Dr Giresh Kanji

Musculoskeletal Pain Specialist

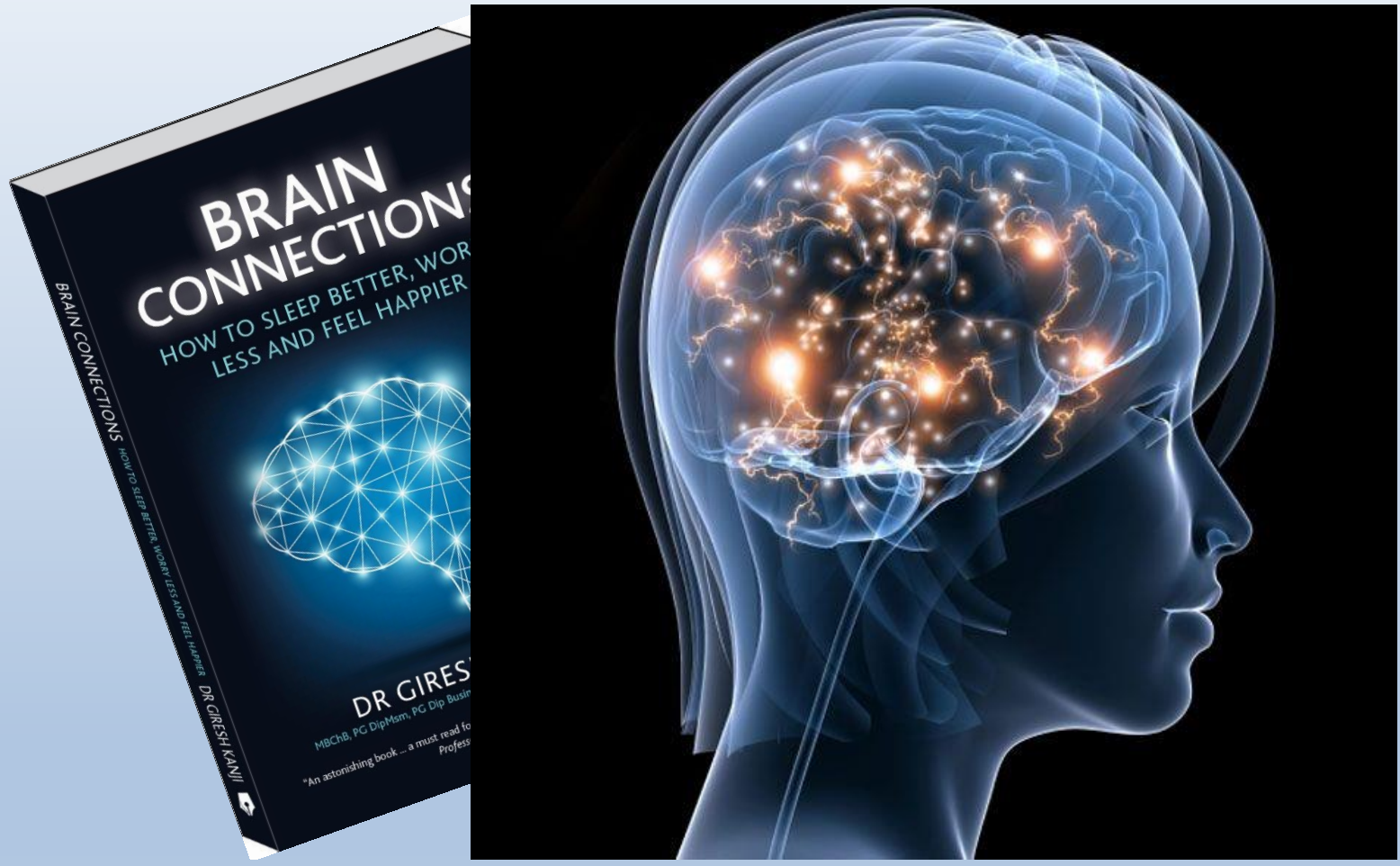
Auckland

Friday, August 09, 2019 (Room 8)

14:00 - 14:55 WS #31: A New Approach to Managing Anxiety and Depression

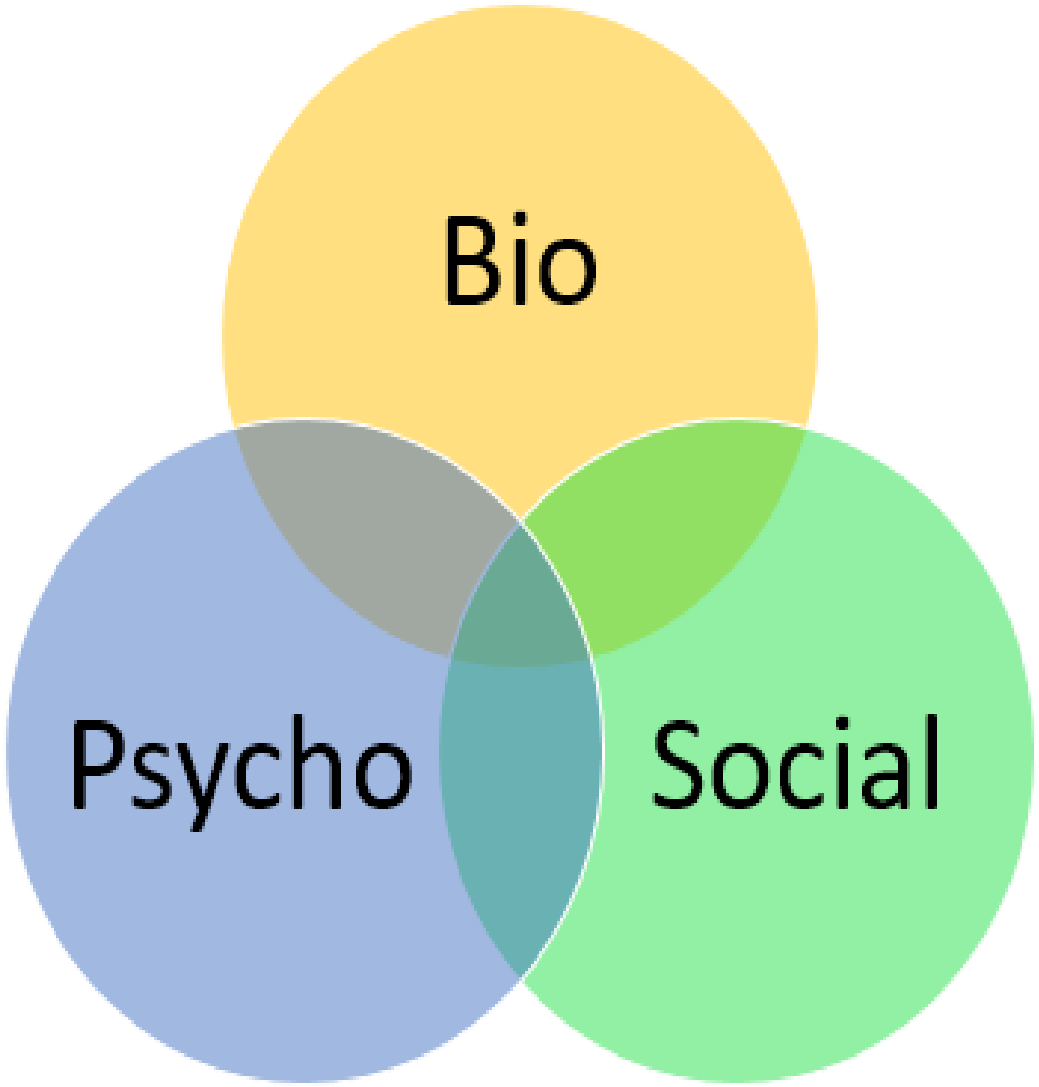
15:05 - 16:00 WS #41: A New Approach to Managing Anxiety and Depression (Repeated)

Exploring new paradigms for depression

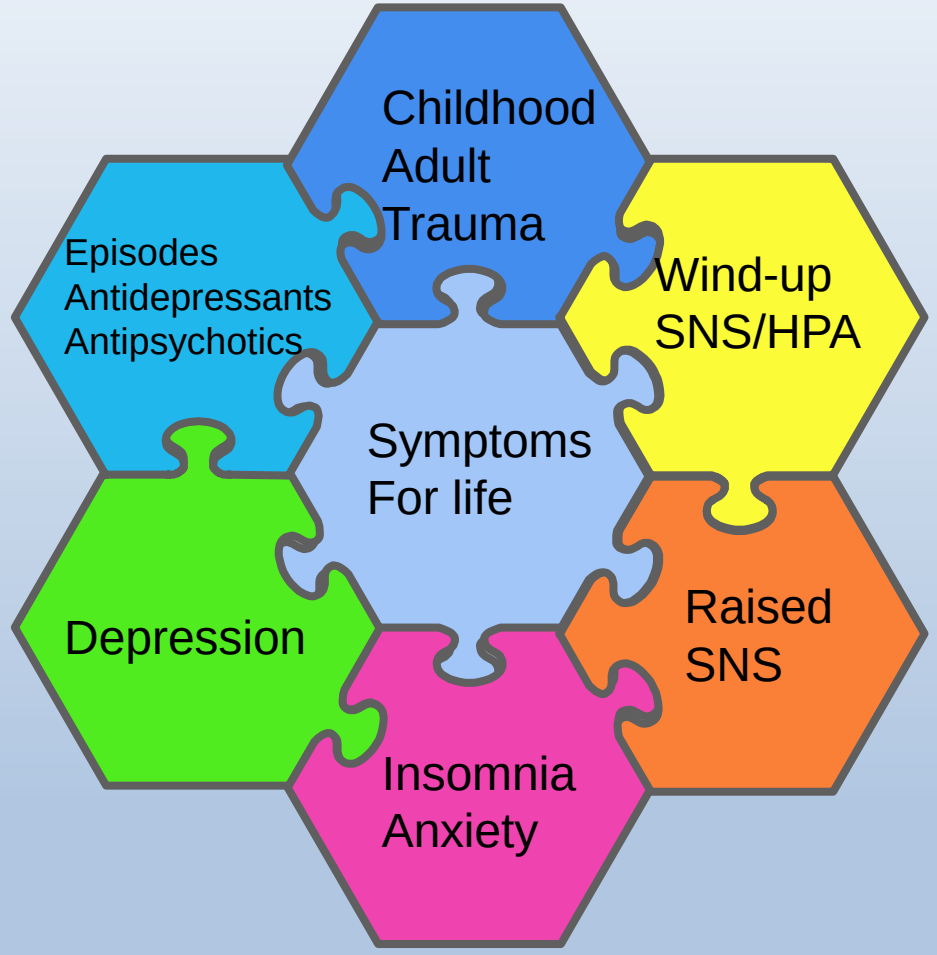


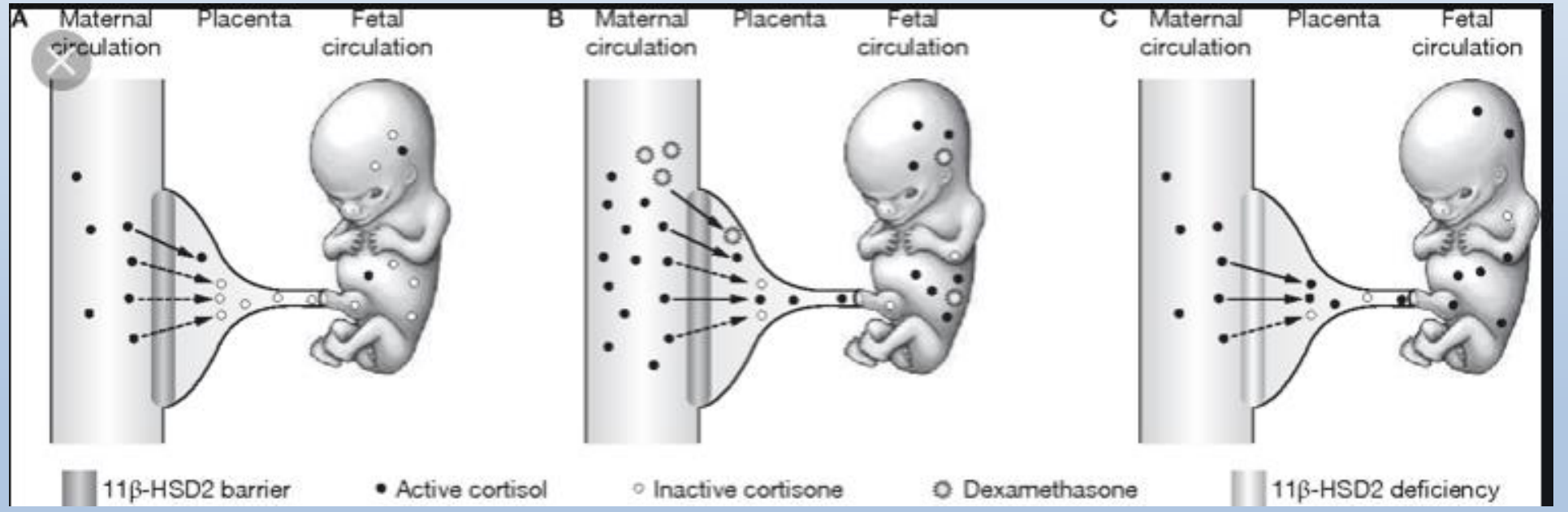
Dr Giresh Kanji

gireshkanji.com


Bio
Psycho
Social

Jigsaw Pieces




A
Maternal circulation
Placenta
Fetal circulation
B
Maternal circulation
Placenta
Fetal circulation
C
Maternal circulation
Placenta
Fetal circulation
11β-HSD2 barrier
Active cortisol
Inactive cortisone
Dexamethasone
11β-HSD2 deficiency

