



Help!

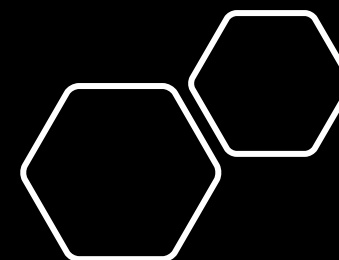
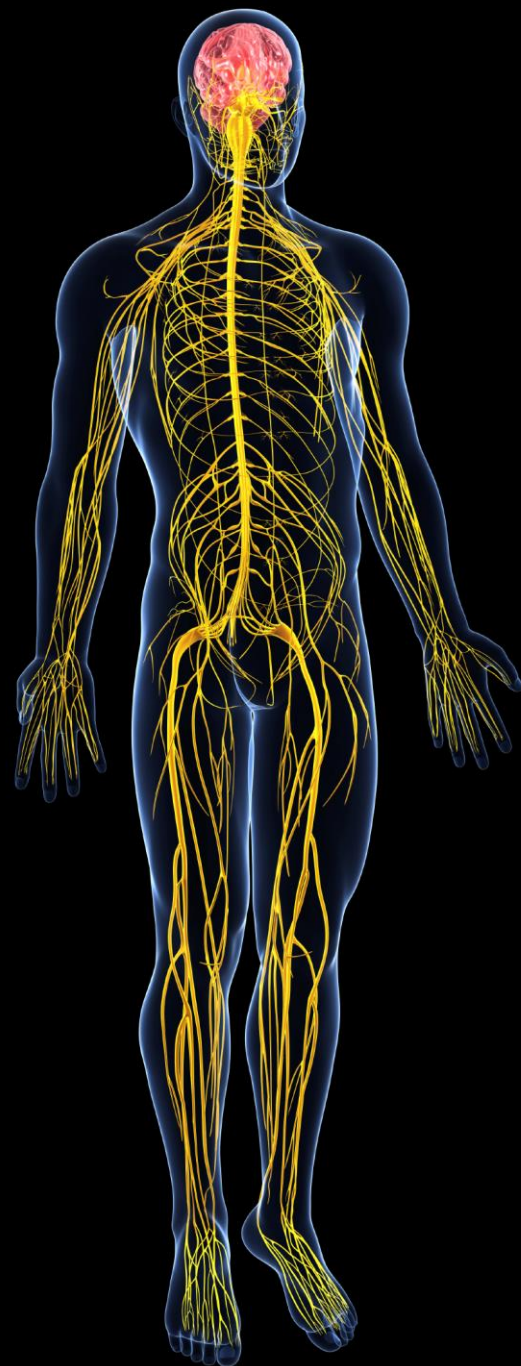
Kortsluiting in ons zenuwstelsel

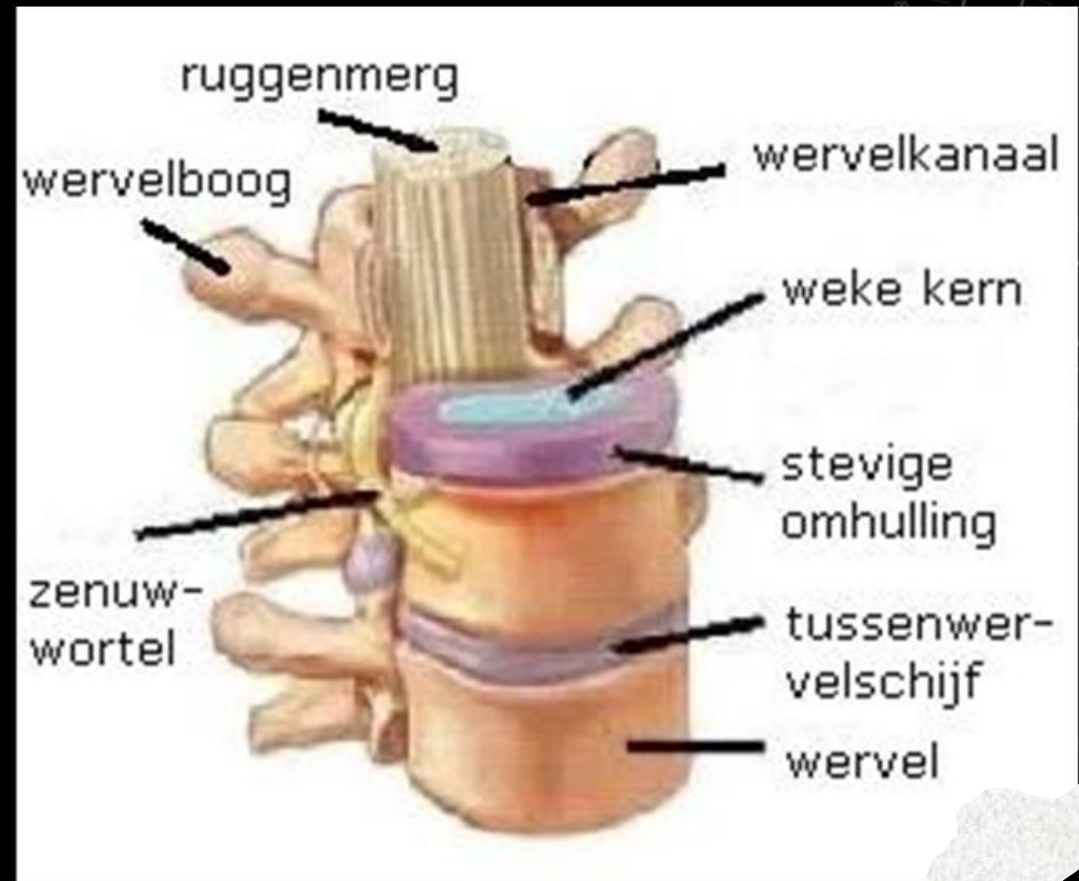
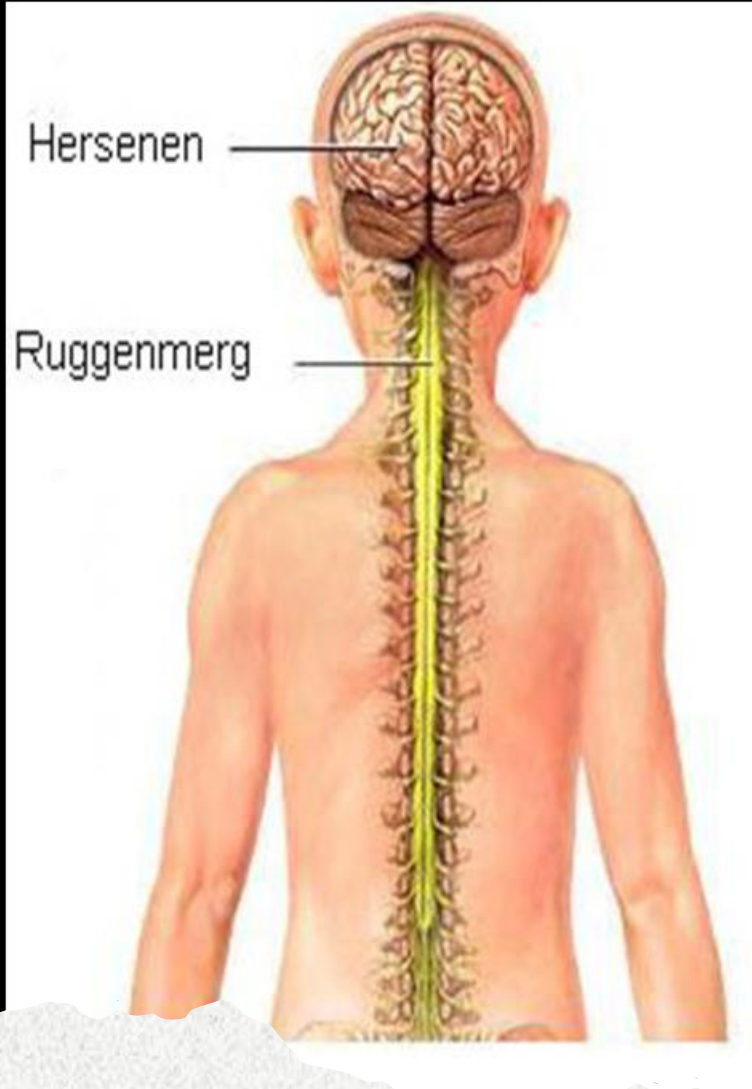
KBO Heesch 31 mei 2024

A grayscale microscopic image of a neuron. The central cell body (soma) is dark and contains a prominent, dark, circular nucleus. Numerous dendrites extend from the soma, branching out in various directions. The background is a lighter, textured gray, possibly representing other tissue or a different layer of the same tissue.

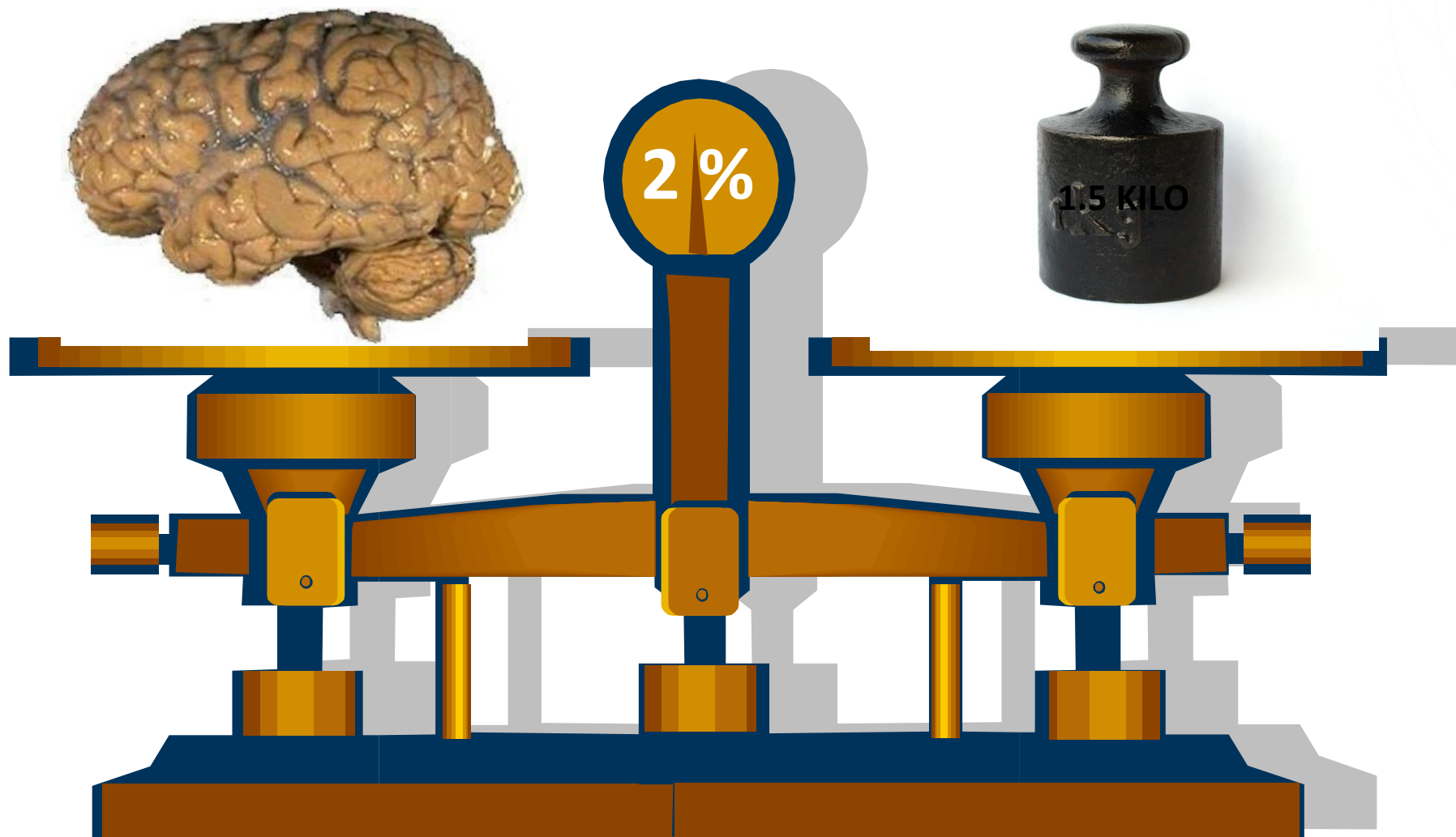
Het zenuwstelsel











Human



Elephant



Dolphin



Gorilla



Dog



Cat



Macaque



Mouse

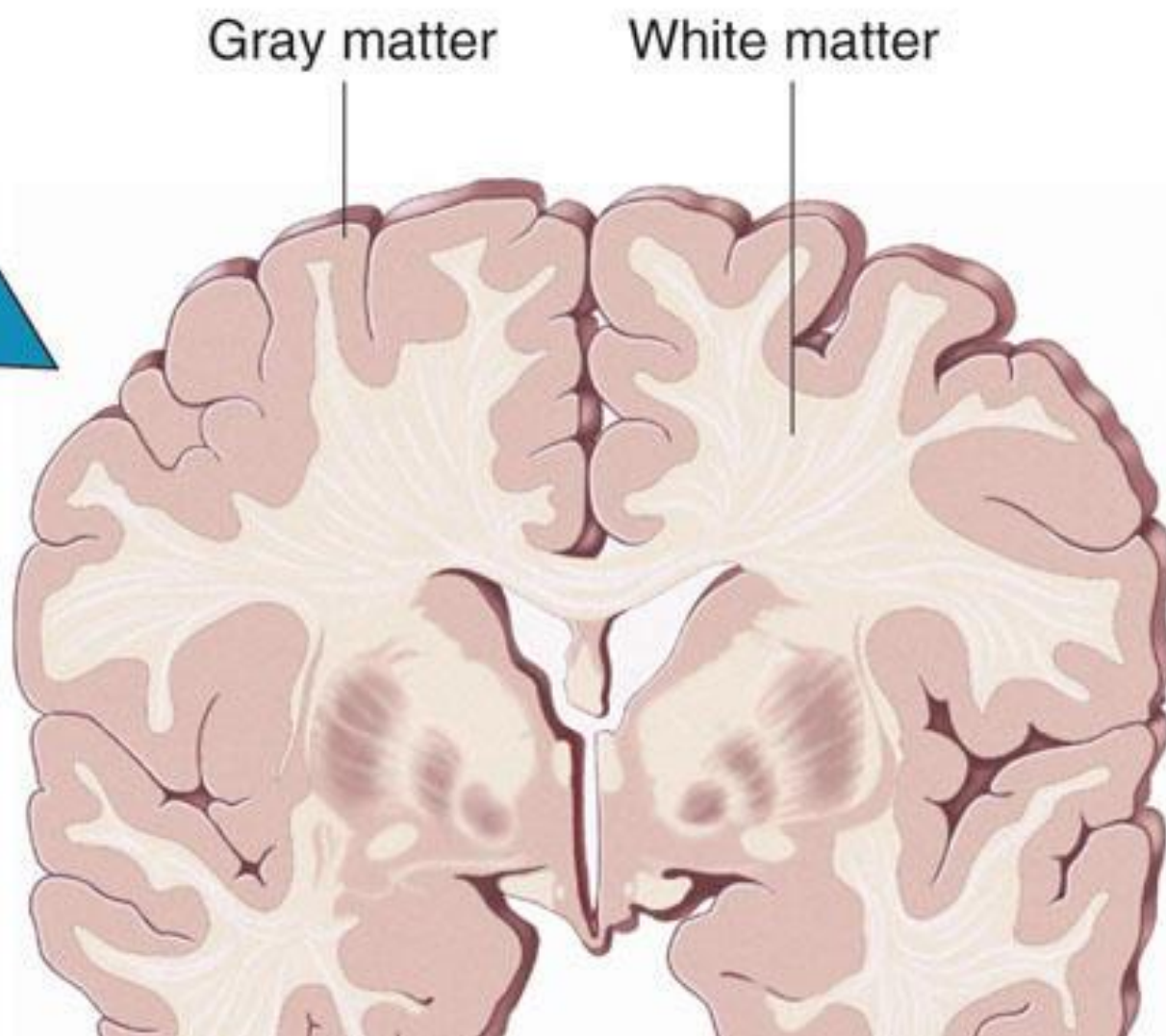
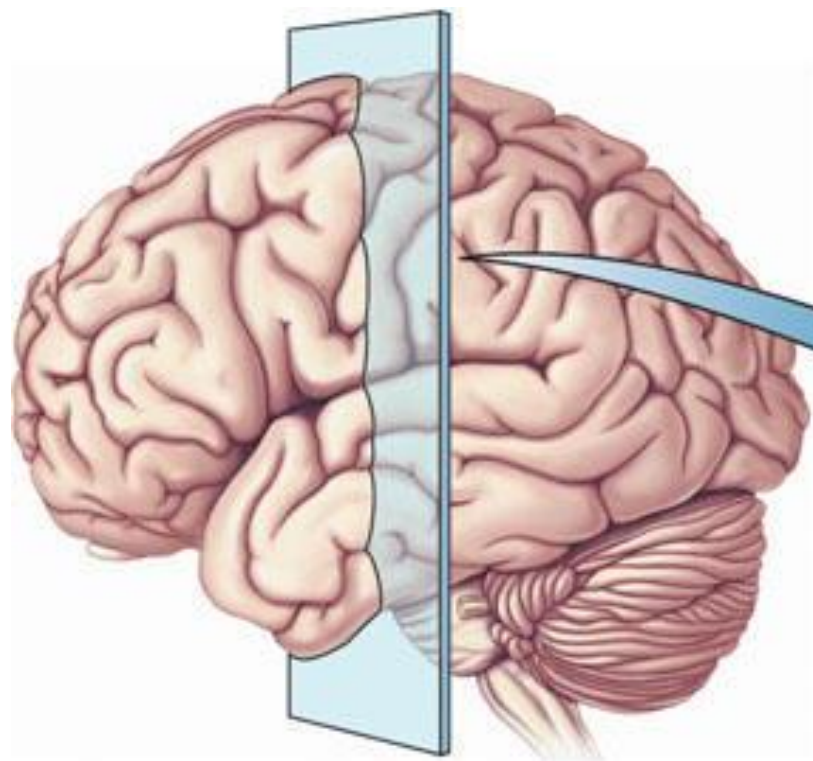


