

Illinois Osteopathic Medical Society



2024 WINTER SCIENTIFIC SEMINAR

December 12-15, 2024 at The Westin Hotel, Lombard, IL



Illinois Osteopathic Medical Society General Membership Meeting

Friday, December 13, 2024

12:00PM – 1:00PM



Call to Order & Roll Call

Steve Morton, DO

President-elect



Agenda

1. **Call to Order and Establish Quorum**
Steve Morton, DO, President-elect
2. **Recite Mission Statement and Osteopathic Pledge of Commitment**
Steve Morton, DO, President-elect
3. **Approval of 2023 Annual Membership Meeting Minutes – ACTION**
Steve Morton, DO, President-elect
4. **President’s Report – 2024 Year-in-review [5 minutes]**
Steve Morton, DO, President-elect
5. **Treasurer’s Report [5 minutes]**
Curtis Johnston, DO, Treasurer
6. **MWU-CCOM Update [5 minutes]**
Thomas Boyle, DO, Dean
7. **Proposed Illinois COM Update [5 minutes]**
John Lucas, DO, Proposed Dean
8. **Advocacy Update [5 minutes]**
Harald Lausen, DO, IOPAC Chair
9. **Bylaws Review and Comment Period [5 minutes]**
Kim Huntington-Alfano, DO, Past President
10. **Nominating Committee Report – [5 minutes] - ACTION**
Kim Huntington-Alfano, DO, Past President, Chair
11. **Swearing In of 2025 Board of Trustees [5 minutes]**
Teresa Hubka, DO, President of the American Osteopathic Association
12. **Announcement of 2025 Cabinet and Committee Chairpersons [5 minutes]**
Steve Morton, DO, President
13. **Other Business**
Steve Morton, DO, President
14. **Adjournment**
Steve Morton, DO, President

IOMS Mission Statement & Osteopathic Pledge of Commitment

Steve Morton, DO
President-elect



Mission Statement

The purpose of the IOMS is to protect, advocate, maintain, and support the philosophy of osteopathic medicine for the benefit of the profession and the patients it serves.

Osteopathic Pledge of Commitment

I pledge to:

Provide compassionate, quality care to my patients;

Partner with them to promote health;

Display integrity and professionalism throughout my career;

Advance the philosophy, practice and science of osteopathic medicine;

Continue life-long learning;

Support my profession with loyalty in action, word and deed; and

Live each day as an example of what an osteopathic physician should be.

Minutes from 2023 Membership Meeting

ACTION

Steve Morton, DO

President-elect

**IOMS 2023 Annual Membership Meeting
Saturday, December 8, 2023 – Meeting Minutes**

AGENDA ITEM	ACTION	NOTES
Roll Call		All Board of Trustees and Staff were present and a quorum was established.
Call to Order	Action	Dr Huntington-Alfano called meeting to order at 12:18pm
Approval of Minutes	Action	The December 2022 Annual Membership Meeting minutes were approved as presented by majority vote.
President's Report	Information	<p>Dr. Huntington-Alfano reflected on the year and the successful accomplishment of the top three strategic goals: to review and update the bylaws, to redesign the website, and to execute an impactful CME conference. She was pleased to report that all three goals were executed and expressed enthusiasm for continued success in 2024 under the tenure of Dr. Rosch.</p> <p>Dr. Huntington-Alfano and Dr. Rosch welcomed the new Executive Director, Gina Fournie, who will begin January 1, 2024. Each Trustee introduced themselves as well as the Staff and in conclusion, all expressed their heartfelt thanks to Elizabeth Harano for her dedication as Interim Executive Director.</p>
Financial Report	Information	<p>Dr. Sweeney reported the December financial position, which remained consistent with previous months.</p> <p>He then reported on the status of membership, which also remained consistent with previous months.</p>
Advocacy Update	Information	Dr. Naftaly updated the Board with positive results from attending the AOA DO Day in April 2023 and being awarded the 2023 Affiliate Award by the AOA.
2022-2023 Recognition	Information	Dr. Huntington-Alfano provided heartfelt thanks and appreciation to the 2022-2023 Officers and Board of Trustees for their dedication and commitment to IOMS during their term of service.
CCOM Update	Information	Dr. Boyle, Dean of CCOM and Past Trustee of IOMS, provided an update regarding osteopathic education and CCOM. He highlighted the focus on increasing

		annual enrollment, which is currently down 10%, to alleviate the effects of the physician shortage. He also drew attention to the decline in enrollment in residency programs and an overall decline in the interest of pursuing healthcare as a profession. CCOM is actively adapting their recruiting and opening a new school in partnership with The Psychology School, in addition to strategies for residency programs and GME.
Approval of Bylaws	Action	Dr. Huntington-Alfano walked through the proposed changes to the IOMS bylaws and answered questions. The bylaws revisions were taken as a slate and approved as presented by majority vote.
Nominating Committee Report	Action	<p>Dr. Naftaly provided a brief overview of the elected 2024 Cabinet and Trustees. An updated Board roster and committee assignments will be distributed in early 2024 upon the start of the new term.</p> <p>Dr. Hubka, AOA President-elect, performed the searing in ceremony of IOMS 2023 Officers, including:</p> <p>Laura Rosch, DO, President Steve Morton, DO, President-elect Kim Huntington-Alfano, Immediate Past President Bryan Sweeney, DO, Vice President Curtis Johnston, DO, Treasurer</p>
2023-2024 Recognition	Information	Dr. Rosch accepted the passing of the gavel and made brief welcome remarks.
Adjourn	Action	Upon motion and second the meeting was adjourned at 12:45pm.

President's Report

Steve Morton, DO, President-elect
on behalf of
Laura Rosch, DO, President

Ten significant aspects of IOMS that made 2024 so rewarding.

- The Executive Board of IOMS
- Financial Stability
- Increased Student Involvement
- Enhanced Communications
- Dr. Teresa Hubka's Leadership
- Stable Membership
- Osteopathic Advocacy Network
- Support from the AOA
- New Osteopathic Medical School
- Executive Director Gina Fournie

Treasurer's Report

Curtis Johnston, DO

Treasurer

**Illinois Osteopathic Medical Society
Statement of Financial Position
Preliminary and Unaudited**

	<u>JAN 1, 2024</u>	<u>DEC 10, 2024</u>	<u>% Change</u>
ASSETS			
Cash	87,659	36,110	(59%)
Investments	157,763	181,127	7%
Pledges Receivable (Net)	-	-	
Total Assets	\$ 245,422	\$ 217,237	(11%)
LIABILITIES			
Accounts Payable	35,899	42,456	18%
Winter Seminar Speaker Disbursements	8,400	8,250	(1%)
Accrued Expenses	-	-	
Total Liabilities	44,299	49,706	(12%)
NET ASSETS	\$201,123	\$167,531	(17%)

Proposed IL-COM Update

John Lucas, DO

Dean, Illinois College of Osteopathic Medicine

Advocacy Update

Harald Lausen, DO
Chair, IO-PAC

Annual Bylaws Review

Kim Huntington-Alfano, DO
Immediate Past President

Nominating Committee Report

ACTION

Kim Huntington-Alfano, DO

Immediate Past President

Recognition of Outgoing Trustees

Thank you to those who have served IOMS to uphold the mission of the organization and carry out its activities.

Nikhil Bhargava, DO, District 5 Trustee

Matthew Harrison, DO, District 4 Trustee

Ayesha Hasan, DO, Resident Trustee

Gerald McClallen, DO, Interim District 5 Trustee

Nominations for 2025 Board of Trustees

President – Steven Morton, DO, MBA

President-Elect – Bryan Sweeney, DO

Vice President – Bryan Sweeney, DO

Treasurer – Curtis Johnston, DO

Past President – Kimberly Huntington-Alfano, DO, MBA

Member at Large – Hilal Arnouk, MD, PhD

Member at Large – Naresh Chandan, DO

Resident Trustee – Seeking a candidate (1-year term)

Student Trustee – Seeking nomination from Dean Boyle (1-year term, June-May)

District 1 – Angelique Mizera, DO

District 2 – Rupesh Patel, DO

District 3 – Amanda Krus-Johnston, DO

District 4 – Seeking a candidate (3-year term)

District 5 – Seeking a candidate (3-year term)

Installation of Board of Trustees

Teresa Hubka, DO

President, American Osteopathic Association

Appointment of 2025 Committee Chairs

Steve Morton, DO

President

Other Business

Steve Morton, DO

President

Adjournment

Steve Morton, DO
President

Basic OMT Coding and Billing

IOMS 2024 Winter Scientific Seminar

Harald Lausen, DO, MA, FACOFP dist.

Chief Medical Officer, South Central Hospital Alliance of Illinois

Family Physician, Carlinville Area Hospital & Clinics

Faculty Disclosure

- I have no conflicts or disclosures
- I am not a billing and coding expert
- I am providing information based on experience

Disclaimer

- The implementation and interpretation of the guidelines and recommendations for coding and billing are at the sole discretion of the provider and staff.
- The provider and staff accept sole responsibility for these decisions and repercussions.
- Neither the authors, nor the sponsors of this function accept any liability in this regard.

Objectives

- Become familiar with the ICD and E&M coding associated with somatic dysfunction diagnoses and OMT management.
- Reinforce the concept that OMT is a procedure.
- Become familiar with concept of billing for an office visit and OMT during the same session.
- Become familiar with the resources available through the AOA to support third party payor issues surrounding reimbursement for OMT.

Who performs OMT?

- *Manual therapy* is a systematic hands-on procedure or method
- Performed by a health care professional
- Provides therapeutic care for patients consistent with his or her statutory scopes of practice.

Osteopathic Manipulative Treatment

- A form of manual therapy taught to and used by licensed osteopathic physicians (MDs now too)
- OMT - Therapeutic application of guided forces by an osteopathic physician to improve physiologic function and/or support homeostasis

Somatic Dysfunction (TART)

- Defined as:
 - “altered or impaired function of the body’s framework, including skeletal, arthroidal, and myofascial structures and associated vascular, lymphatic, and neural elements.”
- Components:
 - Tenderness
 - Asymmetry
 - Restriction of Motion
 - Tissue Texture Change

The Use of OMT

- 77% of those who perform OMT use it on less than 5% of their patients.
- Those physicians who are specialists in NMM/OMM employ OMT in 95% of their patients
- 50% of Osteopathic Family Physicians do less than five manipulations per day
- 57% of Osteopathic Physicians do not use OMT

Barriers to Performing OMT

- Lack of Time
- Lack of Organizational / Practice Support
- Lack of Confidence / Proficiency
- Lack of Reimbursement / Billing Proficiency
- Lack of Patient Knowledge / Acceptance

Some Common Conditions for OMT

- URI / Acute Sinusitis / Otitis Media
- Acute Bronchitis / Pneumonia
- Cervical / Thoracic / Lumbar Pain
- Sacroiliac Dysfunction / Hip Pain
- Tension / Migraine Headache
- COPD / Asthma / Chest Wall Pain
- GI Issues / Constipation
- Urinary Tract / GU Symptoms

**How many of your patients
see a Chiropractor?**

Integrating OMT - Basics

- Start performing on limited amount of patients
- Use a few high yield techniques
- Treat the significant areas
- If you do the work of an office visit, bill using the correct E&M code
- Bill OMT as a procedure (that's what it is!!!)

Evaluation & Management Codes

- New Patients
 - 99201, 99202, 99203, 99204, 99205
- Established Patients
 - 99211, 99212, 99213, 99214, 99215

ICD Diagnostic Codes

- M99.00 somatic dysfunction, cranial
- M99.01 somatic dysfunction, cervical
- M99.02 somatic dysfunction, thoracic
- M99.03 somatic dysfunction, lumbar
- M99.04 somatic dysfunction, sacrum
- M99.05 somatic dysfunction, pelvis
- M99.06 somatic dysfunction, upper extremity
- M99.07 somatic dysfunction, lower extremity
- M99.08 somatic dysfunction, ribs
- M99.09 somatic dysfunction, abdomen/other

Procedure (CPT) Codes for OMT

- 98925 (1-2 regions treated)
- 98926 (3-4 regions treated)
- 98927 (5-6 regions treated)
- 98928 (7-8 regions treated)
- 98929 (9-10 regions treated)

- Only use 1 code for regions treated

Getting Paid for OMT - Standard

- Bill using the correct E&M code for the medical visit
- Attach a -25 modifier (significant, separate to E&M service on same day) to the visit
- Bill OMT as a procedure (that's what it is!!!)
- Always attach the OMT procedure E&M code to a Somatic Dysfunction Diagnosis

Documenting OMT - Basics

- Document a medical chief complaint and history
- Also document somatic dysfunction in physical exam
- Diagnoses should include medical diagnoses and somatic dysfunction diagnoses
- State “ Decision to perform OMT was based on today’s history and physical exam” in your note
- Link the OMT procedure code (CPT) to a somatic dysfunction diagnosis
- Document a clear and separate procedure note

Documenting OMT - Basics

- The procedure note should also include:
 - Informed Consent
 - Areas treated and types of techniques used
 - Patient's tolerance of the treatment
 - Complete treatment plan along with education, exercises, lifestyle changes, and medications
 - Patient follow-up

Example – Low Back Pain

- Imagine a visit for LBP; you do the typical medical visit.
- Code M54.50 Lumbar Back Pain
- Bill 99213 office visit
- What would happen if you considered somatic dysfunction?

Example – Low Back Pain & OMT

- Imagine a visit for LBP; you do the typical medical visit **AND** perform OMT.
- Bill 99213 office visit (E&M) with a -25 modifier
- M54.50 Lumbar Back Pain (ICD) medical diagnosis
- Also code somatic dysfunction (ICD) M99.03, M99.04, M99.05 (lumbar, sacrum, pelvis)
- Attach 98926 (CPT) to one of the somatic dysfunction codes (3-4 regions treated)

Reminders

- The chief complaint should be for a medical issue
- Chief complaints listing OMT can only be billed as a procedure
- To bill for both the visit and the procedure, your documentation must clearly demonstrate the medical issue and the procedure
- The physical exam should include somatic dysfunction findings (TART)
- There should be a separate medical diagnosis and somatic dysfunction diagnosis (ICD) to bill both components
- OMT procedure codes (CPT) should be attached to a somatic dysfunction diagnosis code
- State “ Decision to perform OMT was based on today’s history and physical exam” in your note

Getting Paid for OMT - Insurance

- Get paid for your work
- OMT is a procedure
- Get paid for the office visit and the procedure (OMT) on the same day (when applicable)
- Certain situations may not allow for both to be billed in same day
 - FQHC, RHC, VA, Specific Medicare and Medicaid
- Contact AOA if you need help with reimbursement

AOA Resources

- Osteopathic Billing and Coding
 - <https://osteopathic.org/practicing-medicine/business-of-medicine/osteopathic-billing-coding/>
- Assistance

If you're an AOA member, contact us to receive personal assistance in the areas of documentation, coding and billing compliance, and payment and/or insurer hassles. If you have questions or need assistance, please contact physicianservices@osteopathic.org or call (312) 202-8194.

Reimbursement for OMT

- Theoretical Consideration
- 4 days / week; 48 weeks / year
- 5 OMT patients / day
- Procedural billing (-25 modifier)
- 98925 (1-2 regions)
- Average \$40 per procedure
- Additional \$38,000+ annually

High Yield Approach for OMT

- Treat 1-3 regions at most
- Treat sympathetic, parasympathetic, and lymphatic component for visceral / organ-based complaint
- Sympathetic – thoracic and lumbar regions
- Parasympathetic – suboccipital and sacral regions
- Lymphatic – lymphatic chains or diaphragms
- Use templates / quick texts / dot phrases for OMT procedures

Practice Examples

- Tension Headache, Upper Respiratory Infection
- Asthma, Cough, Lower Respiratory Infection
- COPD, CHF
- Vomiting, GERD, Irritable Bowel
- UTI, Pelvic Pain, Kidney Stone

- How would you document?
- Pick 1- 4 high yield techniques

Clinic visit without OMT

Chief complaint: Patient presents with sinus congestion.

History of present illness: Patient is a 51-year-old female who presents with a 7-day history of sinus congestion. Patient denies fever or chills. Patient has an intermittent dry cough. No shortness of breath. No chest pain. Occasional nasal drainage. Mild occipital headache. No abnormal neurologic symptoms. No rash. No obvious sick contacts.

Problem list: Mixed hyperlipidemia, adult hypothyroidism, GERD.

Allergies: Latex. No known drug allergies.

Medications: Pravastatin 20 mg nightly. Levothyroxine 50 mcg daily. Omeprazole 20 mg daily.

Social history: Former smoker. Rare alcohol use. Daily caffeine use. Employed full-time office assistant.

Health maintenance: Flu vaccine up-to-date. Colon cancer screening and breast cancer screening up-to-date. Cervical cancer screening up-to-date. Depression screening, anxiety screening, and social determinants of health screening up-to-date.

Past surgical history: Cesarean section x 2.

Vitals: Weight 149 pounds. Height 60.8 inches. BMI 28.34. Temp 97.9. Pulse 85. Respirations 16. Pulse oximetry 99% on room air. Blood pressure 117/75 sitting in left arm.

Physical exam:

General: Well-nourished, well-developed and pleasant 51-year-old female. No distress.

HEENT: Neck supple without thyromegaly. No cervical lymphadenopathy. Mild tenderness over the maxillary sinuses. Mild erythema and edema of the nasal turbinates bilaterally. Mild post nasal drainage noted. No pharyngeal erythema or exudate noted. Tympanic membranes intact bilaterally without erythema.

Cardio: Regular rate and rhythm without murmur. No peripheral edema.

Lungs: Clear to auscultation bilaterally without rales, rhonchi, or wheezing. Normal inspiratory effort.

Psych: Alert and orient x 3. Normal mood and affect.

Assessment and plan:

Upper respiratory infection, acute (J06.9) --- Billed as 99213

Patient appears to have a viral upper respiratory infection. Patient has not had symptoms for greater than 10 days. Patient does not have a fever. We have recommended supportive treatment such as over-the-counter decongestant and cold and flu medicine. Patient does not have hypertension or cardiac history. We have also recommended adequate rest and fluid hydration. Patient will follow-up as needed. Patient understands to return to clinic if issues occur such as fevers, shortness of breath, productive cough, or significant sinus discomfort.

Clinic visit with OMT

Chief complaint: Patient presents with sinus congestion.

History of present illness: Patient is a 51-year-old female who presents with a 7-day history of sinus congestion. Patient denies fever or chills. Patient has an intermittent dry cough. No shortness of breath. No chest pain. Occasional nasal drainage. Mild occipital headache. No abnormal neurologic symptoms. No rash. No obvious sick contacts.

Problem list: Mixed hyperlipidemia, adult hypothyroidism, GERD.

Allergies: Latex. No known drug allergies.

Medications: Pravastatin 20 mg nightly. Levothyroxine 50 mcg daily. Omeprazole 20 mg daily.

Social history: Former smoker. Rare alcohol use. Daily caffeine use. Employed full-time office assistant.

Health maintenance: Flu vaccine up-to-date. Colon cancer screening and breast cancer screening up-to-date. Cervical cancer screening up-to-date. Depression screening, anxiety screening, and social determinants of health screening up-to-date.

Past surgical history: Cesarean section x 2.

Vitals: Weight 149 pounds. Height 60.8 inches. BMI 28.34. Temp 97.9. Pulse 85. Respirations 16. Pulse oximetry 99% on room air. Blood pressure 117/75 sitting in left arm.

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Cardio: Regular rate and rhythm without murmur. No peripheral edema.

Lungs: Clear to auscultation bilaterally without rales, rhonchi, or wheezing. Normal inspiratory effort.

Psych: Alert and orient x 3. Normal mood and affect.

Musculoskeletal: Bilateral suboccipital hypertonicity. Bilateral cervical paraspinal hypertonicity. C2, C3 rotated left side bent left. Restriction of tissue at thoracic inlet.

OR

Osteopathic Exam (Musculoskeletal): Bilateral suboccipital hypertonicity. Bilateral cervical paraspinal hypertonicity. C2, C3 rotated left side bent left. Restriction of tissue at thoracic inlet.

Assessment and plan:**Upper respiratory infection, acute (J06.9) --- Billed as 99213 with 25 modifier**

Patient appears to have a viral upper respiratory infection. Patient has not had symptoms for greater than 10 days. Patient does not have a fever. We have recommended supportive treatment such as over-the-counter decongestant and cold and flu medicine. Patient does not have hypertension or cardiac history. We have also recommended adequate rest and fluid hydration. Patient will follow-up as needed. Patient understands to return to clinic if issues occur such as fevers, shortness of breath, productive cough, or significant sinus discomfort.

Somatic Dysfunction of Head Region (M99.00)**Osteopathic Manipulative Treatment of 1 – 2 Body Regions (98925)**

Patient presents with upper respiratory infection and musculoskeletal findings consistent with somatic dysfunction. The decision to perform OMT was based on today's history and physical.

Procedure: OMT

Patient understands the risks and benefits of OMT. Patient gave both written and verbal consent.

The following areas were treated:

Head: Direct myofascial release of bilateral suboccipital region. Lymphatic drainage of submandibular and anterior cervical areas.

Cervical: Soft tissue of bilateral cervical paraspinal musculature. Facilitated positional release of C2 and C3.

Thoracic: Indirect myofascial release to thoracic inlet.

OMT procedure was tolerated. No complications. Patient was given postprocedural instructions. Patient understands to drink plenty of fluids and use anti-inflammatories as needed. Patient will follow-up as needed.

Somatic Dysfunction of Cervical Region (M99.01)**Somatic Dysfunction of Thoracic Region (M99.02)****Summary**

Billed a 99213 office visit for URI

-25 modifier notes a distinct and separate service on the same day

Documented somatic dysfunction diagnosis codes.

Documented OMT procedure

CPT 98925 procedure code for OMT attached to somatic dysfunction diagnosis.

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- Glossary Review Committee of the Educational Council on Osteopathic Principles. Glossary of Osteopathic Terminology. American Osteopathic Association Yearbook and Directory of Osteopathic Physicians, 1999. Chicago, IL: American Osteopathic Association; 1999.
- Healy, Colson J., Brockway, Matthew D. and Wilde, Benjamin B.. "Osteopathic manipulative treatment (OMT) use among osteopathic physicians in the United States" *Journal of Osteopathic Medicine*, vol. 121, no. 1, 2021, pp. 57-61. <https://doi.org/10.1515/jom-2020-0013>

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- Nelson, KE, ed. And Glonek, T, assoc ed. Somatic Dysfunction in Osteopathic Family Medicine. Chapter 30, Progress Notes and Coding: pp 470-489. Philadelphia, PA: Lippincott Williams & Wilkins; 2007.

Ward, RC, ed. Foundations for Osteopathic Medicine, Second Edition. Philadelphia, PA: Williams & Wilkins; 2003.

Comments / Questions

Thank You!

drlausen@aol.com



“An osteopath reasons from his knowledge of anatomy. He compares the work of the abnormal body with the normal body.”

