

Pineal Gland

Science, Mystery & Magic

ELLEN KAMHI PhD, RN, AHN-BC, RH(AHG)

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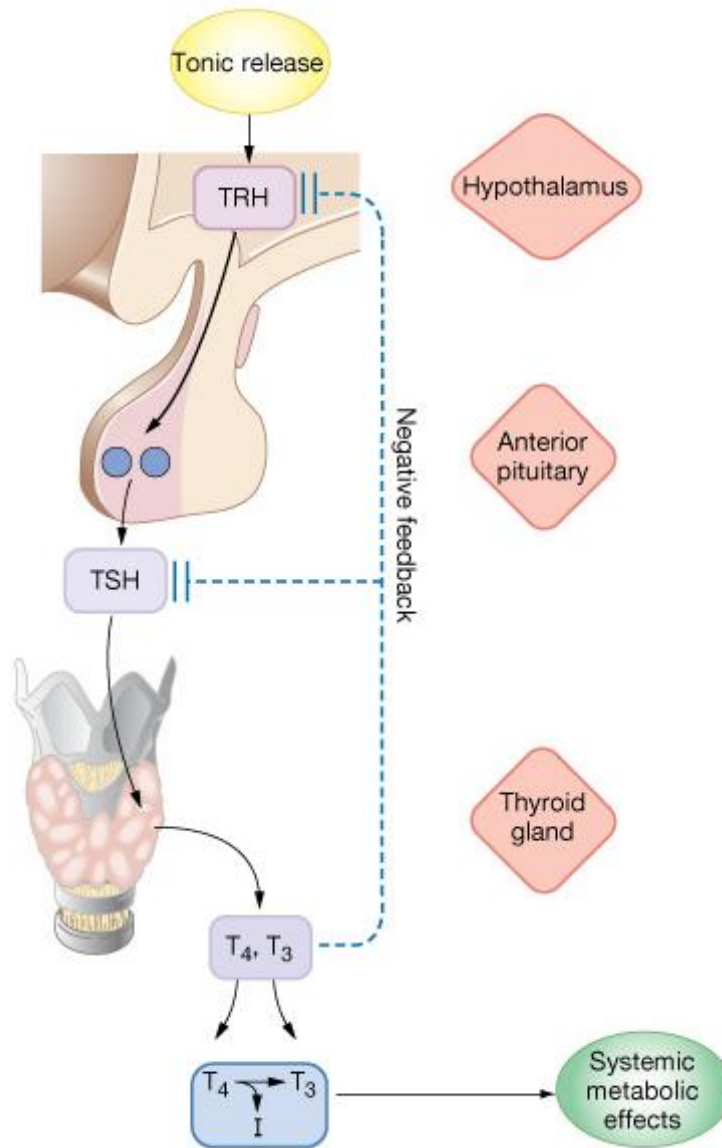
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PHYSICAL

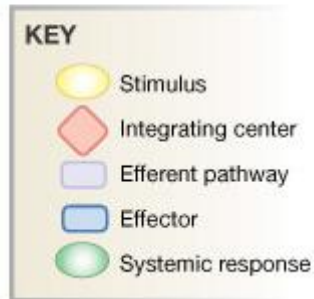
All glands

Outline

- Hypothalamus
- Anterior Pituitary
- Adrenal Cortex
- Cortisol
- Pineal
- Circadian Rhythm
- Sleep Deprivation
- Herbs for HPA balance
- Diagnosing HPA Imbalance
- Natural Interventions



T3 & T4 Control Pathways & Diseases from Malfunction



Hypothalamus

The Hypothalamus controls

- Body temperature
- Hunger, Thirst
- Parenting and attachment behaviors
- Fatigue
- Sleep
- Circadian rhythms

Hypothalamus

Thyrotropin-releasing hormone
Dopamine
Growth hormone-releasing hormone
Somatostatin
Gonadotropin-releasing hormone
Corticotropin-releasing hormone
Oxytocin
Vasopressin

Thyroid

Triiodothyronine
Thyroxine

Pineal gland

Melatonin

Pituitary Gland

Anterior pituitary

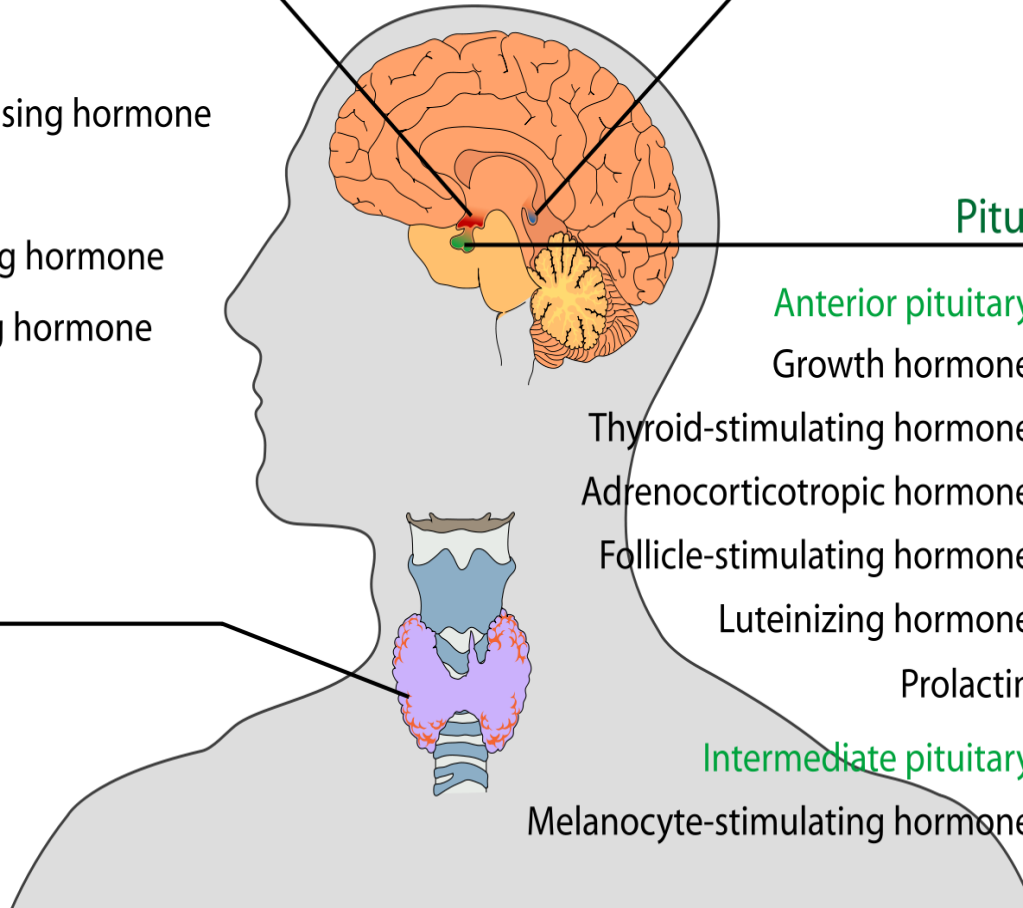
Growth hormone
Thyroid-stimulating hormone
Adrenocorticotrophic hormone
Follicle-stimulating hormone
Luteinizing hormone
Prolactin

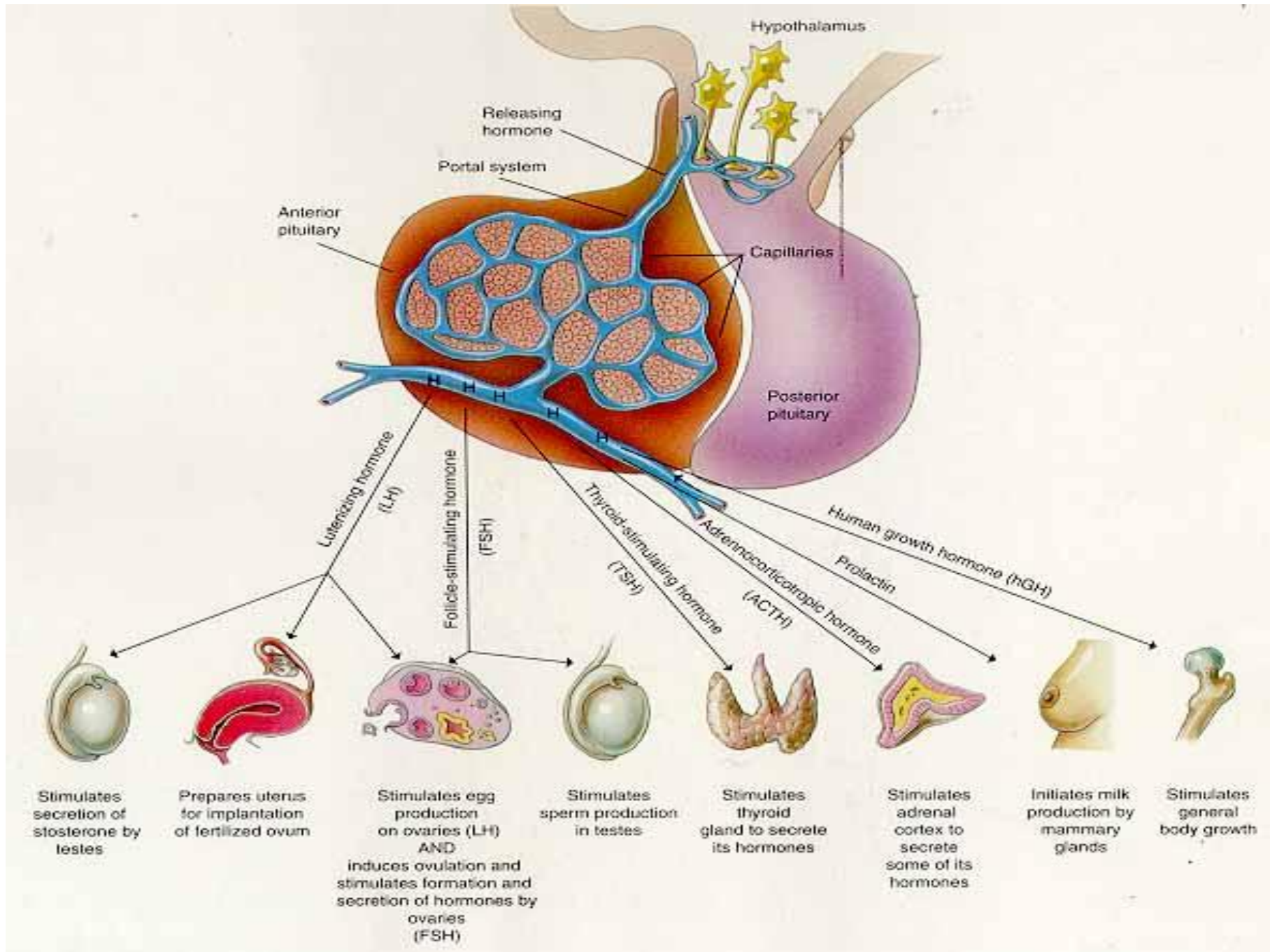
Posterior pituitary

Oxytocin
Vasopressin
Oxytocin (stored)
Anti-diuretic hormone (stored)

Intermediate pituitary

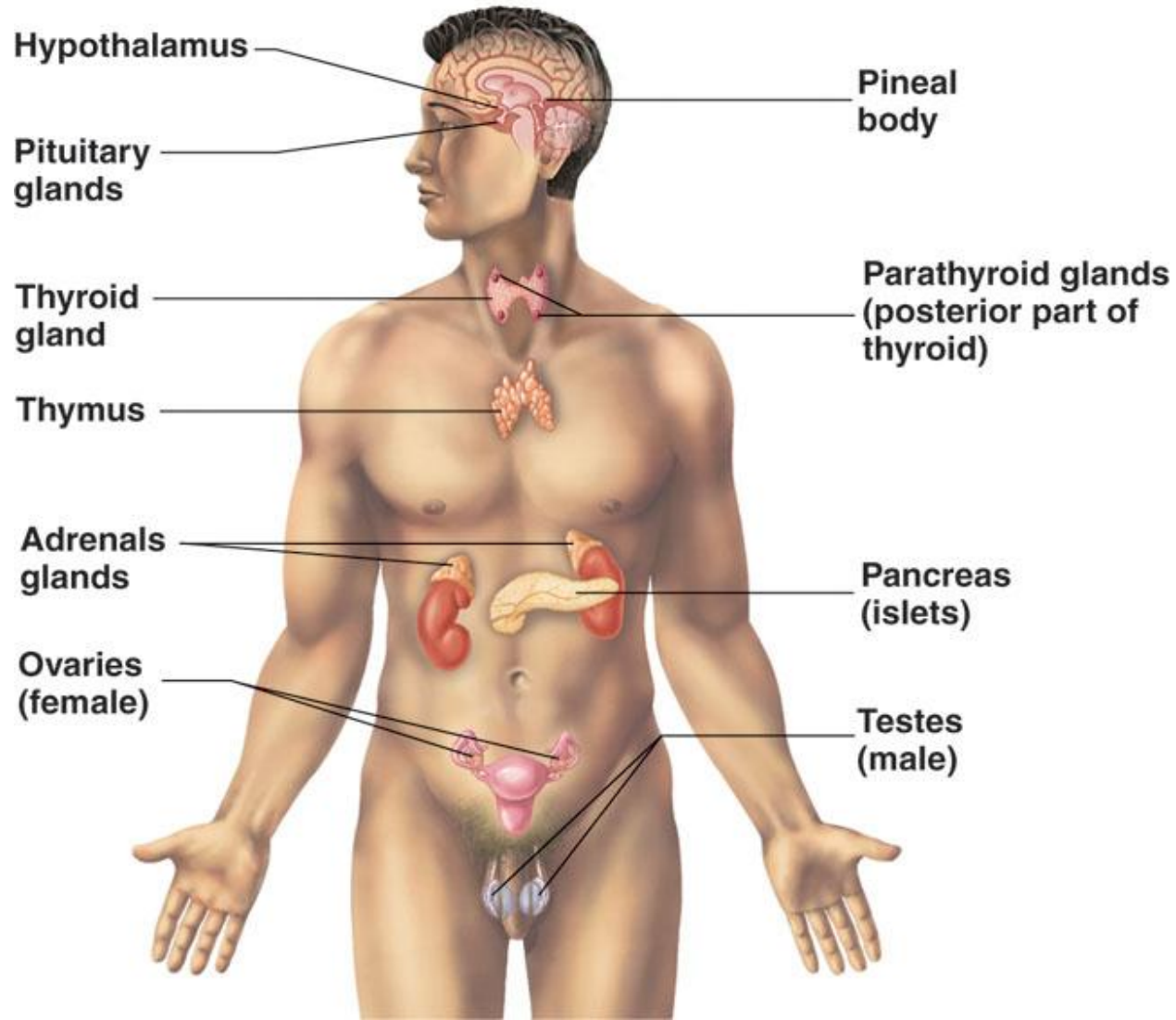
Melanocyte-stimulating hormone

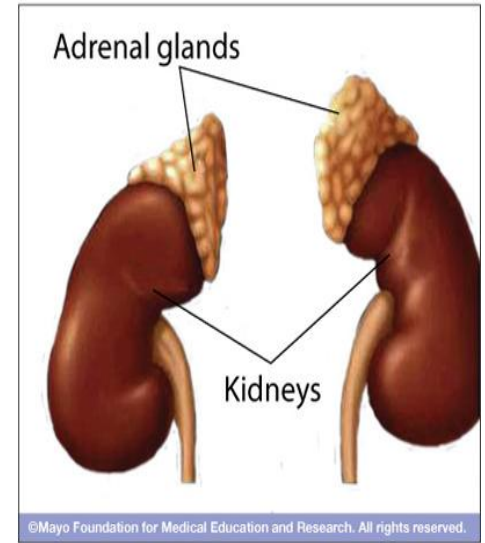
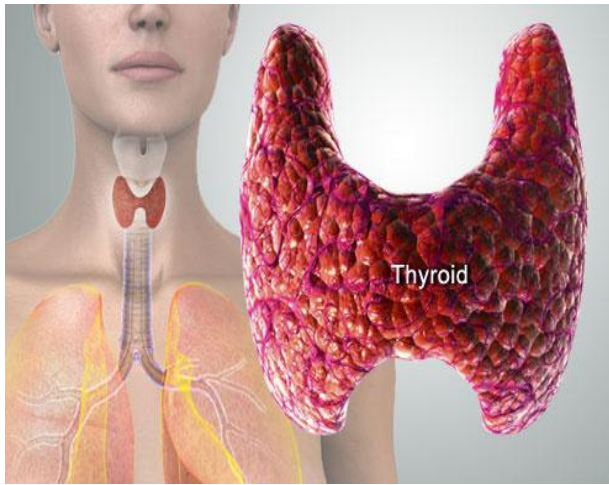




