

# Een leefstijl benadering bij langdurige pijn: klinisch redeneren voor een gepersonaliseerde behandeling



UNIVERSITY OF  
GOTHENBURG

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## Leefstijl benadering bij langdurige pijn

1. Leefstijl & langdurige pijn: in the mind or in the genes?
2. Waarom L.E. Dos niet goed reageerde op pijneducatie + oefentherapie
3. Een geïntegreerde systemische leefstijlbenadering

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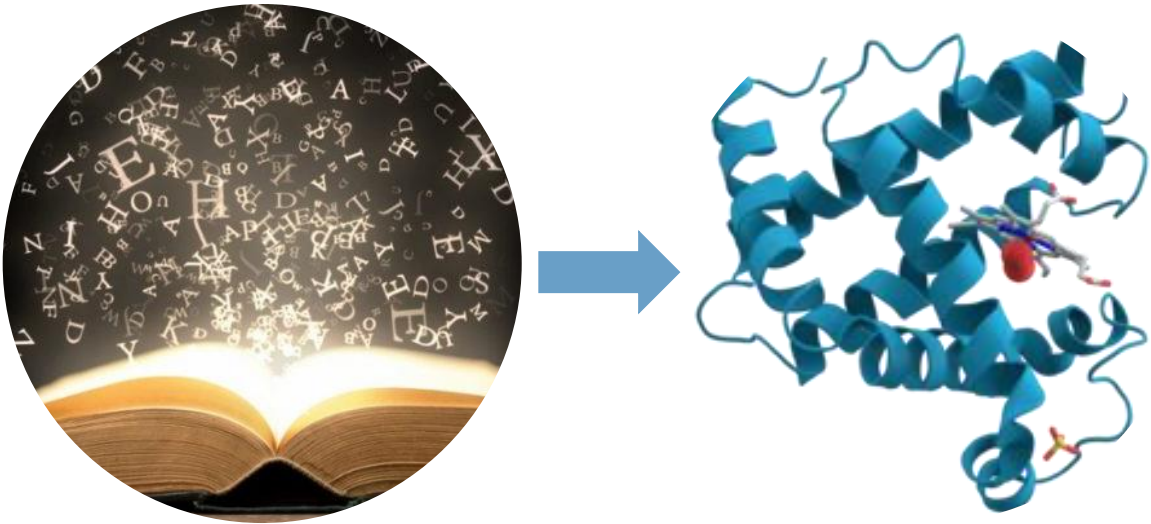
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# Genetic changes in patients with chronic pain

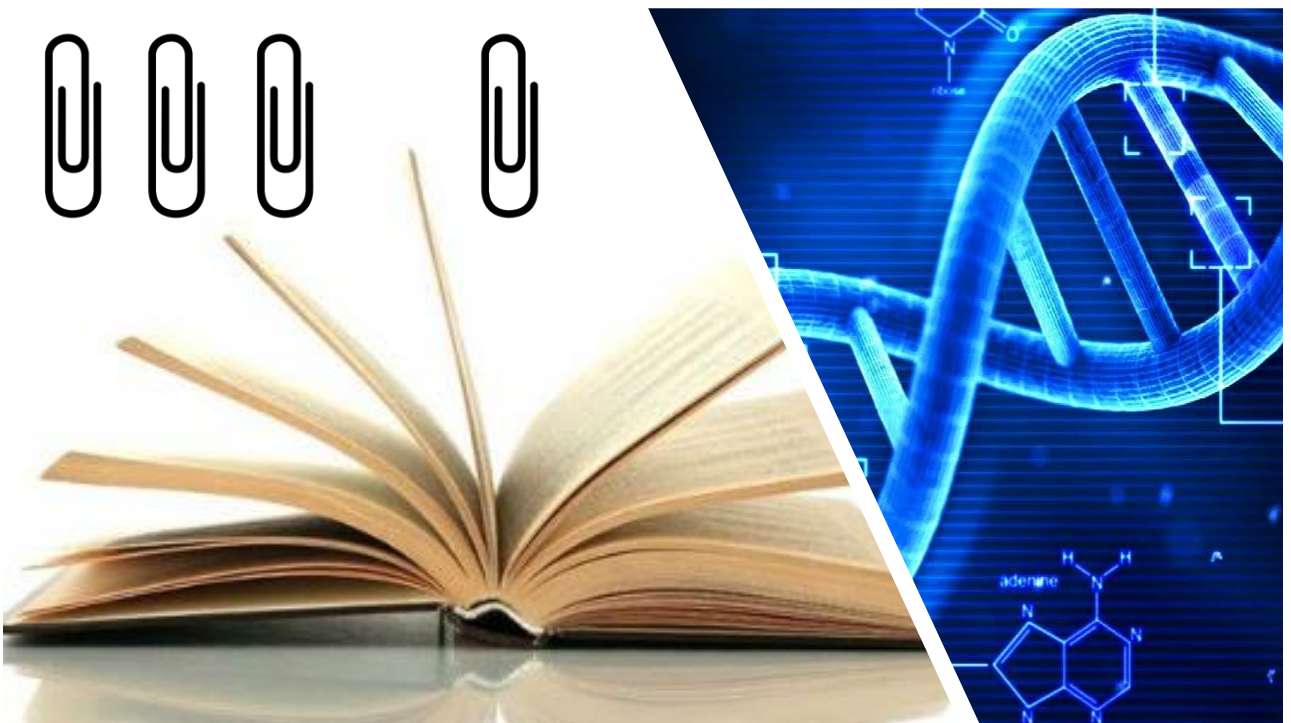
Relevant genes:

- 1) nervous system
- 2) immune system
- 3) mitochondrial & energy metabolism
- 4) opioid receptor modulation
- 5) hypothalamic-pituitary-adrenal axis function



Ablin JN, Buskila D. *Best practice & research Clinical rheumatology* 2015; 29(1): 20-8. Denk F, McMahon SB. *Pain* 2017; 158 Suppl 1: S108-s14. van Tilburg et al. *Pain* 2020; 161(12): 2860-71.

7



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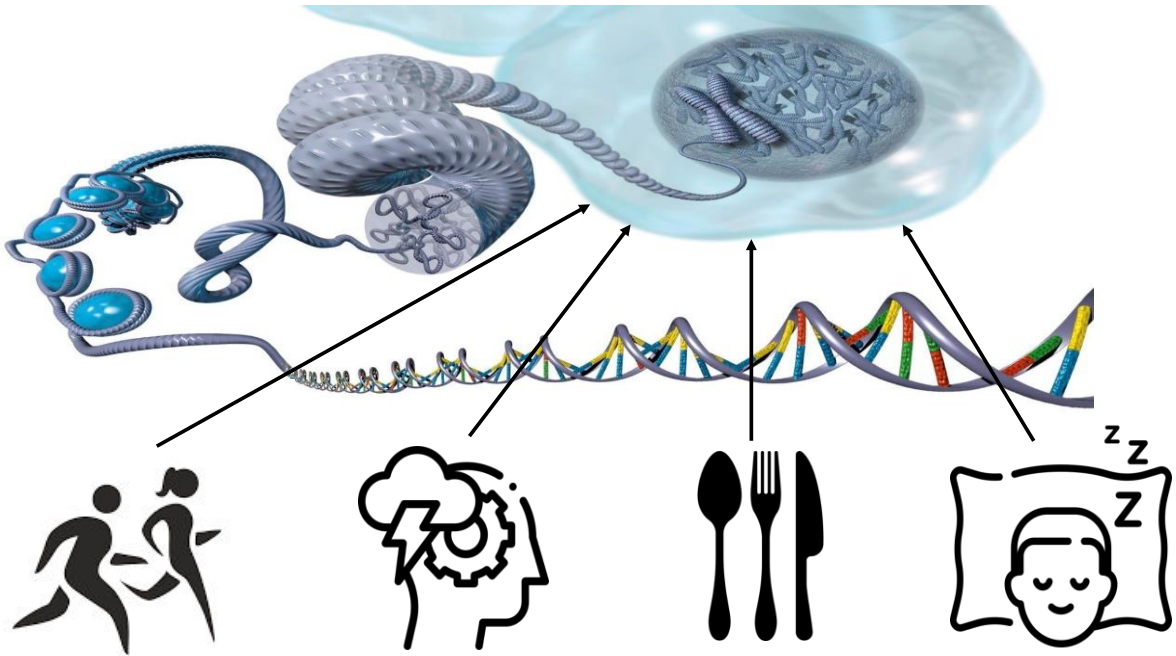
# The cell's memory



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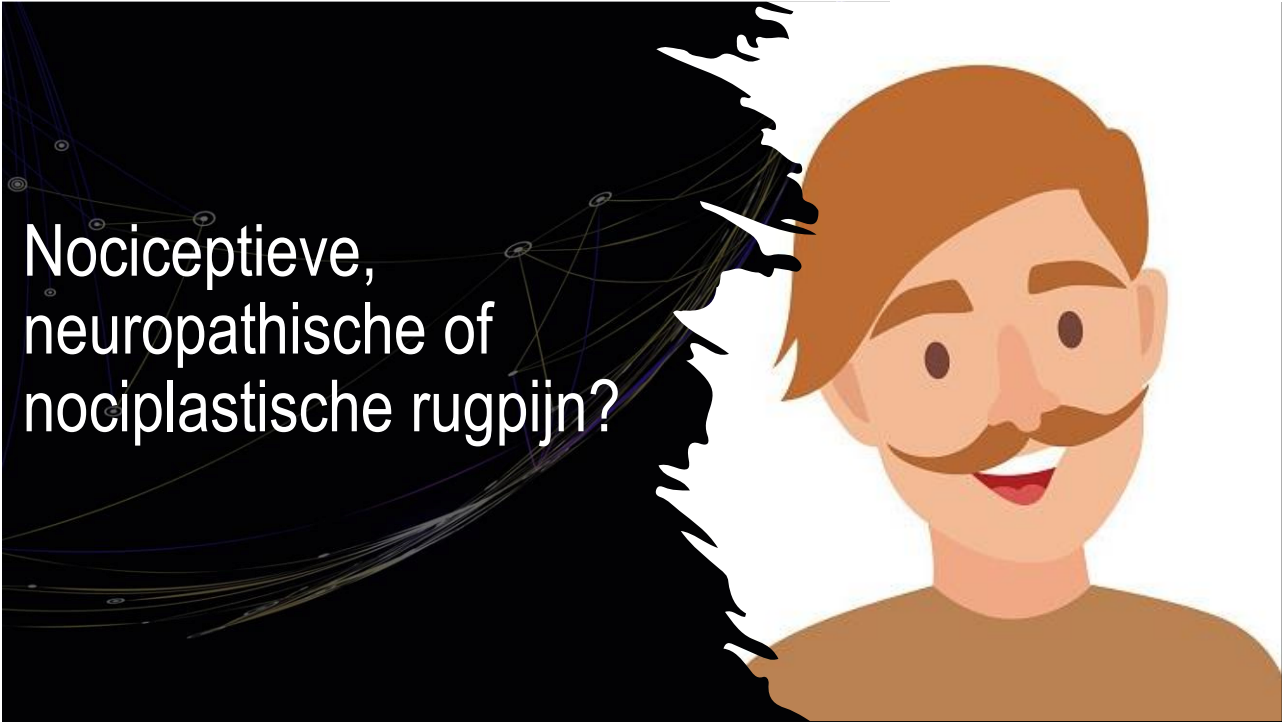
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## L.E. Dos

