

RAZONAMIENTO CLÍNICO

Fallos en la Conducción del Tratamiento: Identificarlos para mejorar la respuesta clínica.

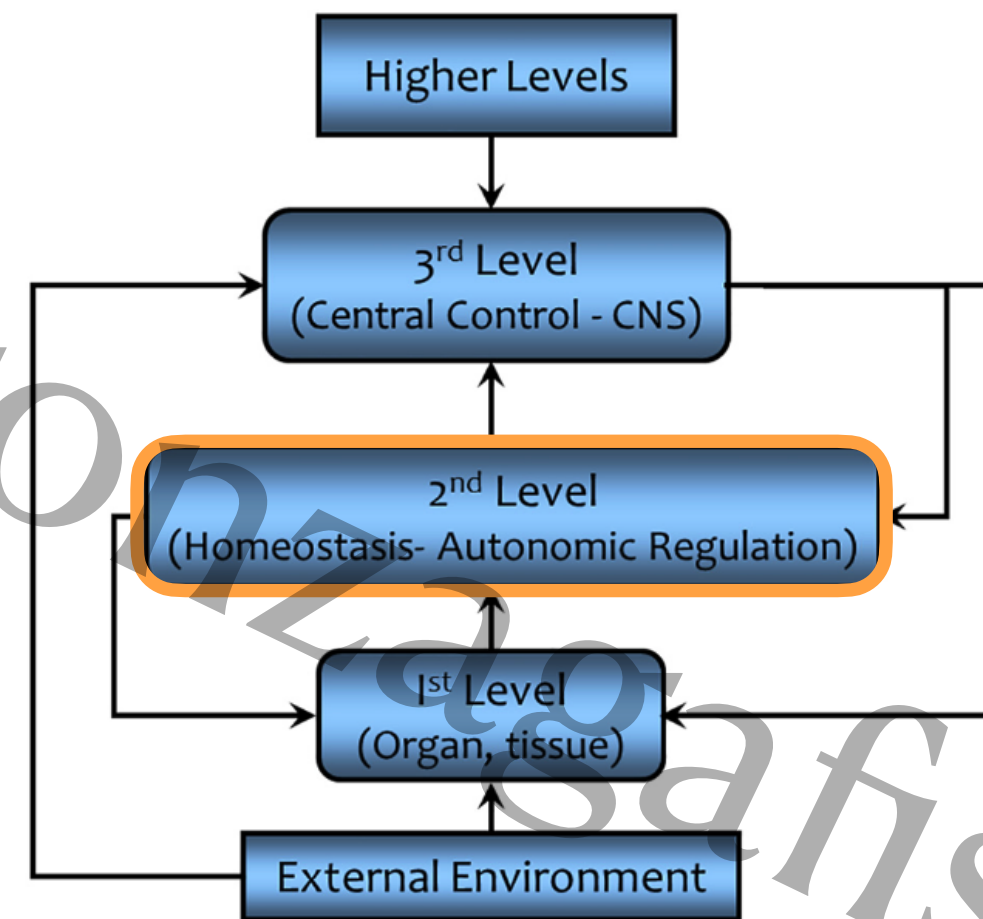
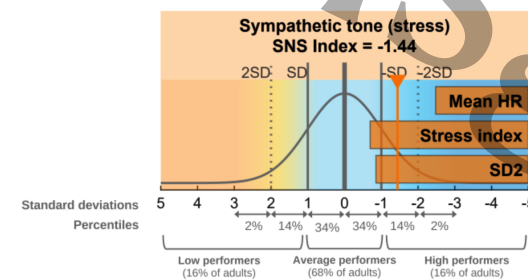
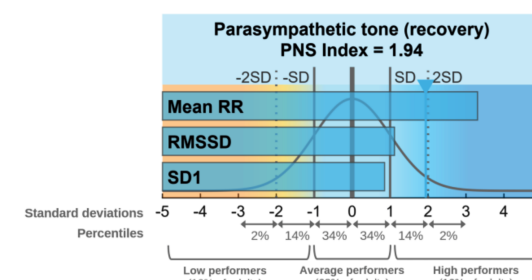
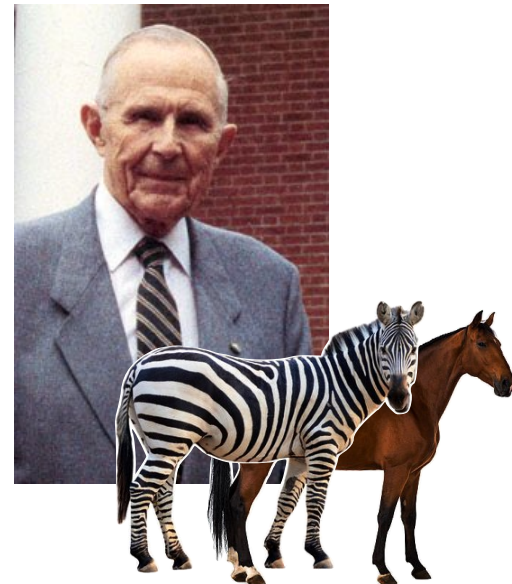
Para profesionales de la salud

Prof. MsC. Fit. Ost. Luis Gonzaga de Moura Junior

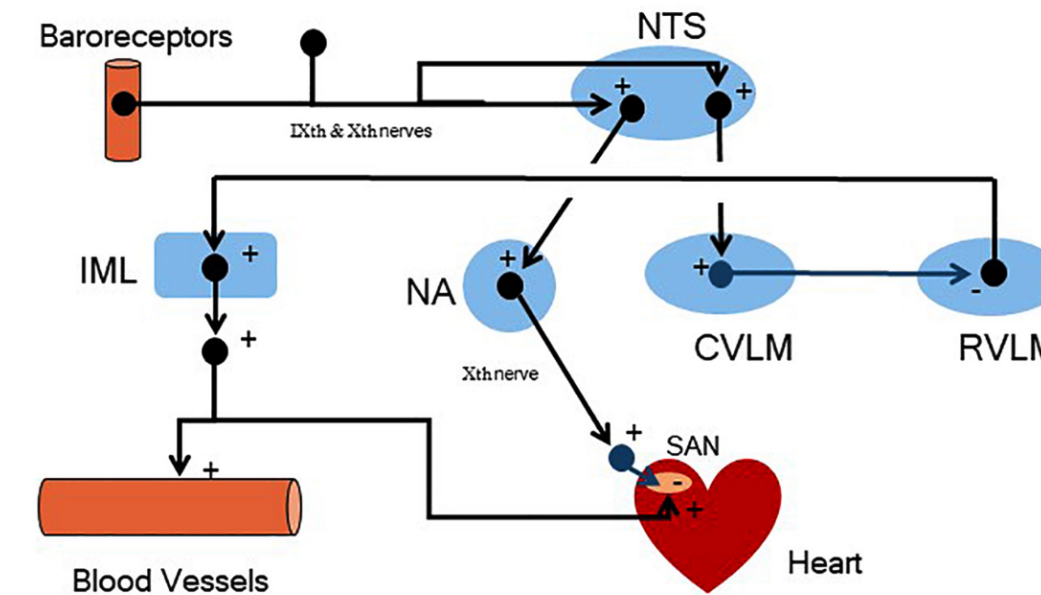


Repaso

Nuevas herramientas

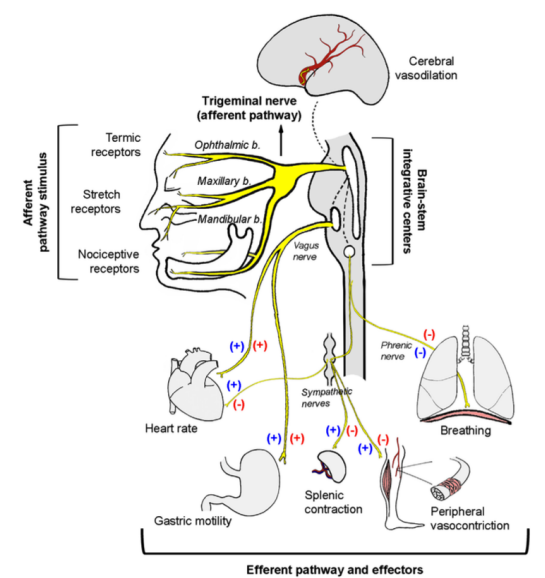


Homeostasis: The Underappreciated and Far Too Often Ignored Central Organizing Principle of Physiology



Cross-sectional Study

Patients with Impaired Descending Nociceptive Inhibitory System Present Altered Cardiac Vagal Control at Rest



Diagnóstico nosológico

Multimorbilidad

Razonamiento clínico - paciente complejo

Internos del individuo

Factores externos

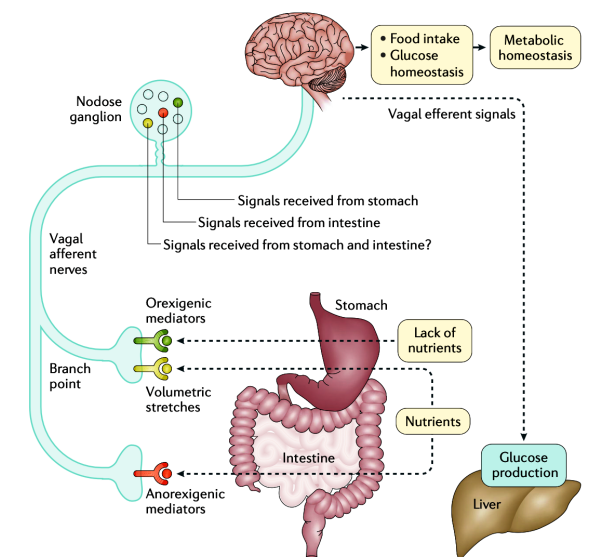
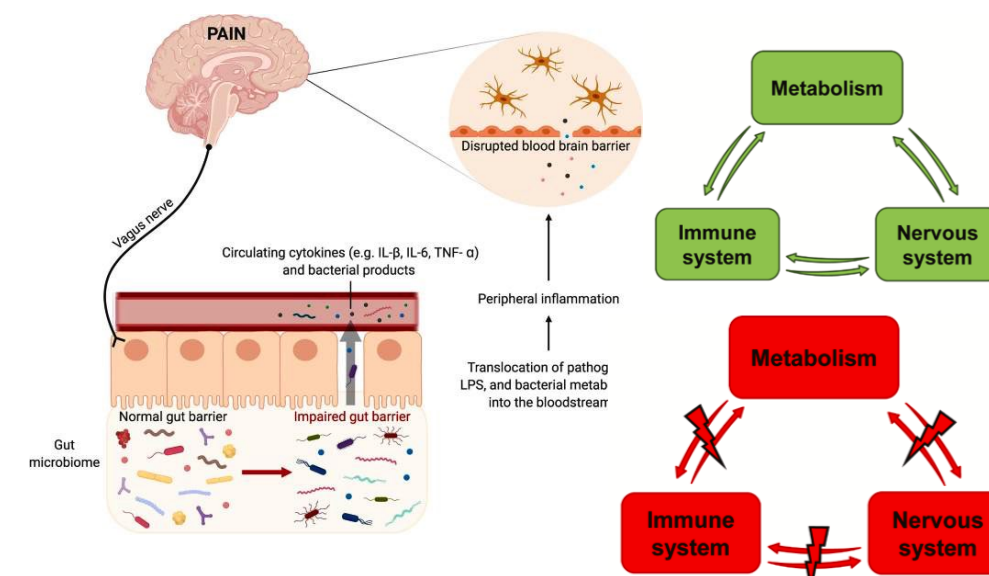
Factores de relación

