

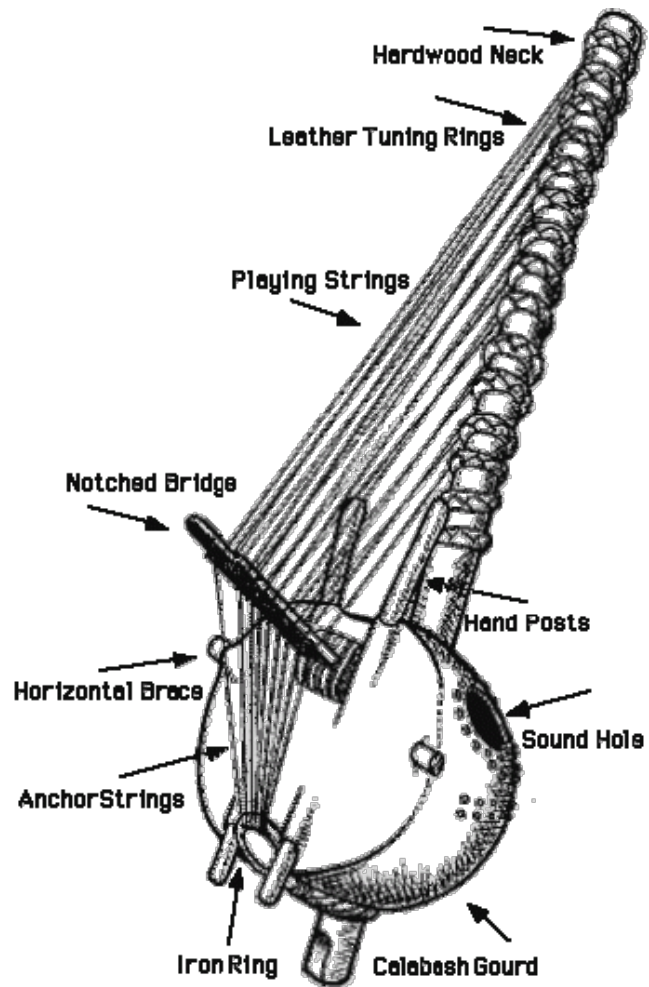
# ASSESSMENT AND TREATMENT OF DYSAUTONOMIA : TUNING THE INSTRUMENT

RICHARD KITAEFF, M.A, N.D., DIP.AC., L.AC.

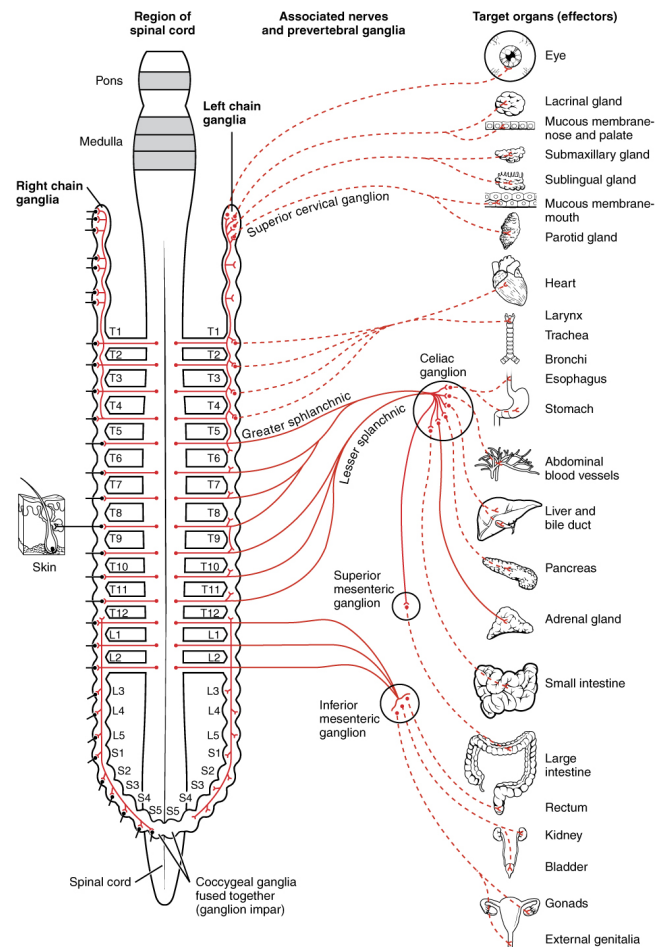


SIPRESS

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# TUNING THE INSTRUMENT

# ACUPUNCTURE

1. DOES IT HURT?

2. HOW DOES IT  
WORK?



“NEEDLESS  
THERAPY”

# CASE: ERIC (36)

- ▶ CC: Episodes of heart arrhythmia
- ▶ Anxiety
- ▶ Gastroesophageal symptoms
- ▶ Seasonal allergy
- ▶ Low testosterone
- ▶ Disturbed sleep
- ▶ Low energy

# ERIC: HISTORY/ EXAMINATION

HYPERLIPIDEMIA

WHIPLASH INJURY

B.P.: 130/90

TONGUE: Red, Dry

PULSE: ST, GB EXCESS

# LABORATORY

- ▶ BUN/CREATININE (H)
- ▶ CHOL.(TOTAL)(H), LDL (H)
- ▶ TRIGLYCERIDES 364 (H)
- ▶ VIT. D 25(OH) 14.8 (L)
- ▶ TESTOSTERONE 6.4 (L)
- ▶ SHBG 11.7 (L)
- ▶ DHEA (L)
- ▶ TMA: HG,AL,TI (TOXIC)/  
MG, K, CU, NA, MN, CR, B,  
MO , LI (L)
- ▶ IgG FOOD ALLERGY: MANY  
FOODS POSITIVE / ELEVATED  
CANDIDA ANTIBODY

# DIAGNOSIS

▶ PVC?

▶ TCM: *REBELLIOUS LIVER FIRE RISING*

TO DISTURB HEART (RHYTHM AND  
EMOTIONS) = SYMPATHETIC  
DOMINANCE?

# Autonomic Dysregulation Syndrome

- ▶ ROHAAD(RAPID ONSET OBESITY WITH HYPOTHALAMIC DYSFUNCTION, HYPOVENTILATION AND AUTONOMIC DYSREGULATION SYNDROME): “A RARE CHILDHOOD DISEASE, AFFECTING ENDOCRINE, RESPIRATORY AND AUTONOMIC NERVOUS SYSTEMS, AND INCLUDING CARDIOPULMONARY ARREST AND DIGESTIVE DYSMOTILITY, AND MAY BE ACCOMPANIED BY BEHAVIORAL PROBLEMS, PERSONALITY CHANGES AND MOOD DISORDERS.”