43j, 1 dochter, getrouwd,  
rugpijn >5mnd, hulpvraag  
pijnvermindering &  
advies over noodzaak  
operatie

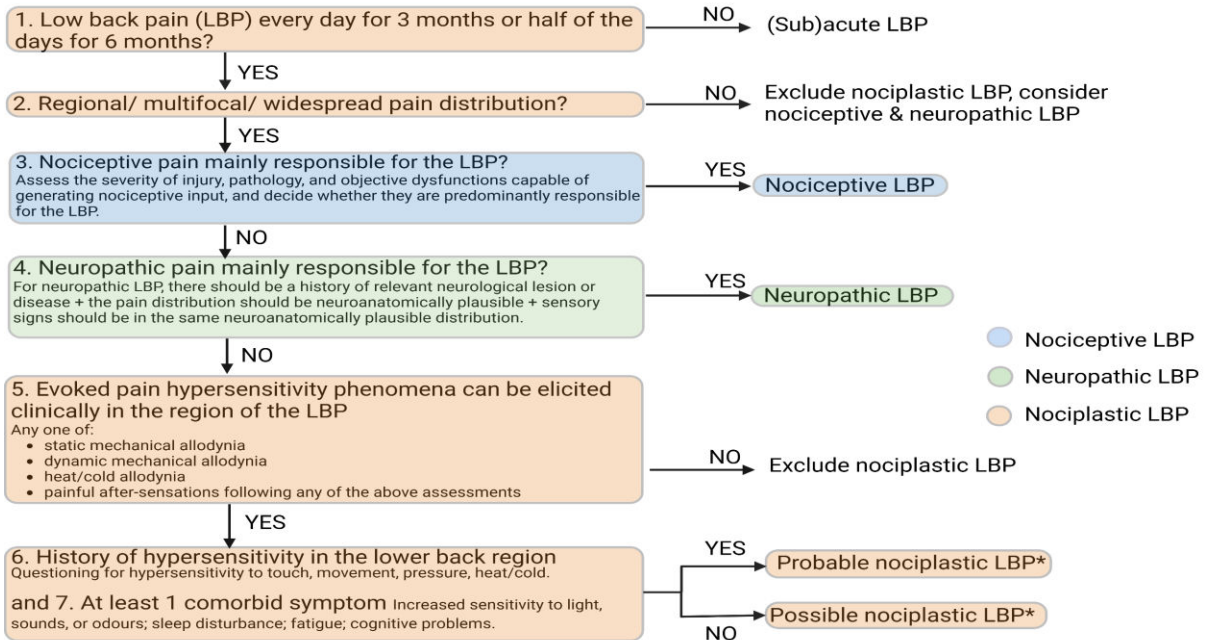


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# Nociceptieve, neuropathische of nociplastische rugpijn?

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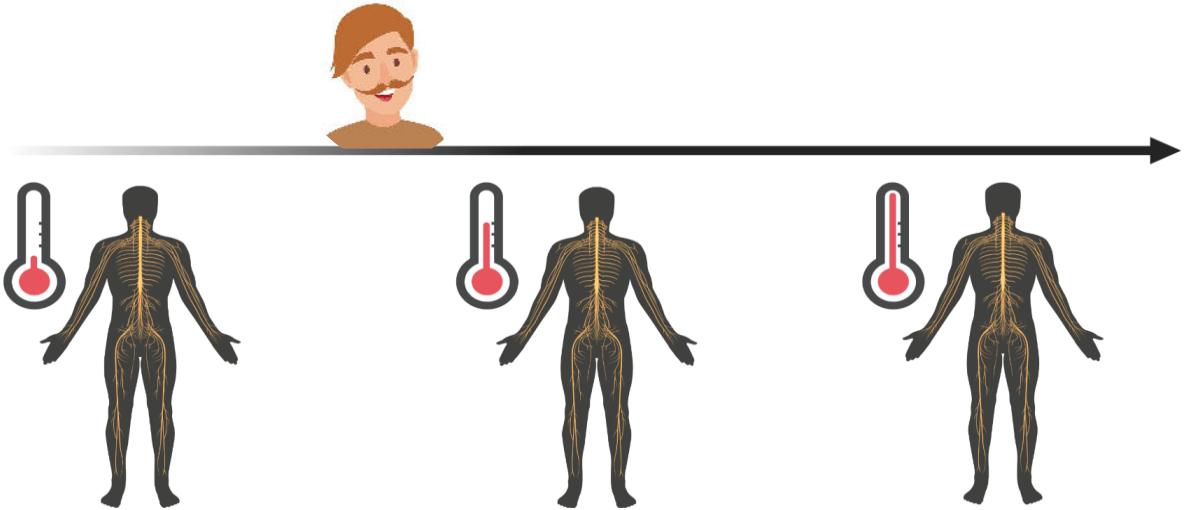


Nijs et al. *The Lancet Rheumatology* 2024; 6(3):e178-e188.