Pregnancy

- Study>10 000 people
- Childhood trauma 50%
- 1 stress doubled risk depression and suicide
- 4 stressors
  - five times risk depression
  - 12 times risk of suicide

Research Article

Relationship of Childhood Abuse and Household Dysfunction to Many of the Leading Causes of Death in Adults

The Adverse Childhood Experiences (ACE) Study

Vincent J. Felitti, MD, FACP, Robert F. Anda, MD, MS, Dale Nordenberg, MD, David F. Williamson, MS, PhD, Alison M. Spitz, MS, MPH, Valerie Edwards, BA, Mary P. Koss, PhD, James S. Marks, MD, MPH

Solo Parents

Stress chemicals

Wind-up
SNS/HPA

- **POOR SLEEP**
- **PAIN**
- **EMOTIONAL STRESS**
- **COCENTRATION**

PROBLEM

NOT BURNED OFF

Med Students

- Concentration
- Deadline of exams
- Poverty
- No time
- Stop exercise
- Stop relaxation
- Hobbies

ELSEVIER

Psychiatry Research 113 (2002) 139–149

PSYCHIATRY RESEARCH

www.elsevier.com/locate/psychres

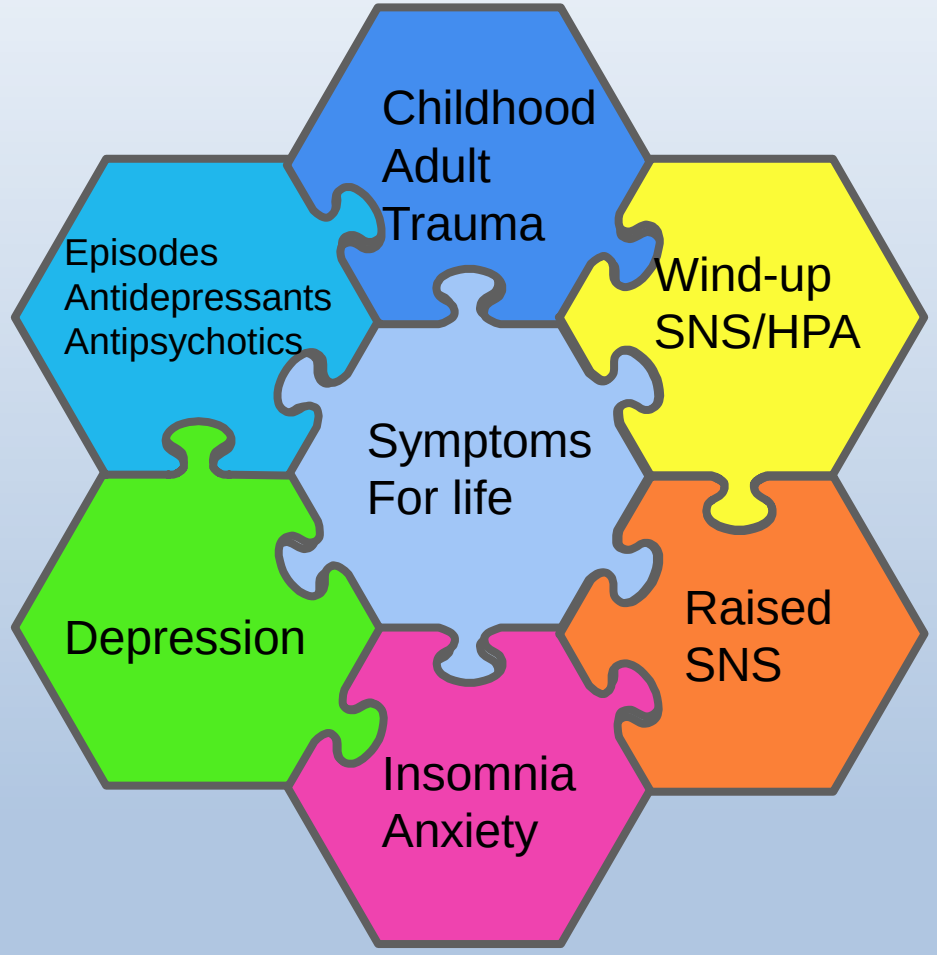
Relationship between major depression and heart rate variability. Clinical consequences and implications for antidepressive treatment

Marcus W. Agelink[a,*], Cavit Boz[b], Heiko Ullrich[a], Jürgen Andrich[c]

- Depression $\propto$ SNS Tone

1/HRV

Jigsaw Pieces



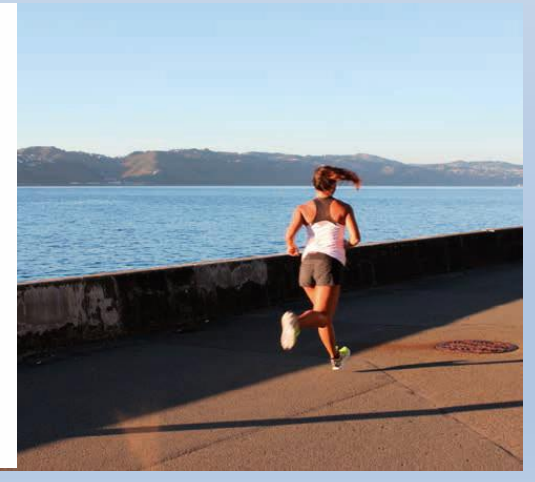
Reduce sympathetic tone

- Exercise (above 50% HRmax)
- Sauna
- Yoga
- Meditation/slowbreathing - 6/min
- Tai Chi

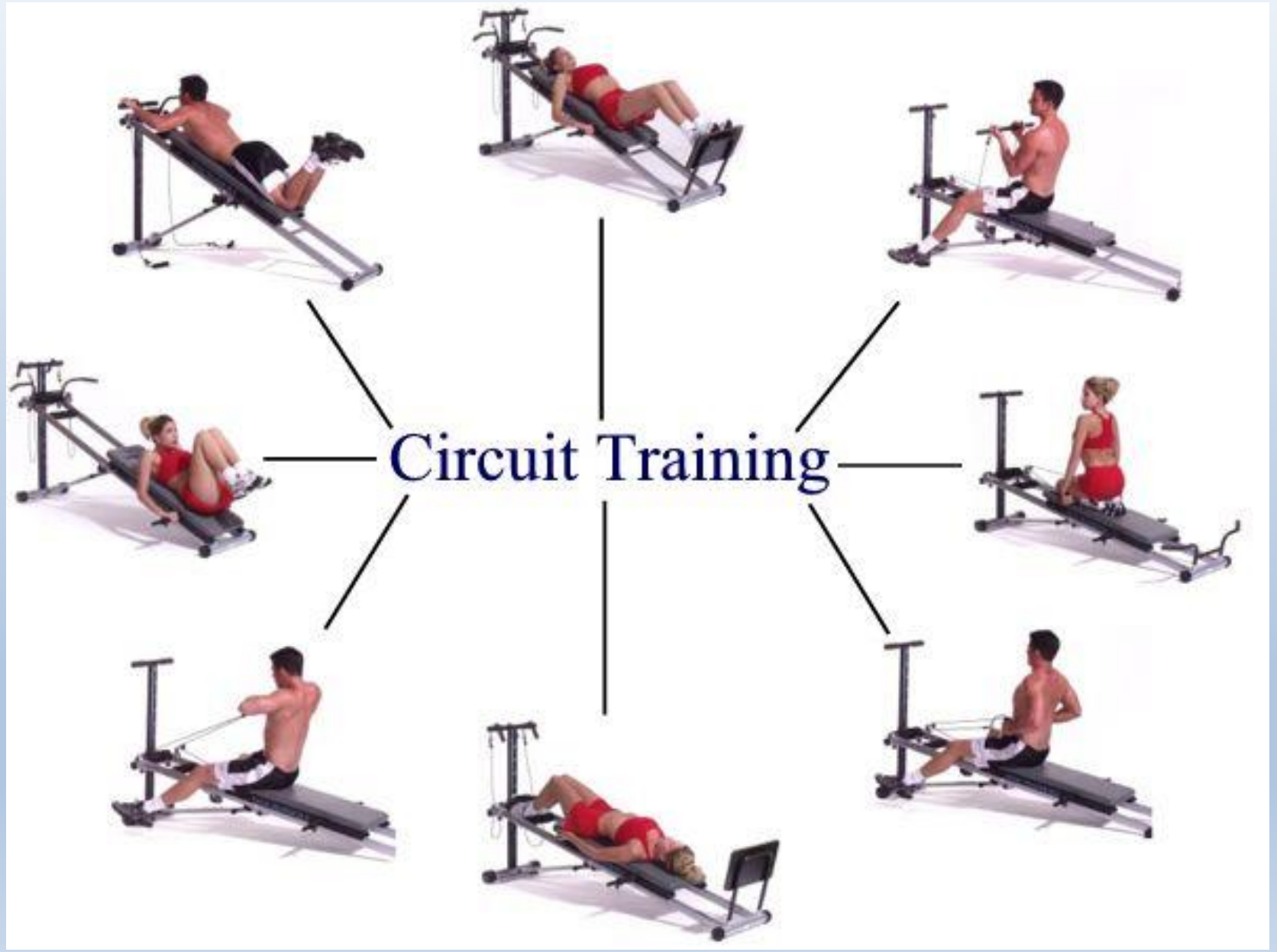


Exercise Counselling

- 30 min 4 times a week
- It cant hurt
- The faster the better



What about weights?



Journal of Consulting and Clinical Psychology
1987, Vol. 55, No. 5, 748-754

0022-006X/87/$00.75

Running Versus Weight Lifting in the Treatment of Depression

Elizabeth J. Doyne, Deborah J. Ossip-Klein, Eric D. Bowman, Kent M. Osborn,
Ilona B. McDougall-Wilson, and Robert A. Neimeyer
University of Rochester