Andrew Taylor Still MD, DO

Sleep is #1

Sleep in Primary Care

Tyler J. Saunders DO

My background

Tyler J. Saunders DO

- Illinois Wesleyan University
- Lake Erie College of Osteopathic Medicine
- Internship, Residency and Chief year: Swedish Hospital (Endeavor Health)
- Board certified Internal Medicine
- Institute of Functional Medicine Certified Practitioner
- Internal Medicine Residency Core Faculty
- Practice: PCP, OMT, Integrative and functional medicine, lifestyle and preventive medicine

Disclaimer/Disclosures

- I have no actual or potential conflicts of interest in relation to this presentation.
- If you fall asleep during presentation then you likely needed it...

Sleep is #1

Quotes

- “Tragically, one person dies in a traffic accident every hour in the United States due to a fatigue-related error. It is disquieting to learn that vehicular accidents caused by drowsy driving exceed those caused by alcohol and drugs combined.” -Matthew Walker PhD-
- “In whatever disease sleep is laborious, it is a deadly symptom; but if does good, it is not deadly.” -Hippocrates-
- “Sleep and Watchfulness, both of them when immoderate, constitute disease.” -Hippocrates

Sleep is #1

Objectives:

- Discuss why we should ask every patient how they are sleeping.
- Demonstrate that sleep is linked to all cause mortality
- Understand and be able to utilize sleep drivers in day to day practice
- Take away strategies to help patients change sleep hygiene and improve their health
- Think about how many common diagnosis are related to chronic sleep deprivation.

The State of Sleep

Room for improvement?

- Estimated that between 50 and 70 million US adults have a sleep disorder.¹
- Sleep about an hour and a half less than in 1942 in US (Gallop poll)
- 43% of primary care providers asks about sleep. ²
- 39.5% of Americans get 6 hours of sleep or less per day. ⁴

Sleep and morbidity

CDC Data 2022 5

- 1. Heart disease: 702,880
- 2. Cancer: 608,371
- 3. Accidents (unintentional injuries): 227,039
- 4. COVID-19: 186,552
- 5. Stroke (cerebrovascular diseases): 165,393
- 6. Chronic lower respiratory diseases: 147,382
- 7. Alzheimer's disease: 120,122
- 8. Diabetes: 101,209
- Association of sleep duration at age 50, 60, and 70 years with risk of multimorbidity. 35

Why is Sleep #1

Association of less sleep and all cause mortality.

- Mortality Associated with Short Sleep Duration: Meta analysis. 6
- Cancer: Probable carcinogen? 7
- Cardiovascular: time change? 8
- Neurocognitive decline: tau and amyloid? 9, 34
- Insulin resistance: blood sugar metabolism 10
- Accidents and micro-sleep. 11
- Immunity: Vaccines impact 12

Sleep is the foundation

Lifestyle intervention

- Diet/nutrition: Leptin, ghrelin and adiponectin 13
- Exercise and movement 14
- Stress/mental health 15,16
- Relationships: Sleep divorce?17



Common Sleep disorders

Insomnia

- Sleep on set insomnia
- Sleep maintenance insomnia
- Investigate causes (all about history)
- No formal screening
- Sleep hygiene first then CBT-I not medication
- Mental health critical

Obstructive Sleep Apnea

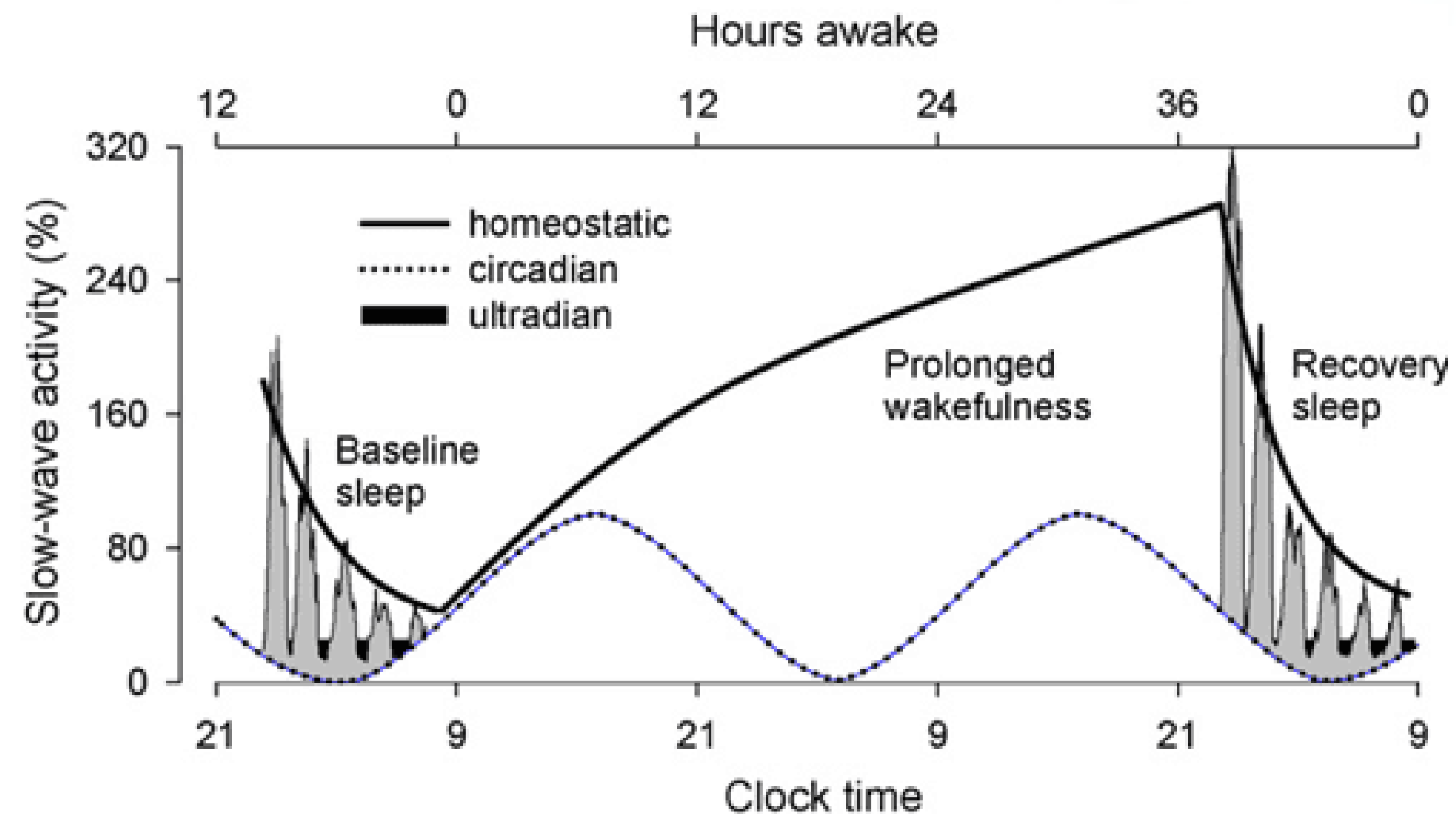
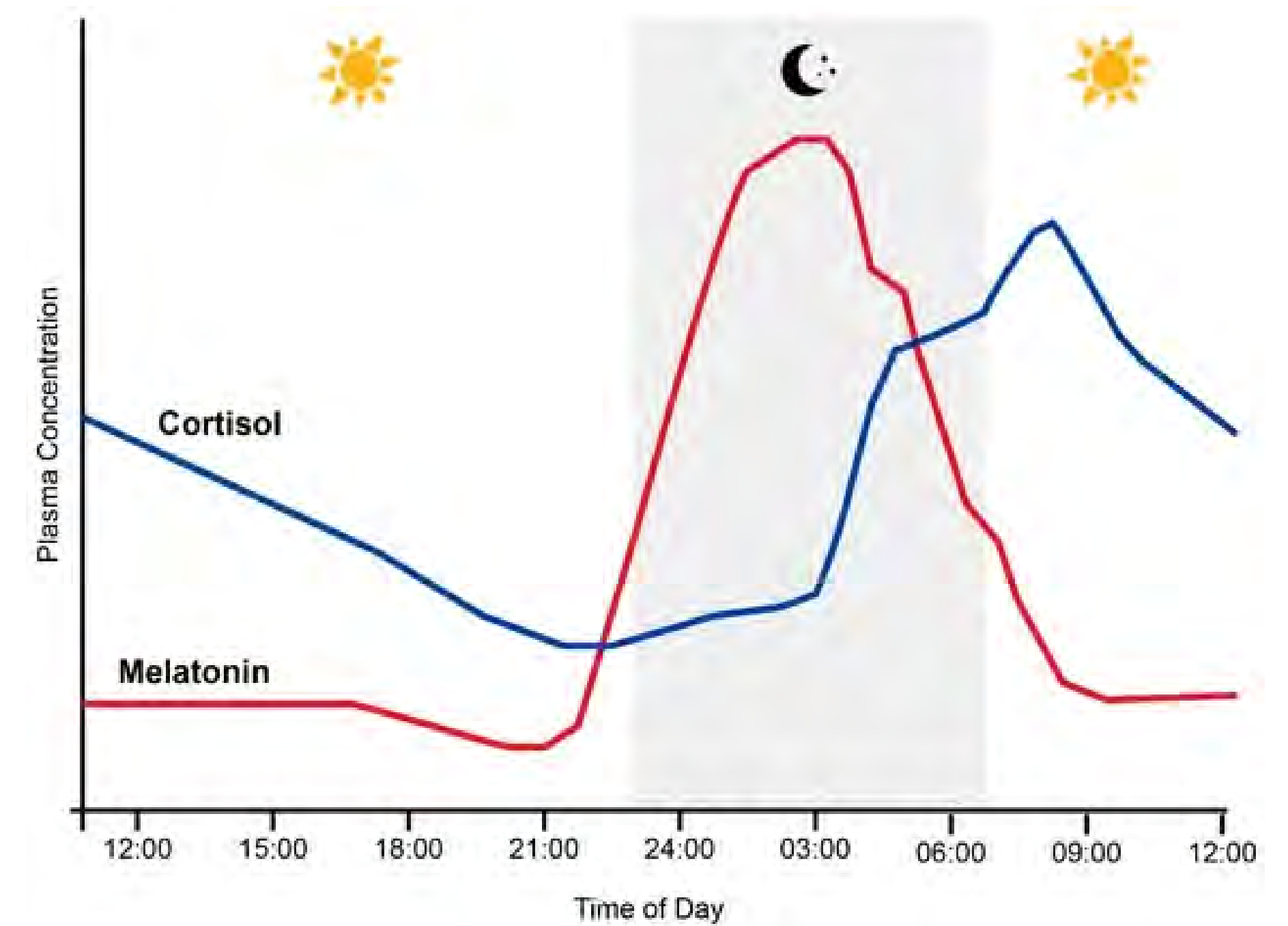
Keep an eye out

- 80-85% of sleep apnea undiagnosed.
- Increasing Obesity and Sleep apnea concerns
- Snoring, breathing through nose and Mouth tape?
- Home sleep studies.
- Secondary hypertension
- Day time somnolence

Sleep drivers

Three key factors

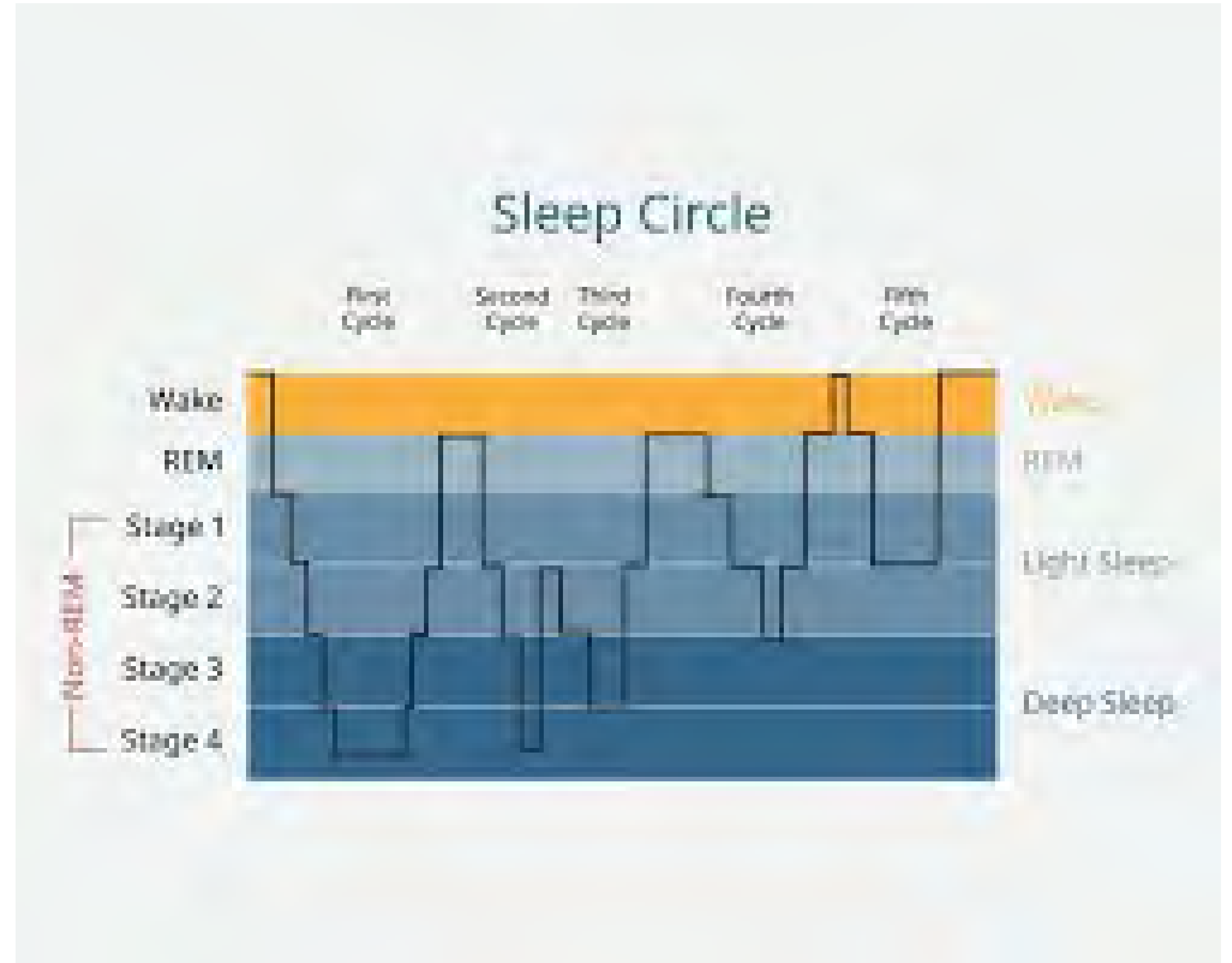
- Melatonin
- Cortisol
- Adenosine



Sleep Cycle

What is helpful?

- Sleep Stages
- Non-REM
 - Stage 1-2 (Light)
 - Stage 3-4 (Deep)
- REM
- Distribution throughout the night



Sleep Hygiene

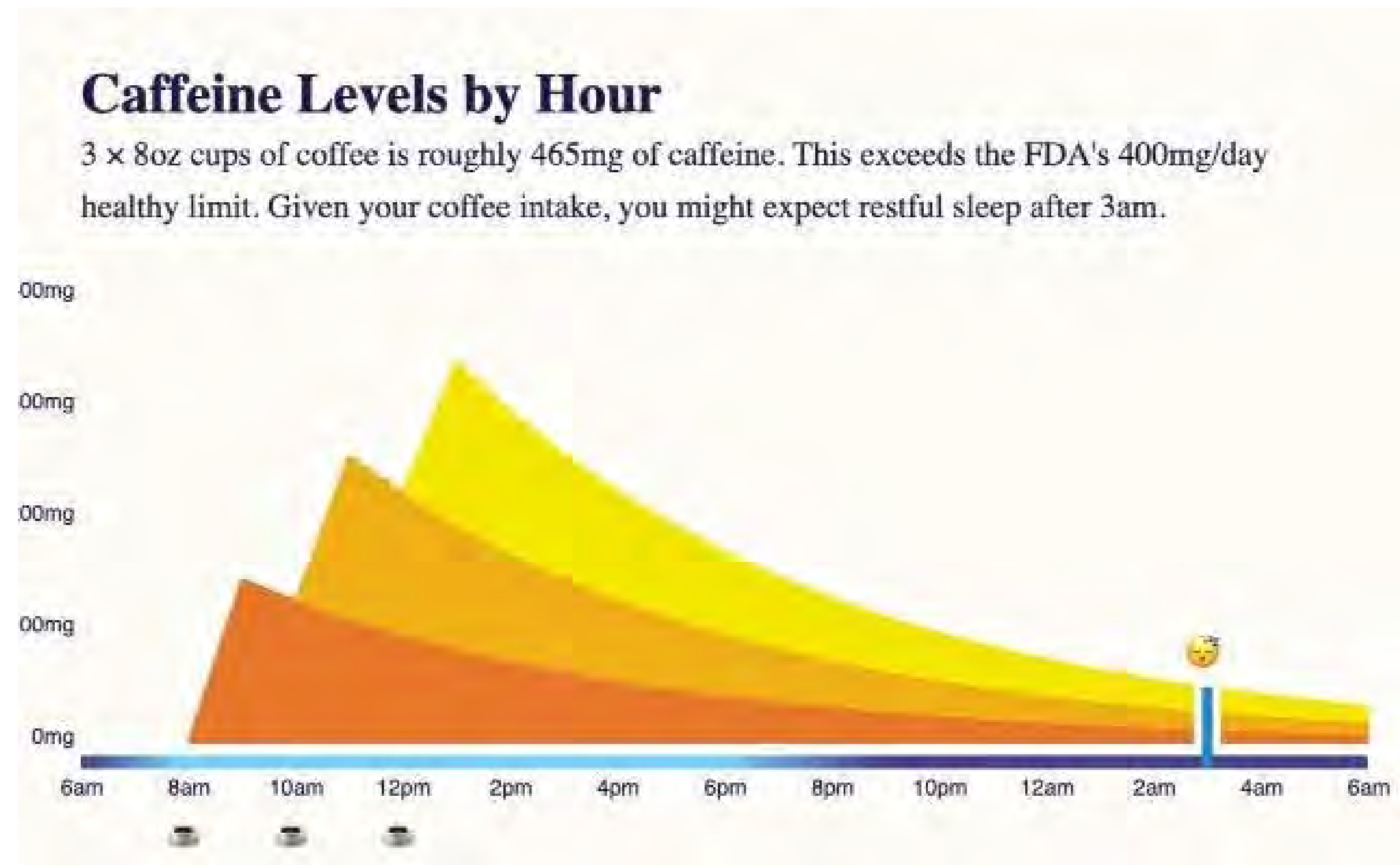
Four pillars of sleep

- Regularity: how consistent is your sleep
- Continuity: is it fragmented, waking up multiple times
- Quantity: how much and how much of different stages are you getting
- Quality: electrical signature of your deep sleep

Sleep hygiene recommendations

Where we start

- “Stick to a sleep schedule. Go to sleep and wake up at the same time each day.”
 - Social jet lag 18
- Exercise every day, but do not exercise 2-3 hours before you go to sleep. 19, 20, 21
 - Effect on adenosine
- Avoid caffeine/nicotine. 22
 - Caffeine half life
- Avoid alcohol before bed.
 - Effects on REM. 23
- Avoid large meals or beverages.



Sleep hygiene recommendations

Where we go next

- Avoid medications that delay and disrupt your sleep.
- Refrain from taking naps after 3:00pm.
 - Data on Naps? 24
- Relax before bed, don't over schedule yourself.
- Take a hot bath or shower before bed. 25
- Set the stage for good sleep.
 - Dark, cool, gadget-free bedroom. 26
 - Blue light?

Sleep recommendations

Other options

- Have the right amount of sun exposure during the day.
 - Low angle sunlight and circadian rhythm
- “Don’t lie in bed awake.”
 - CBT-Insomnia
 - Referral to sleep Neurology
- Understanding chronotype

Medications that effect sleep

- Selective serotonin reuptake inhibitors
- Dopamine agonists
- Psychostimulants and amphetamines
- Anticonvulsants, Cold medicines and decongestants
- Steroids
- Beta agonists
- Theophylline
- HTN medications (alpha agonists, beta blockers)
- Diuretics
- Appetite suppressants

OTC medications and supplements

What you need to know

- Melatonin
- Valerian root
- Doxylamine Succinate
- Diphenhydramine
- CBD+/-THC
- Magnesium and other supplements

Sleep is #1

Objectives:

- Discuss why we should ask every patient how they are sleeping.
- Demonstrate that sleep is linked to all cause mortality
- Understand and be able to utilize sleep drivers in day to day practice
- Take away strategies to help patients change sleep hygiene and improve their health
- Think about how many common diagnosis are related to chronic sleep deprivation.

Further considerations

Products for sleep

- Tracking devices
- Mattress(pad)
- Lights
- Sound machines
- Sleep book recommendations: “Why We Sleep”

Sleep is # 1

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Sleep is #1

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Post Traumatic Stress Disorder in Veterans update 2024

Illinois Osteopathic Medical Society
2024 Winter Scientific Seminar
December 12 to 15 2024

- Robert G Kohn DO, FAAN
- Neurology, Psychiatry
- KohnBrainClinic.com
- 815.344.7951

Objectives

Demonstrate an understanding of the clinical features of Post Traumatic Stress Disorder (PTSD) in the US Veteran population

Recognize the “stressors” unique to veterans that underlie the evolution of core symptoms of PTSD

Describe the triad of the triple brain network; Default Mode, Salience and Central Executive Network as this applies to understanding PTSD

Utilize a systematic approach to the treatment of PTSD including Pharmacotherapy, psycho-social interventions and knowledge of psychedelics

Outline

- PTSD in the US Veteran Population- trauma type, sample population
 - PTSD DSM-5 criteria, core Five clinical symptoms arranged in a 3 By 3 grid matrix
 - Examples of “stressors” of PTSD, real world clinical cases
 - Towards conceptualization of a Model of PTSD
 - Triple brain network, DMN, SN, CEN
 - Psychological mechanisms
 - Social Behavior and co-morbidities
- Treatment approaches





HISTORY OF THE AMERICAN SOLDIER



AMERICAN REVOLUTION

1776-1862

AMERICAN WAR

1861-1865

SPANISH-AMERICAN WAR

1898-1902

WORLD WAR I

WORLD WAR II

1941-1945

KOREAN WAR

1950-1953

THE HISTORY OF THE AMERICAN SOLDIER IS A STORY OF COURAGE, SACRIFICE, AND DEDICATION. FROM THE AMERICAN REVOLUTION TO THE PRESENT, AMERICAN SOLDIERS HAVE FIGHTED FOR FREEDOM AND JUSTICE. THEIR SERVICE HAS SHAPED THE NATION AND INSPIRED GENERATIONS. WE HONOR THEIR SERVICE AND REMEMBER THEIR SACRIFICES.