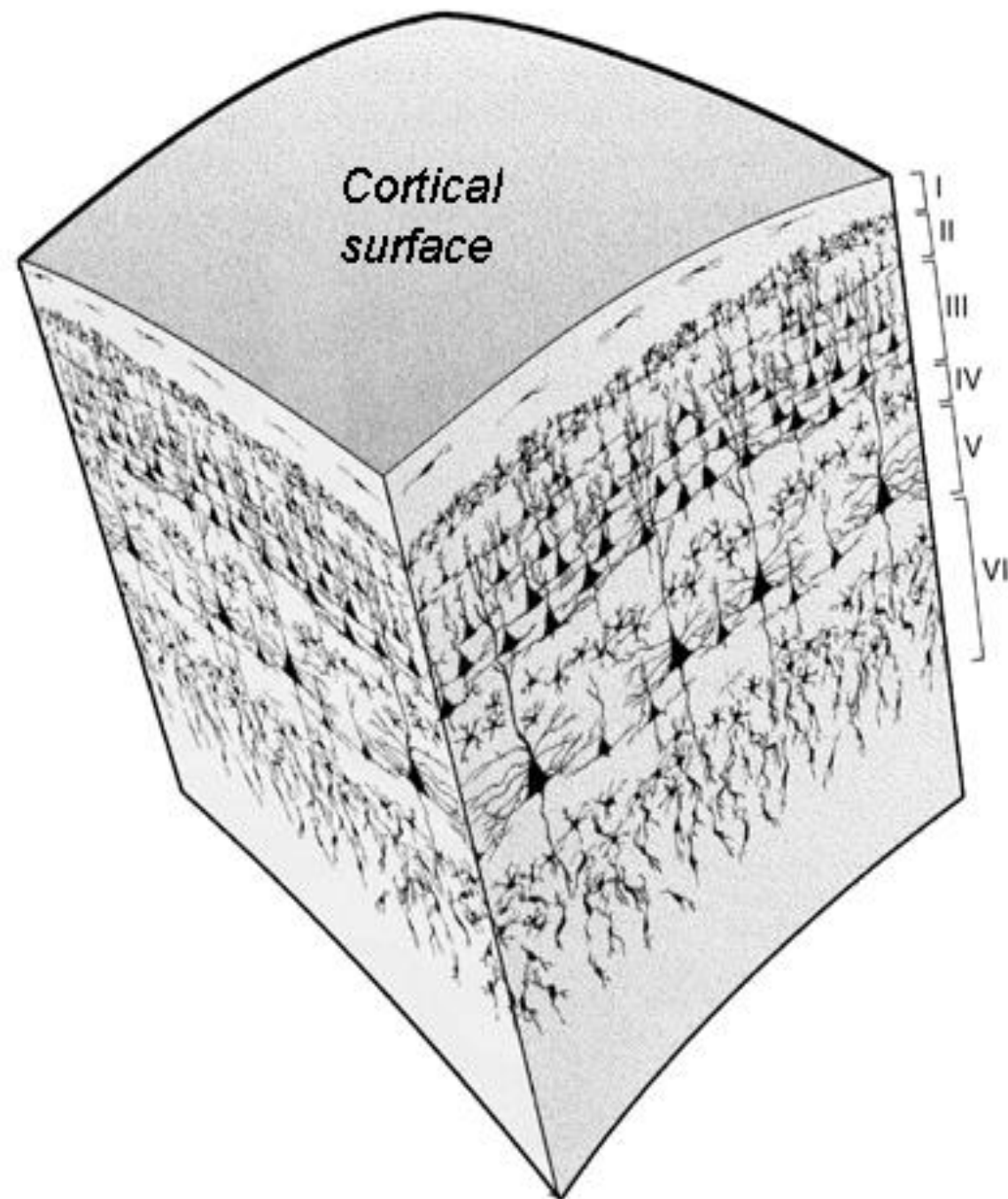
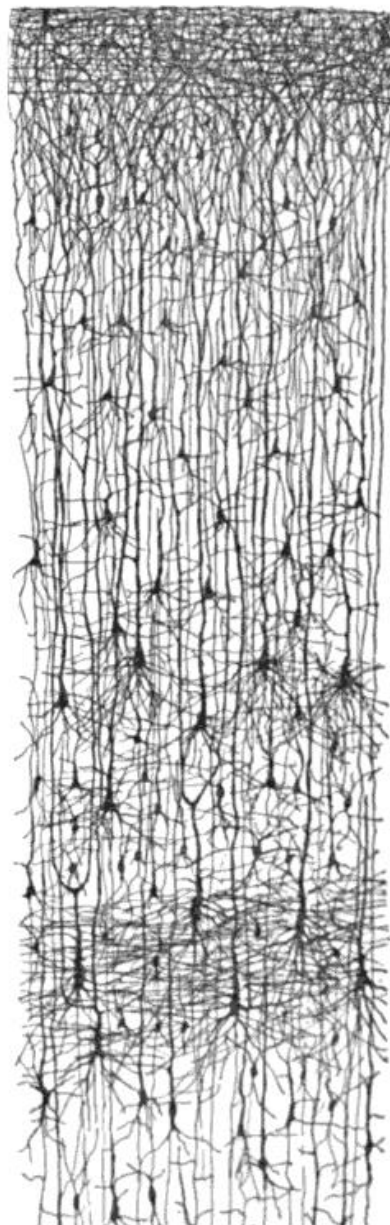
5cm

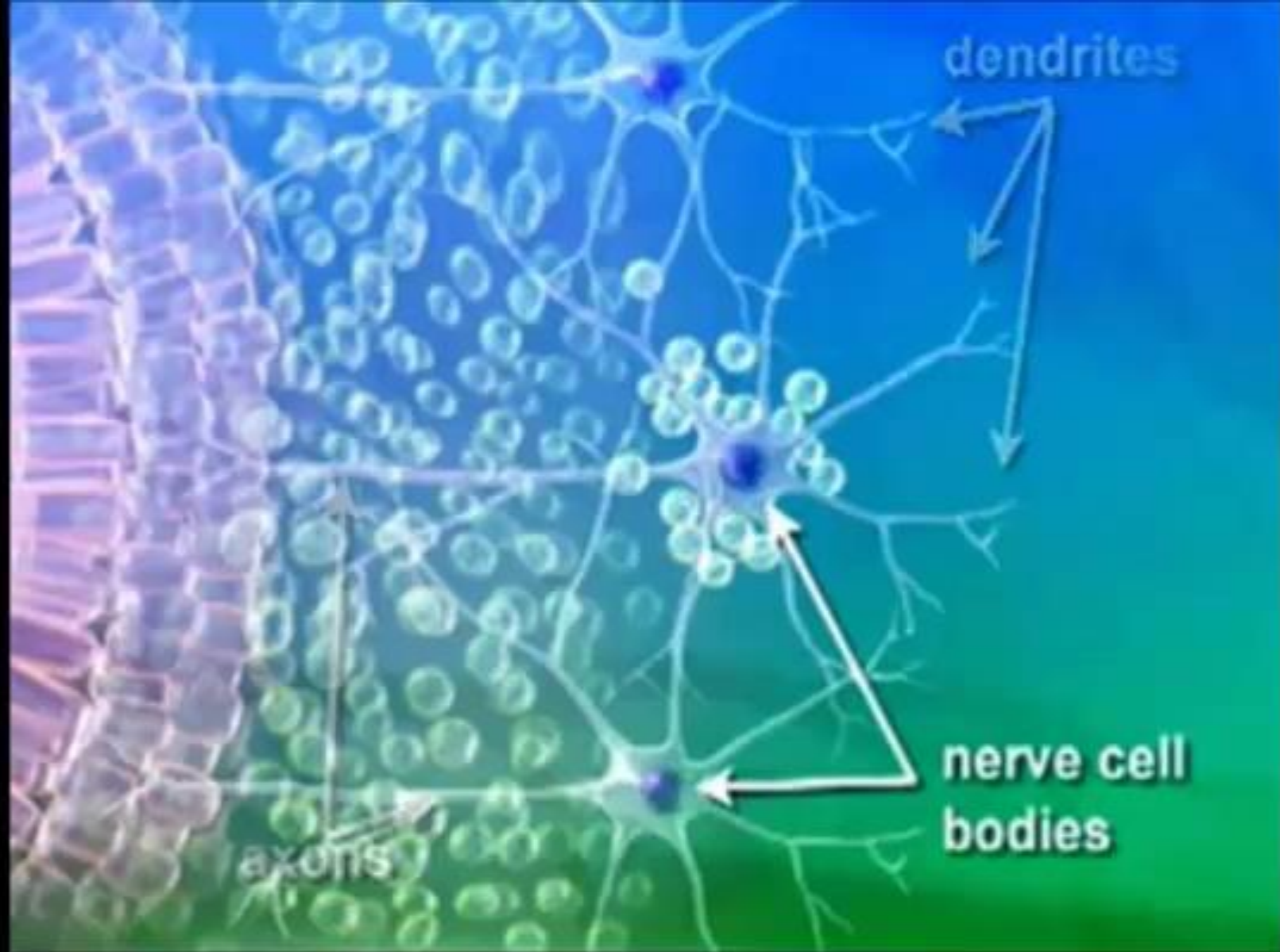


A microscopic image of several neurons. The central neuron is large and has a prominent, textured, orange-brown cell body (soma) with a bright highlight. It has several long, thin, branching processes (dendrites and an axon) extending outwards. Other smaller neurons are visible in the background, some with similar orange-brown cell bodies and others with darker, more rounded ones. The background is a light, hazy grey. Overlaid on the image is the text "100 miljard" in a bold, red, sans-serif font.

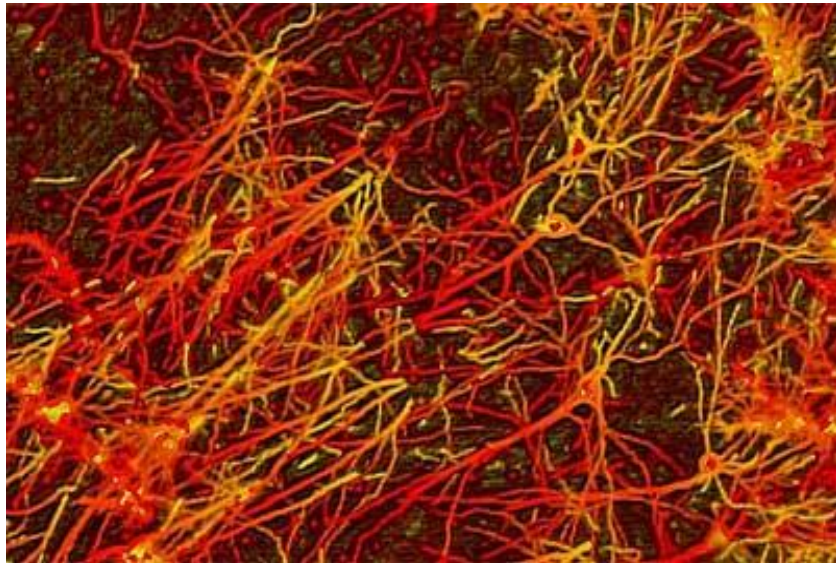
100 miljard



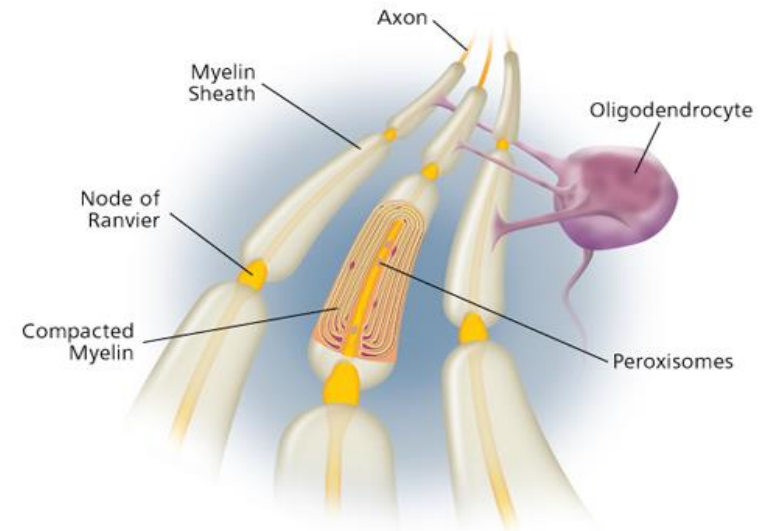


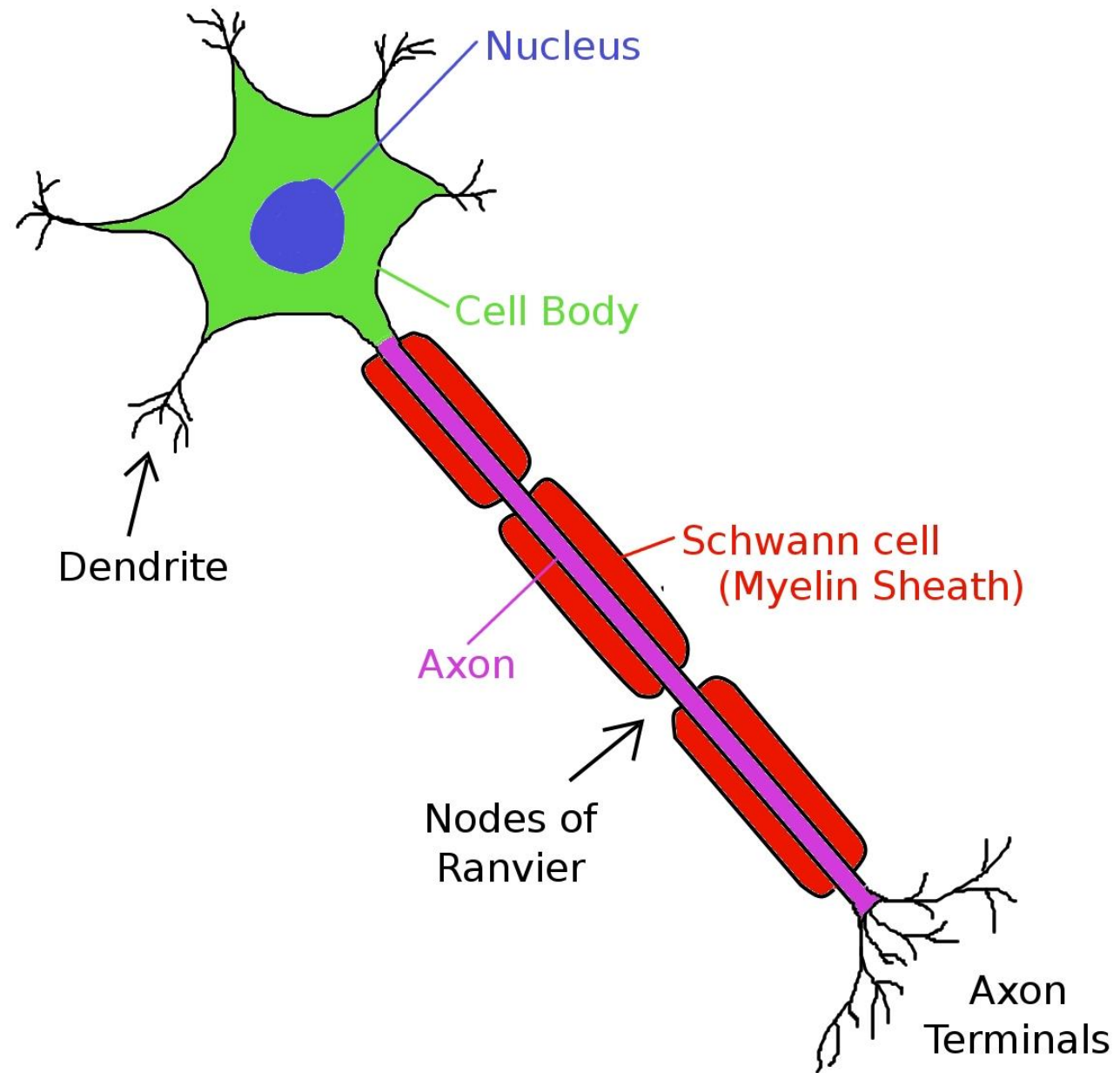


Synaptogenesis is the process in which synapses proliferate in the brain.