frontiers in Neuroscience

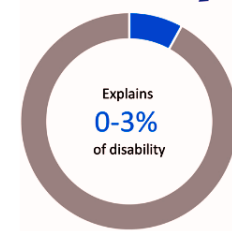
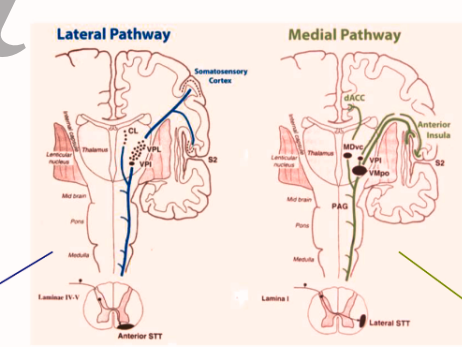
ORIGINAL RESEARCH
published: 27 February 2020
doi: 10.3389/fnins.2020.00147



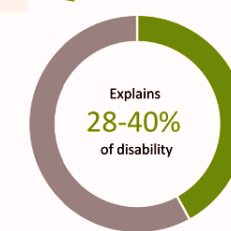
Linking Pain Sensation to the Autonomic Nervous System: The Role of the Anterior Cingulate and Periaqueductal Gray Resting-State Networks



Global pain = **painfulness** + **suffering**



Pain intensity



Catastrophizing

El Razonamiento clínico - pacientes crónicos y complejos

Equilibrio
Simpato-Vagal -
HRV

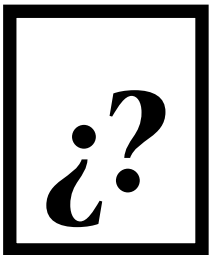
Sedestación

Supino

Ortostasis

Lo más importante...

Agudo



Crónico

Basal

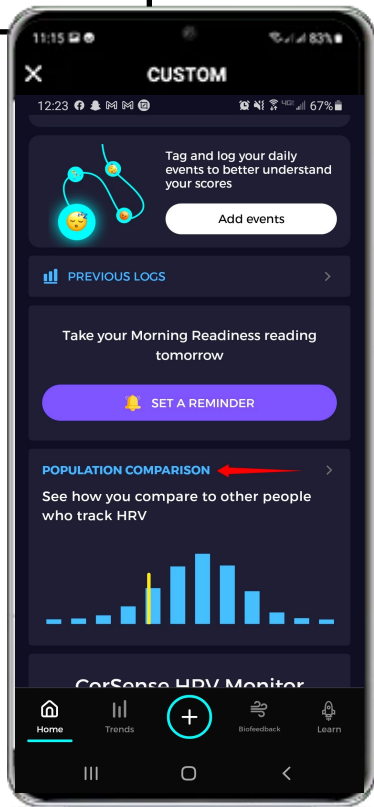
Reactividad

Recovery

¿Cuál es la pregunta que quieres responder?

Kubios HRV

ELITE HRV



El Razonamiento clínico - pacientes crónicos y complejos

Dolor lumbar crónico

GERD

Obesidad

Periodontitis

Alteración del sueño

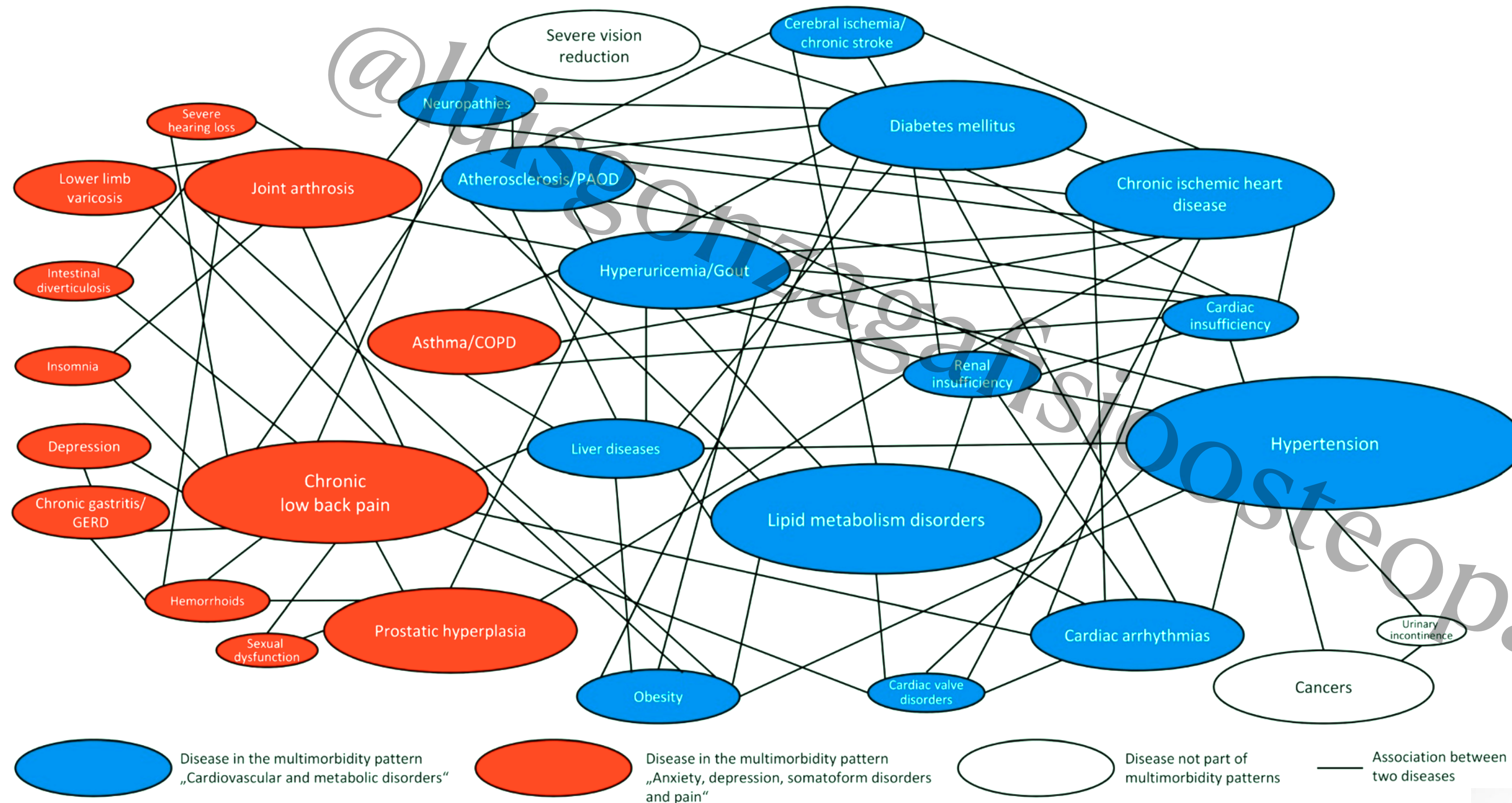
Laringitis

Dolor Cervical

IBS



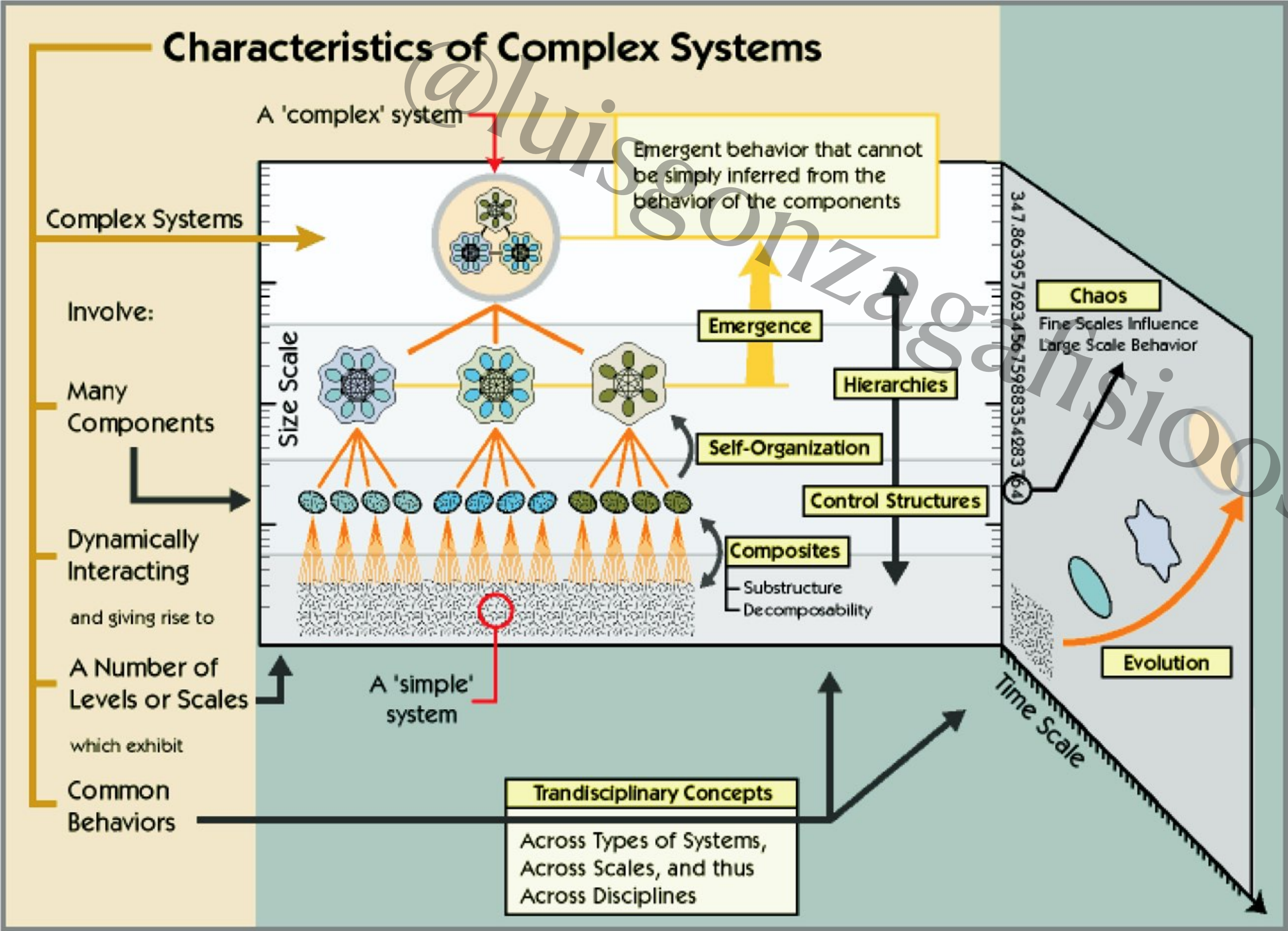
El Razonamiento clínico - pacientes crónicos y complejos



S i m p a t o - V a g a l
H R V



El Razonamiento clínico - pacientes crónicos y complejos



Review Article

**Definition of patient complexity in adults:
A narrative review**

**JOURNAL OF
MULTIMORBIDITY
& COMORBIDITY**

Journal of Multimorbidity and Comorbidity
Volume 12: 1–13
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DOI: 10.1177/26335565221081288
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SAGE

Simpato-Vagal
HRV



El Razonamiento clínico - pacientes crónicos y complejos

NEUROIMMUNOMODULATION

Karger Publishers

[Neuroimmunomodulation](#). 2023 Jan-Dec; 30(1): 167–183.