Functional Organization of Endocrine System

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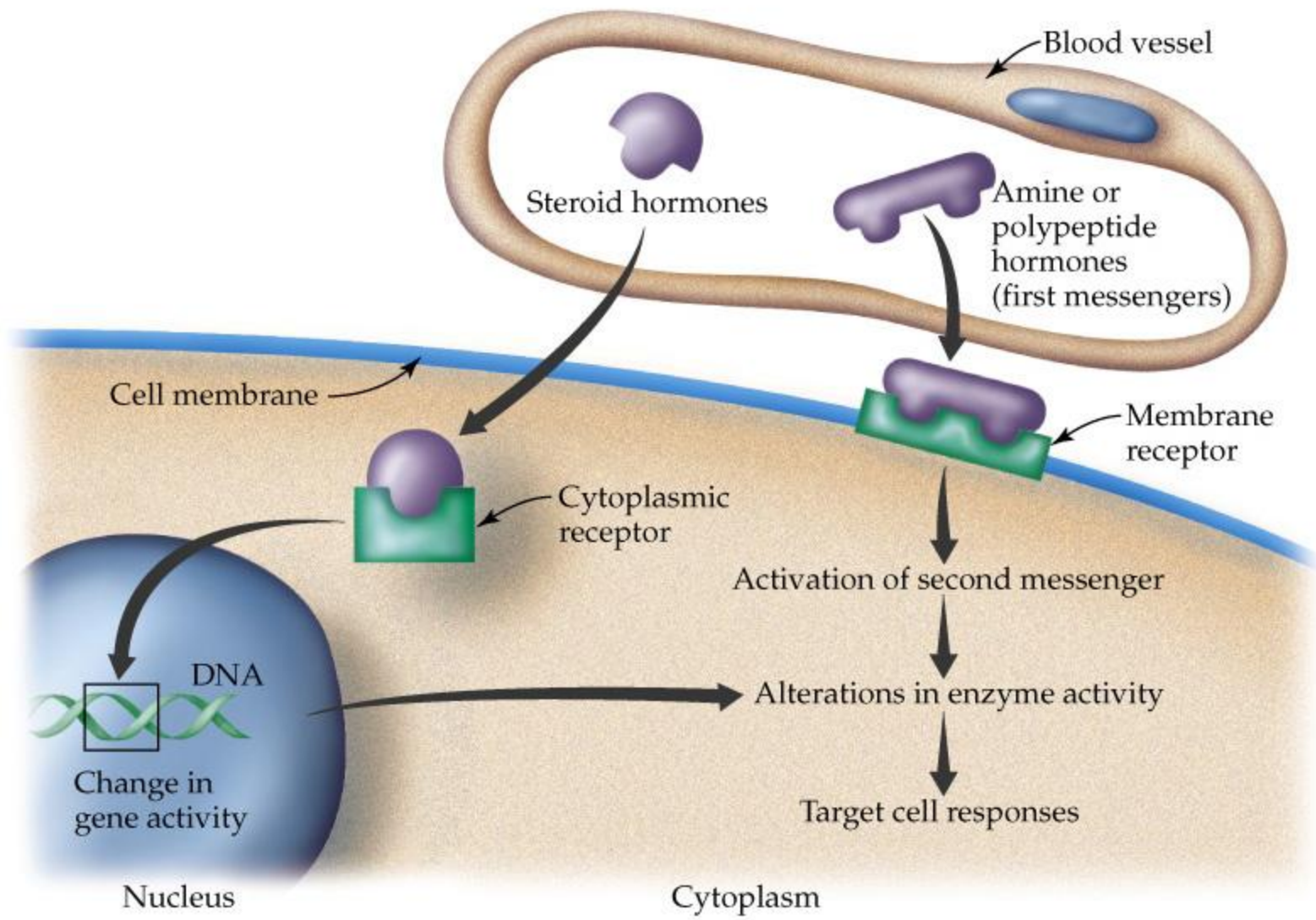


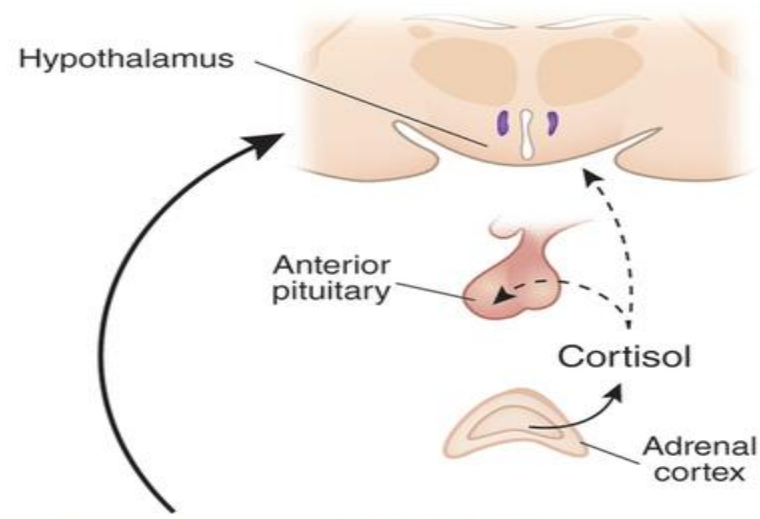
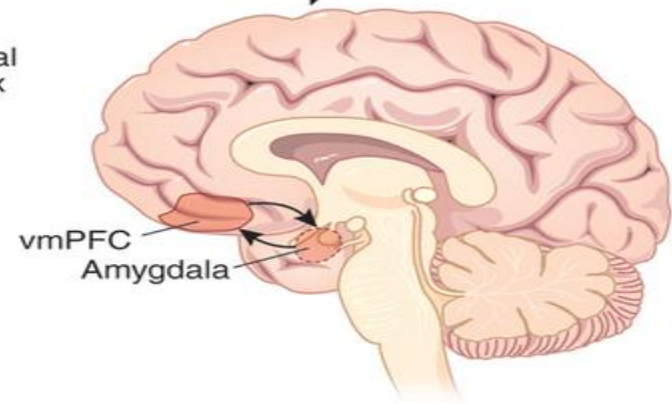
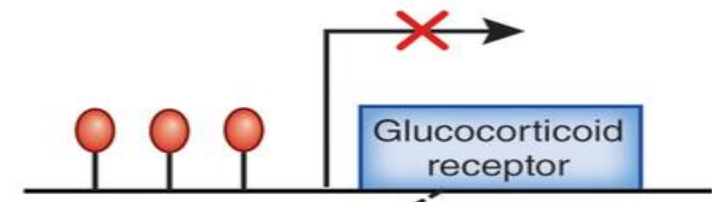
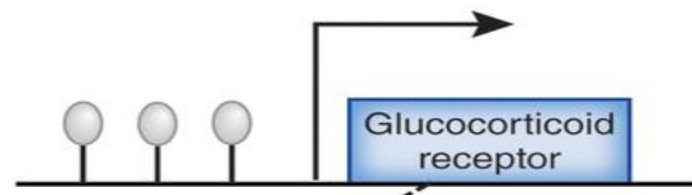
Thyroid- Adrenals

The Energy Connection

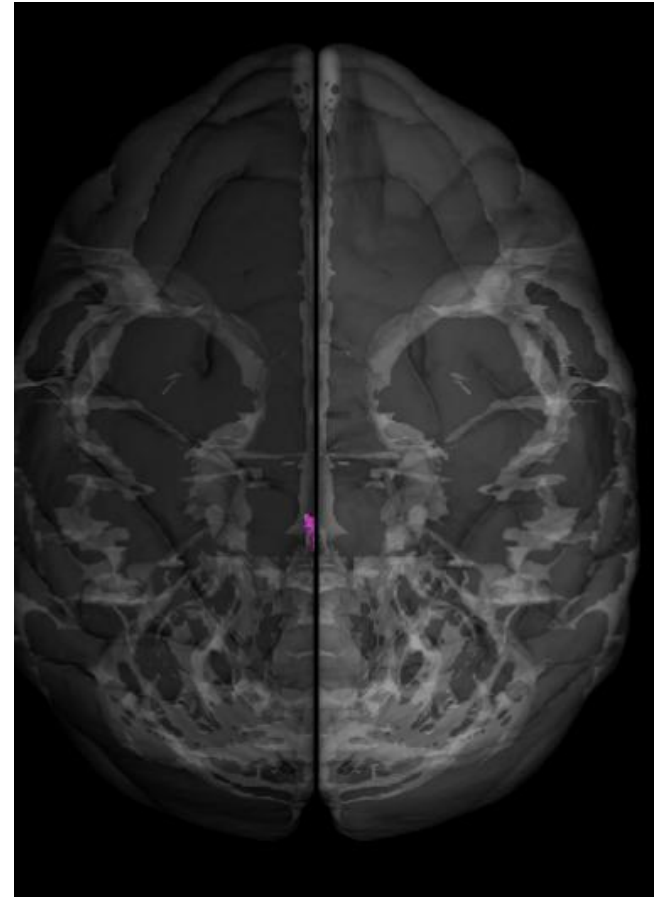
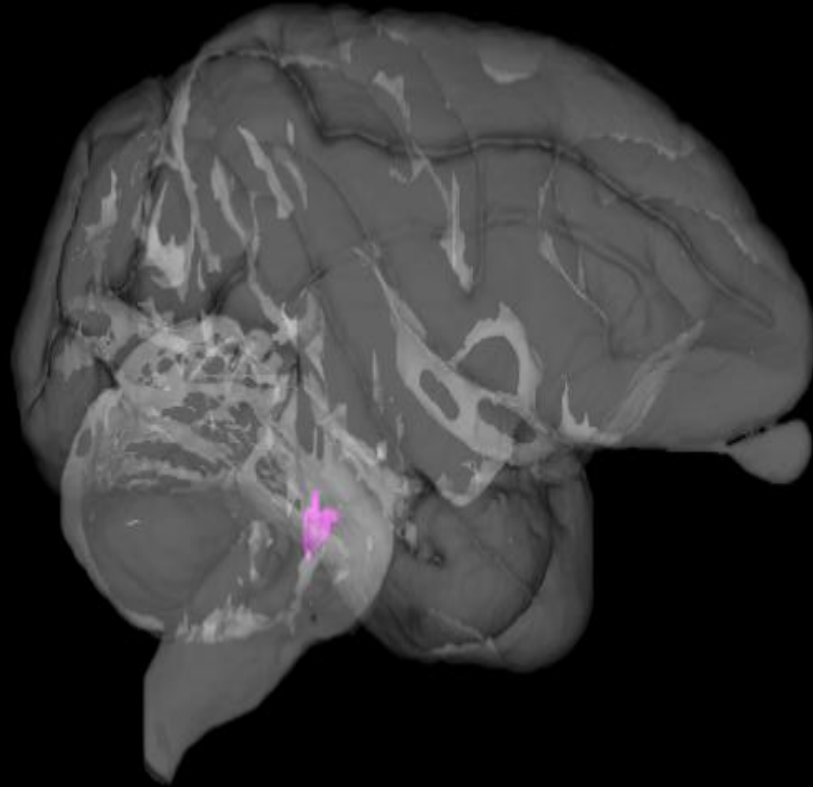


<http://cliparts.co/clipart/2468644>



a**Childhood cortisol****Anxiety and depression****Maternal stress during infancy****Amygdala-vmPFC resting-state functional connectivity****b****No early adversity****Early adversity****Gender-independent effects**

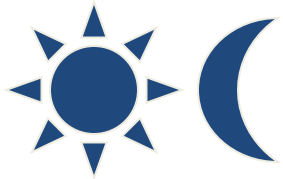
Physical Pineal



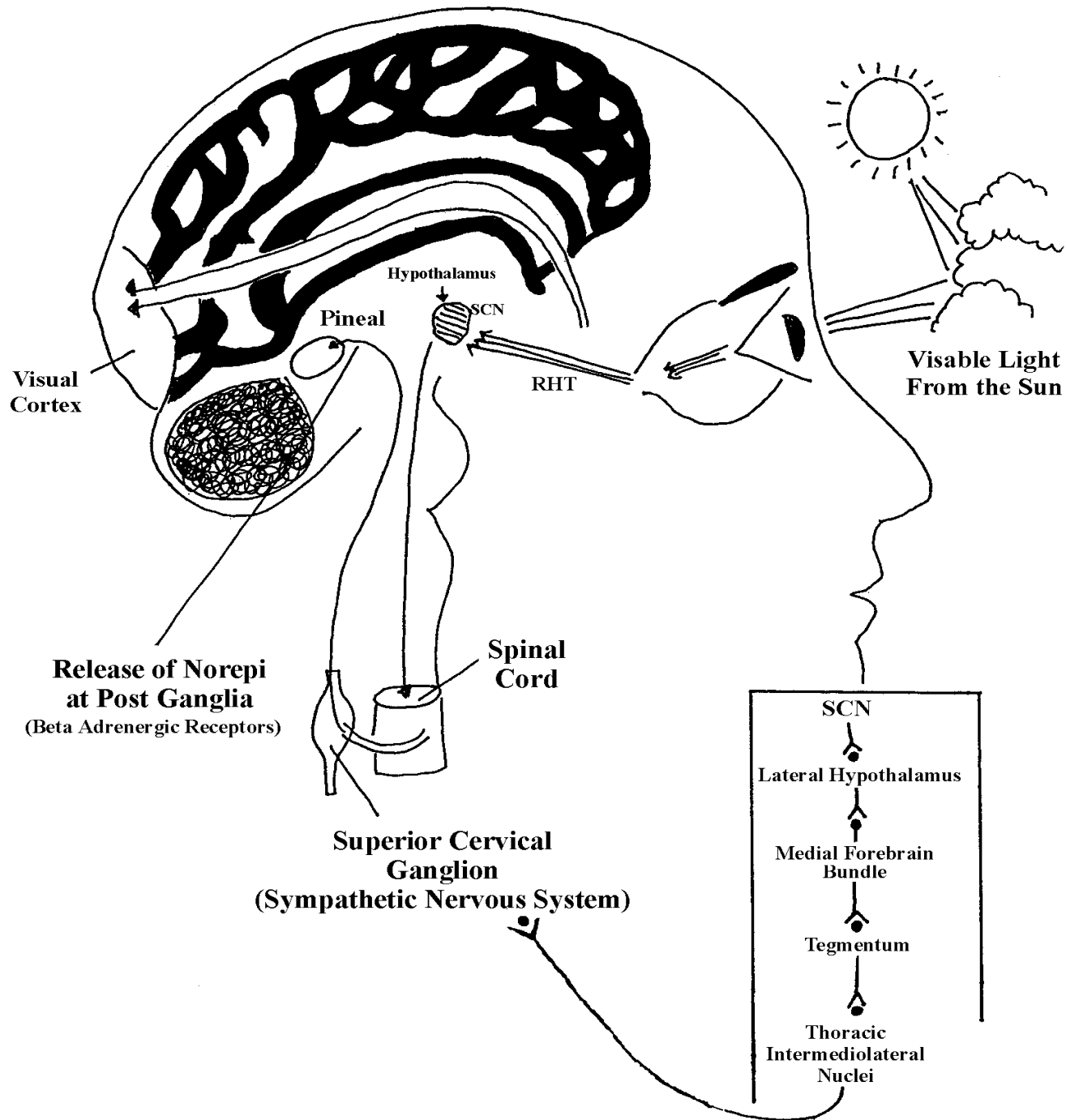
<http://braininfo.rprc.washington.edu/indexothersite.aspx?ID=562&type=h&term=median%20raphe%20nucleus&thterm=&city=Seattle&country=USA&institute=University%20of%20Washington&namesite=NeuroMaps&URL=http%3a%2f%2fneuromaps.braininfo.org%3a8180%2foverview.jsp%3fstructure%3d196847%0D%0A&questID=562&abbrev=MnR>