The War In Vietnam: A Story in Photographs

National Archives <https://www.archives.gov/education/lessons/vietnam-photos>



6 Things to Know About Operation Desert Storm Military.com

<https://www.military.com/history/operation-desert-storm-6-things-know>

U.S. Army Gen. Norman H. Schwarzkopf, commander of U.S. Central Command, speaks to U.S. soldiers inside a hangar while visiting a base camp during Operation Desert Shield, April 1, 1992.(Defense Department)



Time Magazine The American Soldier December 29, 2003



The Atlantic ALAN TAYLOR

MARCH 20, 2018

50 PHOTOS

IN FOCUS

• **Photos: Looking Back at the War in Iraq, 15 Years After the U.S. Invaded**



20 Years in Afghanistan: Americas Longest War CNN Fri September 2023



CNN 20 Years in Afghanistan: Americas Longest war Fri Sept 1, 2023



PTSD: The Reality Many Veterans Must Face

William Bowles October 10 , 2018

The New Face of PTSD: Woman in The Military

<https://www.wtsp.com/video/news/the-new-face-of-ptsd-woman-in-the-military/67-ca60325e-1ecf-4bea-8f18-6547cdac29eb>



PTSD Military Culture Uniqueness

- Hierarchy of Rank
- Mission Oriented
- Role Model of the Good Soldier, Sailor, Marine, Airman, Coastie
- Naïve to Introspection-Alienation for Seeking Emotional Help

PTSD Military Culture Uniqueness

Combat Exposure

Learned Patterns of Emotional Avoidance

- Accept Insomnia/Fatigue as a Badge of Honor
- Push on
- Work-aholism/Alcohol Abuse
- Collective Spirit finding one's identity in the unit/platoon
- High risk of Suicide/familiarity with Suicide

PTSD in the US Veteran Population: Results from the National Health and Resilience in Veteran Study

Wisco Blair E et al J. Clin Psychiatry 2014 Dec 75 (12) 1338-1346

- Survey 2011 of 3157 Veterans, 90% male, 83% white, age 21-60+
 - Prevalence 8.0% with 19.4% female vet v 9.7% non-military
 - Ages 21-29 vet 23% v non-military 6.3%
 - Risk factor multiplier Sexual abuse Childhood/Adult

PTSD in the US Veteran Population: Results from the National Health and Resilience in Veteran Study

Wisco Blair E et al J. Clin Psychiatry 2014 Dec 75 (12) 1338-1346

- Causes
 - Sudden death close family member
 - Witness death or injury
 - Combat
 - Natural disasters-hurricane, flood, earthquake, tornado, fire
 - Moderate to Heavy combat exposure
- Co-occurrence mood, anxiety, substance abuse disorders
- Protective prosocial characteristics community integration, social connectedness

PTSD Epidemiology

	Prevalence
• Service Era	
• WWII/Korea	2%
• VW	5%, War zone 17% m 15%f
• VW	18%+ War zone severe combat
• Persian Gulf	14%
• OEF/OIF	15%

PTSD Checklist-Specific Stressor PCL-5

- See References
- 20 Item check list
- In the past month how much were you bothered by
- Not at all, a Little bit, Moderately, Quite a bit, Extremely
- Cut off >30 minimal score

Theirs Not To Reason Why Theirs But To Do and Die

- The Charge of the Light Brigade
- Alfred Lord Tennysson 1854

PTSD & Veterans means

- Stressors of combat unique
- Military organization does not mirror civilian setting
- Culture promotes mission and purpose but does not promote Emotional Awareness
- Medication/Therapy risks military upward mobility, security clearance and cultural alienation

Post Traumatic Stress Disorder 3x3

- **Stressor Experience Life Threatening event**
 - Directly Experience
 - Witnessed Event as it Occurred to Others
 - Learned about Event
- **Stressor Categories**
 - Combat
 - Assault
 - Military Sexual Trauma

PTSD Stressors Result in

- Recurrent, involuntary, intrusive distressing memories of Trauma
- Persistent Avoidance of Trauma memories, thoughts, feelings,
- Persistent Avoidance of Reminders that arouse distress
- Cognitive and Mood negative alterations/distortions
- Marked Alteration in Arousal and Reactivity

STRESSOR EVENT CATEGORIES

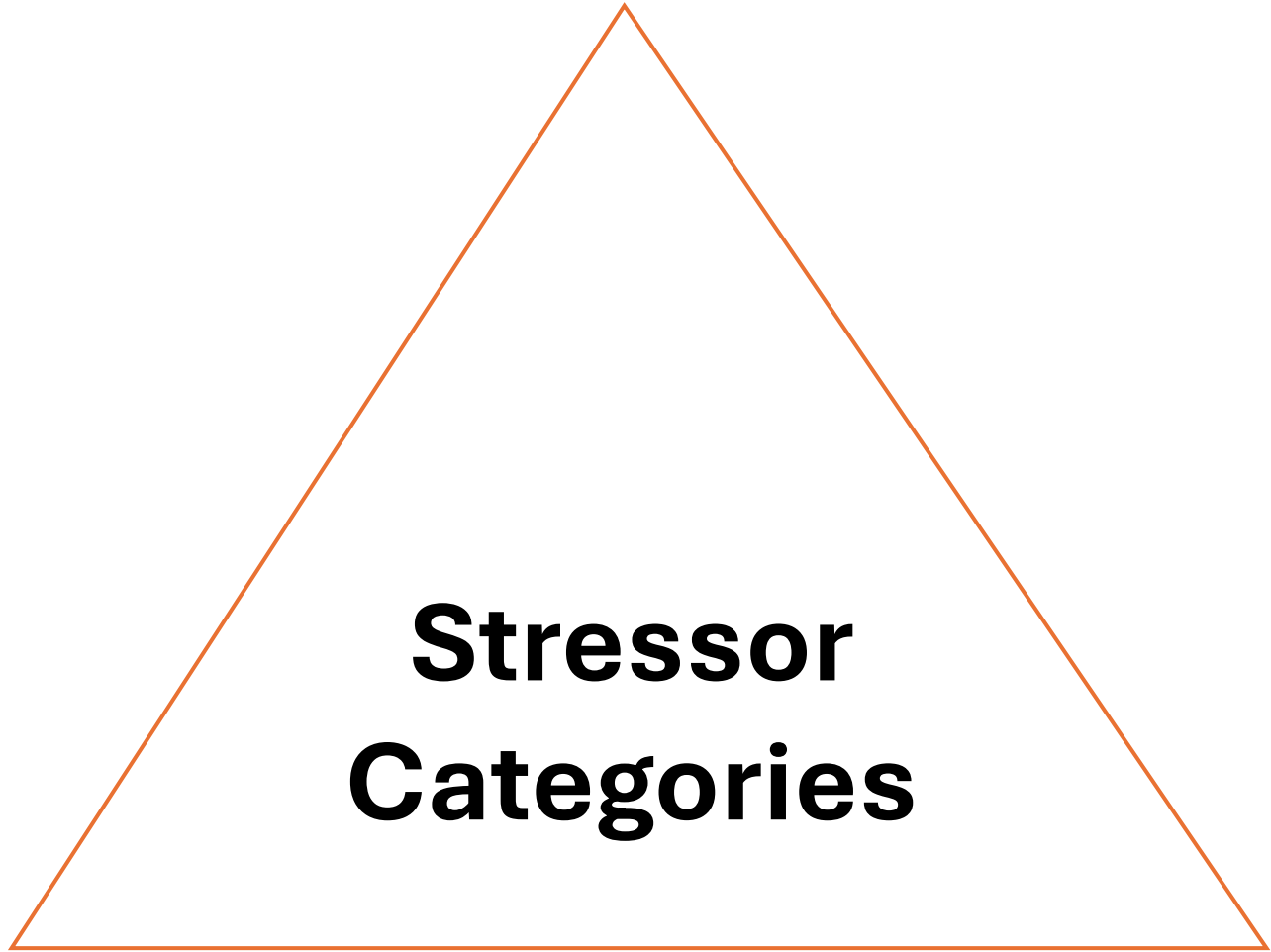
- **DIRECT EXPERIENCE**
- **WITNESSED THE EVENT**
- **LEARNED ABOUT THE EVENT**

COMBAT

**Stressor
Categories**

ASSAULT

MST



Military Sexual Trauma- MST

- Term the military uses to refer to experience of:
 - Sexual activity that you are involved with against your will
 - Being overpowered or physically forced
 - Activity when asleep/intoxicated/drugged
 - Being touched/grabbed in a sexual way that made you feel uncomfortable
 - Being pressured into sexual activities (threat of negative treatment) if you refuse to cooperate or promise of better treatment
 - Unwanted sexual advances that you found threatening
 - Comments about your body or sexual activities you found threatening

MST methods

- Intoxication Alcohol
- Intoxication Gamma Hydroxybutyric Acid (GHB), Rohypnol
- Forced Rape; Male on Male, Male on Female, Female on Male, Female on Female

Clinical Case Study-Direct Stressors

- IED explosion to MRAP, HUMVEE on convoy patrol in Iraq/Afghanistan kills and injures all inside
- USAF Drone pilot operates remote from FL base into Iraq 3 years assaults targeting high value targets and witnessing co-lateral damage; ie buildings explode, pink mists
- USMC officer walking inside the building suddenly thrown back by blasts at the gate, October 23, 1984 Beirut, Lebanon. He recovers only to find dead and dying from two VBID blasts. He works with survivors pulling the bodies from the rubble over the next 5 days

Clinical Case Study-Direct Stressors

- PAV personal armored Vehicle in Vietnam War (VW) RPG kills 3 soldiers and launches survivor from vehicle to the ground with a concussion awakes to find comrades killed
- USCG patrols waters of Lake Michigan to retrieve victims of plane crash flown from MI to WI to bring organs for emergency transplant surgery .
- USCG rescues son but unable to rescue father in rip tide who drowns.
- Sailor unable to pull his buddy to safety from inside the ferry as he was outside on the deck when ferry capsized in Haifa Bay December 24,1990. 19 sailors drowned

Clinical Case Studies- Witness Stressor

- Sailor witness devastation from “Asian Tsumani or Boxing Day Tsunami Dec 26, 2004 killing estimated 227,898 delivering supplies from helo off a USS carrier
- Sailor witness air crew support sailor walk into moving propeller
- MP comes across MVA fatalities or enter barracks to find soldiers deceased from suicide by hanging or by gun shot blast to mouth
- USMC split from his company remains stationed in Jordan observes the blasts at Kabul International airport August 26, 2021 that killed 11 in his company from the video feed and total 13 servicemen.

Clinical Case Studies- Witness Stressor

- Special Ops Sniper has his spotter killed (head shot) adjacent
- VW soldier sees another soldier stand up from Fox hole with lit cigarette gets shot in the head
- VW soldier walks point w service dog stopped inches from a mine only to observe the soldier behind step on a mine
- OEF/OIF airman/soldier work Satellite ops drone feeds video images of HVT and collateral damage from Hell Fire missiles

Clinical Case Study-Learned About

- USMC Officer develops acute vertigo prevents him from flying on Osprey Helo from 29 Palms Camp. His replacement and the entire crew is killed in the crash
- Female USA soldier reassures her replacement female soldier that drone attacks almost never occur at her base and that she will be safe to return home from deployment learns months later of that soldier's death from attack Jan 20 , 2024 to Tower 22 Jordan
- Soldiers returning from deployment learned about members from their platoon killed in replacement deployment in Afghanistan on the same base/FOB they left

PT SD Clinical Case MST

- Male sailor called from his watch to come to the officer room is gang raped by six and never reports the incident
- Female airman completes dinner with friends near base in HI, calls for taxi and is raped in the parking lot only to get pregnant, deliver her daughter and never inform her or husband who is the biological father
- Female enlisted soldier given alcohol beverage only to wake up the next morning naked in a room with no recall of event
- Male soldier deployed to the Sinai as peace keeping is assaulted in his barracks by intoxicated officer. He fights him off only to fear reporting incident because enlisted v officer word is less likely to be trusted and he would be sent home

PTSD and the Brain

- What are neuroscience models of PTSD?
- What are psychological models of PTSD?
- What can we learn from the clinical symptoms to apply towards treatment?

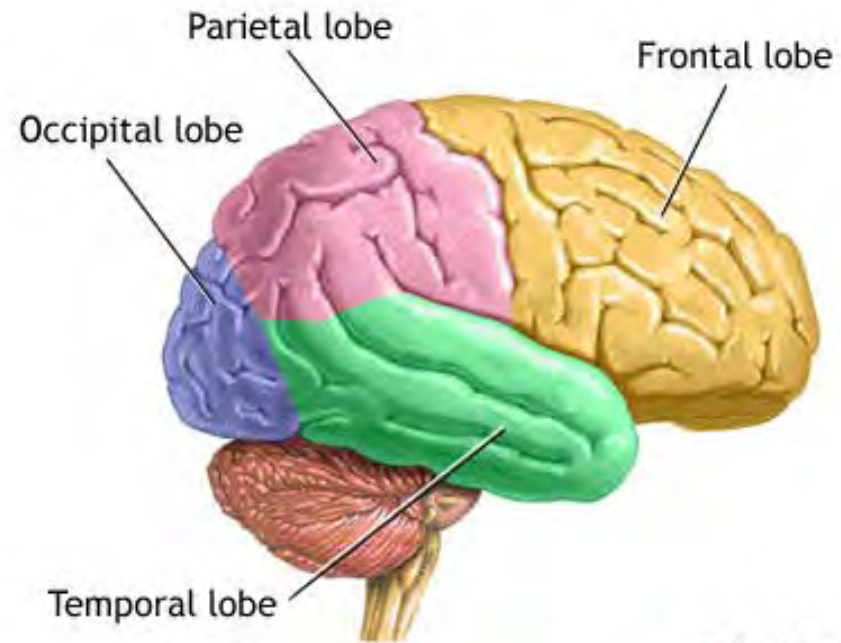
Structure and Function: An Osteopathic Familiarity

- Brain Structure
 - Dorsal PFC
 - Ventral PFC
 - Parietal lobe- precuneus
 - Subcortical-Limbic system-Anterior/Posterior Cingulate, Amygdala, Hippocampus
- Brain Function
 - Network concept
 - Cortical to Cortical connections
 - Cortical to Subcortical Loops

Brain organization

- Modular-regional functions
- Distributed network- between cortical regions and subcortical regions
- Hierarchical –allocortex 3 layers to 6-7 layer hetero-modal cortex
 - Frontal lobe-executive function, reason, plan, memory, language, attention, time management
 - Temporal-lexicon verbal, non verbal language, memory, fear
 - Parietal-sensory-motor
 - Occipital-Visual, face recognition
 - Cerebellar- balance , coordination, timing, cognitive processing, affective processing

Brain regions



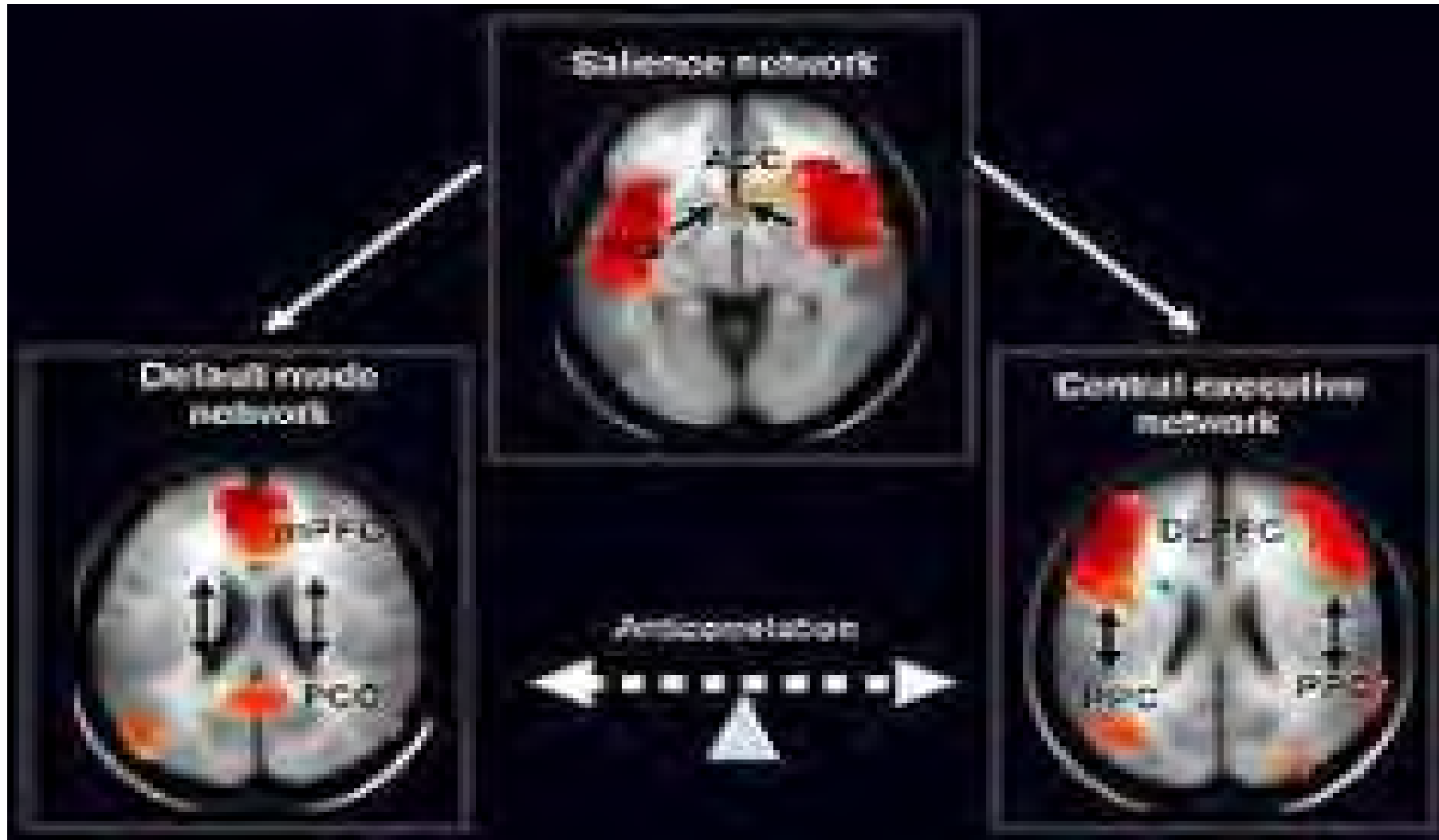
White Matter Tracts

longitudinal, horizontal cortical-cortical-
subcortical-cortical



Brain Networks-SN, DMN, CEN

Wikipedia Frontoparietal Network, SN is theorized to mediate switching between DMN and CEN



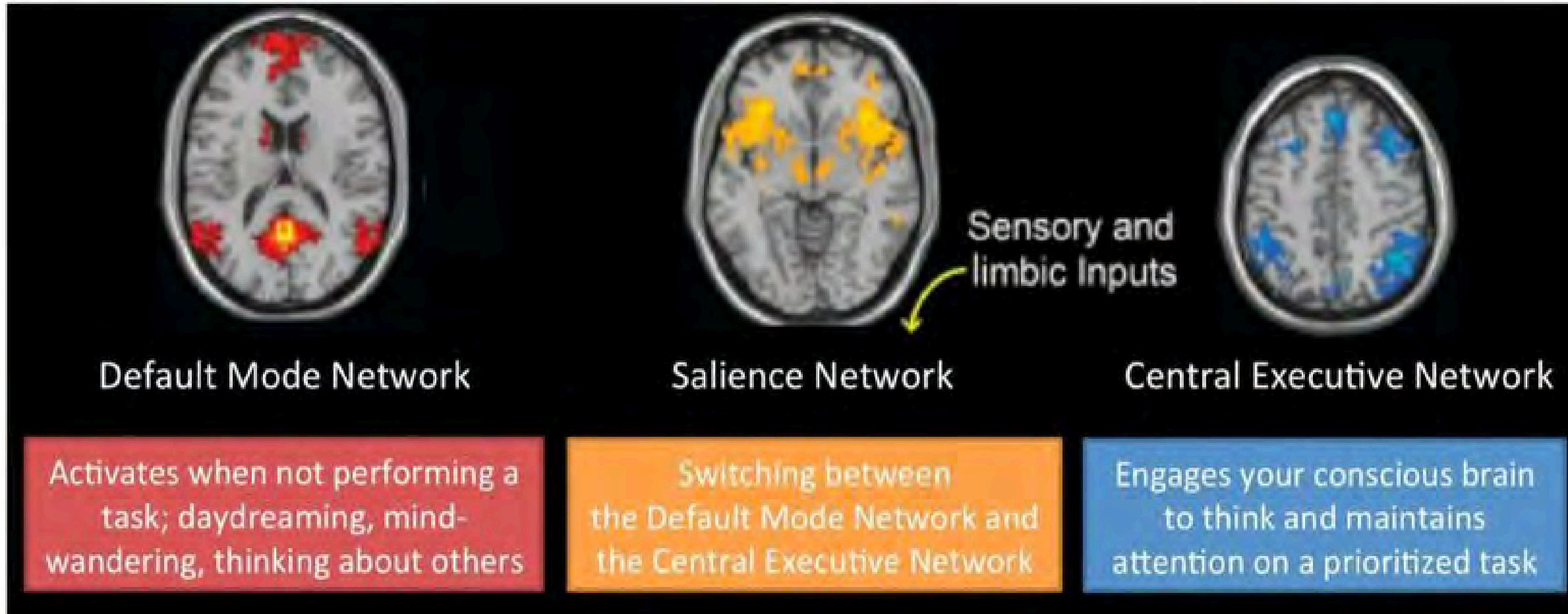
Central Executive Network

- Executive Function- higher order processing to guide thoughts and behavior to accomplish goals
- Components
 - Working memory-example test digit span
 - Set Shifting-example TRAILS 1A,2B,3C...
 - Inhibition-example anti-saccades, GO-No –GO
 - Fluency-example verbal word list generation, design visual
 - Rabinovici GD, Stephens ML, Possin KD in Executive Dysfunction, Continuum 2015 vol 21 No 3 June
 - Akiki TJ, Averill CL, Abdallah CG A Network-Based Model of PTSD: Evidence from Structural and Functional Neuroimaging Studies Curr Psychiatry Rep 2018 Sept 19 (11)

Central Executive Network

- dorsal lateral Pre Frontal Cortex –dlPFC
- medial Frontal Gyrus-MFG
- precuneus Parietal Cortex-PPC
- frontal eye fields-FEF

