -migraine
• Aura 20%
• Phonofobia
• Photofobia
• Nausea - vomiting
• Duration 4-72 h
• Moderate/severe
• Unilateral
• Pulsating
• Physical activity
•JAN •FEB •MAR •APR
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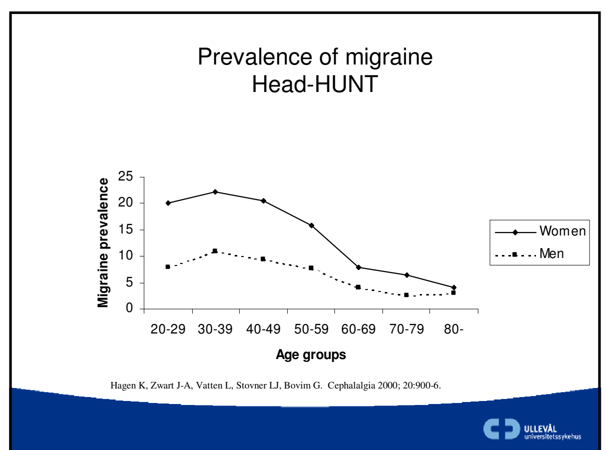
Prevalence of migraine
Head-HUNT
Migraine prevalence
Age groups
Women
Men
Hagen K, Zwart J-A, Vatten L, Stovner LJ, Bovim G. Cephalalgia 2000; 20:900-6.
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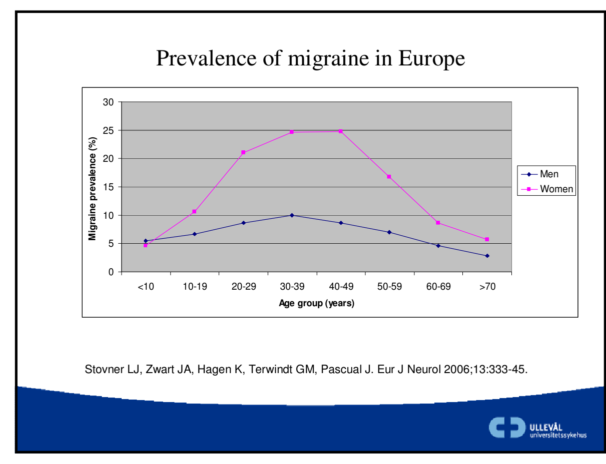
Prevalence of migraine in Europe
Migraine prevalence (%)
Age group (years)
Men
Women
Stovner LJ, Zwart JA, Hagen K, Terwindt GM, Pascual J. Eur J Neurol 2006;13:333-45.
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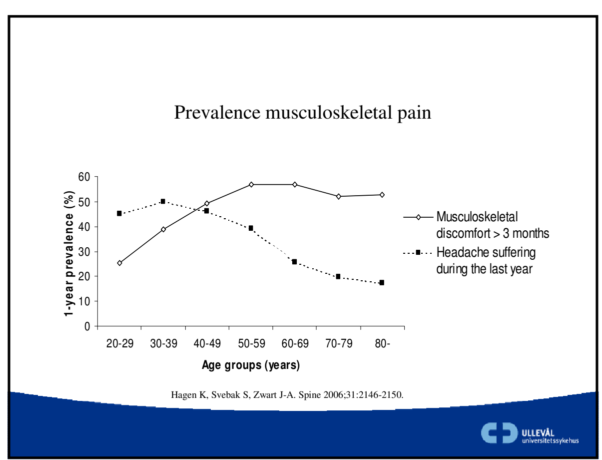
Prevalence musculoskeletal pain
1-year prevalence (%)
Age groups (years)
Musculoskeletal discomfort > 3 months