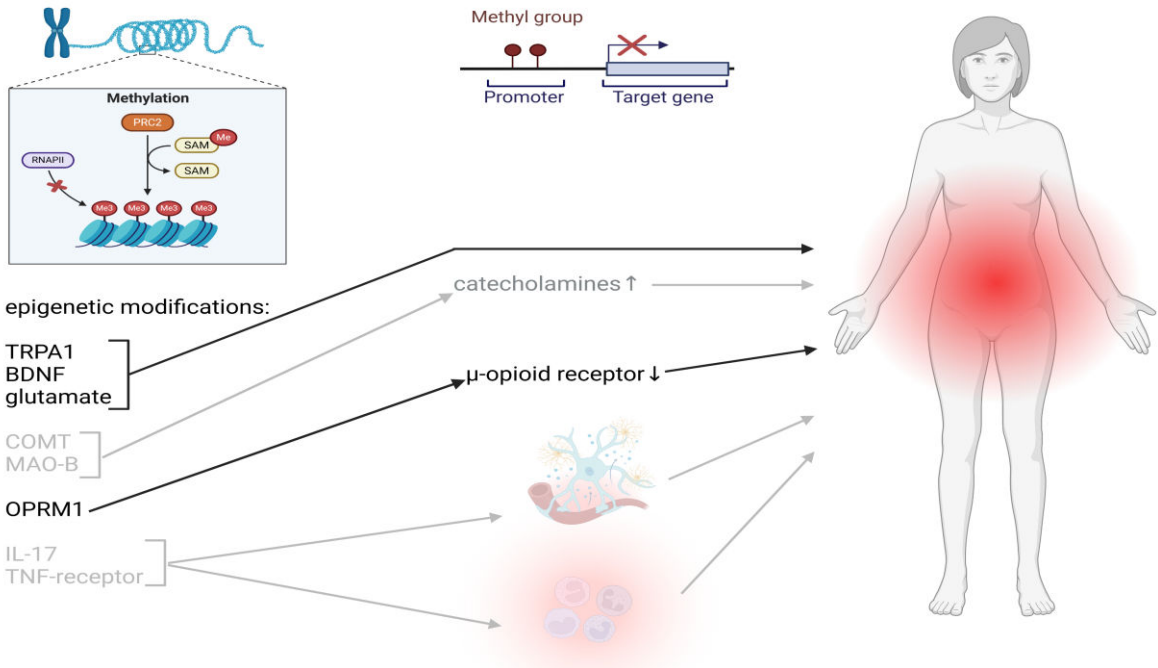
14

# The central sensitization continuum

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



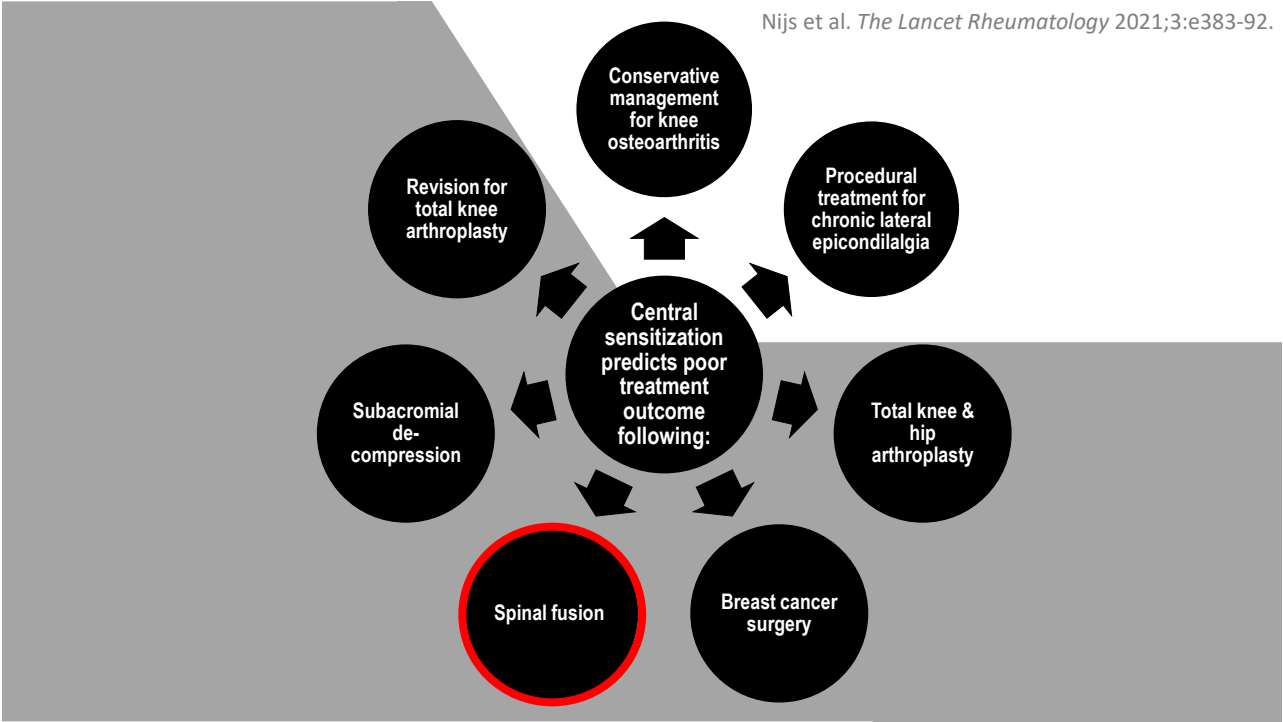
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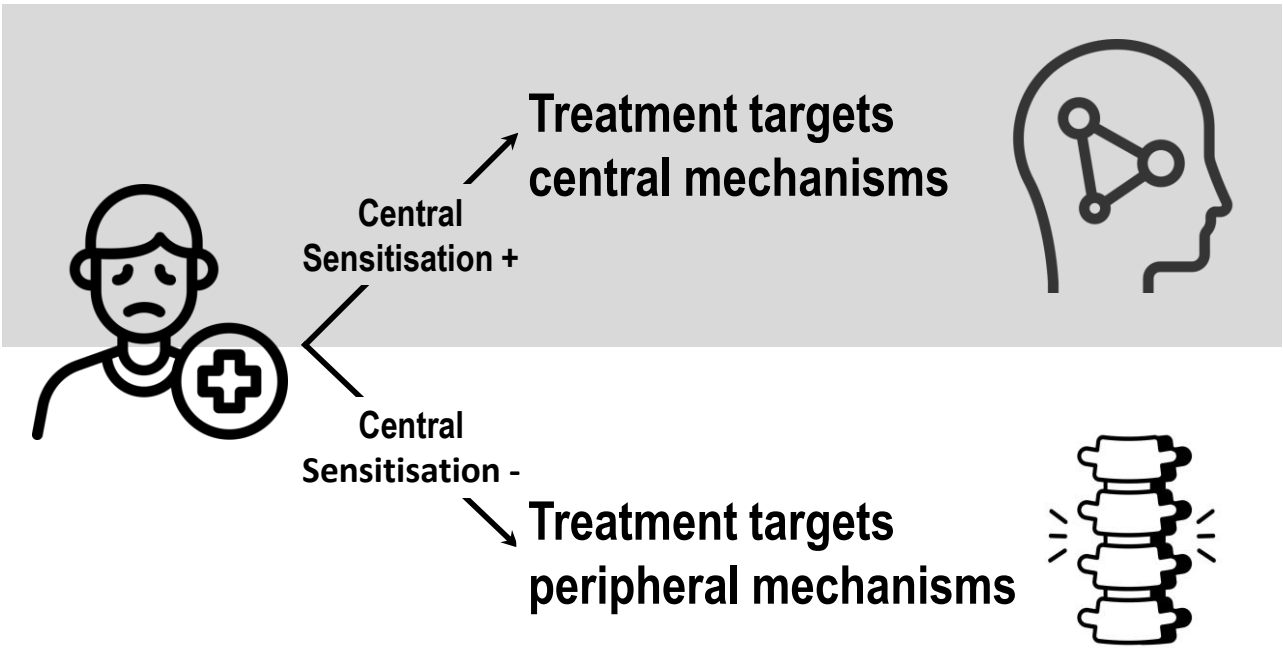
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Nijs et al. *The Lancet Rheumatology* 2021;3:e383-92.



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

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Hoe kunnen we  
L.E. Dos helpen?

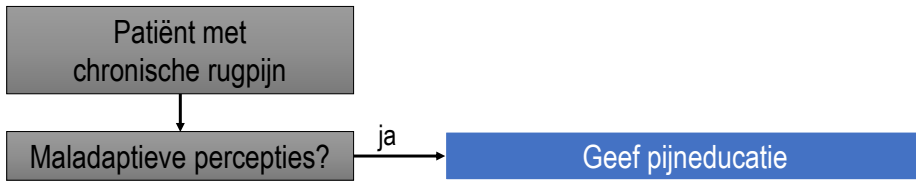


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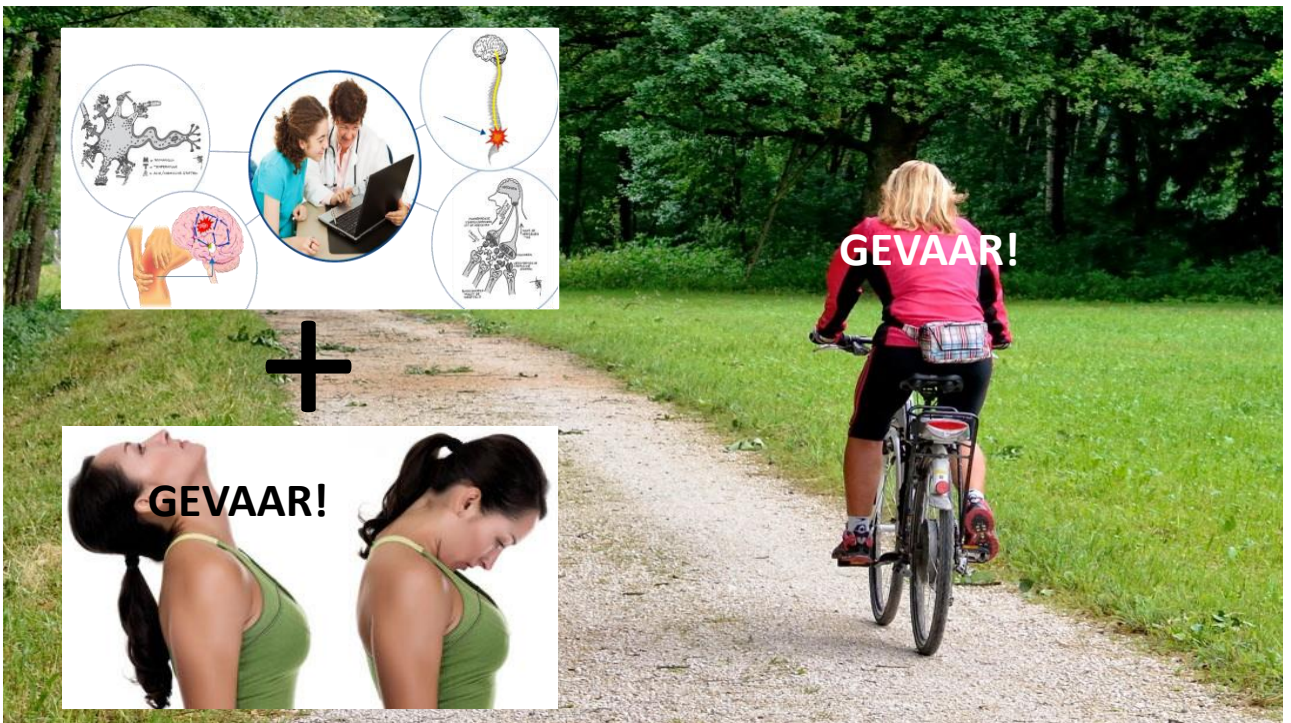
Mijn rugpijn heeft te  
maken met  
spierzwakte +  
zittend beroep +  
zit in de familie +  
'complex geval' +  
voeding?



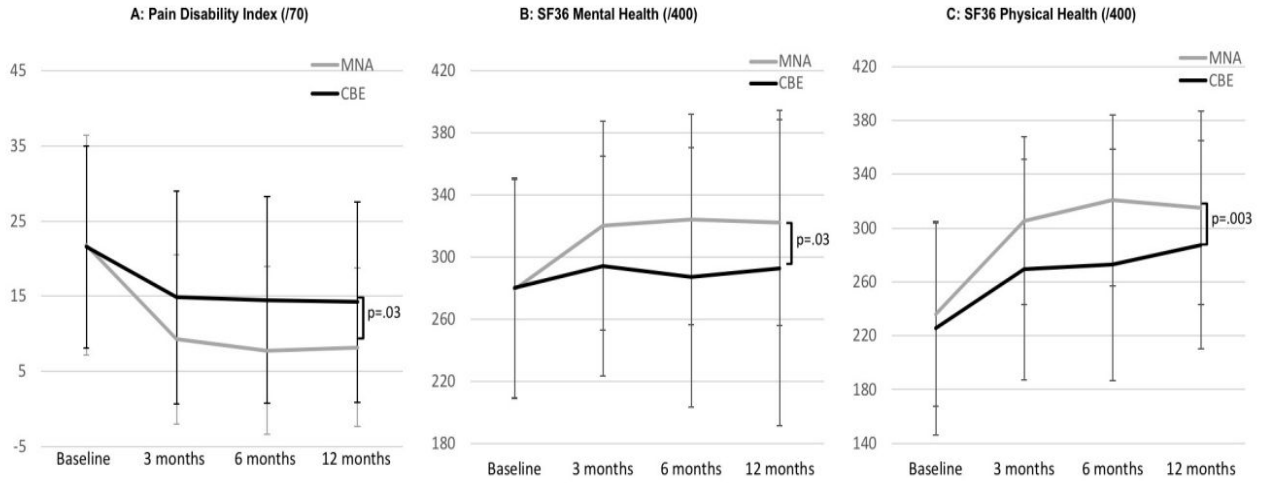
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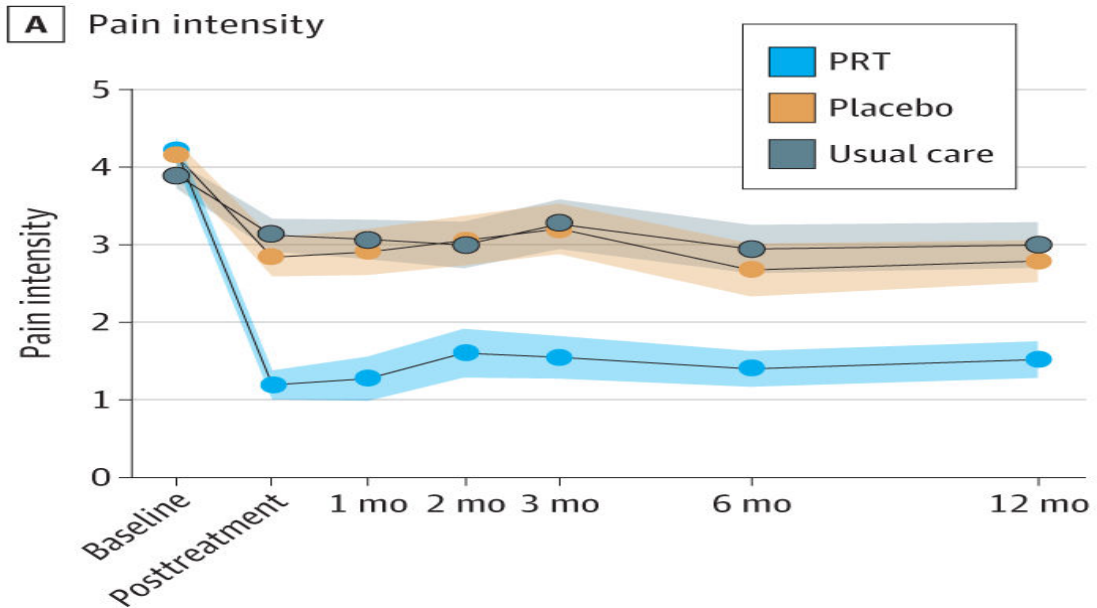


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Malfiet et al. *JAMA Neurology* 2018;75(7):808–817.