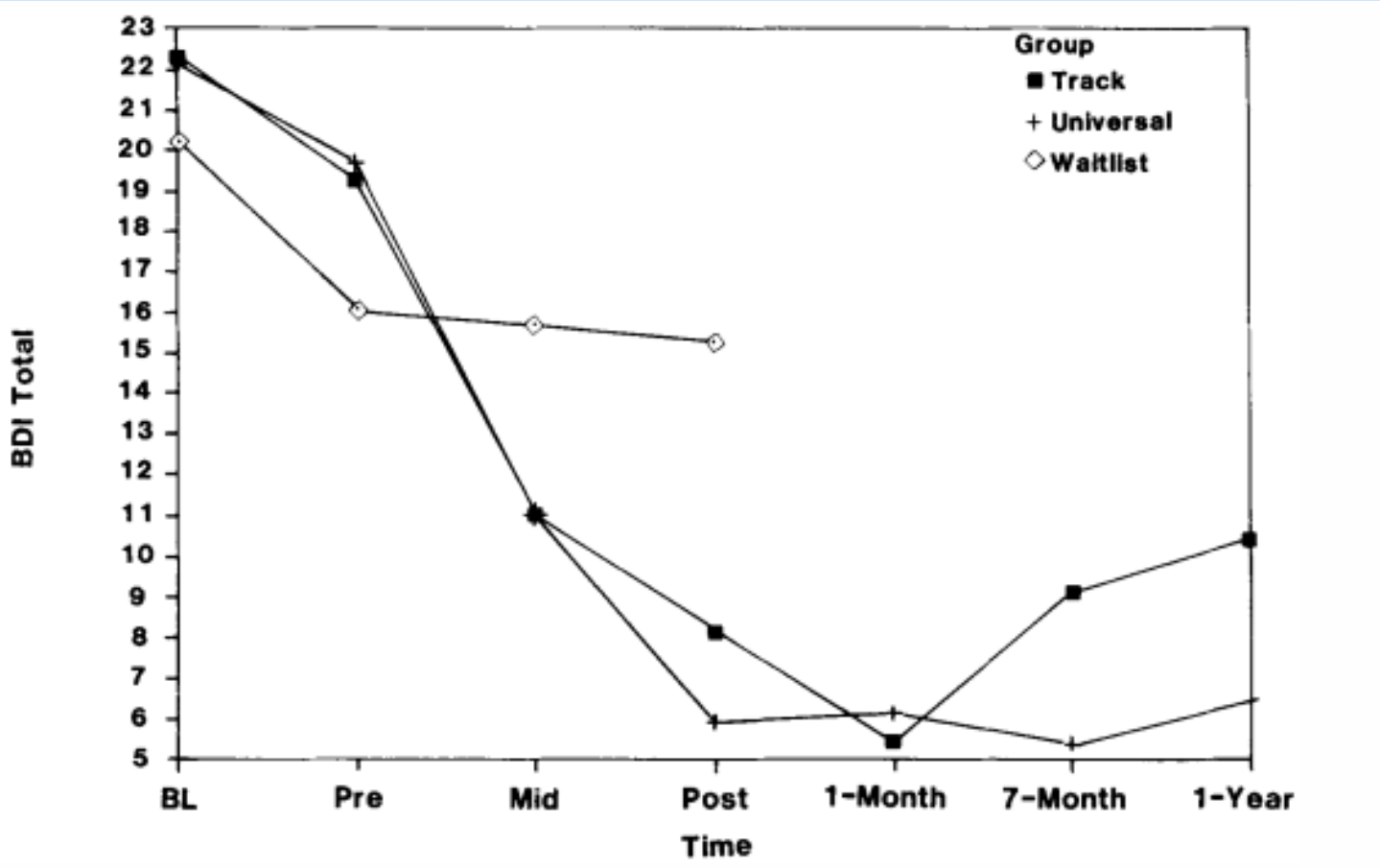
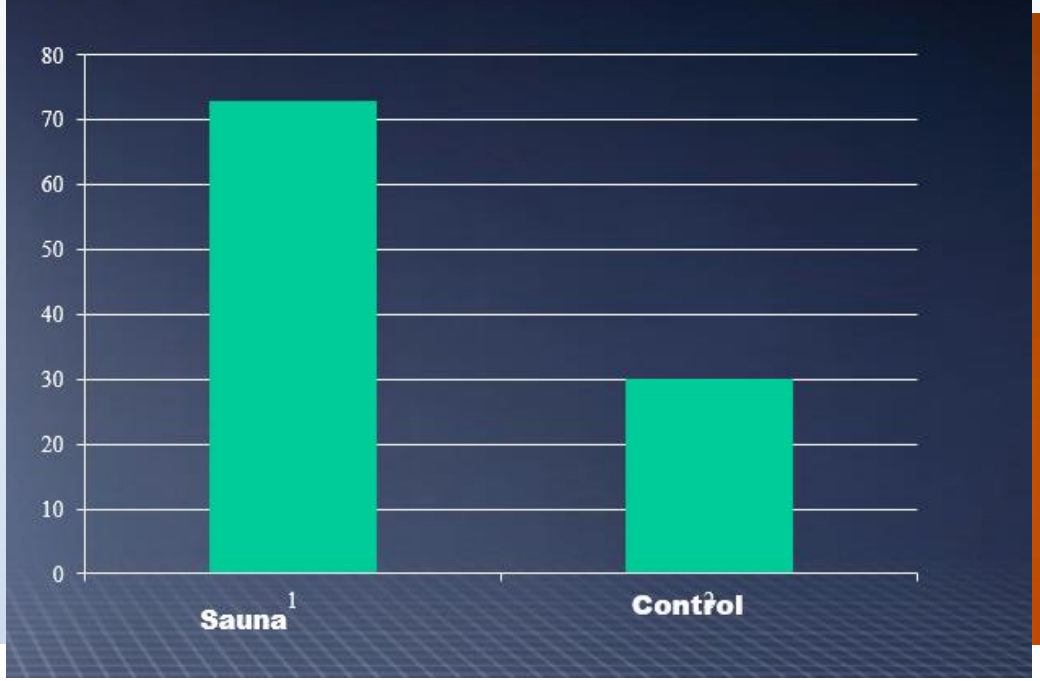


Figure 1. Beck Depression Inventory (BDI) scores through 1-year follow-up.

Heat



THE JOURNAL OF ALTERNATIVE AND COMPLEMENTARY MEDICINE
Volume 21, Number 2, 2015, pp. 103–109

DOI: 10.1089/acm.2013.0466

Efficacy of Regular Sauna Bathing for Chronic Tension-Type Headache: A Randomized Controlled Study

Giresh Kanji, PhD,[1] Mark Weatherall, FRACP,[2] Raja Peter, PhD,[3]
Gordon Purdie, BSc,[4] and Rachel Page, PhD[5]

Hot Baths/Spas

HRV after performing exercise

Effect of Endurance Exercise Training on Heart Rate Variability at Rest in Healthy Young and Older Men

Wayne C. Levy, MD, Manuel D. Cerqueira, MD, George D. Harp, PhD, Karl-Arne Johannessen, MD, Itamar B. Abrass, MD, Robert S. Schwartz, MD, and John R. Stratton, MD

Eight weeks of moderate-intensity exercise training increases heart rate variability in sedentary postmenopausal women

Radim Jurca, PhD, Timothy S. Church, MD, PhD, Gina M. Morss, MA, Alexander N. Jordan, MS, and Conrad P. Earnest, PhD *Dallas, Tex*

European Heart Journal (1999) **20,** 1638–1646
Article No. euhj.1999.1715, available online at http://www.idealibrary.com on IDEAL®

Aerobic group training improves exercise capacity and heart rate variability in elderly patients with a recent coronary event

A randomized controlled study

A. Ståhle*†, R. Nordlander†, L. Bergfeldt†

**Departments of Physical Therapy, and †Cardiology, Karolinska Hospital, Karolinska Institutet, Stockholm, Sweden*

The Effect of Tai Chi Chuan on the Autonomic Nervous Modulation in Older Persons

WAN-AN LU[1,2] and CHENG-DENG KUO[1,3]

[1]*Institute of Traditional Medicine, National Yang-Ming University School of Medicine, Taipei, TAIWAN;* [2]*Division of Chinese Medicine, Municipal Jen-Ai Hospital, Taipei, TAIWAN; and* [3]*Laboratory of Biophysics, Department of Medical Research and Education, Taipei Veterans General Hospital, Taipei, TAIWAN*

Biomedical Research **29** (5) 245-250, 2008

Inward-attention meditation increases parasympathetic activity: a study based on heart rate variability

Journal of Cardiology (2011) **57**, 100–106

available at www.sciencedirect.com

ScienceDirect

journal homepage: www.elsevier.com/locate/jjcc

ELSEVIER

Original article

Improvement of autonomic nervous activity by Waon therapy in patients with chronic heart failure

So Kuwahata (MD, PhD)[a], Masaaki Miyata (MD, PhD, FJCC)[a,*],

Journal of Consulting and Clinical Psychology
1987, Vol. 55, No. 5, 748–754

0022-006X/87/$00.75

Running Versus Weight Lifting in the Treatment of Depression

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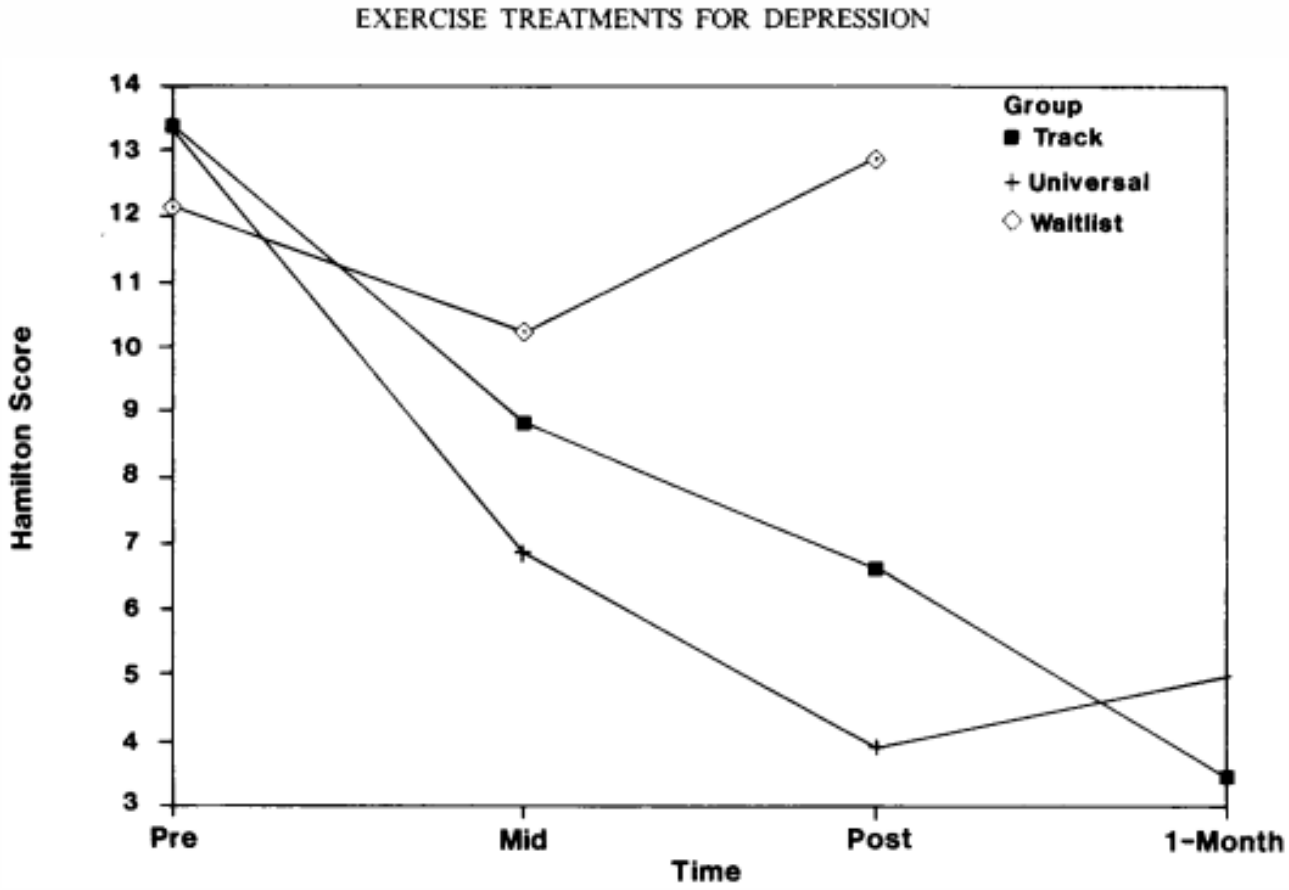


Figure 2. Hamilton Rating Scale for Depression Scores through 1-month follow-up.