Headache suffering during the last year
Hagen K, Svebak S, Zwart J-A. Spine 2006;31:2146-2150.
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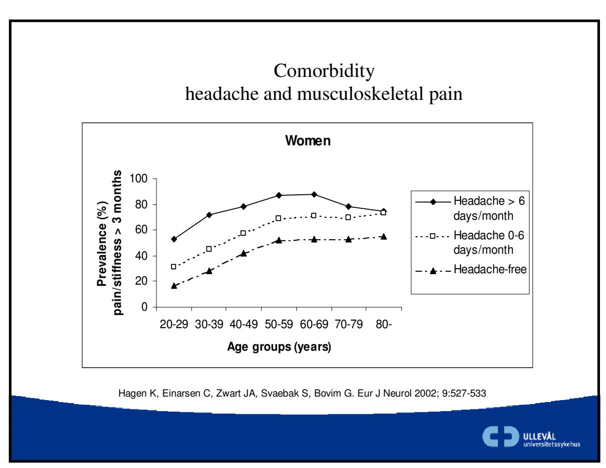
Comorbidity
headache and musculoskeletal pain
Women
Prevalence (%) pain/stiffness > 3 months
Age groups (years)
Headache > 6 days/month
Headache 0-6 days/month
Headache-free
Hagen K, Einarsen C, Zwart JA, Svaebak S, Bovim G. Eur J Neurol 2002; 9:527-533
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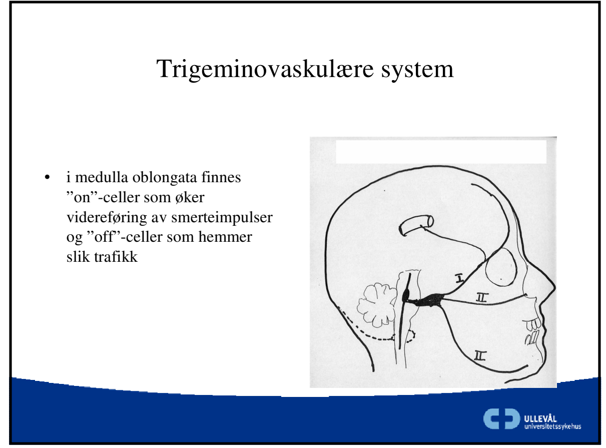
Trigeminovaskulære system
• i medulla oblongata finnes ”on”-celler som øker videreføring av smerteimpulser og ”off”-celler som hemmer slik trafikk
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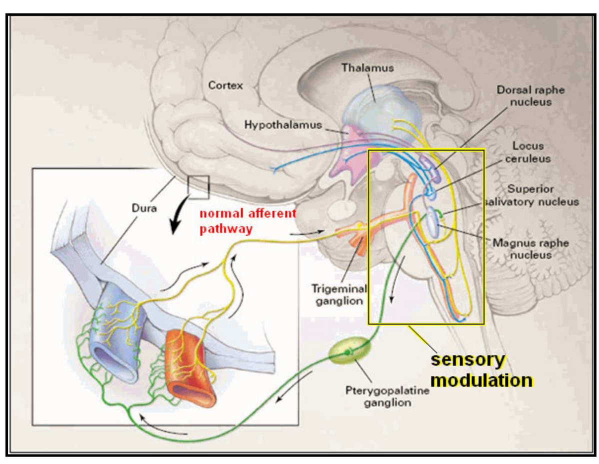
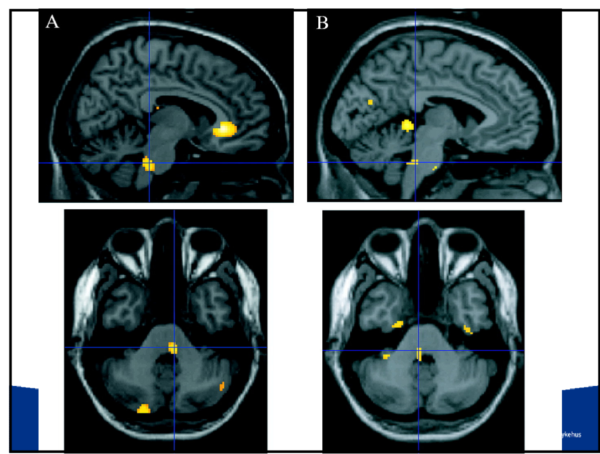
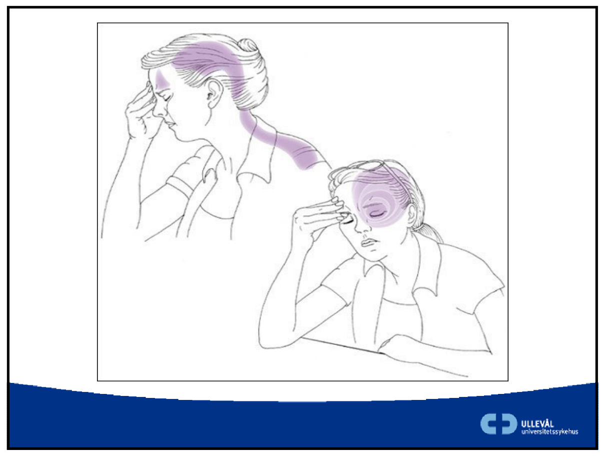

