

Optometric Vision Therapy/ Neuro-Optometric Rehabilitation: Mind Body Connection

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1

Disclosures

- None

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2

Thanks

- Optometric giants
- IBO Study Group (Washington DC/MD/VA)
- Tuesday Think Tank

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3

How do we manage?

- Patients with trauma
 - Disclosed or Undisclosed
- Crying
- Angry – outbursts
- Vision therapy/Rehabilitation or refer out?
- What does therapy entail?

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4

Patient SK

- 54yo female writer
- June 2021 extreme stiff neck and pain after massage
- Pain spread to head July to October 2021
- Dx Binocular Vision Dysfunction
- Rx plano with OD+1.00 add OS +1.25 add
- Seen 3 other ODs/OMDs

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5

Patient SK History Continued

- Did Vision Therapy/Rehabilitation with 2 other VTOD
- Increase in symptoms after seeing first VTOD traumatized during exam and therapy
- 30 Question Predictive Checklist score: 4 (HA 2, falls asleep 1, vision worse end of day 1)
- Does not want too much information about dx or discuss cause

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6

SK Exam 7-12-24

Test	Findings
VA Distance Unaided	OD 20/25-1 OD 20/15-1 OU 20/15
VA Near Aided	OD 20/32-2 OS 20/30-2 OU 20/20
Stereo	RDS 250 sec of arc Wirt Circles 25 sec of arc
Cover test	Distance Ortho Near 2 EP
EOM	Full, comitant, jerky, fixation loss in inferior gaze. C/o sx on back right side of head after third rotation. Saccades 50% undershoot
NPC	5"/7"/OD out/+dip, 5.5"/7"/OD out/+ dip W/ +0.50 4.5"/6.5"/OD out/+ dip NPC Comfort 10"/15"/OD out/+ dip
Step Vergence	BI 4/12/6 BO 18 Shoved prism bar away. Very upset, crying

7

SK Exam 7-12-24 Continued

Test	Findings
Modified Thorington	H 6 eso V iso W/Rx H 3.5 eso V 0.50 R Hypo
MEM	OD and OS +2.00
Worth 4 dot	Fused 4 dots + luster at 16", 3', 8' and 13'
Amps (pull away)	OD 178mm OS 125mm
Retinoscopy	OD, OS +0.25sph
Subjective	OD +0.25sph OS +0.50
Phoria	Distance LP 1 eso VP iso
Vergence	Distance BO Suppress OD BI x/4/2 Diplopic Fused with 4BO
	Patient upset, crying. Exam stopped as patient declined further testing

8

What Would You Do?

- Start therapy sessions?
- What would you do during therapy?
- How do you deal with patient who cries every session?
- Cannot do any therapy procedures with eyes open?
- Refer? To Whom?
- Patient is already seeing counselor/psychologist

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9

Treatment

- Diet
- Optometric Vision Therapy / Neuro-Optometric Rehabilitation

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10

Goals SK

- Few or no symptoms when reading
- Read without needed as many or as long breaks
- Doesn't want to feel that she is tied to 20/20/20
- Doesn't want to constantly worry about increasing symptoms
- Tolerate movement on screens and phone
- Decreased light sensitivity

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11

Therapy Sessions 1 - 6

- Breathing – 4/8
- Body awareness / bilateral integration – visualize and mirror neurons
- EOM – Eyes closed Thumb
 - Head still, thumb moving Head moving, thumb still
- Sunning – patient triggered
- Polyvagal release

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12

SK THERAPY CONTINUED

- Closed Eyes Finger Touches
- Belgau – eye closed pouring vs toss
- Pointing
- BAR – plus to plano (plus triggered symptoms)
- Triggers – awareness, anticipation, acclimation, acceptance

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Small Moments

- Be aware of environment
- Breathe
- Encapsulate memory
- Recall while breathing
- Appreciate the depth and breath of the memory



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14

Patient SD

- 20yo male college student fell off building 27 days earlier (Nov 2024)
- Back of head hit ledge as fall
- TBI with skull fractures
- Brain bleed
- Broken femur at age 2 closed fracture
- Referred by neurologist

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15

Patient SD History Continued

- Constant diplopia since accident distance and near
- Cleared by S&L and OT
- BIVSS score 40, constant diplopia
- Alternate patches to read and watch TV
- "Can read the words but not connect them."
- Head turn and tilt to left. Torticollis?