Journal of Gerontology: MEDICAL SCIENCES
2005, Vol. 60A, No. 6, 768–776

A Randomized Controlled Trial of High Versus Low Intensity Weight Training Versus General Practitioner Care for Clinical Depression in Older Adults

Nalin A. Singh,[1,2] Theodora M. Stavrinos,[2] Yvonne Scarbek,[3] Garry Galambos,[3] Cas Liber,[3] and Maria A. Fiatarone Singh[4,5]

Table 4. Depression Outcomes

Variable	HIGH ($N = 18$)	LOW ($N = 17$)	GP Care ($N = 19$)	Time F, p Value	Group × Time F, p Value
GDS pre	20.0 ± 4.1	22.0 ± 4.3	18.7 ± 3.5	92.20, <.0001	5.58, .006
GDS post	8.4 ± 7.0	13.3 ± 7.0	14 ± 5.2		
HRSD pre	18.0 ± 4.5	19.5 ± 5.3	19.7 ± 3.9	74.87, <.0001	1.98, .14
HRSD post	8.5 ± 5.5	12.4 ± 6.3	14.4 ± 6.0		

Clinical Practice and Epidemiology in Mental Health

BioMed Central

Research

Open Access

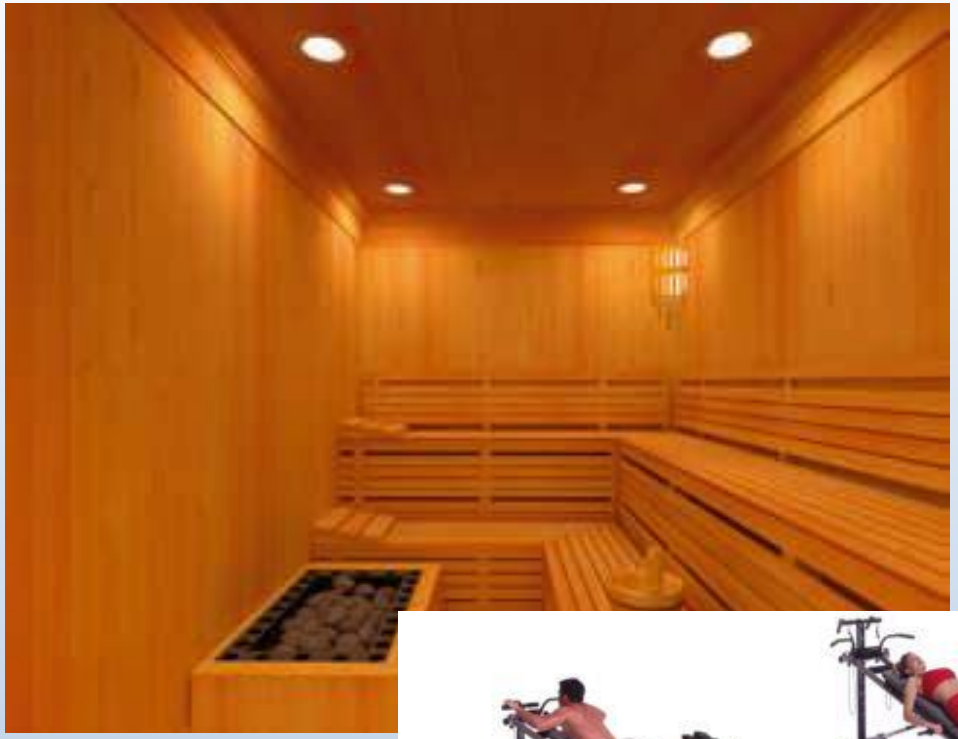
Efficacy of physical activity in the adjunctive treatment of major depressive disorders: preliminary results

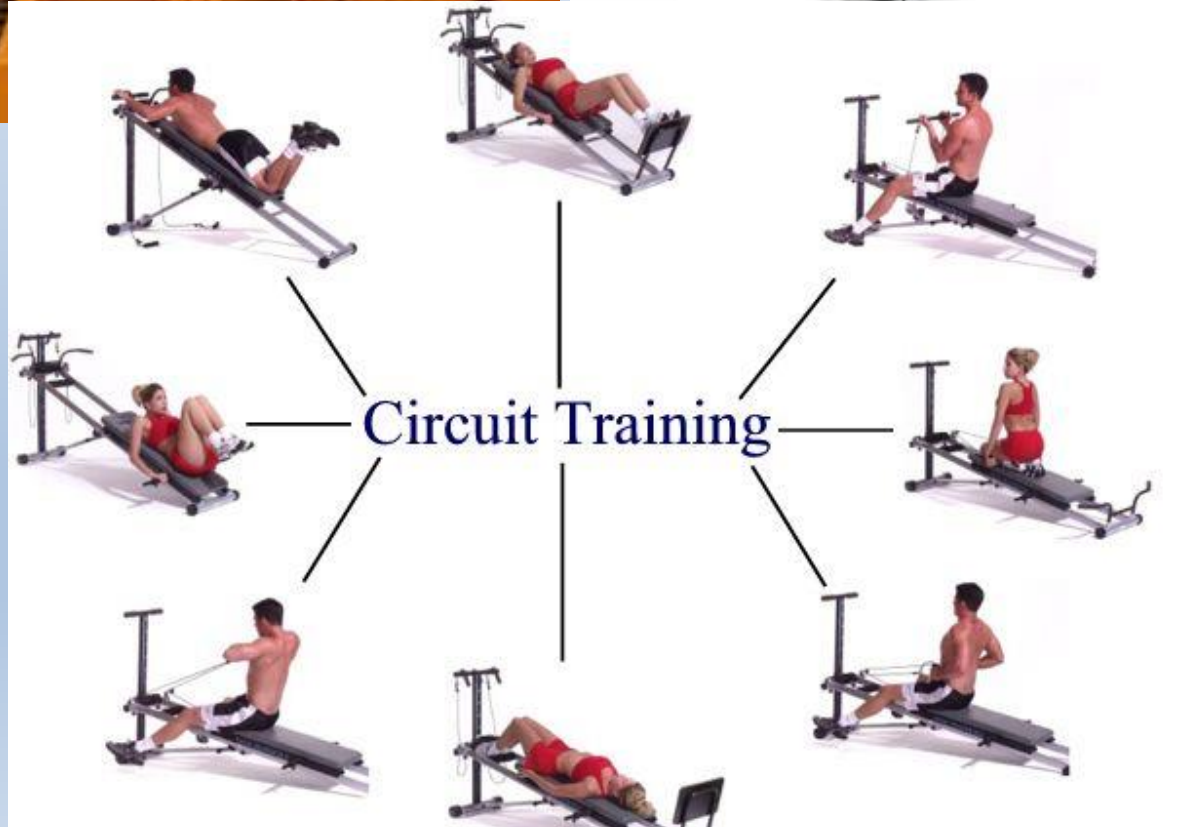
Alessandra Pilu*[1], Manlio Sorba[1], Maria Carolina Hardoy[1,3], Anna Laura Floris[1], Francesca Mannu[1], Maria Luisa Seruis[1], Claudio Velluti[2], Bernardo Carpiniello[1], Massimiliano Salvi[2] and Mauro Giovanni Carta[1,3]

Table 1: Scores (mean and standard deviation for each scale)

	T0 cases (N = 10)	T8 cases (N = 10)	ANOVA 1 way T0 vs T8 cases DF 1, 18, 19	T0 controls (N = 20)	T8 controls (N = 20)
HAM-D	20.5 ± 7.1	T6 8.1 ± 5.2	F = 19.89 P < 0.0001	19.3 ± 5.7	16.7 ± 9.1

Tertiary Care



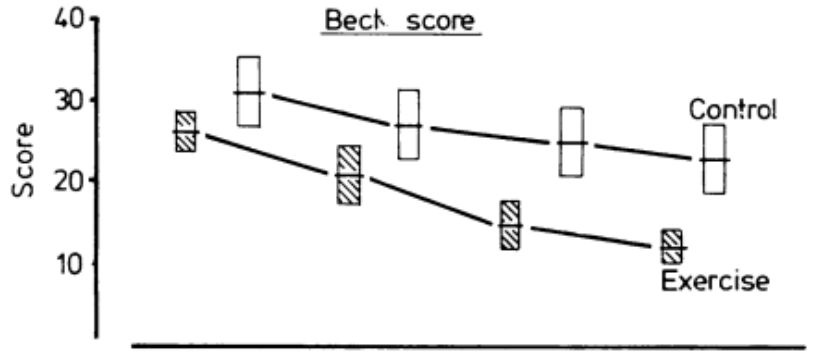

Circuit Training

Hospital Inpatients major depression

Effects of aerobic exercise on depression: a controlled study

EGIL W MARTINSEN, MD, psychiatrist
A MEDHUS, MD, psychiatrist
L SANDVIK, MSC, statistician

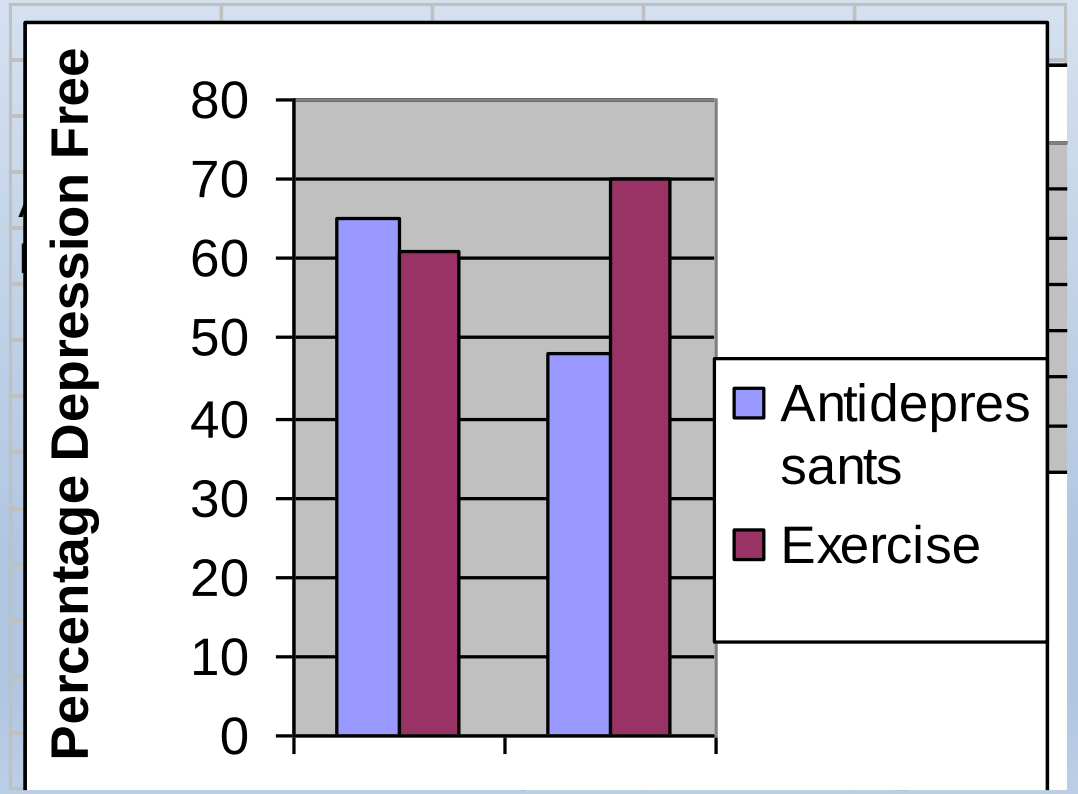
BRITISH MEDICAL JOURNAL VOLUME 291 13 JULY 1985



Mean Beck score and maximum oxygen uptake, with 95% confidence intervals.

Exercise Treatment for Major Depression: Maintenance of Therapeutic Benefit at 10 Months

Michael Babyak, PhD, James A. Blumenthal, PhD, Steve Herman, PhD, Parinda Khatri, PhD, Murali Doraiswamy, MD, Kathleen Moore, PhD, W. Edward Craighead, PhD, Teri T. Baldewicz, PhD, and K. Ranga Krishnan, MD



Waon Therapy

60 degrees 15 minutes

Lying down 30 minutes

PNS

Journal of Cardiology (2011) 57, 100–106

available at www.sciencedirect.com

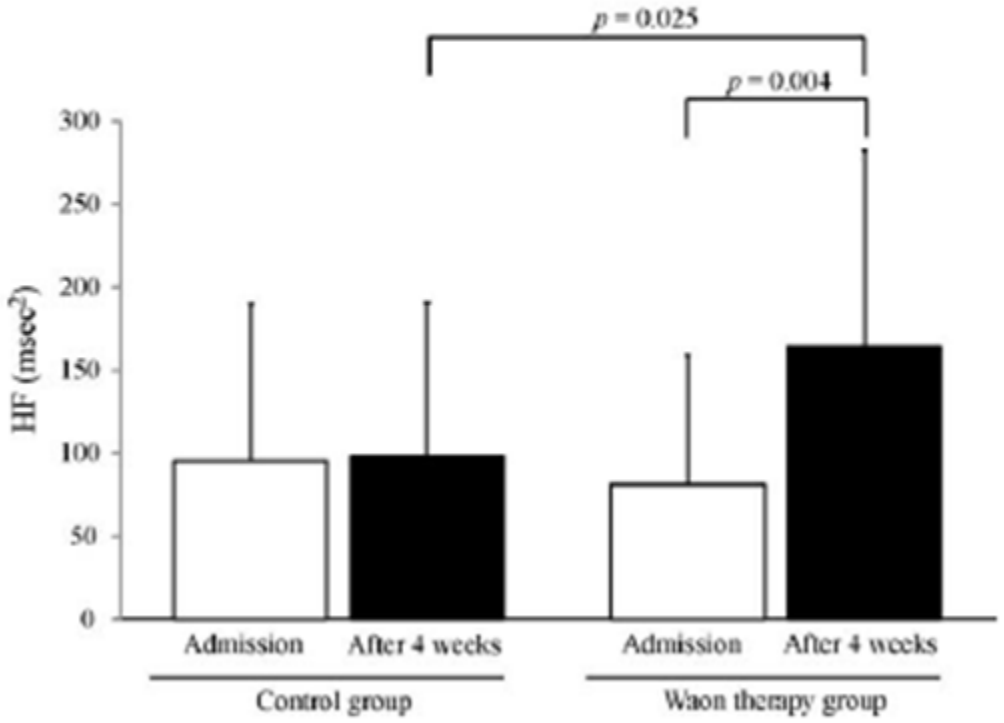
ScienceDirect

journal homepage: www.elsevier.com/locate/jjcc

Original article

Improvement of autonomic nervous activity by Waon therapy in patients with chronic heart failure