Thalamus
Cortex
Hypothalamus
Dorsal raphe nucleus
Locus ceruleus
Dura
normal afferent pathway
Superior salivatory nucleus
Magnus raphe nucleus
Trigeminal ganglion
sensory modulation
Pterygopalatine ganglion


A
B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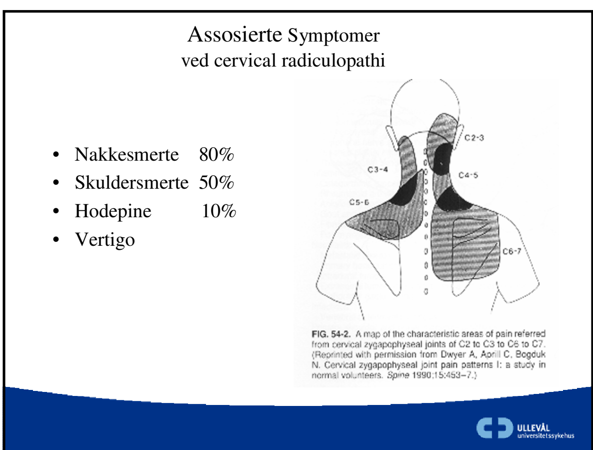
Assosierte Symptomer
ved cervical radiculopathi
• Nakkesmerte 80%
• Skuldersmerte 50%
• Hodepine 10%
• Vertigo
C2-3
C3-4
C4-5
C5-6
C6-7
FIG. 54-2. A map of the characteristic areas of pain referred from cervical zygapophyseal joints of C2 to C3 to C6 to C7. (Reprinted with permission from Dwyer A, April C, Bogduk N. Cervical zygapophyseal joint pain patterns I: a study in normal volunteers. Spine 1990;15:453–7.)
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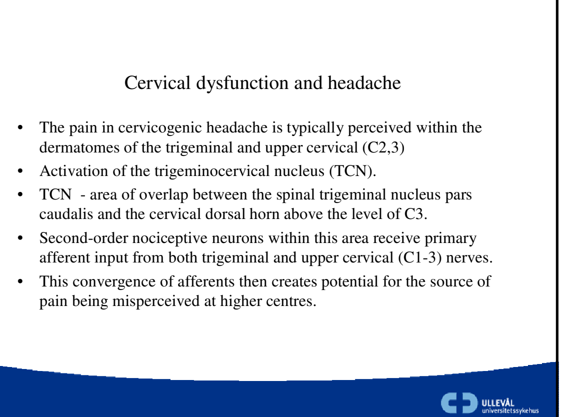
Cervical dysfunction and headache
• The pain in cervicogenic headache is typically perceived within the dermatomes of the trigeminal and upper cervical (C2,3)
• Activation of the trigeminocervical nucleus (TCN).
• TCN - area of overlap between the spinal trigeminal nucleus pars caudalis and the cervical dorsal horn above the level of C3.
• Second-order nociceptive neurons within this area receive primary afferent input from both trigeminal and upper cervical (C1-3) nerves.
