



Dr Giresh Kanji

Musculoskeletal Pain Specialist
Auckland

Saturday, August 10, 2019

(Room 9)

8:30 - 9:25 WS #73: Managing Spinal Pain

9:35 - 10:30 WS #83: Managing Spinal Pain (Repeated)

The Management of Spinal Pain in general practice

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gireshtkanji.com





Low back pain- March 2012



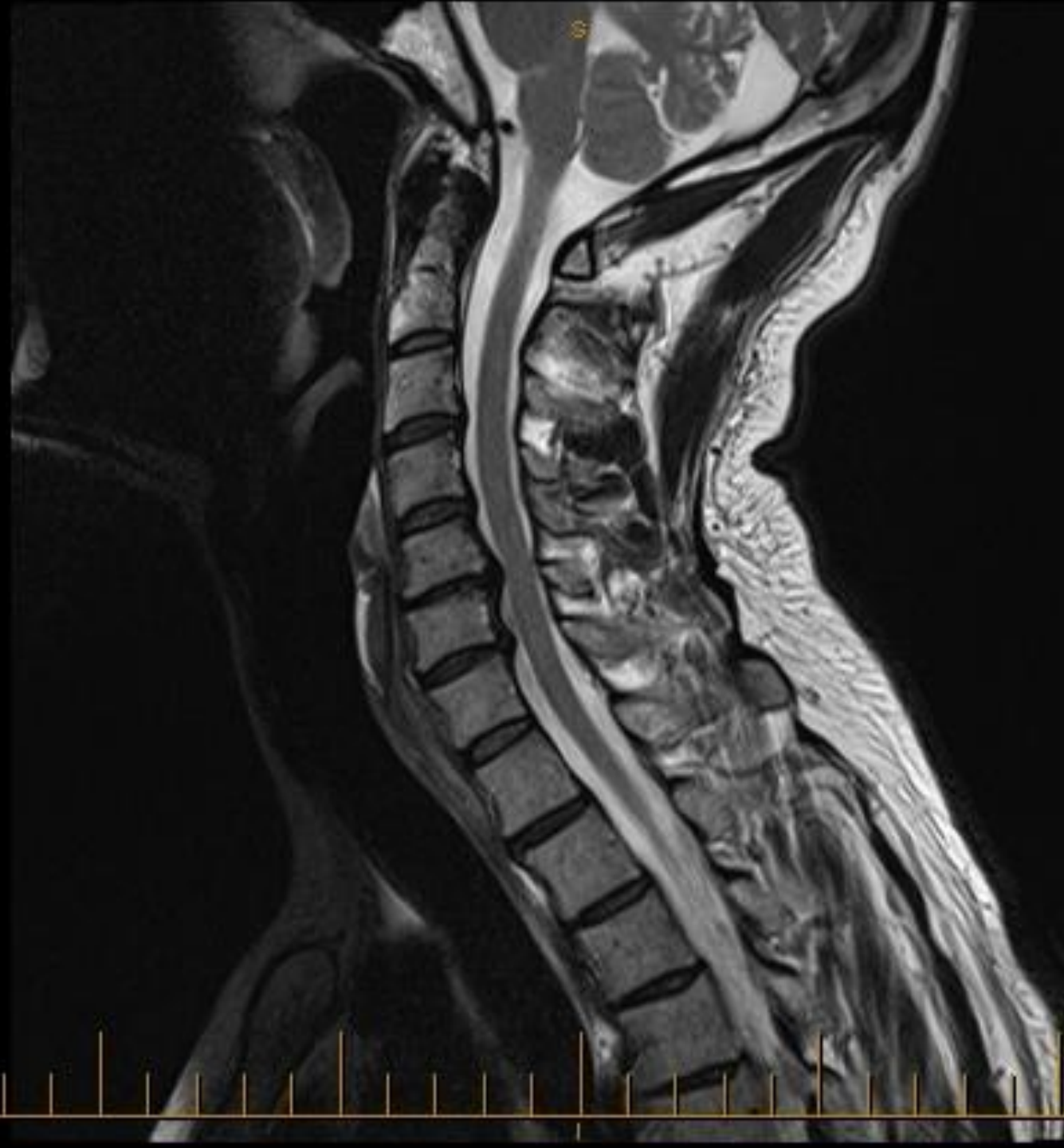
MRI Scan





FINISH





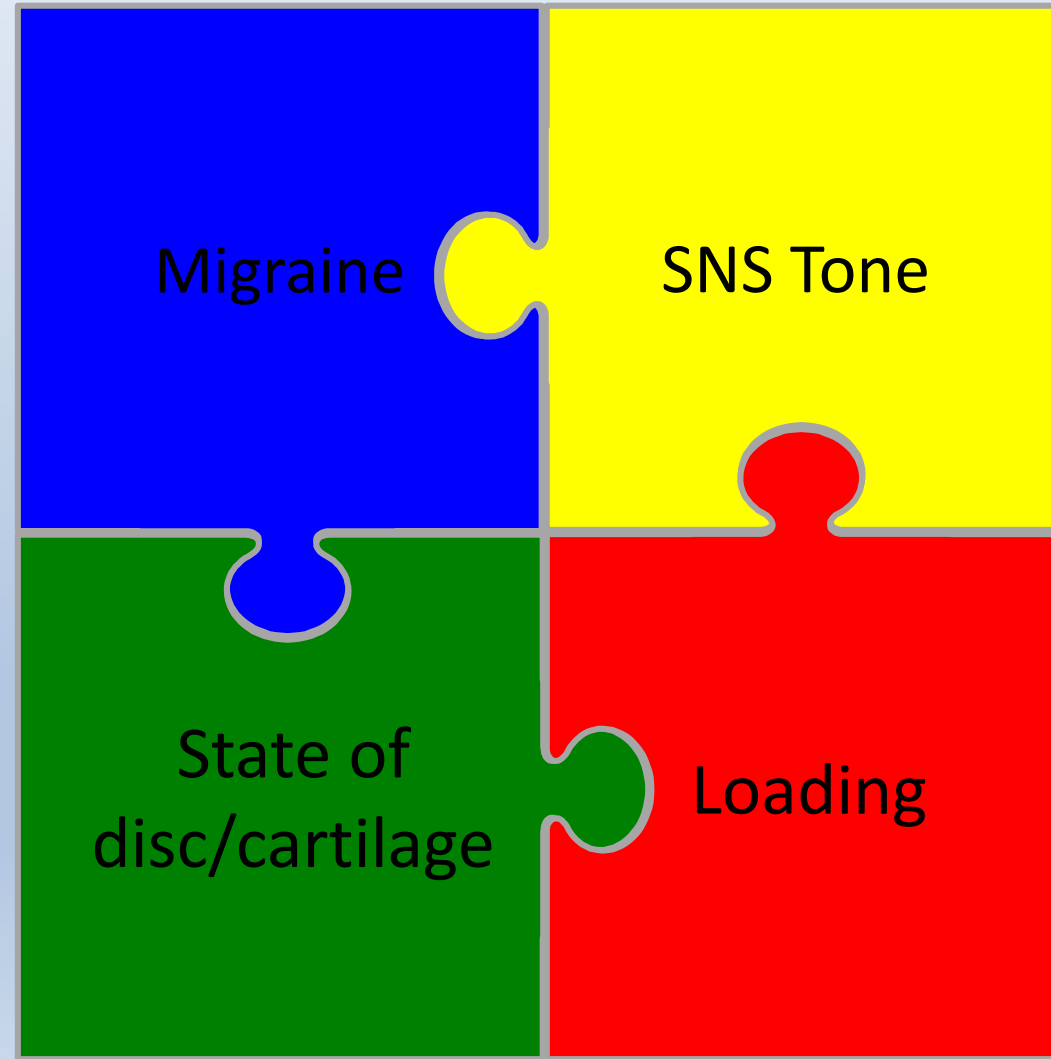


1971
Tasman St
Wellington

History/Exam/Radiology correlation



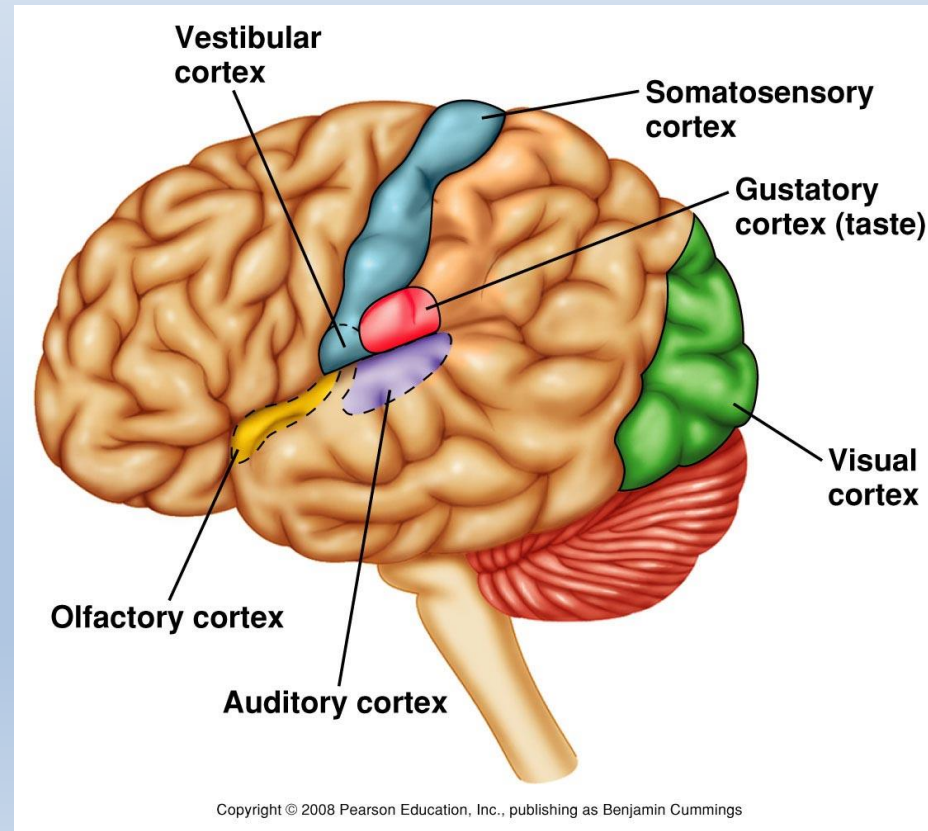
Determinants of MSK pain



Migraine

Migraine

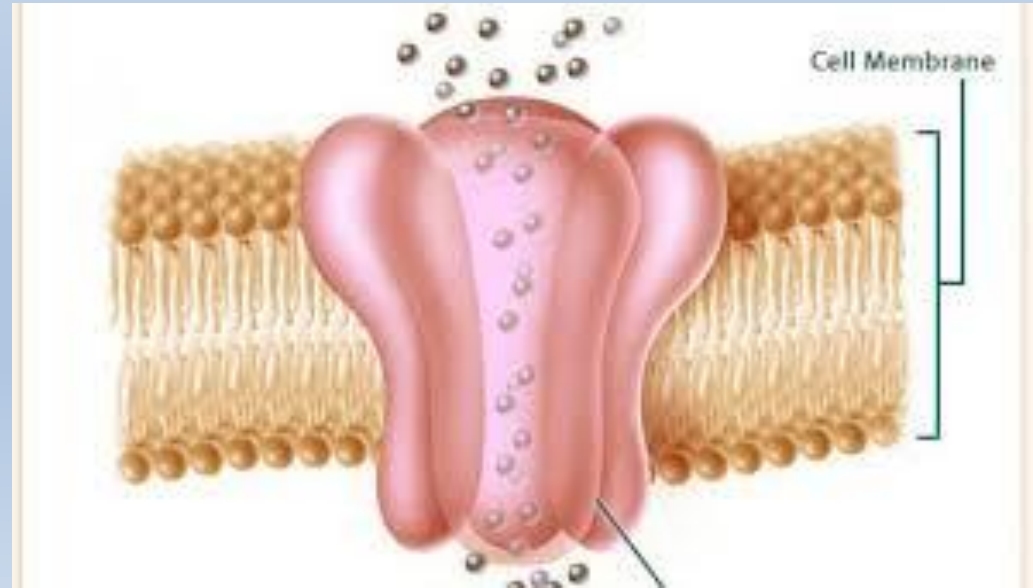
- Definition: Genetic predisposition to sensory amplification
- Light
- Sound
- Smell
- Pain
- Touch



Migraine

Channelopathy

- A variation of sodium/calcium/potassium channels
- Net result is increased action potentials in sensory cortex.



Migraine

Original Article



Co-morbidity of migraine with somatic disease in a large population-based study

Han Le¹, Peer Tfelt-Hansen¹, Michael Bjørn Russell²,
Axel Skytthe³, Kirsten Ohm Kyvik³ and Jes Olesen¹

Cephalalgia

31(1) 43–64

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Any MSD (P 68.7%)

All subjects	Migraine	8044	6463	80.3	2.22 [2.00–2.46]	<0.001
	MA	3086	2627	85.1	3.11 [2.62–3.69]	<0.001
	MO	4958	3836	77.4	1.86 [1.65–2.09]	<0.001
	No migraine	23,821	15,440	64.8	–	–

Fibromyalgia (P 0.8%)

All subjects	Migraine	7709	92	1.2	3.77 [2.25–6.32]	<0.001
	MA	2933	61	2.1	6.63 [3.74–11.76]	<0.001
	MO	4776	31	0.6	2.04 [1.01–4.13]	0.001
	No migraine	23,183	166	0.3	–	–

What is the role of stress in chronic pain?