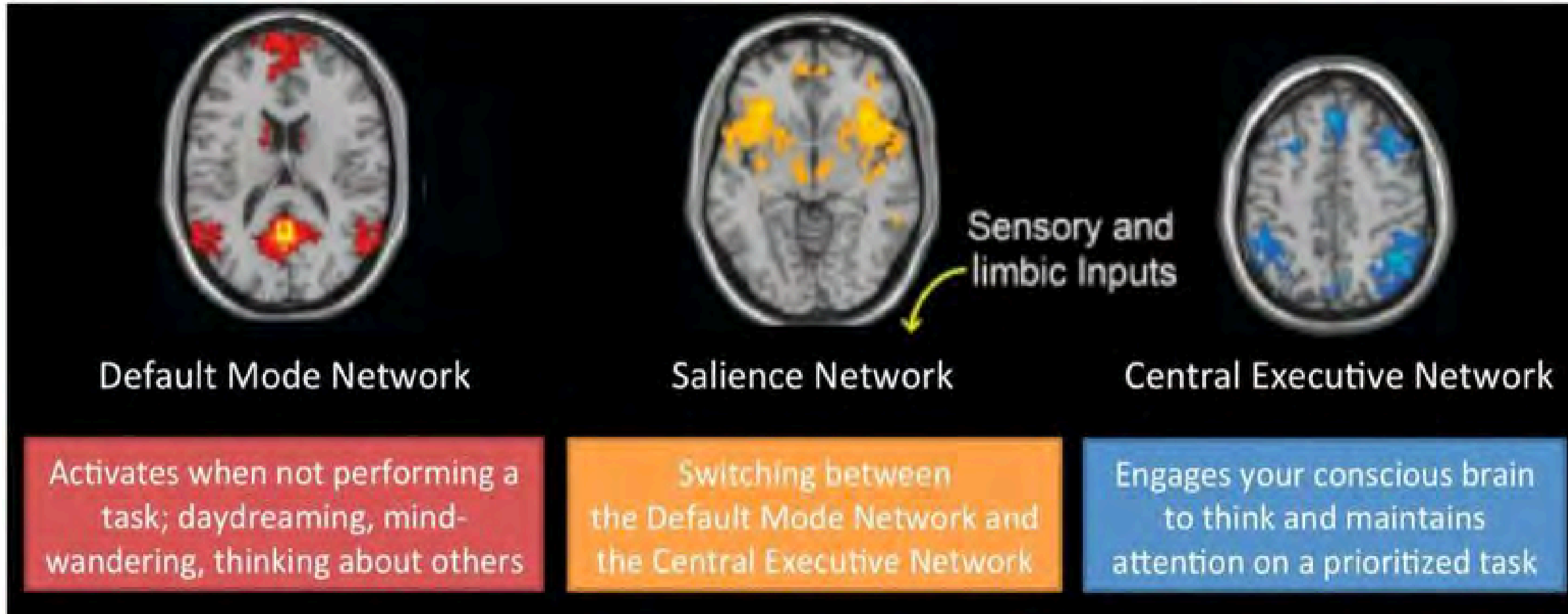
Triple Network, Google Images Central Executive Network



Salience Network

- Salience –Cambridge Dictionary meaning the fact of being important or connected with what is happening or discussed
- Functions-
 - Detection of Salience of Internal/External stimuli
 - Filter and Determine (appraisal, value, selection) stimuli importance
 - Perceive Threat, Conflict Discrepancy
- Interoception of feeling associated with reward
- Guides behavior by identifying most relevant determination
 - Borders A et al in Ruminant Cognition and the Brain, Elsevier 2020

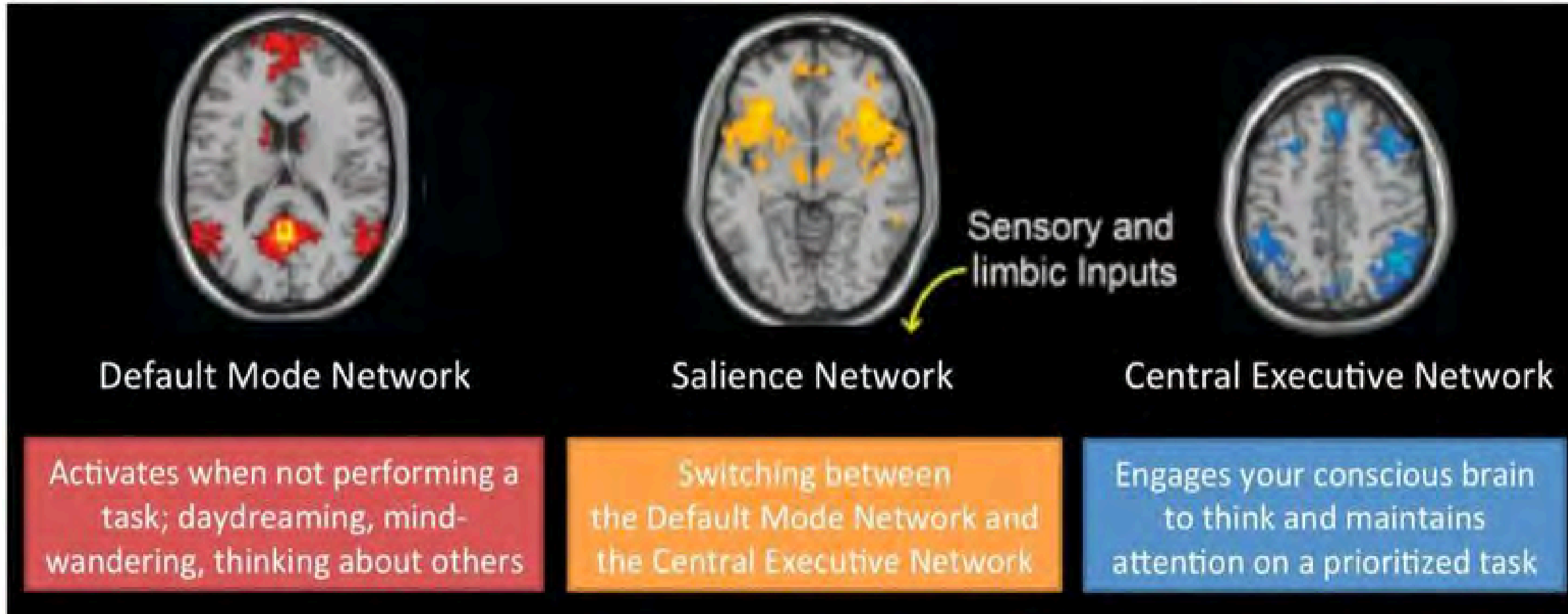
Triple Network, Google Images Central Executive Network



Default Mode Network-Mind Wandering network

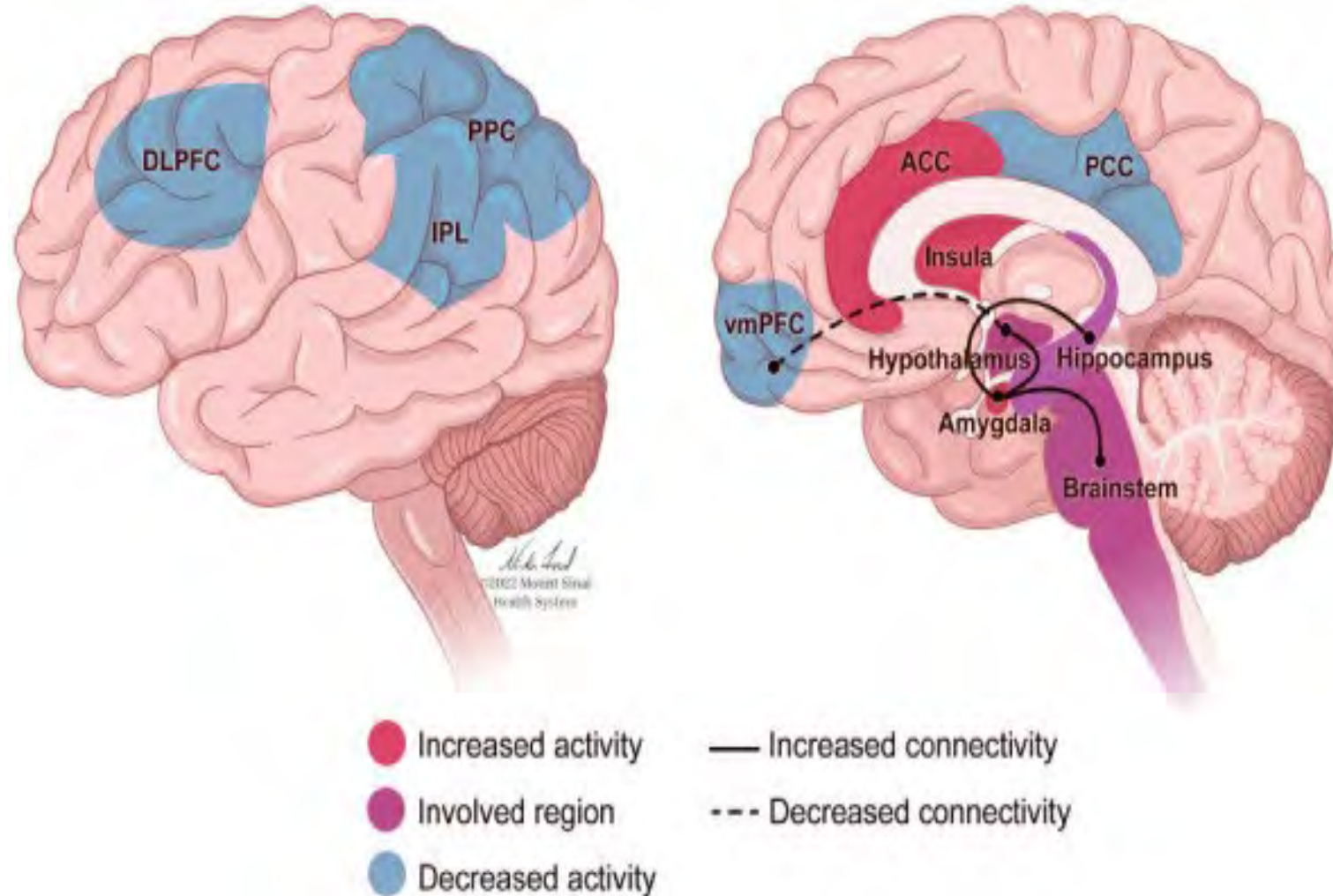
- Engaged in internally focused Tasks
 - Autobiographical memory retrieval
 - Envisioning the Future
 - Conceiving the perspectives of others
- Awake, alert, resting state
- NOT engaged in attention demanding or goal directed tasks
- Network
 - Medial Temporal Lobe-mTL, mPFC, PCC, PL
 - Retrieve memories, flexible use of information, construct self relevant state
 - Mohan A Roberto AJ et al, The Significance of the Default Mode Network in Neurological and Neuropsychiatric Disease: a Review, Yale Jl Bio Med 2016 Mar 89(1) 49-57

Triple Network, Google Images Central Executive Network



PTSD studies resting state/activation

Zaretzky TG, Jagodnik KM et al The Psychedelic Future of PTSD Treatment, Curr Neuropsychopharm 2024,22



PTSD resting/active Network changes

- DMN- decrease (hypoactive) coupling, functional connectivity
- SN-increase (hyperactive) coupling Amygdala –Insula, Amygdala dACC
- Increase in functional coupling/hyperactivity state of “primed saliency”
- CEN-decrease coupling , functional connectivity pMC –dlPFC correlates with severity of PTSD
- Triple Network provides a framework to understand PTSD pathology

- The human brain as affected by post-traumatic stress disorder (PTSD). The regions of the brain associated with changes in response to trauma and stress include the amygdala, hippocampus, and prefrontal cortex. The amygdala, an area of the brain known for emotional processing and fear conditioning, has shown increased activation as well as increased functional connectivity with other regions, including the insula and anterior cingulate cortex (ACC), in PTSD patients [[144](#)].
- The hippocampus, a region known for the critical role it plays in memory consolidation, is also affected by PTSD, with patients showing decreased volume and functionality [[59](#), [133](#), [134](#)].
- The prefrontal cortex, which is involved in cognitive control and emotional regulation, is also altered in PTSD, with reduced activity and resting state functional connectivity during cognitive tasks [[143](#), [145](#)].

Zaretsky, TG Jagodnik KM et al The Psychedelic Future of PTSD Treatment Curr Neuropsychopharmacology 2024 (22)

- Furthermore, recent PTSD fMRI imaging studies have found hyperactivation in the amygdala, decreased connectivity between amygdala and mPFC, increased connectivity between the amygdala and hypothalamus/brainstem, and decreased activity in the Default Mode Network (DMN)
- (ventromedial prefrontal cortex (vmPFC), inferior parietal lobe (IPL), posterior cingulate cortex (PCC)) and
- Central Executive Network (CEN) (dorsolateral prefrontal cortex (dlPFC), posterior parietal cortex (PPC)) [[146](#)].
- These findings suggest that PTSD's effects result in complex changes in brain structure and function involving multiple regions and networks, as represented in this figure
- Zaretsky et al 2024

Triple Networks, Brain and PTSD summary

- Salience Network
 - Brain state primed for fight or flight
 - Transfers Emotional Valence of past Trauma Threat into the Present
 - Hyper-vigilance, Startle exaggeration, Aggression, Insomnia
- Central Executive Network
 - Deficits with Working Memory, Concentration, Attention, Insight
 - Distorted belief about event, self blame, cognitive dissonance
- Default Mode Network
 - Unable to relax, mind wander
 - Difficulty with perspective taking

Treatment

Cognitive-Affective-Behavior



Treatment-medication, psychotherapy, social intervention

- There is PTSD and there are SYMPTOMS means that
- PTSD is a syndrome
- Cognitive-memory, attention, insight, decision making, EF
 - Intrusive, recurrent distressing memories
- Affective-worry spectrum ...panic, anger, sadness, hopeless
- Somatic-sleep disruption/fatigue, pain, headache
- Behavior-motivation/impulsivity, aggression verbal, physical

Treatment

- Identify Co-morbid conditions
 - Major v Bipolar Depression
 - Anxiety v Panic
 - Substance Use and Addiction
 - Chronic pain
 - Sleepiness excess, Obstructive Sleep Apnea, circadian rhythm vs Idiopathic hypersomnia
- Evaluation tools
 - PHQ-9, Mood Disorder Questionnaire
 - GAD-7
 - PCL-5
 - Epworth sleepiness

Treatment Medications

Most studied anxiety and depression

SSRI paroxetine, sertraline and
non SSRI -venlafaxine

Insomnia; onset, middle due to nightmares

clonidine , prazosin

by symptom severity mild to severe

hydroxyzine, melatonin, zolpidem, benzodiazepine,
quetiapine

off label but legal state by state-cannabis gummy

Treatment Medications

- Anti-depressant for depressive symptoms
- Atypical Antipsychotics for step therapy depression , bipolar depression, insomnia, psychoses
- Sedative hypnotics requires judicious use, case by case , may apply best with co-morbid panic disorder, REM sleep disorder
- Mood stabilizers for bipolar disorder, LiCO₃, Lamotrigene, Valproic Acid
- Gabapentin

Treatment Psychological

- Cognitive Behavioral Therapy
 - Identify Cognition with Emotional appraisal following behavior
- Cognitive Processing Therapy
 - Trauma Focused Therapy, re-integrate Trauma memory with Belief system
- Prolonged Exposure
- Eye Movement Desensitization Retraining- Echo Mike Delta Romeo
 - Using bilateral saccadic eye movements
 - Recollection of the Trauma Stressor

Treatment Social

- Identify and Support a Social Network
 - Marriage-marital therapy
 - Alcoholism Family-ALANON, ALATEEN
 - Veteran Support group- Vet Center v VAMC groups
 - Support Group Churches with Outreach
 - Men's support group; Mankind Project
- Integrate Group Connection into Treatment
 - Addiction recovery- Alcohol/Narcotic Anonymous
 - Veteran Non Profit Groups
 - Intrepid care

Veteran Support Group

- Wounded Warrior Project
- <https://www.woundedwarriorproject.org/>

- Project Healing Waters
- <https://projecthealingwaters.org/about-us/>

- Military Mobility
- <https://militarymobility.com/>

PTSD Treatment Summary

- **Treatment begins with an Agreement to develop a Treatment Plan**
- **Treatment success requires a Team approach**
- **Treatment with medication uses on label/off label to Target symptoms; insomnia first because sleep is the cornerstone of Brain Health. Identify all co-morbid conditions and continuously evaluate Suicide Risk**
- **Psycho-Social integration-menu of therapy choices and social networks**

Psychodelics-induce transient emotional, perceptual and cognitive alterations that may promote an optimal state of arousal likely required for effective trauma processing.

De Gregorio et al Hallucinogens in mental health: Preclinical and clinical studies on LSD, Psilocybin, MDMA and Ketamine
J. Neurosci 2021, 2021, 41 (5) 891-2000

- MDMA-most studied assisted psychotherapy-PAP
- MDMA-Entactogen promotes social cohesion, unity, anxiolysis, introspection, personal reflection
- MDMA-structurally similar and functionally distinct from amphetamine, inhibit monoamine reuptake transporters, stimulate efflux on VMAT-2, direct affinity agonist serotonin, D1, D2, M1,M2, H1,AcH nicotinic and TAAR1 receptor

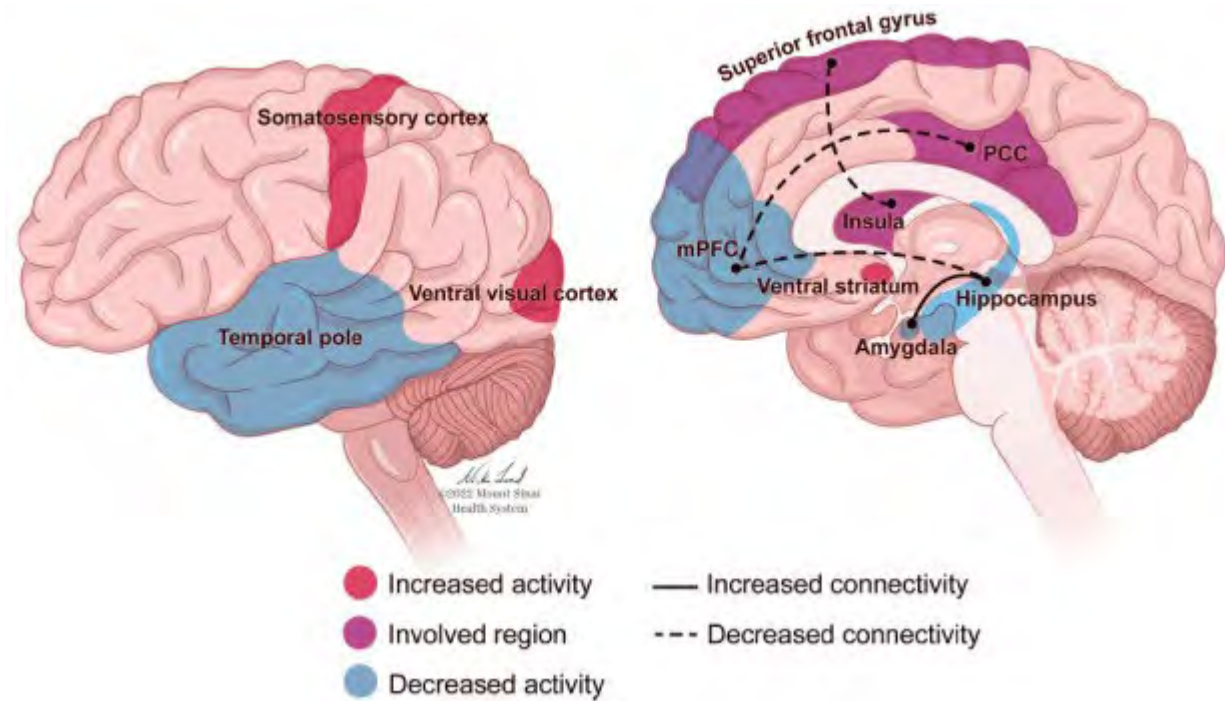
Psychodelics-Psilicybin, LSD, Ayahuasca “ ego dissolution”

- Psilicybin-active psilocine is 5HT2A receptor agonist, discovered by Albert Hoffman to be the active ingredient in hallucinogenic mushroom, low toxicity no lethal dose in humans found
- LSD-category serotonergic hallucinogen-visual, kinesthetic, auditory.
- Both enhance prosocial behavior and cognition
- Relaxed Belief Under pSychedelic (REBUS) model decrease control of higher cortical networks on subcortical limbic regions promoting fear extinction, aversive memory retrieval, vividness
- Ketamine-dissociative anesthetic decreases GABA inhibitory tone on GLU receptor as non-competitive NMDA antagonist increasing GLU stimulation ; hallucinogenic

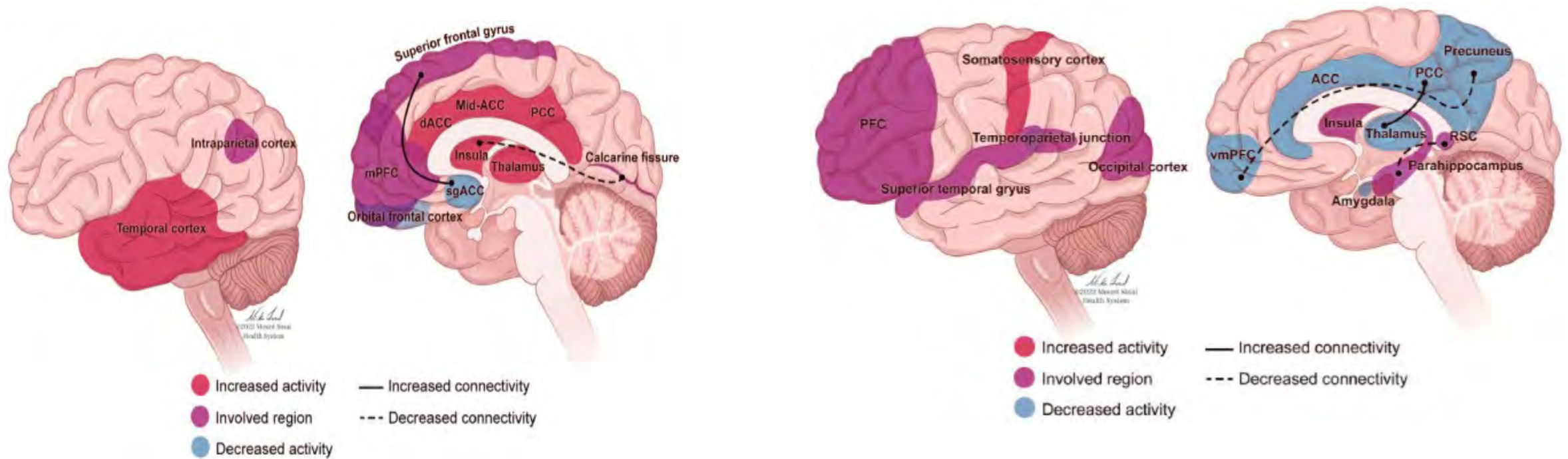
Psychedelic Trials, Psychedelic Assisted Psychotherapy PAP

- MDMA-PAP-June 2024 FDA did not approve for PTSD
 - 2004-2017 six RCT
 - 2 month outcome PTSD v control 54% v 23 % no longer meet PTSD criteria
 - 12 month outcome 67% no longer meet PTSD criteria
- Ayahuasca no clinical trials
- LSD no clinical trials
- Psilocybin-open study recruitment
- Ketamine-studied PTSD veterans +/- depression, v placebo v midazolam. At 24 hours 67% reduction greater than 30%, best outcome veterans w comorbid depression