Ripping →





A microscopic image of a neuron, showing its cell body and branching processes. Several points of connection (synapses) are highlighted with bright orange and yellow glows. The background is a light gray, and the neuron's processes are dark gray.

5000 verbindingen

500.000.000.000.000
schakelingen

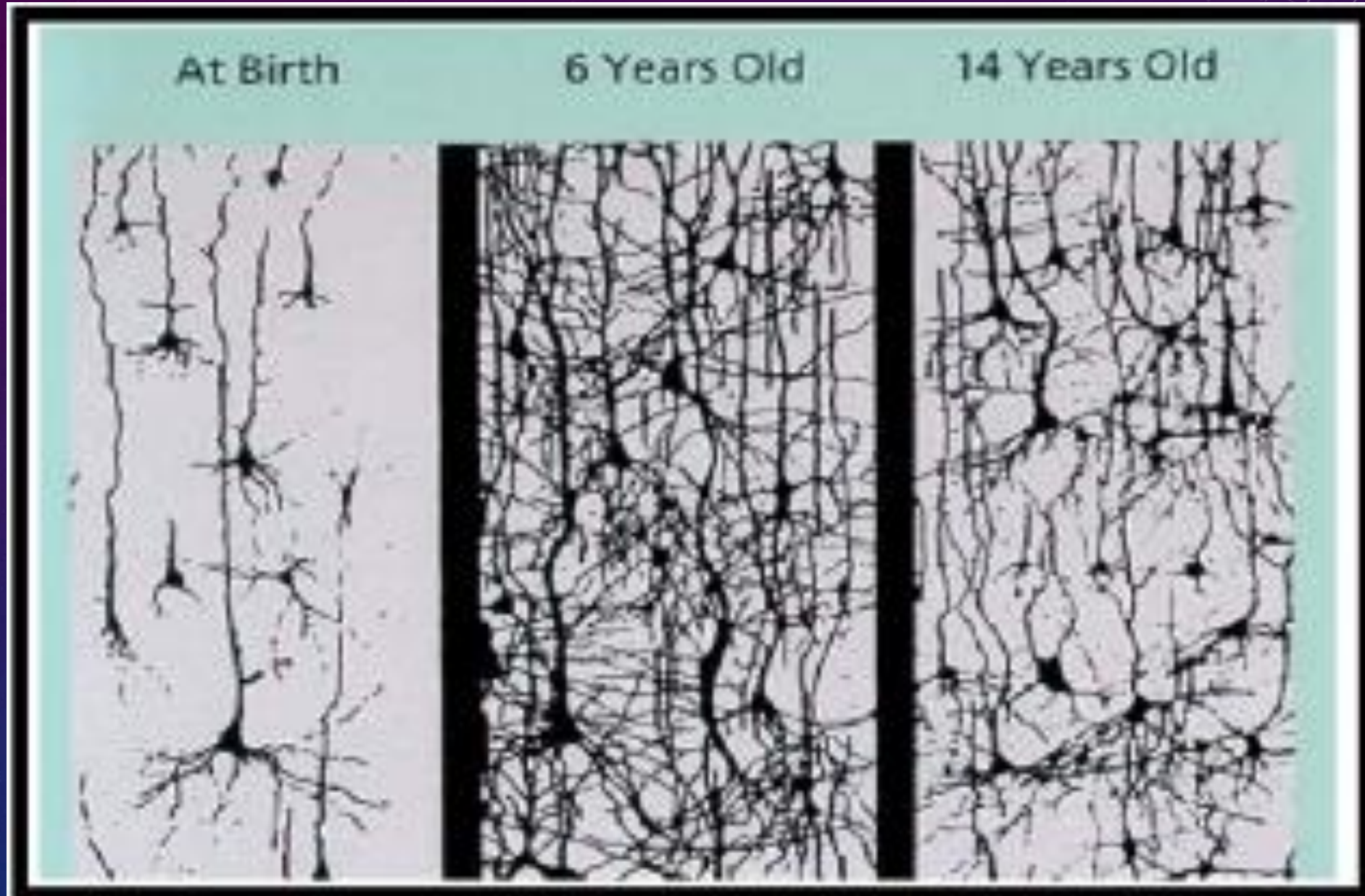
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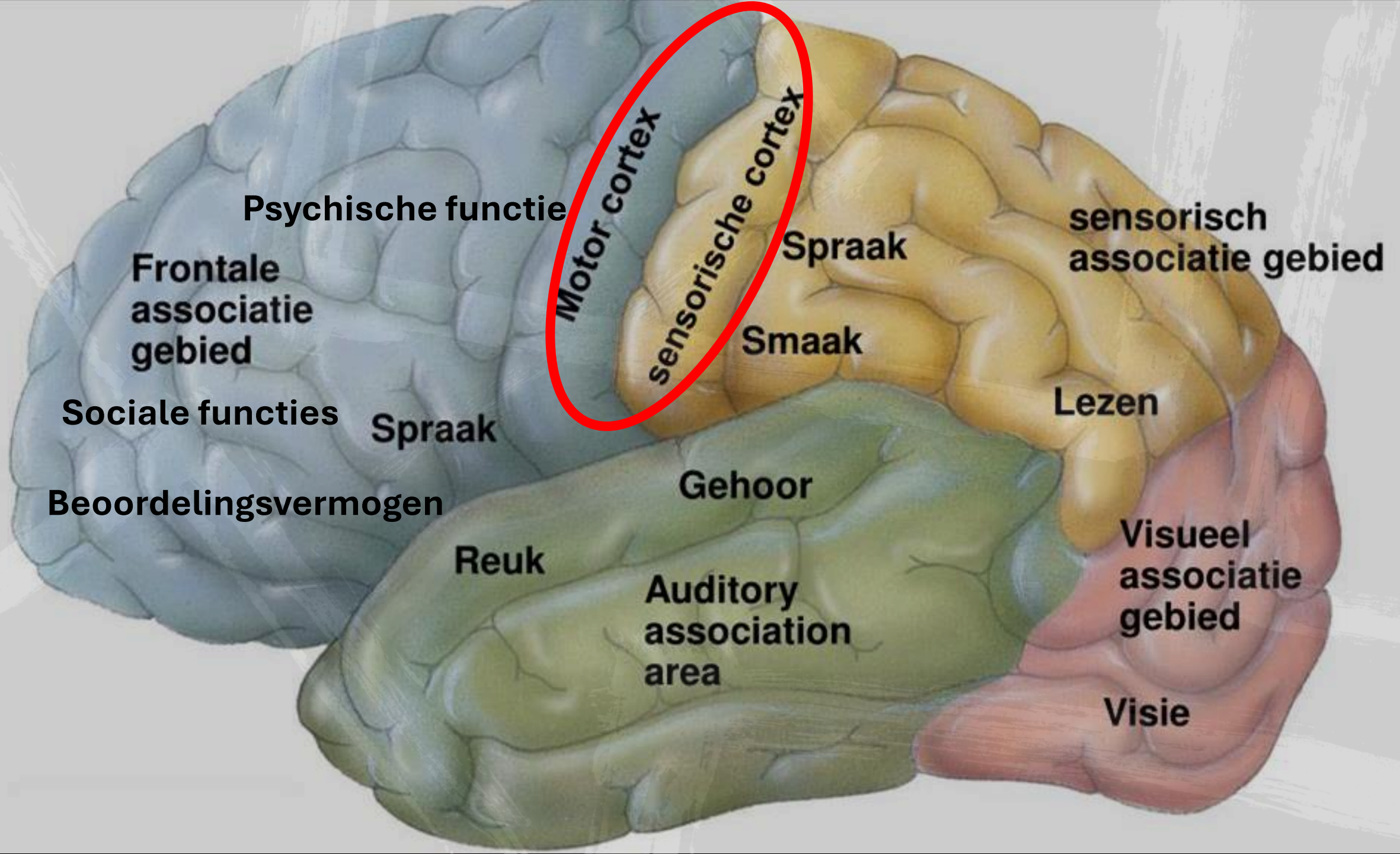
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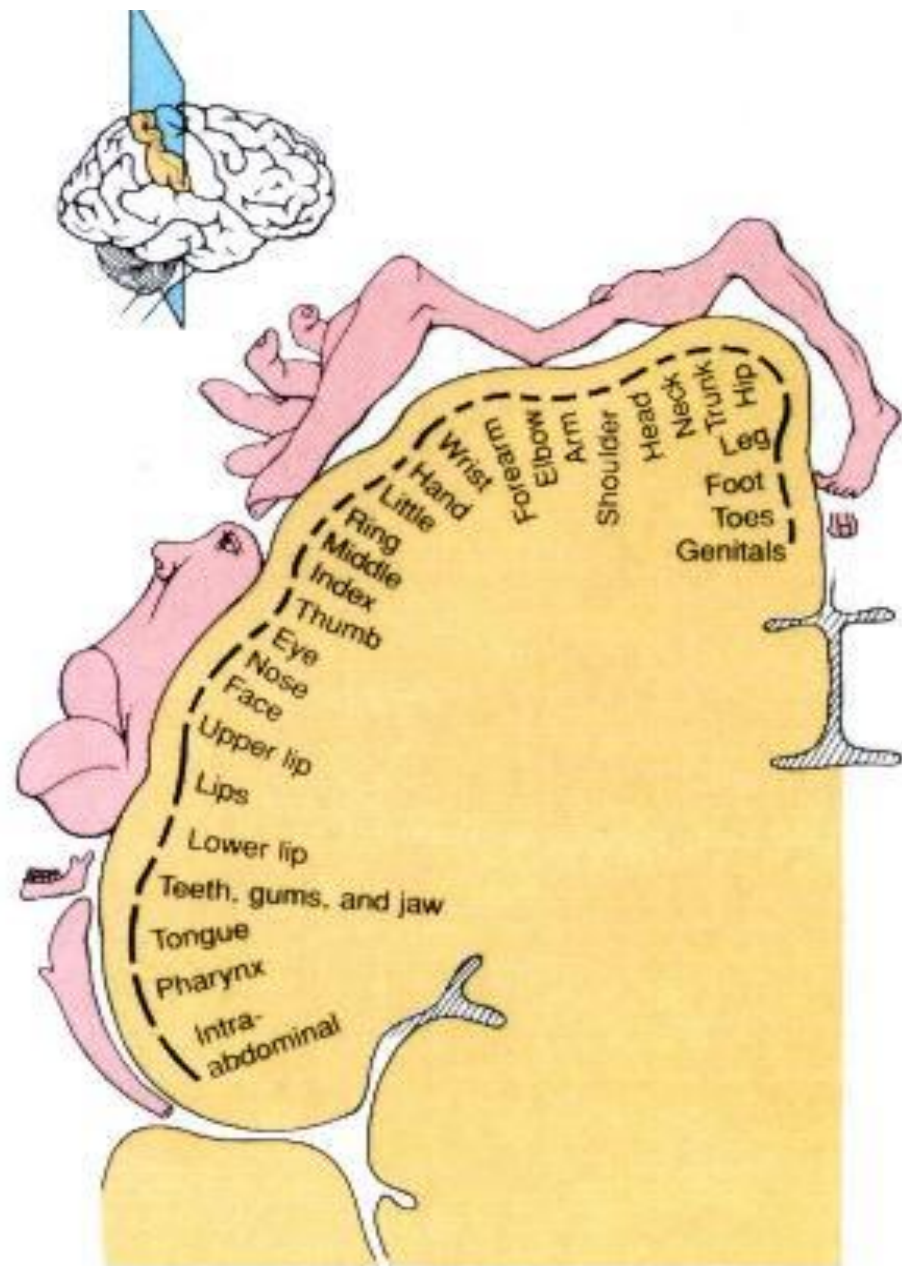
Bij geboorte nog weinig verbindingen. Nemen toe door indrukken en leren. Vooral eerste jaren veel indrukken dan veel nieuwe netwerken.



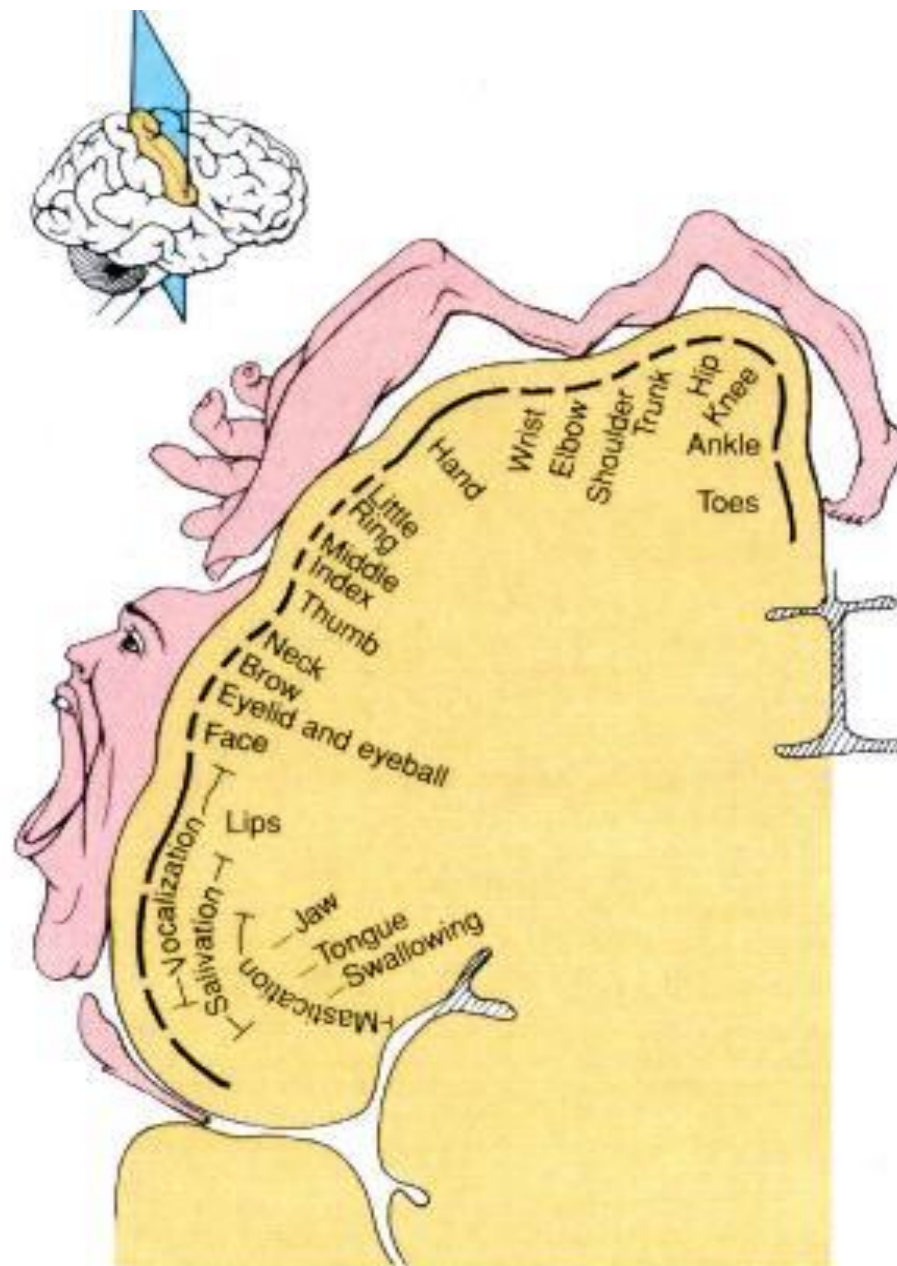








(a) Somatosensory cortex in right cerebral hemisphere



(b) Motor cortex in right cerebral hemisphere





28 miljard boeken

00:00 - 09:00



NATS

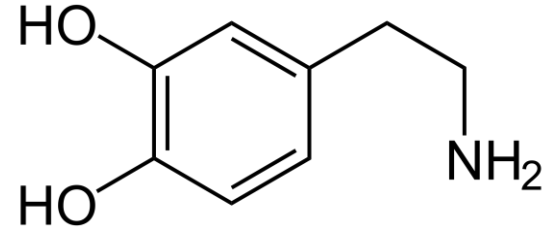


AN
E S S A Y
ON THE
SHAKING PALSY.

BY
JAMES PARKINSON,
MEMBER OF THE ROYAL COLLEGE OF SURGEONS.

LONDON:
PRINTED BY WHITTINGHAM AND ROWLAND,
Crown Street.
FOR SHERWOOD, NEELY, AND JONES,
PATERNOSTER ROW.
1817.