Innervation of the Pineal Gland in Humans

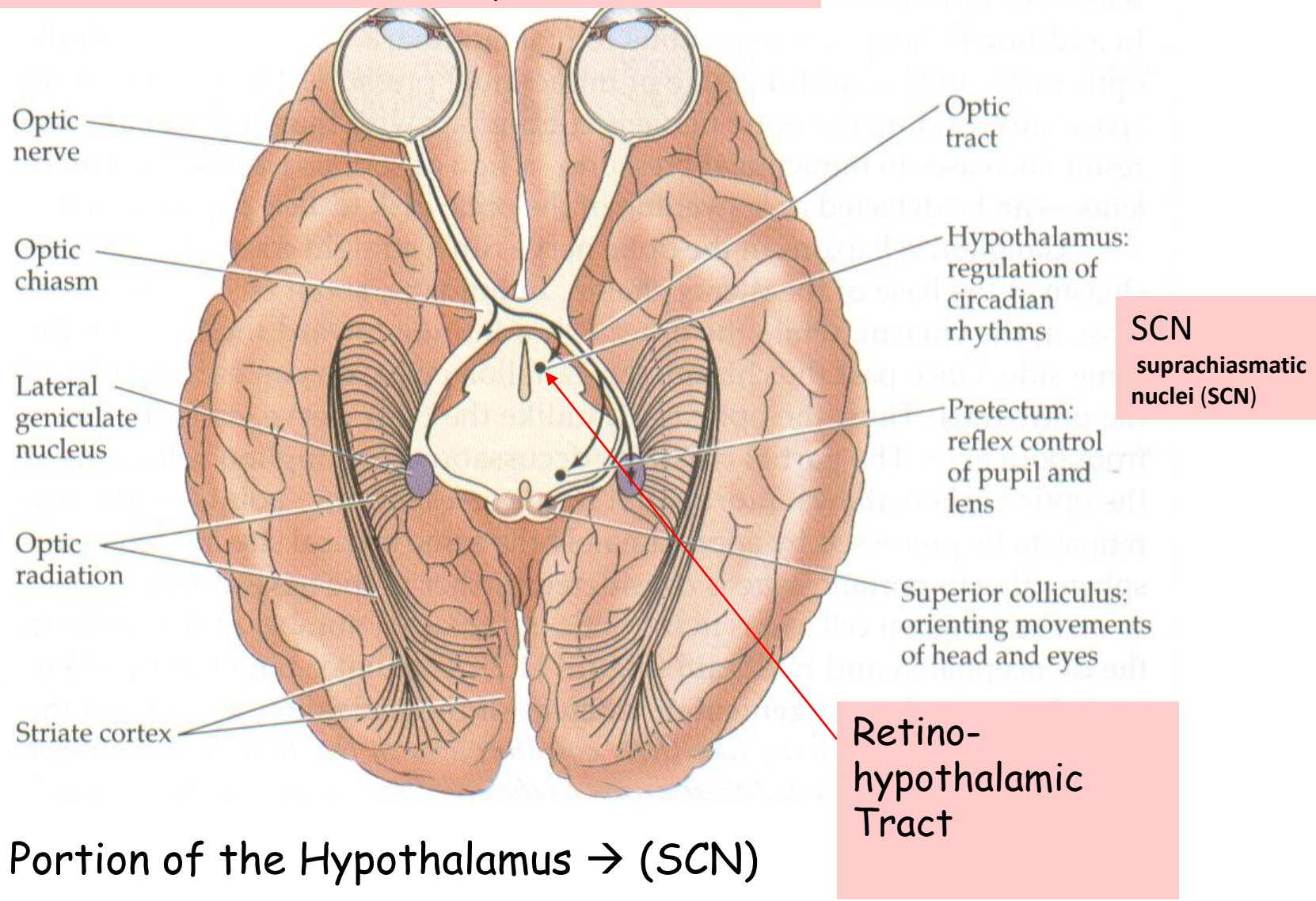
The suprachiasmatic nucleus (SCN)



Dependent on the Light/Dark Cycle



Retina-Geniculate-Striate Pathway - Ventral View

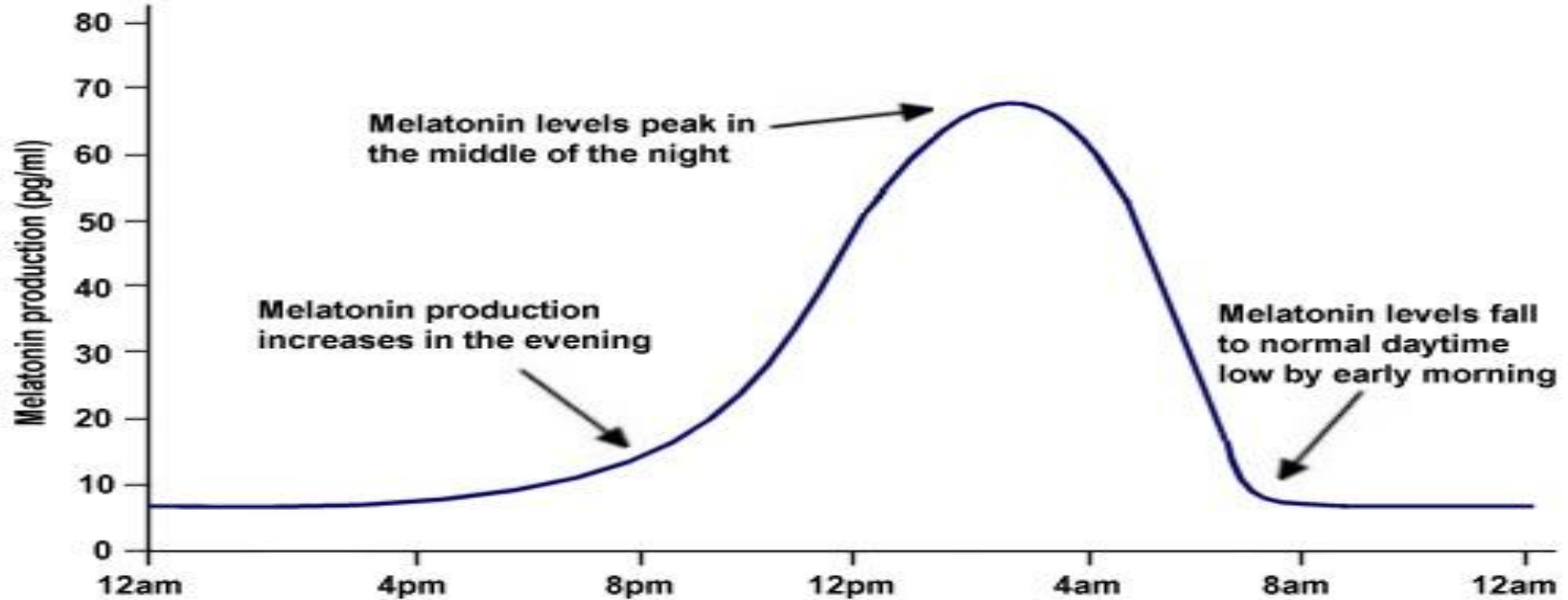


Anterior Portion of the Hypothalamus → (SCN)

Superior to optic chiasm, receives input from optic nerves (RHT); this input synchronizes the "clock" in the SCN to the exterior day-night cycle

- **Pineal Gland** (7th-8th week) – from **ectoderm** develops from neuroectoderm of posterior portion of roof of diencephalon—remains attached to brain by a short stalk
- the pineal gland is the **epiphysis of the diencephalon**
- function is to secrete melatonin, which controls circadian rhythms

Pineal Secretes Melatonin



The pineal gland is activated in the dark, and actively produces melatonin (N-acetyl-5-methoxytryptamine) and its precursors, serotonin (5-hydroxytryptamine)

Melatonin: **Feverfew** (*Tanacetum parthenium*), **St John's wort** (*Hypericum perforatum*), bananas, grapes, rice, wheat, barley, oats, olive oil, wine, beer

(<http://www.news-medical.net/health/Melatonin-in-Plants.aspx>)

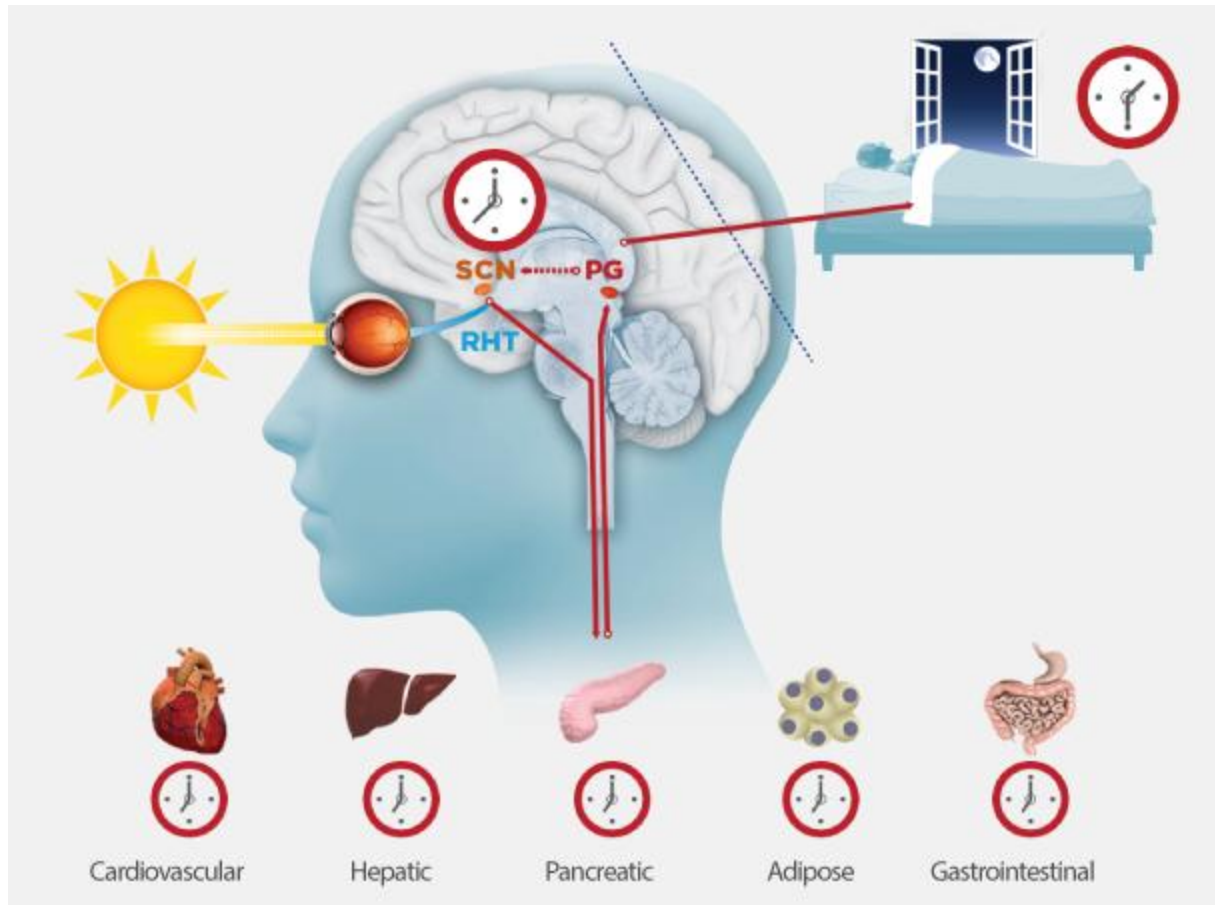
Meditation increases melatonin

Med Sci Monit. 2004 Mar;10(3):CR96-101. Epub 2004 Mar 1. The effects of long meditation on plasma melatonin and blood serotonin. Solberg EE(1)

<http://www.ncbi.nlm.nih.gov/pubmed/14976457>

<http://www.sandhillsneurologists.com/2015/04/melatonin-and-sleep/>

Circadian Rhythms

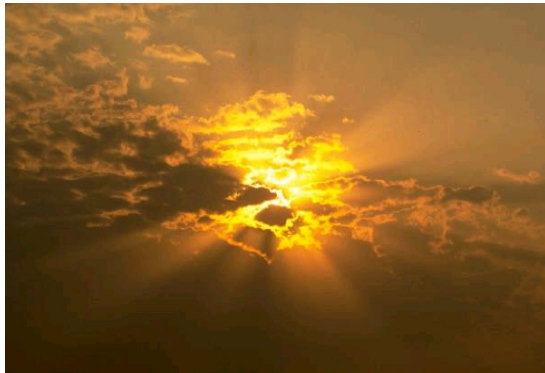


<https://www.non-24pro.com/physiology-of-non-24.php>

Circadian Rhythms

Circa: "about" Dies: "day"

Circadian rhythms are physiological and behavioral characteristics that follow a daily, or circadian, pattern





Light Pollution – a Modern Health Hazard

📅 March 14, 2016 👤 Ellen Kamhi



When I was attending a meeting about my community, we were told that new lighting would be installed. Many people were happy to hear this, since it was thought that this would add a measure of safety for those walking around when it was dark, and as an extra security measure. While those positive points may be true, I was not so happy with this news, since I knew it would also add to the 'light pollution'.

<http://www.naturalnurse.com/2016/03/14/light-pollution-modern-health-hazard/>

The dark side of light at night: physiological, epidemiological, and ecological consequences

Kristen J. Navara, Randy J. Nelson

First published: 25 June 2007 [Full publication history](#)

DOI: 10.1111/j.1600-079X.2007.00473.x [View/save citation](#)

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Volume 43, Issue 3
October 2007
Pages 215–224

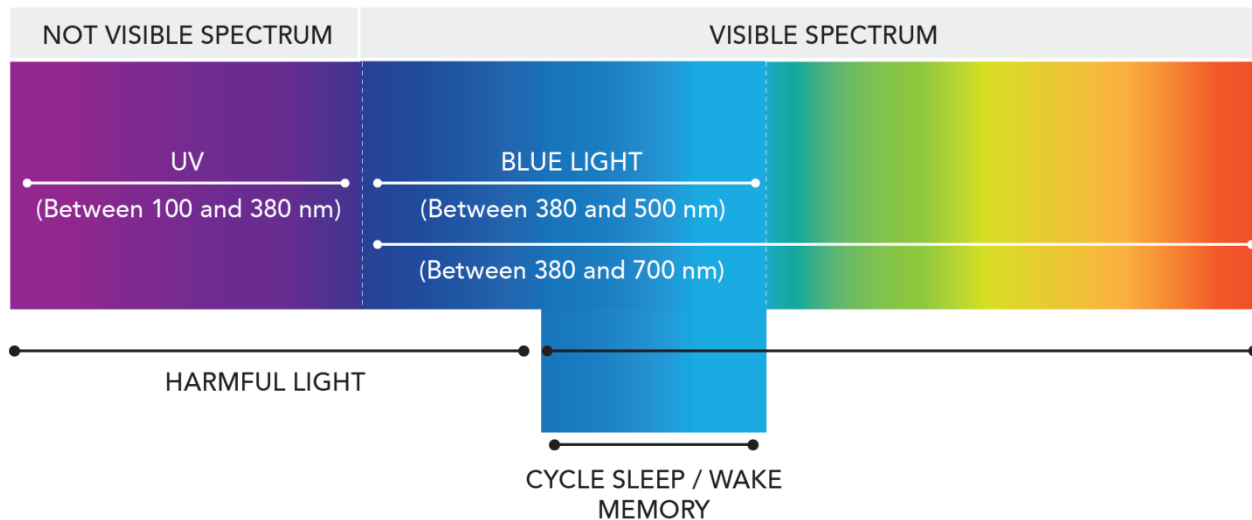
Abstract

Abstract: Organisms must adapt to the temporal characteristics of their surroundings to successfully survive and reproduce. Variation in the daily light cycle, for example, acts through endocrine and neurobiological mechanisms to control several downstream physiological and behavioral processes. Interruptions in normal circadian light cycles and the resulting disruption of normal melatonin rhythms cause widespread disruptive effects involving multiple body systems, the results of which can have serious medical consequences for individuals, as well as large-scale ecological implications for populations. With the invention of electrical lights about a century ago, the temporal organization of the environment has been drastically altered for many species, including humans. In addition to the incidental exposure to light at night through light pollution,

What is Blue light?