Brain w MDMA-Zaretsky et al 2024

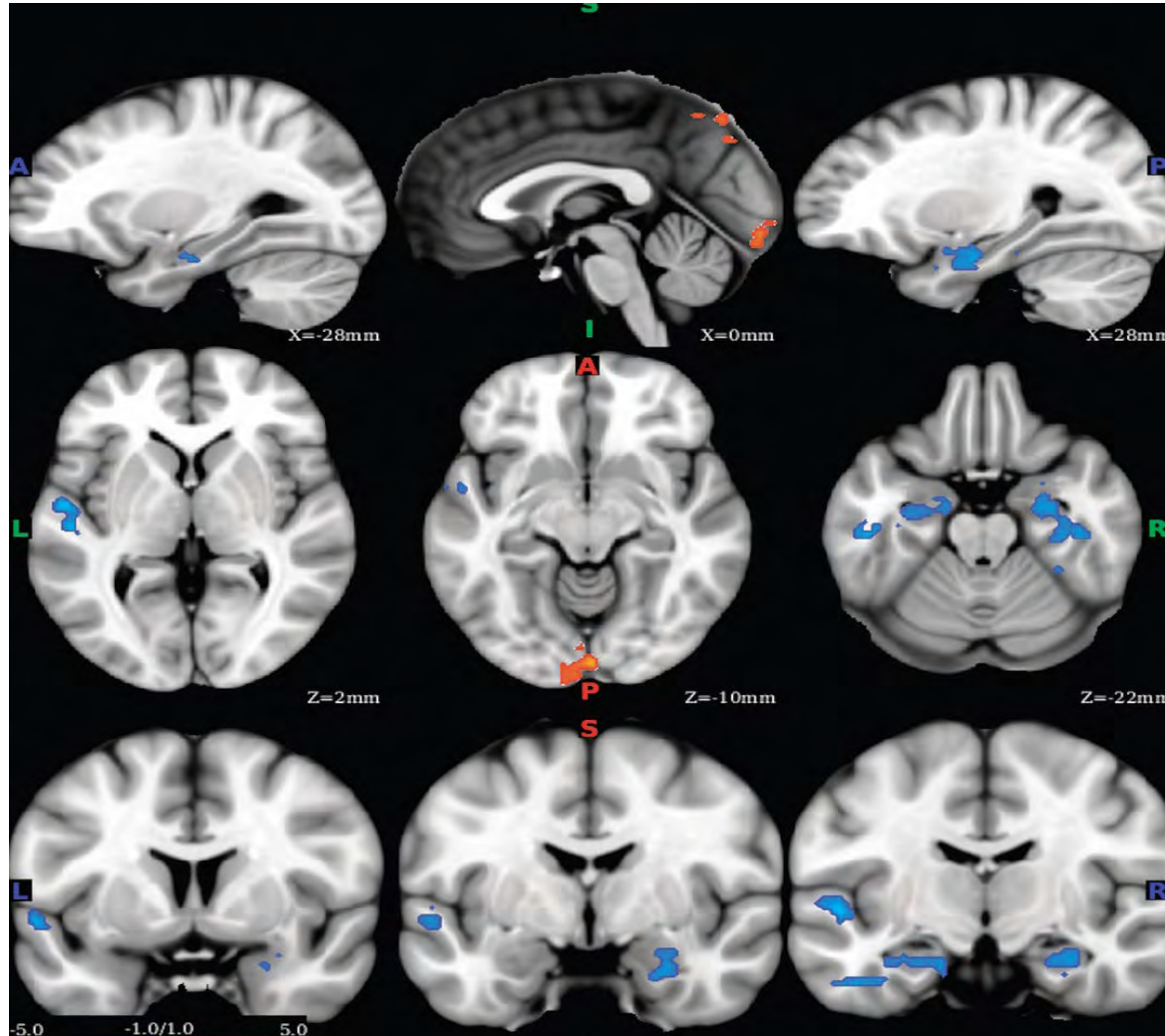


Brain on Ketamine v Psilocybin-Zaretsky et al 2024

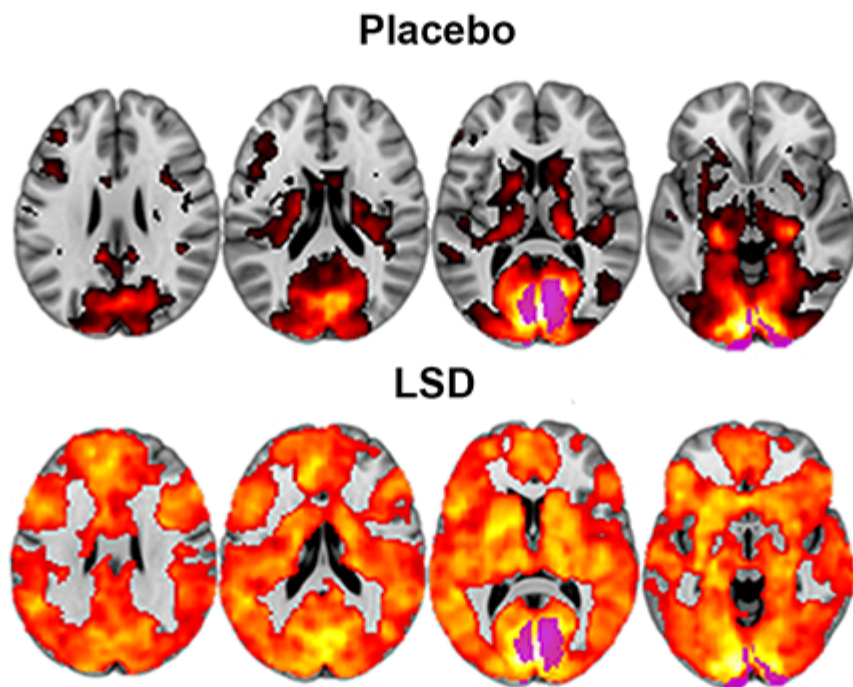


PTSD - Anterior hippocampal dysconnectivity in posttraumatic stress disorder: a dimensional and multimodal approach

CG Abdallah^{1,2}, KM Wrocklage^{1,2,5} *Trans Psychiatry* 2017



LSD Brain v Placebo



Summary Points

- What is PTSD- **a syndrome not a disease**
- What features are unique to Veterans?
- What have we learned from Neuroscience about Brain Networks and PTSD?
- How does Pharmaco-therapy apply to symptom treatment reduction?
- How might Psychedelics provide treatment for PTSD based on clinical experience and neuroscience?
- When do Psycho-Social interventions integrate into the Treatment Plan?

Corie Weathers Military.com Aug 5, 2017 **THANK YOU**



QUESTIONS ???

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PCL-5

In the past month, how much were you bothered by that problem: 0-1-2-3-4 (not at all to extreme)

- In the past month , how much were you bothered by:
0,1,2,3,4
- 1.Repeated disturbing and unwanted memories of the stressful experience
- 2. Repeated disturbing dreams of the stressful experience
- 3. Suddenly feeling or acting as if the stressful experience again (as if you were back there re-living it.
- 4. Feeling very upset when something reminded you of the stressful experience

PCL-5

- 5. Having strong physical reactions when something reminded you of the stressful experience (for example heart pounding, trouble breathing, sweating) ?
- 6. Avoiding memories or thoughts related to the stressful experience ?
- 7. Avoiding external reminders of the stressful experience (for example people, place, conversations, activities, objects or situations)?
- 8. Trouble remembering important parts of the stressful experience.

PCL-5

- 9. Having strong negative beliefs about yourself, other people, or the world (for example having thoughts, such as: I am bad, there is something seriously wrong with me, no one can be trusted, the world is completely dangerous)?
- 10. Blaming yourself or someone else for the stressful experience or what happened after it
- 11. Having strong negative feelings such as fear, horror, anger , guilt or shame.

PCL-5

- 12. Loss of interest in activities you used to enjoy
- 13. Feeling distant or cut off from other people
- 14. Trouble experiencing positive feelings (for example being unable to feel happiness or have loving feelings for people close to you)?
- 15. Irritable behavior, angry outbursts or acting aggressively

PCL-5

- 16. Taking too many risks or doing things that could cause you harm.
- 17. Being “super alert” or watchful on guard
- 18. Feeling jumpy or easily startled
- 19. Having difficulty concentrating
- 20. Trouble falling or staying asleep

The End

Recognizing Dementia

Benjamin Oesterling DO

December 13th, 2024

Disclosures

- “I have no conflict”
- No financial or other disclosures.

Contents for Today

- What is Dementia?
- Normal aging
- Walk through a case
 - Screening
 - Dementia diagnosis
 - Workup
 - How to discuss
 - Treatment
 - When to refer

What is Dementia?

- A collection of symptoms of cognitive impairment
- Severe enough to cause functional impairment
- Usually noted in ADLs and IDLs

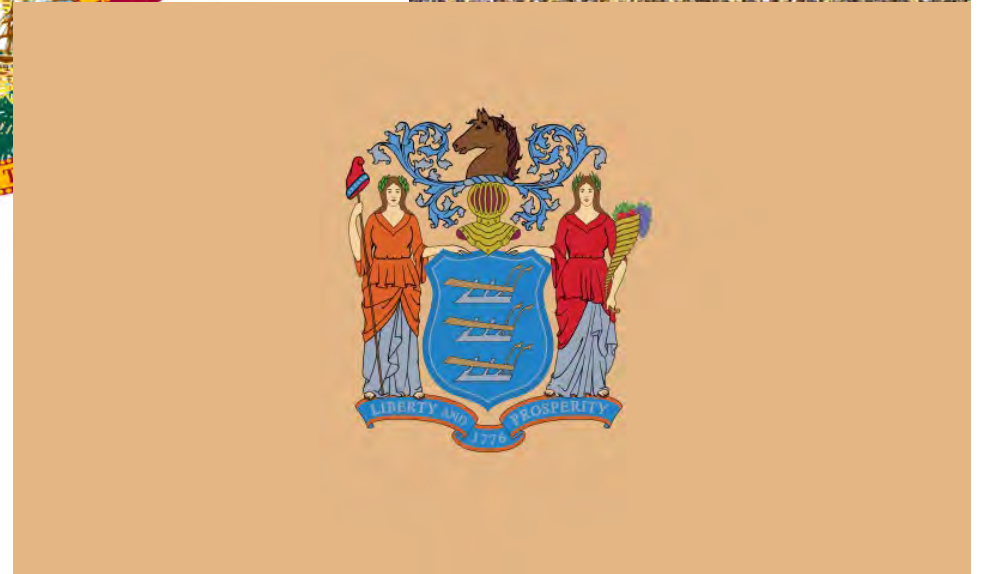
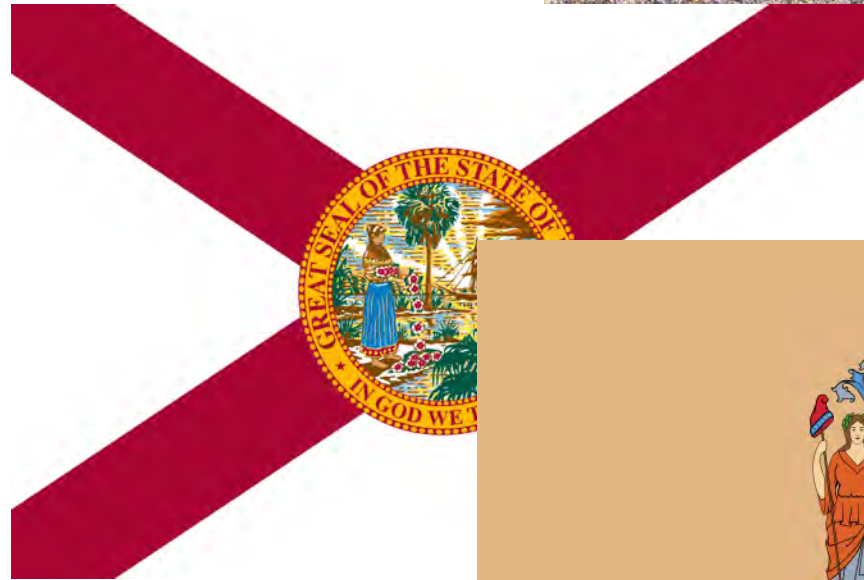


Dementia aka Major Neurocognitive D/O

- Why do we care?
 - According to the CDC:
 - In 2022, there were over 280,000 deaths in US adults age 65 and older.
 - Right now, about 6.7mil people with AD in the US,
 - We expect 14mil by 2060
 - According to the WHO:
 - In 2023 we had 55mil people with dementia, 10mil new cases each year
 - In 2019, costs associated with dementia around the world were about \$1.3 trill

Dementia

- 280,000 deaths is almost 3 Michigan Stadiums
- Worldwide 55mil people is about 2 Floridas
- Rising at a speed of 1 New Jersey per year.



Normal Aging Brain

- Mild decline in memory
- Require more time and effort to recall new information
- New learning is slower
- Does not impair functioning
- Well compensated with lists, calendars and other memory supports

Meet Jane...

- Jane is a 70 year old female presenting to your clinic with her husband of 50 years for her Medicare annual wellness exam.
- You have known Jane about 5 years.
- She brings you cookies for the holidays.



Meet Jane...

- She has been missing medication doses, which is unusual for her.
- She is normally a good cook, but lately food has been getting burned on the stove.
- She does not drive anymore.
- Jane is displeased that this is brought up by her husband.



ADLs vs IDLs

Basic Activities of Daily Living

- Walking
- Eating
- Dressing
- Personal hygiene
- Bowel/bladder control
- Toileting

Instrumental Activities of Daily Living

- Transportation and shopping
- Managing finances
- Meal prep
- Home maintenance
- Managing communications
- Med management

A note about impaired driving...

Illinois and Indiana reporting

- No anonymous reporting
 - Confidential unless in court
- No mandate to report
- No liability if you do not report



Who Gets Screened?

- Jane's husband Bob:
 - Should Jane be screened for dementia?
 - Who should be routinely screened?



Who Gets Screened?

- Depends on who you ask

USPSTF, AAFP

- I statement – Not enough evidence
- Be familiar with symptoms, screen if concerns arise

American Academy of Neurology

- Annual screening during Medicare visit
- Use a validated assessment tool

Validated Screening Tools

- There are many tests to use for screening
- Mini-Cog
- SLUMs
- MMSE
- MoCA

Mini-Cog

- Quick
- <5 min to administer
- Sensitivity/Specificity
 - 91/86
- Digital version available

Step 1: Three Word Registration

Look directly at person and say, "Please listen carefully. I am going to say three words that I want you to repeat back to me now and try to remember. The words are [select a list of words from the versions below]. Please say them for me now." If the person is unable to repeat the words after three attempts, move on to Step 2 (clock drawing).

The following and other word lists have been used in one or more clinical studies.¹⁻³ For repeated administrations, use of an alternative word list is recommended.

Version 1	Version 2	Version 3	Version 4	Version 5	Version 6
Banana	Leader	Village	River	Captain	Daughter
Sunrise	Season	Kitchen	Nation	Garden	Heaven
Chair	Table	Baby	Finger	Picture	Mountain

Step 2: Clock Drawing

Say: "Next, I want you to draw a clock for me. First, put in all of the numbers where they go." When that is completed, say: "Now, set the hands to 10 past 11."

Use preprinted circle (see next page) for this exercise. Repeat instructions as needed as this is not a memory test. Move to Step 3 if the clock is not complete within three minutes.

Step 3: Three Word Recall

Ask the person to recall the three words you stated in Step 1. Say: "What were the three words I asked you to remember?" Record the word list version number and the person's answers below.

Word List Version: _____ Person's Answers: _____

Scoring

Word Recall: _____ (0-3 points)	1 point for each word spontaneously recalled without cueing.
Clock Draw: _____ (0 or 2 points)	Normal clock = 2 points. A normal clock has all numbers placed in the correct sequence and approximately correct position (e.g., 12, 3, 6 and 9 are in anchor positions) with no missing or duplicate numbers. Hands are pointing to the 11 and 2 (11:10). Hand length is not scored. Inability or refusal to draw a clock (abnormal) = 0 points.
Total Score: _____ (0-5 points)	Total score = Word Recall score + Clock Draw score. A cut point of <3 on the Mini-Cog™ has been validated for dementia screening, but many individuals with clinically meaningful cognitive impairment will score higher. When greater sensitivity is desired, a cut point of <4 is recommended as it may indicate a need for further evaluation of cognitive status.

St. Louis Uni Mental Status Exam


- Aka SLUMS
- Takes about 7 min
- Has cutoffs for Normal, MCI, and dementia
- Sensitivity/Specificity
 - 84-100/87-100

VAMC SLUMS EXAMINATION

Questions about this assessment tool? E-mail aging@slu.edu

Name _____ Age _____

Is the patient alert? _____ Level of education _____

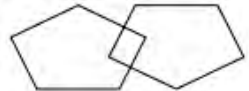
_ /1	1. What day of the week is it?
_ /1	2. What is the year?
_ /1	3. What state are we in?
	4. Please remember these five objects. I will ask you what they are later. Apple Pen Tie House Car
	5. You have \$100 and you go to the store and buy a dozen apples for \$3 and a tricycle for \$20.
_ /3	1 How much did you spend?
	2 How much do you have left?
_ /3	6. Please name as many animals as you can in one minute.
	0 0-4 animals 1 5-9 animals 2 10-14 animals 3 15+ animals
_ /5	7. What were the five objects I asked you to remember? 1 point for each one correct.
	8. I am going to give you a series of numbers and I would like you to give them to me backwards. For example, if I say 42, you would say 24.
_ /2	0 87 1 648 1 8537
	9. This is a clock face. Please put in the hour markers and the time at ten minutes to eleven o'clock.
_ /4	2 Hour markers okay
	2 Time correct
	10. Please place an X in the triangle. 
_ /2	1 Which of the above figures is largest?
	11. I am going to tell you a story. Please listen carefully because afterwards, I'm going to ask you some questions about it.
	Jill was a very successful stockbroker. She made a lot of money on the stock market. She then met Jack, a devastatingly handsome man. She married him and had three children. They lived in Chicago. She then stopped work and stayed at home to bring up her children. When they were teenagers, she went back to work. She and Jack lived happily ever after.
_ /8	2 What was the female's name? 2 What work did she do?
	2 When did she go back to work? 2 What state did she live in?

_____ TOTAL SCORE

Mini-Mental State Exam


- Well known
- Takes 6-10min
- Unfortunately copyrighted
- Sensitivity/Specificity
 - 81/89

Method	Score	Interpretation
Single Cutoff	<24	Abnormal
Range	<21	Increased odds of dementia
	>25	Decreased odds of dementia
Education	21	Abnormal for 8 th grade education
	<23	Abnormal for high school education
	<24	Abnormal for college education
Severity	24-30	No cognitive impairment
	18-23	Mild cognitive impairment
	0-17	Severe cognitive impairment

Maximum Score	Patient's Score	Questions
5		"What is the year? Season? Date? Day of the week? Month?"
5		"Where are we now: State? County? Town/city? Hospital? Floor?"
3		The examiner names three unrelated objects clearly and slowly, then asks the patient to name all three of them. The patient's response is used for scoring. The examiner repeats them until patient learns all of them, if possible. Number of trials: _____
5		"I would like you to count backward from 100 by sevens." (93, 86, 79, 72, 65, ...) Stop after five answers. Alternative: "Spell WORLD backwards." (D-L-R-O-W)
3		"Earlier I told you the names of three things. Can you tell me what those were?"
2		Show the patient two simple objects, such as a wristwatch and a pencil, and ask the patient to name them.
1		"Repeat the phrase: 'No ifs, ands, or buts.'"
3		"Take the paper in your right hand, fold it in half, and put it on the floor." (The examiner gives the patient a piece of blank paper.)
1		"Please read this and do what it says." (Written instruction is "Close your eyes.")
1		"Make up and write a sentence about anything." (This sentence must contain a noun and a verb.)
1		"Please copy this picture." (The examiner gives the patient a blank piece of paper and asks him/her to draw the symbol below. All 10 angles must be present and two must intersect.) 
30		TOTAL

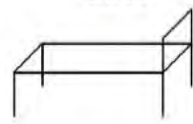

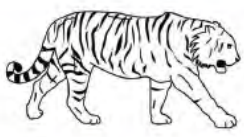

Montreal Cognitive Assessment

- A score >26 is considered normal
- Takes about 10 min
- A digital app for tablet is available
- Sensitivity/Specificity
 - 91/81
- Does require certification


MoCA
 COGNITIVE ASSESSMENT

Version 8.3 English

Name: _____ Education: _____ Date of birth: _____
 Sex: _____ DATE: _____

VISUOSPATIAL / EXECUTIVE		DRAW CLOCKS (Five past ten)					POINTS
Copy bed  []		Draw CLOCKS (Five past ten) (3 points) [] [] [] [] [] Contour Numbers Hands					___/5
NAMING							POINTS
 []		 []		 []			___/3
MEMORY		LEG	COTTON	SCHOOL	TOMATO	WHITE	NO POINTS
Read list of words, subject must repeat them. Do 2 trials, even if 1st trial is successful. Do a recall after 5 minutes.		1st TRIAL					
		2nd TRIAL					
ATTENTION		Read list of digits (1 digit/sec.). Subject has to repeat them in the forward order. [] 2 4 8 1 5 Subject has to repeat them in the backward order. [] 4 2 7					___/2
Read list of letters. The subject must tap with his hand at each letter A. No points if ≥ 2 errors.		[] F B A C M N A A J K L B A F A K D E A A A J A M O F A A B					___/1
Serial 7 subtraction starting at 60. [] 53 [] 46 [] 39 [] 32 [] 25		4 or 5 correct subtractions: 3 pts, 2 or 3 correct: 2 pts, 1 correct: 1 pt, 0 correct: 0 pt					___/3
LANGUAGE		Repeat: The child walked his dog in the park after midnight. [] The artist finished his painting at the right moment for the exhibition. []					___/2
Language Fluency. Name maximum number of words in one minute that begin with the letter B. [] _____ (N ≥ 11 words)							___/1
ABSTRACTION		Similarity between e.g. orange - banana = fruit [] hammer - screwdriver [] matches - lamp					___/2
DELAYED RECALL		(MIS) Has to recall words WITH NO CUE LEG COTTON SCHOOL TOMATO WHITE [] [] [] [] []					___/5
Memory Index Score (MIS)	.X3						Points for UNCUEDED recall only MIS = ___/15
	.X2	Category cue					
	.X1	Multiple choice cue					
ORIENTATION		[] Date [] Month [] Year [] Day [] Place [] City					___/6
© MoCA Test Inc. Created by Z. Nasreddine MD		www.mocacognition.com			MIS: /15 (Normal ≥ 26/30)		TOTAL ___/30

Training and Certification are required to ensure accuracy. Add 1 point if ≤ 12 yr education

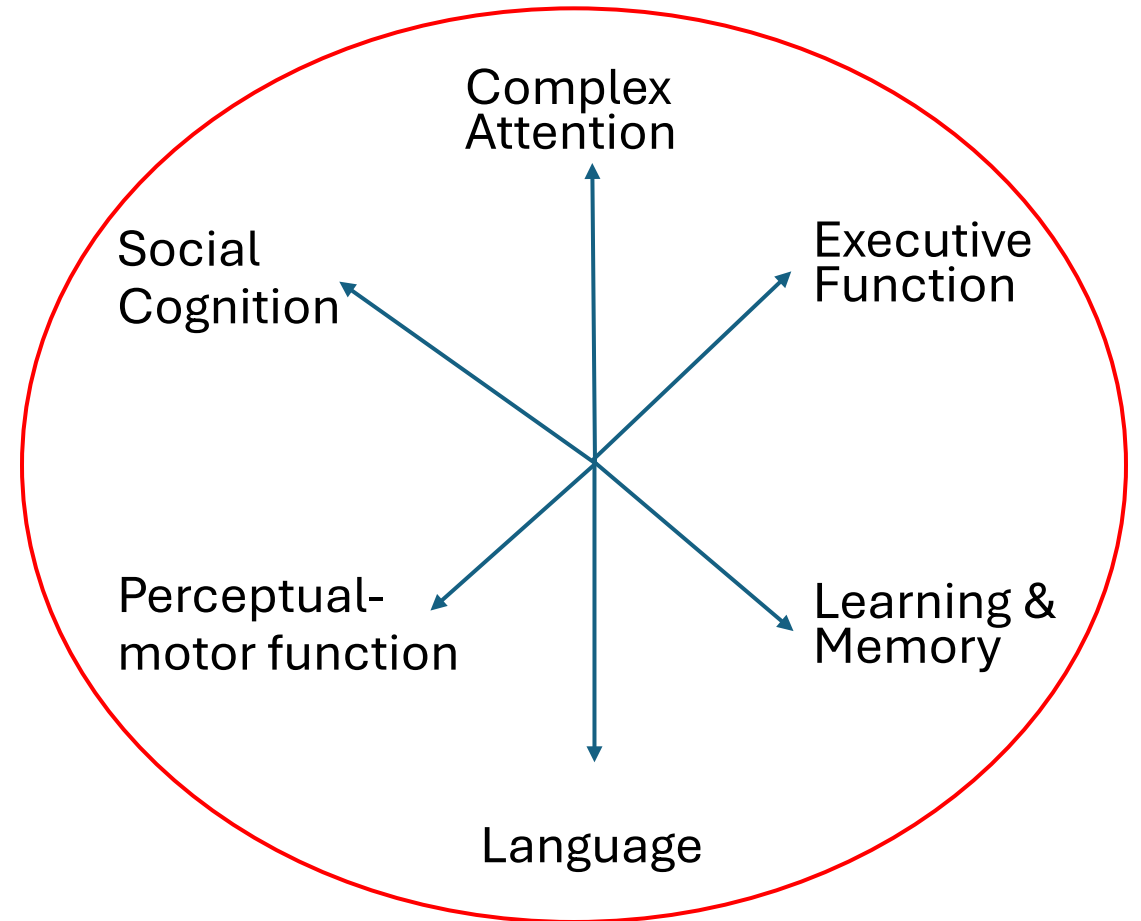
Back to Jane

- A screening test is administered to Jane and is quite abnormal
- Does Jane have dementia?



