PAIN IN MOTION

Pijn in de sport:
In the mind or in the brain?

Jo Nijs

Universitair Ziekenhuis Brussel

VRIJE UNIVERSITEIT BRUSSEL 1834 SCIENTIA VINCERE TENEBRAS

UNIVERSITY OF GOTHENBURG

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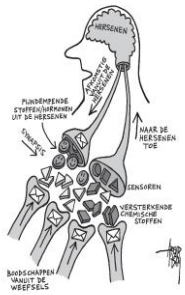

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11-05-1988 EC-II finale
Ajax Amsterdam– KV Mechelen

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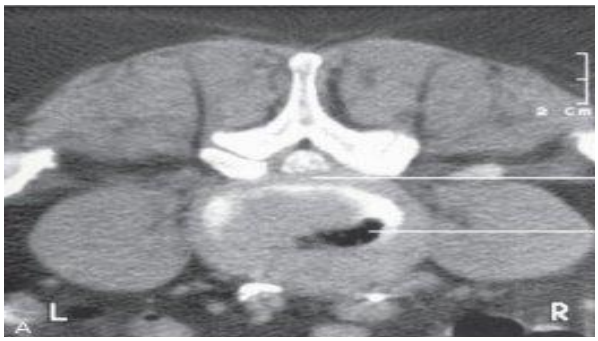

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Spinal ‘damage’ in people free of pain

Imaging finding	Age (yr)						
	20	30	40	50	60	70	80
Disk degeneration	37%	52%	68%	80%	88%	93%	96%
Disk signal loss	17%	33%	54%	73%	86%	94%	97%
Disk height loss	24%	34%	45%	56%	67%	76%	84%
Disk bulge	30%	40%	50%	60%	69%	77%	84%
Disk protrusion	29%	31%	33%	36%	38%	40%	43%
Annular fissure	19%	20%	22%	23%	25%	27%	29%
Facet degeneration	4%	9%	18%	32%	50%	69%	83%
Spondylolisthesis	3%	5%	8%	14%	23%	35%	50%

Brinjikji et al. *Am J Neuroradiol* 2014

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Brinjikji et al. *Am J Neuroradiol* 2014

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PAIN IN MOTION

Heb jij vandaag kousen aan?

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YouTube The SPAM FILTER Metaphor | Explain Pain by Jo Nijs - YouTube
https://www.youtube.com/watch?v=_CxnMc9NAmQ

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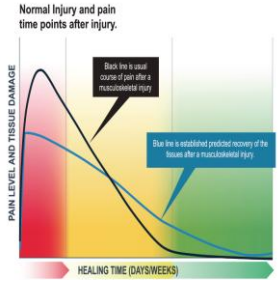

Hainline B, et al. *Br J Sports Med* 2017;**51**:1259–1264.

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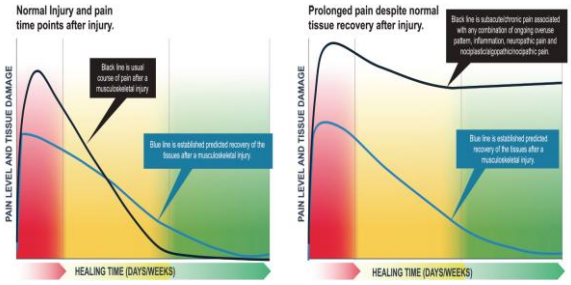

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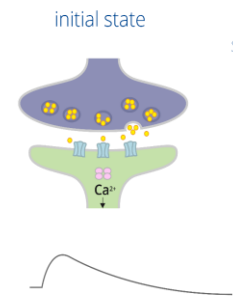

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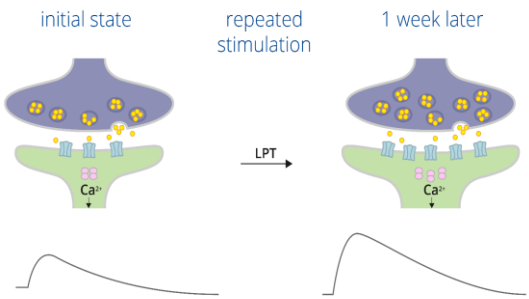