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16

SD Exam 11-29-24

Test	Findings
VA Distance Unaided	OD 20/15 OD 20/15-1 OU 20/15
VA Near Aided	OD 20/20 OS 20/20 OU 20/20
Stereo	RDS 250 sec of arc Wirt Circles 30 sec of arc
Cover test	Distance 12 LET Near 4 EP
EOM	Noncomitant, OS higher in superior gaze, OS slight abduction deficit, jerky, with fixation losses. Saccades 30% undershoot
NPC	4"/2"/3"/OD out/+dip, 4"/2.5"/3.5"/ OD out/+ dip W/ +0.50 Fused to 2" tired
Step Vergence	BI x/6/0 BO 18/18/16

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17

SD Exam 11-29-24 Continued

Test	Findings
Modified Thorington	H 10 eso V iso
MEM	OD and OS +1.00
Worth 4 dot	Fused 4 dots + luster at 16", 3', Suppression beyond
Amps (pull away)	OD 80mm OS 75mm
Retinoscopy	OD, OS +0.50sph
Subjective	OD and OS plano 20/15
Phoria	Distance LP 15eso VP 1Lhyper Near LP 3 eso w/+1.00 VP 1Lhyper
Vergence	Distance BO Int. Supp and dipl fused with 12BO Fused 8BO for 2 sec Near BO 22/32/18 BI 8/6/8 Step BI x/6/0 BO 18/18/16

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18

SD Exam 11-29-24 Results

Test	Findings
NRA/PRA	NRA +0.50 PRA -0.75
Amps	OD 9.25D OS 8.75D
Facility +/-2.00	OD 4.5cpm Plus 12 to 5 sec Minus 5 to 4 sec OS 3 cpm Plus 18 to 8 sec Minus 5 to 4 sec OU 7cpm Plus 7 to 4 sec Minus 6 to 3 sec
Pupils	Alpha Omega 2 sec OD and OS

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19

SD 9 Gaze Photo



Date: November 29, 2024



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20

What Would You Do?

- “Tell me what to do, and I will work on it 20 times a day if I have to!”
- What would your therapy entail?
- Counseling on friend group?
- What to do about summer internship? Driving?
- Guilt? Patient?
- Physician parent? “I don’t want to know anything about dx or tx”

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21

Treatment

- Diet – nutrition and supplements
 - Phone consult during intake
 - Initiated before initial exam
- Optometric Vision Therapy/ Neuro-Optometric Rehabilitation



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22

SD Therapy

- Breathing
- Body awareness / bilateral integration
- Malhotra Eye Movements
- EOM – Clock Stretches
- Closed eye finger touches
- Wachs' Salute

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Home Reinforcement

- Breathing
- Walking
- Peripheral awareness
- Door Frame
- Binasals on sunglasses



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SD 9 gaze



Date: December 10, 2024

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Gaze

25

Progress – After 5 sessions

- Improved – no diplopia, can read. Ready to drive!
- Symptoms triggered by cognitive load
- Continue for 2 additional sessions
- When do you discontinue therapy sessions?

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26

Jan 7, 2025



Date: January 07, 2025

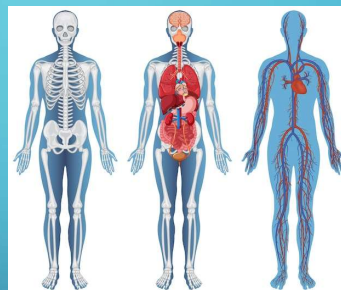


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27

Trauma

- Brain – Mind
- Body
 - Nervous system
 - Muscles
 - Organs
 - Connective tissue



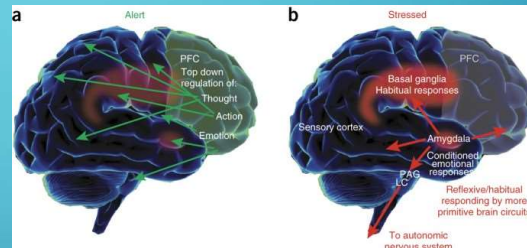
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28

Nervous System

- Protective mechanism
- “High alert”
- Ready for . . .