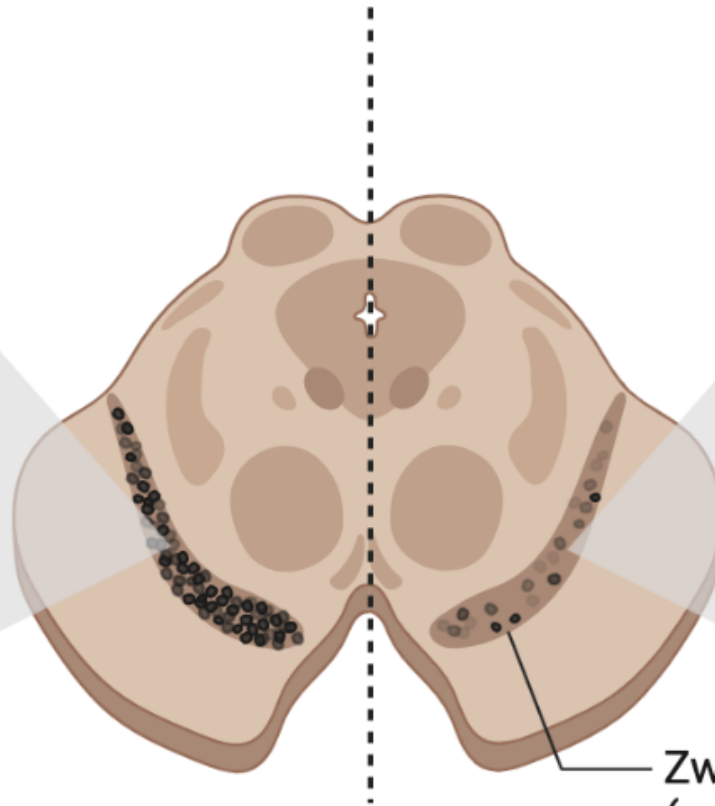
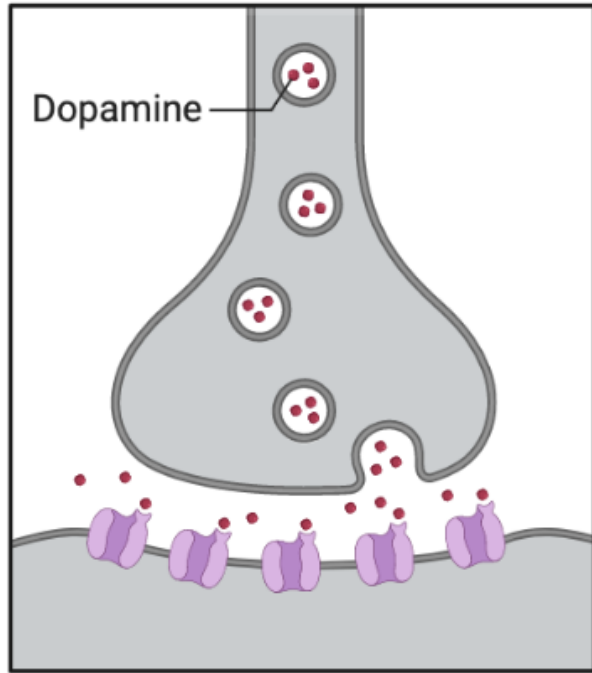
Dopamine



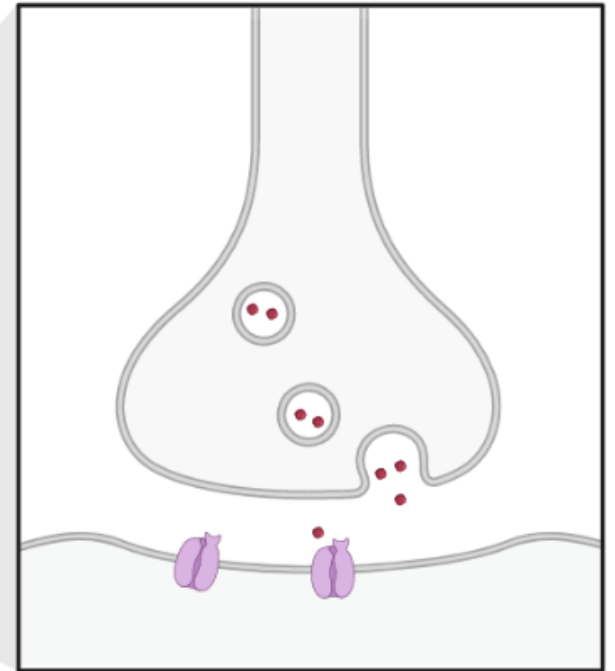
- **Beweging**
- **Genot**
- **Aandacht**
- **Stemming**
- **Motivatie**



Gezond



Parkinson



Zwarte kern
(substantia nigra)

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Tabel van grafiek: **Nieuwe gevallen parkinsonisme in huisartsenpraktijk 2021**

Y-as: Per 1.000 personen

Category	Mannen	Vrouwen	Totaal
0-4	0	0	0
5-9	0	0	0
10-14	0	0	0
15-19	0	0	0
20-24	0	0	0
25-29	0	0	0
30-34	0	0	0
35-39	0	0	0
40-44	0	0	0
45-49	0	0	0
50-54	0.1	0.1	0.1
55-59	0.3	0.2	0.2
60-64	0.5	0.2	0.3
65-69	1.1	0.5	0.8
70-74	1.8	1.2	1.5
75-79	3	1.1	2
80-84	3.3	1.5	2.3
85+	2.1	0.9	1.3

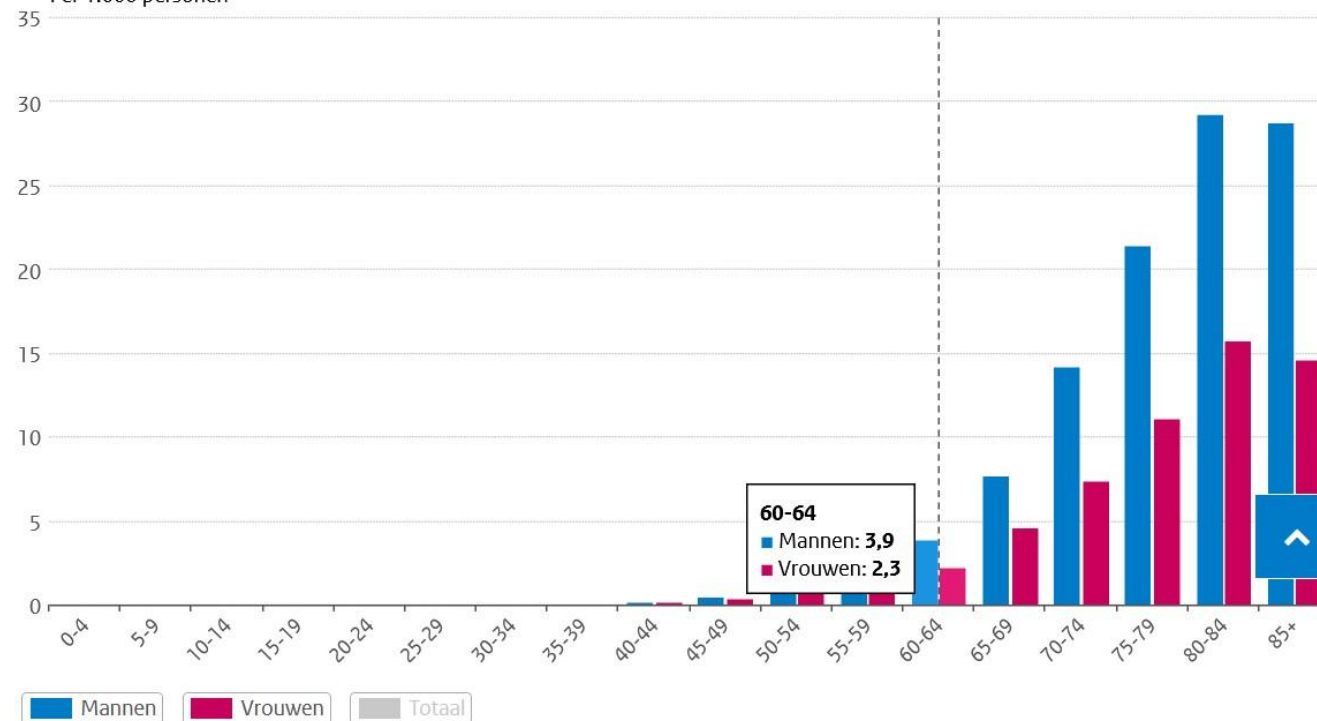
Bron: [Nivel Zorgregistraties eerste lijn](#)

55000



Jaarprevalentie parkinsonisme in huisartsenpraktijk 2021

Per 1.000 personen



OORZAKEN

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symptomen

Bewegingsproblemen

symptomen van de ziekte van Parkinson



Moeite met kleine bewegingen, zoals je knoopjes dichtmaken, veters strikken of mobiel gebruiken



Stijve spieren



Trillen van je hand, arm of been terwijl je deze niet gebruikt



Trager bewegen van handen of benen

Niet-bewegingsproblemen

Moeite met slapen

Dromen uitleven

Slechter ruiken

Problemen met ontlasting

Trager denken

Een angstig gevoel

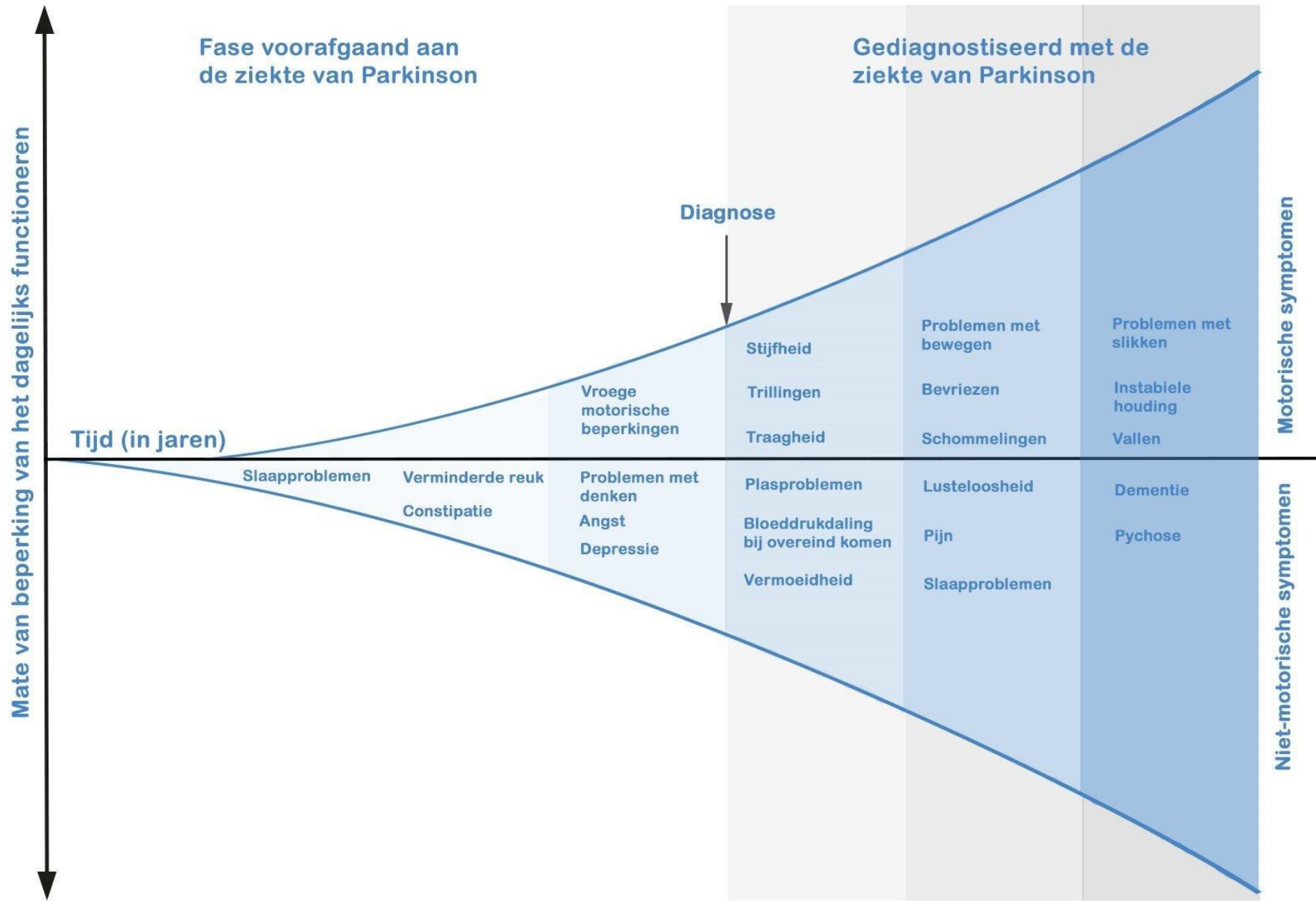
Een depressie

Moeheid

Dementie

symptomen van de ziekte van Parkinson





Diagnostiek

Typische klachten

- Voorovergebogen houding van de romp

- Moeite met omdraaien in liggende houding (door axiale rigiditeit)
- Snelle vermoeidheid
- Valincidenten

- Ongewild versnellen van het lopen (propulsie)

- Schuifelend lopen

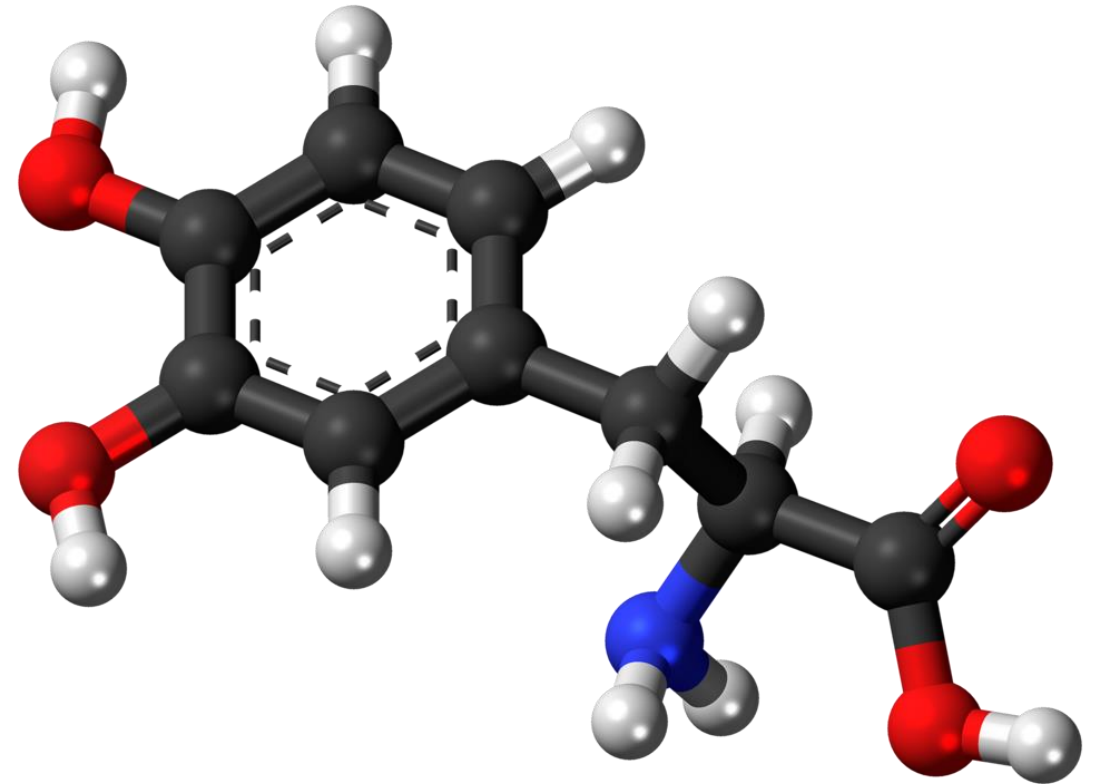


- Vlakke gelaatsuitdrukking (maskergelaat)
- Zacht, monotoon en moeilijk verstaanbaar praten (hypofone dysartrie)
- Moeite met slikken (dysfagie)
- Kauwstoornissen
- Kwijlen (als gevolg van minder slikken)