Erency H, Ceylan ME, Evrensel A. Psychiatric symptoms in rapid onset obesity with hypothalamic dysfunction, hypoventilation and autonomic dysregulation syndrome and its treatment: a case report. Chinese Med J. 2016; 129: 242-243.

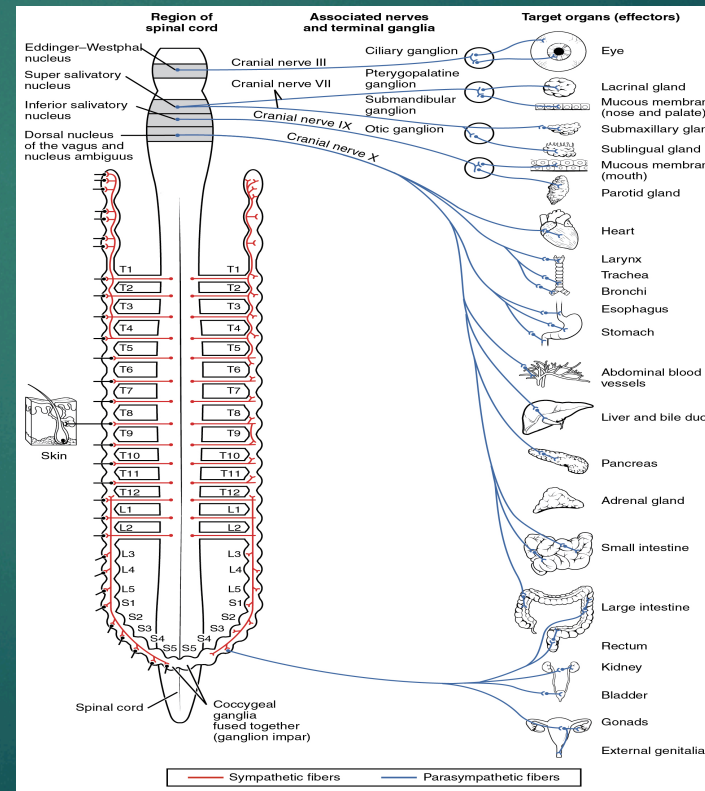
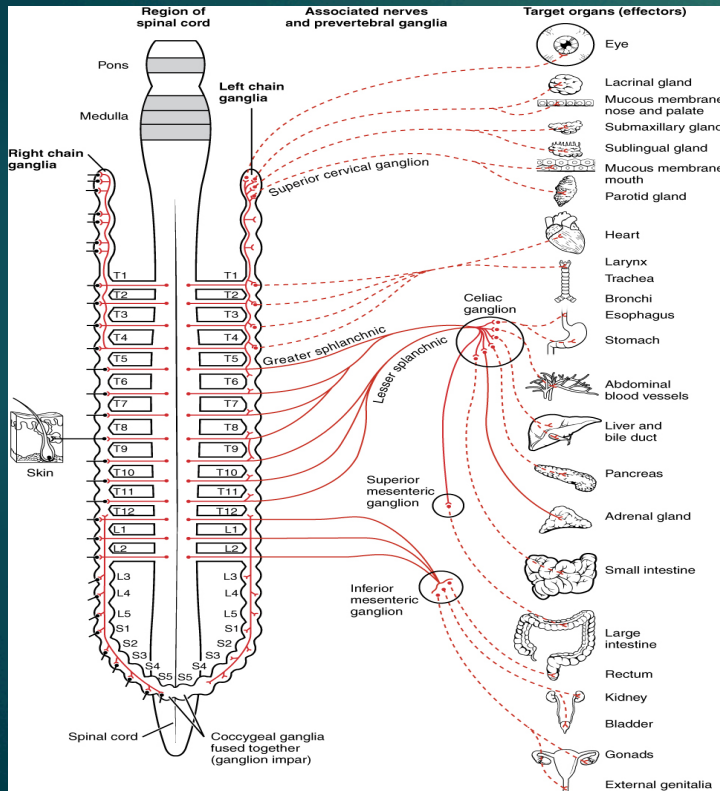
# AUTONOMIC NERVOUS SYSTEM

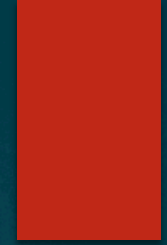
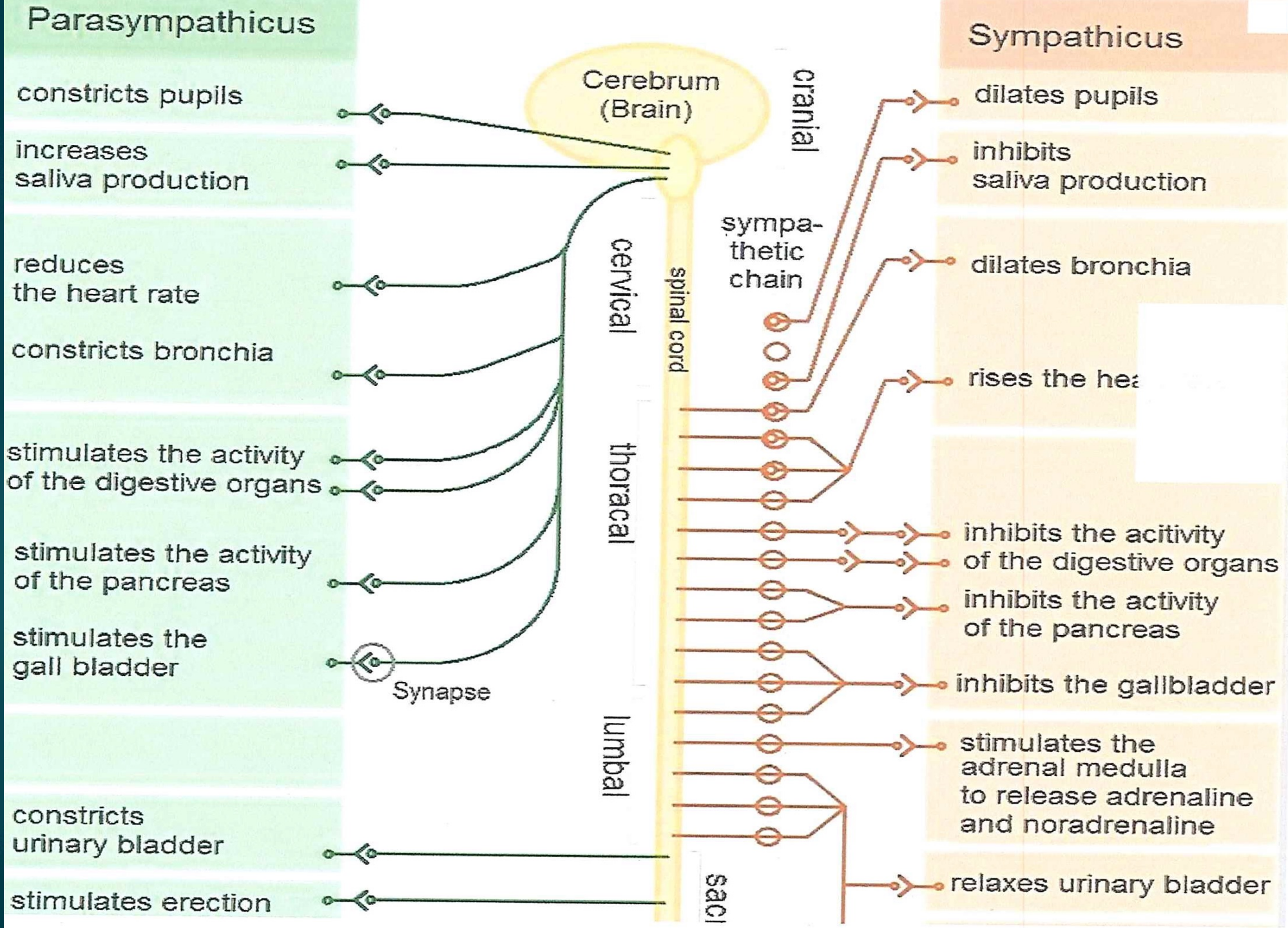
- ▶ Regulates bodily functions such as heart rate, digestion, and respiratory rate and is itself regulated by the hypothalamus, receiving input from the limbic system, including the amygdala, the “emotional brain”, and releasing neurotransmitters affecting mood.