SNS Tone



Sympathetic Nervous System

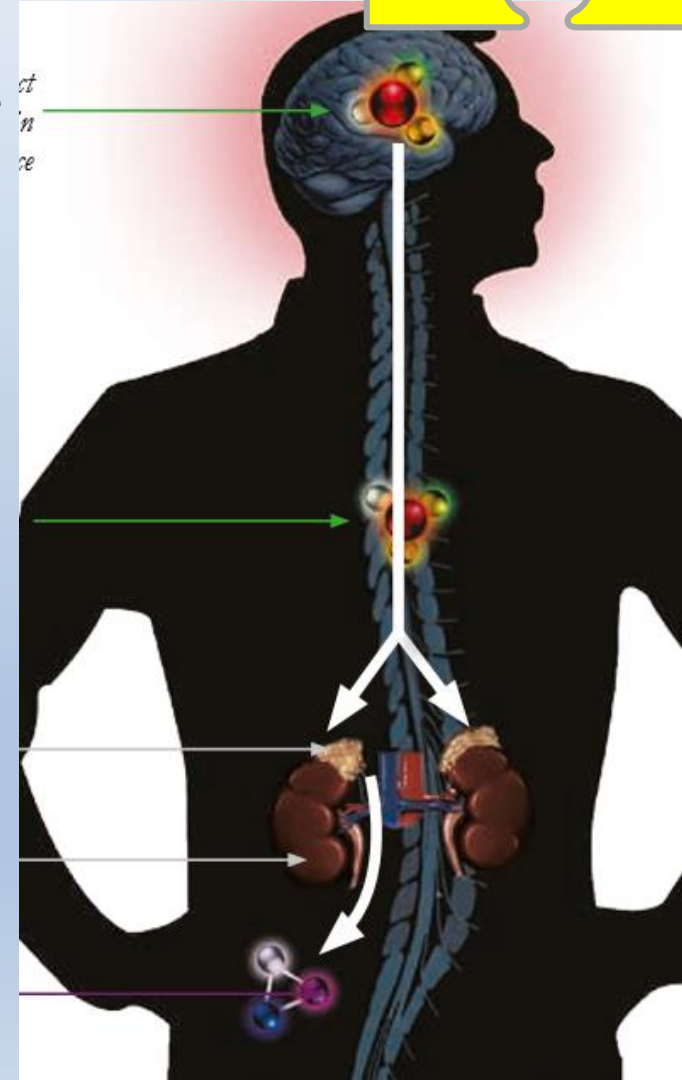
Hypothalamic pituitary adrenal

SNS Tone

Serotonin, Adrenaline, Noradrenaline
CRH, Histamine, Acetylcholine

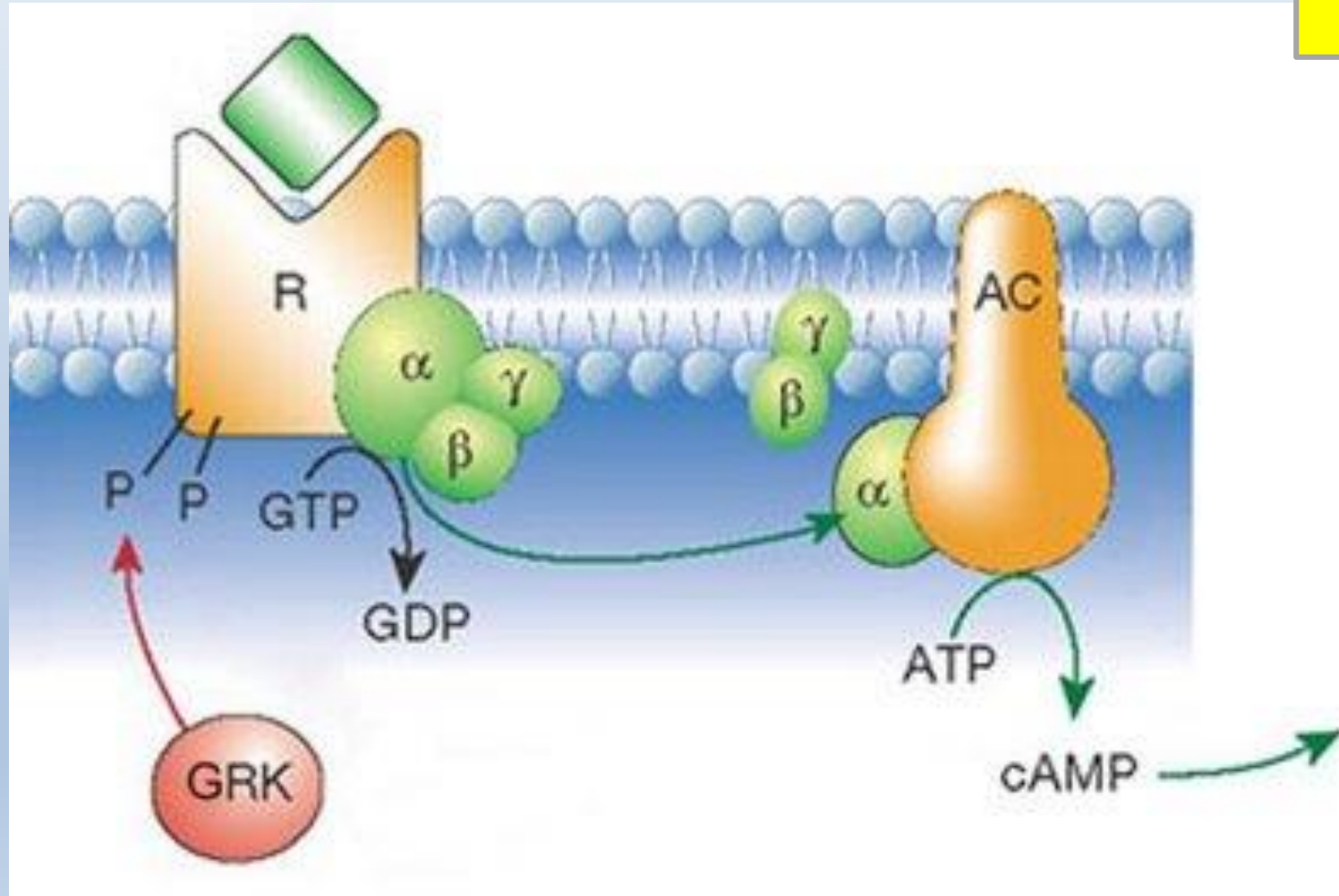
Serotonin
Noradrenaline

Adrenaline
Noradrenaline
Cortisol