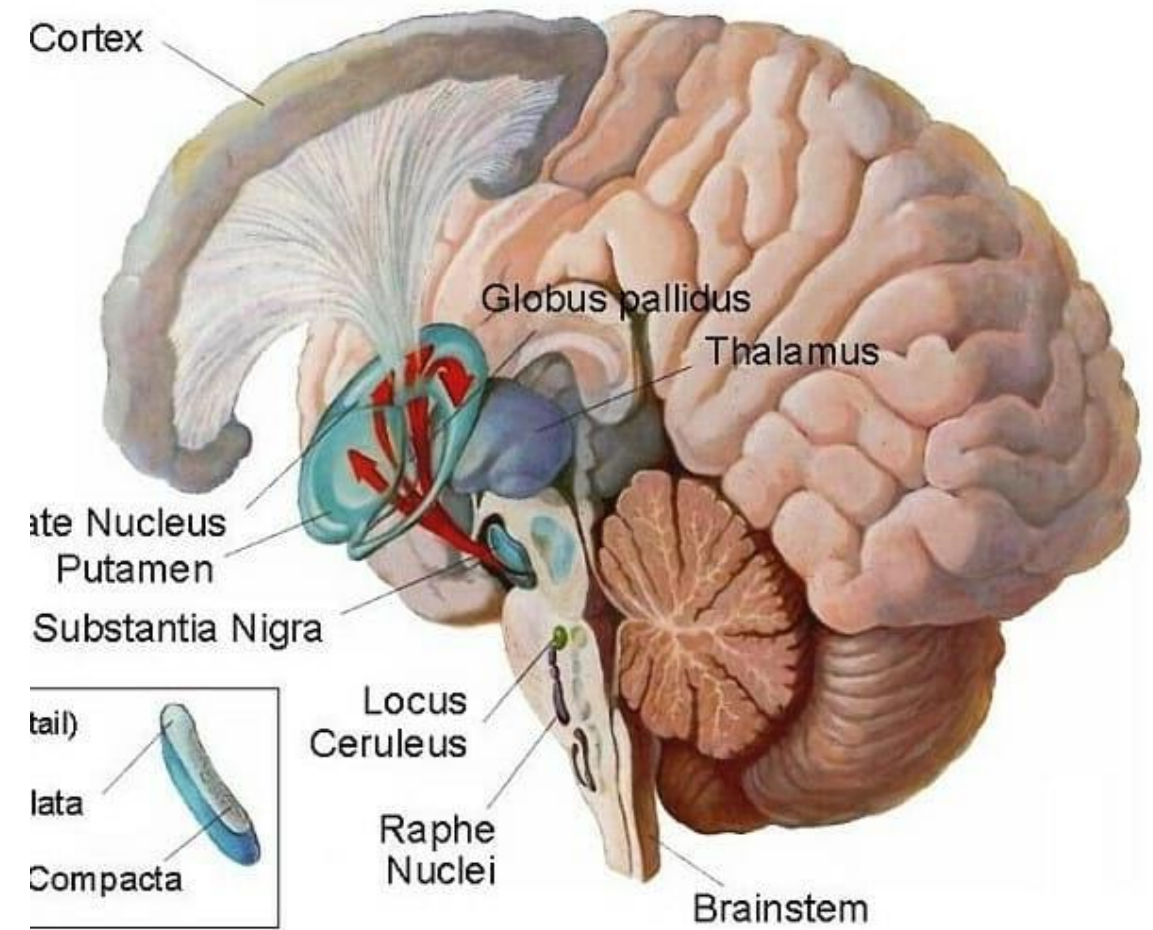
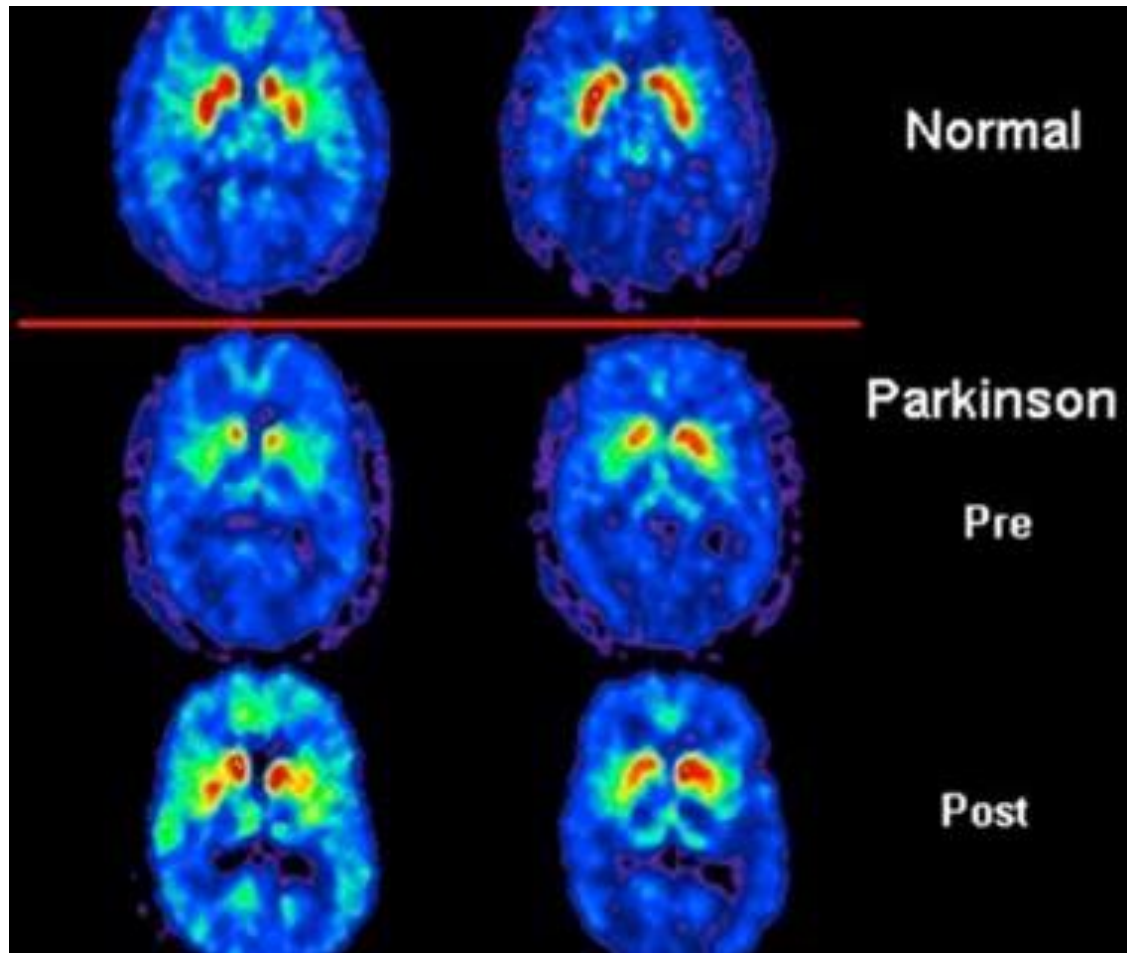
- Moeite met schrijven en kleinere letters schrijven dan gebruikelijk (micrografie)

- Loopblokkaden alsof de voeten aan de vloer blijven kleven of eraan vastgevroren zitten ('freezing')

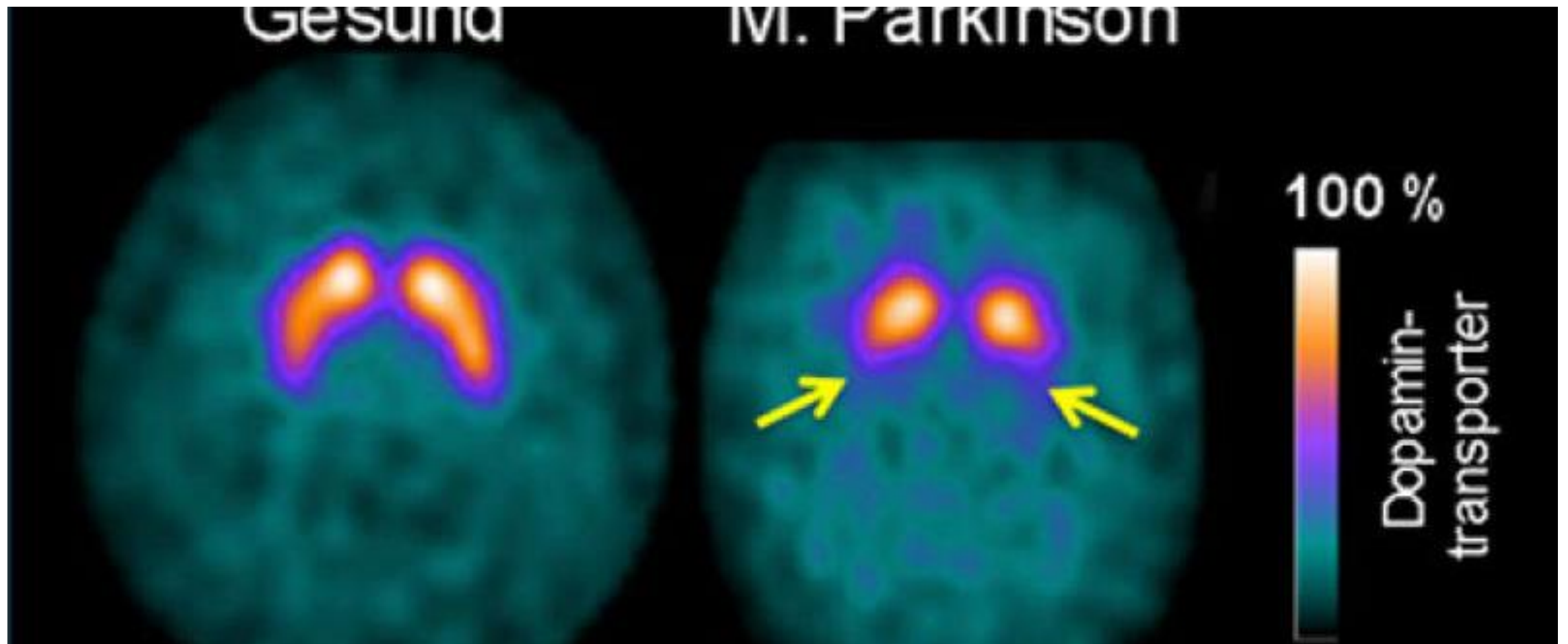
Proefbehandeling met Parkinsonmedicijn

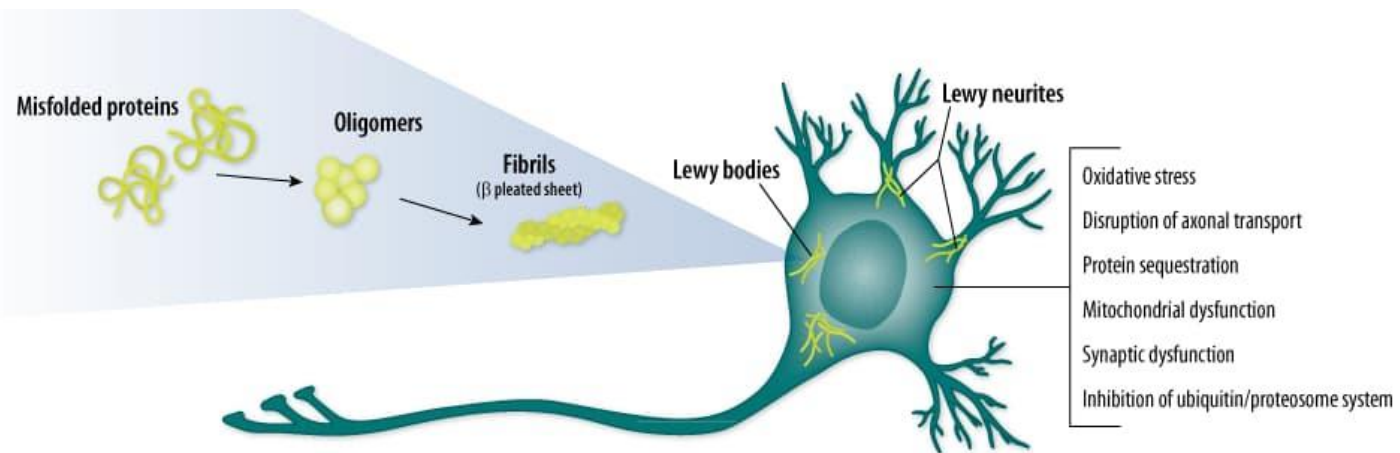


MRI opnames

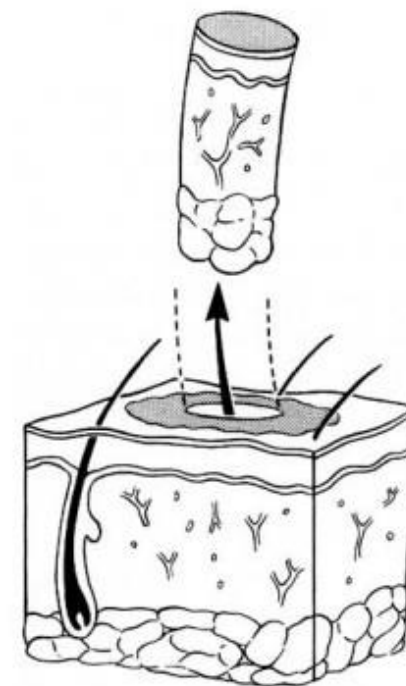
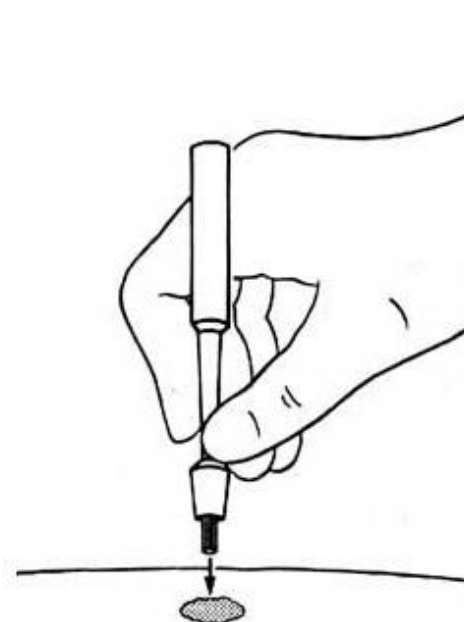


DaT scan

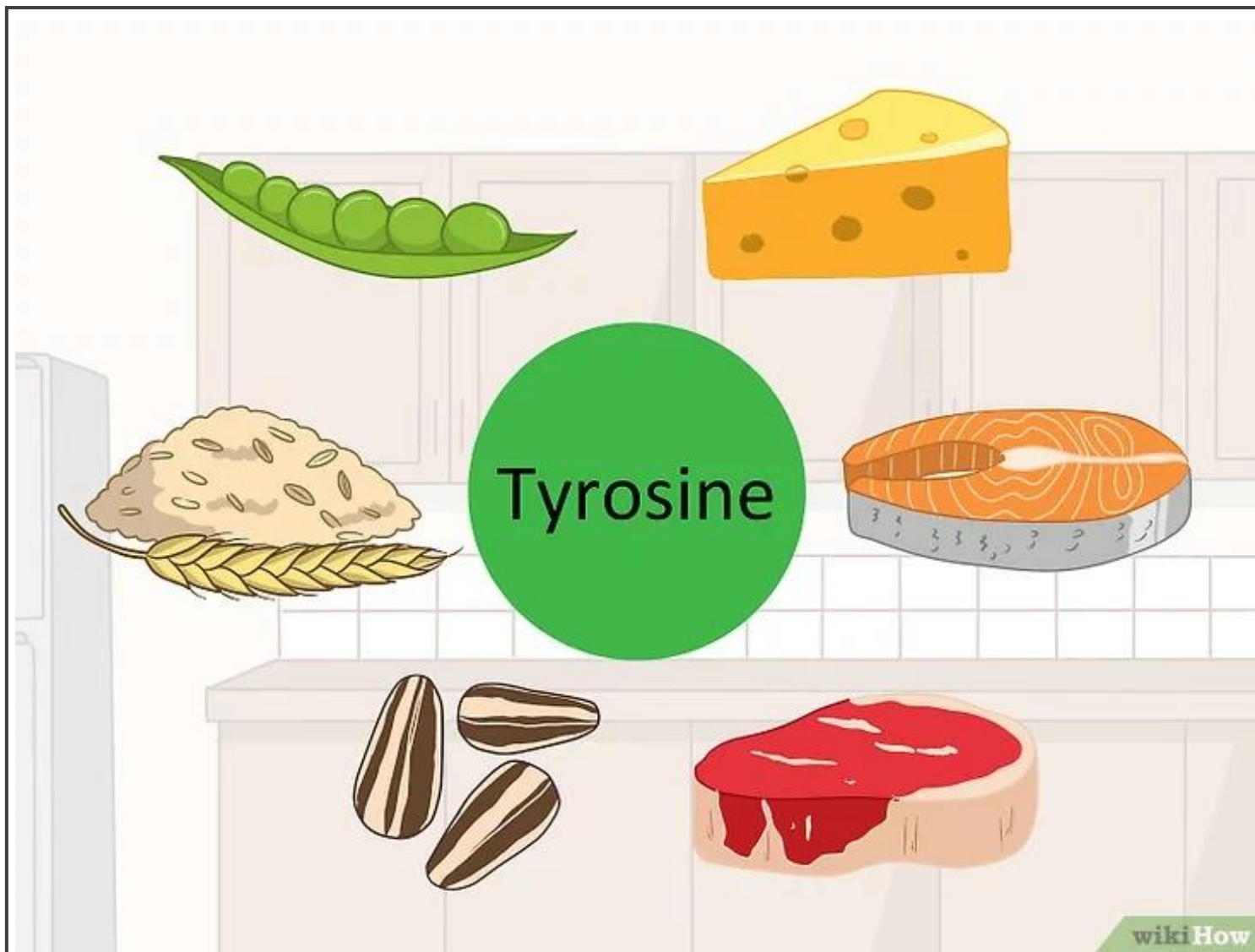


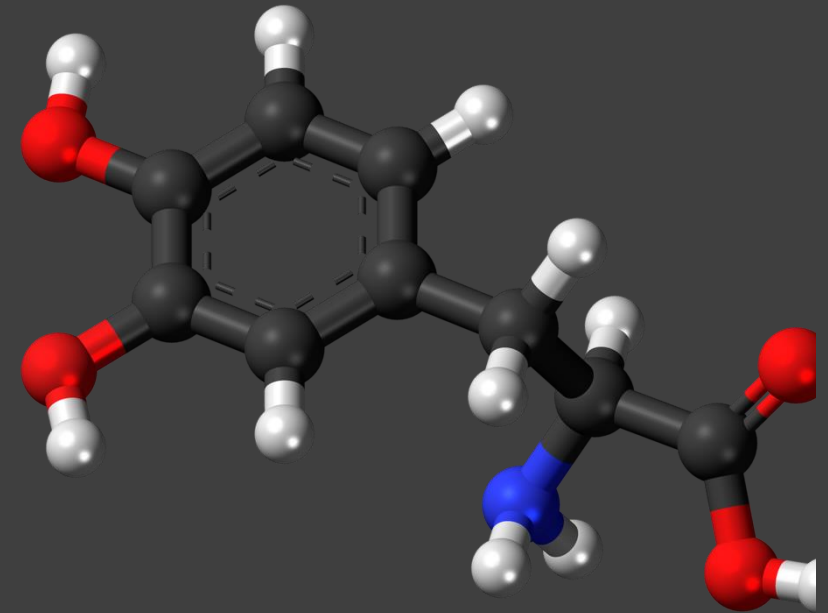


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Behandeling







Toedieningsvormen

Bijwerkingen Medicatie



- **Dyskinesieën**
- **On-Off effecten, plotseling stijf worden**
- **Hallucinaties**
- **Orthostatische hypotensie**
- **Misselijkheid, braken, verlies van eetlust**
- **Slaperigheid overdag**