# AUTONOMIC NERVOUS SYSTEM ANATOMY

## SYMPATHETIC NS

## PARASYMPATHETIC NS





# ERIC'S SYMPTOMS

- ▶ INCORPORATE CARDIAC, DIGESTIVE, ENDOCRINE AND EMOTIONAL ASPECTS OF AUTONOMIC CONTROL

# ERIC'S CARDIAC SYMPTOMS

- ▶ “The autonomic nervous system plays an important role in the modulation of cardiac electrophysiology and arrhythmogenesis.”
- ▶ “The identification of specific autonomic triggers in different arrhythmias has brought the idea of modulating autonomic activities for both preventing and treating these arrhythmias.”

Shen MJ, Zipes DP. Role of the autonomic nervous system in modulating cardiac arrhythmias. *Circulation Research*. 2014; 114(6): 1004- 1021.

# ERIC'S DIGESTIVE SYMPTOMS

- ▶ GERD? CANDIDIASIS? ATROPHIC GASTRITIS? ACHLORHYDRIA?
- ▶ “THE CARDIOGASTRIC INTERACTION”: POTENTIAL ATRIAL ARRHYTHMOGENETIC MECHANISMS IN PATIENTS WITH GERD COULD BE GASTRIC AND COULD INVOLVE SUBSEQUENT SYSTEMIC INFLAMMATION OR IMPAIRED AUTONOMIC STIMULATION. TREATMENT OF GERD IS THEREFORE SUGGESTED AS A WAY OF AVOIDING ATRIAL FIBRILLATION

Linz D, et al. Atrial fibrillation and gastroesophageal reflux disease: the cardiogastric interaction. *Europace*. 2016, May 31.

# ERIC'S EMOTIONAL SYMPTOMS

- ▶ “ ANS DYSFUNCTION IS A PUTATIVE UNDERLYING MECHANISM FOR INCREASED CARDIOVASCULAR DISEASE RISK IN INDIVIDUALS WITH PSYCHIATRIC DISORDERS.”

Alvarez GA, Quintana DS, Hicke IB, Guastella AJ  
Autonomic nervous system dysfunction in psychiatric disorders and the impact of psychotropic medications: a systematic review and meta-analysis. *J Psychiatry Neurosci*: 2016 Mar; 41: 89-104


- ▶ ALTERATION OF ANS REACTIVITY HAS BEEN FOUND IN DEPRESSED OR ANXIOUS PATIENTS, DEPENDENT ON THE TYPE OF STRESSOR.

Hu MX, Lamers F, de Geus WEJ, Penninx BW> Differential autonomic nervous system reactivity in depression and anxiety during stress depending on type of stressor . *Psychosom Med*. 2016 June; 78(5): 562-72


# ERIC'S ENDOCRINE SYMPTOMS

- ▶ METABOLIC SYNDROME? “ACTIVATION OF THE SYMPATHETIC NERVOUS SYSTEM HAS AN IMPORTANT ROLE IN METABOLIC SYNDROME” AND “TREATMENT STRATEGIES COMMONLY RECOMMENDED FOR PATIENT WITH METABOLIC SYNDROME, SUCH AS DIET AND EXERCISE TO INDUCE WEIGHT LOSS, ARE ASSOCIATED WITH SYMPATHETIC INHIBITION.”

Schlaich M, Straznicky N, Lambert E, Lambert G. Metabolic syndrome: a sympathetic disease? Lancet Diabetes Endocrinol. 2015 Feb; 3(2): 148-57

- 
- ▶ LOW ADRENAL AND SEX HORMONE STATUS ALSO INVOLVE AUTONOMIC CONTROL: A STUDY UTILIZING HEART RATE VARIABILITY TO MEASURE THE RESPONSE TO AN INFUSION OF ANGIOTENSION IN HEALTHY MEN CONCLUDED “AN UNFAVORABLE SHIFT IN THE CARDIAC AUTONOMIC TONE IN MEN WITH LOWER TESTOSTERONE LEVELS IN RESPONSE TO A STRESSOR.”

Ramesh S, Wilton SB, Holroyd-Leduc JM, Turin TC, Sola DY, Ahmed SB. Testosterone is associated with the cardiovascular autonomic response to a stressor in healthy men. Clin Exp Hypertens. 2015; 37(3): 184-91

- 
- ▶ THE THREAD THAT UNITES THE VARIOUS CARDIAC, DIGESTIVE, EMOTIONAL AND ENDOCRINE SYMPTOMS IN THIS CASE (AND FAR FROM RARE IN MOST MEDICAL PRACTICE) APPEARS TO BE THE FACTOR OF AUTONOMIC NERVOUS SYSTEM CONTROL.
  - ▶ MEDICAL SYMPTOMS QUESTIONNAIRE (MSQ) AS AN INITIAL SCREENING FOR DYSAUTONOMIA (OR AUTONOMIC DYREGULATION SYNDROME).