23



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

24



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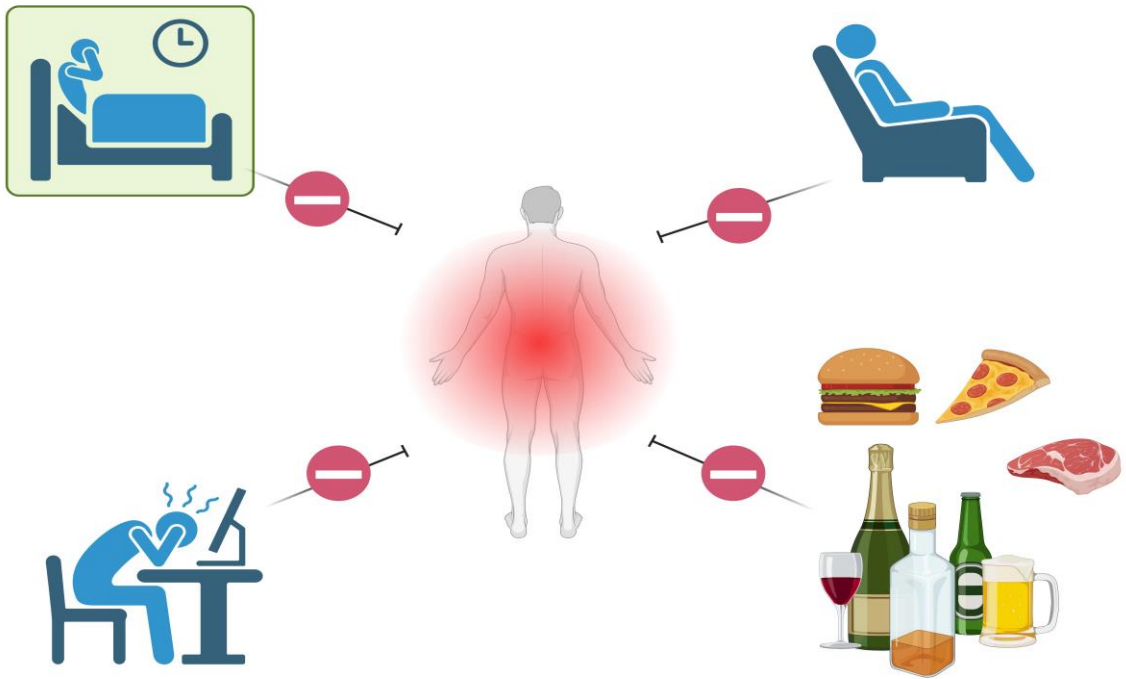
# Leefstijl benadering bij langdurige pijn

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Hoe frequent zijn slaapproblemen bij patiënten met rugpijn, nekpijn of artrose?

25%

50%

85%

30

## Herstellende functie van slaap

Inflammatoire mediatoren ↓

Anti-inflammatoire mediatoren ↓

1<sup>ste</sup> nachthelft: inflammatoire dominantie

2<sup>de</sup> nachthelft: anti-inflammatoire dominantie

Poluektov MG. *Neuroscience & Behavioral Physiology* 2021;51(5): 609-615.

31



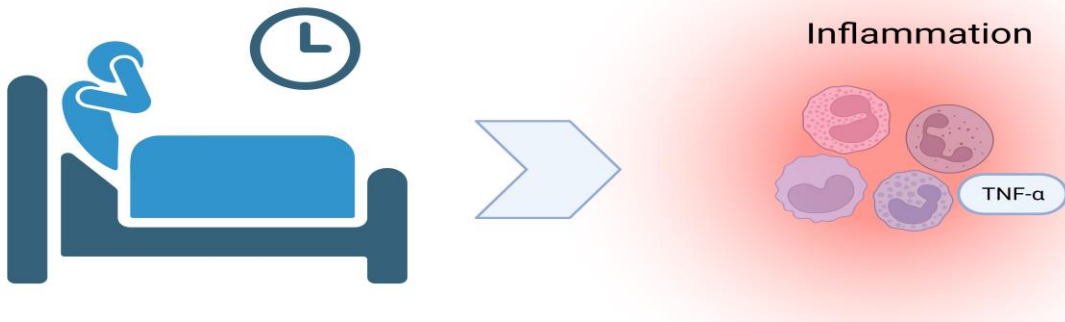
PAIN IN MOTION

# Wat gebeurt er als we slecht slapen?

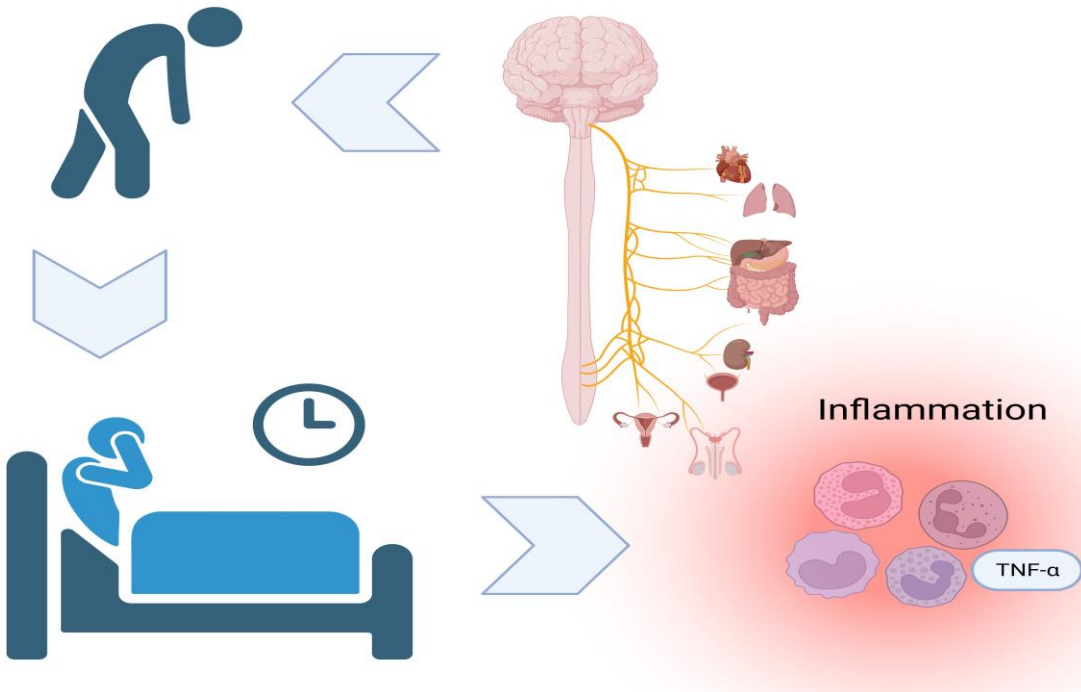
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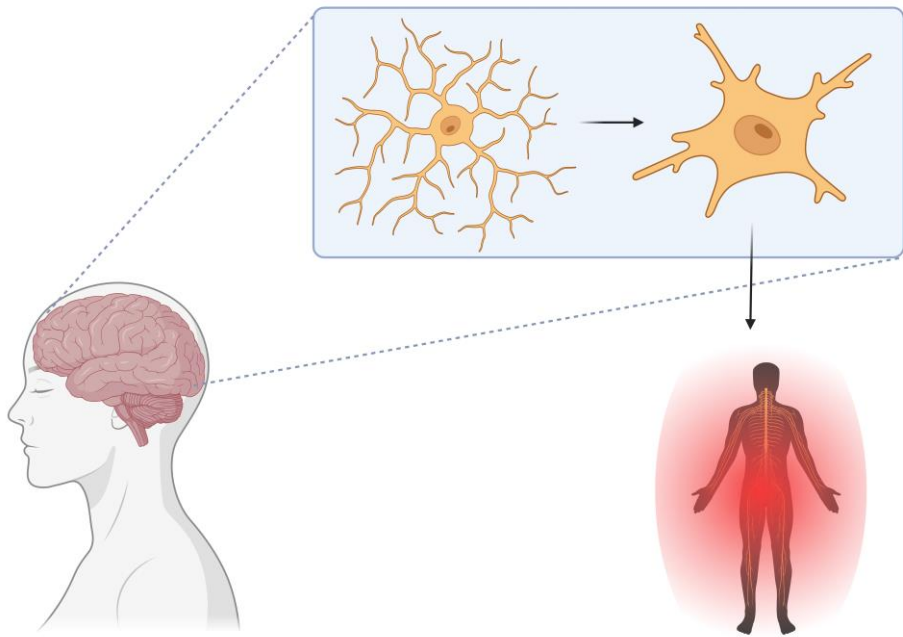
Ramos-Lopez et al. *Inflammation Research* 2021;70:29-49.