afwijkend
mondgedrag

taal

voorbereidend
lezen

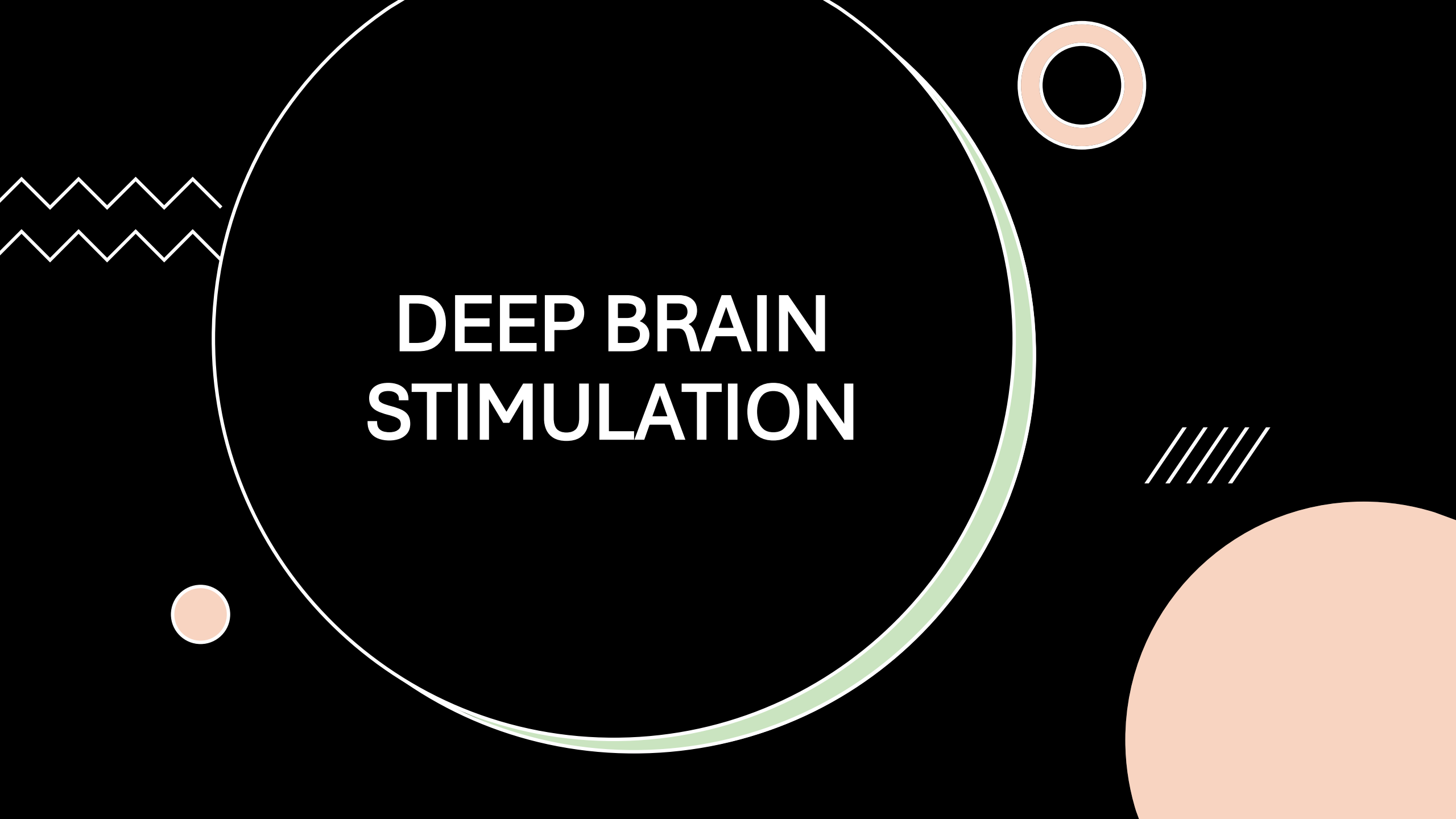
LOGOPEDIE

stem

spraak

FYSIOTHERAPIE





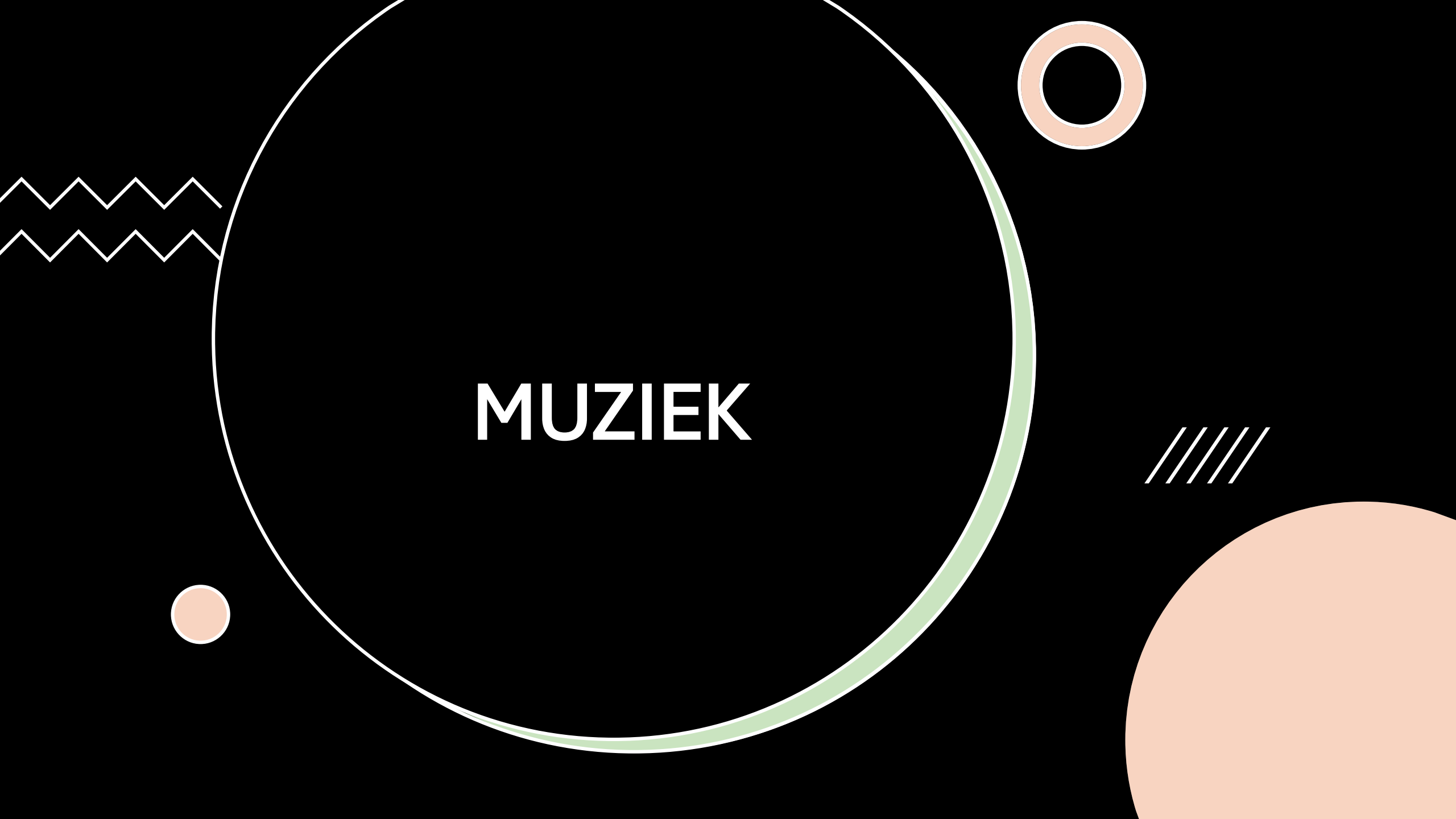
DEEP BRAIN STIMULATION

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An abstract graphic design on a black background. A large circle with a thin white outline and a thick light green inner border is centered. The word "MUZIEK" is written in white, bold, sans-serif capital letters inside this circle. To the left of the circle, two white zigzag lines extend from the edge. Below the circle, a small solid light orange circle is positioned. To the right of the circle, a larger light orange circle is partially visible. Above the circle, a light orange ring is located. To the right of the circle, four parallel white diagonal lines are arranged. The overall style is modern and minimalist.

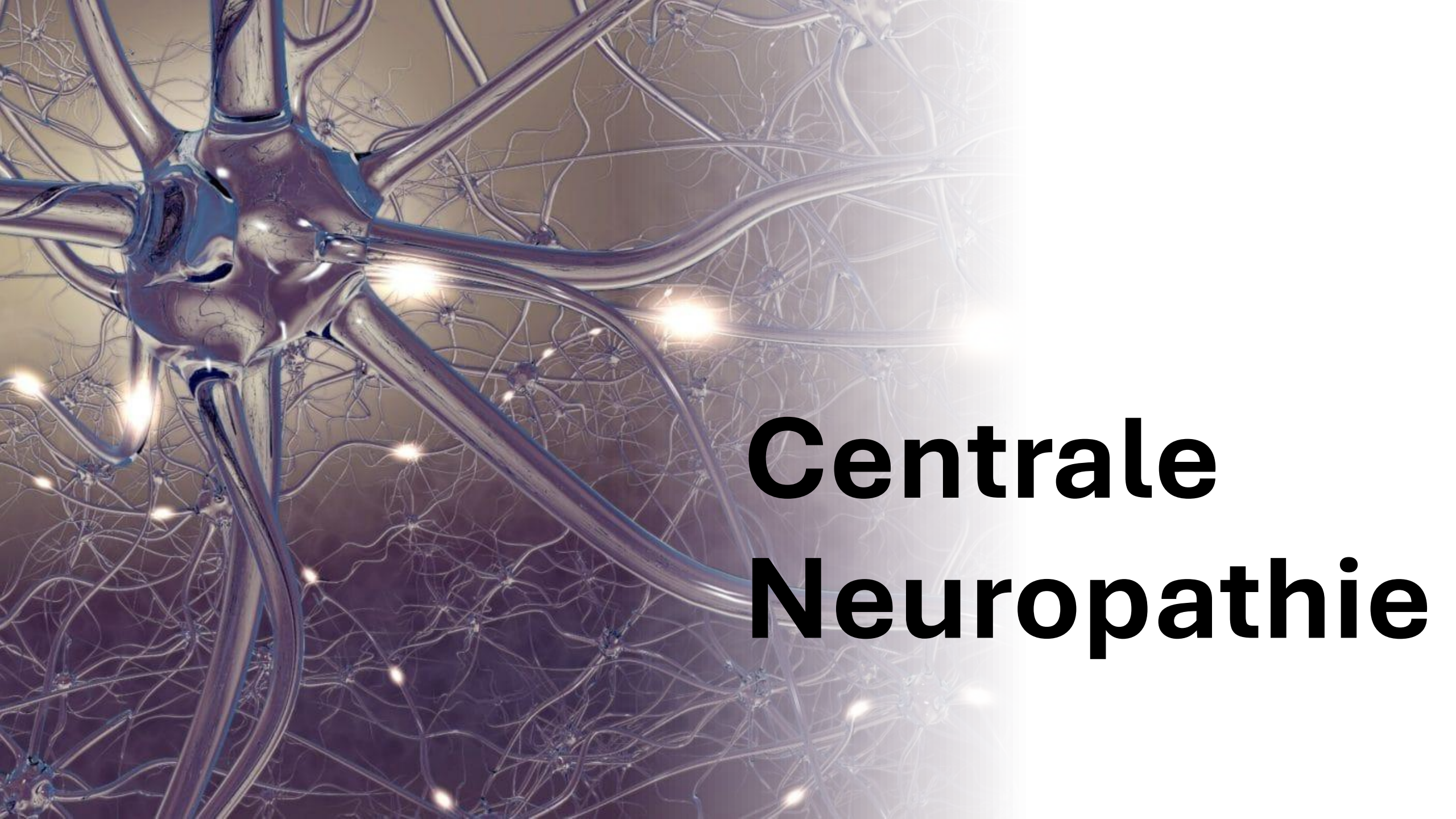
MUZIEK

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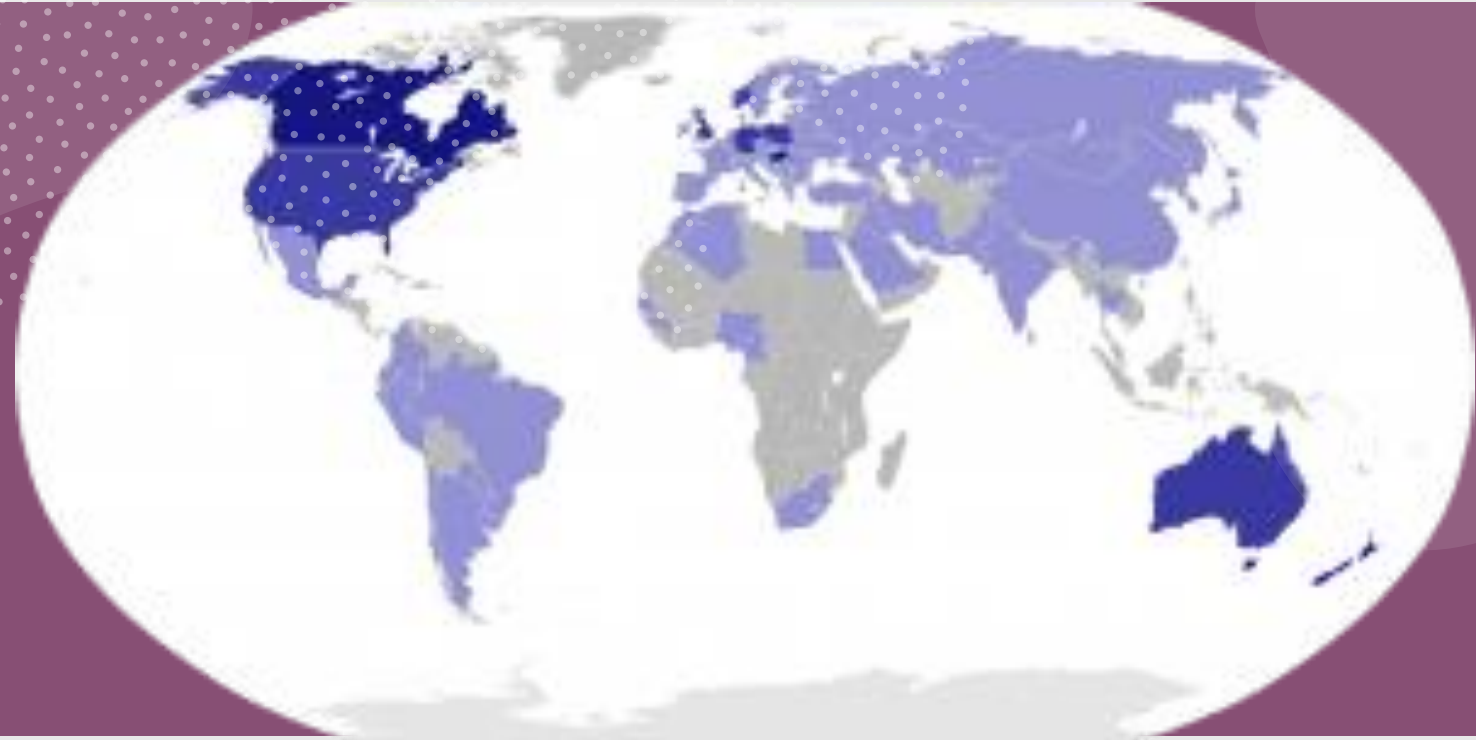
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Centrale Neuropathie

An illustration of several neurons with cell bodies and branching dendrites. Some of the cell bodies and segments of the axons are highlighted with a red glow, representing areas affected by multiple sclerosis. The background is white, and the entire image is framed by a dark blue border.