# HEART RATE VARIABILITY (HRV)

- ▶ VARIABILITY OF INTERVALS BETWEEN SUCCESSION HEARTBEATS
- ▶ REFLECTS ANS PATTERNS, INCLUDING STRESS AND RECOVERY
- ▶ BALANCE BETWEEN SNS AND PNS, BIOLOGICAL AGING AND HEALTH
- ▶ APPLICATIONS FOR STRESS ADAPTATION, TRAINING, SLEEP
- ▶ PERSONALIZED NUTRITION, MOOD, MENTAL PERFORMANCE
- ▶ REFLECTS RISK OF DISEASE AND MORTALITY, INFLAMMATION
- ▶ MONITORS PROGRESS WITH TREATMENT PLAN
- ▶ BIOFEEDBACK TRAINING
- ▶ PHYSICAL PERFORMANCE AND REHABILITATION


# HRV INTERPRETATION

- ▶ GENERALLY, HIGHER RESTING-STATE HRV SCORES SIGNIFY THE ABILITY OF THE BODY TO MAINTAIN THE PARASYMPATHETIC “REST AND DIGEST” RESPONSE AND TO ADAPT TO STRESSFUL INFLUENCES. HIGHER SCORES ARE CORRELATED WITH OPTIMUM FITNESS, CARDIOVASCULAR HEALTH, AND CALM, POSITIVE EMOTIONS.
- ▶ “LOWER RESTING-RATE HRV SCORES SIGNIFY AN ACTIVATED SYMPATHETIC ‘FIGHT-OR-FLIGHT’ RESPONSE OR SUPPRESSED PARASYMPATHETIC ACTIVITY. THIS CAN INDICATE THE BODY’S INABILITY TO ENGAGE RECOVERY MODE OR AN EXHAUSTION OF RECOVERY CAPACITY. THIS CAN BE A TEMPORARY RESPONSE TO AN PREVIOUS DAY’S HARD WORKOUT OR POOR NIGHT OF SLEEP. OR THIS CAN BE A CHRONIC RESPONSE TO STRESS THAT RESULTS IN REDUCED HEALTH AND INCREASED RISK OF DISEASE.” LOWER RESTING-STATE HRV MAY BE CORRELATED WITH REDUCED FITNESS LEVEL, INCREASED INFLAMMATION, INCREASED BIOLOGICAL AGE AND NEGATIVE EMOTIONS.

[HTTPS://WWW.ELITEHRV.COM](https://www.elitehrv.com)

## DEFINITION OF DYSAUTONOMIA

A DISORDER OF AUTONOMIC NERVOUS SYSTEM (ANS) FUNCTION THAT GENERALLY INVOLVES FAILURE OF THE SYMPATHETIC OR PARASYMPATHETIC COMPONENTS OF THE ANS, BUT DYSAUTONOMIA INVOLVING EXCESSIVE OR OVERACTIVE ANS ACTIONS ALSO CAN OCCUR. DYSAUTONOMIA CAN BE LOCAL, AS IN REFLEX SYMPATHETIC DYSTROPHY, OR GENERALIZED, AS IN PURE AUTONOMIC FAILURE. IT CAN BE ACUTE AND REVERSIBLE, AS IN GUILLAIN-BARRE SYNDROME, OR CHRONIC AND PROGRESSIVE. SEVERAL COMMON CONDITIONS SUCH AS DIABETES AND ALCOHOLISM CAN INCLUDE DYSAUTONOMIA.



DYSAUTONOMIA CAN ALSO OCCUR AS A PRIMARY CONDITION OR IN ASSOCIATION WITH DEGENERATIVE NEUROLOGICAL DISEASES SUCH AS PARKINSON'S DISEASE. OTHER DISEASES WITH GENERALIZED, PRIMARY DYSAUTONOMIA INCLUDE MULTIPLE SYSTEM ATROPHY AND FAMILIAL DYSAUTONOMIA. HALLMARKS OF GENERALIZED DYSAUTONOMIA DUE TO SYMPATHETIC FAILURE ARE IMPOTENCE (IN MEN) AND A FALL IN BLOOD PRESSURE WITH STANDING (ORTHOSTATIC HYPERTENSION). EXCESSIVE SYMPATHETIC ACTIVITY CAN PRESENT AS HYPERTENSION OR RAPID HEART BEAT.

NATIONAL INSTITUTE OF NEUROLOGICAL DISORDERS AND STROKE. [WWW.NINDS.NIH.GOV/DISORDERS/ALL-DISORDERS/DYSAUTONOMIA-INFORMATION-PAGE](http://WWW.NINDS.NIH.GOV/DISORDERS/ALL-DISORDERS/DYSAUTONOMIA-INFORMATION-PAGE)

# FORMS OF DYSAUTONOMIA

## ▶ MORE COMMON:

NEUROCARDIOGENIC  
SYNCOPE (NCS OR  
VASOVAGAL SYNCOPE),  
POSTURAL ORTHOSTATIC  
TACHYCARDIA SYNDROME  
(POTS) AND ORTHOSTATIC  
INTOLERANCE (OI)

## ▶ LESS COMMON:

PURE AUTONOMIC FAILURE (PAF),  
MULTIPLE SYSTEM ATROPHY (MSA) ,  
FAMILIAL DYSAUTONOMIA,  
BAROREFLEX FAILURE,  
AUTOIMMUNE AUTONOMIC  
GANGLIONOPHY, DOPAMINE  
BETA HYDROXYLASE DEFICIENCY,  
DIABETIC AUTONOMIC  
NEUROPATHY