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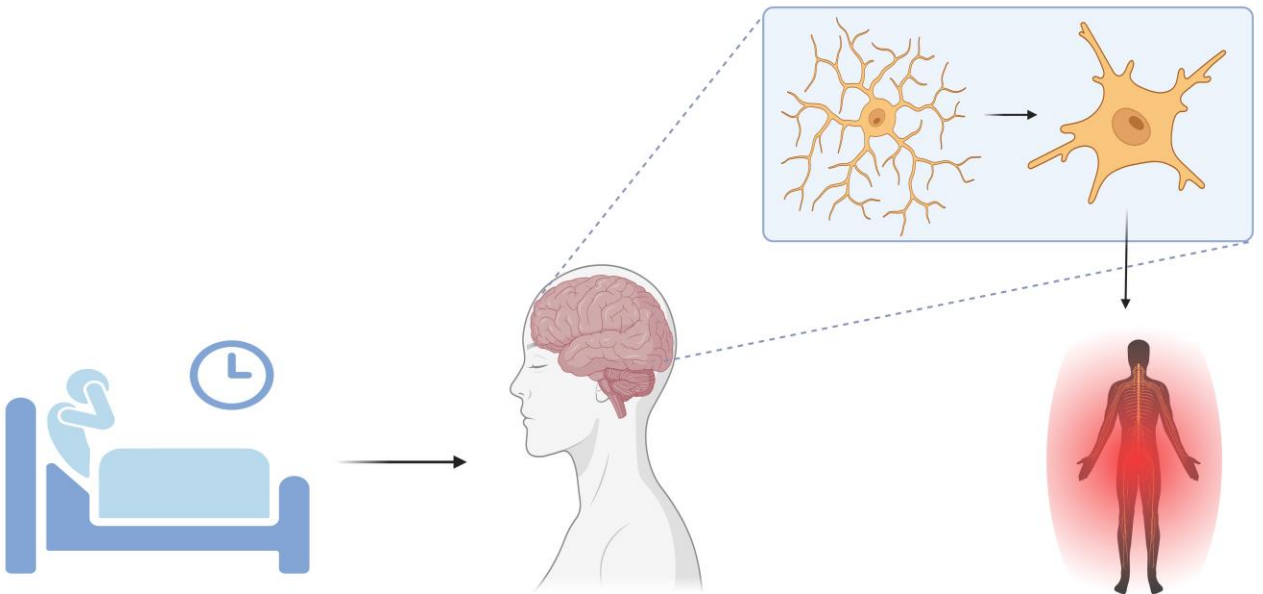


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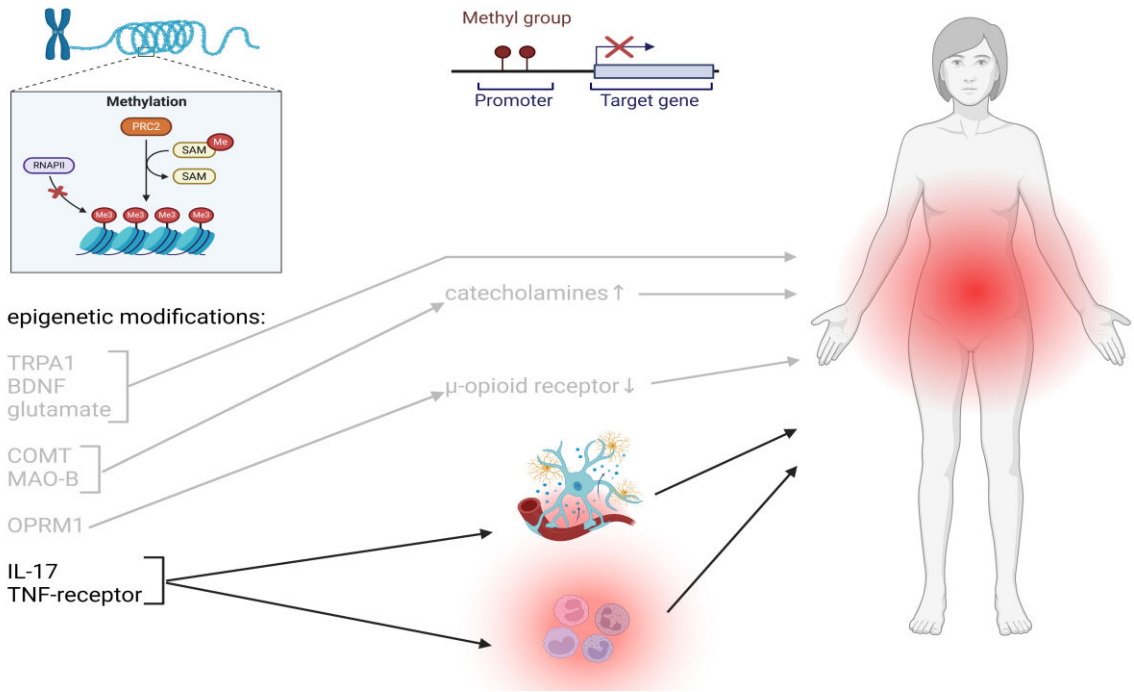
Nijs, Loggia, et al. *Expert Opinion Ther Targets* 2017; 21:8, 817-826.

35



Haack et al. *Sleep* 2007; Kalinchuk et al. *J Neurosci* 2010; Wisor et al. *Sleep* 2011; Campbell et al. *Arthritis Care & Research* 2015; de Tomasso et al. *J Headache Pain* 2014; Schuh-Hoher et al. *Pain* 2013; Mundal et al. *Pain* 2014

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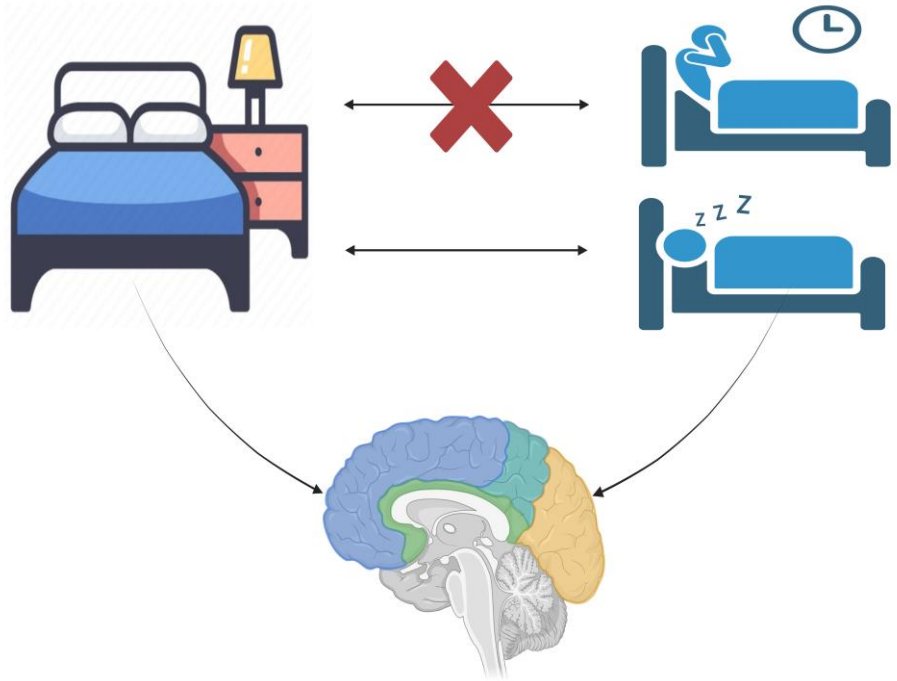
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Nijs et al. *Phys Ther* 2018; 98(5):325-335.



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Het brein  
moet de  
slaapkamer  
terug linken  
aan slapen



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Chronische rug- of nekpijn + insomnie n=126

na 1j follow-up: 40% pijn↓  
37% fysiek functioneren↑

pijneducatie +  
slaaptraining +  
cognitiegerichte  
oefentherapie

3 maanden – 18 sessies

na 1j follow-up: 23% pijn↓  
18% fysiek functioneren↑

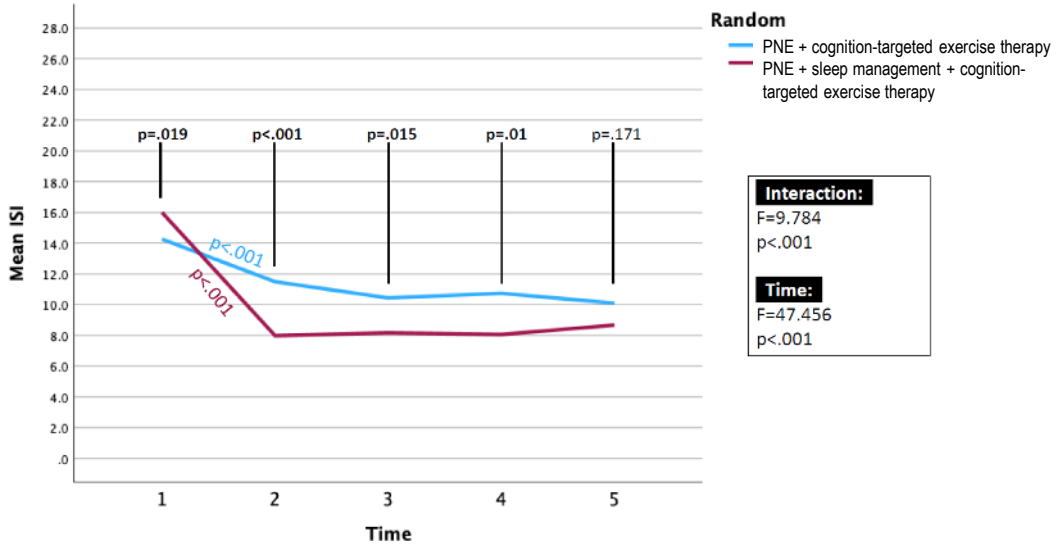
pijneducatie +  
cognitiegerichte  
oefentherapie

3 maanden – 18 sessies

40

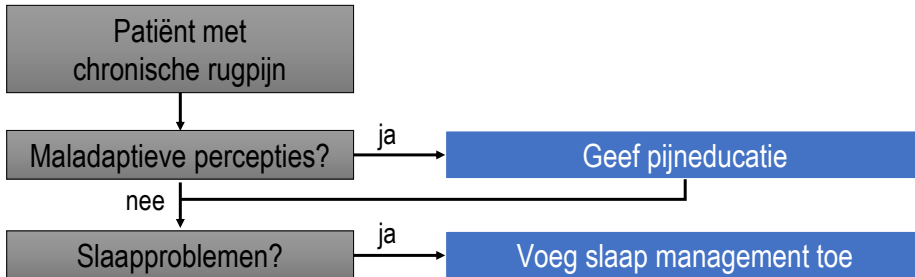
# Insomnia severity index (MCID=6)

Malfliet A, De Baets L, et al. submitted.