So Kuwahata (MD, PhD)[a], Masaaki Miyata (MD, PhD, FJCC)[a,*], Shoji Fujita (MD)[a], Takuro Kubozono (MD, PhD)[a], Takuro Shinsato (MD)[a], Yoshiyuki Ikeda (MD, PhD)[a], Shuichi Hamasaki (MD, PhD, FJCC)[a], Tomoyuki Kuwaki (PhD)[b], Chuwa Tei (MD, PhD, FJCC)[a]



SNS

Journal of Cardiology (2011) 57, 100–106

available at www.sciencedirect.com

ScienceDirect

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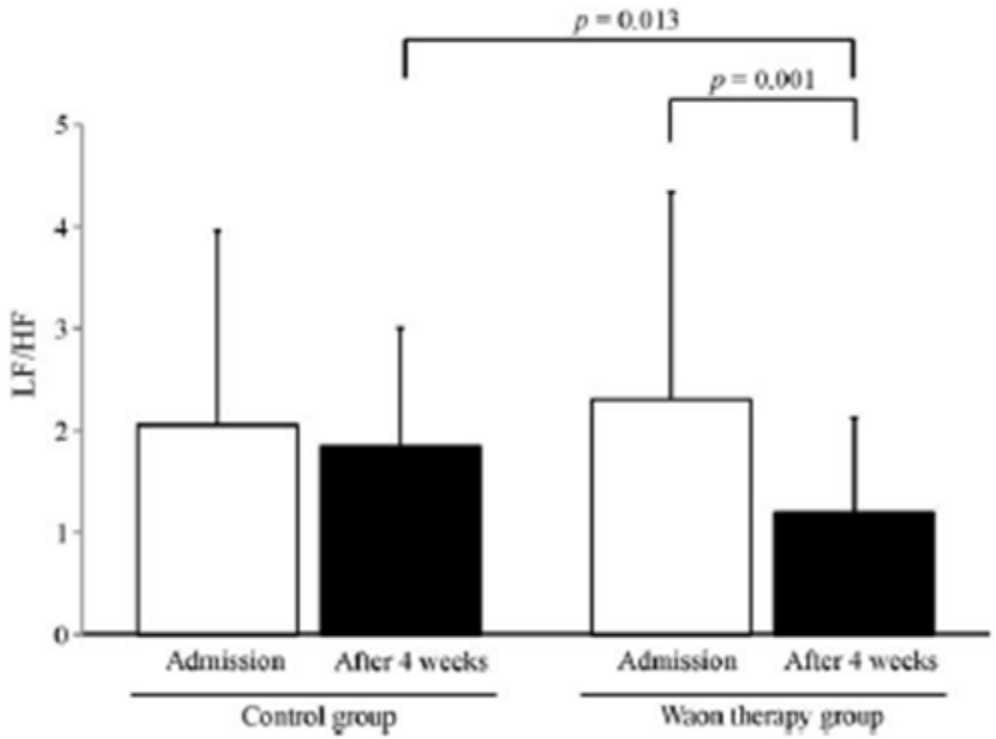


Age and Ageing 2017; **46:** 245–249
doi: 10.1093/ageing/afw212
Published electronically 7 December 2016

Sauna bathing is inversely associated with dementia and Alzheimer's disease in middle-aged Finnish men

Tanjaniina Laukkanen[1], Setor Kunutsor[2], Jussi Kauhanen[1], Jari Antero Laukkanen[1]

Frequency of sauna bathing (number of subjects)	Dementia (*N* = 204)		Alzheimer's disease (*N* = 123)	
	HR (95% CI)	*P* value	HR (95% CI)	*P* value
Age adjusted				
1 time/week (601)	1.00 (reference)		1.00 (reference)	
2–3 times/week (1,513)	0.77 (0.57–1.04)	0.090	0.80 (0.54–1.20)	0.278
4–7 times/week (201)	0.38 (0.18–0.80)	0.011	0.41 (0.16–1.07)	0.069

Tai Chi

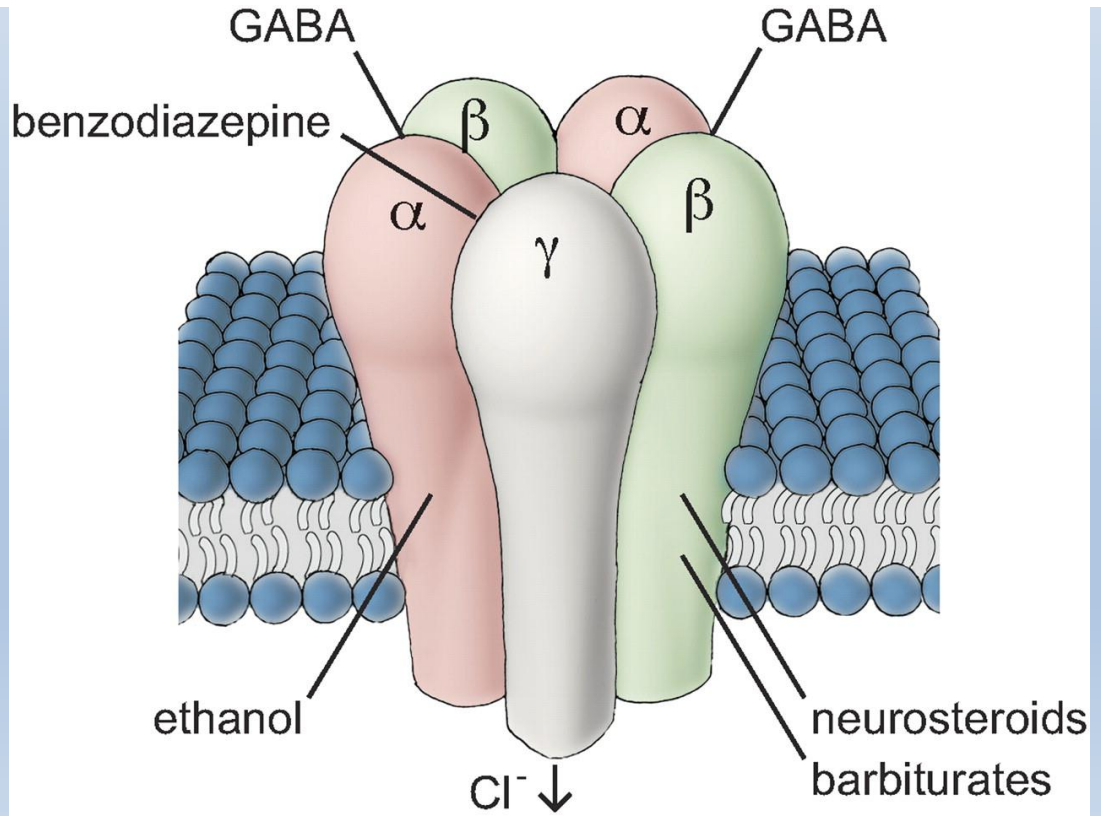
Yoga

Meditation

ORIGINAL ARTICLE

Reduced Cortical γ-Aminobutyric Acid Levels in Depressed Patients Determined by Proton Magnetic Resonance Spectroscopy

Gerard Sanacora, MD, PhD; Graeme F. Mason, PhD; Douglas L. Rothman, PhD; Kevin L. Behar, PhD; Fahmeed Hyder, PhD; Ognen A. C. Petroff, MD; Robert M. Berman, MD; Dennis S. Charney, MD; John H. Krystal, MD



ELSEVIER

Brain Stimulation

journal homepage: www.brainstimjrnl.com

Meditation-Related Increases in $GABA_B$ Modulated Cortical Inhibition

Crissa L. Guglietti [a], Zafiris J. Daskalakis [b], Natasha Radhu [b], Paul B. Fitzgerald [c], Paul Ritvo [a,d,*]

[a] York Universit
[b] Centre for Ad
[c] Monash Alfre
[d] Cancer Care C

Medical Hypotheses

Medical Hypotheses (1995) 44, 287–291

Serum Hormonal Concentrations Following Transcendental Meditation – Potential Role of Gamma Aminobutyric Acid

A. N. ELIAS and A. F. WILSON

Department of Medicine, University of California, Irvine, Medical Center, 101 City Drive South, Orange, CA 92668, USA (Correspondence to: Alan N. Elias)

Breathing 40min daily

Talk Therapy – When?

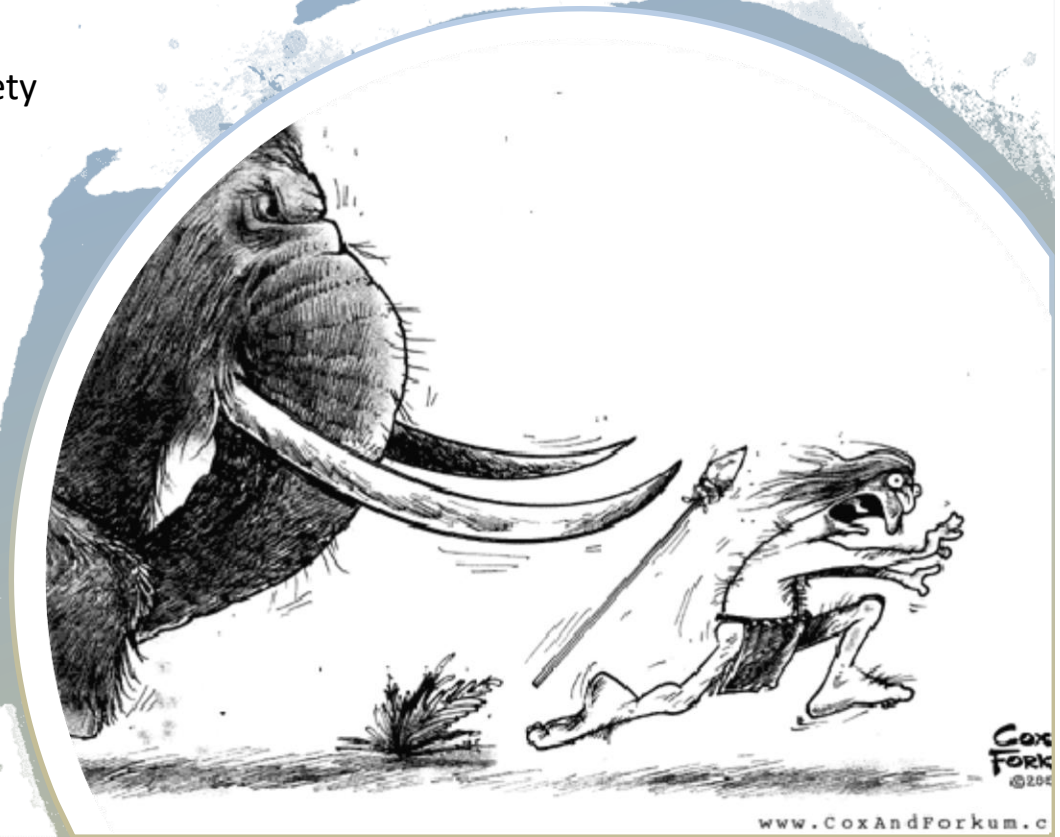
Occupational Factors

Housing

Jigsaw Pieces

What does this mean for Monday?