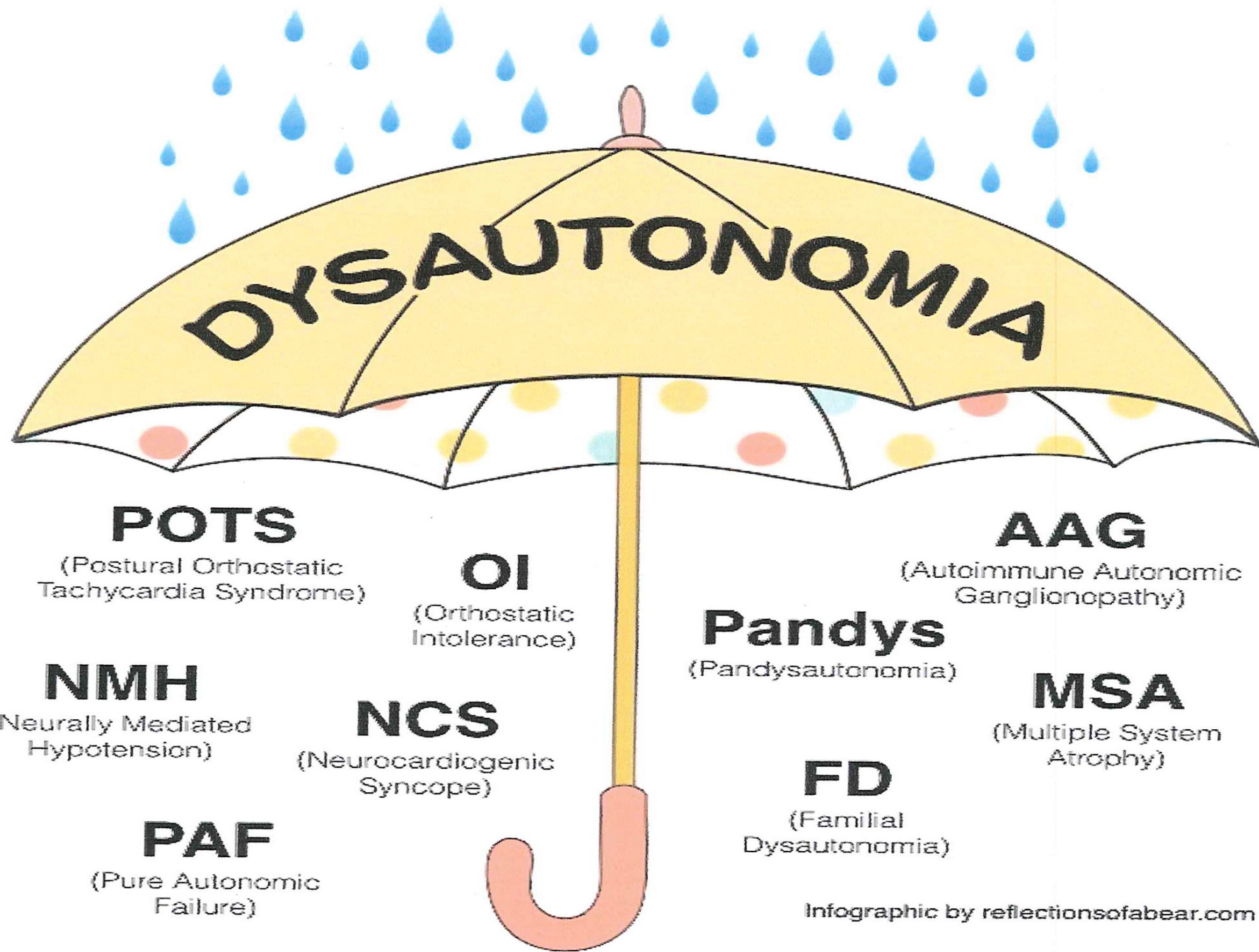
# POSSIBLE CO- MORBIDITIES

CRPS, EDS, CHIARI, GASTROPARESIS,  
AUTOIMMUNE ILLNESSES, LUPUS, POTS,  
NCS (NEUROCARDIOGENIC  
SYNCOPE), MULTIPLE SCLEROSIS, RA,  
CELIAC DISEASE, AUTONOMIC  
NEUROPATHY, SJOGREN'S SYNDROME,  
MULTIPLE SYSTEM ATROPHY (MSA)

# LINKED TO IMMUNE- MEDIATED INFLAMMATORY DISEASES (IMIDs)

- ▶ RA, SJOGREN'S, IBS, TYPE I DIABETES, PSORIATIC ARTHRITIS, ETC.
- ▶ "UNRESOLVABLE IMMUNE STIMULATION FROM CHRONIC INFLAMMATION LEADS TO A MALADAPTIVE DISEASE-INDUCING AND PERPETUATING SYMPATHETIC RESPONSE IN AN ATTEMPT TO MAINTAIN ALLOSTASIS."

BELLINGER DL, LORTON D. SYMPATHETIC NERVE HYPERACTIVITY IN THE SPLEEN: CAUSAL FOR NONPATHOGENIC-DRIVEN CHRONIC IMMUNE-MEDIATED INFLAMMATORY DISEASES. INT J MOL SCI. 2018; 19 (4). QUOTED IN LOVE K. TOWNSEND LETTER. JUNE, 2019:78-80.



# DYSAUTONOMIA

## POTS

(Postural Orthostatic Tachycardia Syndrome)

## OI

(Orthostatic Intolerance)

## AAG

(Autoimmune Autonomic Ganglionopathy)

## NMH

(Neurally Mediated Hypotension)

## NCS

(Neurocardiogenic Syncope)

## Pandys

(Pandysautonomia)

## MSA

(Multiple System Atrophy)

## PAF

(Pure Autonomic Failure)

## FD

(Familial Dysautonomia)

# SYMPTOMS OF DYSAUTONOMIA

INABILITY TO STAY UPRIGHT/ DIZZINESS, VERTIGO AND FAINTING/ FAST, SLOW OR IRREGULAR HEARTBEAT/ CHEST PAIN /LOW BLOOD PRESSURE/ PROBLEMS WITH THE GASTROINTESTINAL SYSTEM/ CHEST PAIN/ NAUSEA/ DISTURBANCE IN THE VISUAL FIELD/WEAKNESS/BREATHING DIFFICULTIES/ MOOD SWINGS/ ANXIETY/ FATIGUE AND INTOLERANCE TO EXERCISE/ MIGRAINES/ TREMORS/ DISRUPTED SLEEP PATTERN/ FREQUENT URINATION/ TEMPERATURE REGULATION PROBLEMS/ CONCENTRATION AND MEMORY PROBLEMS/ POOR APPETITE/ OVERACTIVE SENSES, ESPECIALLY WHEN EXPOSED TO NOISE AND LIGHT/ ERECTILE DYSFUNCTION/ NEUROGENIC BLADDER

# TREATMENT OF DYSAUTONOMIA

USUALLY NO CURE IN CONVENTIONAL ALLOPATHIC MEDICINE.

SECONDARY FORMS MAY IMPROVE WITH TREATMENT OF THE UNDERLYING DISEASE. IN MANY CASES TREATMENT OF PRIMARY DYSAUTONOMIA IS SYMPTOMATIC AND SUPPORTIVE. MEASURES TO COMBAT PRIMARY HYPOTENSION INCLUDE ELEVATION OF THE HEAD OF THE BED, WATER BOLUS (RAPID INFUSION OF WATER GIVEN INTRAVENOUSLY), A HIGH-SALT DIET, AND DRUGS SUCH AS FLUDROCORTISONE AND MIDODRINE.