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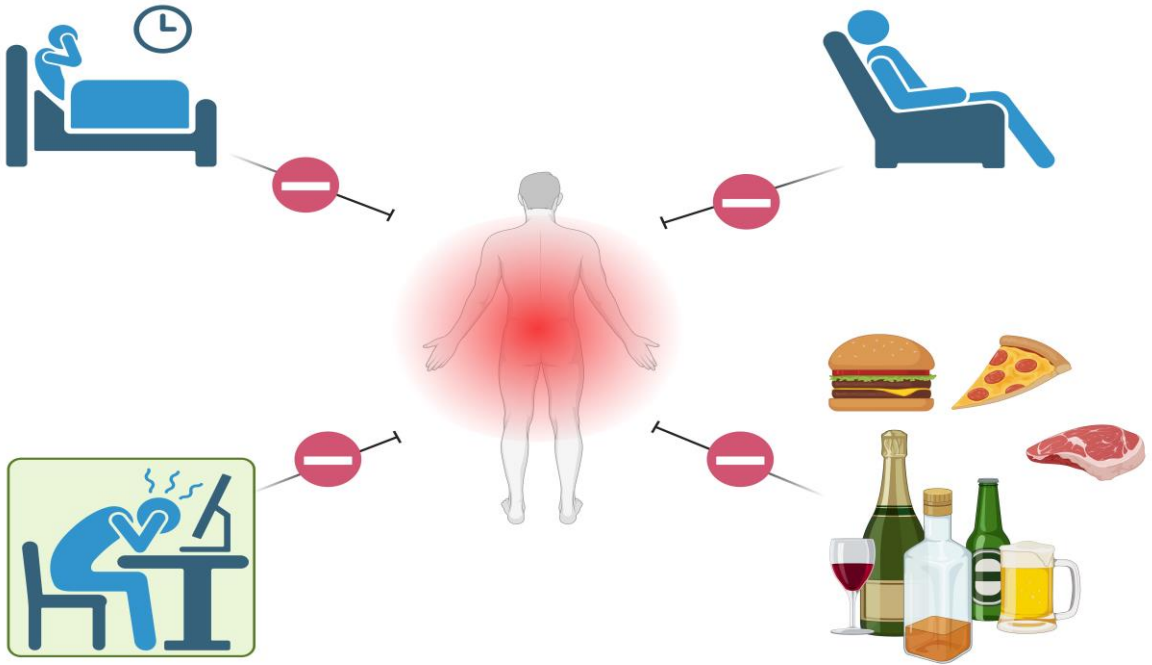
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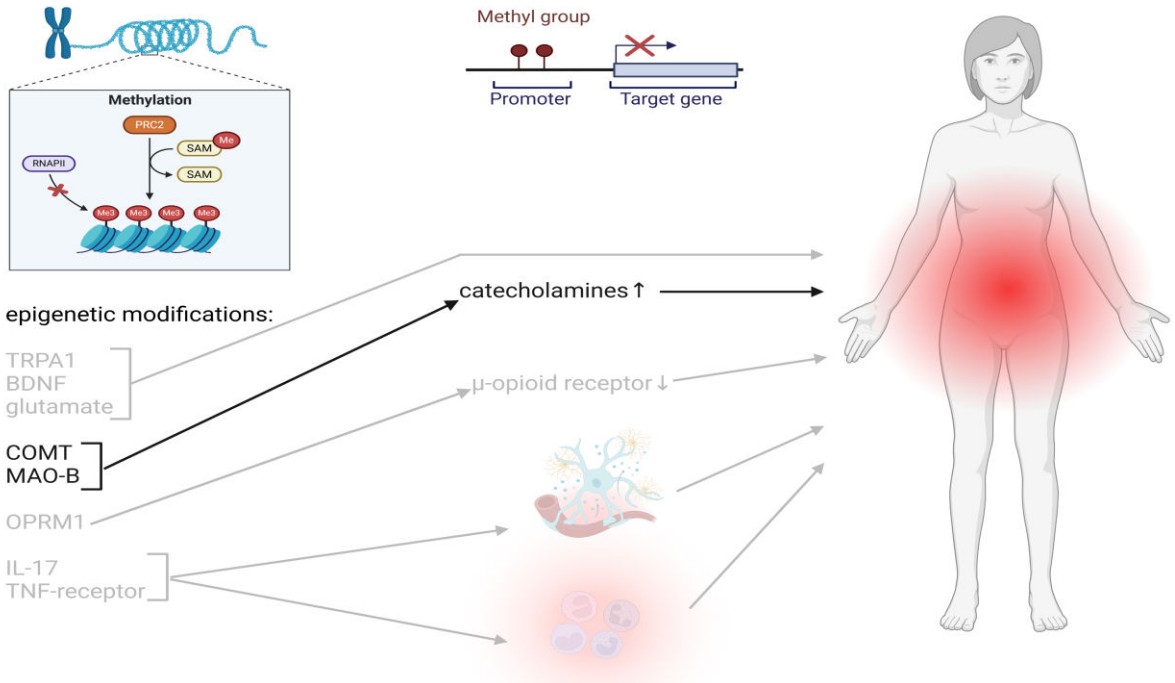
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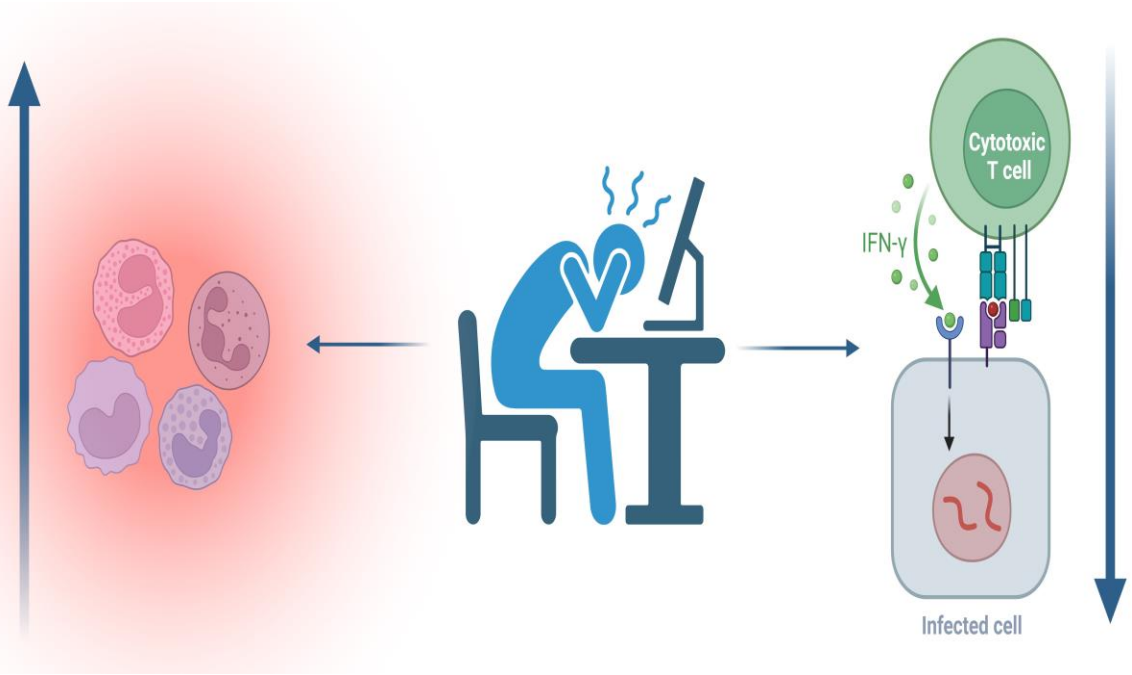
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# Patiënten met aanhoudende pijn hebben vaak een gebrek aan **SOCIALE STEUN**

Hesselman et al. *J Pain Res.* 2016.9:303-10.

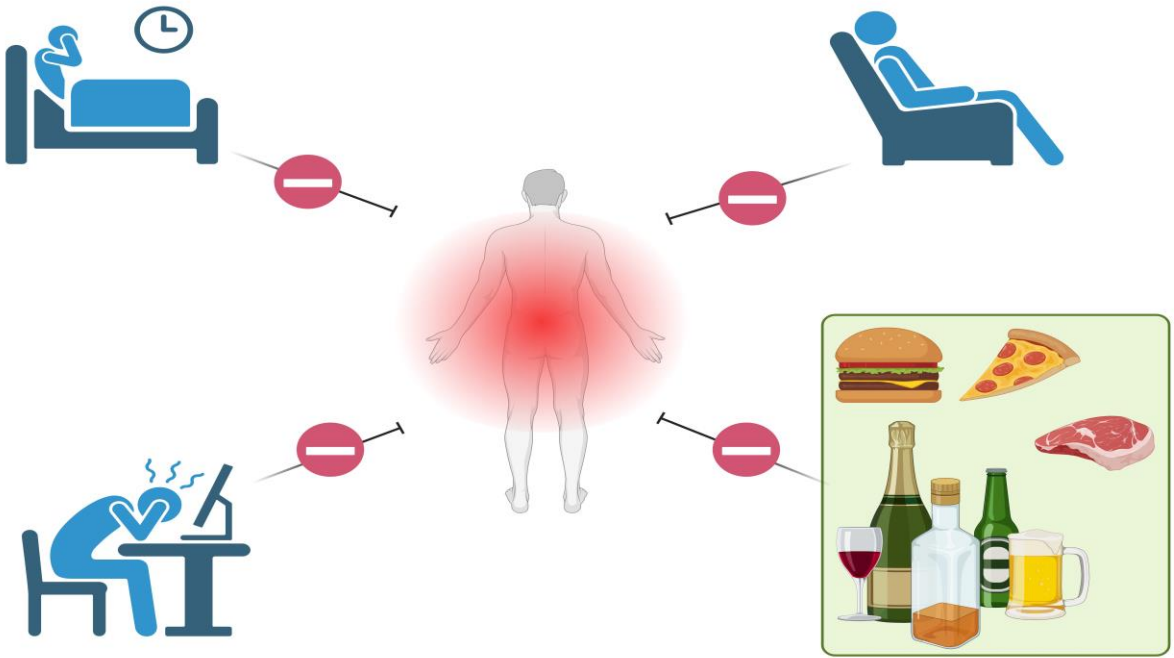
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**Partner = coach die gezonde leefstijl ondersteunt**



Burns et al. *Pain* 2018;159(1):25-32.  
Cano & Tankha. *Pain* 2018;159(1):1-2.