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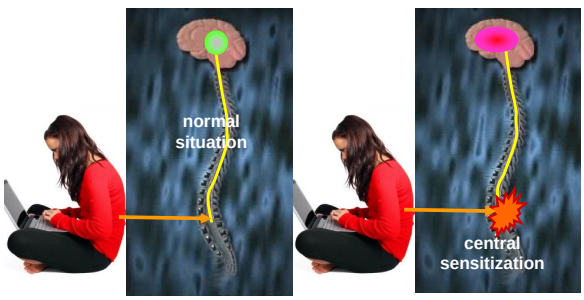

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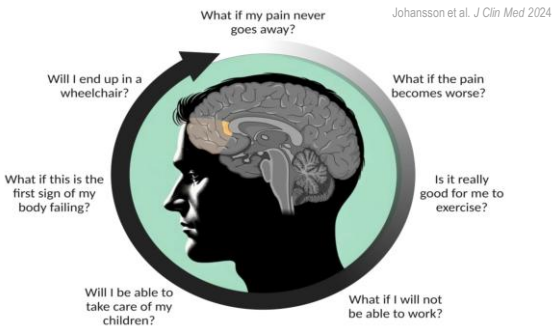

Johansson et al. *J Clin Med* 2024

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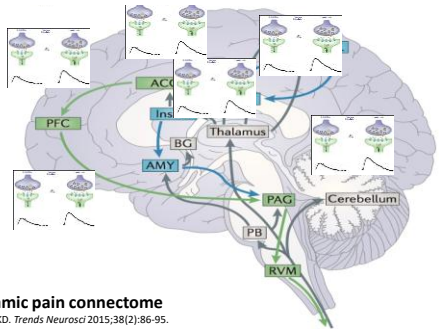

The dynamic pain connectome
Kucyi A, Davis KD. *Trends Neurosci* 2015;38(2):86-95.

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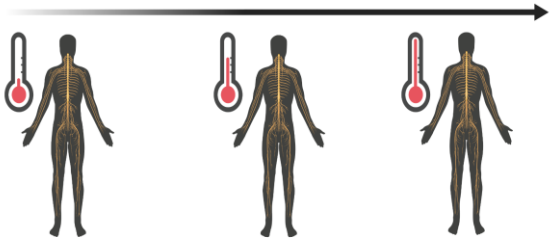
The central sensitization continuum

Nijs et al. *The Lancet Rheumatology* 2021;3:e383-92.



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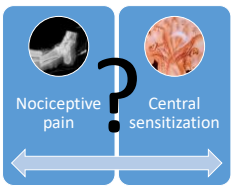
Patellar & Achilles Tendinopathies Predominantly Peripheral Pain States

Plinsinga et al. *Br J Sports Med* 2017



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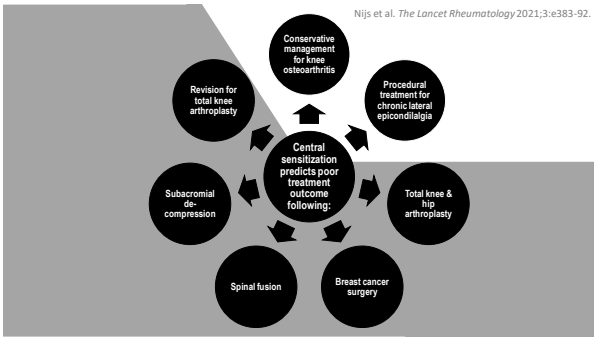
Nijs et al. *The Lancet Rheumatology* 2021;3:e383-92.



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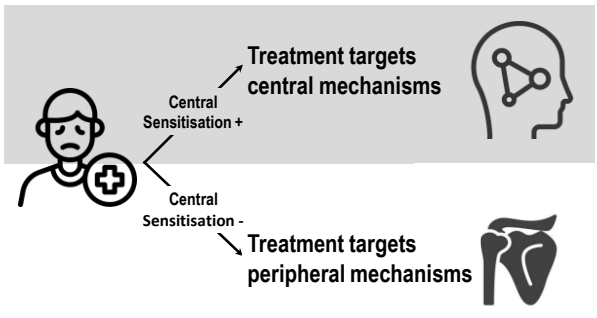

Nijs et al. *The Lancet Rheumatology* 2021;3:e383-92.