Second Messengers

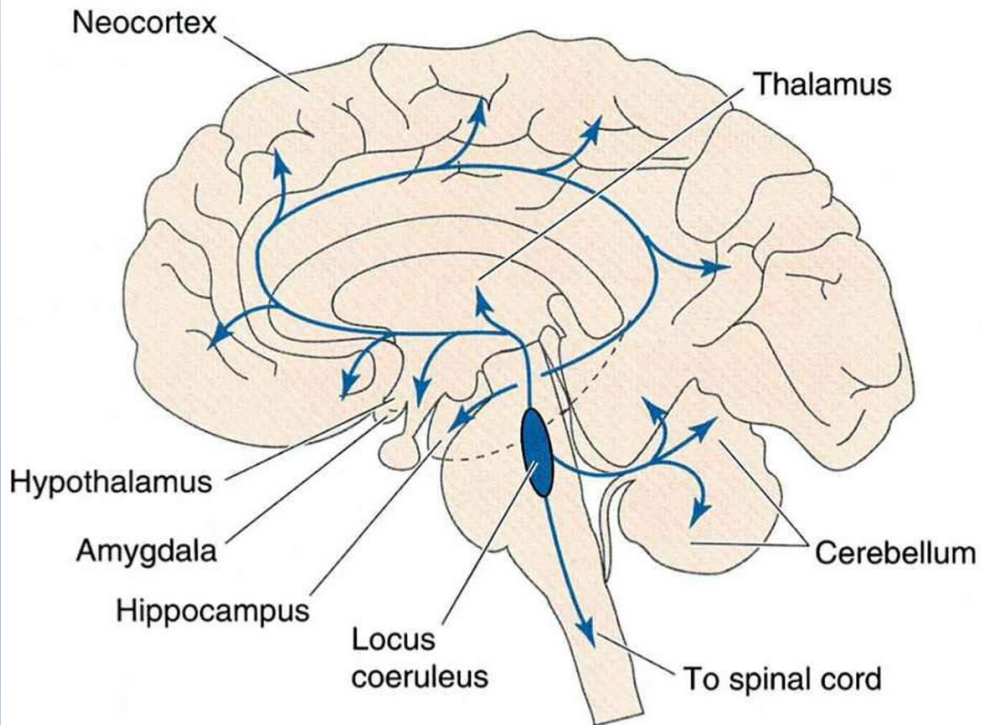
SNS Tone



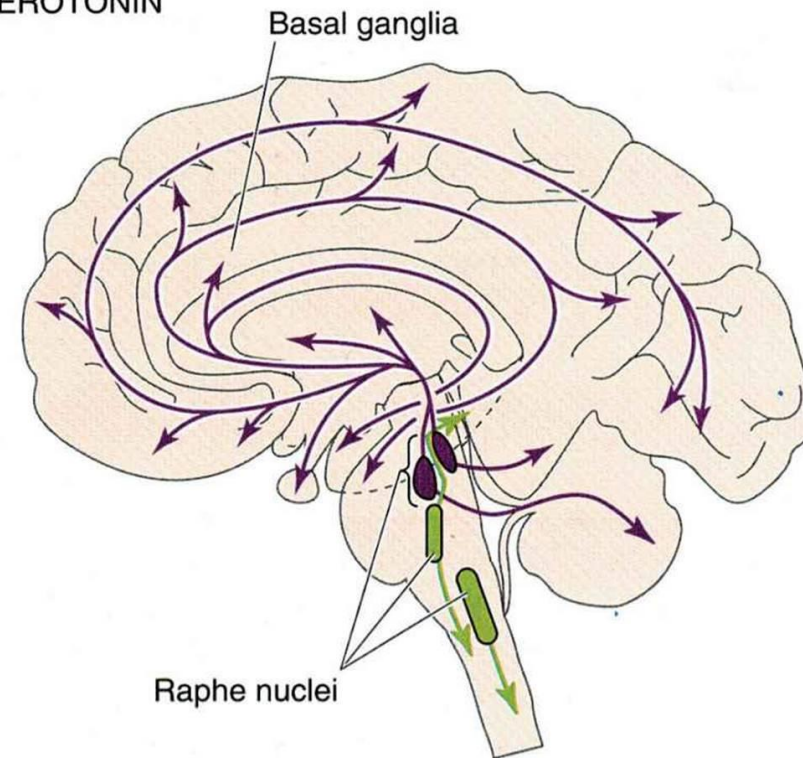
Widespread connections

SNS Tone

A NOREPINEPHRINE



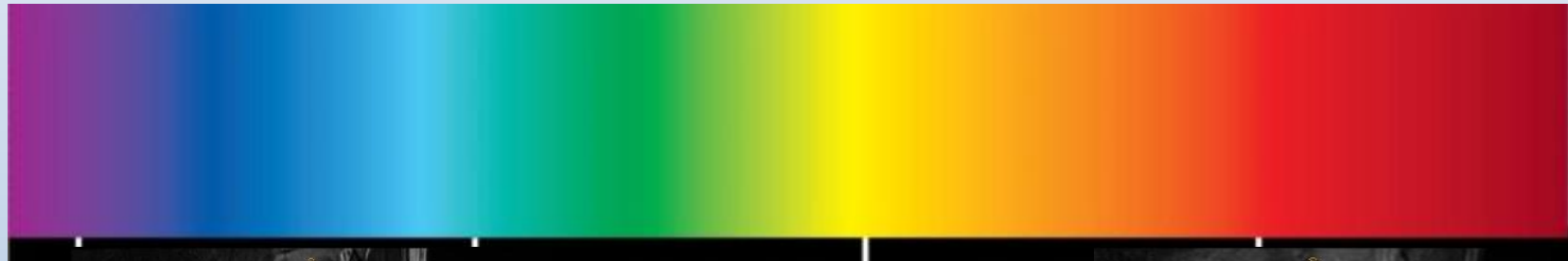
B SEROTONIN



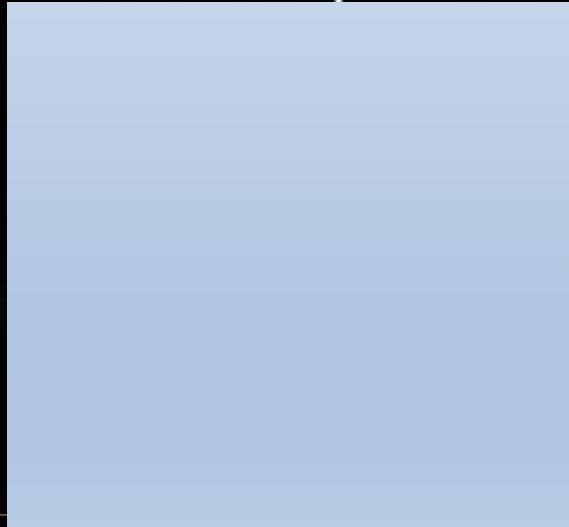
Pain (sensory cortex)