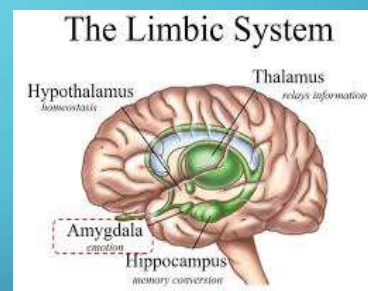
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29

Brain

- Hippocampus
- Amygdala
- Pre-frontal cortex
- Emotional and memory centers
- Protection from threats
- Activate with reminders of trauma



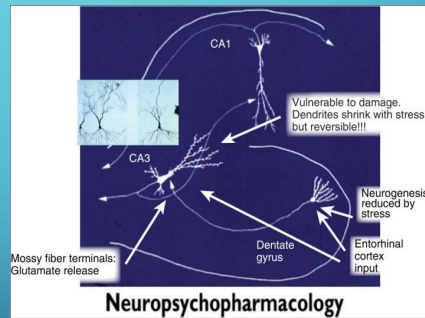
https://www.google.com/imgres?q=Hippocampus%20and%20amygdala&imgref=https%3A%2F%2Fqph.cf2.quoracdn.net%2Fmain-qimg-610778435de6773f3dcae65641780-4q&imgref=https%3A%2F%2Fwww.quora.com%2F%2FHow-is-the-Hippocampus-connected-to-the-amygdala&docid=HNK3Gybl-1-4GMB&id=MVYTYx9PU&vet=12aMKvLJrJ_6M&AxQjYtEh0dhyQW3dPCLUEAA&w=576&h=905&sch=2&v=2&uRQ=UjRj_6M&AxQjYtEh0dhyQW3dPCLUEAA

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30

Stress and Dendrites

- Attenuation
- Regrowth



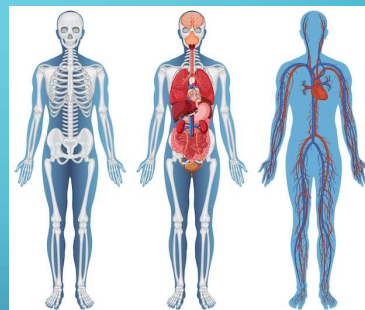
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31