The visible light spectrum reaches deeper into the eye and its cumulative effect can cause damage to the retina.

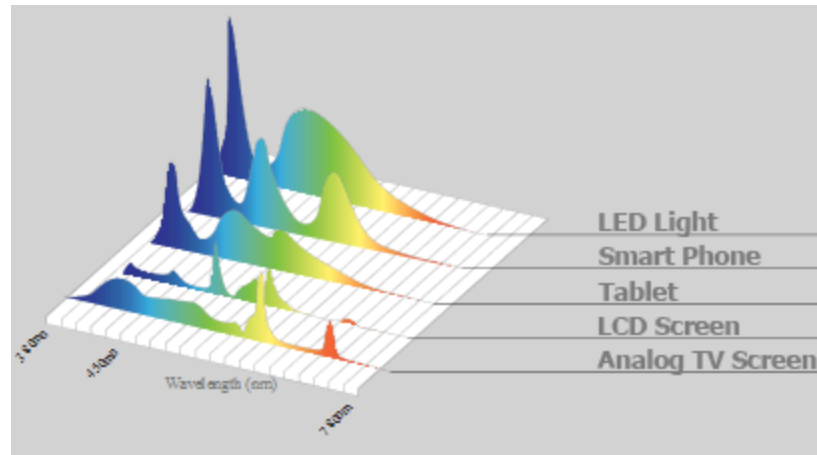
Blue light is implicated in the development of age-related macular degeneration.



Too much blue light late at night can disrupt this cycle, potentially causing sleepless nights and daytime fatigue.

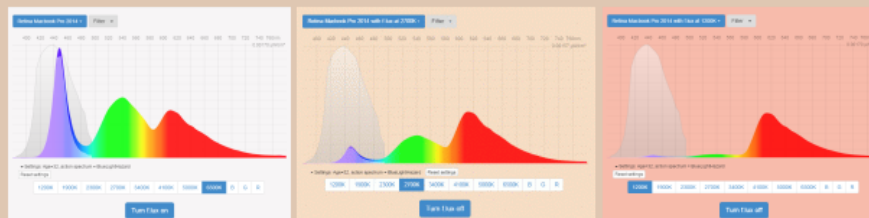
Exposure from computer screens, smartphones and other digital devices might increase a person's risk of macular degeneration later in life.

<https://glarminy.com/2015/07/30/10-blue-light-filters-to-relieve-computer-eye-strain-help-you-sleep-better-etc/>

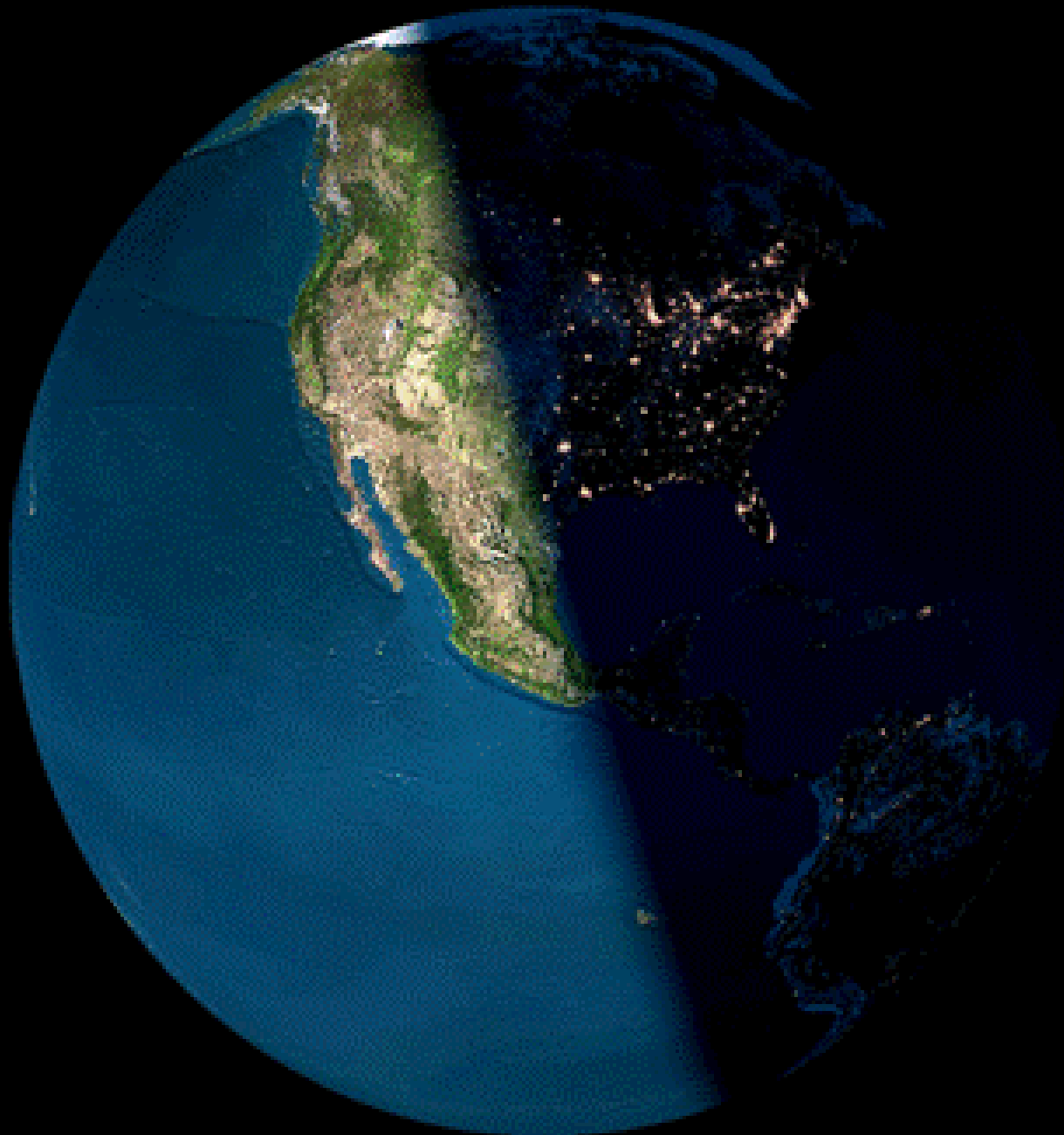


f.lux software is free and probably the best known and most used blue light filtering app. It may **reduce blue light intensity by up to 94-98%** (at 1200K lighting setting – source: f.luxometer).

f.lux’s blue light “filtering” capacity will depend principally on how you **set it up**. The reduction of blue light intensity is greater at lower lighting setting (monitor showing warmer colors) and vice versa. In the images below (borrowed from f.luxometer) the change in background color gives a rough idea of how much white color is distorted given the amount of blue light filtered.



Images: **(1)** F.lux filter OFF, **(2)** 2700K setting (70–80% of blue light filtered), and **(3)** 1200K setting (94–98% blue light filtered). If you use f.lux default settings your screen will look like image **(1)** during the day (no f.lux) and look closer to image **(2)** at the beginning/end of the day and at night. (Klick on images to see more detail).



DETERMINANTS OF ALERTNESS AND PERFORMANCE

- **Biological Time of Day (circadian rhythms)**
- **Consecutive Waking Hours**
- **Nightly Sleep Duration**
- **Sleep Inertia**

Sleep

NEW YORK TIMES BESTSELLER

THE SLEEP REVOLUTION

TRANSFORMING YOUR LIFE,
ONE NIGHT AT A TIME



ARIANNA HUFFINGTON

AUTHOR OF THE #1 NEW YORK TIMES BESTSELLER THRIVE

SLEEP DEPRIVATION

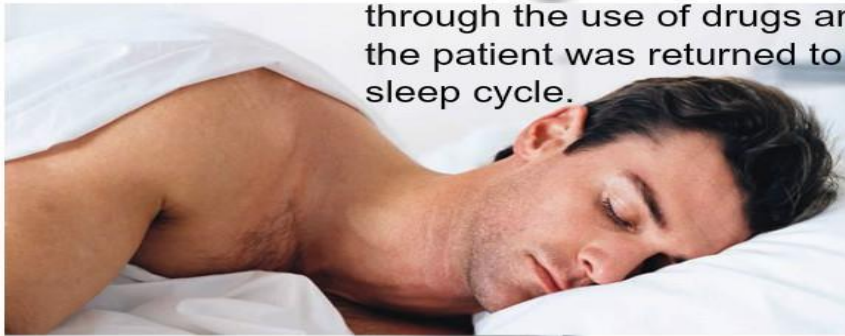
- May cause bizarre or psychotic behavior
- Personality and age factor variability
- Common effects of sleep deprivation:
 - increased irritability
 - decreased concentration, learning
 - confusion/disorientation
 - Immune system breakdown
 - Increased fat storage

Sleep-Wake Disorders (Non-24)

A person with a Sleep-Wake Disorder (also called Non-24) will behave as though the day is longer than 24 hours. For instance, they may feel sleepy at 9 p.m. one night, but the next they may feel sleepy at 11 p.m. or later. This is due to their body believing the day is longer than it actually is.

Treatment

A Sleep-wake disorder is usually treated by use of light therapy, a specially made lamp, or sleeping pills. Success of treatment is uncertain, though in one case, through the use of drugs and stuff, the patient was returned to a normal sleep cycle.



Diagnosis

Non-24 is diagnosed using a sleep journal, an actigraph, or a urine/ blood analysis (collected over several weeks)

People who are blind are more likely to suffer from Non-24 since they cannot see the sun's cycle.





Comprehensive Melatonin Profile



The most complete line of endocrine testing

Why is this test important?

Melatonin is an important neuroendocrine hormonal regulator that plays a significant role in reproductive health, sleep-wake cycles, mood, and body temperature.

Melatonin is also a potent antioxidant that plays a critical role in free radical scavenging.

What does this test involve?

Three saliva samples are collected at specific times of the day.

The report includes a quantitative value of each specimen, and a circadian analysis of melatonin activity.

What does this test measure?

High levels may bring about inhibition of ovulation, mood disorders, and/or a decreased body temperature.

Low levels may contribute to insomnia, sleep/wake disorders, mood disorders, increased risk of cardiovascular disease, immune disorders, and cancer.



Low

Suspect:

- An extended light phase of the day which may decrease the duration of melatonin secretion and/or exposure to light-at-night or electromagnetic fields
- Drugs and other substances that may decrease melatonin levels:
NSAIDs, anti-anxiety drugs and antidepressants (SSRIs and benzodiazepines), antihypertensives (beta-blockers, adrenergics, and calcium channel blockers), and steroids.
Caffeine, tobacco, alcohol
High doses of vitamin B12 (3 mg a day)
- Evening exercise, which can decrease melatonin levels up to three hours after the end of exercise
- Increased risk for mood disorders, such as some forms of depression
- Increased metabolism of melatonin by the liver
- Decreased production of melatonin by the pineal gland

Consider:

- Avoid bright light at night and reduce exposure to electromagnetic fields, to prevent melatonin depletion
- Re-evaluate the scheduled time of taking required medications
If possible, avoid use of melatonin-lowering substances at times of recorded low melatonin
- Modify exercise routine if reduced melatonin levels are not desired
- In cases of depression and other mood disorders rule out other possible causes
- Consider single or divided low dose melatonin supplementation*
Dosing should be individualized to fit the clinical presentation
Goal should be to resynchronize the circadian rhythm of melatonin
*(*Use with caution in pregnancy or with corticosteroids taken for immuno-suppressive purposes)*
- Consider ingestion of foods high in melatonin or melatonin precursor during time when recorded melatonin is low:
See list of foods high in melatonin and tryptophan in left column above
- Consider enhancing the production of melatonin with nutrient supplements during recorded times of low melatonin
Niacinamide, vitamin B6, calcium, and magnesium
- Avoid large doses of vitamin B-12 (3 mg a day), which may cause a significant decrease in melatonin levels

This information is for the sole use of a licensed health care practitioner and is for educational purposes only. It is not meant for use as diagnostic information. All claims submitted to Medicare/Medicaid for Genova Diagnostics laboratory services must be for tests that are medically necessary. "Medically necessary" is defined as a test or procedure that is reasonable and necessary for the diagnosis or treatment of illness or injury or to improve the functioning of a malformed body member. Consequently, tests performed for screening purposes will not be reimbursed by the Medicare program.



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Abstract

Send to:

[Proc Nutr Soc.](#) 2016 Apr 27:1-9. [Epub ahead of print]

Sleep, circadian rhythm and body weight: parallel developments.

[Westerterp-Plantenga MS](#)¹.

Author information

Abstract

Circadian alignment is crucial for body-weight management, and for metabolic health. In this context, circadian alignment consists of alignment of sleep, meal patterns and physical activity. During puberty a significant reduction in sleep duration occurs, and pubertal status is inversely associated with sleep duration. A consistent inverse association between habitual sleep duration and body-weight development occurs, independent of possible confounders. Research on misalignment reveals that circadian misalignment affects sleep-architecture and subsequently disturbs glucose-insulin metabolism, substrate oxidation, leptin- and ghrelin concentrations, appetite, food reward, hypothalamic-pituitary-adrenal-axis activity and gut-peptide concentrations enhancing positive energy balance and metabolic disturbance. Not only aligning meals and sleep in a circadian way is crucial, also regular physical activity during the day strongly promotes the stability and amplitude of circadian rhythm, and thus may serve as an instrument to restore poor circadian rhythms. Endogenicity may play a role in interaction of these environmental variables with a genetic predisposition. In conclusion, notwithstanding the separate favourable effects of sufficient daily physical activity, regular meal patterns, sufficient sleep duration and quality sleep on energy balance, the overall effect of the amplitude and stability of the circadian rhythm, perhaps including genetic predisposition, may integrate the separate effects in an additive way.

KEYWORDS: GLP-1 glucagon-like peptide-1; HOMA-IR homeostasis model assessment of insulin resistance; HPA axis hypothalamic-pituitary-adrenal axis; IR insulin resistance; QS quality sleep; REM rapid eye movement; SCN suprachiasmatic nucleus; SWS slow wave sleep; WT wrist temperature; Circadian misalignment; Insulin sensitivity; Metabolic disorders; Overweight; Sleep disruption

PMID: 27117840 [PubMed - as supplied by publisher]

<http://www.ncbi.nlm.nih.gov/pubmed/27117840>

Orexin/Hypocretin

Neurotransmitter that regulates arousal, wakefulness, and appetite.

Sleep Disorders and gaining weight due to lack of sleep is linked to low orexin.

Orexin is ONLY produced by a few specialized cells in the hypothalamus.

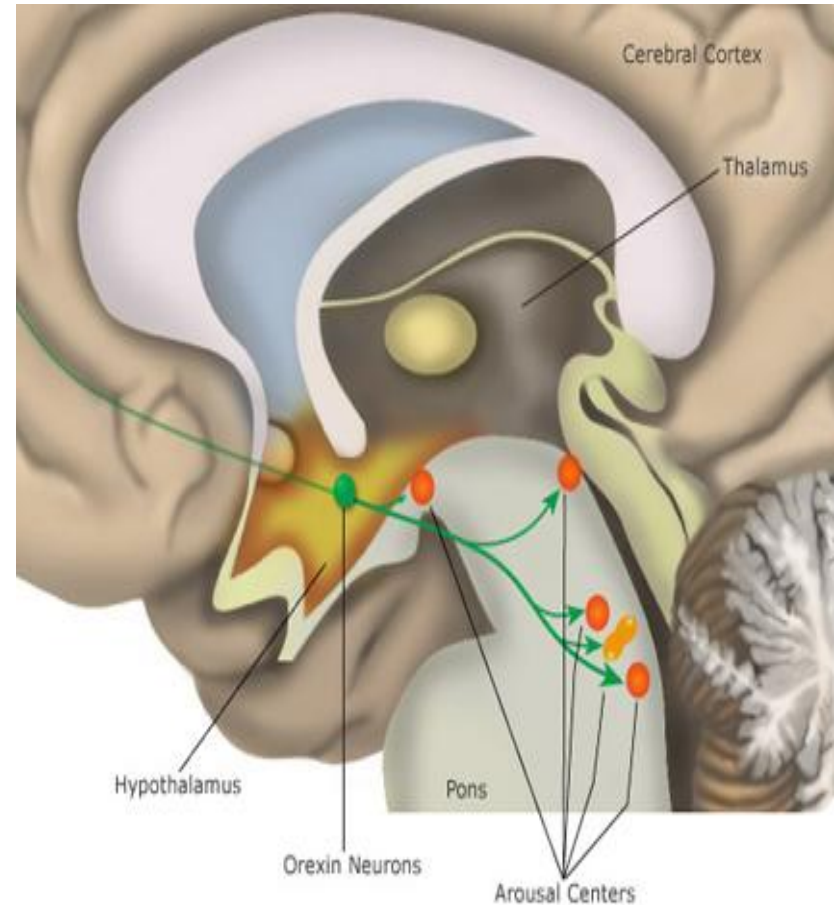
The axons from these neurons extend throughout the entire brain and spinal cord

Orexin/hypocretin –

decreased by glucose

increased by Essential Amino Acids (aspartate, alanine, serine, cysteine, glycine)

STRESS- converts amino acids to glucose



Abstract ▾

Send to: ▾

Sleep Med Rev. 2009 Feb;13(1):47-60. doi: 10.1016/j.smrv.2008.04.009. Epub 2008 Oct 8.