NATIONAL INSTITUTE OF NEUROLOGICAL DISORDERS AND STROKE

[HTTPS:// WWW.NINDS.NIH.GOV/DIORDERS/ALL-DISORDERS/DYSAUTONOMIA-INFORMATION-PAGE](https://www.ninds.nih.gov/Disorders/All-Disorders/Dysautonomia-Information-Page)

# ERIC'S TREATMENT-1.ACUPUNCTURE:

10 WEEKLY TREATMENTS, THEN 5 TREATMENTS AT 2-WEEK INTERVALS

- ▶ ELECTRICALLY STIMULATED ACUPUNCTURE “INDUCED PARASYMPATHETIC NERVE STIMULATION, RESULTING IN A DECREASE IN THE HEART RATE.”

MORI , NISHIJO K, KAWAMURA H, ABO T. UNIQUE IMMUNOMODULATION BY ELECTRO-ACUPUNCTURE IN HUMANS POSSIBLY VIA STIMULATION OF THE AUTONOMIC NERVOUS SYSTEM. NEUROSCI LETTERS. 2002 MARCH; 320(1-2): 21-24

- ▶ SPHLENOPALATINE GANGLION (SPG) ACUPUNCTURE HELPED TO IMPROVE NASAL VENTILATION BY INCREASING SYMPATHETIC NERVE EXCITABILITY

WANG K, CHEN L, WANG Y, WANG C, ZHANG L. SPHLENOPALATINE GANGLION ACUPUNCTURE IMPROVES NASAL VENTILATION AND MODULATES AUTONOMIC NERVOUS ACTIVITY IN HEALTHY VOLUNTEERS: A RANDOMIZED CONTROLLED STUDY. SCI REP. 2016 JULY;6:29947

- ▶ SENSORY STIMULATION BY ACUPUNCTURE IN HEALTHY PERSONS “IS ASSOCIATED WITH CHANGED ACTIVITY IN THE SYMPATHETIC AND PARASYMPATHETIC NERVOUS SYSTEM.”

HAKER E, EGEVIST H, BJERRING P. EFFECT OF SENSORY STIMULATION (ACUPUNCTURE) ON SYMPATHETIC AND PARASYMPATHETIC ACTIVITIES IN HEALTHY SUBJECTS. J OF THE AUTONOMIC NERVOUS SYSTEM. 2000;79(1):52-59

# AUTONOMIC NERVOUS SYSTEM THEORY OF ACUPUNCTURE

ACUPUNCTURE STIMULATES THE  
RELEASE OF NOREPINEPHRINE,  
ACETYLCHOLINE AND SEVERAL TYPES  
OF OPIOIDS, AFFECTING CHANGES IN  
THE AUTONOMIC NERVOUS SYSTEM  
AND REDUCING PAIN.

WONG, J. A MANUAL OF NEURO-ANATOMICAL  
ACUPUNCTURE, VOL.1.

REDWING: BOSTON. 1999. 34

HAN, J.S. ACUPUNCTURE ACTIVATES  
ENDOGENOUS SYSTEMS OF ANALGESIA.  
NATIONAL INSTITUTE OF HEALTH CONSENSUS  
CONFERENCE ON ACUPUNCTURE, PROGRAM  
AND ABSTRACTS. NOV. 3-5, 1997. BETHESDA, MD.  
OFFICE OF ALTERNATIVE MEDICINE AND OFFICE  
OF MEDICAL APPLICATIONS OF RESEARCH.

## 2. MANIPULATION

CRANIALSACRAL THERAPY EFFECTIVE IN ADJUSTING AUTONOMIC NERVOUS SYSTEM DYSFUNCTION, AS WELL AS IMPROVING HEART-RATE VARIABILITY

GIRSBERGER W, ET AL. HEART RATE VARIABILITY AND THE INFLUENCE OF CRANIOSACRAL THERAPY ON AUTONOMOUS NERVOUS SYSTEM REGULATION IN PERSONS WITH SUBJECTIVE DISCOMFORTS: A PILOT STUDY. J CHINESE INTEGR MED. 2014;12(3):156-161.

COMPARED TO A PLACEBO, A SINGLE SESSION OF CRANIOSACRAL THERAPY INDUCED A FASTER RECOVERY OF HRV, INCREASED PARASYMPATHETIC ACTIVITY AND A REDUCED SYMPATHETIC OUTPUT AFTER AN ACUTE MENTAL STRESSOR

FORNARI M, CARNEVALI L, SGOIFO A. SINGLE OSTEOPATHIC MANIPULATIVE THERAPY SESSION DAMPENS ACUTE AUTONOMIC AND NEUROENDOCRINE RESPONSES TO MENTAL STRESS IN HEALTHY MALE PARTICIPANTS. J AM OSTEOPATH ASSOC. 2017;117(9):559.

BASTYR CLINIC  
CASE:  
CRANIOSACRAL  
THERAPY FOR  
STRESS-RELATED  
DYSAUTONOMIA

- ▶ 46-YEAR-OLD MALE WITH FULL-BODY TREMORS, MIGRAINE, BRAIN FOG, TINNITUS, UNSTABLE GAIT, DYSARTHRIA, SWEATING AND IBS
- ▶ TREATMENT: 11 WEEKLY SESSIONS OF CRANIOSACRAL THERAPY
- ▶ RESULTS: PATIENT REPORTED FEELING STRONGER, LESS ANXIETY AND REDUCED INTENSITY AND FREQUENCY OF TREMORS

LOVE, K. CRANIOSACRAL THERAPY FOR STRESS-RELATED DYSAUTONOMIA. TOWNSEND LETTER. JUNE 2019: 78-80

# 3. NUTRITIONAL SUPPLEMENTATION: MYER'S COCKTAIL/HCL/MAGNESIUM

- ▶ ERIC'S SIGNS OF VITAMIN B12 DEFICIENCY: FATIGUE, EPISODES OF LIGHT-HEADEDNESS, HEART PALPITATIONS
- ▶ ERIC'S SIGN OF HYDROCHLORIC ACID DEFICIENCY/MALABSORPTION: GERD

- ▶ MAGNESIUM : ANTI-ARRHYTHMIC

AMORI, M. ET AL. CARDIOPROTECTIVE AND ANTI-ARRHYTHMIC EFFECTS OF MAGNESIUM PRETREATMENT AGAINST ISCHAEMIA/REPERFUSION INJURY IN ISOPRENALINE-INDUCED HYPERTROPHIC RAT HEART. CARDIOVASC TOXICOL. 2015 Dec 22

- ▶ MAGNESIUM FOR REGULATION OF ANXIETY AND AUTONOMIC DYSFUNCTION

TARASOV EA ET AL. MAGNESIUM DEFICIENCY AND STRESS: ISSUES OF THEIR RELATIONSHIP, DIAGNOSTIC TESTS, AND APPROACHES TO THERAPY. TER ARKH. 2015;87(9):114-22

# 4. BOTANICAL SUPPLEMENTS: DAN SHEN

- ▶ DAN SHEN (SALVIA ROOT) - FOR CIRCULATION PROBLEMS, INCLUDING CHEST PAIN, OPPRESSION, IRREGULAR HEART RHYTHM

AVAILABLE AT [HTTP://WWW.WEBMED.COM](http://www.webmed.com). ACCESSED SEPTEMBER 25, 2016.