• This convergence of afferents then creates potential for the source of pain being misperceived at higher centres.
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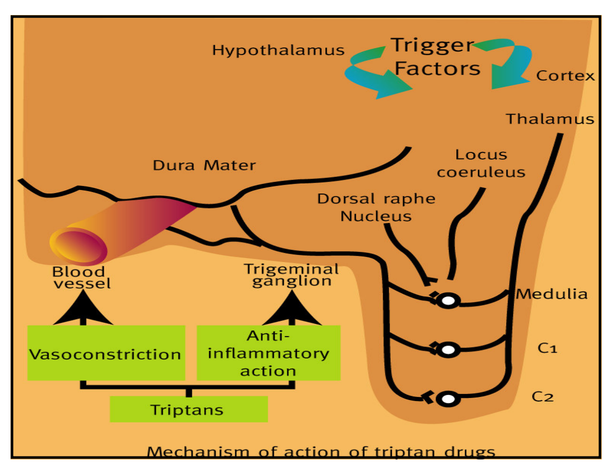
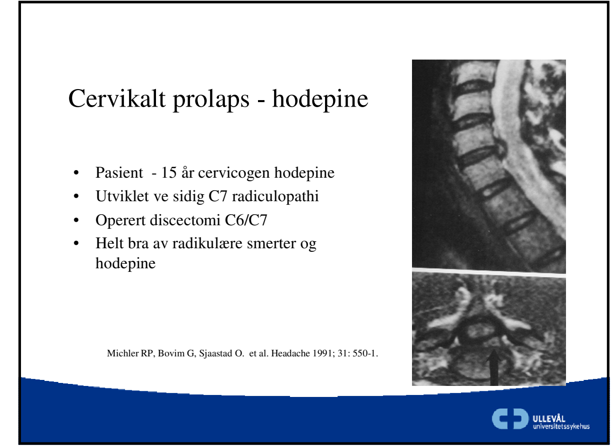
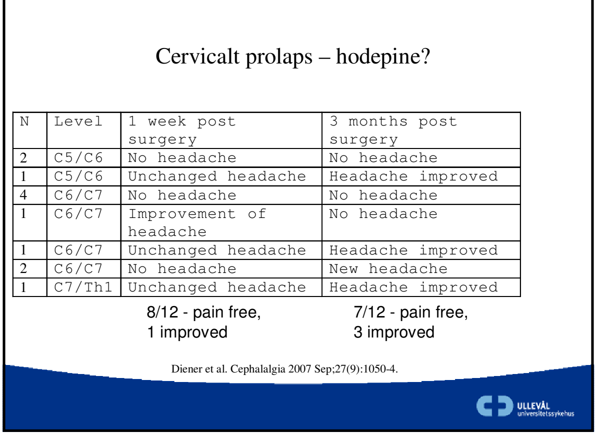
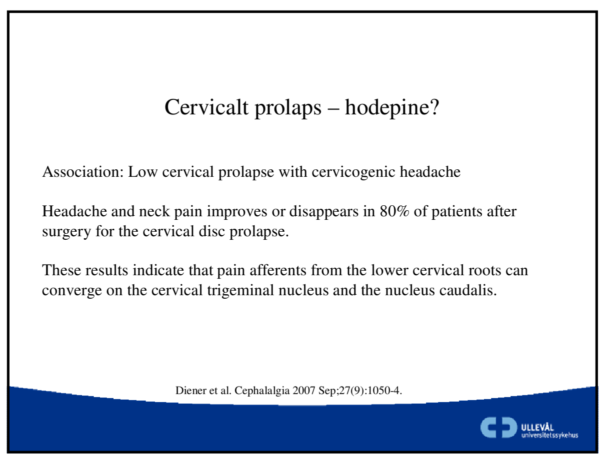





Cervicalt prolaps – hodepine?

N	Level	1 week post surgery	3 months post surgery
2	C5/C6	No headache	No headache
1	C5/C6	Unchanged headache	Headache improved
4	C6/C7	No headache	No headache
1	C6/C7	Improvement of headache	No headache
1	C6/C7	Unchanged headache	Headache improved
2	C6/C7	No headache	New headache
1	C7/Th1	Unchanged headache	Headache improved
		8/12 - pain free, 1 improved	7/12 - pain free, 3 improved

Diener et al. Cephalalgia 2007 Sep;27(9):1050-4.



Radiofrequency treatment?

- 12 patients – unilateral CH
- Radomised: sham or RF - ipsilateral facet joints C2-C6
- Follow-up 2 years
- No significant difference

Stovner LJ, Kolstad F, Helde G. Cephalalgia 2004;24:821-830.

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Cervical dysfunction and headache conclusion

- Association between neckpain and headache
- Animal studies supports that cervical dysfunction may facilitate migrainous pain
- Human studies - no definitive conclusions can be drawn

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