Pain spectrum



Minimal pain



Migraine



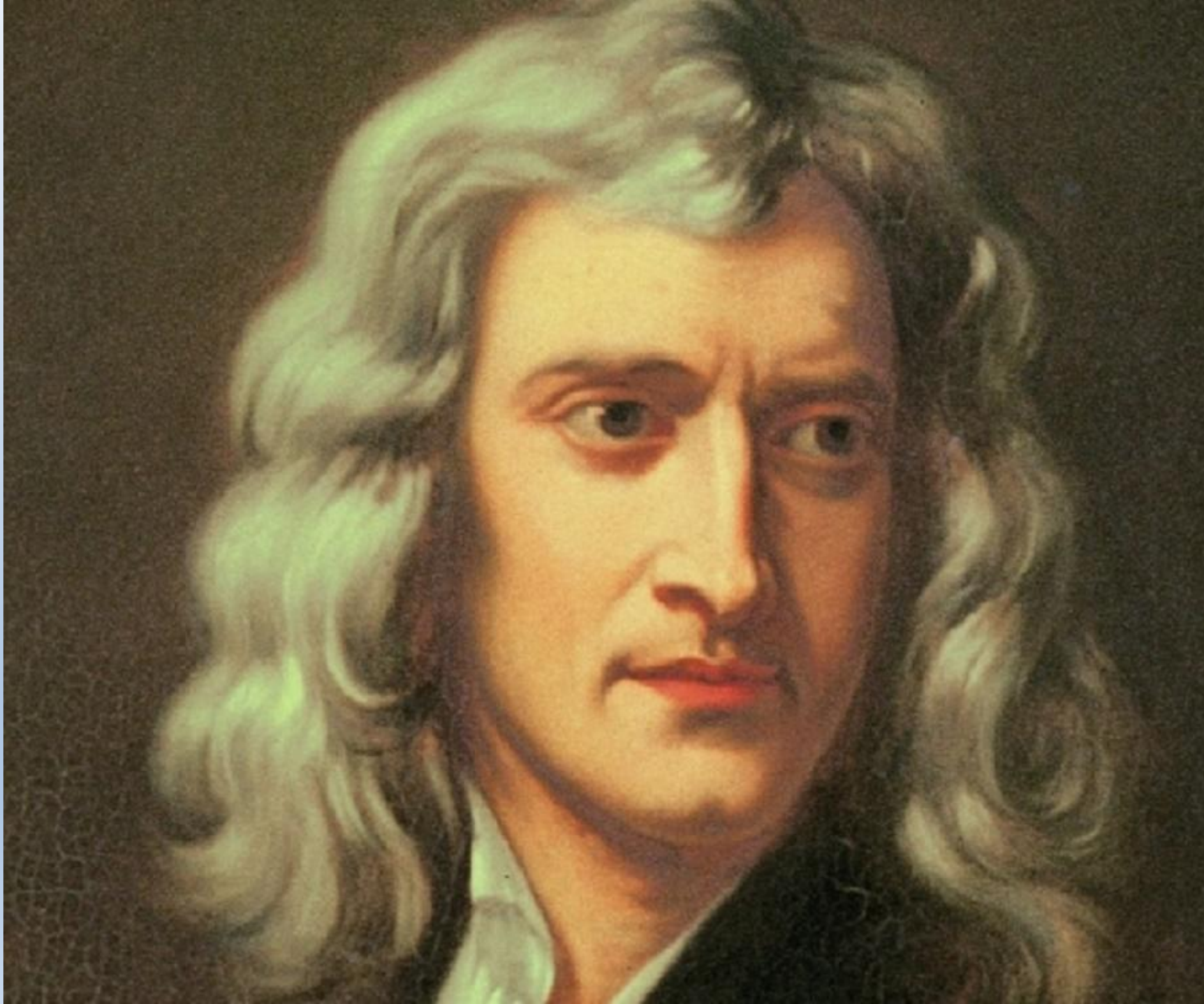
Migraine with aura

Fusion L4/5 L5/S1

State of
disc/cartilage



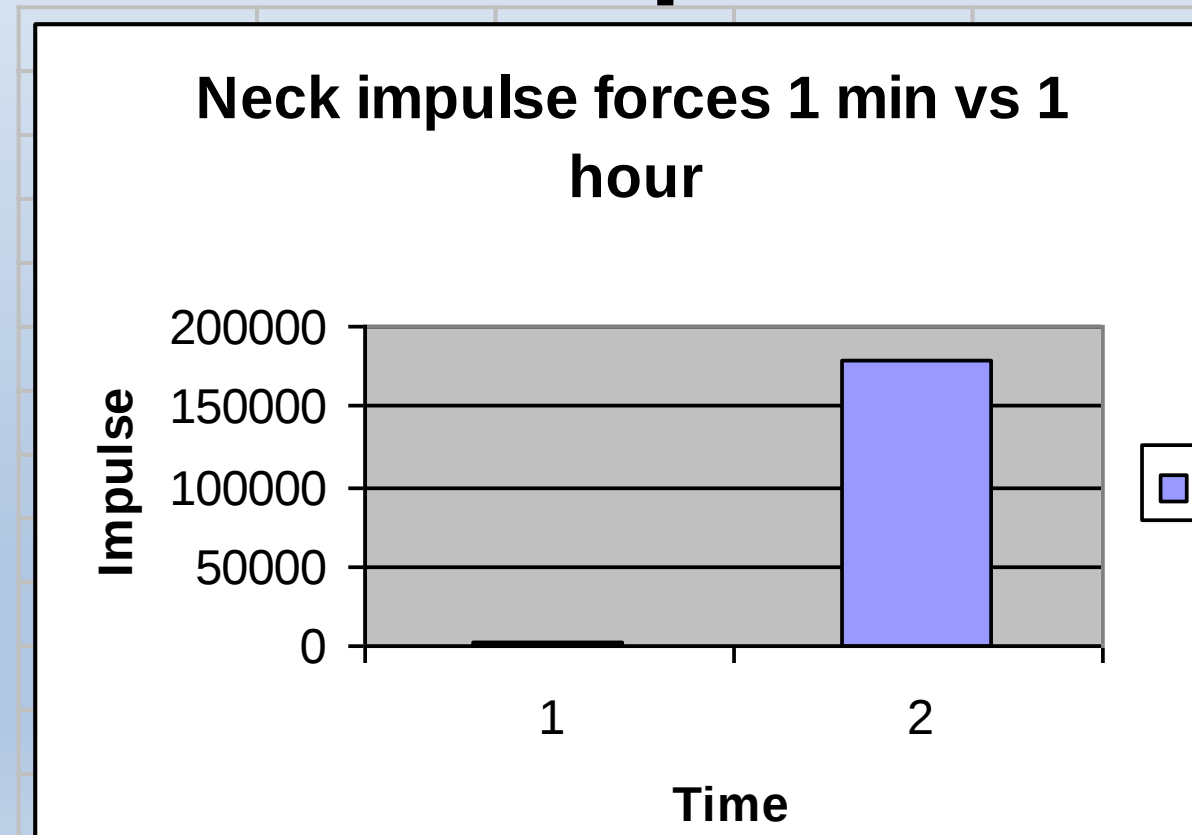
Physics



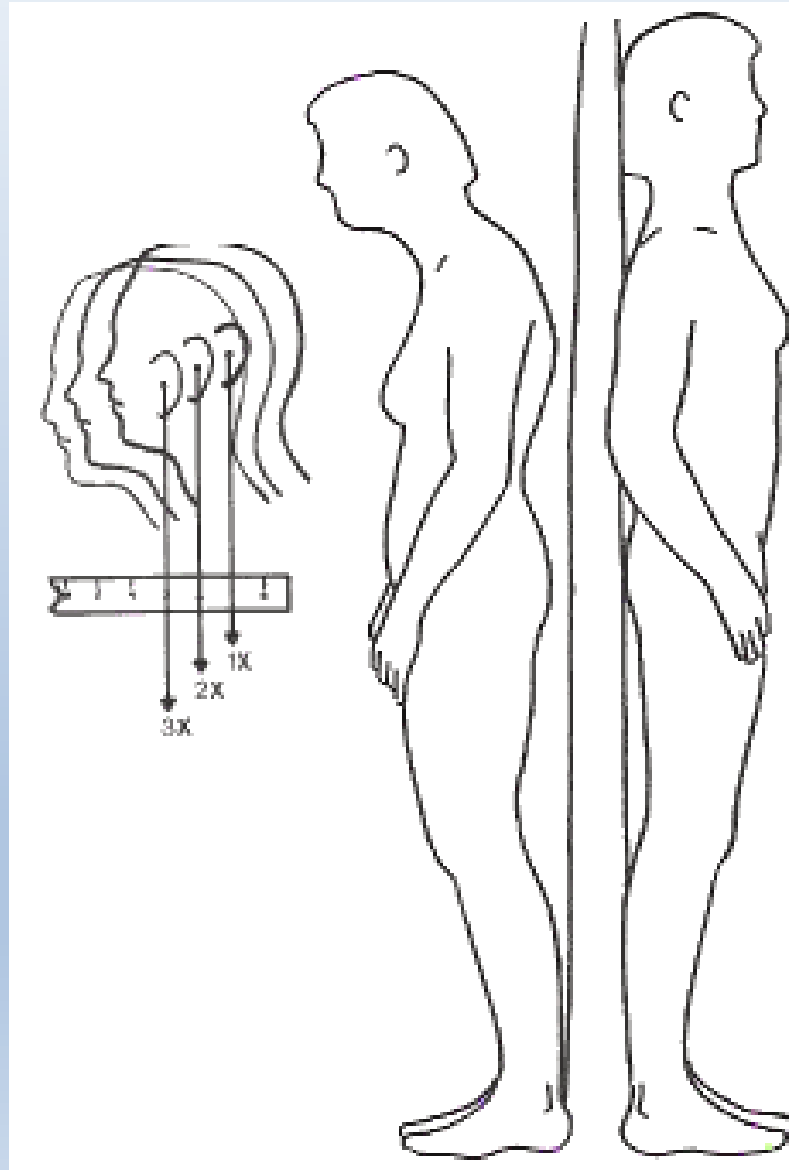
Impulse

mass x gravity x time

Time is important

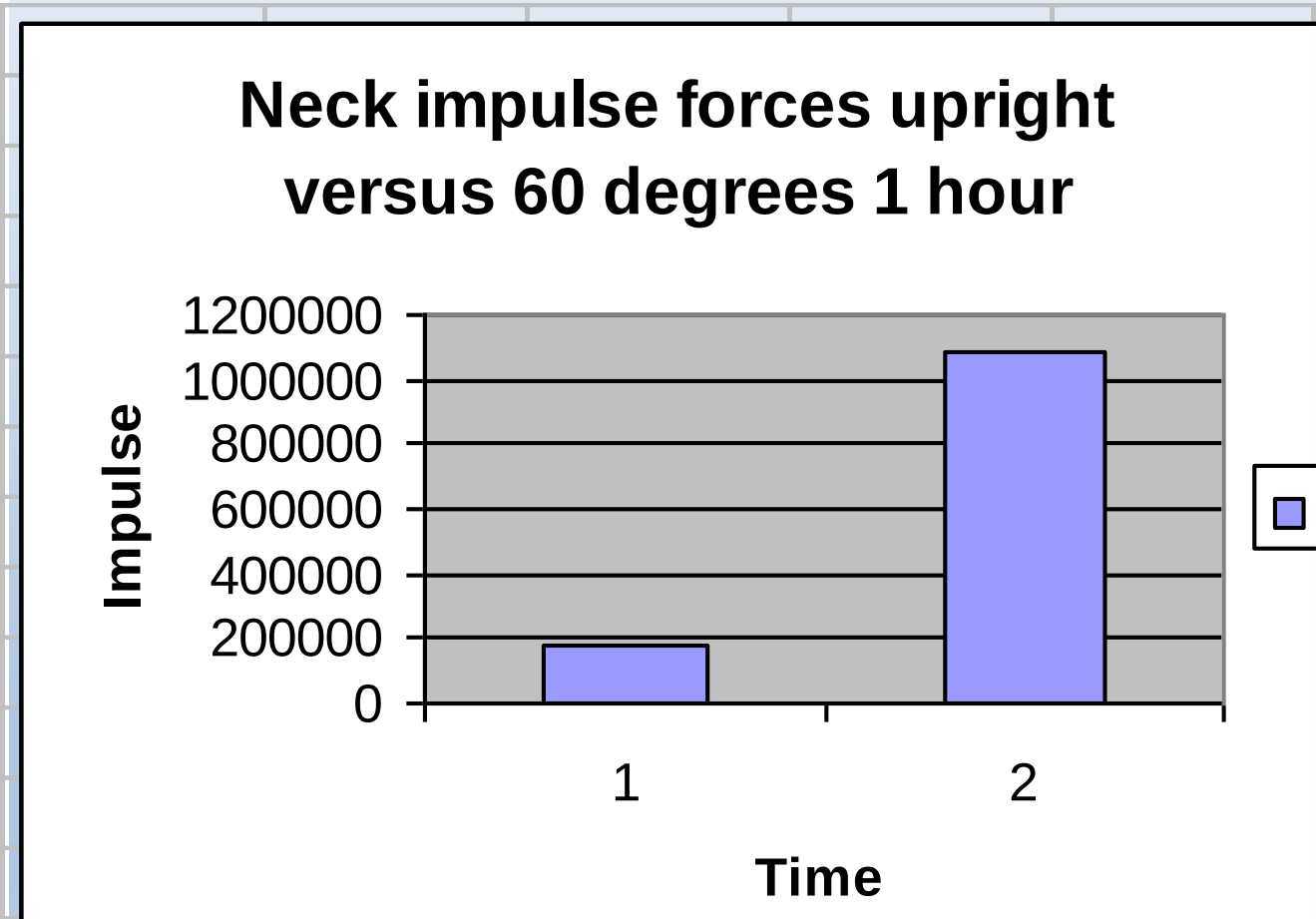


Impulse cervical spine



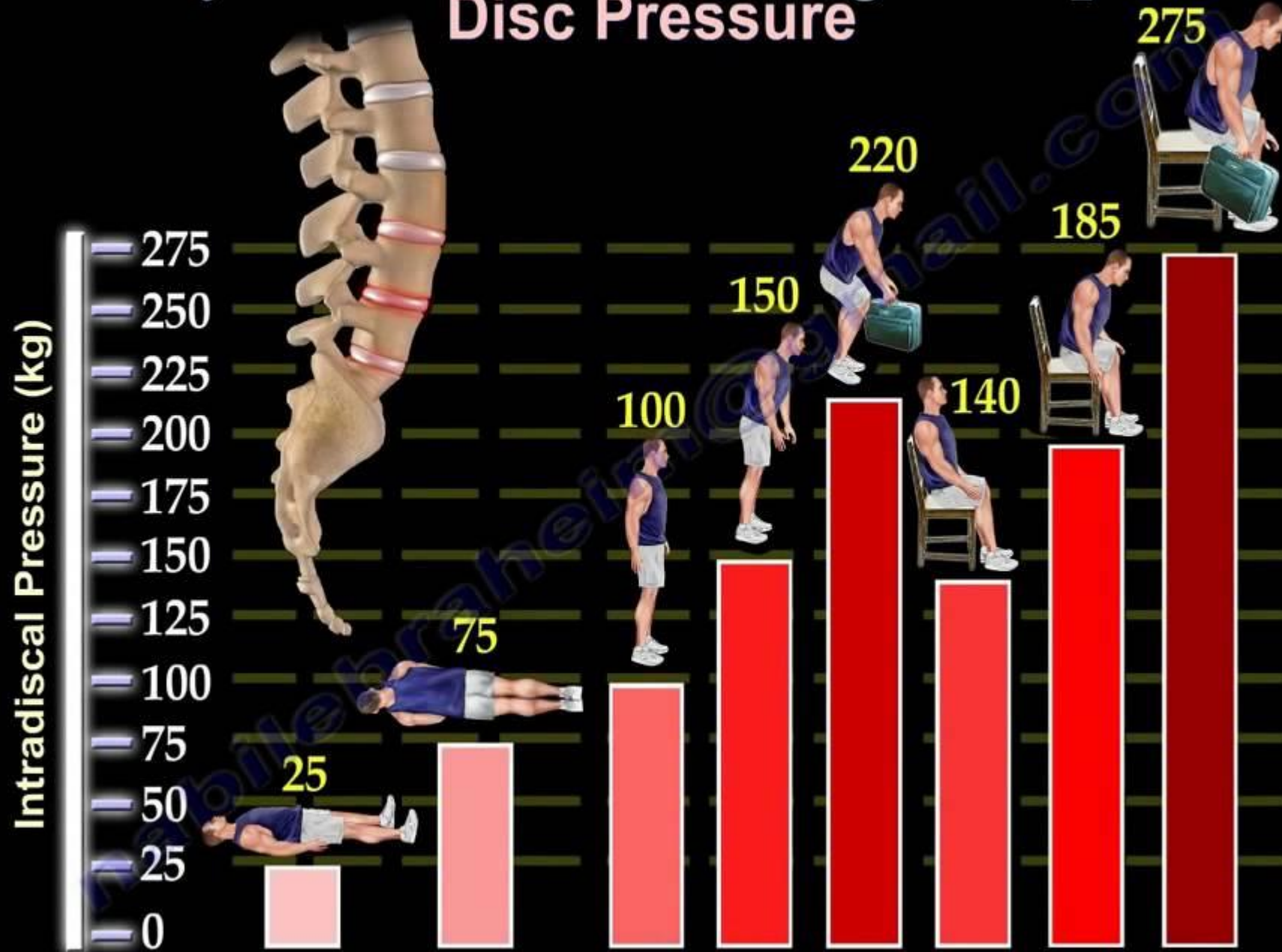
Posture

Upright versus 60 degrees