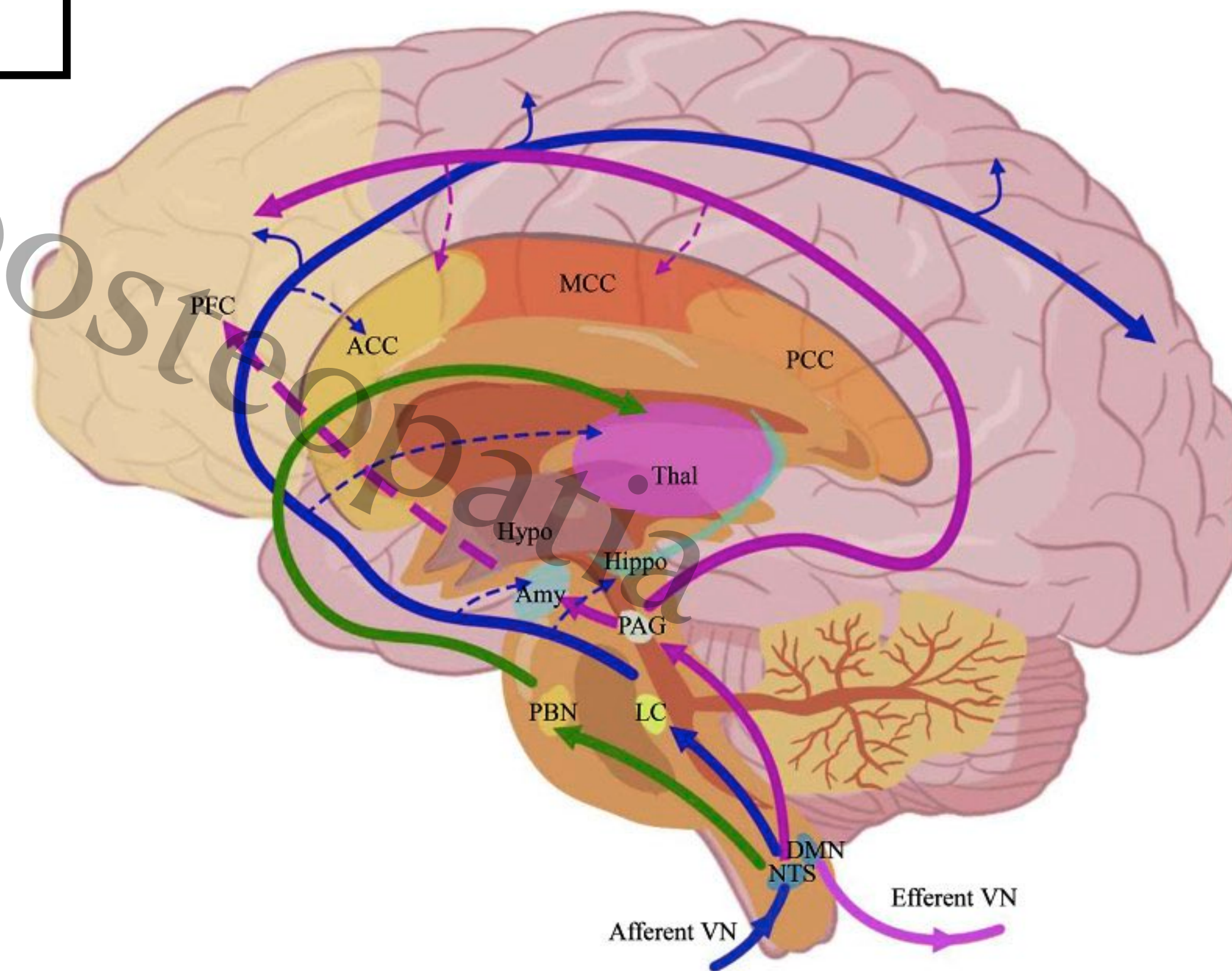
Published online 2023 Jun 27. doi: [10.1159/000531626](#)

PMCID: PMC10614462

PMID: [37369181](#)

Role of Vagus Nerve Stimulation in the Treatment of Chronic Pain

Vías y mecanismos de regulación



El Razonamiento clínico - pacientes crónicos y complejos

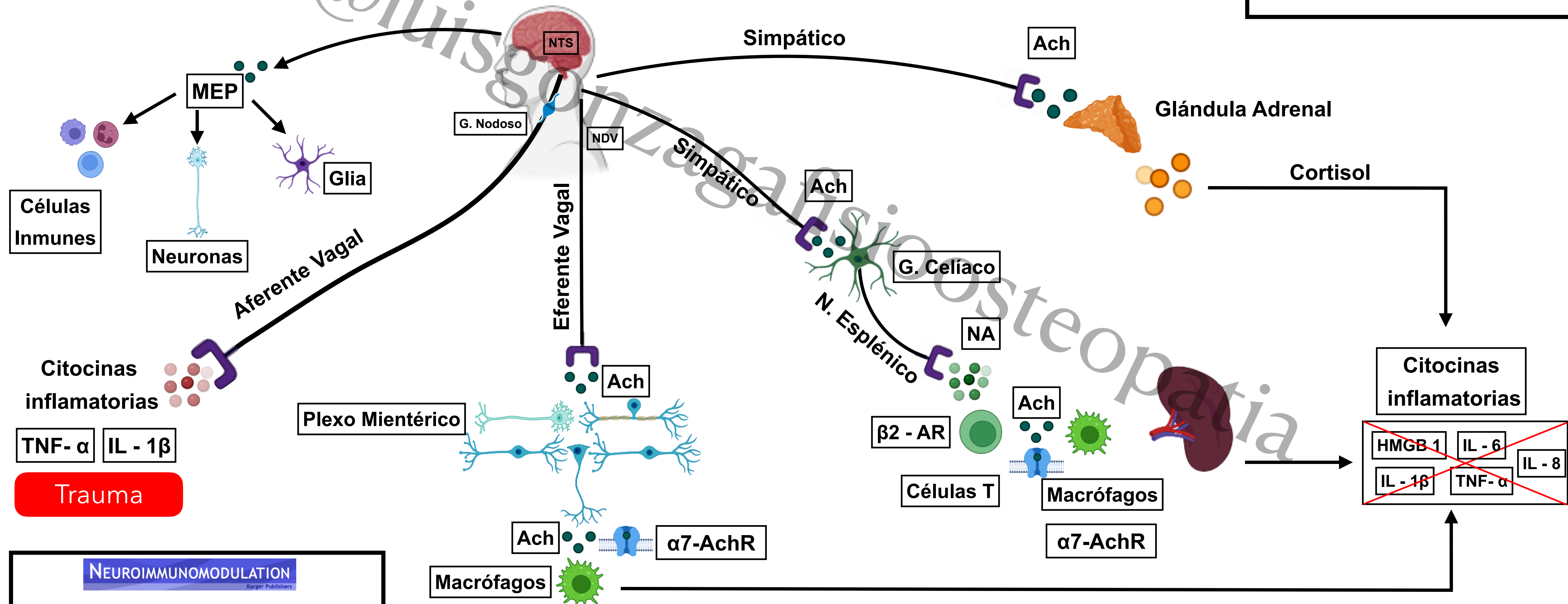
Vías y mecanismos de regulación

Sistema Opioidérgico Espinal
Sistema Serotoninérgico y
Noadrenérgico

Activa

Inhibe

Procesamiento nociceptivo espinal



NEUROIMMUNOMODULATION

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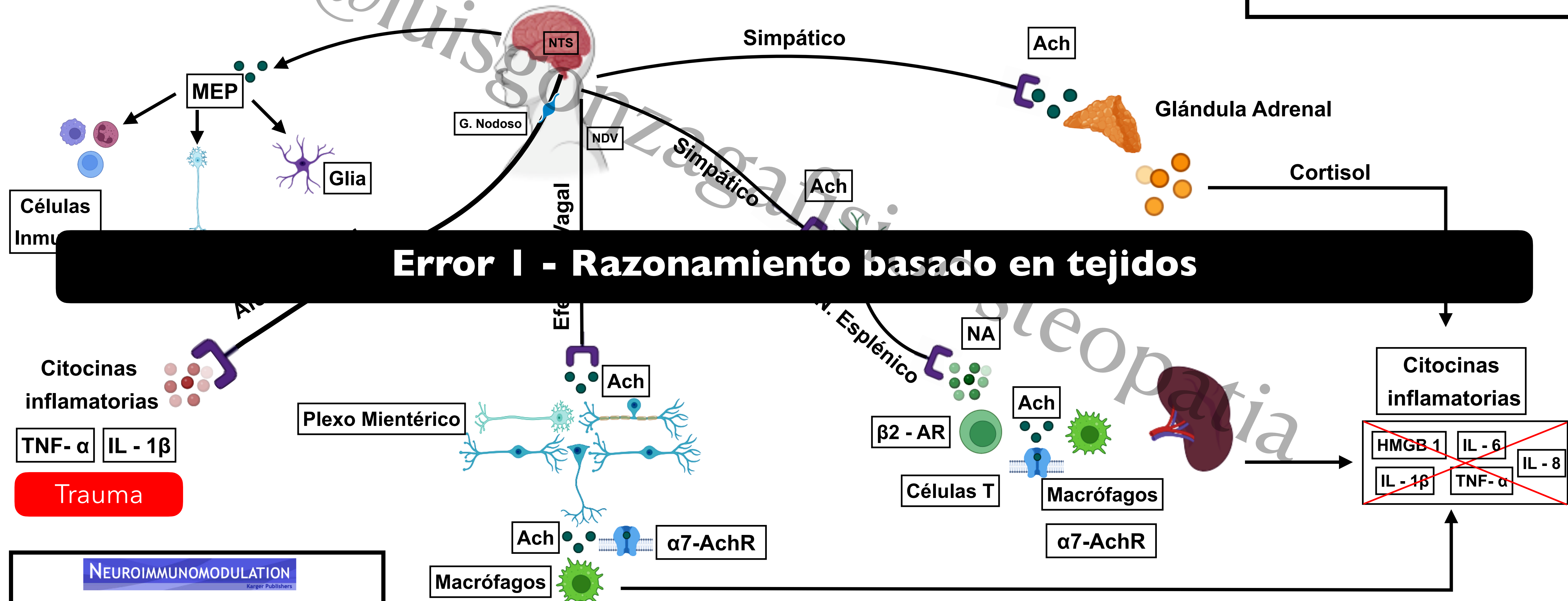
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Role of Vagus Nerve Stimulation in the Treatment of Chronic Pain