And how is dementia diagnosed?

- DSM V-TR
 - Significant cognitive decline from previous level of performance in at least one cognitive domain
 - Deficits interfere in daily independence
 - Not from delirium
 - Not from something else



What about MCI?

- Middle ground between normal aging and dementia
- Impairment in 1 cognitive domain
- Does NOT interfere with independent function



Does Jane have dementia?

- Does have decline in a cognitive domain
- Is having issues with IADLs
- Have not ruled out other causes



Imitators of dementia

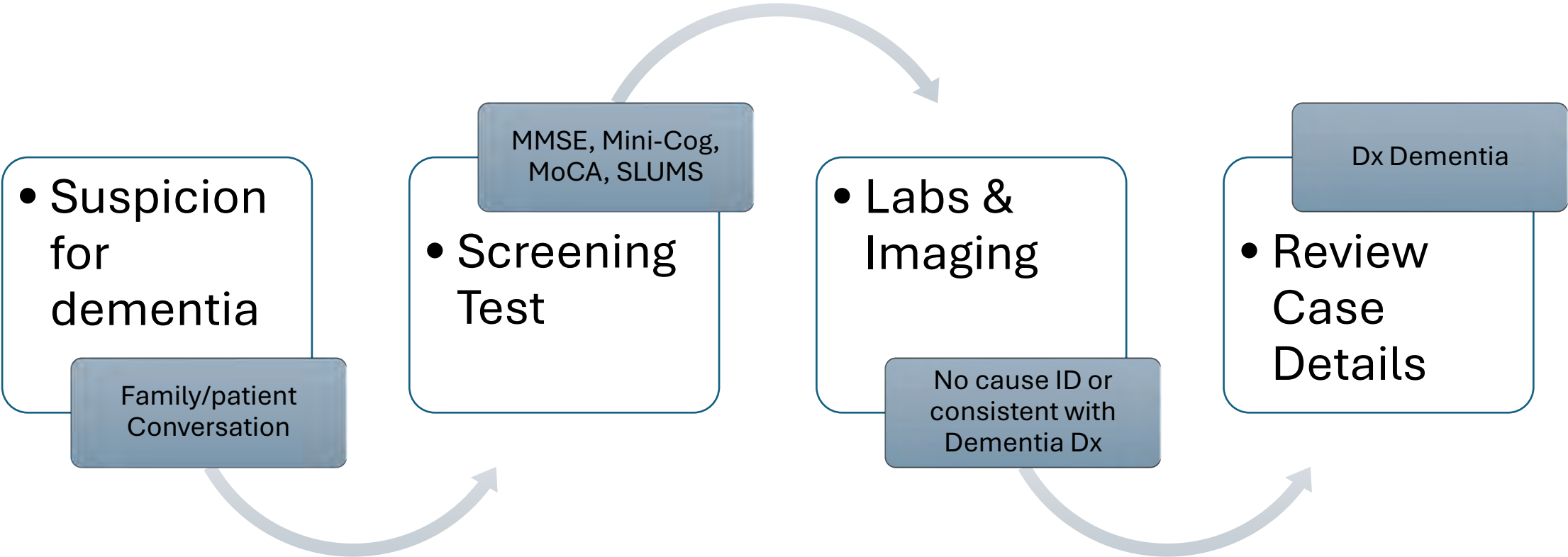
- There are many, many other causes of dementia-like symptoms
 - Delerium
 - HIV
 - Heart failure
 - Intracranial tumor
 - Med side effect
 - Depression
 - Hypothyroidism
 - Neurosyphilis
 - Several vitamin deficiencies
 - Normal pressure hydrocephalus
 - Wernicke-Korsakoff syndrome



A Reasonable Workup for Dementia

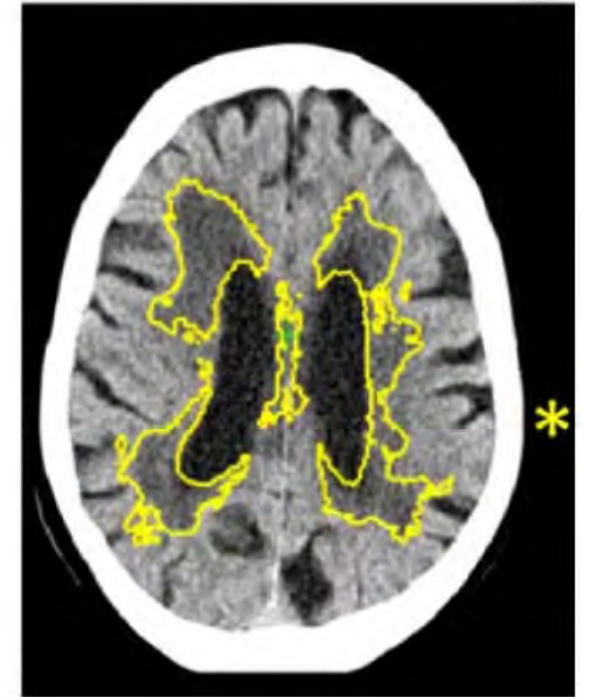
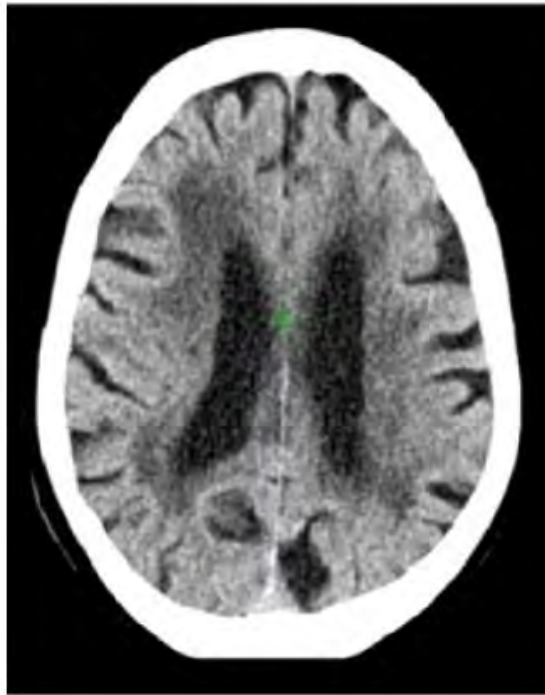
- Labs for everyone:
- Everyone
 - CBC, CMP, TSH, Vit B12
 - Can expand based on history
- Some form of head imaging
 - CT head vs MRI

A Reasonable Workup for Dementia



Results from Jane's workup

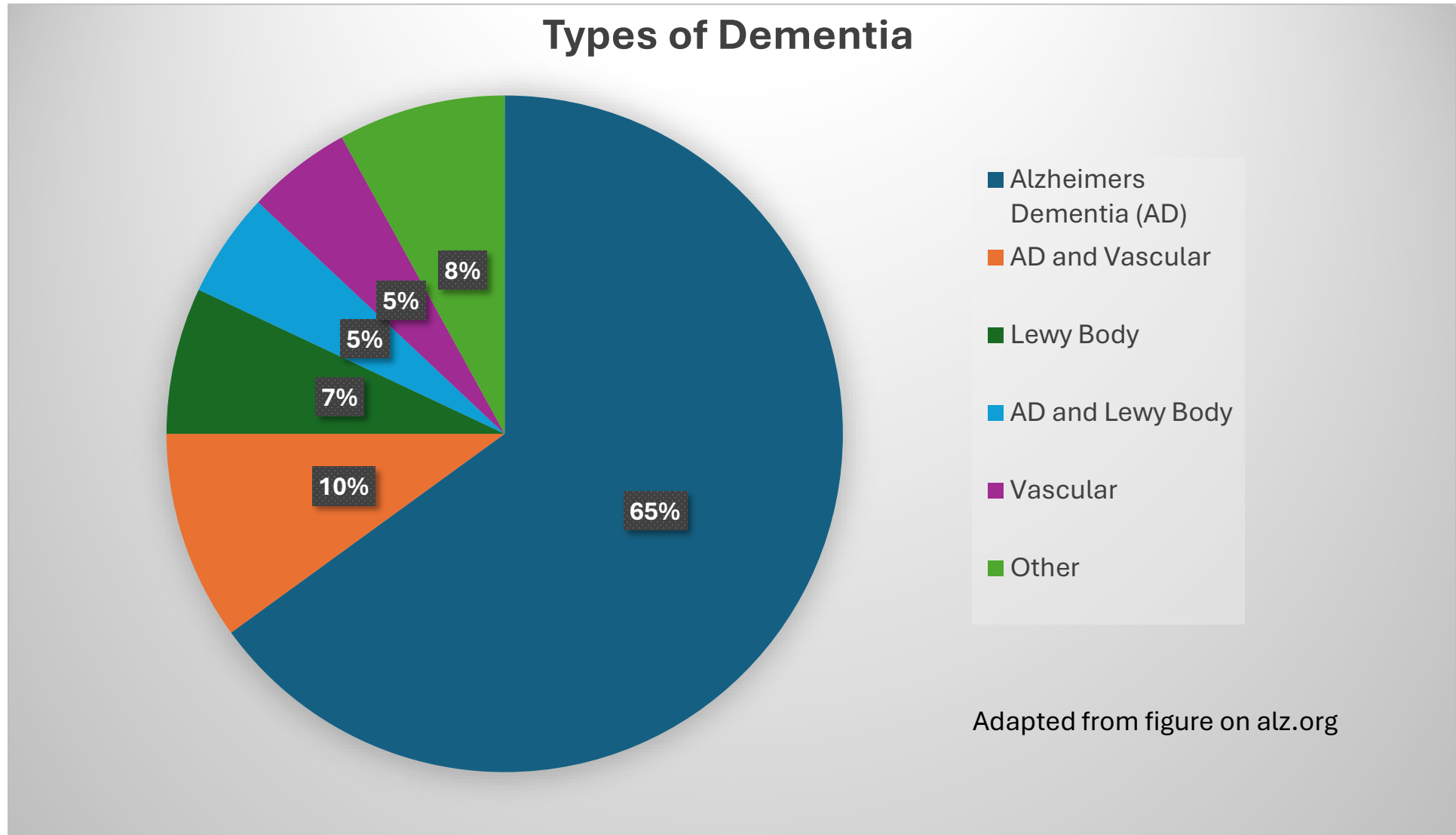
- Labs
 - CBC, CMP, B12, TSH, UA, RPR
 - All negative
- Imaging as seen here
 - Non-contrast CT scan



Subtypes of dementia

Etiology	Age of Onset	Sex	Course	Early Sympt	PE Findings
Alzheimer	>65yo	Female	Insidious – Months to years	Episodic verbal memory imp	Neuro exam normal early on
Vascular	>65yo	Male	Stepwise with repeated insults	Based on injured areas of brain	Consistent with vascular insults
Dementia with Lewy bodies	70-85yo	Male	Cognitive dysfunction w/l 1 year of motor symptoms	Memory d/f, visual halluc, depression, varying alertness	Parkinsonism
Parkinson	>70yo	Male	Motor symptoms >1yr before cognitive	Similar to LBD	Parkinsonism; rest tremor, rigidity, etc
Frontotemporal	50-60syo	None	Rapid progress	Personality change, exec d/f	

Subtypes of dementia



Does Jane have dementia?

- Likely vascular dementia
- Well now what?



Family Discussion and Treatment for Dementia

- Triad appointments
 - Concerns are brought up out of love
- Don't take sides
- Goals of care discussion before considering medication treatment
- Lifestyle mods

Cholinesterase Inhibitors

- 3 commonly available medications
 - Donepezil (Aricept)- approved for all stages AD
 - Galantamine (Razadyne)- approved for mild to mod AD
 - Rivastigmine (Exelon)- approved for mild to mod AD and PDD
- Mechanism of action:
 - Reversibly bind to cholinesterase, which degrades acetylcholine
 - Increased acetylcholine = increased communication between neuron
- Adverse effects:
 - Nausea, vomiting, diarrhea, dizziness, appetite decrease, torsades, AV block

Glutamate Regulator

- Memantine (Namenda)- approved for mod to severe AD
- Mechanism of action:
 - Blocks the glutamatergic excitation of neurons in cortical and hippocampal region.
 - Neuroprotective effect
- Adverse effects:
 - Vomiting, diarrhea, confusion, dizziness
 - Rarely CVA and kidney disease

Lifestyle Modifications

- Usually low to mod evidence of benefit with varying strengths of recommendation
- These have Strong or Conditional SOR depending

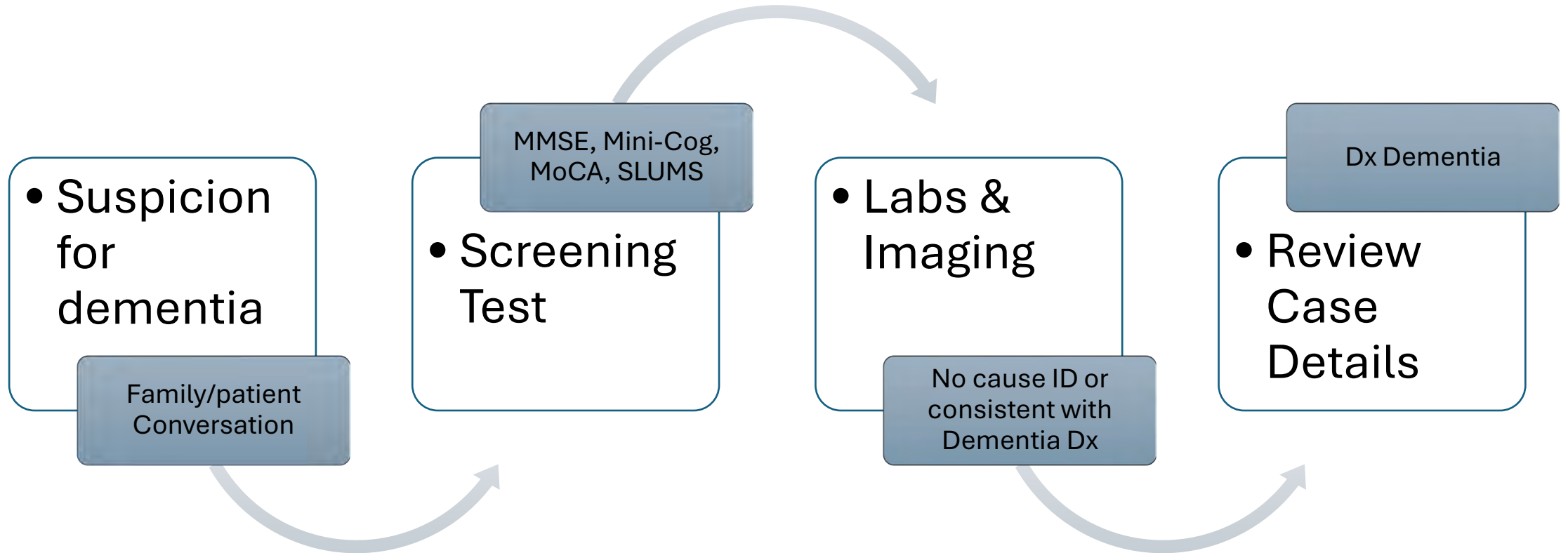
Manage
HTN and DM

Smoking
Cessation

Physical
Activity

Healthy
Diet

When to Refer



Questions?

- What questions do you have?
 - Concerns?
 - Deep burning moral issues?

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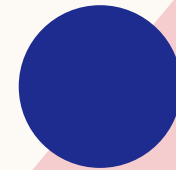
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THE OSTEOPATHIC HOUR:

1. A NEW LOOK AT CHAPMAN NEUROLYMPHATIC REFLEXES

KATE WORDEN, DO, FAAO
ANGELIQUE MIZERA, DO, NMM/OMM
IOMS WINTER SEMINAR
13 DEC 2024

DR. WORDEN & DR. MIZERA HAVE NO CONFLICTS OF INTEREST OR DISCLOSURES



LEARNING OBJECTIVES:

AFTER THIS UNIT, THE LEARNER WILL BE ABLE TO:

1. Describe the physiology underlying Chapman neurolymphatic reflexes.
2. Summarize two approaches to osteopathic treatment using these reflexes.
3. Identify specific Chapman reflexes: Nose, Heart, Ovary/Testes, Bladder, and the Ganglion impar (Clitoris/Penis).

LEARNING OBJECTIVES:

AFTER THIS UNIT, THE LEARNER WILL BE ABLE TO:

4. Palpate the tissue texture changes associated with dysfunction & resolution of dysfunction of these reflexes.
5. Recognize clinical indications for treatment of these reflexes: Post Covid, cardiac dysfunction, fatigue/pelvic pain, dysuria/interstitial cystitis and anxiety/PTSD.
6. Demonstrate OMT for the above reflexes.

CHAPMAN POINTS RELATED TO TODAY'S MEDICAL TOPICS:

NOSE (Nasal) → Post Covid

HEART (Myocarditis) → Cardiac Dysfunction/ Disease

TESTES/OVARY → Fatigue, Pelvic Pain

BLADDER (Cystitis) → Dysuria, Interstitial Cystitis

GANGION IMPAR (Clitoris/ Penis) → Anxiety, PTSD

THEORY: WHAT IS A CHAPMAN NEURO-LYMPHATIC REFLEX?

6

- **Traditional:** A disruption of the lymphatic system, innervated by ANS imbalance, related to the organ/condition for which it is named.
- Chapman described success with rapid superficial treatment AFTER treating biomechanics of the pelvis/sacrum. It has been postulated that perhaps due to changes in our world 100 years later-genetically, phenotypically, with lower levels of physical activity and quality of air, water, soil and foods-that such superficial Tx may no longer be as effective.

THEORY: WHAT IS A CHAPMAN NEUROLYMPHATIC REFLEX?

7

- **Newer:** A marked deep fascial distortion (NOT the 6 superficial FDM patterns), ANS maintained, which happens to involve the innervation to the named organ/condition, that maintains significant biomechanical somatic dysfunction as well.
- Resolution of the Chapman Point & its fascial distortion improved visceral as well as biomechanical function, as measured clinically by a Northwest Study Group.

Materials & Methods (1)

- The model put forth by the WWAMI for the use of card study in physician-based research networks(PBRN) (Cole et al) was used.
- *Development:*
 - A discussion was held with brainstorming session about common clinical conditions to be examined.
 - For each of the six conditions that were planned to be explored, two to four primary Chapman neurolymphatic reflexes were identified that were observed clinically to be related to the clinical condition.
 - Palpatory sites were selected to be observed before, during, and after the Chapman treatment was applied, by skilled osteopathic practitioners.
 - Associated biomechanical clinical parameters were measured before and after the Chapman treatment was applied.