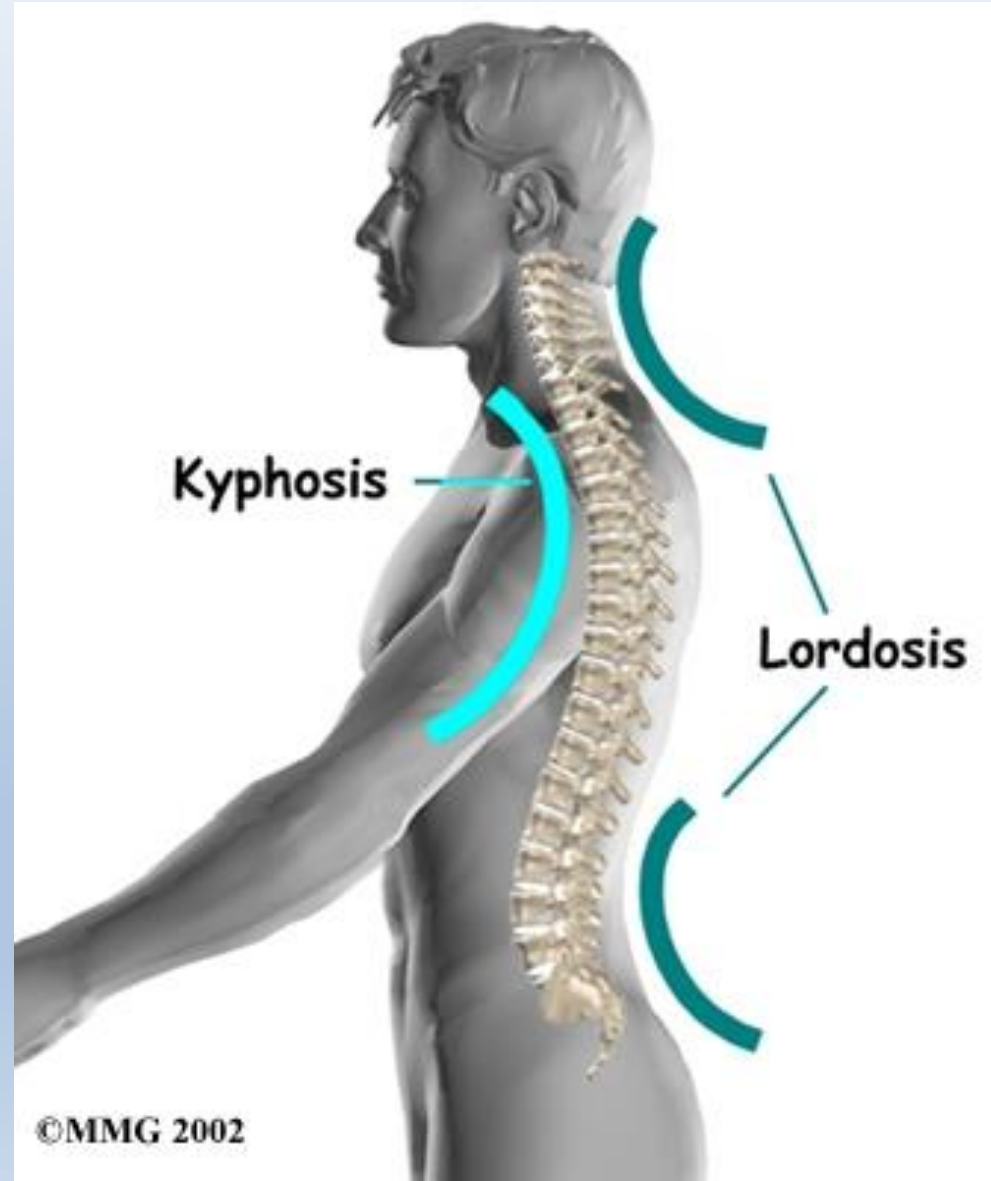


Body Positions Affecting the Spine

Disc Pressure



Spinal curves





A dark blue, irregular, ink-splattered shape on a white background. The shape has a rough, textured edge with many small droplets and splatters of blue ink radiating outwards. The text "What did I do?" is centered within the dark blue area in a white, sans-serif font.

What did I
do?



Analgesics

Nsaids

Opioids

Cannabinoids

PGs

mu, K

CB

Pain modifying agents