A practical approach to circadian rhythm sleep disorders.

[Bjorvatn B](#)¹, [Pallesen S](#).

 Author information

Abstract

Circadian rhythm sleep disorders are common in clinical practice. The disorders covered in this review are delayed sleep phase disorder, advanced sleep phase disorder, free-running, irregular sleep-wake rhythm, jet lag disorder and shift work disorder. Bright light treatment and exogenous melatonin administration are considered to be the treatments of choice for these circadian rhythm sleep disorders. Circadian phase needs to be estimated in order to time the treatments appropriately. Inappropriately timed bright light and melatonin will likely worsen the condition. Measurements of core body temperature or endogenous melatonin rhythms will objectively assess circadian phase; however, such measurements are seldom or never used in a busy clinical practice. This review will focus on how to estimate circadian phase based on a careful patient history. Based on such estimations of circadian phase, we will recommend appropriate timing of bright light and/or melatonin in the different circadian rhythm sleep disorders. We hope this practical approach and simple recommendations will stimulate clinicians to treat patients with circadian rhythm sleep disorders.

PMID: 18845459 [PubMed - indexed for MEDLINE]



Bright Light treatment
and Melatonin

Harvard Medical School, Department of Psychiatry, Beth Israel Deaconess Medical Center, Boston, MA 02215, USA.

Science 13 May 2016:

Vol. 352, Issue 6287, pp. 770-771

DOI: 10.1126/science.aaf9117

Causal evidence for the role of REM sleep theta rhythm in contextual memory consolidation.

<http://www.ncbi.nlm.nih.gov/pubmed/27174984>

Science reporter, BBC News

🕒 12 May 2016 | Science & Environment

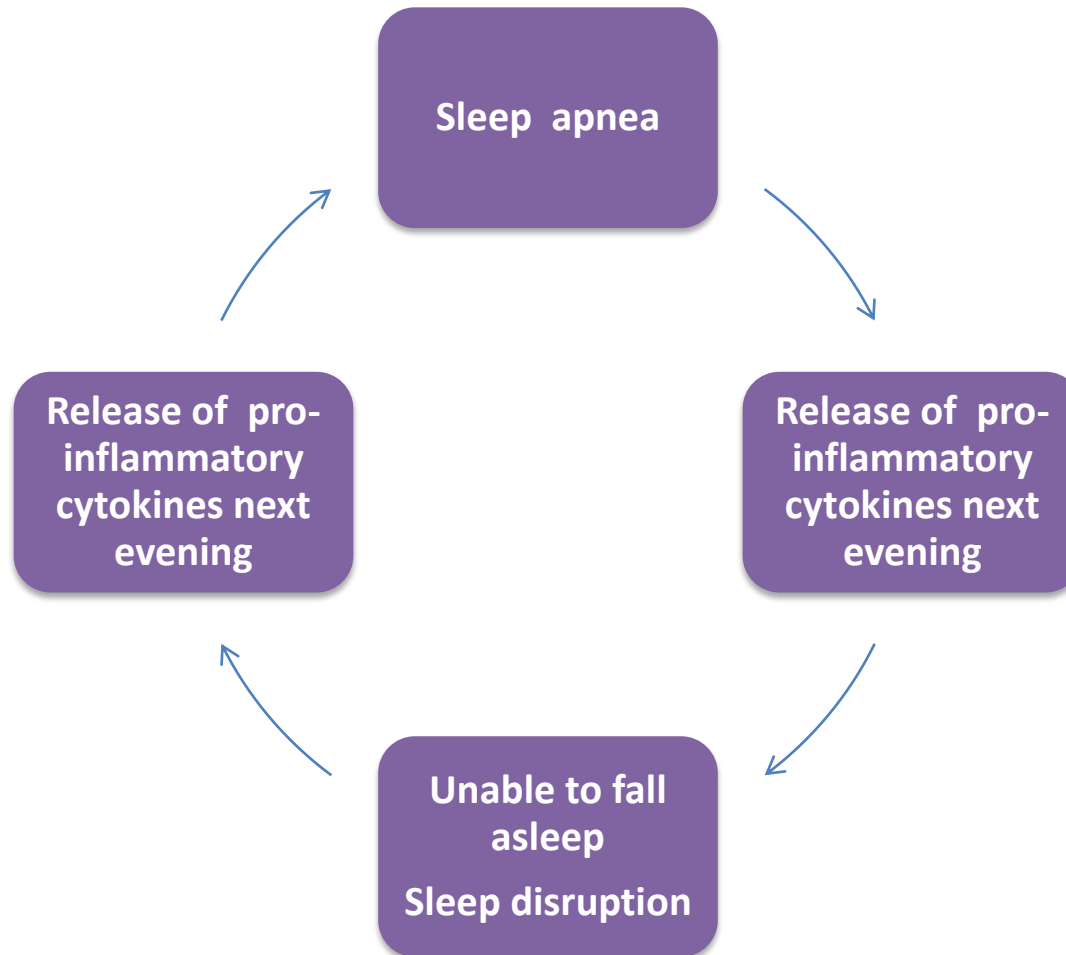


Disrupting brain activity in sleeping mice, specifically during the rapid eye movement (REM) phase, can stop the animals remembering things they learned that day, a study suggests.

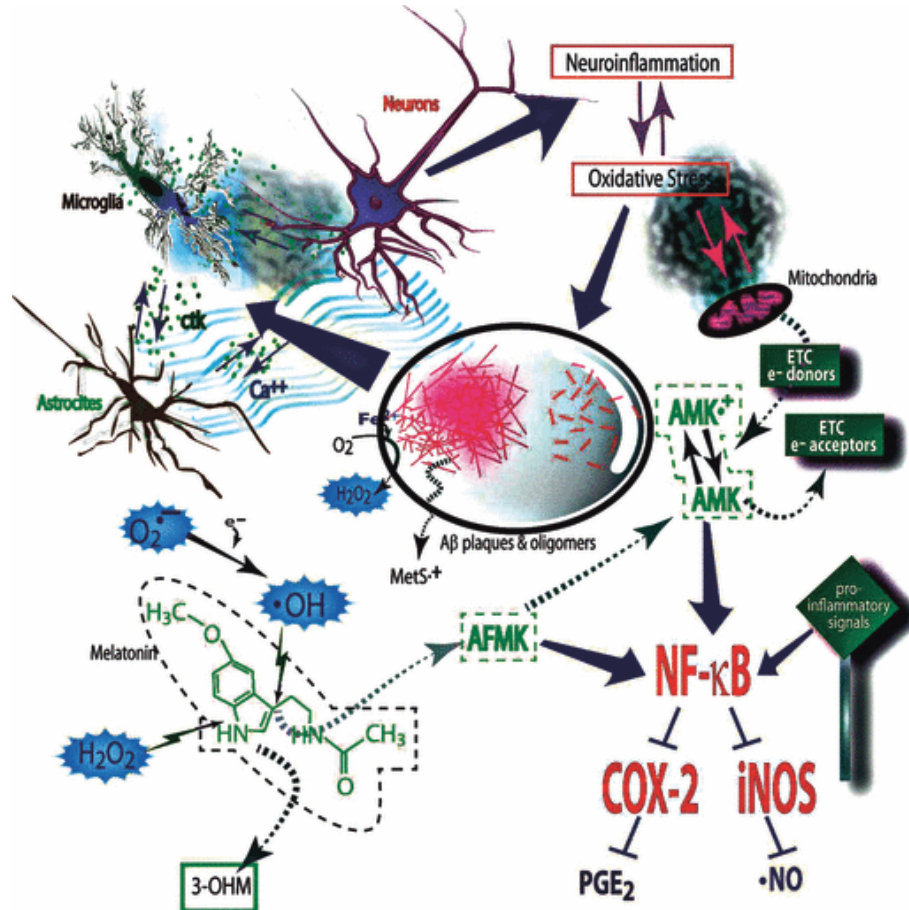
It is the clearest evidence to date that REM sleep is critical for memory.

<http://www.bbc.com/news/science-environment-36275143>

Cytokine Sleep Vicious Cycle



Alzheimer's disease: pathological mechanisms and the beneficial role of melatonin

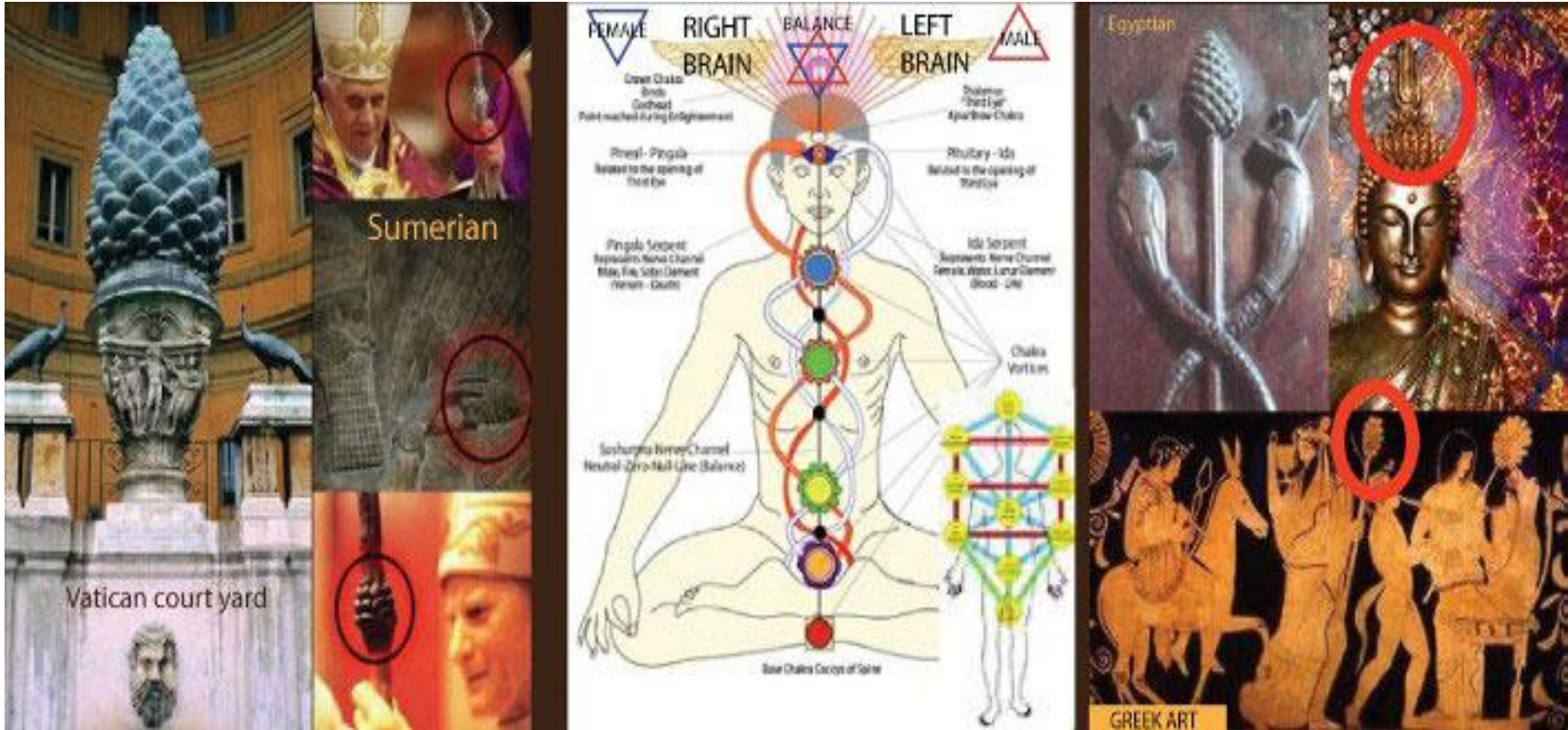


Herbs to Balance Sleep & Circadian Rhythms

- Ashwagandha
- Reishi
- Cordyceps
- Mimosa
- Magnolia
- Vervain
- Lemon Balm
- Cinnamon
- Passionflower
- Kava Kava
- American Skullcap
- Valerian
- California Poppy
- Hops
- Gotu Kola
- Jujube date

Pine cone metaphysical connections

Pineal



Pine Cone- Staff of Osiris is surrounded by the two serpents of the Kundalini – biochemical Human electrical energy- Chi, Prana.

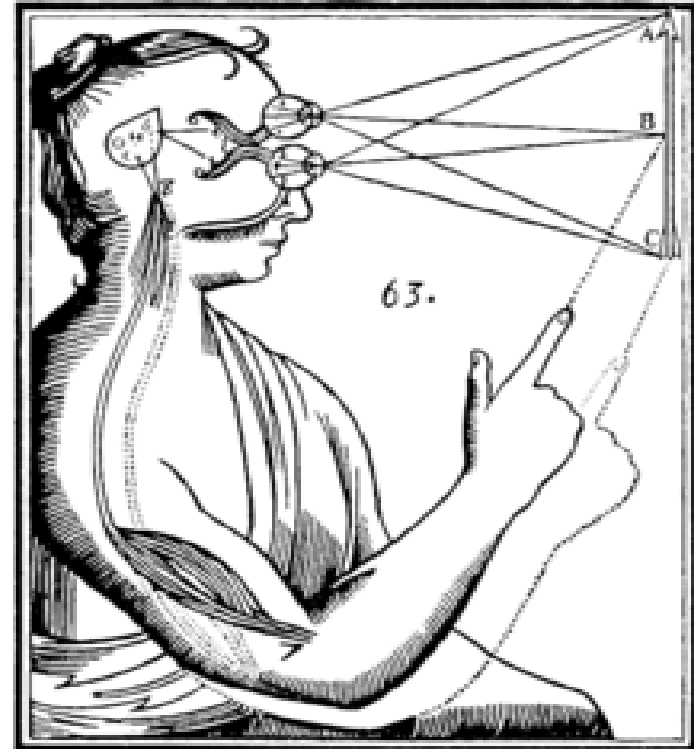
Staff represents the spine, Pine Cone represents the pineal gland, thought to facilitate altered states of awareness. Often Referred to as