El Razonamiento clínico - pacientes crónicos y complejos

Jerarquía de los sistemas

nature communications

Article

https://doi.org/10.1038/s41467-023-44432-3

Muscle abnormalities worsen after post-exertional malaise in long COVID

frontiers

Frontiers in Cardiovascular Medicine

TYPE Review
PUBLISHED 01 September 2023
DOI 10.3389/fcvm.2023.1256512

Check for updates

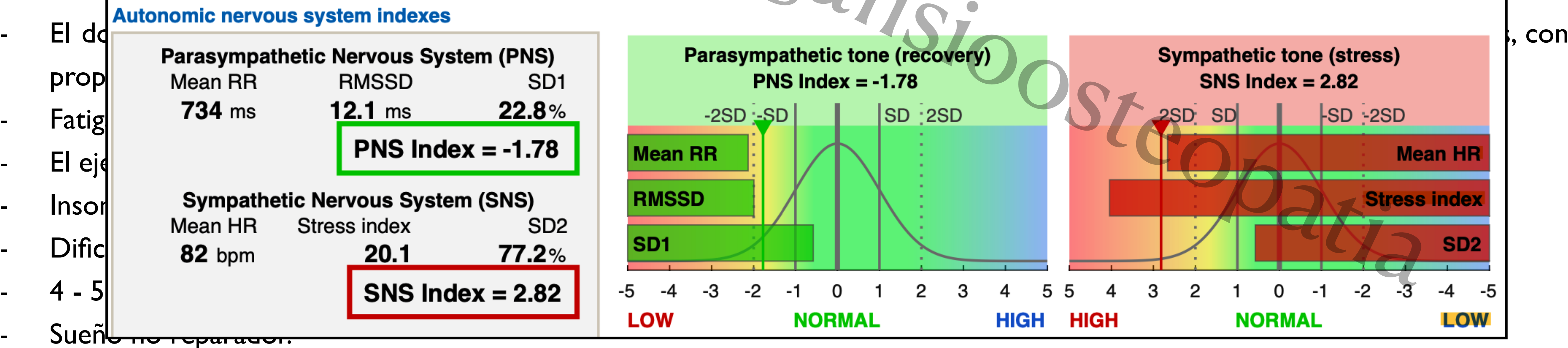
OPEN ACCESS

EDITED BY
Maurizio Acampa,
Siena University Hospital, Italy

REVIEWED BY

Cardiovascular autonomic
dysfunction in “Long COVID”:
pathophysiology, heart rate
variability, and inflammatory

- 42 años - Mujer
- Dolor lumbar hace 7 años siendo más intenso en los 2 últimos años



- Sueño no reparador.
- Infecciones urinarias de repetición (1 años).
- Alteración de la libido, se percibe más ansiosa (18 meses), dificultad de relacionarse con personas cercanas.
- Condiciones metabólicas y cardiovasculares en la familia.

El Razonamiento clínico - pacientes crónicos y complejos

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Cardiovascular autonomic
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pathophysiology, heart rate
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Autonomic nervous system indexes

Parasympathetic Nervous System (PNS)

Mean RR	RMSSD	SD1
734 ms	12.1 ms	22.8%

Parasympathetic tone (recovery)

PNS Index = -1.78

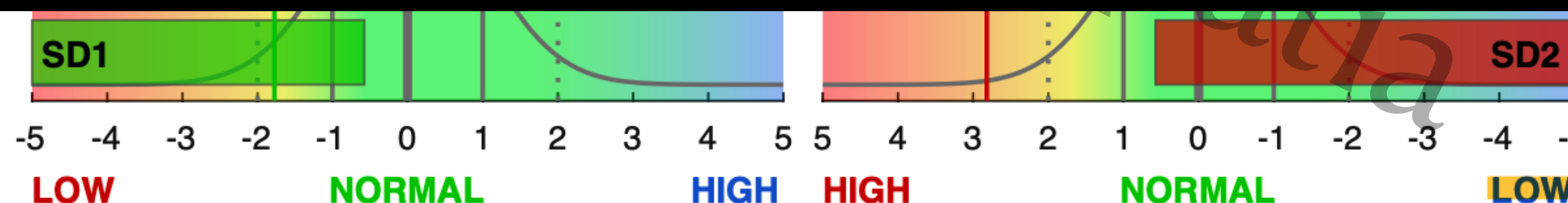
Sympathetic tone (stress)

SNS Index = 2.82

Error II: No dar un orden de prioridad a los procedimientos en el enfoque terapéutico

Mean HR	Stress index	SD2
82 bpm	20.1	77.2%

SNS Index = 2.82



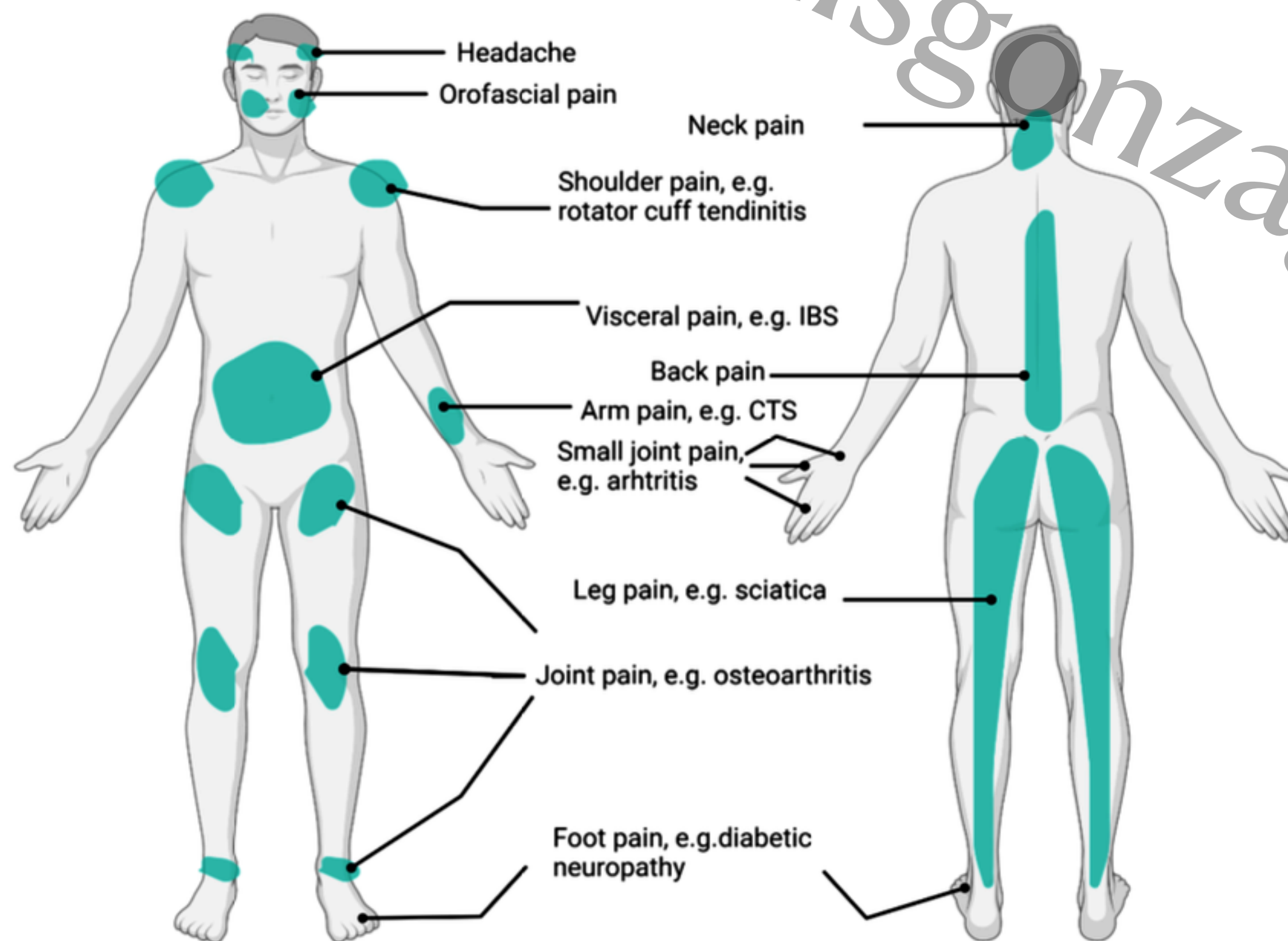
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Condiciones metabólicas y cardiovasculares en la familia.