antidepressants adrenergic, Ach, 5HT, Dop

anti-epileptics Na, Ca, GABA

Antipsychotics 5HT, dop

Gabapentin/Pregabalin ?

Amitriptyline

NA, Ach, 5HT, adrenergic, histamine

Inhibits Na, Ca, K channels

Management of MSK pain

Reduce sympathetic tone

- Exercise (above 50% HRmax)
- Sauna
- Yoga
- Meditation/slowbreathing - 6/min
- Tai Chi



Exercise

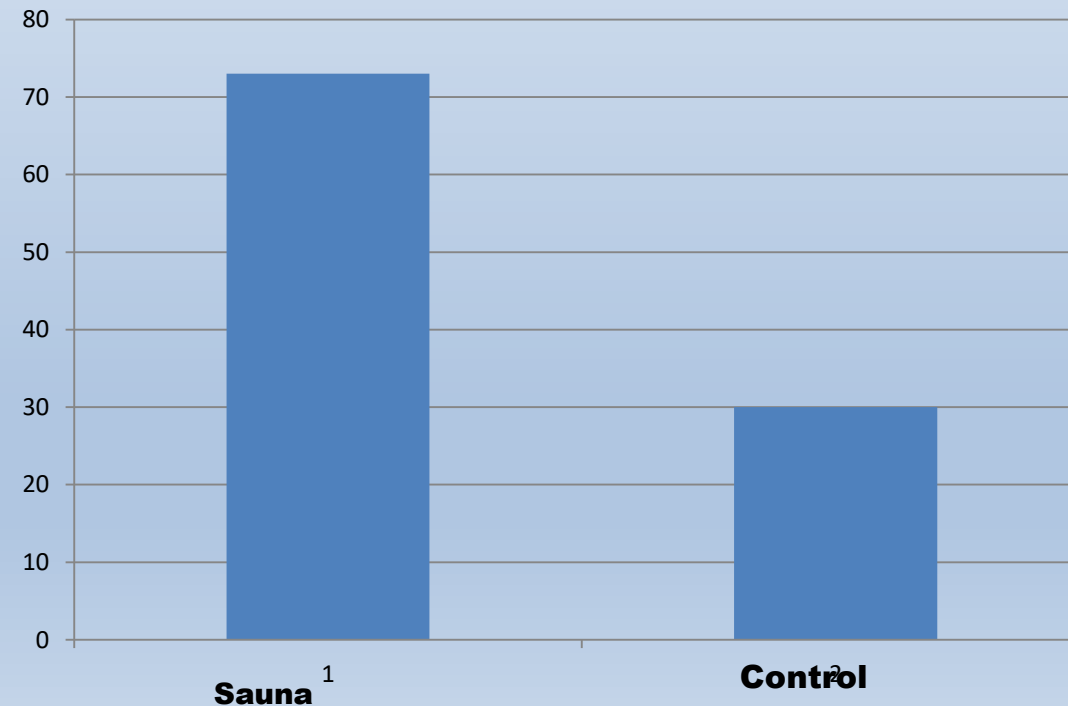
- Avoid loading painful joint/spine
- 20 min 3-4 times a week