Materials & Methods

- *Implementation:*

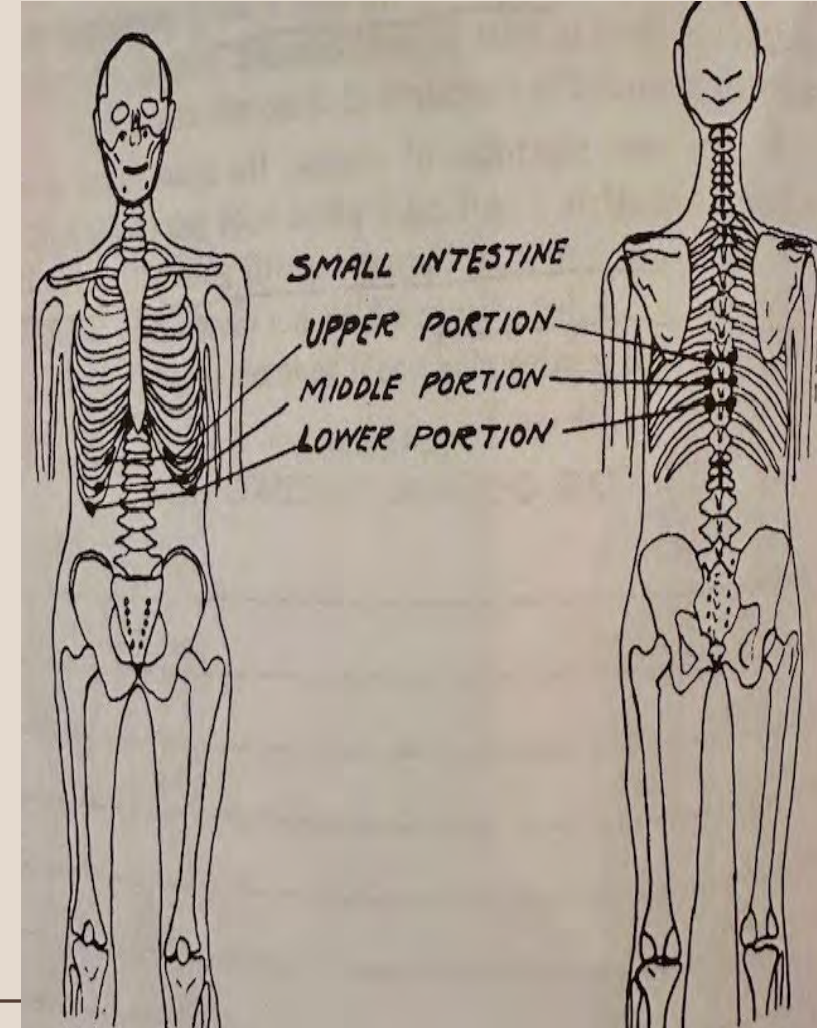
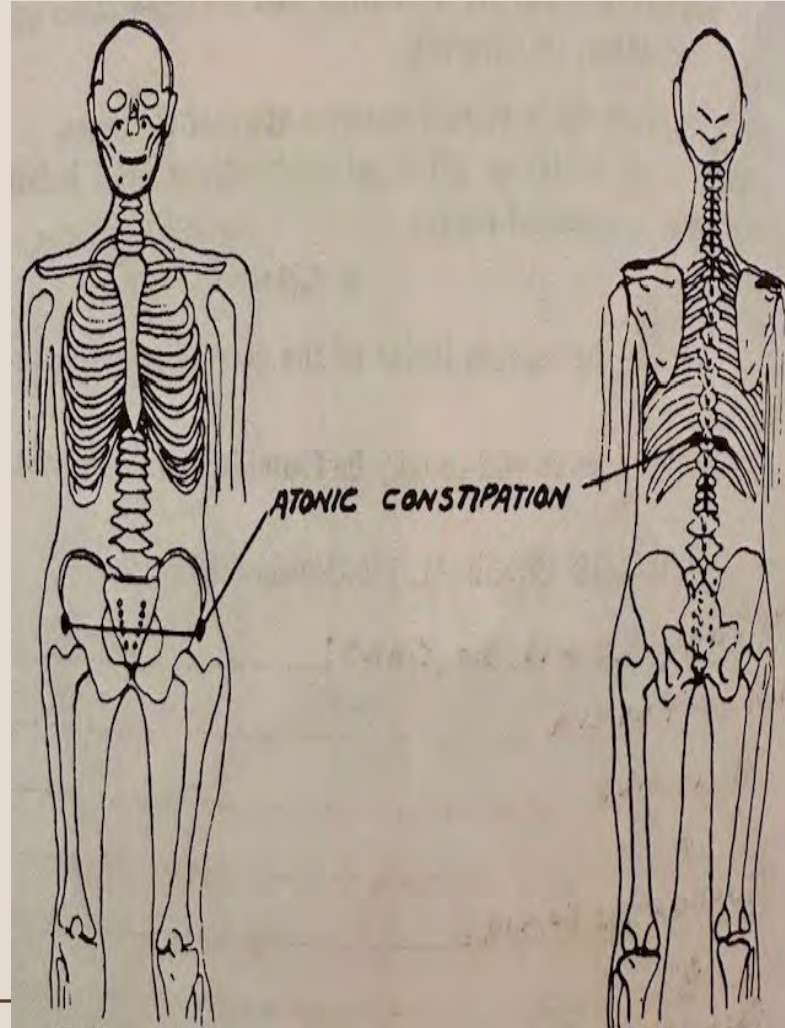
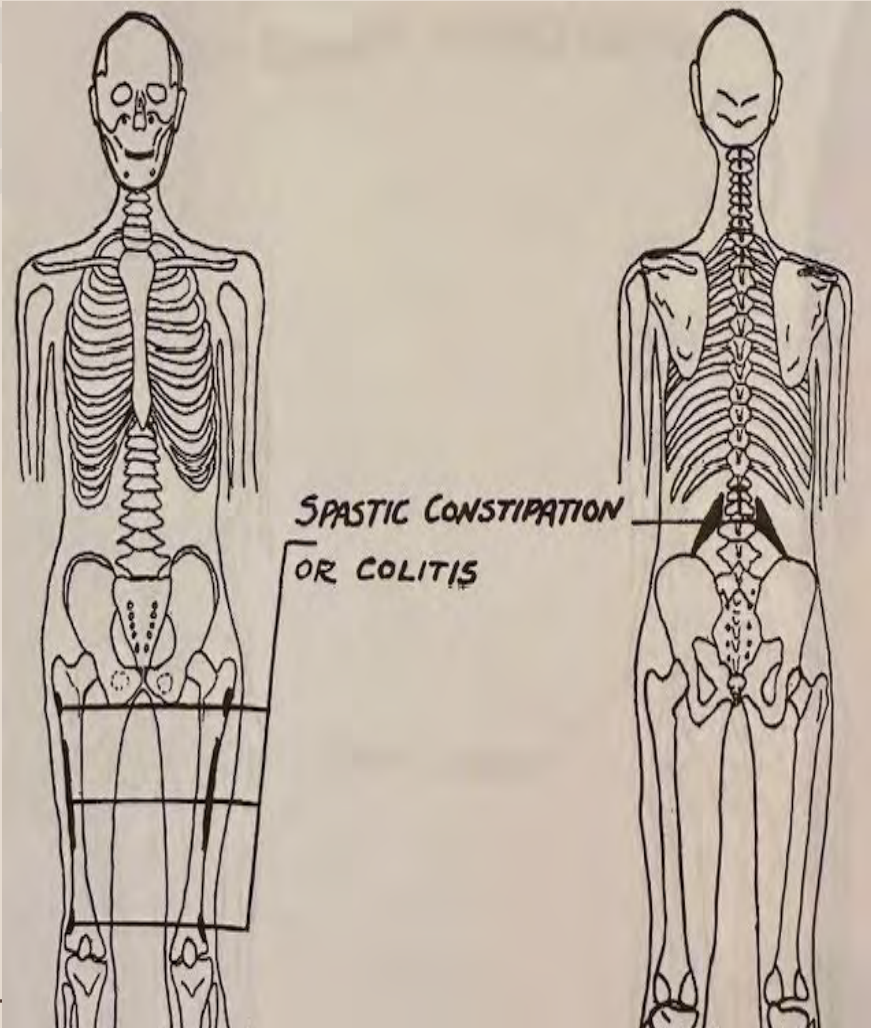
- 3 of the planned six 2-hour sessions were held during which a subject was treated with a Chapman approach for a given condition.
- Anterior & Posterior points were identified and palpated simultaneously by the examiner each in an indirect fascial position then connected by approximation. A sense of activation of the release was palpated. The release was continued until potency was enhanced and a sense of restriction to the PRM/CRI was no longer palpable.
- Pre and post intervention clinical measurements were taken independently by two blinded observers.
- Independent observer palpation occurred from carefully chosen listening posts. Observations were made orally by dictation during real time by a smartphone application recording device. Categorical data was captured on a brief questionnaire by each examiner at the conclusion of each session.

Observational palpation sites:

- **Shoulder** = 1 hand ant over the soft tissues surrounding the coracoid pr.
1 hand post over the sup medial border of scapula
- **Knee** = 1 hand ant over the soft tissues surrounding the cephalad aspect of the patella.
1 hand on the posterior thigh to palpate/monitor motion of the femur
- **Cranium** = Temporal base hold cradle the occiput & thumbs gently on the mastoid processes bilat with attention to the Tent
- **Sacrum** = Traditional cranial hold-caudad hand spans the sacrum w fingertips at sacral base, cephalad hand transversely at L5
- **Abdominal diaphragm** = 1 hand ant midpoint of the palm would be over the umbilicus over the soft tissues. 1 hand posterior transversely spanning the soft tissues over the T5 vertebra (uppermost dome of the diaphragm)

Tissue Quality Scale: 0 =poor vitality 1 =minimal vitality 2= mild vitality 3 = moderate vitality 4= very high vitality 5 = excellent vitality

Chapman Reflexes Treated for Constipation



Results: Constipation

Clinical Parameters	Exam #1 (AK)				Exam #2 (KW)			
	Pre Tx		Post Tx		Pre Tx		Post Tx	
	L	R	L	R	L	R	L	R
1.Hamstring Length								
a.angle knee flex	120	105	111	102.5	110	105	113	113
b. cm heel to table w hip flexed @ 90 & knee extended	56.5	55	73	70.7	2	2	67	60
2. Foot mechanics								
a.ankle dorsiflex	100	105	99	87	85	95	87	95
b. medial arch scale	L	M	M/H	H	L	M	H	M
c.cm nav to table w foot on flat surf	6	6	4.4	4.5	5.5	6	5.2	5.4
d.Gr toe flexor scale	160/+1	167/+2	126/+1.5	108/+1	157/+1	155/+2	160/+2	160/+3
e.Gr toe exten scale	120/+1	125/+2	129/+1	106/+2	127/+1	135/+2	138/+2	160/+1
(degr/ HT: 0 +1-+3								

Worden, KA, Kania, A, and Lewis JA, *An Observational Study of Findings Associated with the Treatment of Chapman's Neurolymphatic Reflexes in Selected Study Subjects: Preliminary Report*, prepublication.

Discussion: Constipation

- Measurements of change of simple clinical & biomechanical parameters pre & post Tx occurred simultaneously with the visceral/neuro/lymphatic/fascial approach of Chapman reflex treatment.
- Knee Extension:
 - Change in degrees of knee extension varied between examiners as measured by a goniometer
 - Distance from heel to table with hip flexed to 90 and knee extended showed a trend toward improvement in resting tone, and therefore function of the hamstring by one examiner. (+16.5 degrees left and 15.7 degrees right).
- Foot mechanics
 - Foot dorsiflexion in degrees was consistent between examiners on the L (+1-2 deg) but was inconsistent on the right (+18 vs 0 degrees on the right) foot.
 - A measurement from the inferior aspect of the navicular to the flat surface trended in the same direction, in all cases the navicular dropped lower to the flat surface. This is hard to interpret.
 - Measurements in degrees of Gr toe flexion & Extension, as well as a hypertonicity (HT) scale did not show consistent findings between examiners. It was felt that it was hard for the examiners to ID HT vs with a 3-point scale.

FRANK CHAPMAN, DO "CHAPS"

Owens, C, *An Endocrine Interpretation of Chapman's Reflexes*, 1937.



Frank Chapman D.O.

WHAT'S IN A NAME?

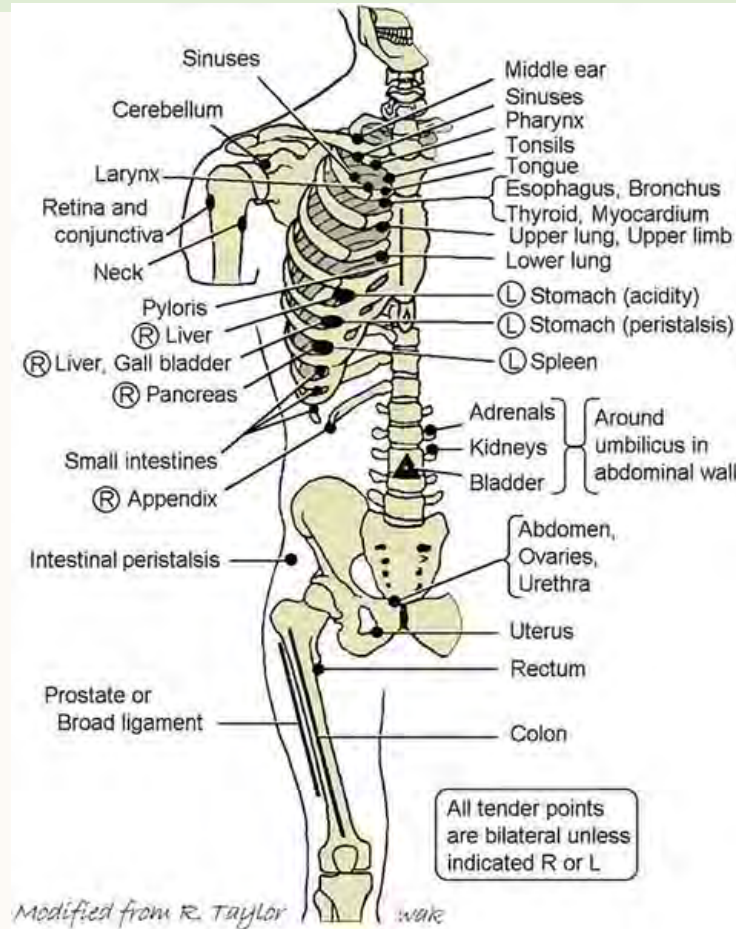
- Because Chapman died prematurely, most of what we know of his writings is from his student, Charles Owens, DO, who studied Chapman's work extensively, called himself the Interpreter, and wrote his observations in a textbook in 1937.
- Generations of DOs have been perplexed by the description of the palpable findings of a Chapman reflex point.
- Owens used the term **gangliform contracture**, a tissue texture abnormality (TTA) that has been described hypothetically as a discrete structure like a pea, tapioca bead, or seed.

WHAT'S IN A NAME?

- In 2008, the AAO held the 1st conference on Chapman reflexes in over 30 years, at AZCOM. It was discovered that there were 2 known remaining copies of an original text written by Chapman himself, one of which was the personal copy of Beryl Arbuckle, DO with her notes in the margins (now housed at WVCOM).
- They discovered that Chapman used the phrase **ganglion formed contracture** ie, hypertonicity often with bogginess, instead of **gangliform contracture**.
- This has broadened the diagnostic findings used to ID Chapman reflexes leading to addition study by a Northwest study group and others.

From: 40E A Modern Approach to Chapman Reflex Points

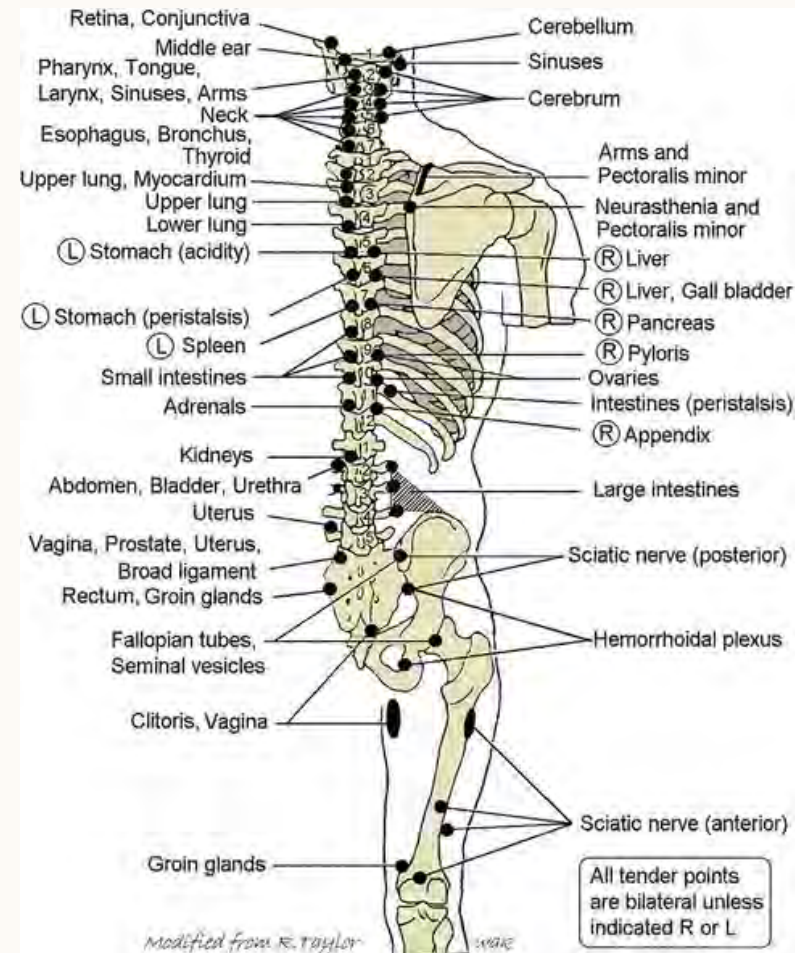
Foundations of Osteopathic Medicine: Philosophy, Science, Clinical Applications, and Research, 4e, 2018



Legend:
Anterior CR points.

From: **40E A Modern Approach to Chapman Reflex Points**

Foundations of Osteopathic Medicine: Philosophy, Science, Clinical Applications, and Research, 4e, 2018

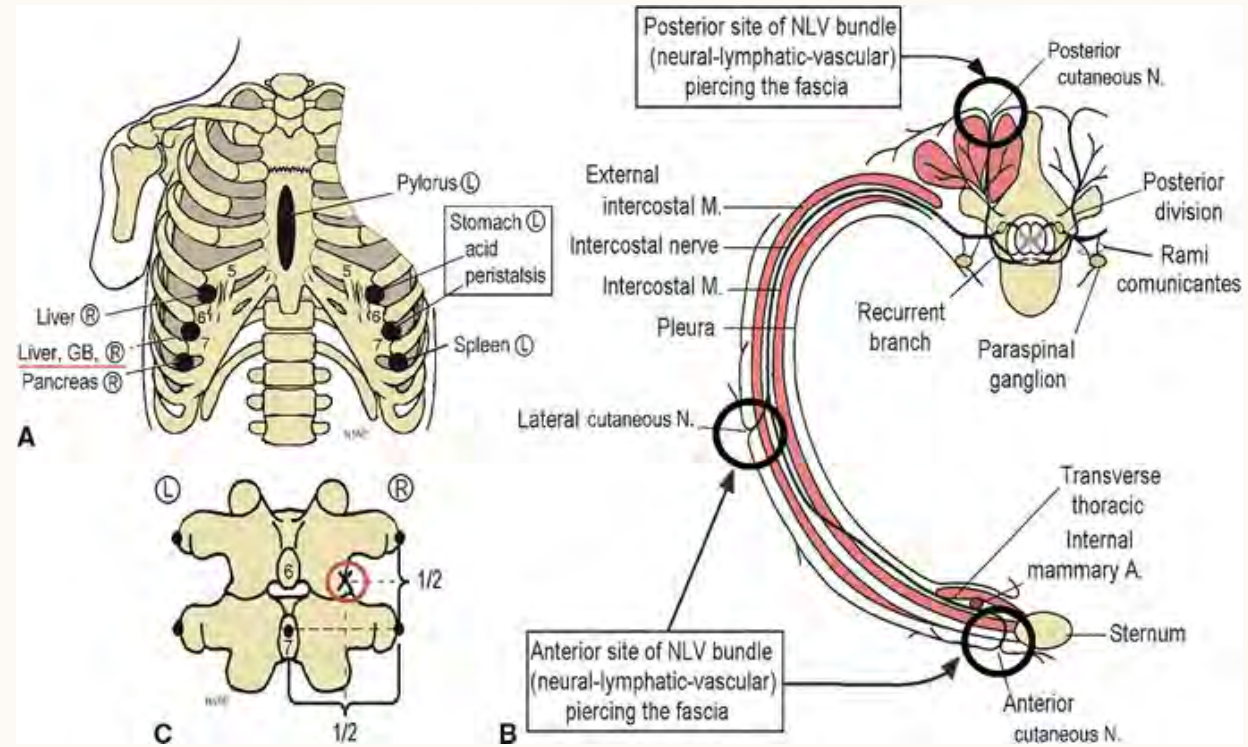


Legend:

Posterior CR points.

From: **40E A Modern Approach to Chapman Reflex Points**

Foundations of Osteopathic Medicine: Philosophy, Science, Clinical Applications, and Research, 4e, 2018



Legend:

A and B. Postulated anatomical correlations for CR point locations.
(Illustration by William A. Kuchera, DO, FAAO, with permission.)

From: 40E A Modern Approach to Chapman Reflex Points

Foundations of Osteopathic Medicine: Philosophy, Science, Clinical Applications, and Research, 4e, 2018

You have tested:

- Cardiovascular
- Pulmonary
- Upper GI Tract, (stomach, liver, gall bladder, spleen, spleen, pancreas)
- Thyroid, Gonads, Adrenals
- Urinary Tract (urethra, ureters, bladder, kidneys)
- Pelvic Viscera (ovary, and broad ligaments)
- Lower GI Tract (ascending and descending colon and sigmoid colon)
- Broad Ligament or Prostate

○ not usually tested in 30-second screen

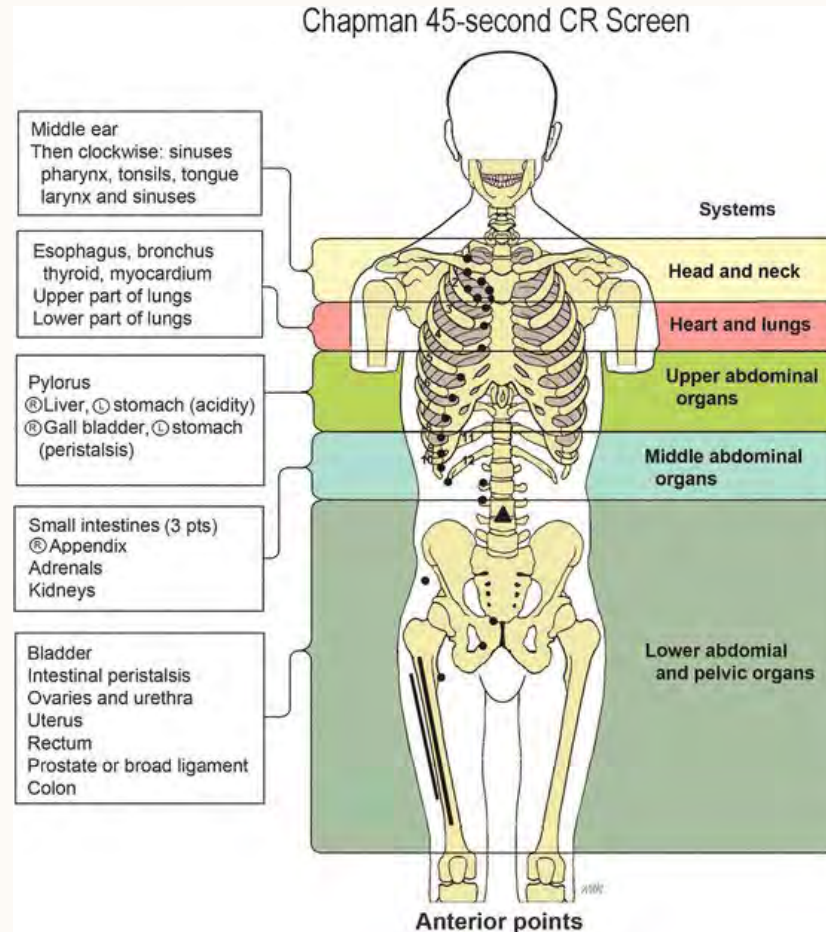
Chapman reflexes you did NOT test:		
URI (But you could--see chart marked ENT)		
Cerebellum	Tongue	Sinuses
Middle ear	Neck	Upper limb

Legend:

A 30-second visceral screen.