El Razonamiento clínico - pacientes crónicos y complejos

No valorar el SGI - Eje Gut Brain



Journal of
Clinical Medicine



Review

The Importance of Nutrition as a Lifestyle Factor in Chronic Pain Management: A Narrative Review

BJA

British Journal of Anaesthesia, 123 (5): 637–654 (2019)

doi: 10.1016/j.bja.2019.07.026

Advance Access Publication Date: 21 September 2019

Review Article

Pain regulation by gut microbiota: molecular mechanisms and therapeutic potential

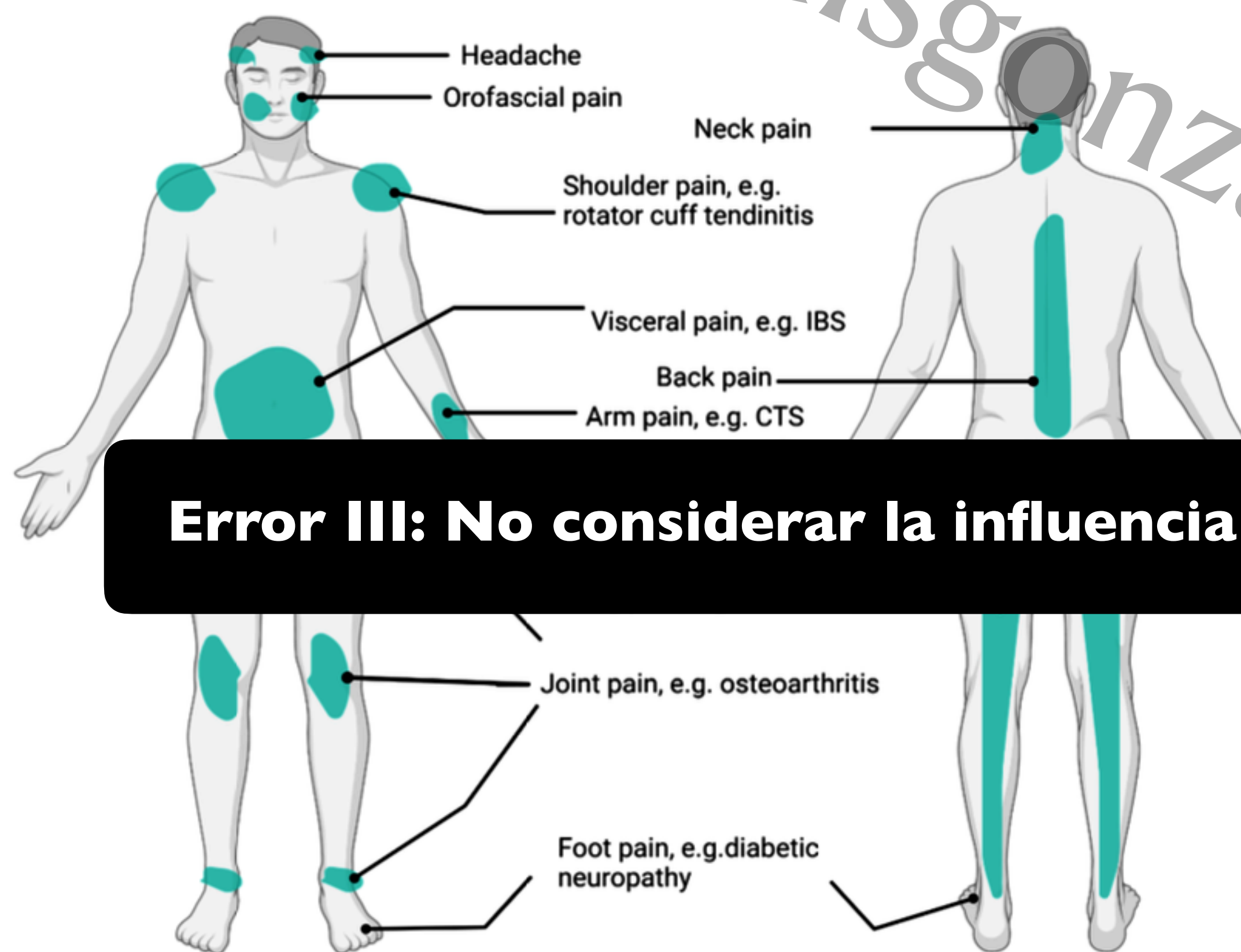
JCI insight

RESEARCH ARTICLE

Vagal gut-brain signaling mediates amygdaloid plasticity, affect, and pain in a functional dyspepsia model

El Razonamiento clínico - pacientes crónicos y complejos

No valorar el SGI - Eje Gut Brain



Journal of
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British Journal of Anaesthesia, 123 (5): 637–654 (2019)

doi: 10.1016/j.bja.2019.07.026

Error III: No considerar la influencia del SGI y de la respuesta inmune en el dolor crónico

Pain regulation by gut microbiota: molecular mechanisms and therapeutic potential

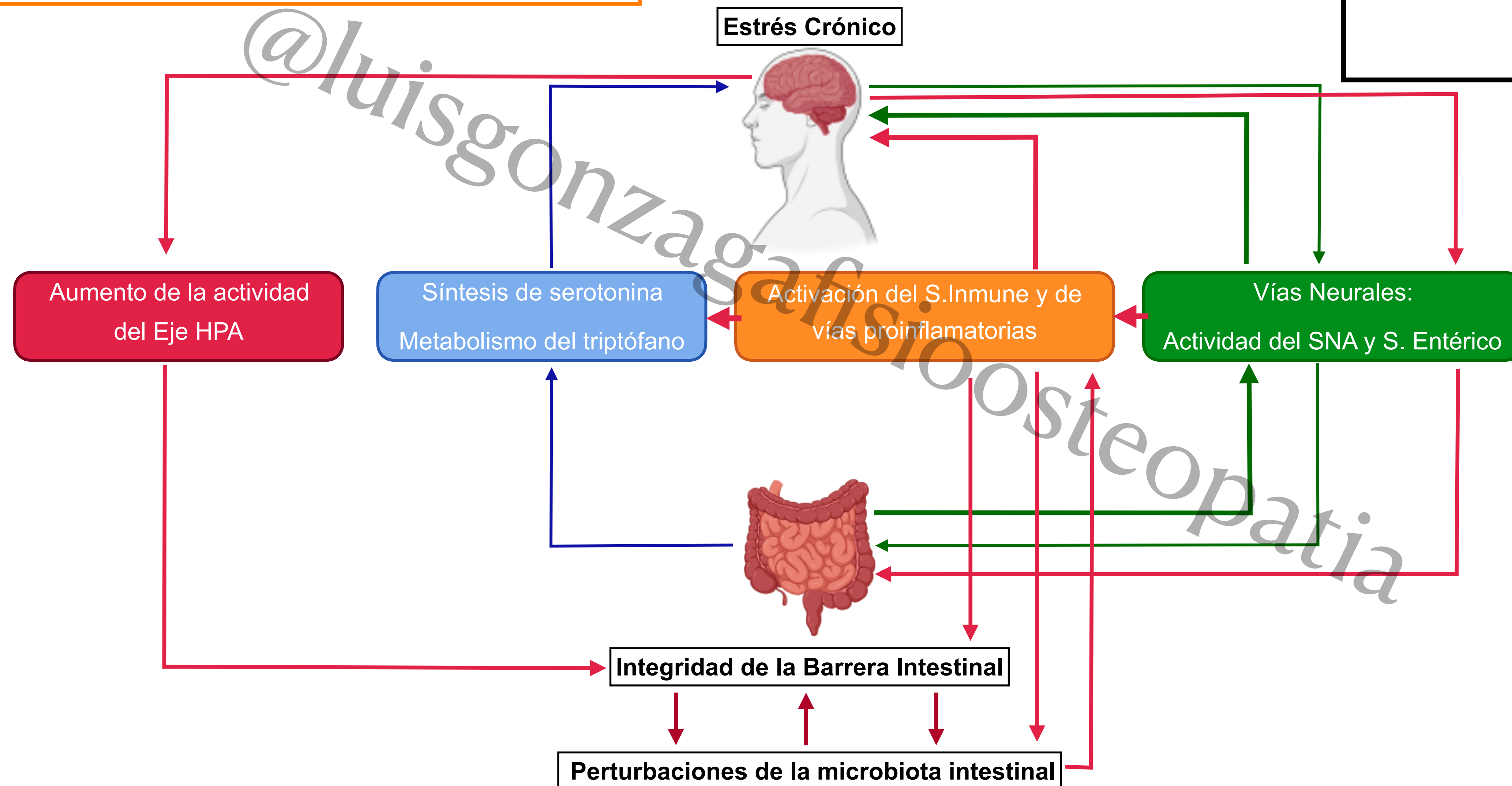
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El Razonamiento clínico - pacientes crónicos y complejos

Ejes de regulación Gut Brain - HPA



El Razonamiento clínico - pacientes crónicos y complejos

Ejes de regulación Gut Brain - HPA

CNS Neuroscience & Therapeutics

REVIEW

CNS Neuroscience & Therapeutics

Stress and the Microbiota–Gut–Brain Axis in Visceral Pain: Relevance to Irritable Bowel Syndrome