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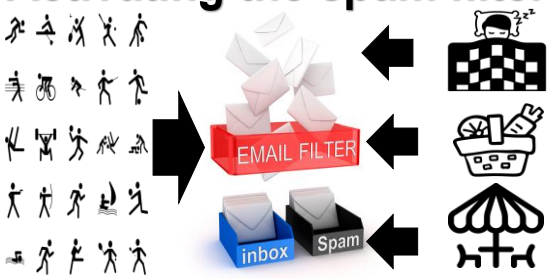
Activating the spam filter



24

International Olympic Committee

Consensus statement on pain management in elite athletes

Hainline B, et al. *Br J Sports Med* 2019 Vol 53 No 12

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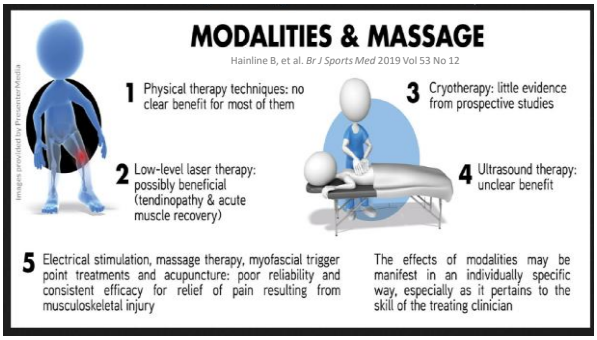

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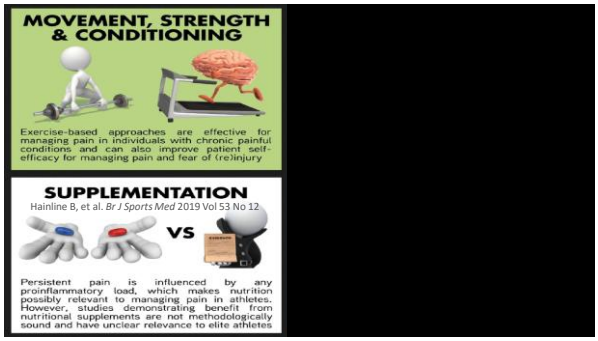

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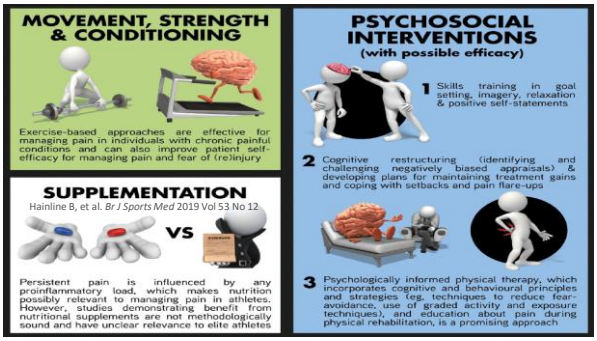

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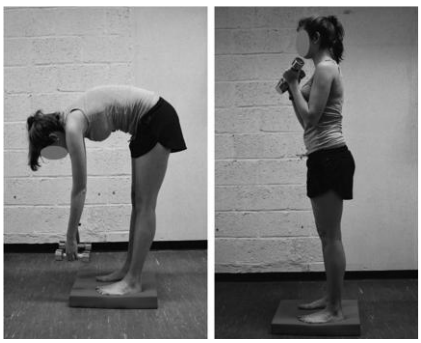

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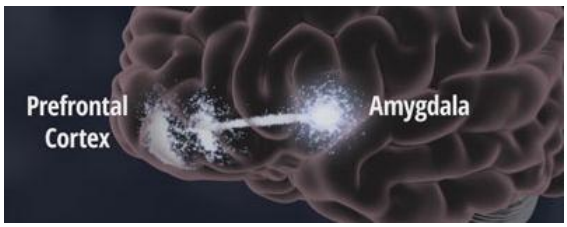


30

Pain science education + exercise therapy:

results of a randomized controlled clinical trial

Malfliet, Kregel, et al. *JAMA Neurology* 2018;75(7): 808-817.

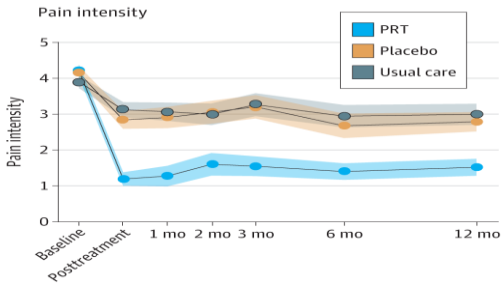
50% ↓ pain
32% ↓ vigilance
30% ↓ fear
46% ↓ pain catastrophizing
22% ↑ daily functioning
27% ↓ central sensitization

medium to large effect sizes – 38% painfree (0 or 1/10)

31

Effect of Pain Reprocessing Therapy vs Placebo and Usual Care for Patients With Chronic Back Pain.