Efficacy of Regular Sauna Bathing for Chronic Tension-Type Headache: A Randomized Controlled Study

Gireesh Kanji, PhD,¹ Mark Weatherall, FRACP,² Raja Peter, PhD,³
Gordon Purdie, BSc,⁴ and Rachel Page, PhD⁵

**Patients achieving 50% reduction in
Headache Index (intensity x duration)**



The effect of inversion traction on pain sensation, lumbar flexibility and trunk muscles strength in patients with chronic low back pain

Jae-Deung Kim^a, Hye-Won Oh^b, Jung-Hyun Lee^c, Jun-Youl Cha^d, Il-Gyu Ko^e and Yong-Seok Jee^{e,*}

^aResearch Institute of Sports Science, Korea University, Seoul, Korea

	Baseline	8 weeks	change	% change
supine	5.73	3.73	20	32%
30	5.78	2.22	35.6	59%
60	5.57	2.14	34.3	60%



RESEARCH PAPER

Inversion therapy in patients with pure single level lumbar discogenic disease: a pilot randomized trial

K. S. Manjunath Prasad¹, Barbara A. Gregson², Gerard Hargreaves³, Tiernan Byrnes², Philip Winburn² & A. David Mendelow²

¹Department of Neurosurgery, James Cook University Hospital, Middlesbrough, United Kingdom, ²Department of Neurosurgery,



	Baseline	4 weeks			discectomy	
Inversion	3.2	0.9	23	72%	3	23%
Physio	2.8	3		-7%	9	82%

Neurol Res. 2001 Oct;23(7):780-4.

A prospective randomized controlled study of VAX-D and TENS for the treatment of chronic low back pain.

Sherry E¹, Kitchener P., Smart R.

	VAS	8 weeks		
VAX	5.99	1.85	41.4	69%
TENS	5.44	5.97		-17%



Schimmel JJ, de Kleuver M, et al. No effect of traction in patients with low back pain: a single centre, single blind, randomized controlled trial of Intervertebral Differential Dynamics Therapy. Eur Spine J 2009;18:1843-1850.

30% bodyweight	61	32	29	47%
10% bodyweight	53	36	17	32%

Efficacy of Lumbar Traction: A Randomised Clinical Trial

G J M G van der Heijden

A J H M Beurskens

M J M Dirx

L M Bouter

E Lindeman

indicators for relapse
nosis seems to worsen
radiating pain and
and recurrence rate (Pedersen, 1981; Turk
back pain is the most
disorder of the muscul

	baseline	4 weeks		%change	F/U 9/52	%change
30-50% bodyweight	47	14	33	70%	14	70
25% bodyweight	37	16	21	57%	4	89

Efficacy of traction for non-specific low back pain: a randomised clinical trial

Anna J Beurskens, Henrica C de Vet, Albère J Köke, Eline Lindeman, Wiel Regtop, Geert J van der Heijden, Paul G Knipschild

	baseline	5 weeks		
35-50% bodyweight	61	21.2	39.8	65%
20% bodyweight	55	22.5	32.5	59%

A Randomized Controlled Trial on the Effect of Repeated Lumbar Traction By A Door-mounted Pull-up Bar on the Size and Symptoms of Herniated Lumbar Disk

Mehdi Khani, MD and Shahla Jahambin, MD†*

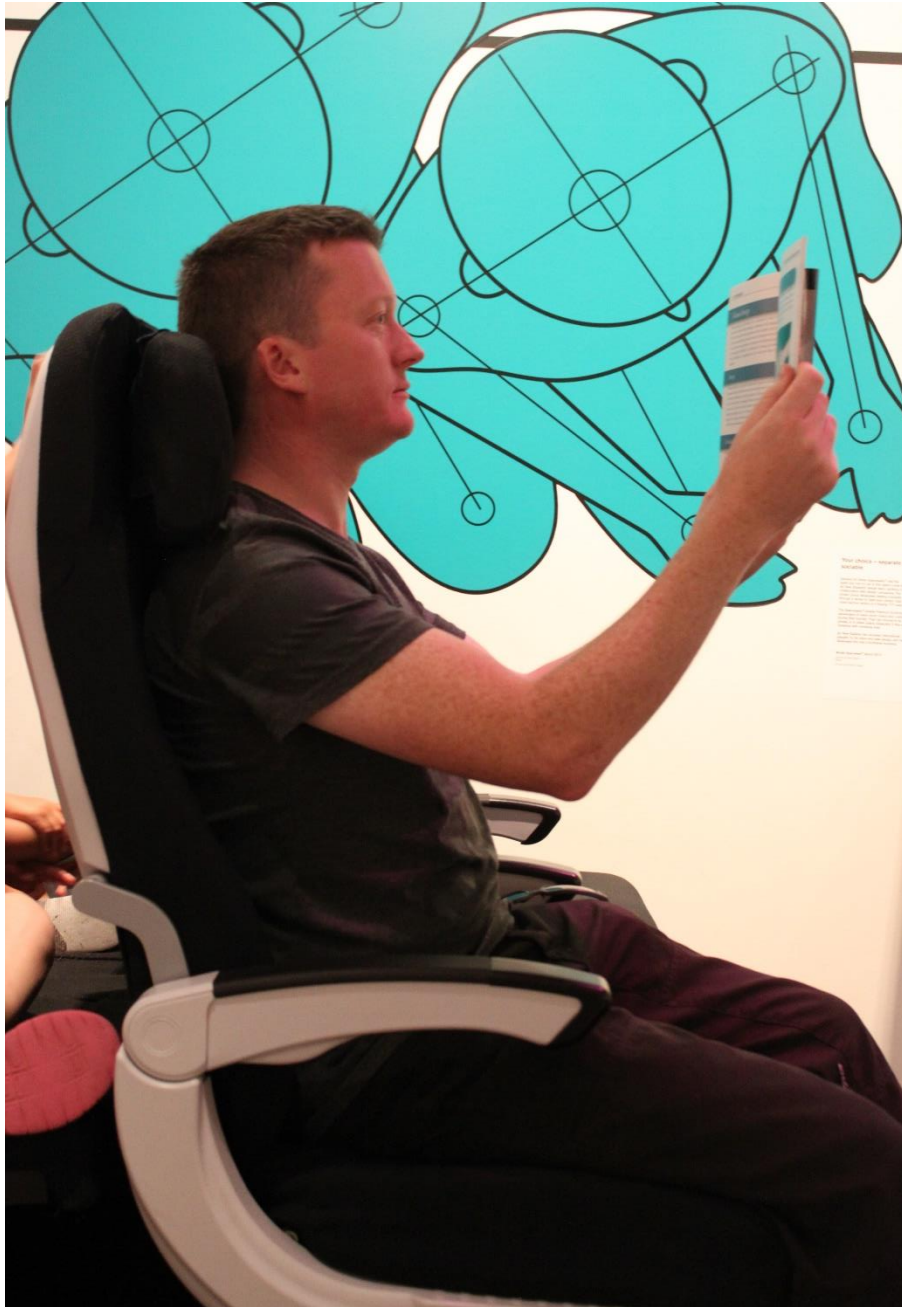














Summary

- Medication
- Reduce sympathetic tone
- Reduce loading posture
- Traction