frontiers Frontiers in Psychiatry

TYPE Mini Review
PUBLISHED 19 May 2023
DOI 10.3389/fpsy.2023.1204136

Check for updates

OPEN ACCESS

EDITED BY
Andreas Stengel,
University Hospital Tübingen, Germany

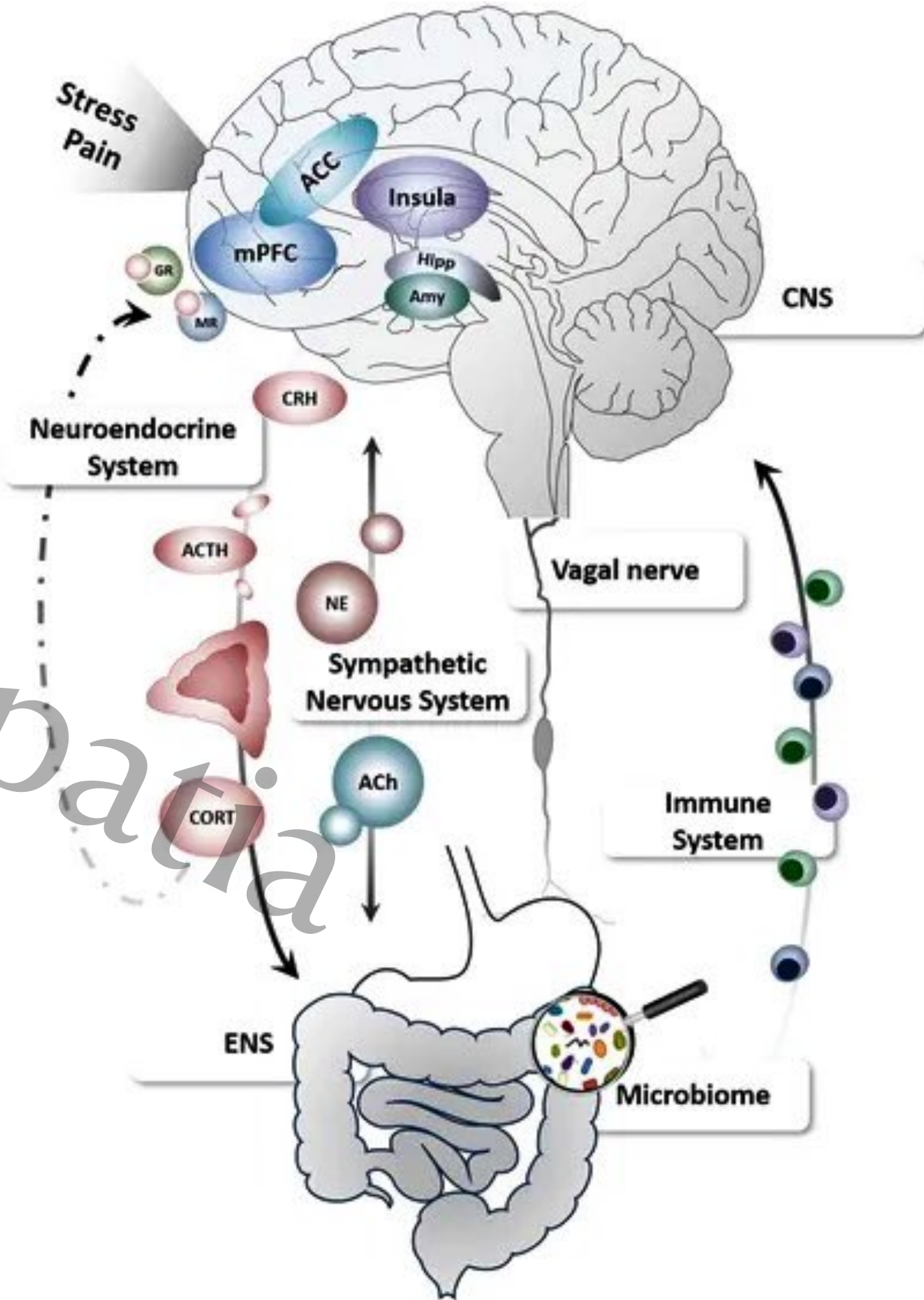
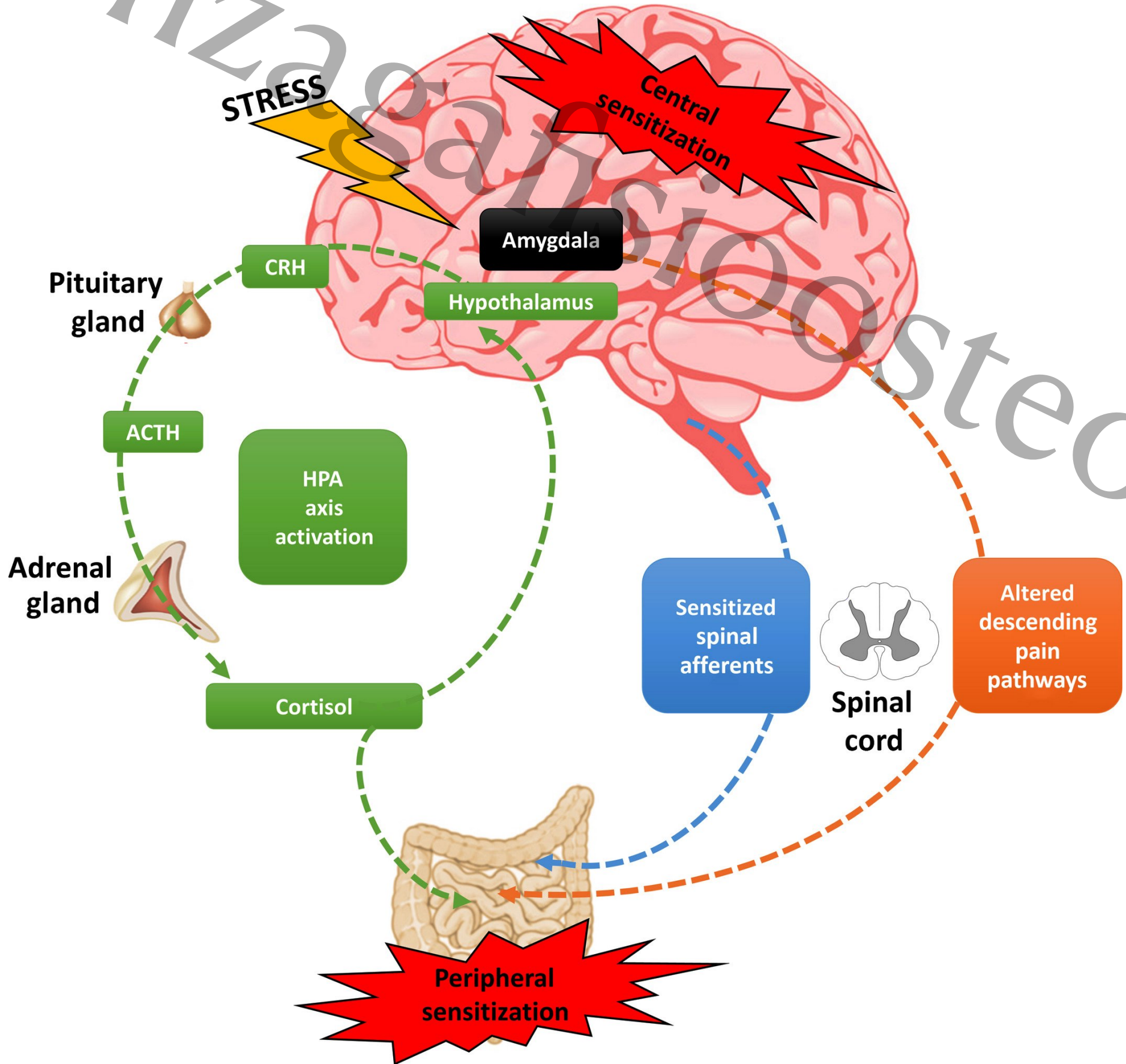
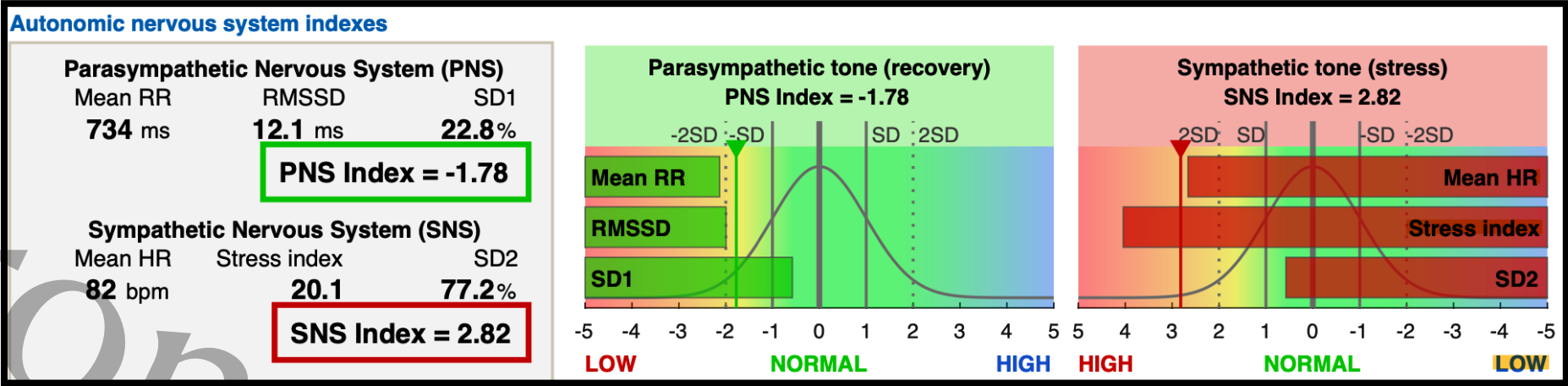
REVIEWED BY
Anthony C. Johnson,

Connecting dots in disorders of gut-brain interaction: the interplay of stress and sex hormones in shaping visceral pain

International Journal of Molecular Sciences

Review

The Effects of Stress and Diet on the “Brain–Gut” and “Gut–Brain” Pathways in Animal Models of Stress and Depression



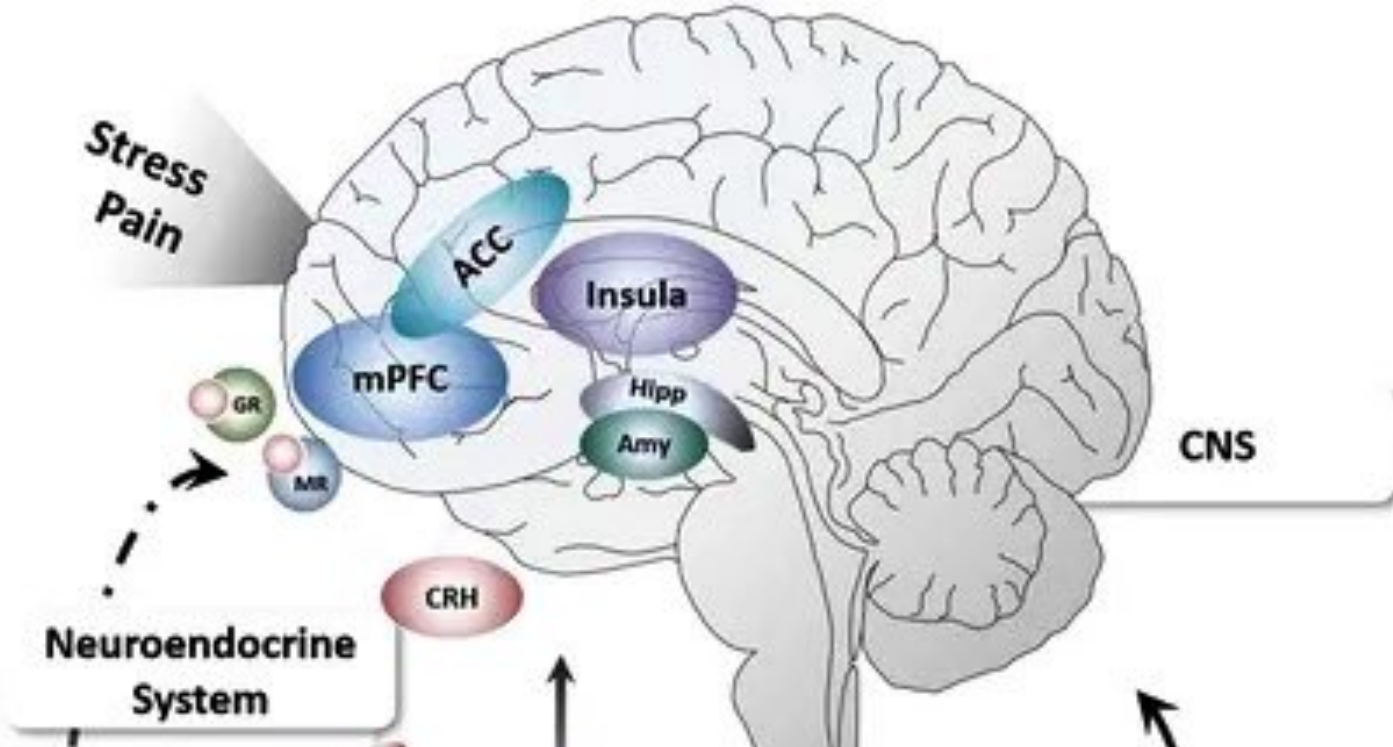
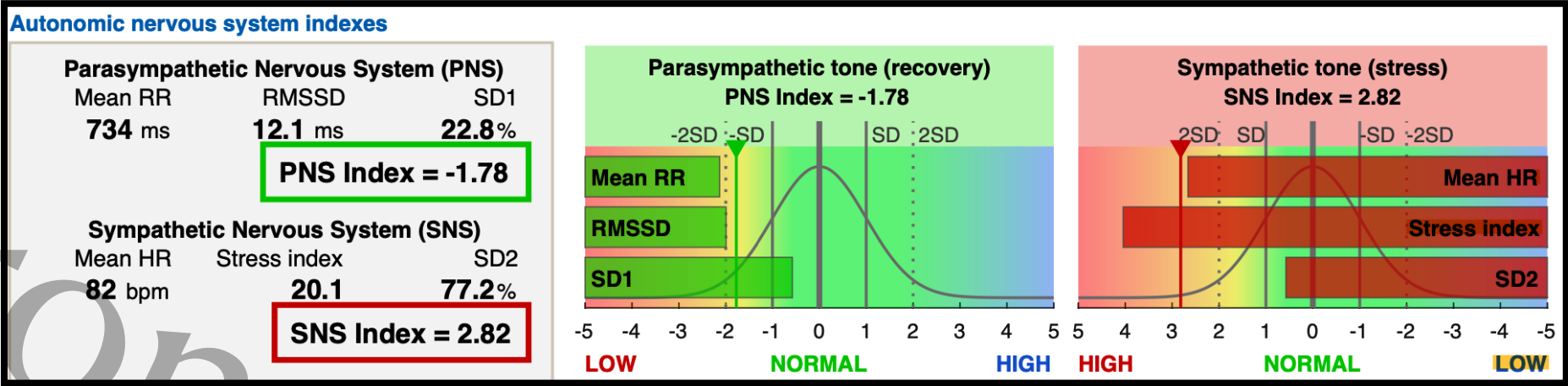
El Razonamiento clínico - pacientes crónicos y complejos