From: **40E A Modern Approach to Chapman Reflex Points**

Foundations of Osteopathic Medicine: Philosophy, Science, Clinical Applications, and Research, 4e, 2018



Legend:

A 45-second visceral screen.

TRADITIONAL APPROACH TO TX:

- 1.ID TTA of seed or tapioca-like gangliform (*errata* ganglion formed) contractures at specific locations are dysfunctions associated with various viscera/conditions (eg, sciatica, cystitis, neurasthenia, wry neck)
2. Dx by TTA (esp tissue hypertrophy & tenderness to the patient-graded 0,1,2,3 in severity by M. Kuchera). Anterior points are more discrete for Dx. Posterior points have a broader treatment effect.
3. The recommended order of treatment has gone back and forth over time: anterior then posterior (then anterior) vs posterior then anterior.
- 4.Tx is a superficial rapid rotary palpation of the affected point-first clockwise (CW) then counterclockwise (CCW) till softening and resolution of tenderness of the point occur, approximately 20-30 sec/point.
- 5.Reassess for improvement in hypertonicity, gangliform contracture and tenderness.

Fossum, C, Kuchera, ML, Devine, WH, and Wilson, KL, Ch 40.E. A Modern Approach to Chapman Reflex Points, in *Foundations of Osteopathic Medicine*, 4th ed, Seffinger, M, ed., Wolters Kluver, 2018.

NEWER APPROACH TO TX:

(JUDY LEWIS, DO, FAAO, FCA AND OTHERS IN A NW STUDY GROUP)

1. Evaluate anterior points bilaterally to screen for diagnosis.
2. ID those which has S/Sx (TTA +/-pain). Screen biomechanical changes nearby or distally, eg, IR/ER of LE by leg rolling, increased dorsiflexion of ankle.
3. Tx: connect the Ant & Post points indirectly to each other fascially and to the embryologic midline energetically.
4. Tx A & P points simultaneously on the worst side first then the other if needed
5. Reassess the points, but also biomechanical changes nearby or distally

TX: NEW TECHNIQUE

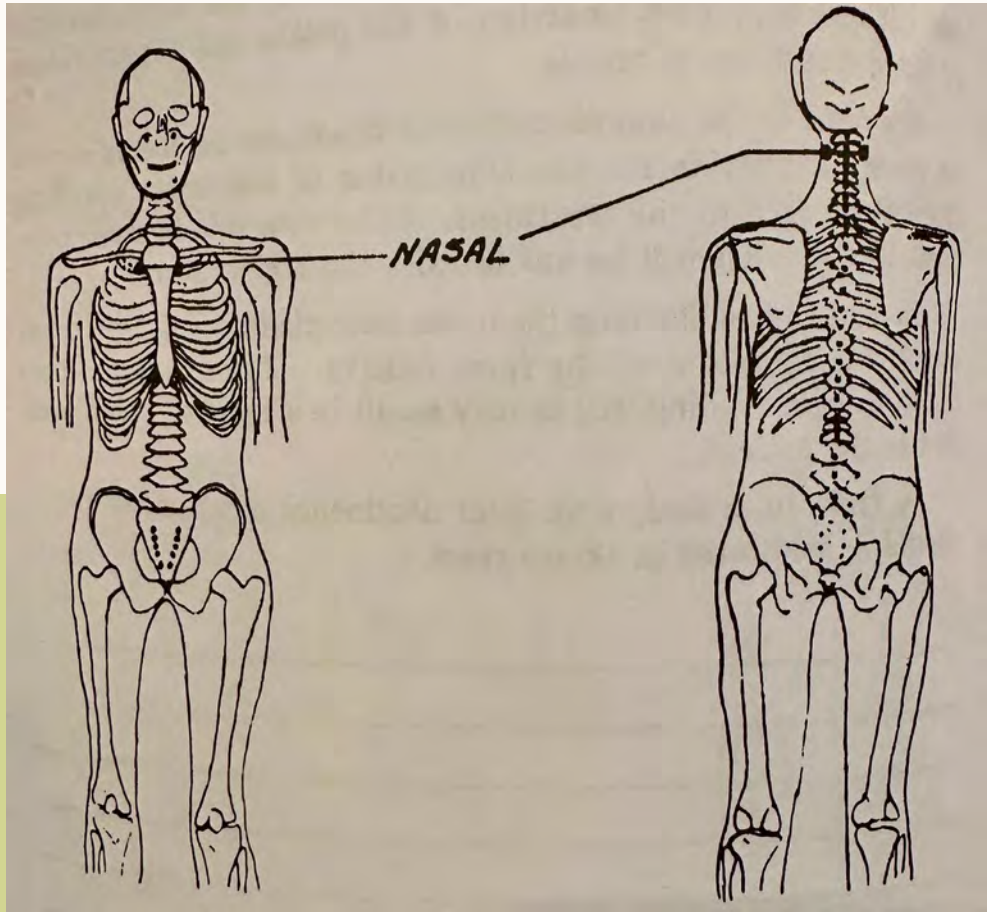
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1. Palpate: place cephalad hand middle or index finger pad or tip on posterior point.
2. Palpate: place caudal hand middle or index finger on anterior point.
3. Take each point (A & P) indirect fascially, or consider taking to point of ease in the 3 cardinal planes (sup/inf, med/lat, CW/CCW).
4. Connect the 2 points to each other by intention (approximate-may feel a suction feeling when they connect and the anterior point will become less tender to the patient).
5. Connect the 2 points to the midline (embryologic notochord) by intention (if able).
6. Allow the tissues to unwind & soften until they cease (a systemic cranial still point).
7. Reassess for softening/less tender or boggy

LAB



Fred Mitchell, Jr, DO, FAAO & Kate Worden, DO, FAAO

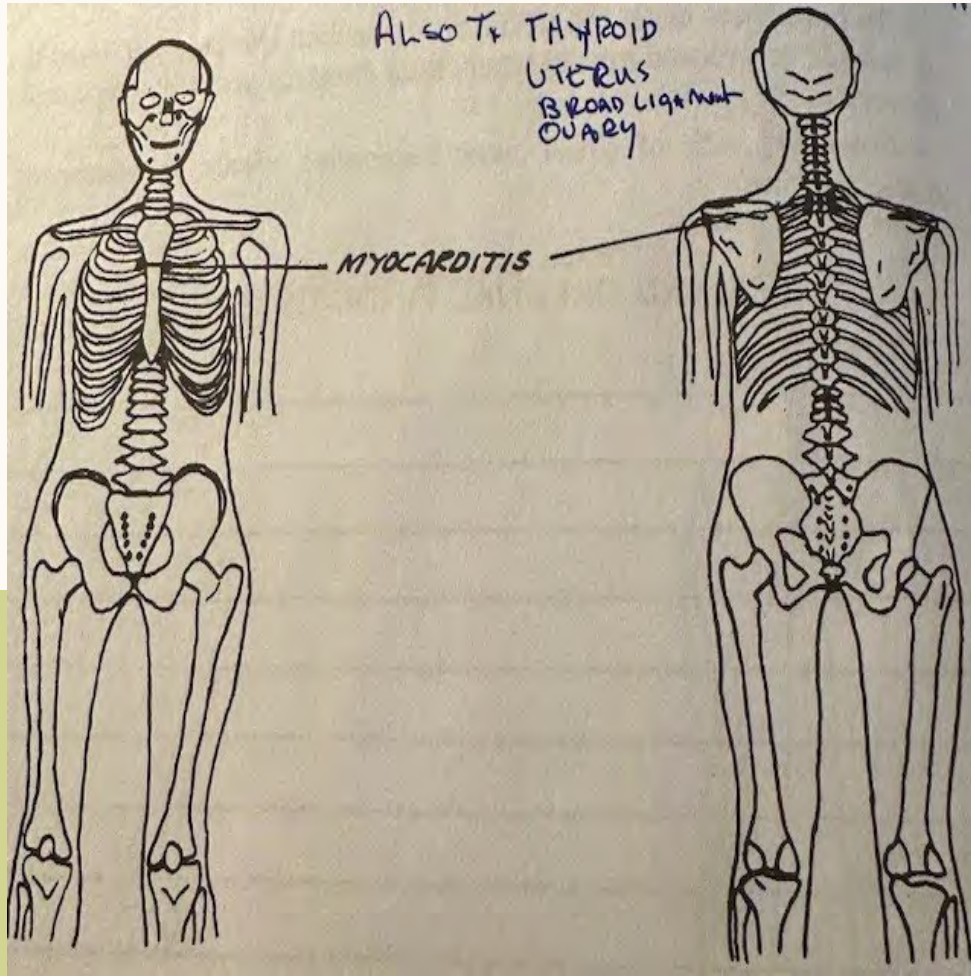


NOSE (NASAL)
INDICATIONS: POST COVID,
A/DYSNOSIA, RHINITIS, EPISTAXIS

A: JUNCTION RIB 1 & ITS
CARTILAGE ANT

P: FOLLOW INF RAMUS JAW POST
TO THE POST TR PR C2

Owens, C, *An Endocrine Interpretation of Chapman's Reflexes*, AAO, 1963, republished from 1937 with forward by Fred Mitchell, Jr, DO, FAAO.

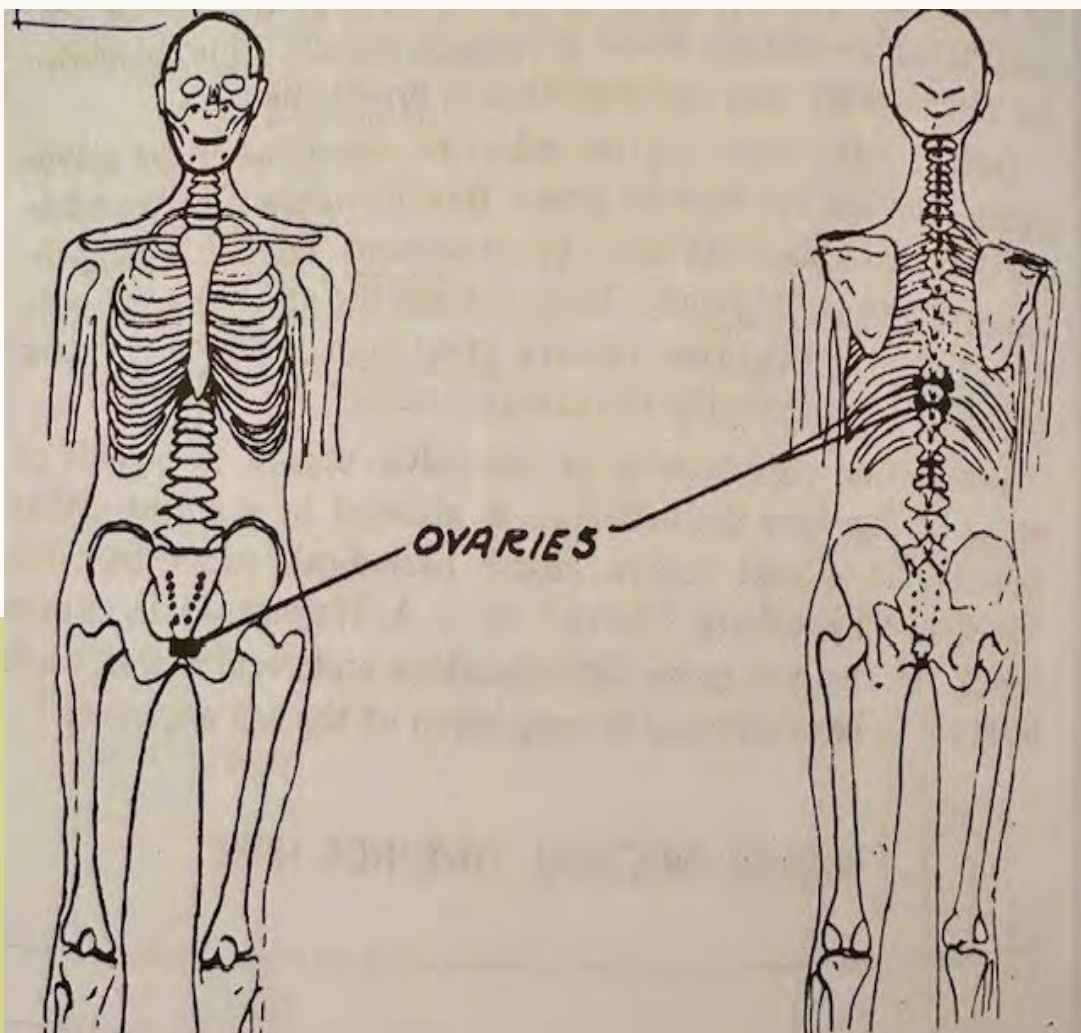


HEART (MYOCARDITIS)
INDICATIONS: TACHY, DIZZY,
FATIGUE, DYSPNEA, FEARFUL

A: MEDIAL ASPECT OF THE
INTERCOSTAL SPACE BTWN
RIBS 2 & 3

P: INTERTRANSVERSE SPACE
BTWN SP PR & TR PR T2 & T3

Owens, C, *An Endocrine Interpretation of Chapman's Reflexes*, AAO, 1963, republished from 1937 with forward by Fred Mitchell, Jr, DO, FAAO.



Owens, C, *An Endocrine Interpretation of Chapman's Reflexes*, AAO, 1963, republished from 1937 with forward by Fred Mitchell, Jr, DO, FAAO.

***OVARIES/ TESTES:**

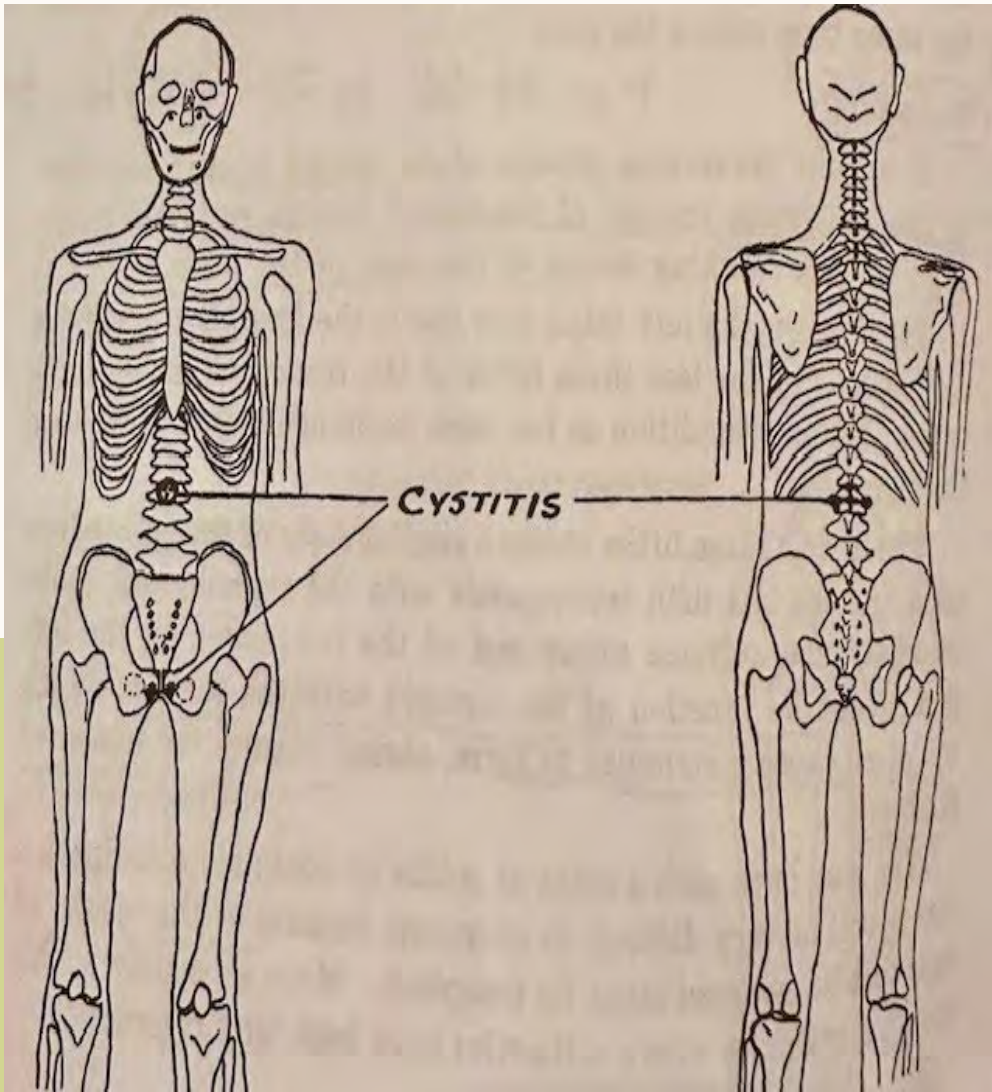
INDICATIONS: FATIGUE, PELVIC PAIN, DYSMENORRHEA, IMPOTENCE

**A: SUP-MED PUBIC SYMPHYSIS
GOING INFERIOR**

**P: INTERTRANSVERSE SPACES
BETWEEN T9-T10 & T10-T11-USE 3
FINGER PADS AT T9/10/11**

**(INTERIOR: 1/2 WAY BTWN TR PR & SP PR T9
& T10**

**EXTERIOR: 1/2 WAY BTWN TR PR & SP PR
T10 & T11)**



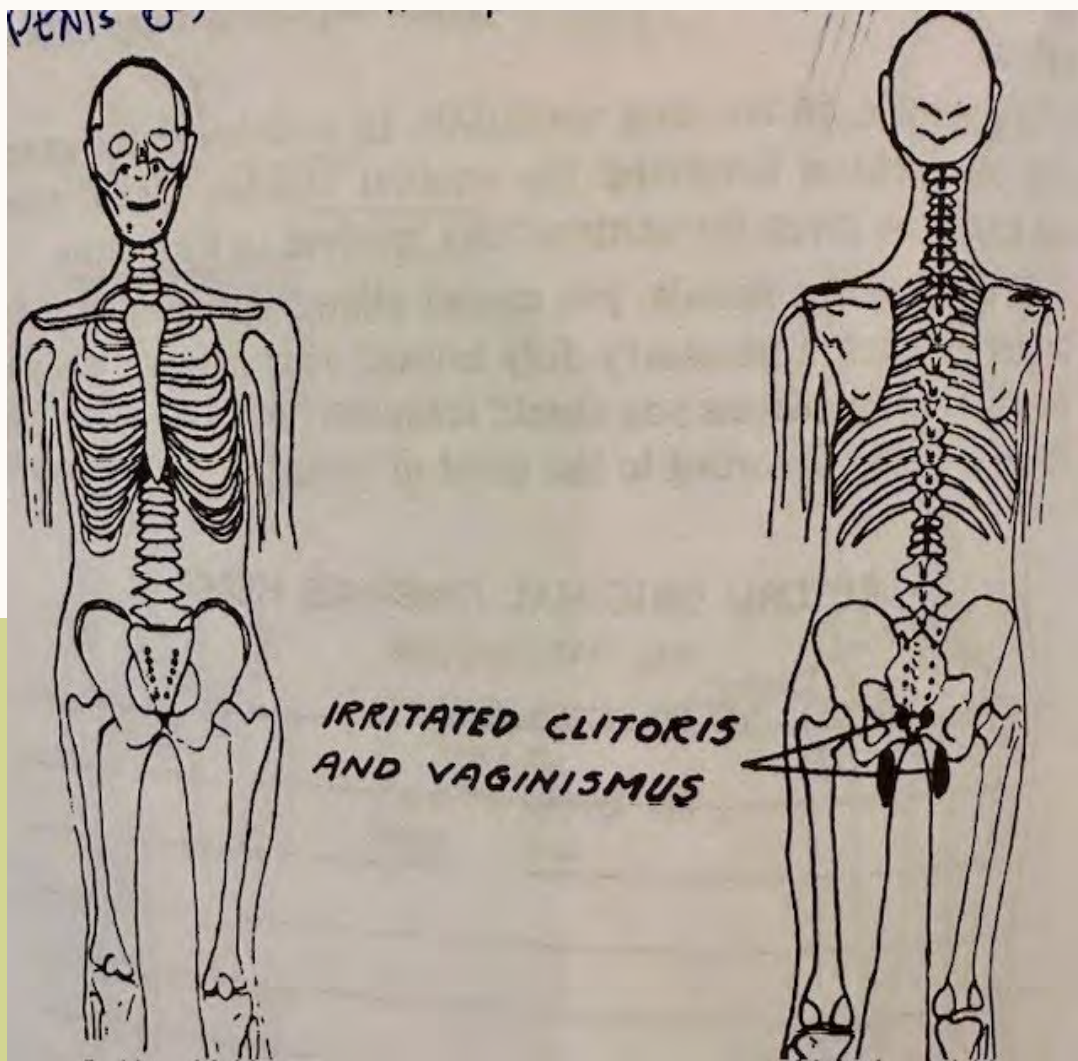
Owens, C, *An Endocrine Interpretation of Chapman's Reflexes*, AAO, 1963, republished from 1937 with forward by Fred Mitchell, Jr, DO, FAAO.

BLADDER:

INDICATIONS: URGENCY, CHRONIC UTI, FREQUENCY, INCONTINENCE, INTERSTITIAL CYSTITIS, ANS DYSTONIA
A: 1) INFERIOR UMBILICUS (TIP INF) & 2) MIDWAY BETWEEN THE SUP & INF PUBIC RAMUS-GO MEDIALY

(NOTE: 2 POINTS ARE ADJACENT DURING DEVELOPMENT). CAN TRY TO TX BOTH SIMULTANEOUSLY IF YOU CAN REACH OR BRING THEM CLOSER TOGETHER BY PATIENT POSITION (EG, SIDELYING KNEE-TO CHEST)

P: SUPERIOR ASPECT OF L2 TRANSVERSE PROCESS



GANGLION IMPAR
(CLITORIS/DORSUM OF PENIS):
INDICATIONS: VAGINISMUS, ED,
PTSD, MARKED SNS, TRAUMA

A: SUPERIOR MEDIAL POSTERIOR
UPPER THIGH-MAY BE SEVERAL
POINTS

P: LAT TO THE SACRO-
COCCYGEAL SYNCHONDROSIS
(SCS)-CONTACTING MEDIALY
WITH FINGERTIP

Owens, C, *An Endocrine Interpretation of Chapman's Reflexes*, AAO, 1963, republished from 1937 with forward by Fred Mitchell, Jr, DO, FAAO.

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THANK
YOU!

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