Body

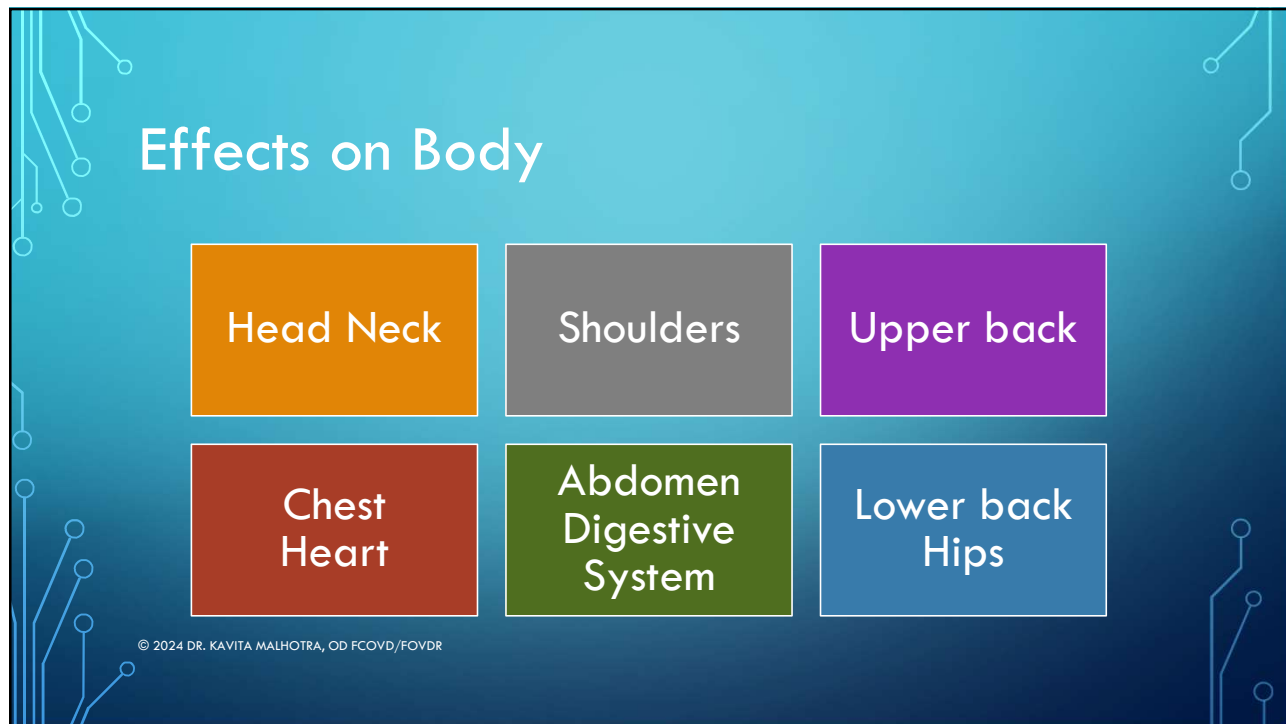
- Muscles
- Organs
- Connective tissue



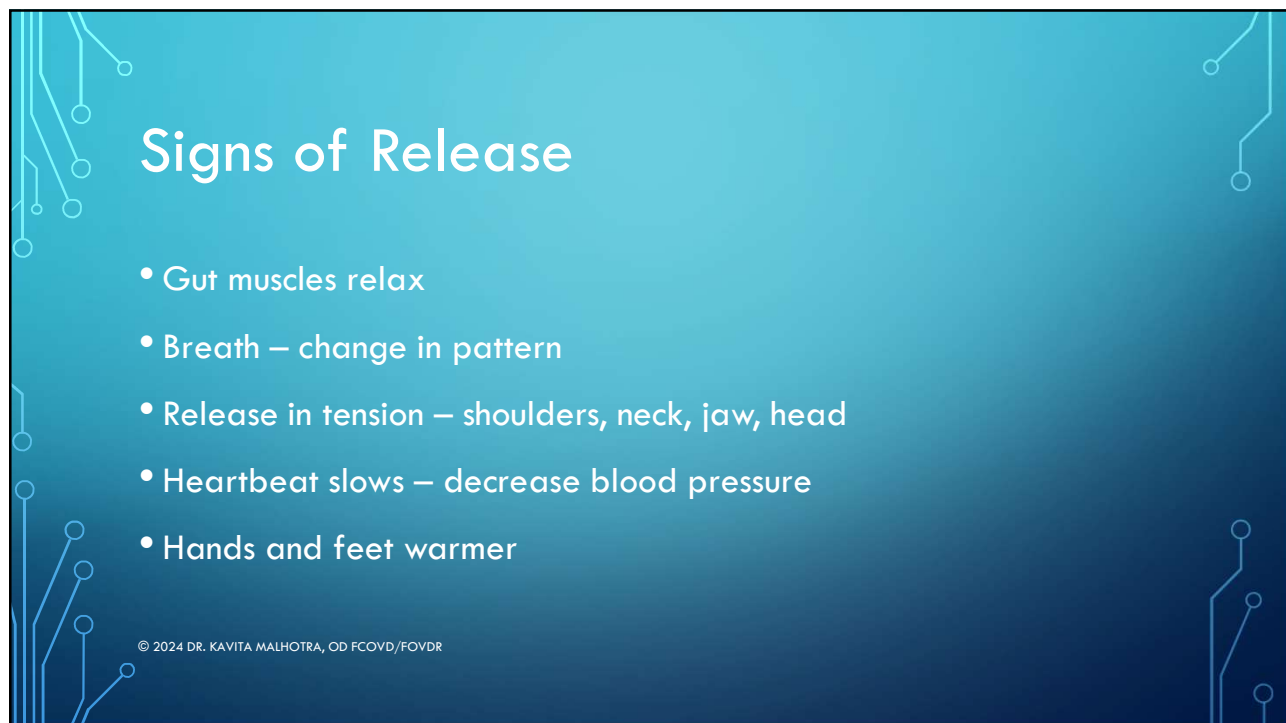
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32



33



34

Keeping Score

- “As long as you keep secrets and suppress information, you are fundamentally at war with yourself”
- Critical issue is allowing yourself to know what you know
- Ignore or acknowledge?
- Changes how we process information

The Body Keeps the Score: Brain, Mind and Body in the Healing of Trauma by Bessel van der Kolk, MD Viking Press 2014

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35

What is Your Approach to Treatment?

- Key points



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36

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37

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38