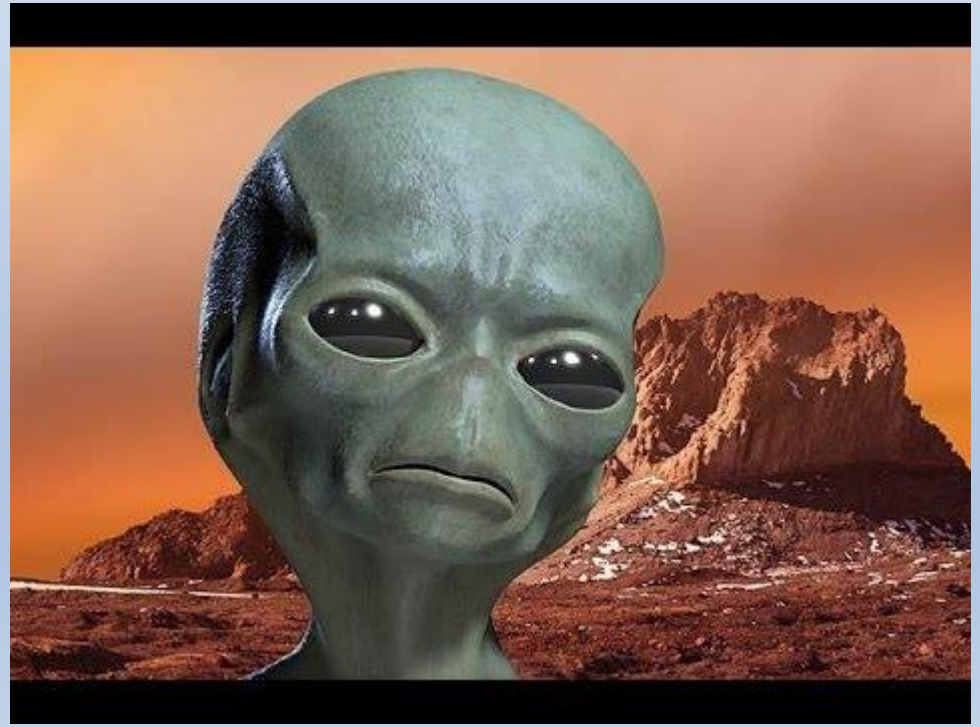
- Increased stress chemicals lead to insomnia anxiety depression
- Habits that reduce stress chemicals
- Exercise, Sauna, Yoga, Meditation, Tai Chi
- Will help and reduce reccurence.
- Pharmaceuticals for sleep, mood can help ‘
- but habits are likely to prevent long term relapse



Sensor/App

- Measures HRV, HR, RR.

Are people with depression different?



Question

- How many structural or physiological differences are there on RCTs for people with depression versus without depression?
- 0,1,2,3,4,5,6,7,8,9,10

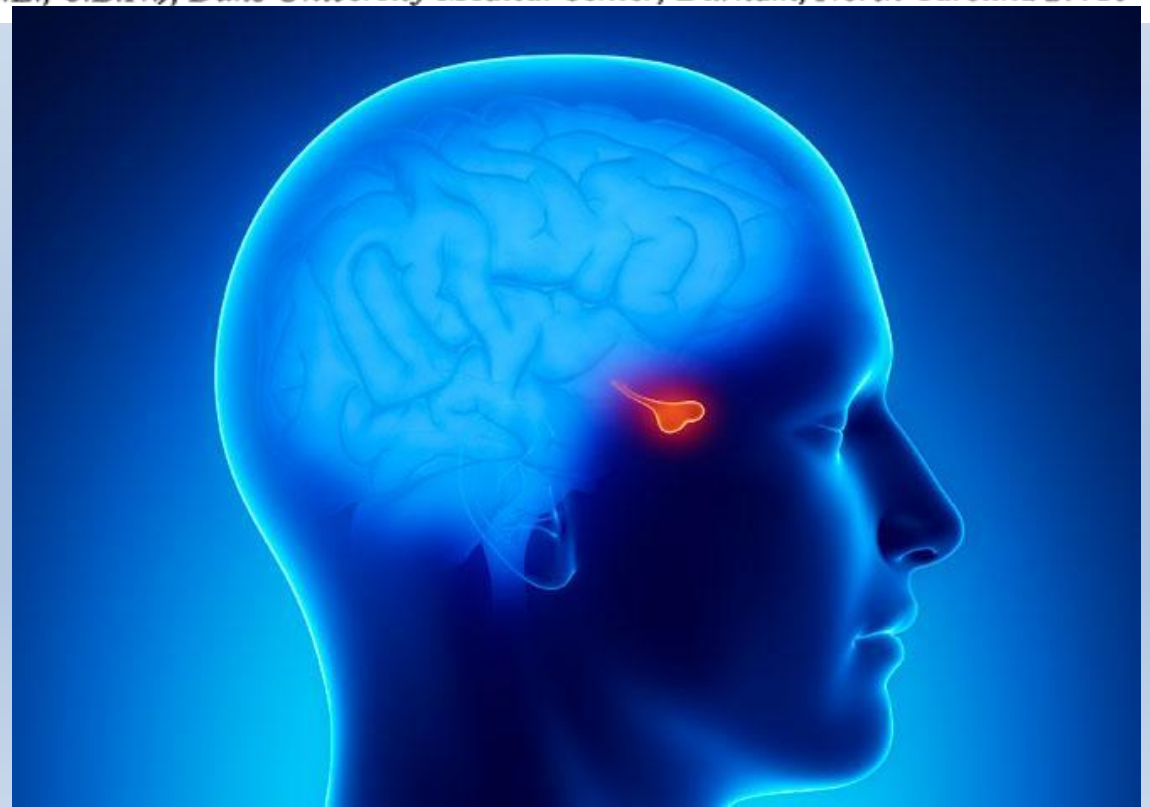
0021-972X/91/7202-0256$03.00/0
Journal of Clinical Endocrinology and Metabolism

Vol. 72, No. 2
Printed in U.S.A.

Pituitary Size in Depression*

K. RANGA RAMA KRISHNAN, P. MURALI DORAISWAMY, SCOTT N. LURIE, GARY S. FIGIEL, MUSTAFA M. HUSAIN, OREST B. BOYKO, EVERETT H. ELLINWOOD, JR., AND CHARLES B. NEMEROFF

Departments of Psychiatry (K.R.R.K., P.M.D., S.N.L., G.S.F., M.M.H., E.H.E., C.B.N.), Radiology (O.B.B.), and Pharmacology (E.H.E., C.B.N.), Duke University Medical Center, Durham, North Carolina 27710

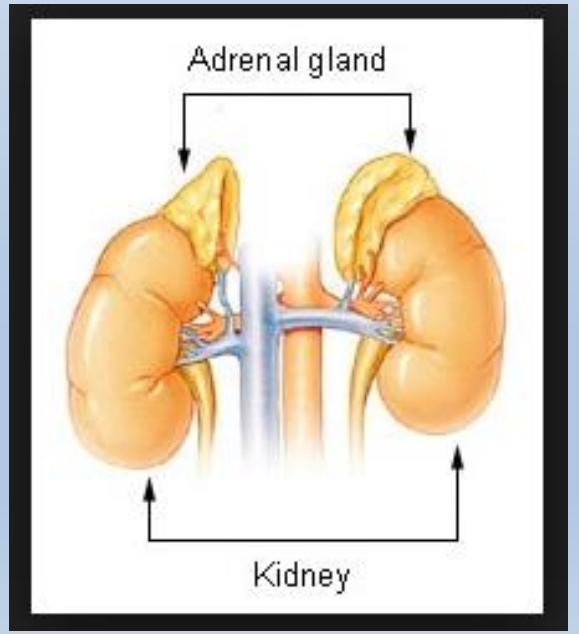


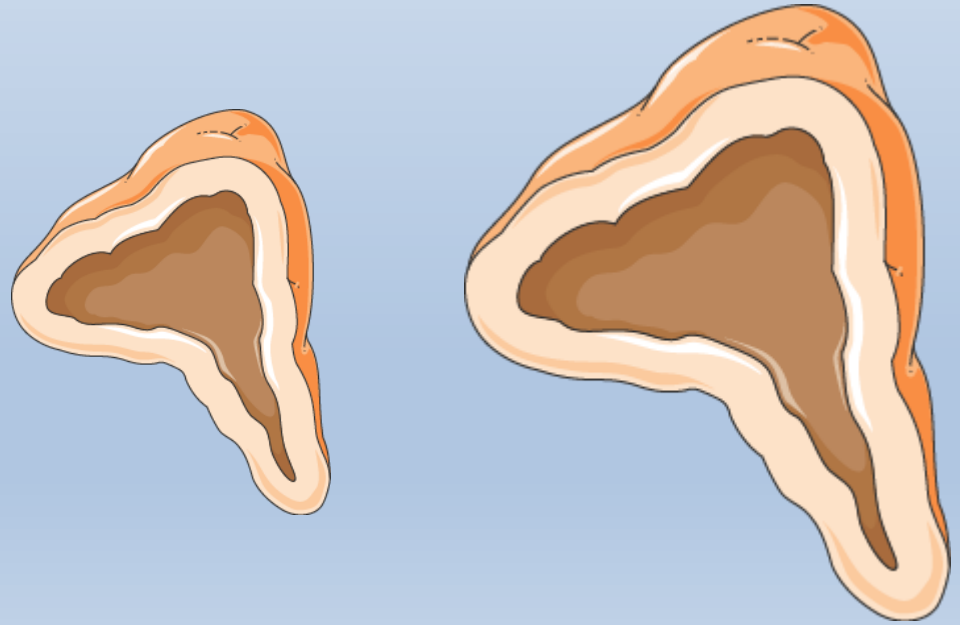
ORIGINAL ARTICLE

Adrenal Gland Volume in Major Depression

Increase During the Depressive Episode and Decrease With Successful Treatment

Robert T. Rubin, MD, PhD; Jeffrey J. Phillips, MD; Todd F. Sadow, MD; James T. McCracken, MD





Sympathetic Nervous System

ELSEVIER

Journal of Psychosomatic Research 48 (2000) 493–500

Journal of Psychosomatic Research

Severe depression is associated with markedly reduced heart rate variability in patients with stable coronary heart disease

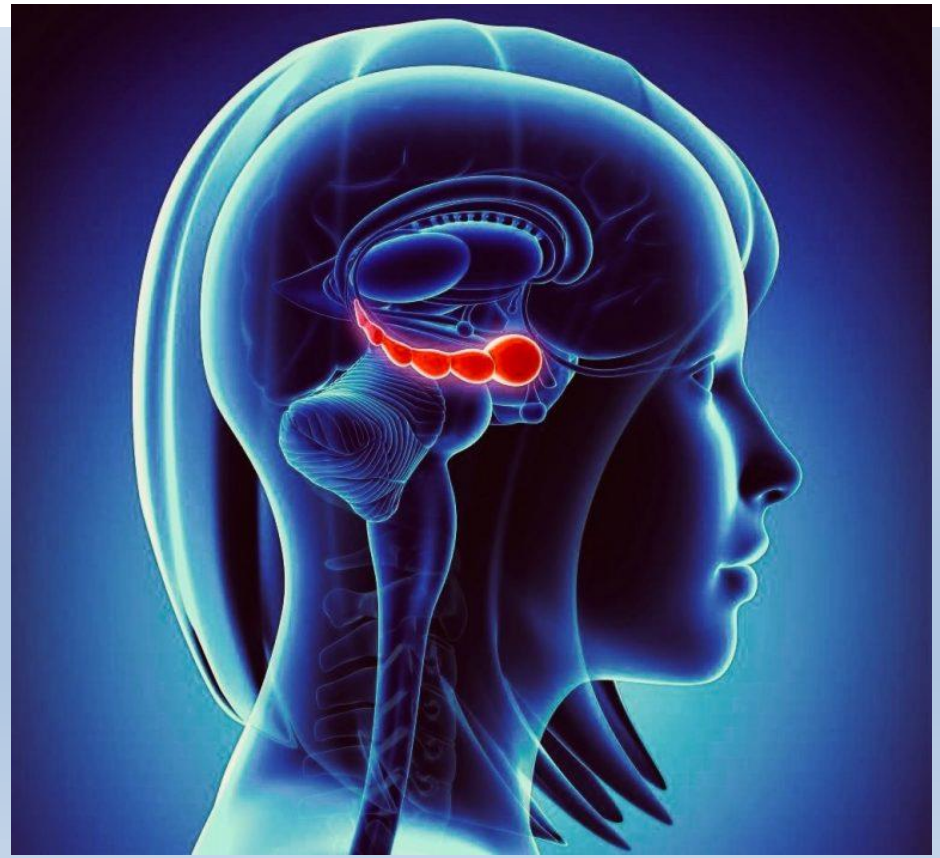
Autonomy of Autonomic Dysfunction in Major Depression

Mandy Koschke, Michael K. Boettger, MD, Steffen Schulz, Sandy Berger, MD, Janneke Terhaar, Andreas Voss, PhD, Vikram K. Yeragani, MD, and Karl-Jürgen Bär, MD

Brief Reports

Hippocampal Volume Reduction in Major Depression

J. Douglas Bremner, M.D., Meena Narayan, M.D., Eric R. Anderson,
Lawrence H. Staib, Ph.D., Helen L. Miller, M.D., and Dennis S. Charney, M.D.