THE THIRD EYE

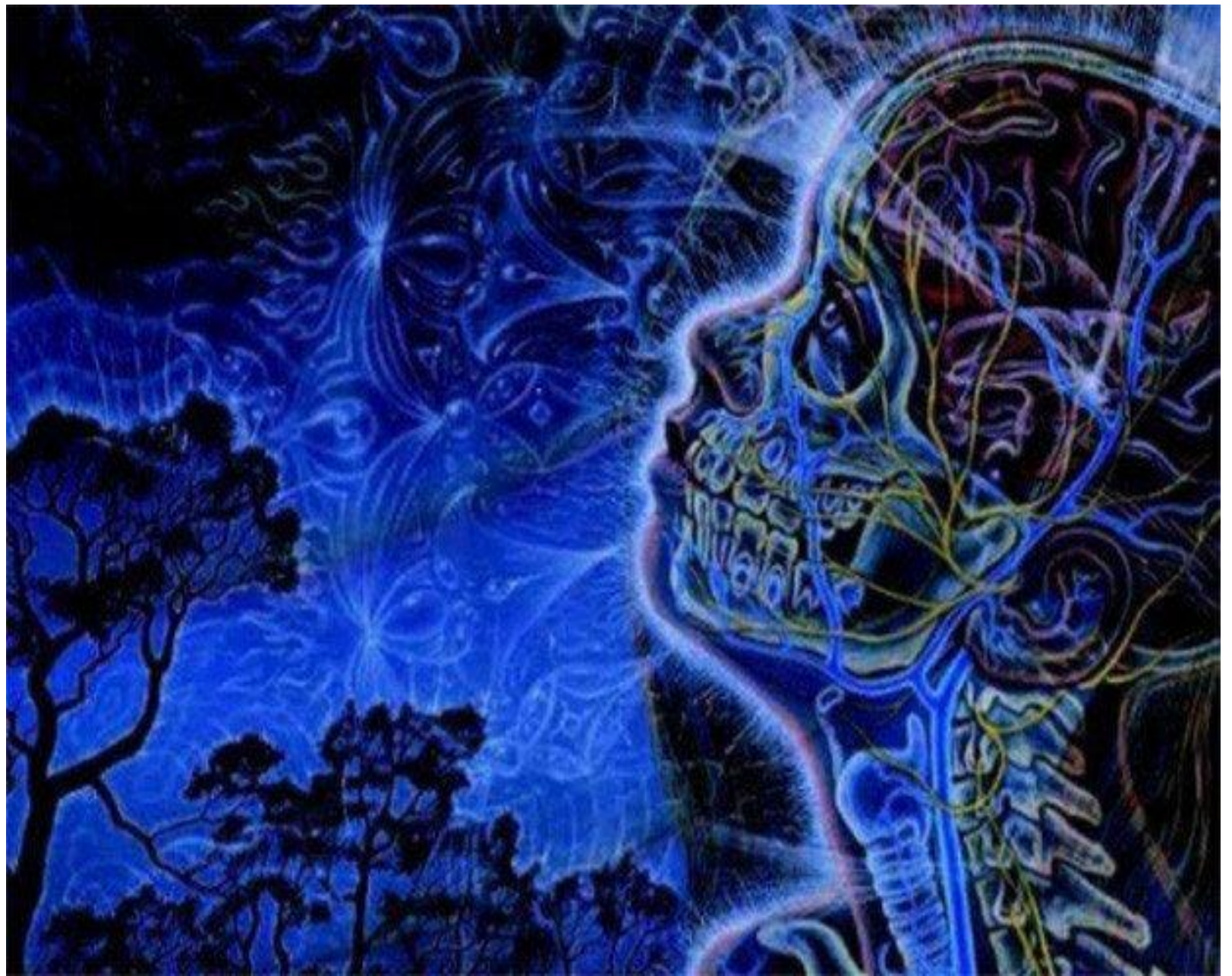
<http://maggiesholisticsny.com/ancient-hidden-knowledge/>

Ancient View Descartes and others

Pineal



- Diagram of the operation of the pineal gland from Descartes, Treaty of Man (1664)



Descartes : **seat of the soul** and where all thoughts are formed

Galen (130-ca. 210 CE): Brain is filled with “psychic pneuma,” a fine, volatile, airy or vaporous substance - “the first instrument of the soul.”



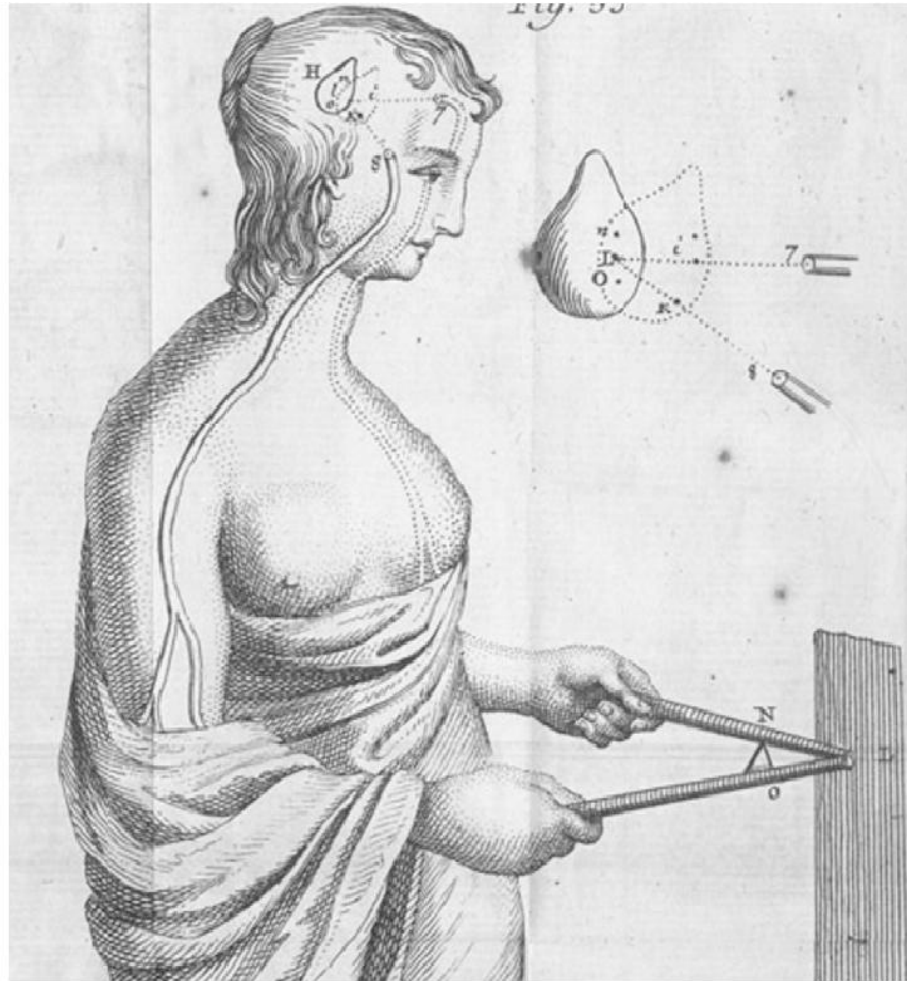
Qusta ibn Luqa (864–923):

people who want to remember look upwards
People who want to think, look down

NLP (1970's)

Eyes Up remembered , memories

Eyes Down and Left: Internal dialogue, or inner self-talk (Ad).



An historical view of the pineal gland and mental disorders (PDF Download Available).
Available from: https://www.researchgate.net/publication/51453762_An_historical_view_of_the_pineal_gland_and_mental_disorders [accessed Jun 24, 2017]



- Descartes applied the term 'idea' to the flow of animal spirits from the pineal gland:

- “My view is that this gland is the principal seat of the soul, and the place in which all our thoughts are formed. The reason I believe this is that I cannot find any part of the brain, except this, which is not double. Since we see only one thing with two eyes, and hear only one voice with two ears, and in short have never more than one thought at a time, it must necessarily be the case that the impressions which enter by the two eyes or by the two ears, and so on, unite with each other in some part of the body before being considered by the soul.
- Now it is impossible to find any such place in the whole head except this gland; moreover it is situated in the most suitable possible place for this purpose, in the middle of all the concavities; and it is supported and surrounded by the little branches of the carotid arteries which bring the spirits into the brain” (29 January 1640, AT III:19–20, CSMK 143).

Dimethyltryptamine (DMT)

RICK STRASSMAN M.D.



I was drawn to DMT because of its presence in all of our bodies. I believed the source of this DMT was the mysterious pineal gland, a tiny organ situated in the center of our brains. Modern medicine knows little about this little gland's role, but it has a rich “metaphysical” history.

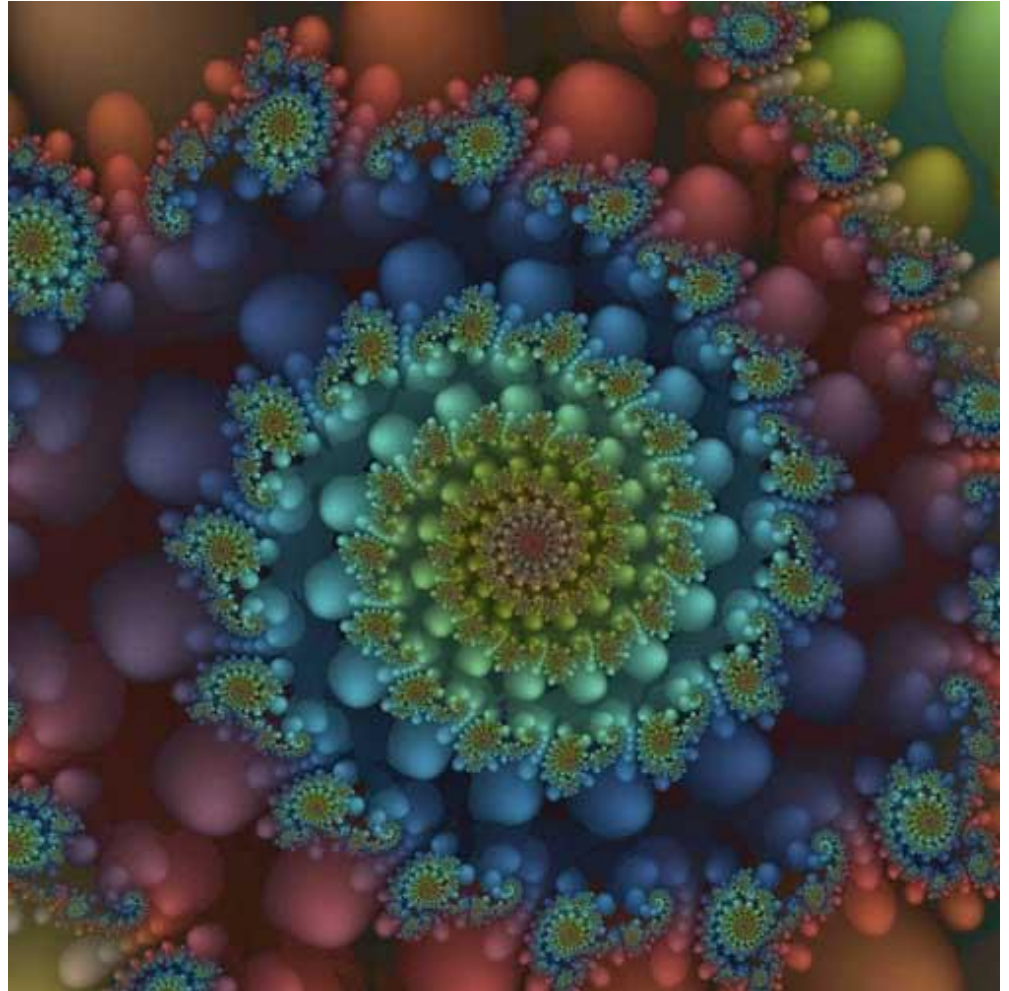
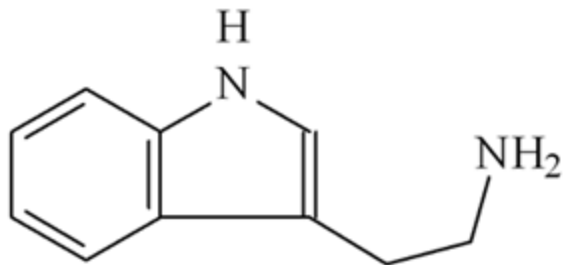
Descartes, for example, believed the pineal was the “seat of the soul,” and both Western and Eastern mystical traditions place our highest spiritual center within its confines.

I therefore wondered if excessive pineal DMT production was involved in naturally occurring “psychedelic” states. These might include birth, death and near-death, psychosis, and mystical experiences.

<https://www.rickstrassman.com/biography/>

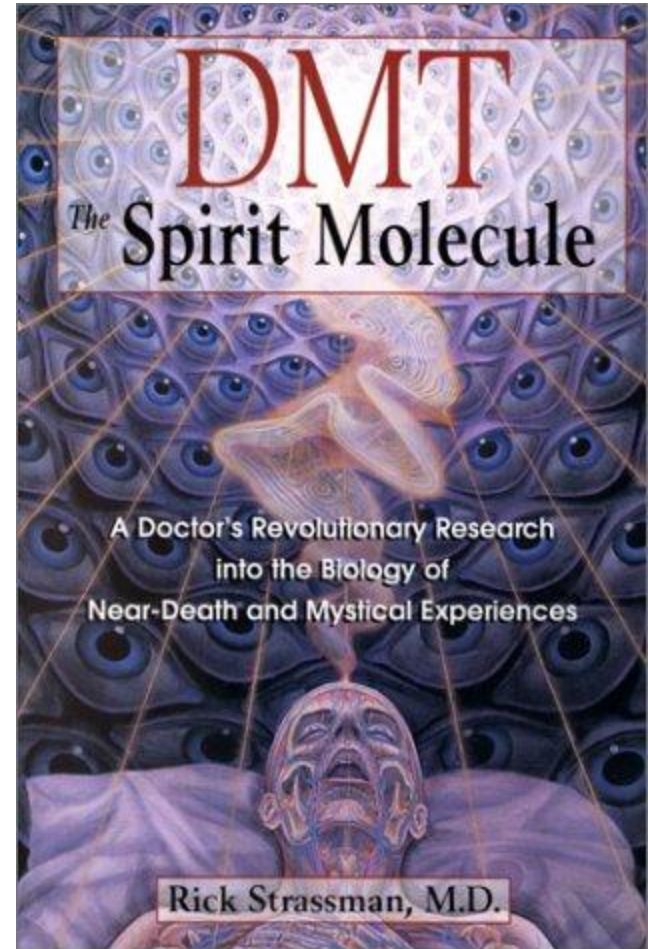
Effects of DMT

- High Dosage
 - Psychotic results
- Low Dosage
 - Calming



DMT Release

- DMT is released during psychedelic states
 - Near death experiences
 - Death
 - Childbirth
 - Dreaming
 - ET Encounters



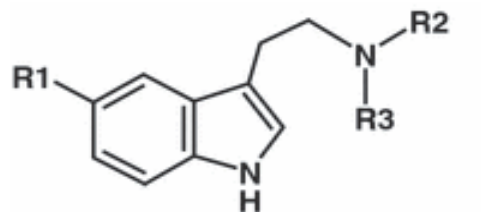
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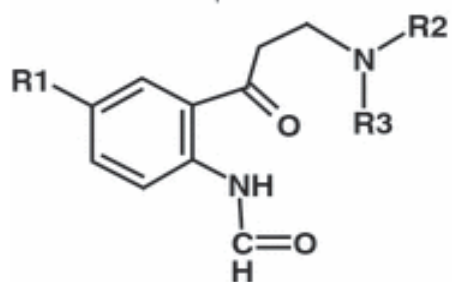
Dimethyltryptamine (DMT)

- Endogenous hallucinogen
- Serotonin agonist
- Precursor: tryptophan
- Believed to be produced by the pineal gland



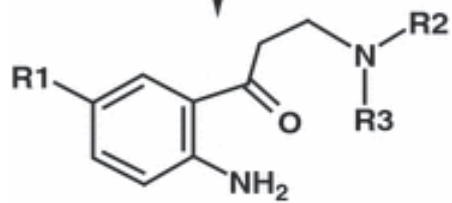
Indoleamine

+ 2 [O]



*N*²-formylated kynuramine

- [CO]



Kynuramine

Residues R1, R2 and R3 in various indoleamines

	R1	R2	R3
Tryptamine	H	H	H
<i>N</i> -acetyltryptamine	H	H	COCH ₃
<i>N,N</i> -dimethyltryptamine	H	CH ₃	CH ₃
Serotonin	OH	H	H
<i>N</i> -acetylserotonin	OH	H	COCH ₃
Bufotenin	OH	CH ₃	CH ₃
5-methoxytryptamine	OCH ₃	H	H
<i>N,N</i> -dimethyl-5-methoxytryptamine	OCH ₃	CH ₃	CH ₃
Melatonin	OCH ₃	H	COCH ₃

Residues R1, R2 and R3 in several kynuramines investigated in a biological context