Ejes de regulación Gut Brain - HPA

CNS Neuroscience & Therapeutics

REVIEW

Stress and the Microbiota–Gut–Brain Axis in Visceral Pain: Relevance to Irritable Bowel Syndrome



from

Check

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EDITED BY
Andreas Stengel,
University Hospital Tübingen, Germany

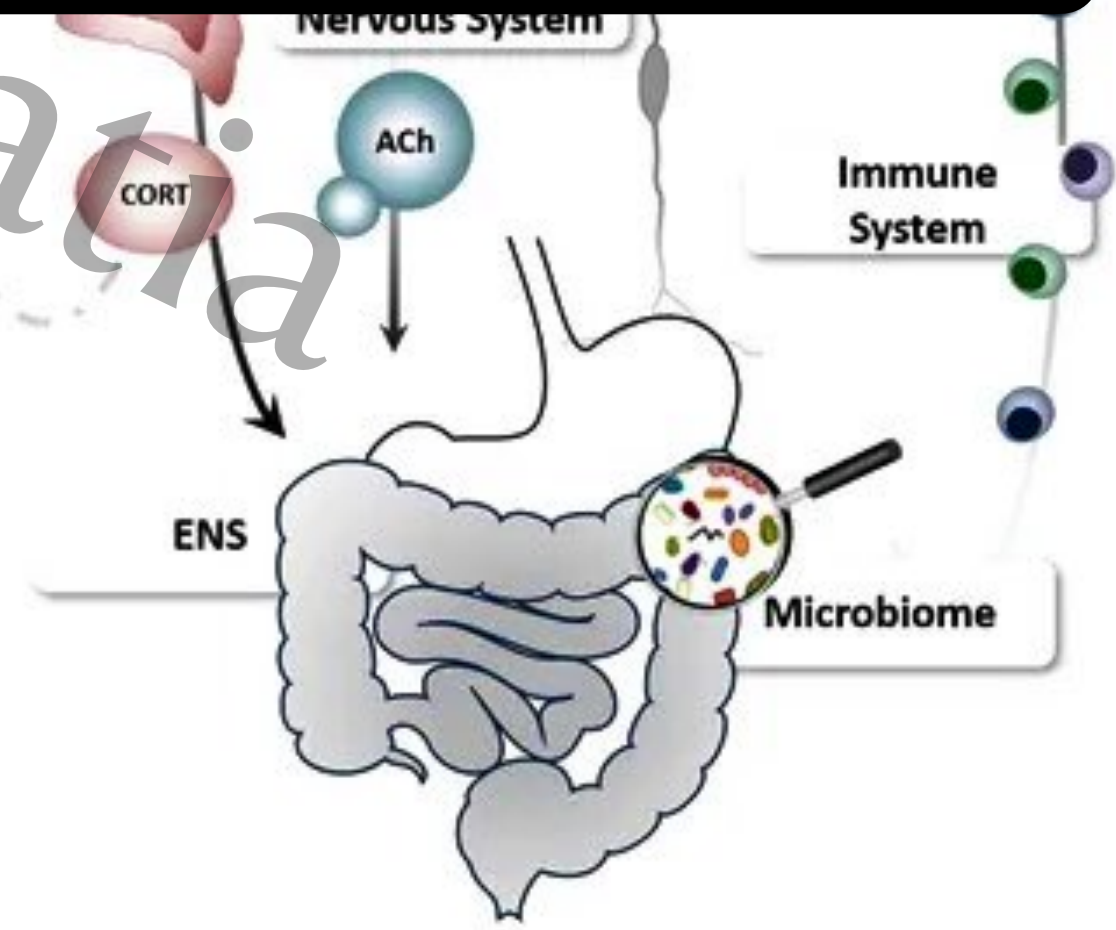
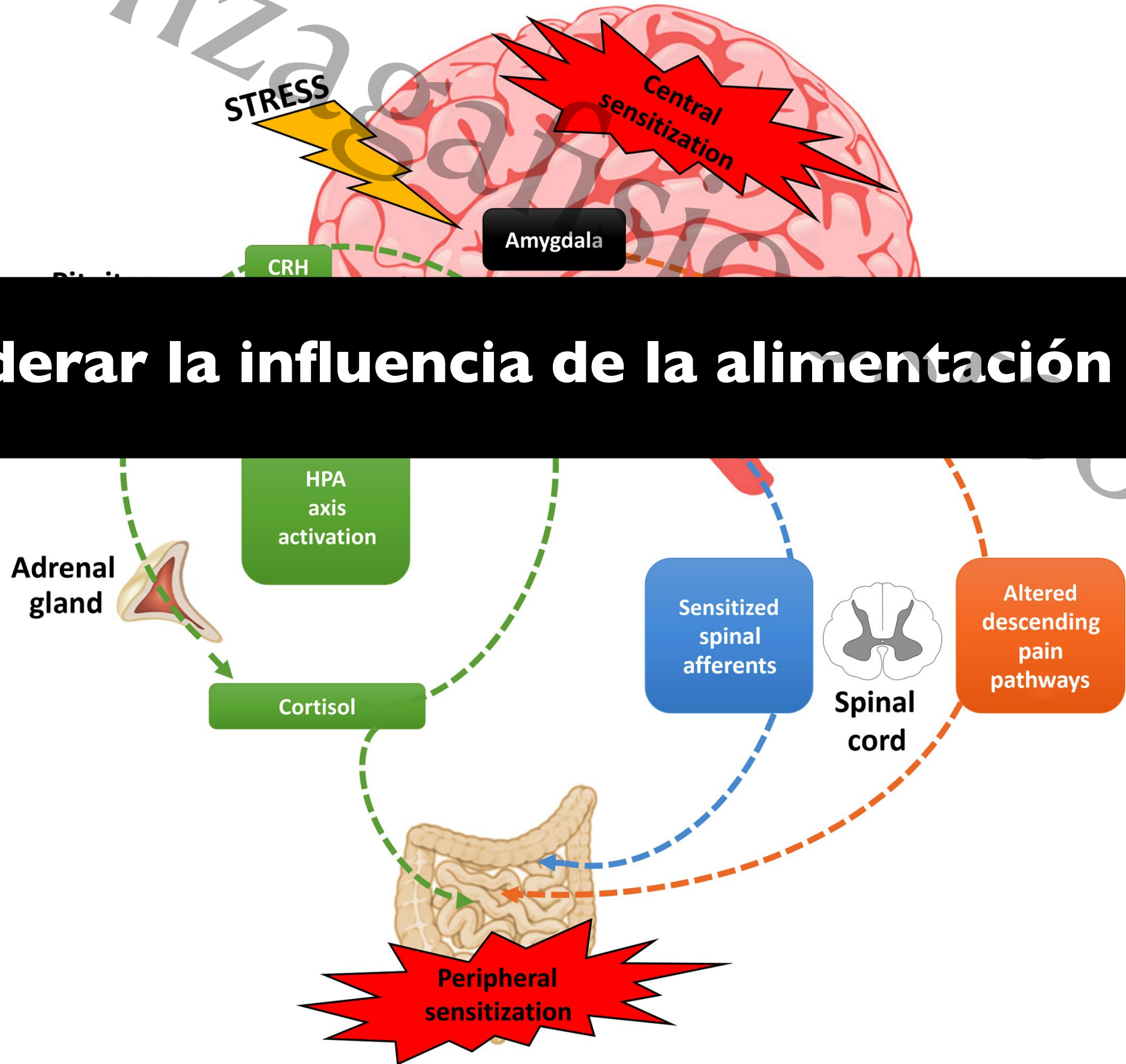
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“Gut–Brain” Pathways in Animal Models of Stress
and Depression



El Razonamiento clínico - pacientes crónicos y complejos

La capacidad del profesional

García-Martínez *et al.* *BMC Primary Care* (2022) 23:9
<https://doi.org/10.1186/s12875-021-01617-3>

BMC Primary Care

RESEARCHOpen Access

Misbeliefs about non-specific low back pain and attitudes towards treatment by primary care providers in Spain: a qualitative study