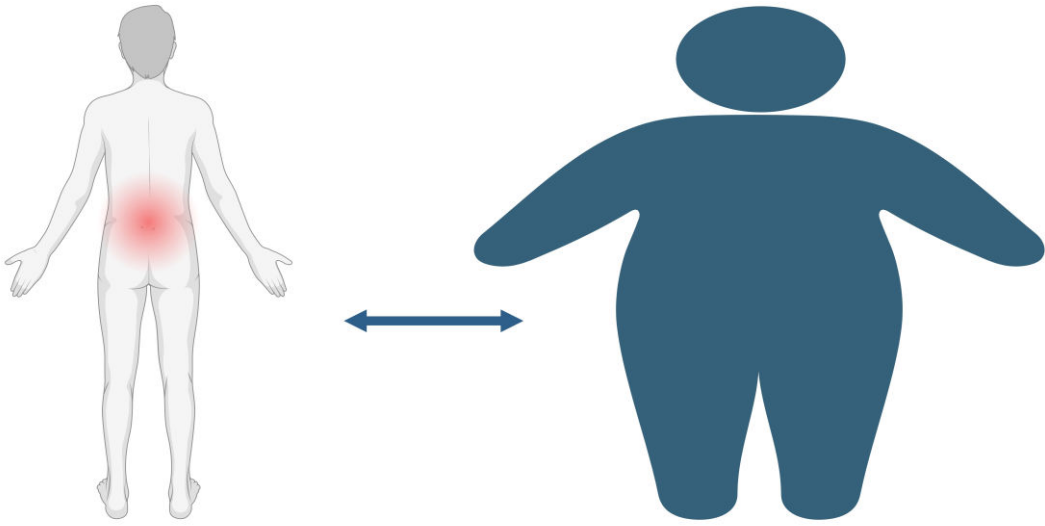
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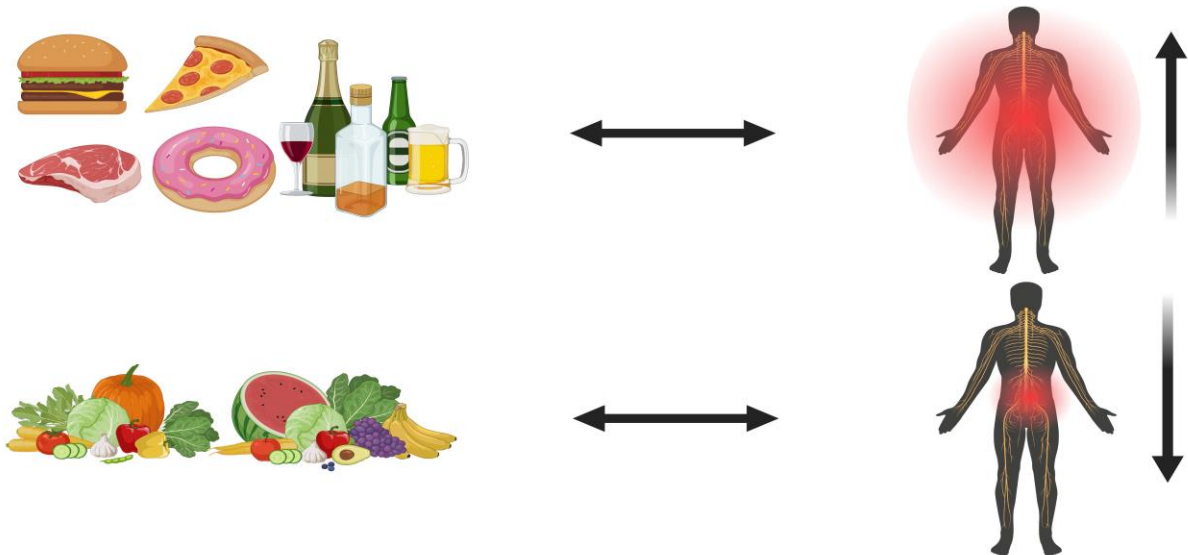


# Obesity hurts!

Malfliet et al. *Phys Ther* 2021; 101(11):pzab198.

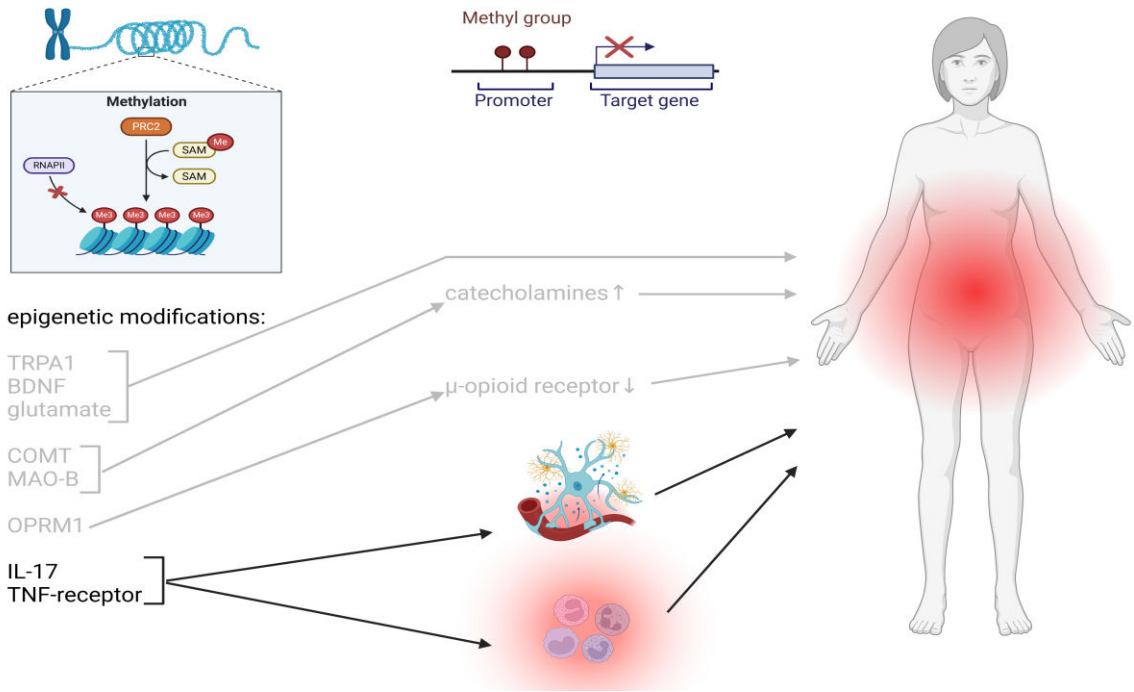
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## Proinflammatory Dietary Intake Relates to Pain Sensitivity in Chronic Low Back Pain



Elma et al. *J Pain* 2023;doi10/1016/j.jpain.2023.08.015

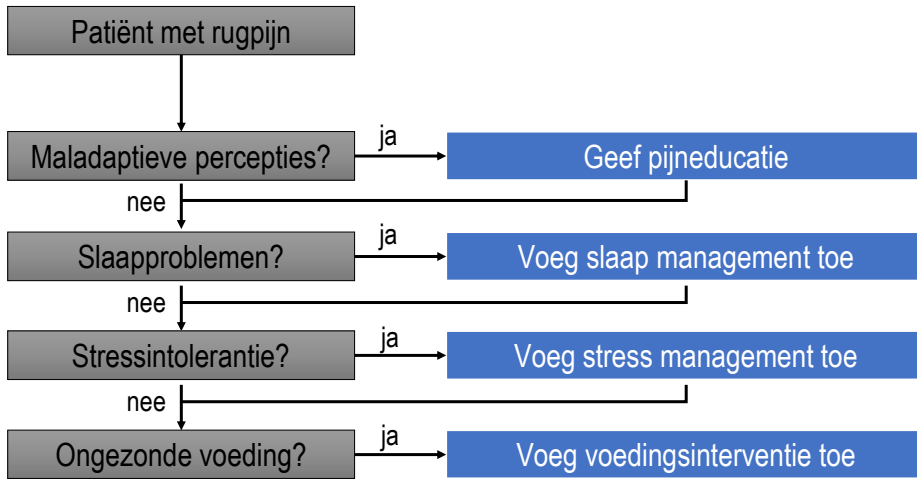
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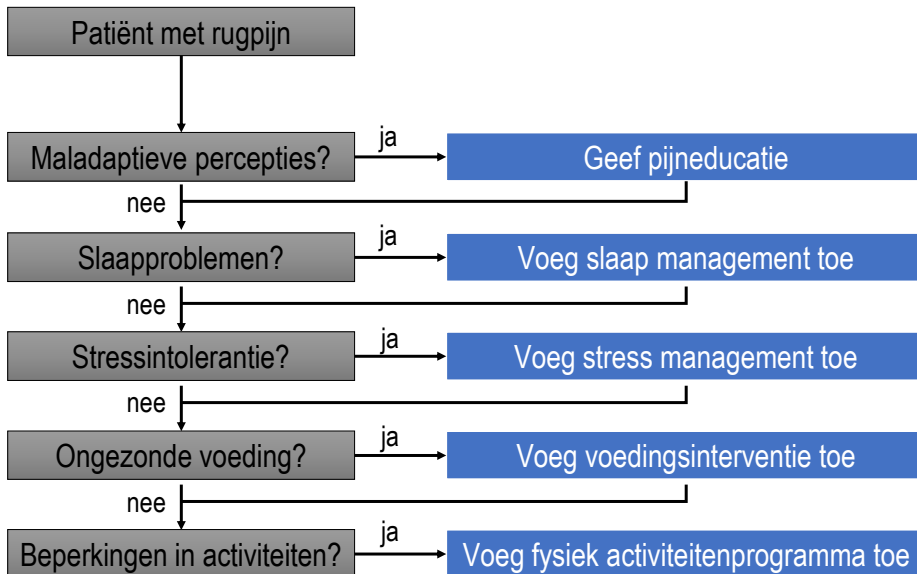
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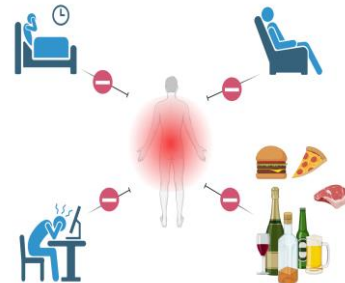
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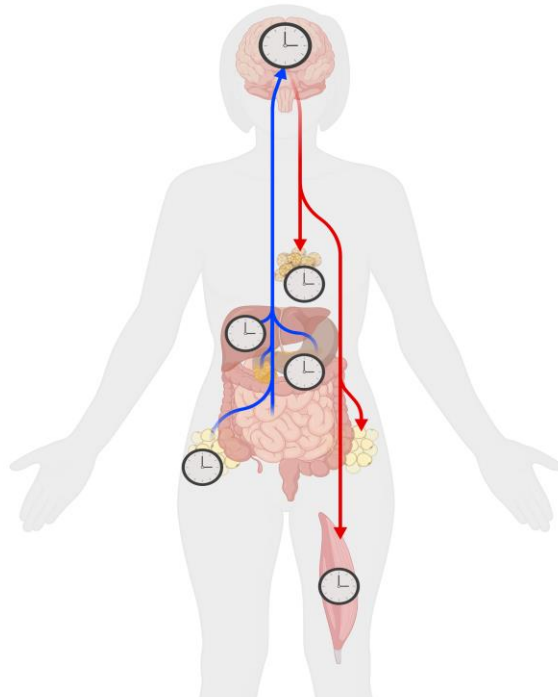
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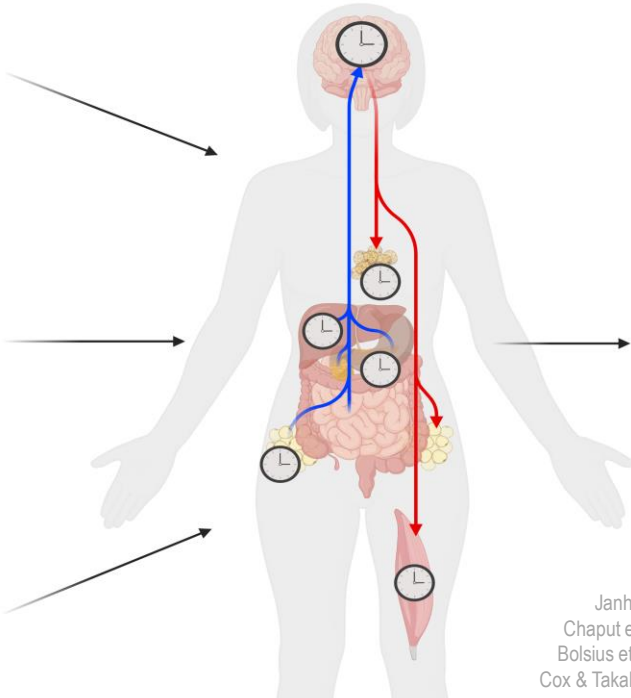