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Reduced Cortical γ-Aminobutyric Acid Levels in Depressed Patients Determined by Proton Magnetic Resonance Spectroscopy

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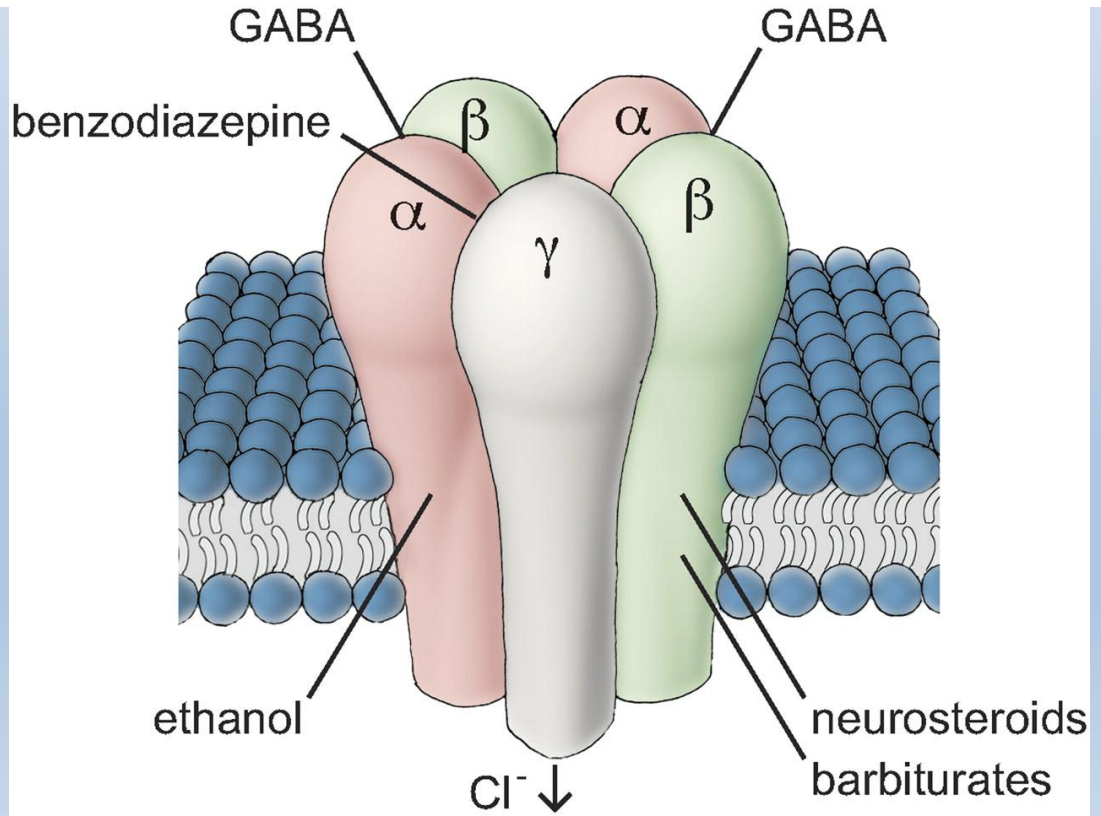


Prognosis depression

- After 1 episode of major depression what is the average number of episodes experienced?

ELSEVIER

Journal of Affective Disorders 45 (1997) 19–30

JOURNAL OF AFFECTIVE DISORDERS

Prevalence, correlates, and course of minor depression and major depression in the national comorbidity survey

Ronald C. Kessler[a,b,*], Shanyang Zhao[b], Dan G. Blazer[c], Marvin Swartz[c]

[a]*Department of Health Care Policy, Harvard Medical School, 180 Longwood Avenue, Boston, MA 02114, USA*
[b]*Institute for Social Research, University of Michigan, Ann Arbor, MI, USA*
[c]*Department of Psychiatry, Duke University Medical Center, Durham, NC, USA*

- 12.7 (0.8)

Psychological Review
2005, Vol. 112, No. 2, 417–445

0033-295X/05/$12.00 DOI: 10.1037/0033-295X.112.2.417

Life Stress, the "Kindling" Hypothesis, and the Recurrence of Depression: Considerations From a Life Stress Perspective

Scott M. Monroe
University of Oregon

Kate L. Harkness
Queen's University

Childhood trauma

- What is the relative Risk of depression and suicide
- 1 childhood trauma
- 4 childhood traumas

- Study>10 000 people
- Childhood trauma 50%
- 1 stress doubled risk depression and suicide
- 4 stressors
  - five times risk depression
  - 12 times risk of suicide

Research Article

Relationship of Childhood Abuse and Household Dysfunction to Many of the Leading Causes of Death in Adults

The Adverse Childhood Experiences (ACE) Study

Vincent J. Felitti, MD, FACP, Robert F. Anda, MD, MS, Dale Nordenberg, MD, David F. Williamson, MS, PhD, Alison M. Spitz, MS, MPH, Valerie Edwards, BA, Mary P. Koss, PhD, James S. Marks, MD, MPH

SNS/HPA EVOLUTION

Wind-up
SNS/HPA

- **Made to fight tigers**
- **Prepare body for physical activity**
- **FIGHT/FLIGHT**
- **Burned off from running or fighting**

Stress chemicals

Wind-up
SNS/HPA

- **POOR SLEEP**
- **PAIN**
- **EMOTIONAL STRESS**
- **COCENTRATION**

PROBLEM

NOT BURNED OFF

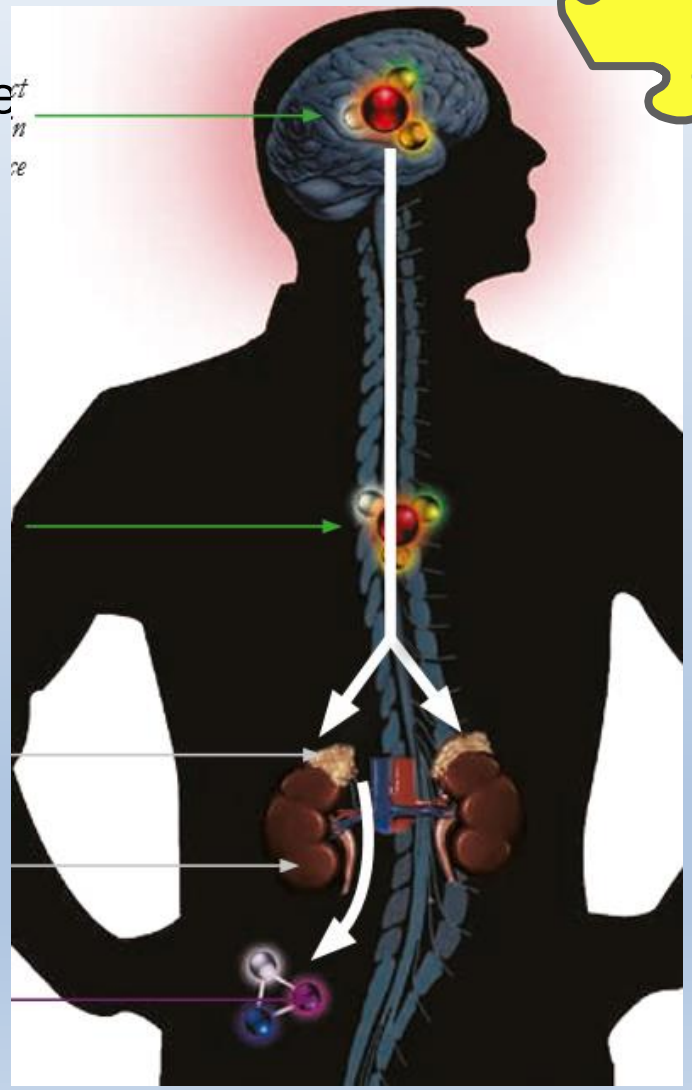
Sympathetic Nervous System Hypothalamic pituitary adrenal