Check for updates

Unifactorial

Modelo biomédico

Alteraciones estructurales

Ejercicio terapéutico

Higiene postural

Reposo

El Razonamiento clínico - pacientes crónicos y complejos

La capacidad del profesional

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BMC Primary Care

RESEARCHOpen Access

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Check for updates

Unifactorial

Modelo biomédico

Alte

Error V: Las creencias y preparación de los profesionales implicados

Ejercicio terapéutico

Higiene postural

Reposo

El Razonamiento clínico - pacientes crónicos y complejos

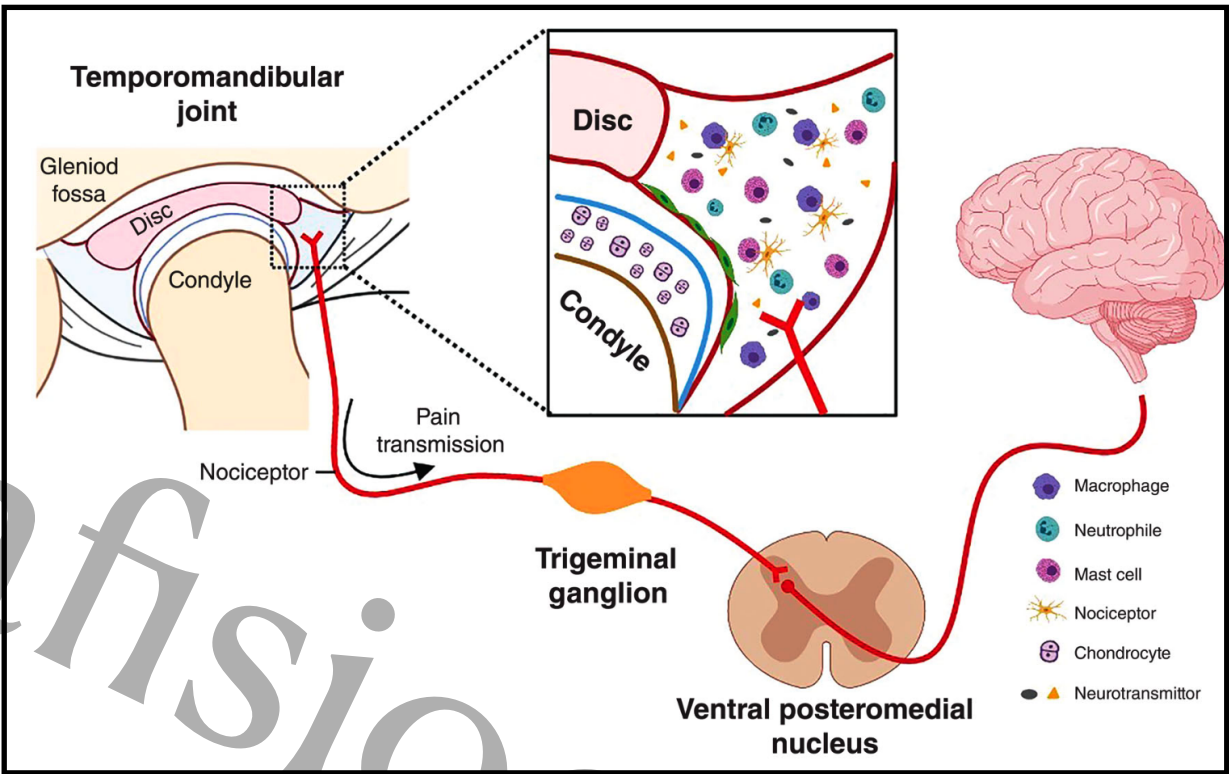
Mucho más...

DOI: 10.1002/JLB.3MR0621-731RR

MEETING REVIEW

JLB
JOURNAL OF
LEUKOCYTE
BIOLOGY

Neuroimmune interactions in painful TMD: Mechanisms and treatment implications



OPEN

Citation: Transl Psychiatry (2016) 6, e888; doi:10.1038/tp.2016.168
www.nature.com/tp

REVIEW

Glial contributions to visceral pain: implications for disease
etiology and the female predominance of persistent pain



ELSEVIER

Available online at www.sciencedirect.com

SCIENCE @ DIRECT®

Neuroscience and Biobehavioral Reviews 28 (2004) 395–414

Review

Interactions between the cardiovascular and pain regulatory
systems: an updated review of mechanisms
and possible alterations in chronic pain

NEUROSCIENCE AND
BIOBEHAVIORAL
REVIEWS

www.elsevier.com/locate/neubiorev

El Razonamiento clínico - pacientes crónicos y complejos

Equilibrio
Simpato-Vagal -
HRV

Sedestación

Supino

Ortostasis

Agudo

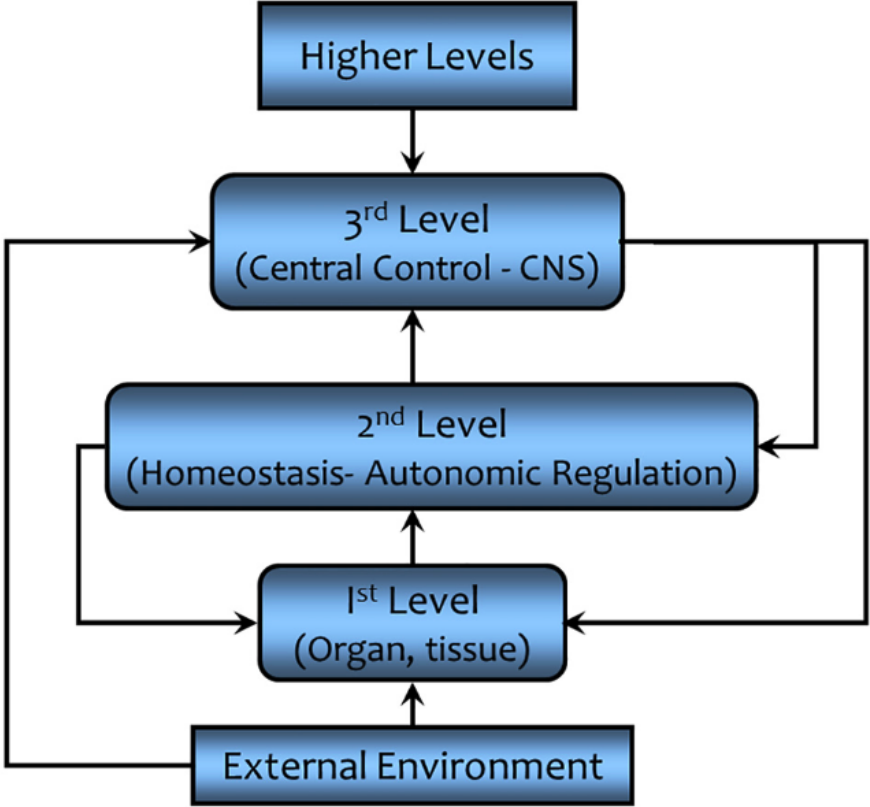


Crónico

Basal

Reactividad

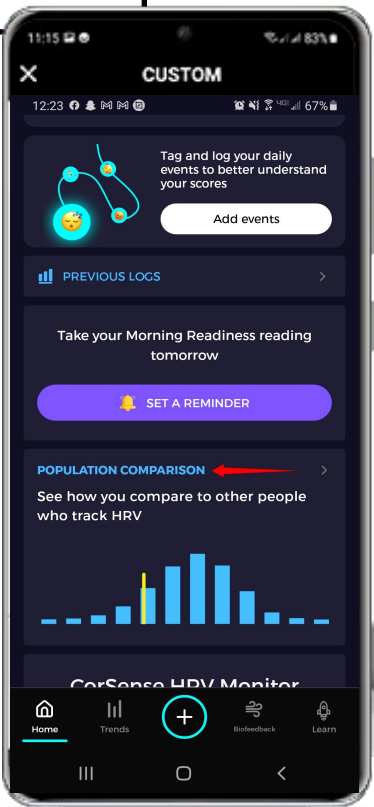
Recovery



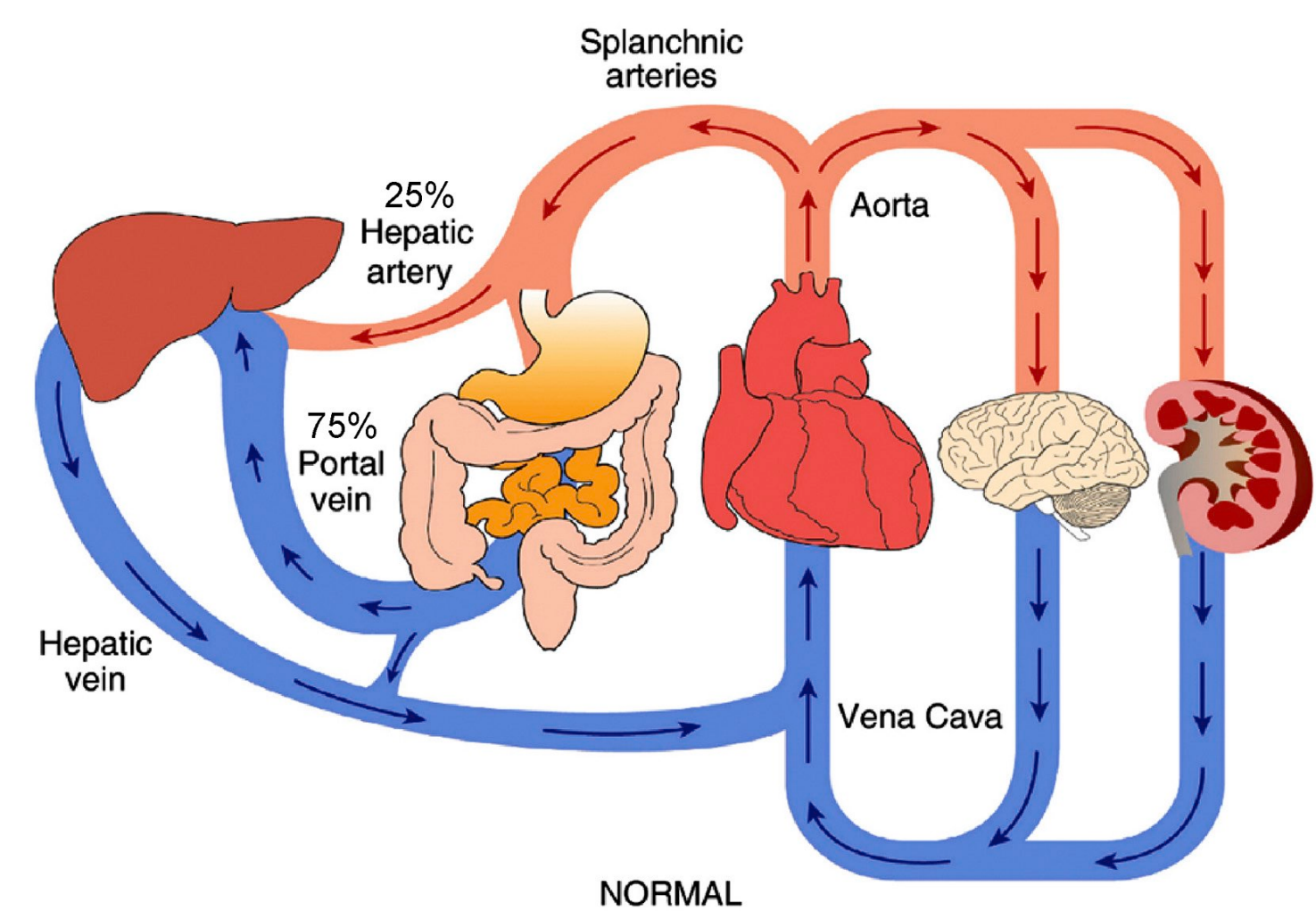
Lo más importante...

¿Cuál es la pregunta que quieres responder?

Kubios HRV



El Razonamiento clínico - pacientes crónicos y complejos



The NEW ENGLAND JOURNAL of MEDICINE

REVIEW ARTICLE

CURRENT CONCEPTS

Dysfunction of the Diaphragm