- ▶ ITS CAPACITY TO PROTECT AGAINST ARRHYTHMIAS IS BASED ON THE TRADITIONAL CHINESE MEDICINE FUNCTION OF MOVING AND INVIGORATING THE BLOOD, MAKING SLUGGISH OR “STAGNANT BLOOD” FLOW FREELY.

AVAILABLE AT [HTTP://WWW.DOCTORSHEALTHPRESS.COM](http://www.doctorshealthpress.com). ACCESSED SEPTEMBER 25, 2016

# 4. BOTANICAL SUPPLEMENTS: ADAPTOGENS

- ▶ REPEATED PROPHYLACTIC ADMINISTRATION OF PLANT ADAPTOGEN EXTRACTS INCLUDING RHODIOLA AND ELEUTHEROCOCCUS PRODUCED A PRONOUNCED ANTIARRHYTHMIC EFFECT IN ANIMALS, BLOCKED BY INTRAVENOUS ADMINISTRATION OF NALOXONE, SHOWING THAT THE ANTI-ARRHYTHMIC EFFECT OF THESE ADAPTOGENS PROCEEDS THROUGH THE ACTIVATION OF OPIOID RECEPTORS.

MAIMESKULOVA LA, MASLOV LN. EKSP KLIN FARMAKOL. 2000 JUL-AUG; 63(4):29-31

- ▶ ASHWAGANDA (WITHANIA SOMNIFERA) IN RANDOMIZED CONTROLLED HUMAN STUDIES SHOWED MORE SIGNIFICANT IMPROVEMENT THAN PLACEBO ON ANXIETY AND STRESS OUTCOME SCALES.

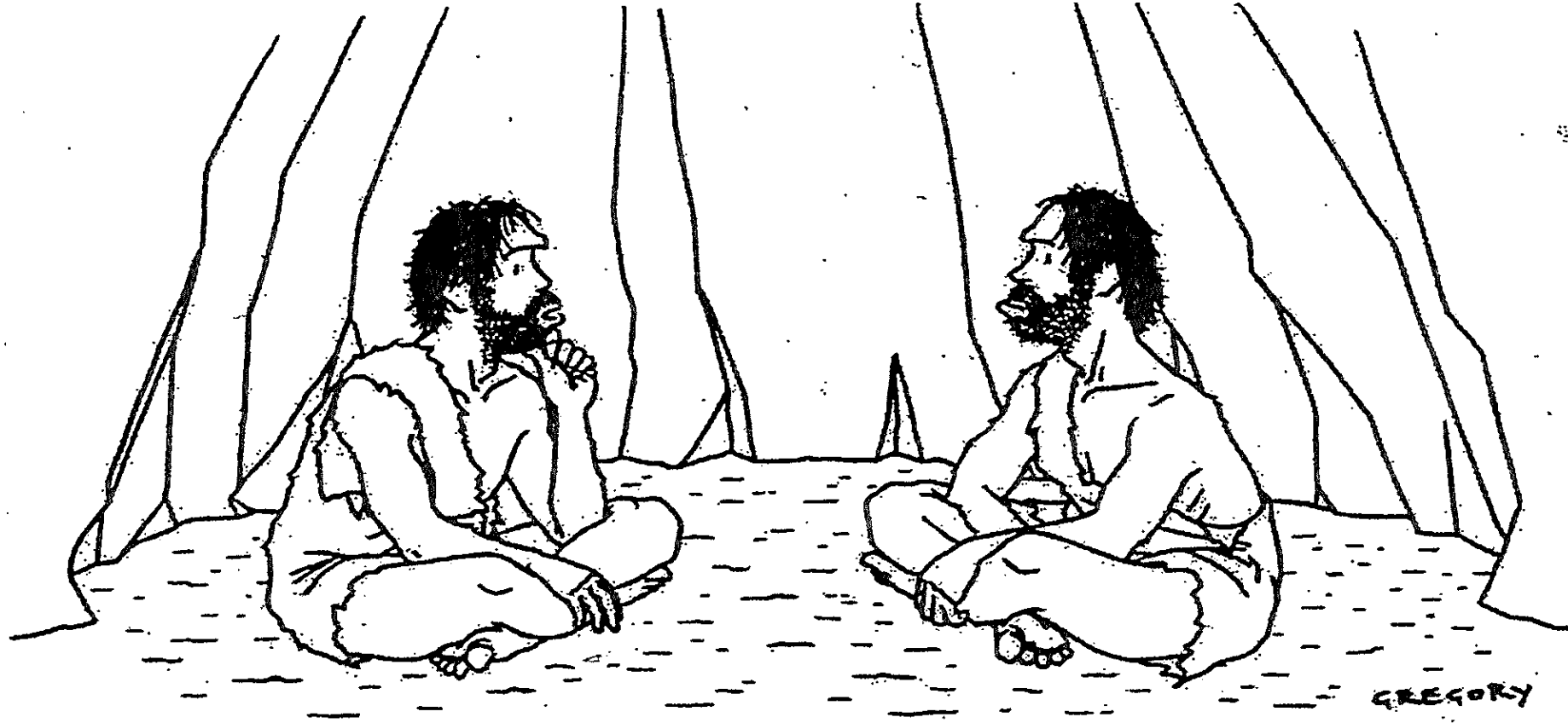
PRATTE MA ET AL. AN ALTERNATIVE TREATMENT FOR ANXIETY: A SYSTEMATIC REVIEW OF HUMAN TRIALS REPORTED FOR THE AYURVEDIC HERB ASHWAGANDA (WITHANIA SOMNIFERA). J ALTERN COMPLEMENT MED 2014. DEC 20; 20(12): 901-8

# ERIC'S PRESCRIPTION OF NUTRITIONAL AND BOTANICAL SUPPLEMENTS

- ▶ DAN SHEN FORMULA
- ▶ TRACE MINERALS/ELECTROLYTES FORMULA
- ▶ MAGNESIUM CITRATE
- ▶ STRESS FACTORS FORMULA
- ▶ STOMACH COMFORT (CHEWABLE HERBAL DIGESTIVE AID)
- ▶ FIELDS OF FLOWERS (HOMEOPATHIC/ ESSENTIAL OILS CALMING FORMULA)
- ▶ GUGULIPO FORMULA (AYURVEDIC AND WESTERN HERBS FOR LOWERING BLOOD LIPIDS)
- ▶ HCL PLUS (BETAINE HYDROCHLORIC ACID WITH OX BILE EXTRACT)
- ▶ MARCOZYMES (PROTEOLYTIC ENZYMES)
- ▶ SIMILASE GFCF (DIGESTIVE ENZYMES)
- ▶ ORGANIC LITHIUM

ERIC'S  
PRESCRIPTION  
OF  
NUTRITIONAL  
AND  
BOTANICAL  
SUPPLEMENTS,  
CONT.