3. Een geïntegreerde systemische leefstijlbenadering

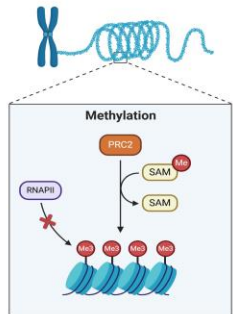
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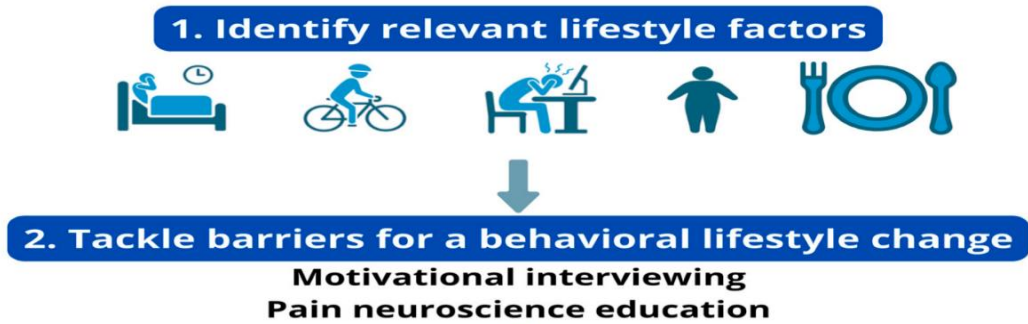


DNA methylation in circadian genes



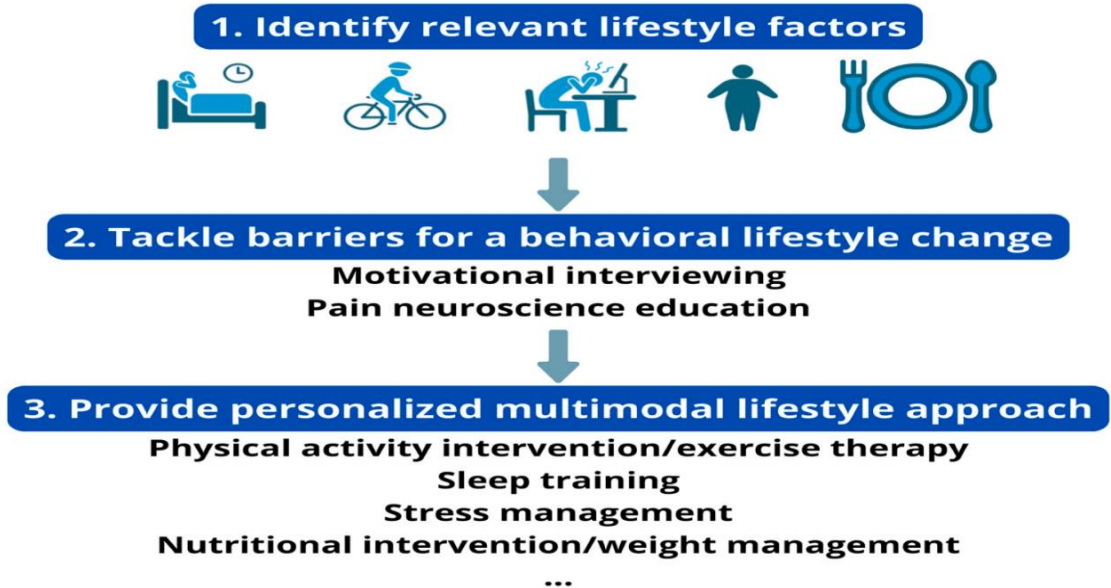
Janhsen et al. *Epigenetics* 2021;16(8):894-907.  
 Chaput et al. *Nat Rev Endocrinol* 2023;19(2):82-97.  
 Bolsius et al. *Biochem Pharmacol* 2021;191:114493.  
 Cox & Takahashi. *J Mol Endocrin* 2019;63(4):R93-102.

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*Journal of Clinical Medicine.* 2024; 13(3):644. <https://doi.org/10.3390/jcm13030644>

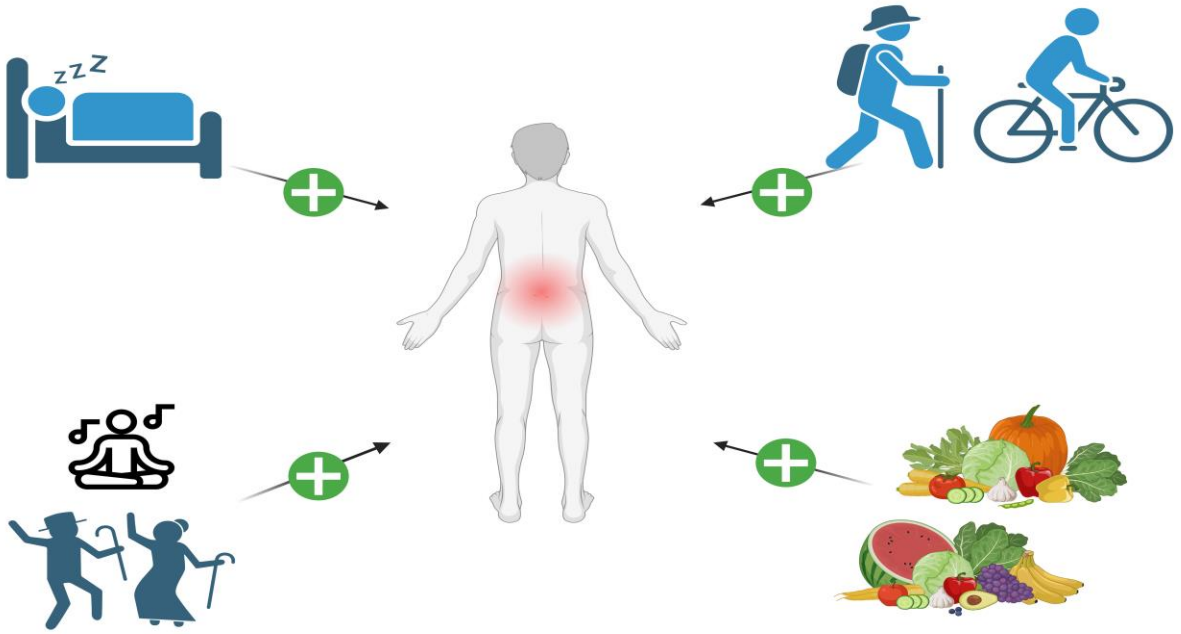
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*Journal of Clinical Medicine.* 2024; 13(3):644. <https://doi.org/10.3390/jcm13030644>

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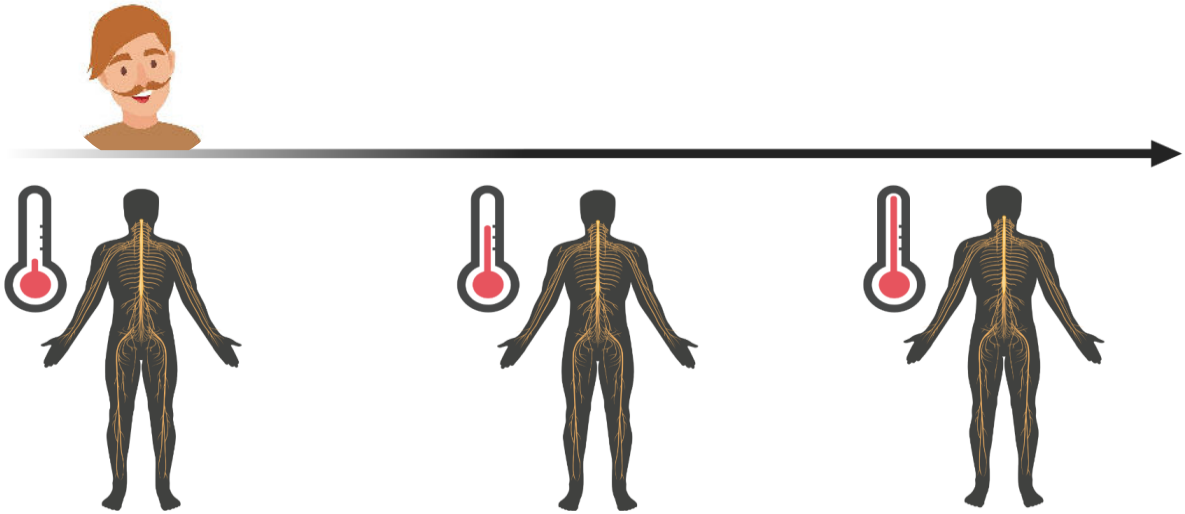




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# The central sensitization continuum

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



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## Samenvattend

1. Leefstijl & langdurige pijn: in the mind or in the genes?

RE: In the epigenome!

2. Waarom L.E. Dos niet goed reageerde op pijneducatie  
+ oefentherapie?

RE: initieel hadden we voorname comorbiditeiten als insomnia, stress intolerantie  
& ongezonde voeding over het hoofd gezien

3. Een geïntegreerde systemische leefstijlbenadering: synchroniseren van de  
circadiaanse klokken om het epigenoom te herprogrammeren

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A banner for 'PAIN IN MOTION' featuring a grayscale background of a person's torso and hands. The text 'PAIN IN MOTION' is displayed in a white, stylized font, with the letter 'O' in 'MOTION' replaced by a brain icon with circuitry. Below the title, the URL 'paininmotion.be/education/refresher-courses' is written in a smaller white font. At the bottom of the banner, five social media icons are arranged horizontally: Facebook, X, Instagram, YouTube, and LinkedIn.

# PAIN IN MOTION

[paininmotion.be/education/refresher-courses](https://paininmotion.be/education/refresher-courses)