	R1	R2	R3
Kynuramine	H	H	H
<i>N</i> ¹ -acetylkynuramine	H	H	COCH ₃
<i>N</i> ¹ , <i>N</i> ¹ -dimethylkynuramine	H	CH ₃	CH ₃
5-hydroxykynuramine	OH	H	H
<i>N</i> ¹ -acetyl-5-hydroxykynuramine	OH	H	COCH ₃
<i>N</i> ² -formyl-5-methoxykynuramine	OCH ₃	H	H
<i>N</i> ¹ -acetyl- <i>N</i> ² -formyl-5-methoxykynuramine (= AFMK)	OCH ₃	H	COCH ₃
<i>N</i> ¹ -acetyl-5-methoxykynuramine (= AMK)	OCH ₃	H	COCH ₃

Divine Nectar in the Crystal Palace

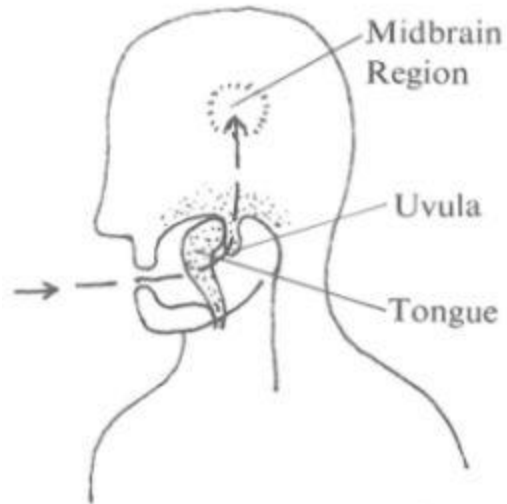
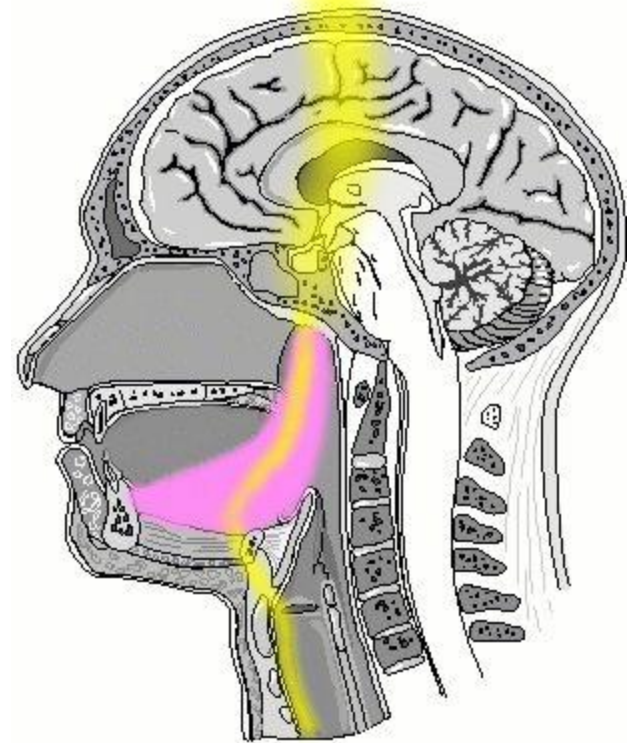


Fig. 106 Breathing Nectar in Meditation

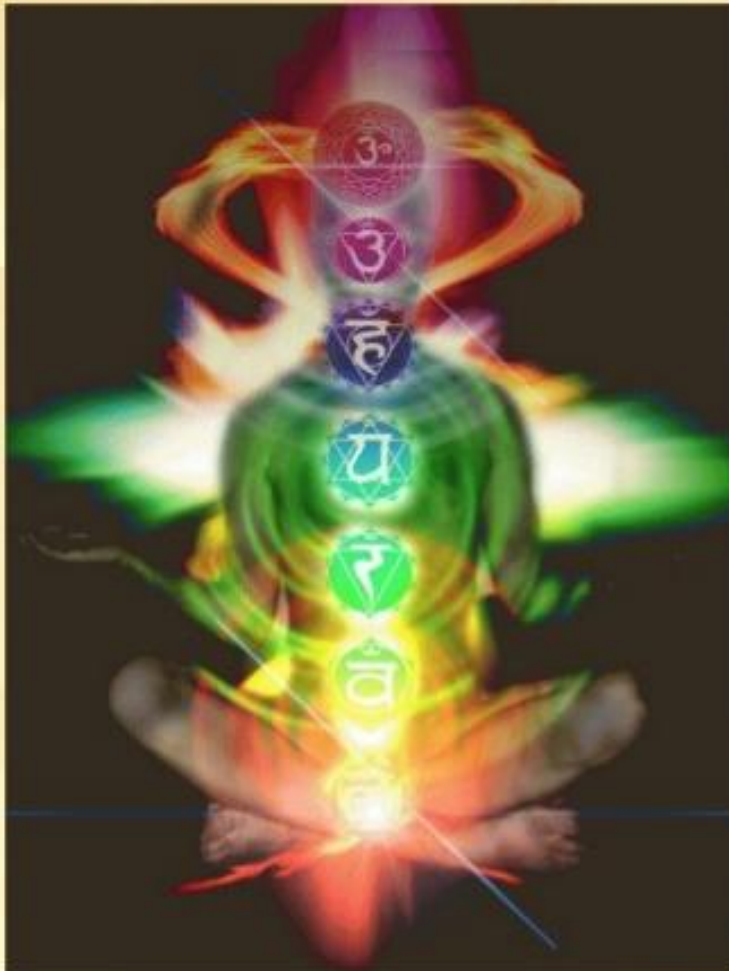
Kechari Mudra



NATURAL INTERVENTIONS

- Increase protein – Essential Amino Acids to support orelin production
- Stress reduction- yoga, meditation, massage , reflexology
- Castor Oil packs on adrenal glands
- Light box therapy
- Darkened bedroom therapy to help Circadian rhythm
- Herbal Support

NAMES OF 7 CHAKRA



CROWN**SAHASTRARA**

BROW**AAGYA**

THROAT**VISUDDHA**

HEART**ANAHATA**

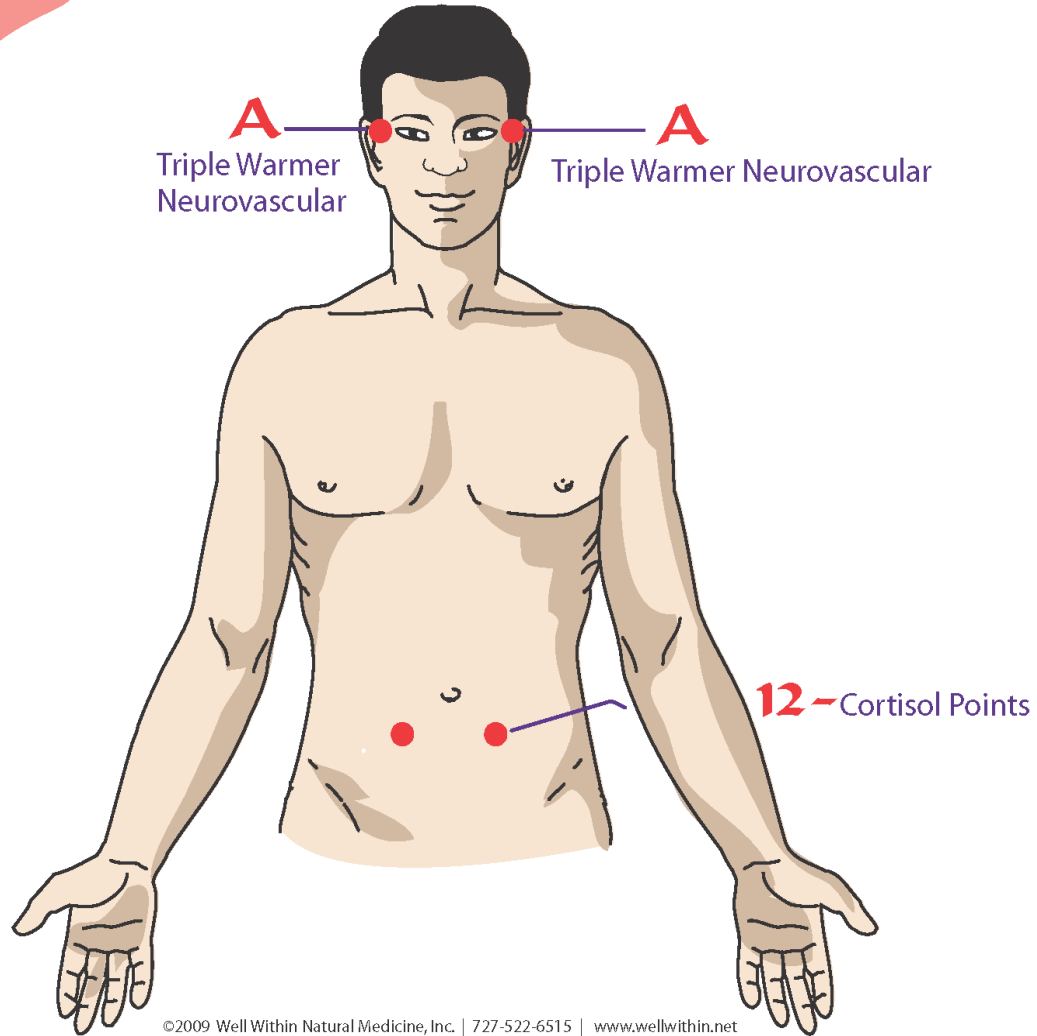
STOMACH **MANIPURA**

NAVEL ...**SVADHISTHANA**

ROOT**MULADHARA**

Energy Medicine For Healthy Living

Cortisol Points

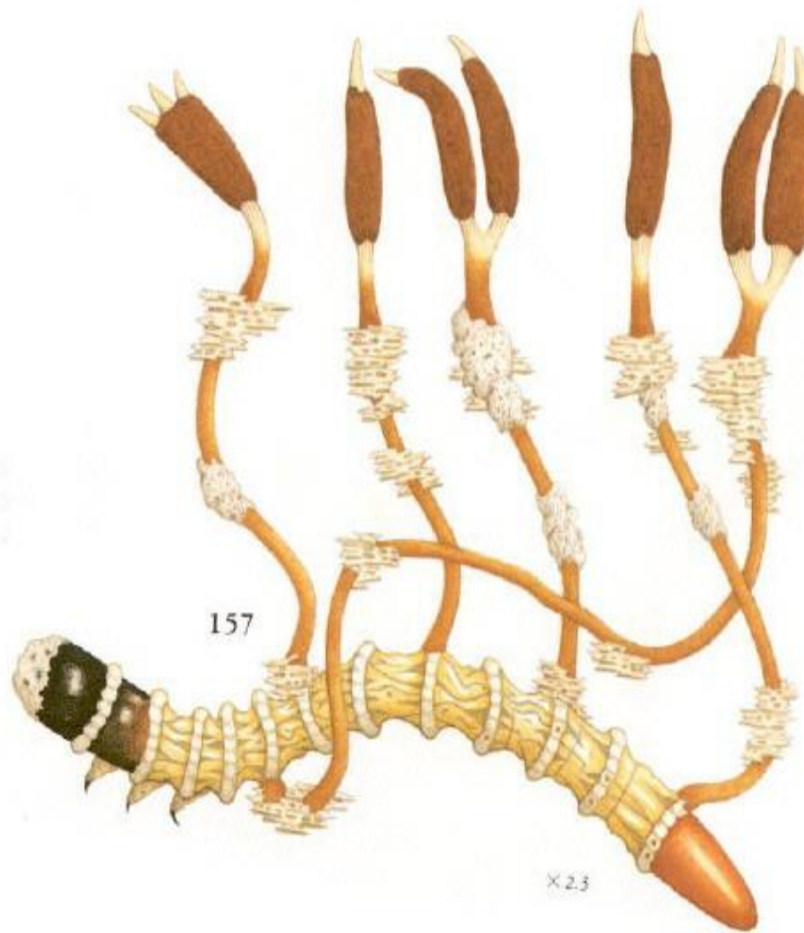


Radionic Rates

Kelly Research Technologies
Book 3: Radionics Rates Alpha

Chakra, 07 - Crown, Pineal; Upper Brain; Right Eye	36.00 56.00	note B#, stimulate: orange, green, blue, indigo; calm: violet, red, yellow; blockage: indigo, violet; polarity: neutral; gem: sapphire; Freq: 96Hz, helps with learning; Freq: 480.0, 96.0, 960.0
Delawarr, Ductless Glands, Pineal Body	16.00 28.00	with depression, check need to increase melatonin, noradrenaline, serotonin or decrease dopamine, will be low for nervous conditions. Freq: 20.0, 5000.0

Cordyceps (*Cordyceps sinensis*)





Cordyceps

In ancient China, *Cordyceps* was used as a medicinal mushroom by emperors and wealthy royal families.

Because of its scarcity, *Cordyceps* was treasured as highly as gold and was reserved only for the rich and the powerful.

Used as an herbal medicine in China for over 2000 years.

Cordyceps

Proven effects:

- anti-tumor
- immunomodulatory
- anti-inflammatory
- antioxidant





Cordyceps

Scientific names: *Cordyceps sinensis*
& *militaris*

Aka Caterpillar mushroom

In nature, this parasitic fungus grows on the caterpillar larvae of a moth.

Grows in the highlands (10,000 feet) of China, Tibet and Nepal



Recently, cultivated varieties (*Cordyceps militaris*) have been developed. These Cordyceps fruiting bodies are cultivated on nutritious barley substrate, and they are therefore vegan. Research has shown that *C. militaris* and *C. sinensis* provide similar support, and they are used interchangeably in TCM and other branches of herbalism.* Our Cordyceps (*C. militaris*) are processed by hot water extraction into a fine powder.

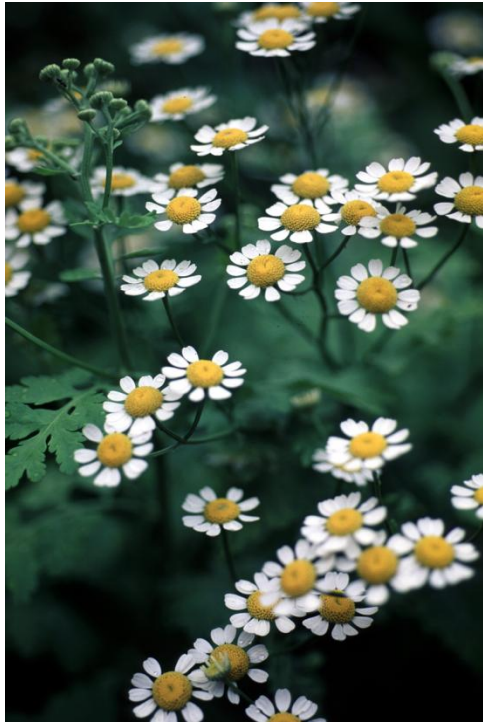
Cordyceps

Dosage:

The usual amount taken is 3 to 4.5 grams twice daily as capsules or simmered for 10 to 15 minutes in water to make tea.

Cautions: no known interactions

Melatonin Management Naturally



Feverfew

(Tanacetum parthenium)

- *Blocks the production of inflammatory compounds.*
- *Analgesic effects.*
- *Helpful with migraines.*
- *1000 mg. per day.*

(Should contain .25-.50 mg. of Parthenolide to be effective)

Makheja AM, et al. **A Platelet Phospholipase Inhibitor from the Medicinal Herb Feverfew (*Tanacetum parthenium*).** *Prostaglandin Leukotri Med.* 1982;8:653-60.

Kwok BH, Koh B, Ndubuisi MI, et. al., **The anti-inflammatory natural product parthenolide from the medicinal herb Feverfew directly binds to and inhibits IkappaB kinase.** *Chem Biol.* 2001 Aug;8(8):759-66.

August 6, 1999



Special on St John's Wort

Changed the demographics
Of the Health Food Industry

Note: all interactions are supported by
studies unless noted by
potential/theoretical

St Johns Wort

Hypericum perforatum



- Hypericum, (St. John's Wort) - anti-inflammatory, especially for injuries to the nerves, finger tips, etc.
- Used as Homeopathic and as Herb
- It was used on wounds during the middle ages

St John's Wort

Hypericum Perforatum



Carpenter, C., Crigger, N., Kugler, R., & Loya, A.
Hypericum and nurses.