- ▶ MUSCLE CALM FORMULA  
(CALCIUM, MAGNESIUM AND  
RELAXANT HERBS)
- ▶ ASHWAGANDA
- ▶ TRIGUARD PLUS (ANTIMICROBIAL:  
TEETREE OIL, OLIVE LEAF, COLLOIDAL  
SILVER)
- ▶ VITAMIN D3
- ▶ G.I. HARMONY FORMULA  
(TRADITIONAL CHINESE HERBAL  
DIGESTIVE FORMULA)



*“Something’s just not right—our air is clean, our water is pure, we all get plenty of exercise, everything we eat is organic and free-range, and yet nobody lives past thirty.”*

## 5. CRANIAL OR TRANSCRANIAL ELECTRICAL STIMULATION(CES)

- ▶ MICROCURRENT STIMULATION OF EARLOBE, AFFECTING THE CONNECTION BETWEEN THE VAGUS NERVE AND THE HYPOTHALAMUS, ELICITING A STRONG PARASYMPATHETIC RESPONSE
- ▶ CES HAS PRODUCED SIGNIFICANT REDUCTIONS IN AUTONOMIC MEASURES OF BLOOD PRESSURE, PULSE RATE, PERIPHERAL VASOMOTOR ACTIVITY AND ANXIETY

TAYLOR DN, LEE CT, KATAMS JJ, NG LK. THE EFFECTS OF CRANIAL TENS ON MEASURES OF AUTONOMIC SOMATIC AND COGNITIVE ACTIVITY. ACUPUNCT ELECTROTHER RES. 1989; 14(1):29-42

# 6. PULSED ELECTROMAGNETIC FIELD THERAPY (PEMF) / BEMER

- ▶ DELIVERS A FIELD THAT INCREASES MICROCIRCULATION, THROUGH AUTONOMIC STIMULATION OF VASOMOTOR ACTIVITY IN PRECAPILLARY VESSELS

BOHN W, HESS L, BURGER R. THE EFFECTS OF THE "PHYSICAL BEMER THERAPY," A METHOD FOR THE PHYSICAL STIMULATION OF THE VASOMOTOR PRECAPILLARY VESSELS IN CASE OF IMPAIRED MICROCIRCULATION ON SLEEP, PAIN AND QUALITY OF LIFE IN PATIENTS WITH DIFFERENT CLINICAL PICTURES ON THE BASIS OF THREE SCIENTIFICALLY VALIDATED SCALES. J COMPLEMENT INTEGR MED 2013;10(SUPPL):S5-12, S5-13.

- ▶ BENEFICIAL FOR VARIOUS DISORDERS, INCLUDING PAIN, SLEEP, OSTEOPOROSIS AND LYMPHOMA. IN ADDITION, "PULSED EMF APPLIED TO THE VAGAL TRUNKS OR NON-INVASIVELY ACROSS THE CHEST CAN SIGNIFICANTLY REVERSE ATRIAL FIBRILLATION"

YU ET AL. THE USE OF LOW-LEVEL ELECTROMAGNETIC FIELDS TO SUPPRESS ATRIAL FIBRILLATION. HEART RHYTHM. 2015 APR; 12(4): 8019-17

# 7. BIOFEEDBACK TRAINING

- ▶ COMMONLY USED IN MEDICAL SETTINGS FOR MANAGING ANXIETY

WATSON BW, WOOLLEG-HART A, TIMMONS BH. BIOFEEDBACK INSTRUMENTS FOR THE MANGEMENT OF ANXIETY AND FOR RELAXATION TRAINING. J BIOMED ENG. 1979 JAN; 1(1): 58-62.

- ▶ HEART RATE VARIABILITY BIOFEEDBACK TRAINING HAS BEEN SHOWN TO IMPROVE CARDIAC AUTONOMIC TONE AND TO FACILITATE BLOOD PRESSURE ADJUSTMENT FOR HYPERTENSIVE INDIVIDUALS

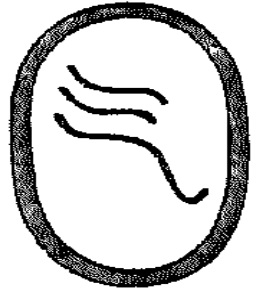
LIN G ET AL. HEART RATE VARIABILITY BIOFEEDBACK DECREASES BLOOD PRESSURE IN PRE-HYPERTENSIVE SUBJECTS BY IMPROVING AUTONOMIC FUNCTION AND BAROREFLEX. J ALTERN COMPLEMENT MED. 2012 FEB; 18(2):143-52

- ▶ WHEN RELAXATION TRAINING WAS COMBINED WITH GSR BIOFEEDBACK, THE COMBINED APPROACH OPTIMIZED REDUCTION OF ANXIETY IN A GROUP OF COLLEGE STUDENTS UNDER STRESS.

FEHRING RJ. EFFECTS OF BIOFEEDBACK-AIDED RELAXATION ON THE PSYCHOLOGICAL STRESS SYMPTOMS OF COLLEGE STUDENTS. NURS RES. 1983 NOV-DEC; 32(6): 362-6

# ERIC'S TREATMENT RESULTS

- ▶ EIGHTEEN WEEKS AFTER BEGINNING HIS TREATMENT PROGRAM, ERIC'S PVC'S WERE VERY INFREQUENT AND MINOR. HIS ANXIETY AND DIGESTIVE SYMPTOMS HAD ALSO DIMINISHED TO A MANAGEABLE LEVEL, AND HIS ENERGY WAS MUCH IMPROVED.
- ▶ BY ASSESSING A FAMILIAR CONSTELLATION OF SYMPTOMS IN TERMS OF THE UNIFYING AUTONOMIC DYSREGULATION SYNDROME OR DYSAUTONOMIA, TREATMENT AGENTS (METABOLIC, PHYSICAL AND PSYCHOLOGICAL) MAY BE APPROPRIATELY PRESCRIBED TO ADDRESS THE OVERALL GOAL OF AUTONOMIC REGULATION.



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