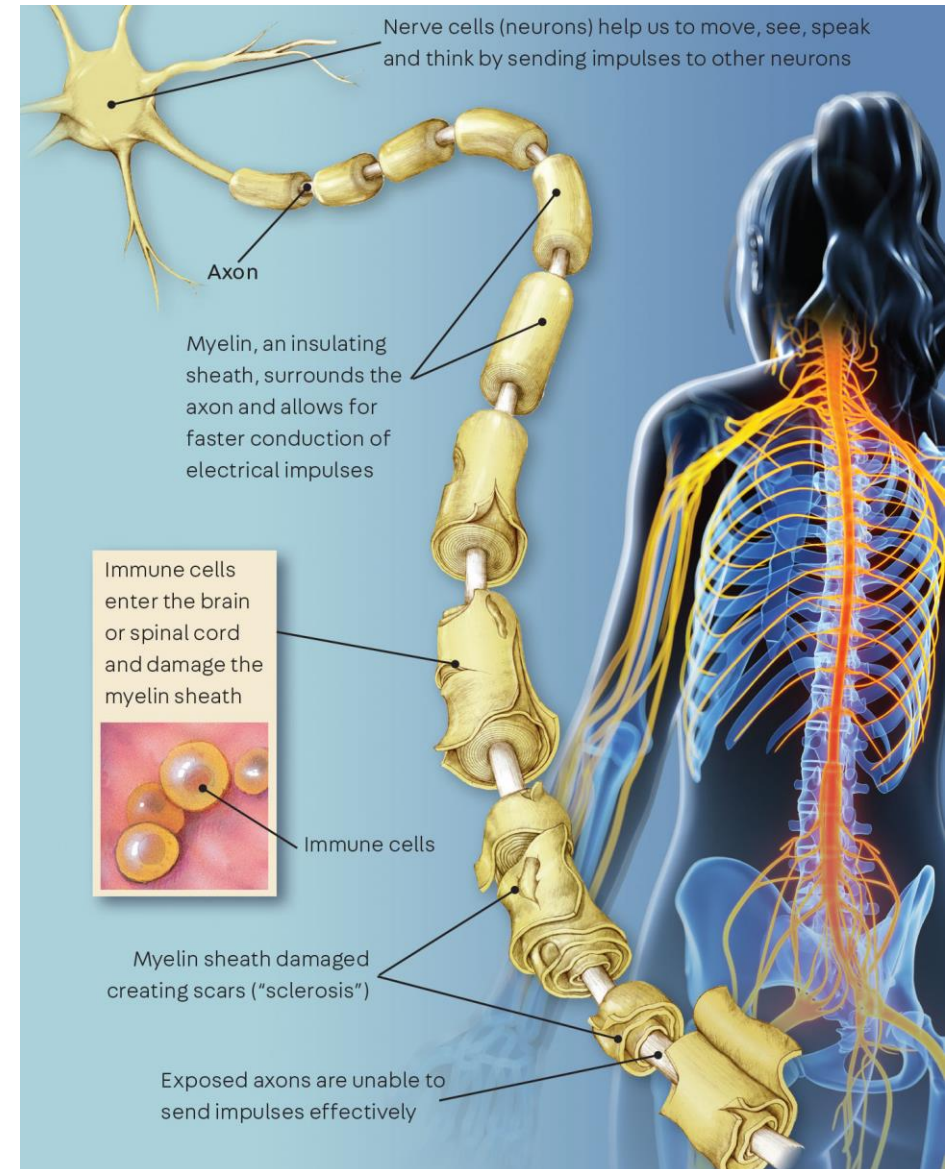
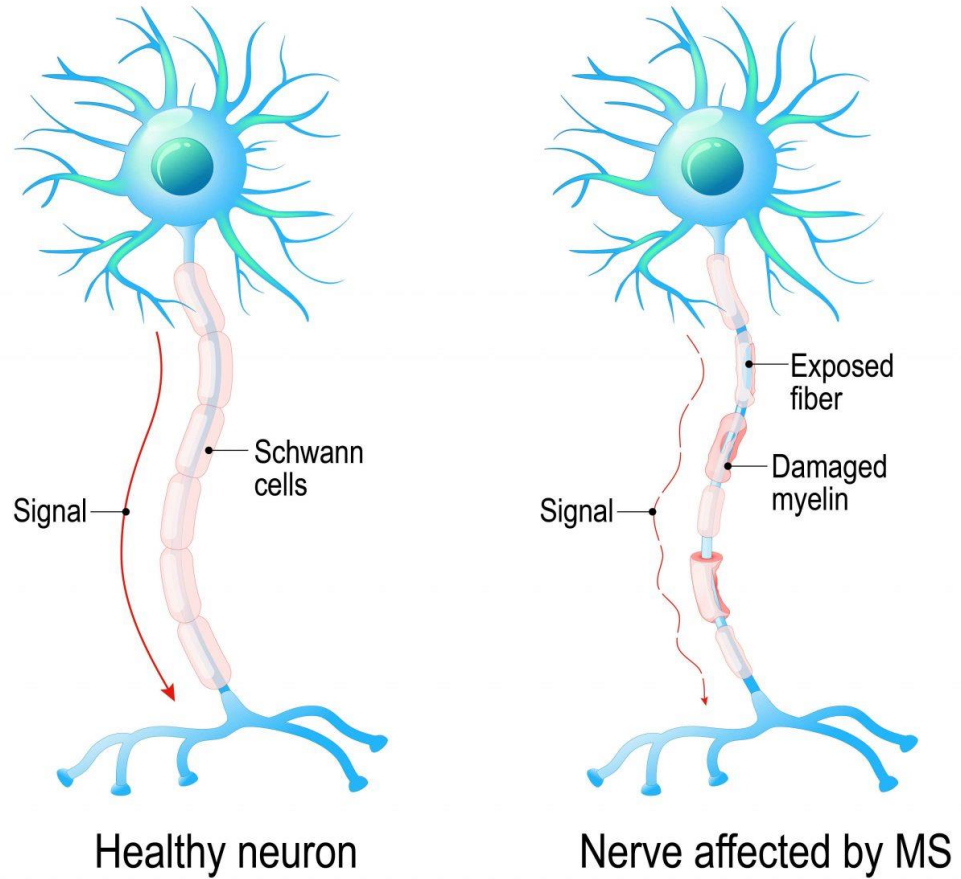
Multiple Sclerosis



- **Nederland ongeveer 17000 patienten**
- **Wereldwijd ongeveer 2,5 miljoen patienten**

OORZAAK

MULTIPLE SCLEROSIS



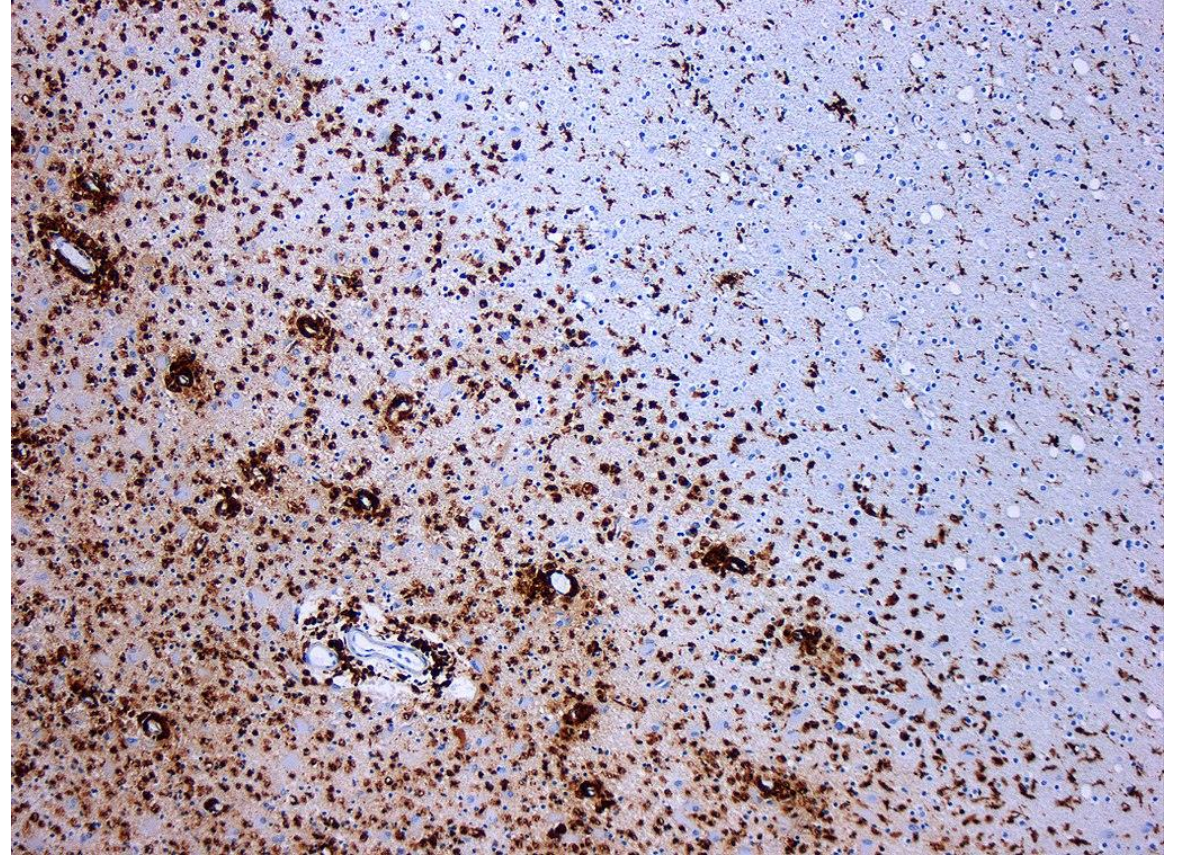
Auto-immuun aandoening:

- **Cellen afweersysteem vallen eigen weefsel aan**



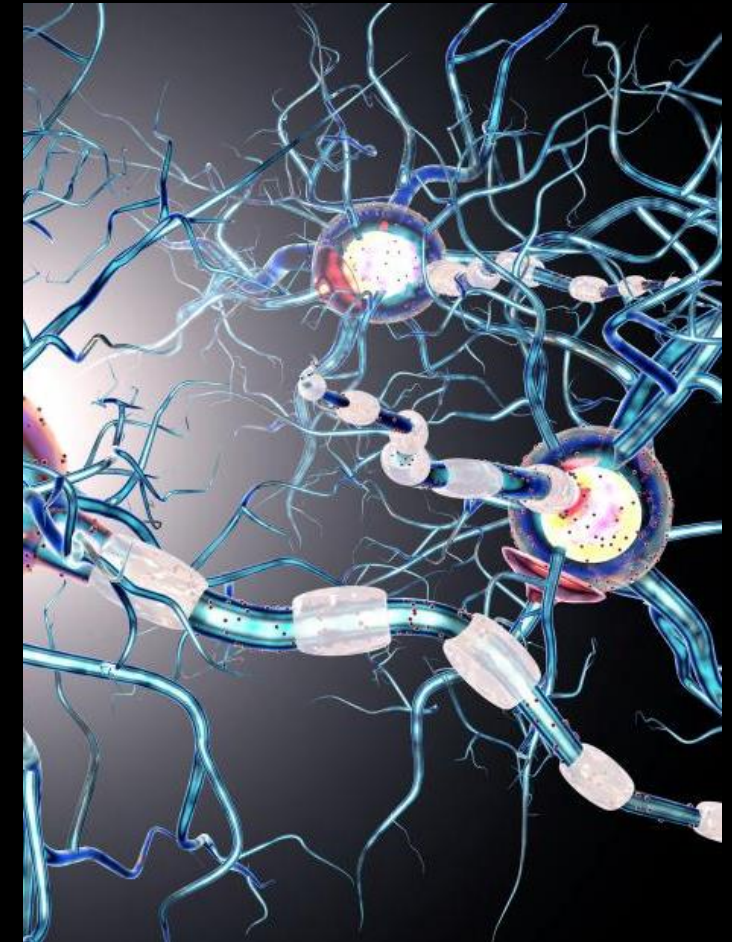
Oorzaken:

- **Genetisch (broers en zussen 3%)**
- **Omgevingsfactoren**
- **Onbekend**



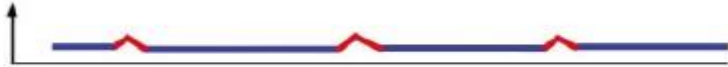
Symptomen (willekeurig) van MS (3 of 4)

- Wazig of dubbel zien
- Gezichtsverlies aan 1 oog
- Extreme vermoeidheid
- Zwakte van ledematen, vooral van de benen
- Slechte coördinatie en verstoord evenwichtsgevoel
- pijn
- Psychologische stoornissen
- Tremors
- Moeilijk lopen
- Gevoelloosheid en tintelingen
- Brandende gewaarwordingen
- Incontinentie (blaas- en darmfunctiestoornissen)
- Problemen met geheugen
- Onduidelijk praten (slik- en spraakstoornissen)
- Seksuele stoornissen

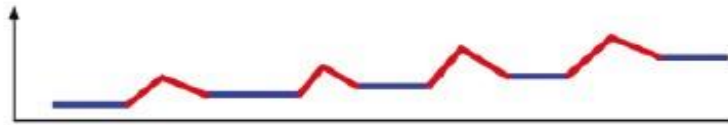


Beloop MS

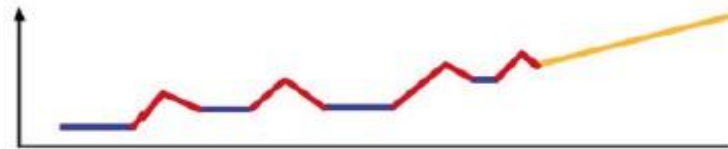
Hoeveelheid
symptomen



Benigne verloop (RRMS)



Relapsing remitting (RRMS)



Secundair progressief (SPMS)



Primair progressief (PPMS)

Diagnostiek

Klachten patiënt

Common Symptoms of MS



Fatigue



Depression



Vertigo



Vision problems



**Cognitive
dysfunction**



**Muscle-related
symptoms**



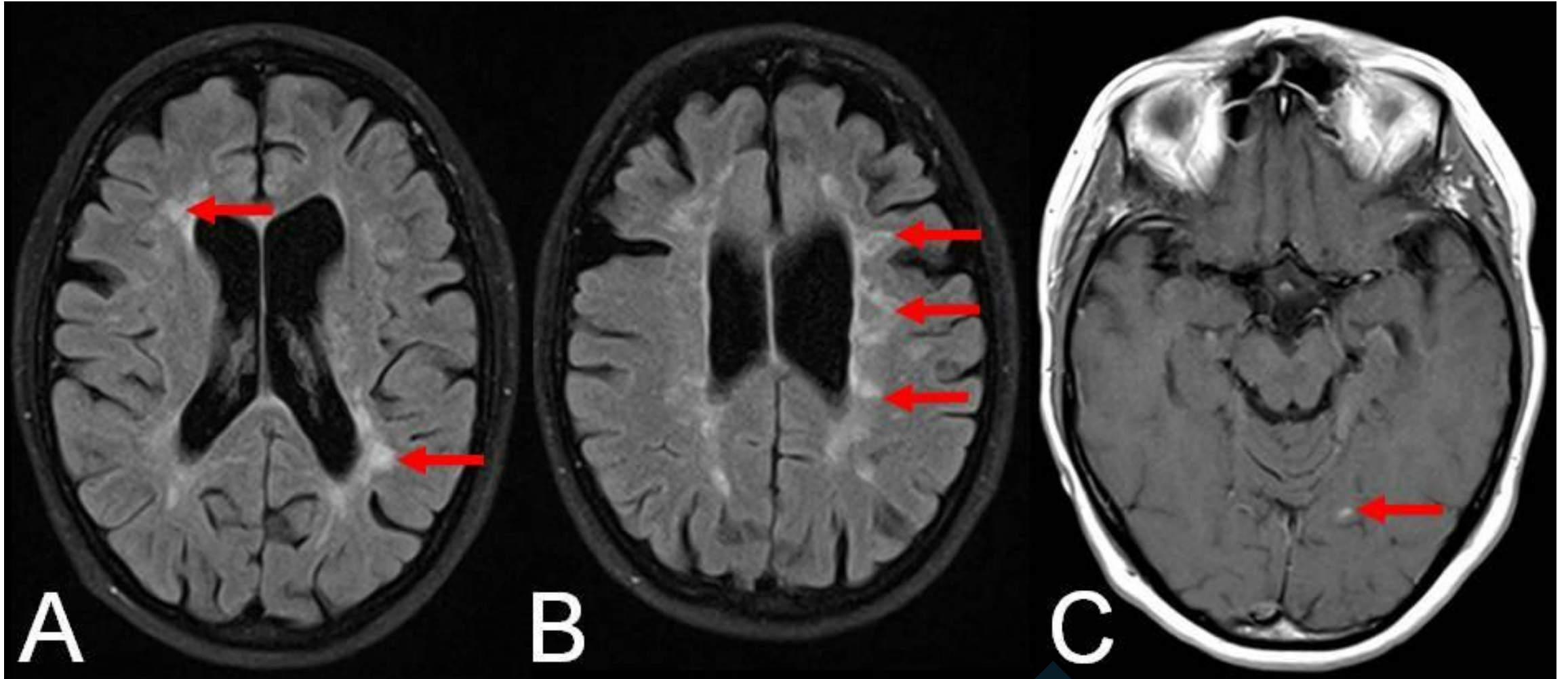
**Bowel and bladder
symptoms**



**Sexual
dysfunction**



MRI met contrast



Ruggeprik





Bloedonderzoek op biomarkers

Therapie

door andere MS-medicijnen die de afweer onderdrukken. Deze medicijnen remmen de ziekteactiviteit, maar kunnen MS niet stoppen. Nieuwe medicijnen met verschillende vormen van de werkzame stof Interferon- β zijn beschikbaar gekomen in respectievelijk 1997, 1998 en 2014



2005
Natalizumab

2003
Glatirameeracetaat

2012
Fingolimod

2013
Alemtuzumab

2014
Teriflunomide &
Dimethylfumaraat

2015
Daclizumab

Daclizumab is sinds 2018 niet meer beschikbaar vanwege risico op ernstige bijwerkingen.