Wind-up SNS/HPA

Serotonin, Adrenaline Noradrenaline, CRH, Histamine, Acetylcholine

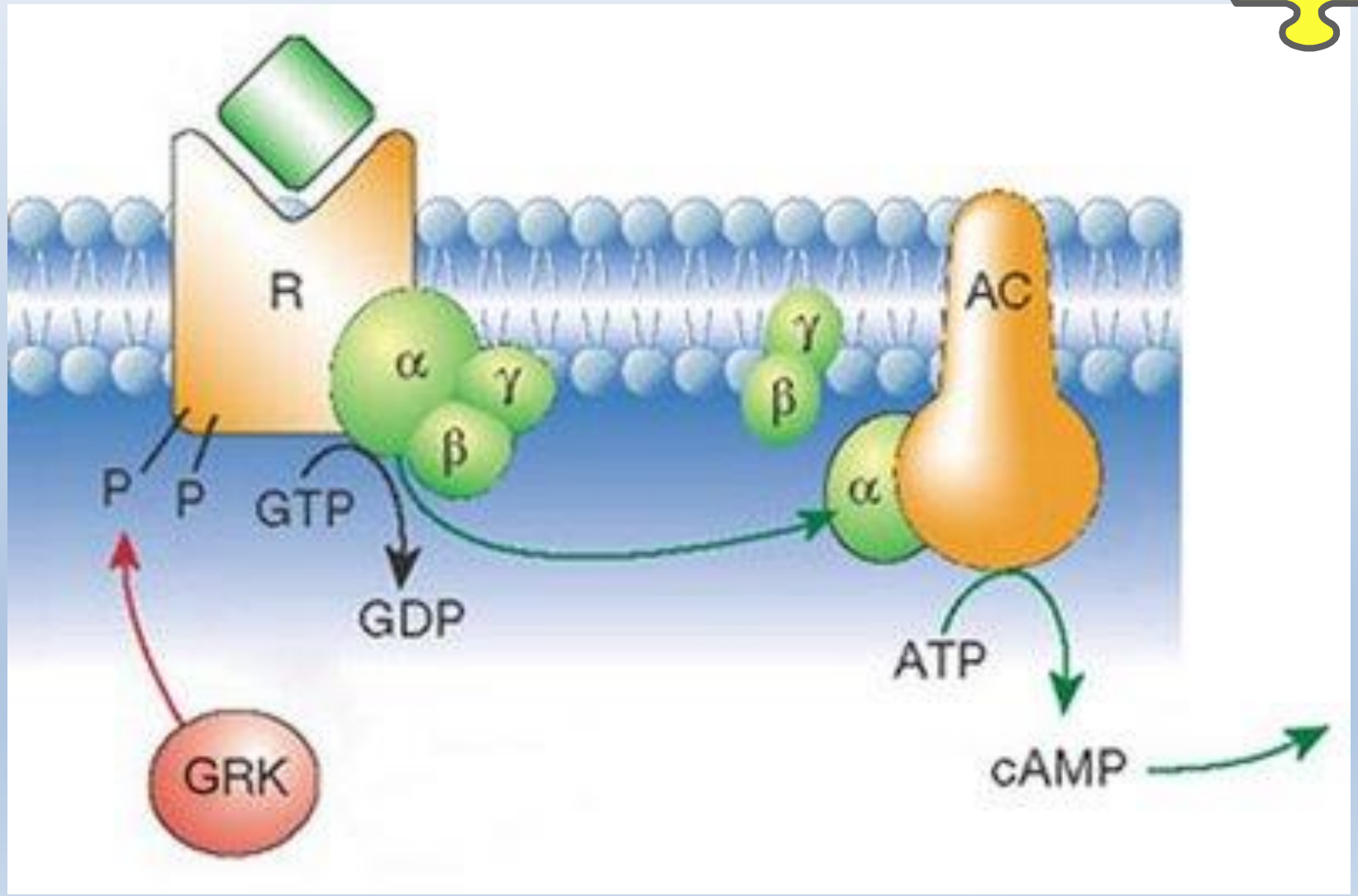
Serotonin
Noradrenaline

Adrenaline
Noradrenaline
Cortisol



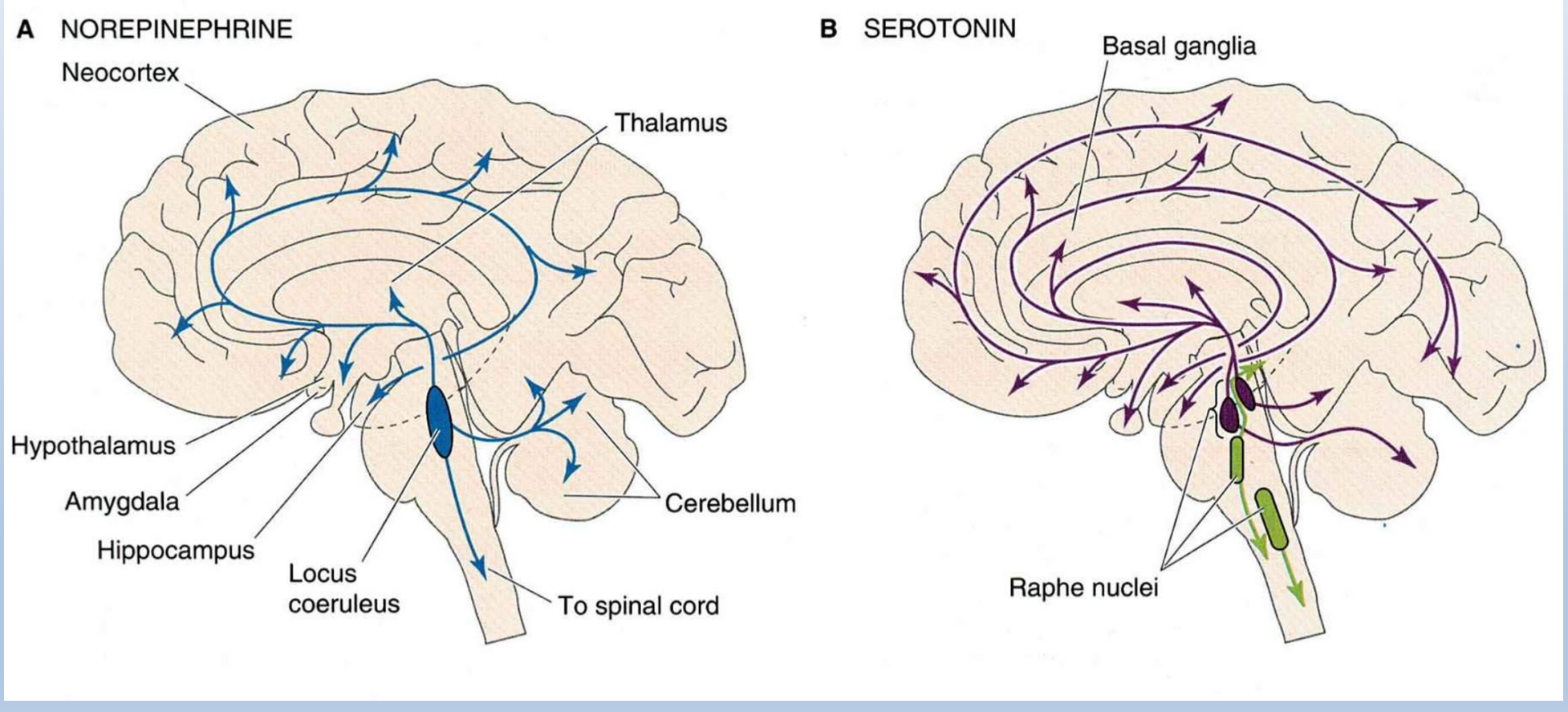
Receptors

Wind-up
SNS/HPA



Widespread connections

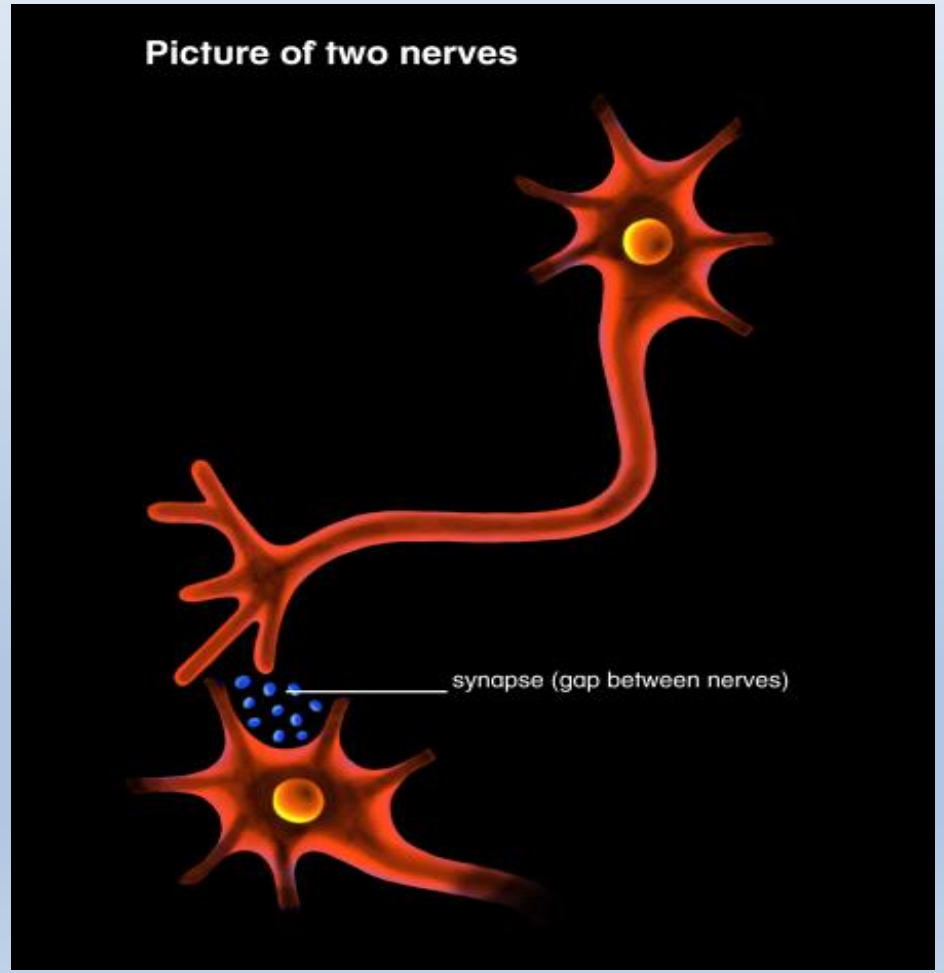
Wind-up
SNS/HPA

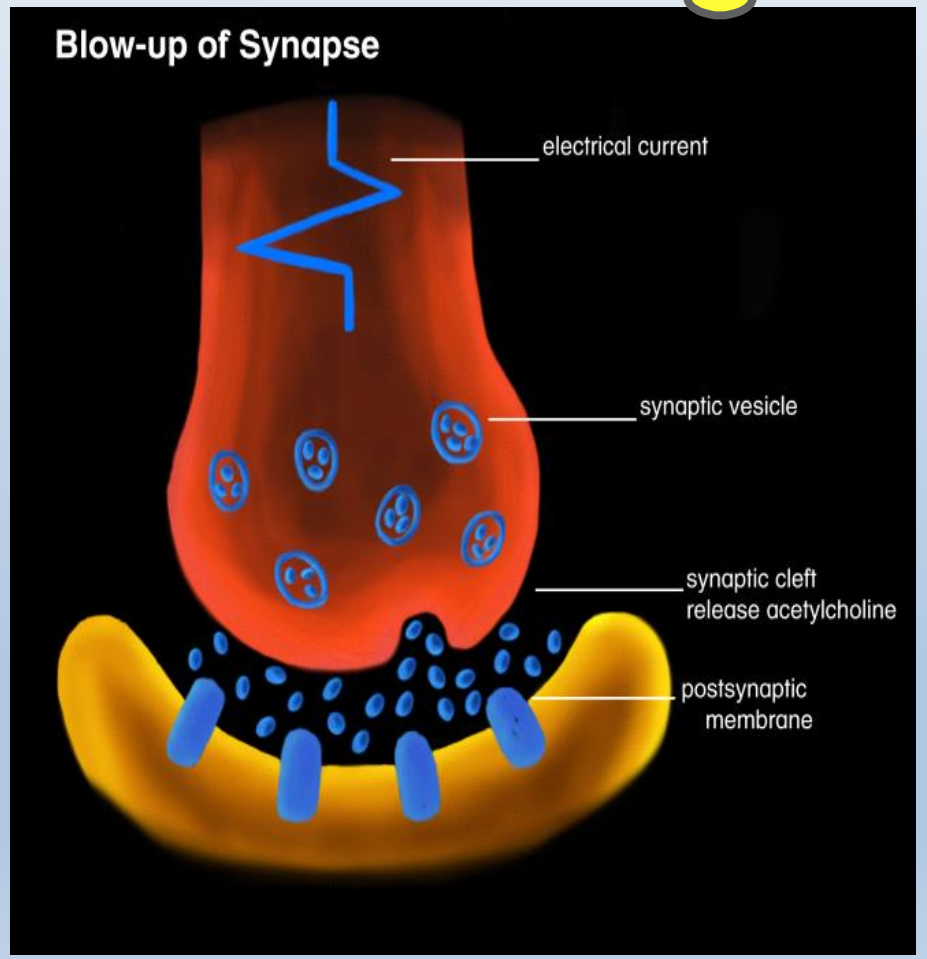


Pain, insomnia, anxiety, depression

Sensitisation

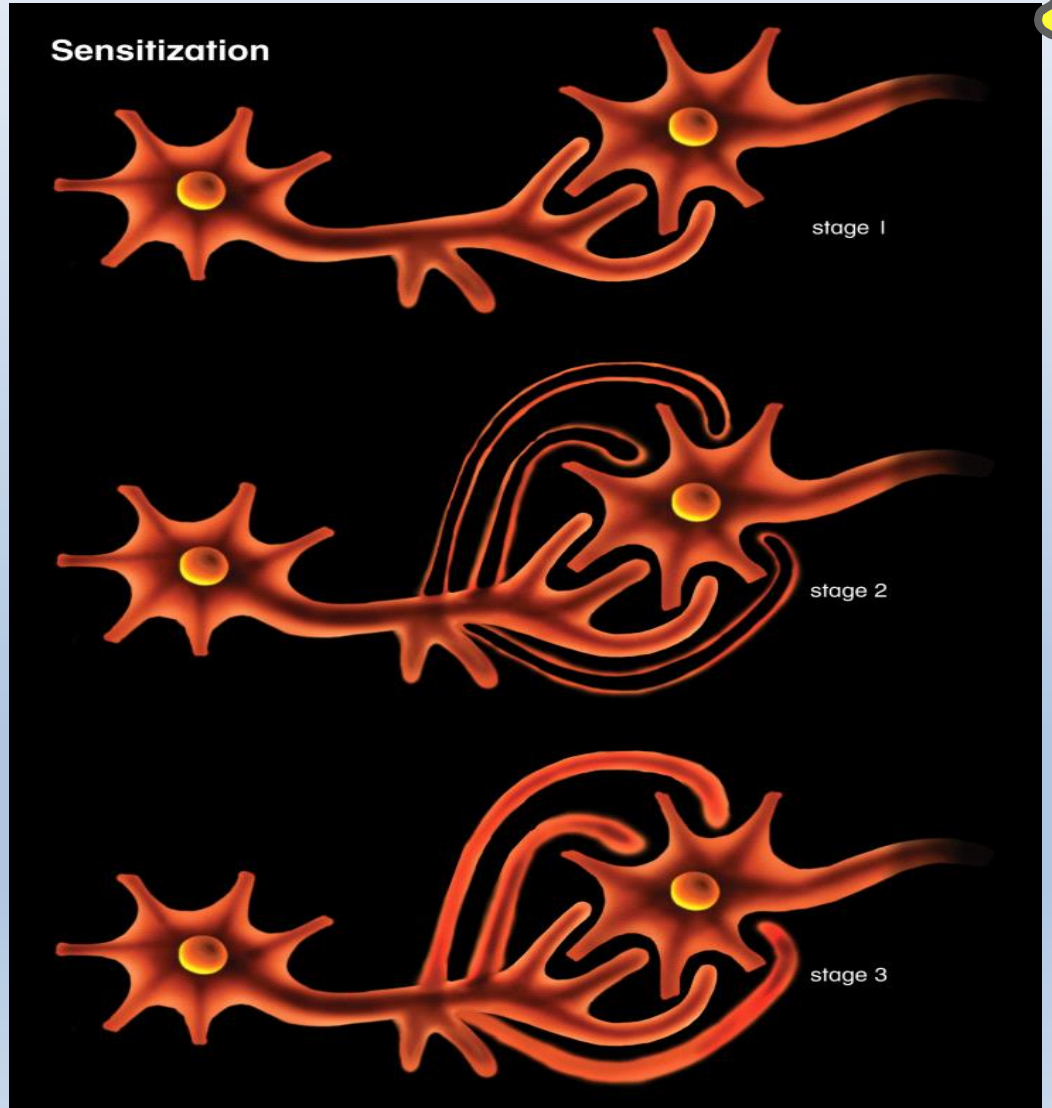
Wind-up
SNS/HPA





Sensitisation

Wind-up
SNS/HPA



1970

1971
Tasman St
Wellington