Ashar et al. *JAMA Psychiatry.* 2022;79(1):13–23.



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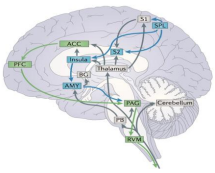

The dynamic pain connectome.

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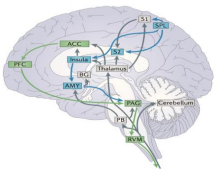

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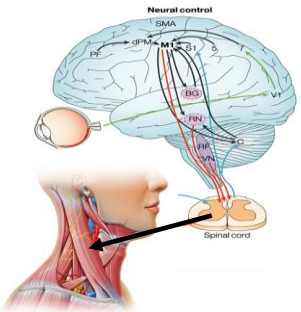

The dynamic movement connectome.

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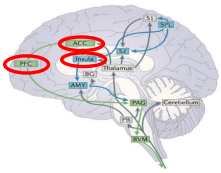
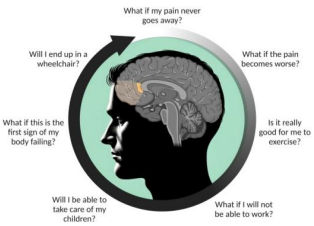


Pain catastrophizing

Campbell & Edwards *Transl Res* 2009.



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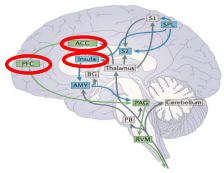

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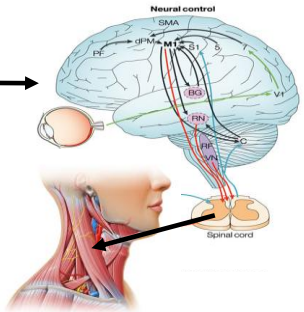

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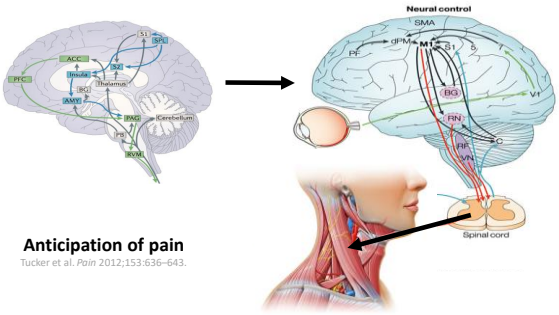

Anticipation of pain

Tucker et al. *Pain* 2012;153:636–643.

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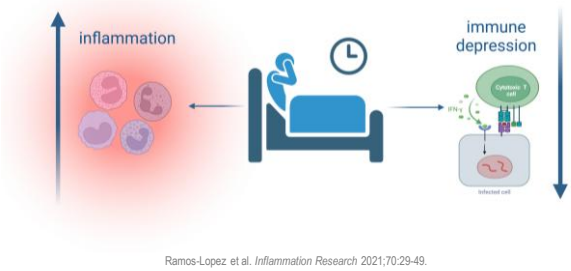

Ramos-Lopez et al. *Inflammation Research* 2021;70:29-49.

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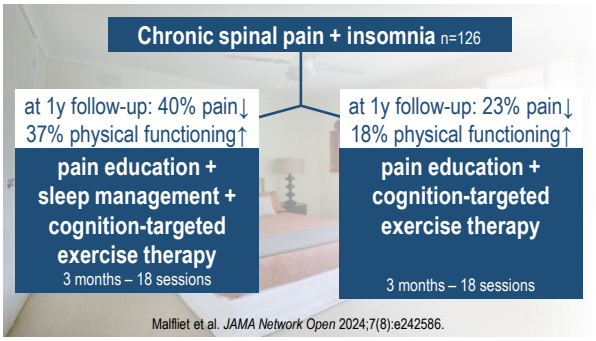

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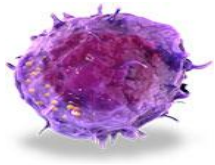
Think twice when prescribing opioids

Opioids suppress immune function:
Natural Killer cell numbers ↘
& cytotoxicity ↘

cellular immunity inhibited by
opioid system (μ-opioid receptor)



Cui et al. *Medicine.* 2017;96(31):e7519. Bajwa et al. *J Cancer Res Ther* 2015;11(3):528-34. Boland & Pockley. *Br J Pharmacol* 2018;175(14):2726-2736.

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