2018
Ocrelizumab &
Cladribine

2020
Ozanimod &
Siponimod

2022
Ofatumumab



Ziekte onderdrukkende medicatie



Onderdrukken afweersysteem





Schub-
behandlung



Methylprednison





Symptom behandeling



Fampridine(lopen)
Baclofen(spasmen)





Complicaties onderdrukken afweersysteem

- Sterk afgenomen weerstand tegen infecties
- Toenemende kans op kanker

Fysiotherapie: voor problemen met je evenwicht en bewegen.



Ergotherapie: om dagelijkse dingen beter te kunnen doen.



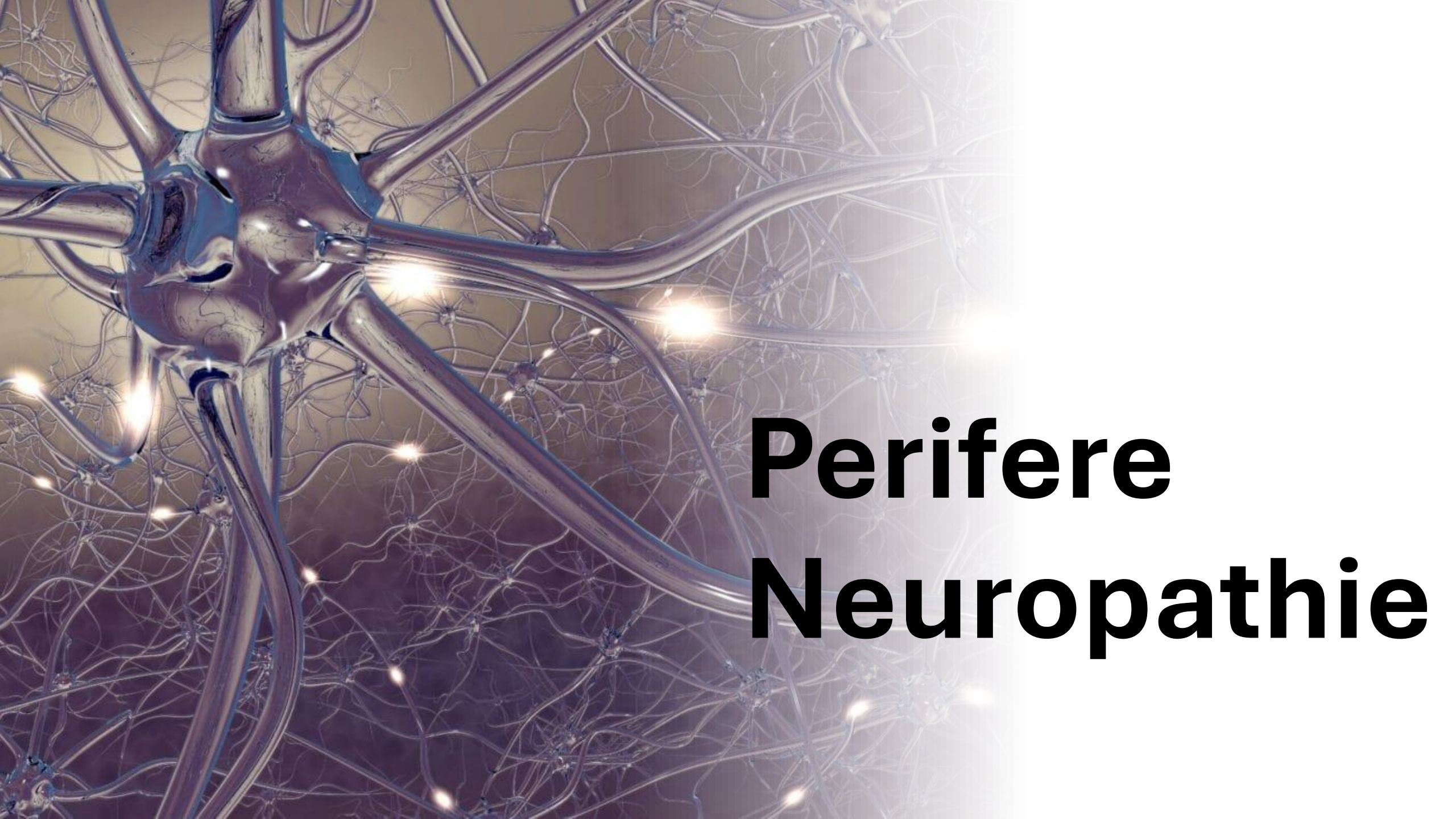
Logopedie: om beter te kunnen praten en slikken.



Klinisch psycholoog: om een mogelijke depressie te behandelen.



Neuropsycholoog: om problemen met concentratie en geheugen aan te pakken.

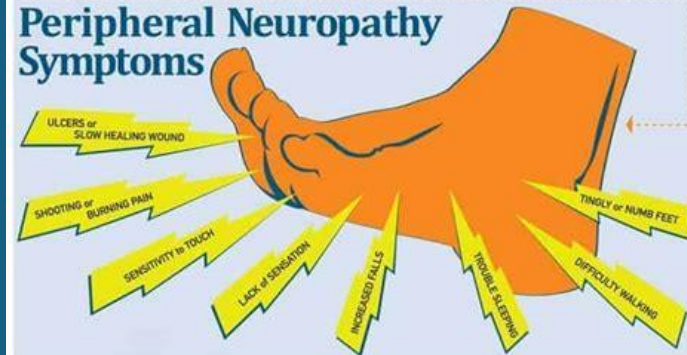


Perifere Neuropathie

Peripheral Neuropathy



Peripheral Neuropathy Symptoms



Polyneuropathie in Nederland



Nederland	17.000.000 inwoners	
Incidentie	77/100.000/jaar	(Visser 2015)
Prevalentie	1 - 7%	(Hanewinckel 2016)
Chronisch	250.00-300.000	(Hanewinckel 2017)

meest voorkomende NMZ



symptomen

Symptoms of Peripheral Neuropathy Depend on the Peripheral Nerve Affected

Sensory nerve damage



Unusual sensations



Pain from light touch



Burning



Numbness

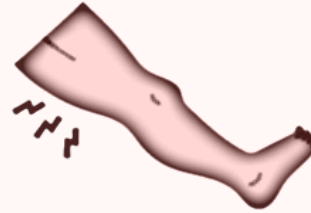


Tingling



Balance problems

Motor nerve damage



Muscle cramping



Twitching



Reflex abnormalities

Autonomic nerve damage



Excess sweating



Heat intolerance



Getting full quickly



Impotence



Orthostatic hypotension
(dizziness or fainting
after standing up)

oorzaken

Mechanisch

- Druk
- Beschadiging door operatie of trauma

Voeding

- Tekort aan bv Vitamine B6 en 12
- Tekort aan Insuline
- Tekort schildklierhormoon
- Te veel aan vitamine B6

Toxisch

- Chemotherapie
- Chemicaliën(zware metalen)
- Antidepressiva, zuurremmende middelen
- Vaccinaties

Infectieus

- Gordelroos
- Lepra

DIAGNOSIS

A medical clipboard with a blue cover is shown. It holds a white form with the word 'DIAGNOSIS' in large, bold, black letters. Below the title, there are fields for 'PATIENT'S NAME', 'PATIENT'S RELATIONSHIP TO THE INSURANCE SUBSCRIBER', 'DATE', 'PRIMARY', and 'INSURANCE COMPANY'. A silver stethoscope is resting on the form. The clipboard is placed on a wooden surface. A blue folder with a hexagonal pattern is partially visible in the foreground.

NEUROPATHY



Kracht van de spieren

Reflexen

Vibratie m.b.v. stemvork

Temperatuur en aanraking

EMG



Patient walks gingerly due to loss of position sense and/or painful dysesthesia.



Graduated glove-and-stocking hypesthesia

Impaired vibration sense



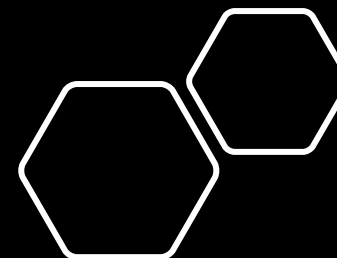
Foot drop

Loss of ankle jerk



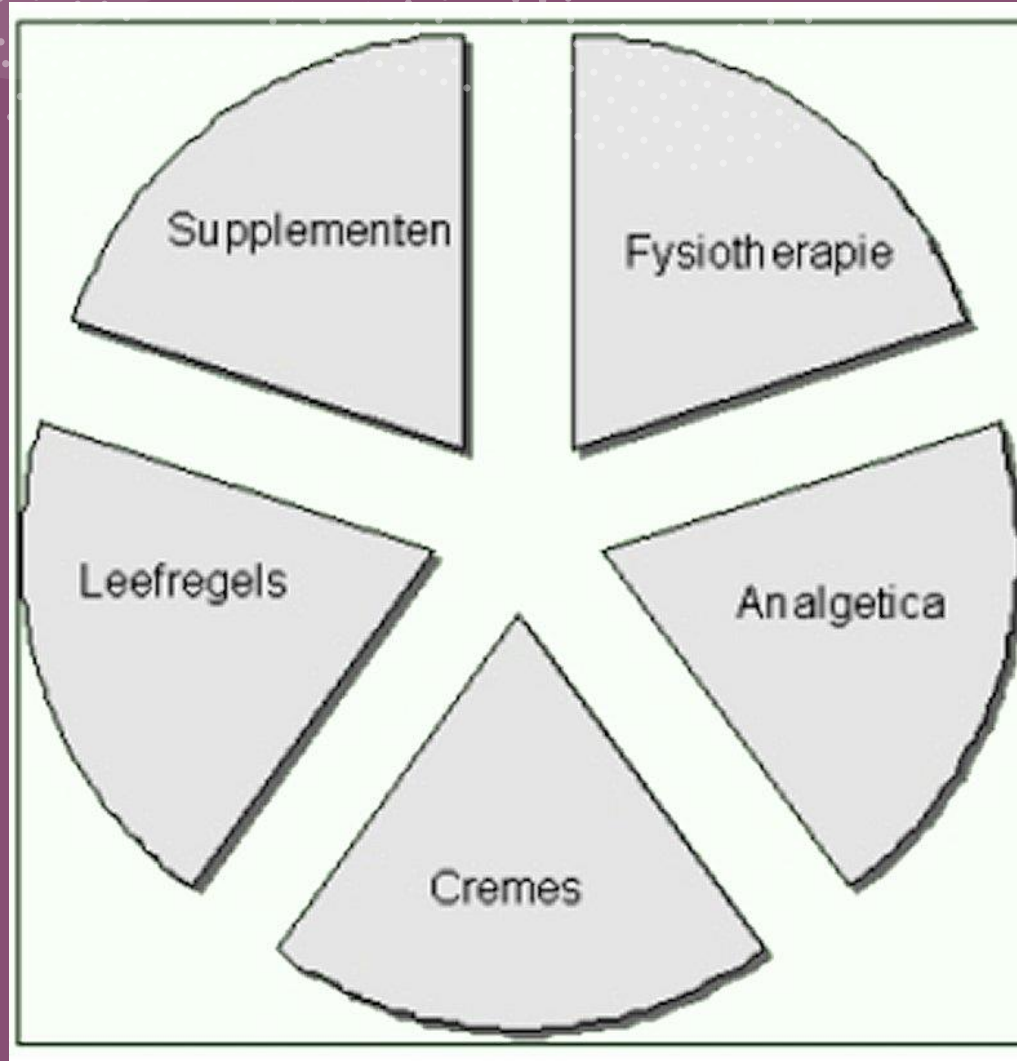
Patient sleeps with covers off feet because of burning sensation.

F. Netter M.D.

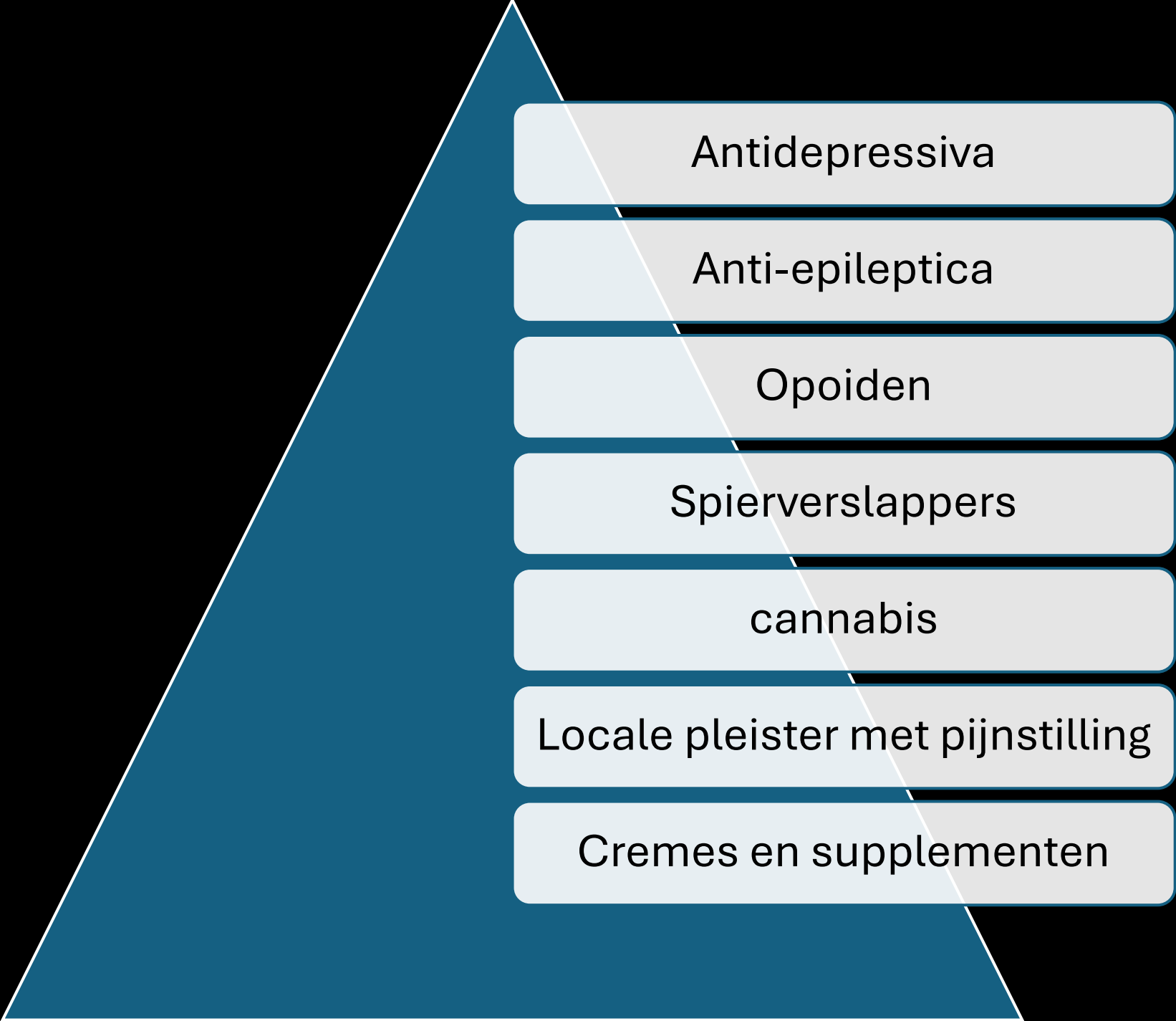




Therapie bij neuropathie



De
schijf
van 5



Antidepressiva

Anti-epileptica

Opoiden

Spierverslappers

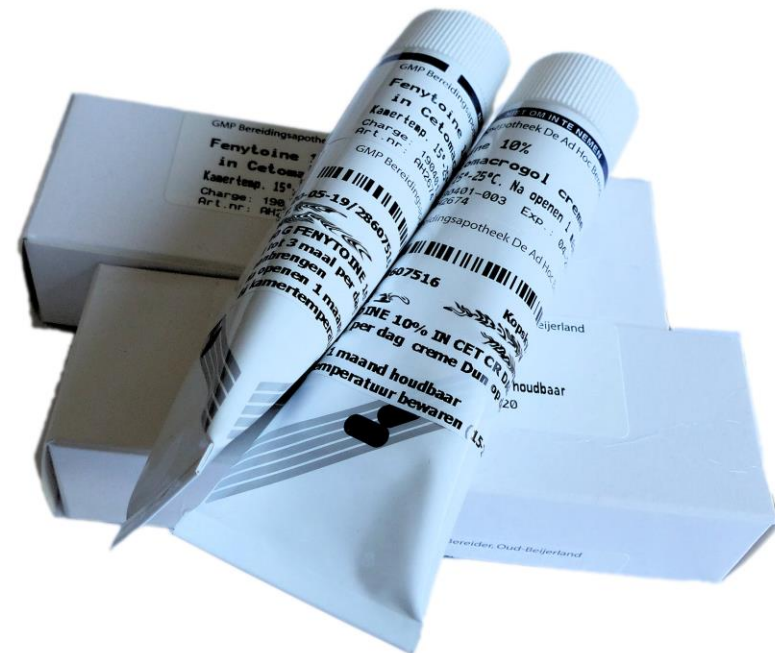
cannabis

Locale pleister met pijnstilling

Cremes en supplementen



Crèmes





Lichaamseigen supplement



BEDANKT