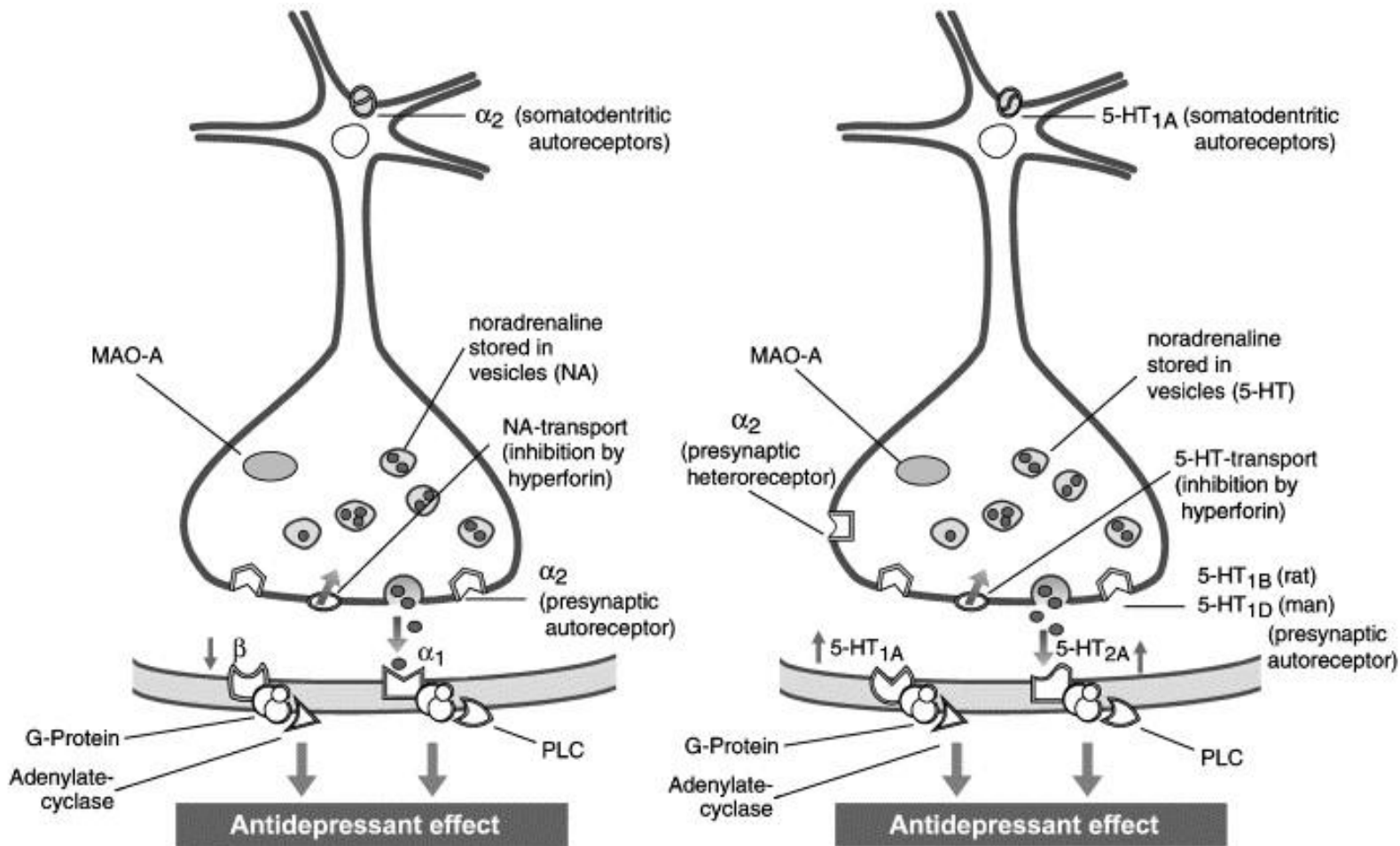
Journal of Holistic Nursing. 26(3): 200-207. (September 1, 2008).

Conclusions: The compounds in St. John's wort herbal preparations are more effective than placebo and, in several studies, more effective than common antidepressant medications in treating minor depression.

Cochrane Systematic Review 2008, Issue 4. Art. No.: CD000448.
doi: 10.1002/14651858.CD000448.pub3.

Conclusion: "St John's wort for major depression", K. Linde, et. al.
Overall, we found that the St. John's wort extracts tested in the trials were superior to placebos and as effective as standard antidepressants, with fewer side effects."

Note: all interactions are supported by
studies unless noted by
potential/theoretical



Inhibits the synaptosomal uptake of serotonin, dopamine and noradrenaline (norepinephrine) with approximately equal affinity. However, other *in vitro* binding assays carried out using St John's wort extract demonstrated significant affinity for adenosine, GABA(A), GABA(B) and glutamate receptors. *In vivo* St John's wort extract leads to a downregulation of beta-adrenergic receptors and an upregulation of serotonin 5-HT(2) (CNS Drugs. 2003;17(8):539-62. Mechanism of action of St John's wort in depression : what is known? Butterweck V.)

<http://www.ncbi.nlm.nih.gov/pubmed/12775192>

Image from: <http://www.sciencedirect.com/science/article/pii/S1043661802002669>

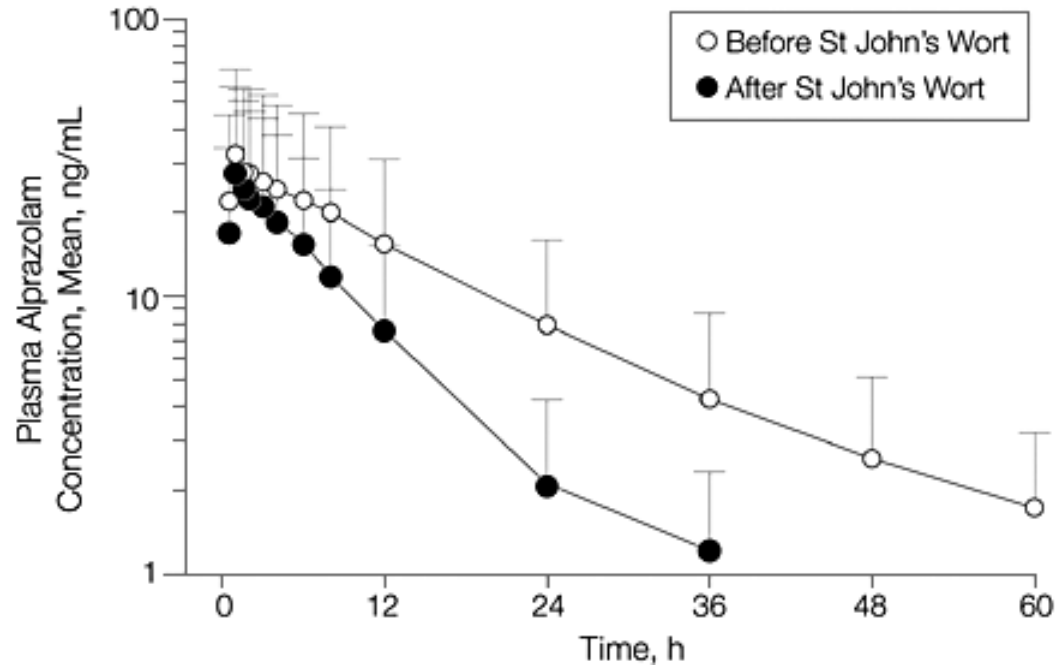
Hypothalamus Serotonin Update Video

<https://www.youtube.com/watch?v=l3N8ThFbBvs>

Effect of St John's Wort on Drug Metabolism by Induction of Cytochrome P450 3A4 Enzyme John S. Markowitz, et. al **JAMA. 2003;290:1500-1504.**

Context St John's wort is used to treat depression but it has been implicated in drug interactions.

Conclusions A 14-day course of St John's wort administration significantly induced the activity of CYP 3A4 as measured by changes in alprazolam (Xanax) pharmacokinetics. This suggests that long-term administration of St John's wort may result in diminished clinical effectiveness or increased dosage requirements for all CYP 3A4 substrates, which represent at least 50% of all marketed medications.



Note: all interactions are supported by studies unless noted by potential/theoretical

Mimosa

Scientific name: *Albizia julibrissin*

Common name: Mimosa tree

Tree of Happiness

“Calms the spirit”

“Relieves constrained emotions”



Mimosa

Parts used: Bark and flower

Actions:

- anxiolytic
- anti-microbial
- anti-oxidant
- anti-inflammatory
- anti-asthma
- nervine
- hepatoprotective
- lipid-lowering



Mimosa - Bioactive Compounds

High in saponins:

- triterpenes
- monoterpenes
- flavone saponins
- alkaloids
- flavonoids

Flowers high in Quercetin
and Isoquercetin



Mimosa

Nervine with immune-regulating and cancer-inhibiting effects.

5-HT receptor binding – depression, anxiety, irritability

<http://www.ncbi.nlm.nih.gov/pubmed/17477962/>

Neurotransmitter mechanisms via GABA, dopamine and serotonin

Supports:

- Person with low blood pressure, low mood, **low thyroid**, anxiety and poor energy
- Parasympathetic-dominant person
- **Low thyroid function** with female hormonal aggravation and low mood
- Linking endocrine system to the nervous system via the **pituitary gland**
- Decreases sleep latency
- Poor memory, mind chatter



Mimosa

Dosage:

- Liquid 3 to 6 mL of 1:2 mimosa liquid extract daily
- Capsules: 1 – 3 capsules (500 mg) / day
- Proprietary herbal blends and are available

Cautions: no reports of adverse effects or interactions . Avoid in pregnancy due to lack of specific data

Magnolia

Latin: *Magnolia officinalis*



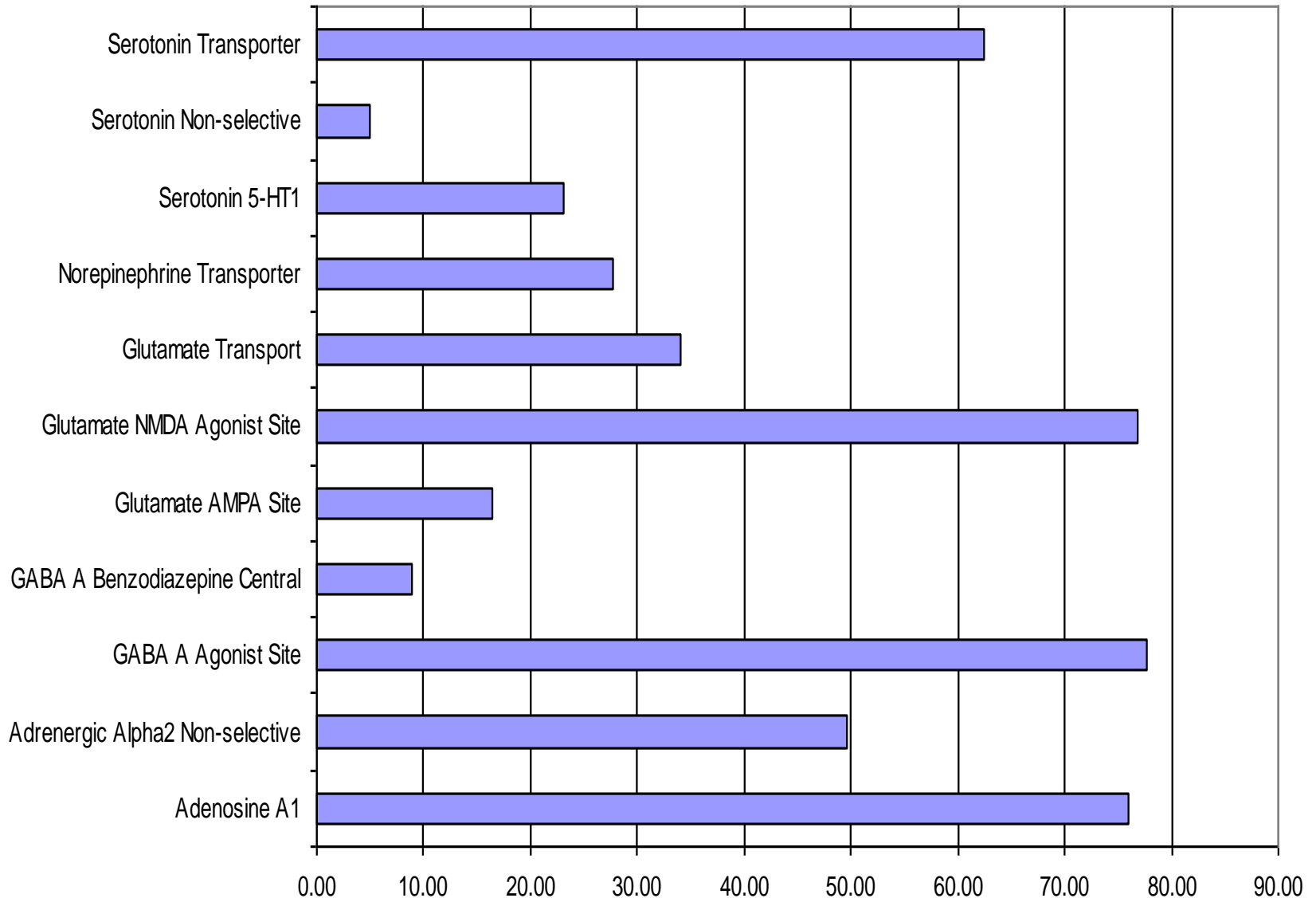
Pierre Magnol

(June 8, 1638 -May 21, 1715)

French botanist



Magnolia Binds to Several Important Targets



Magnolia References

- Cortisol and Mood

<http://www.ncbi.nlm.nih.gov/pubmed/23924268>

- Anti-inflammatory Suppresses NF-kB

<http://www.ncbi.nlm.nih.gov/pubmed/24893579>

- Honokiol, a Multifunctional Antiangiogenic and Antitumor Agent <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2842137/>

- Enhanced GABAergic Neurotransmission in Hippocampal Neurons

<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3652012/>

Magnolia

Dose: 160 mg to 500 mg depending on weight/condition of patient

- Refers to total neolignans (usually magnolol plus honokiol), which are usually at 1-10% of a basic bark extract
- Toxicity study in animals found that doses as high as 5g/kg yielded only mild side effects
- Centuries of Traditional Use

Caution : safety data is not substantial. Avoid in pregnancy due to possible oxicocic effects

CASTOR OIL PACK



Place on right side under the rib cage to detox the liver and aid in the healing of any abdominal issues

NaturalTee

YOGA- Thyroid Compression- Shoulder Stand/Fish



GEMSTONE THERAPY



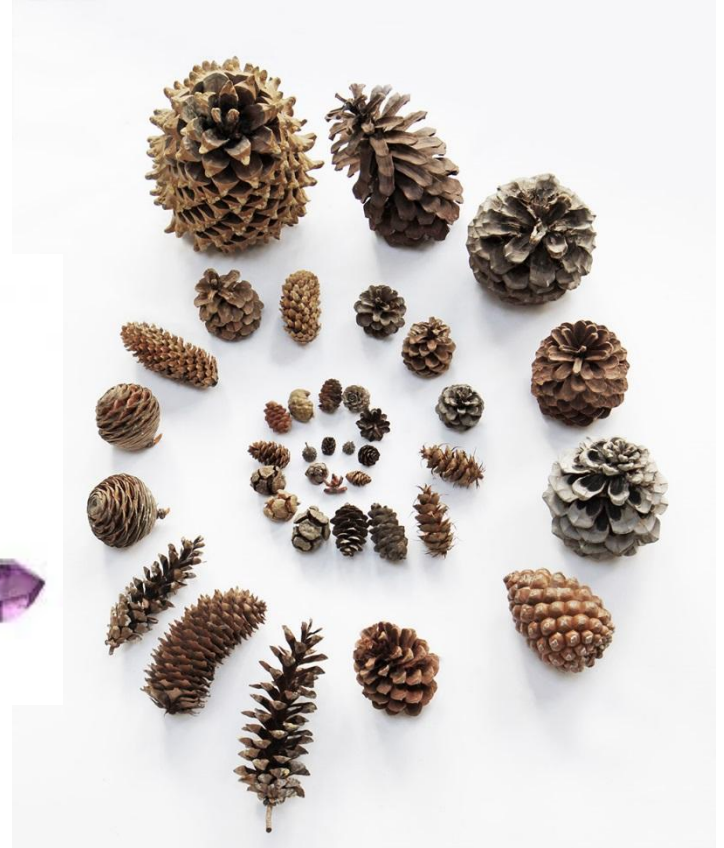
Pineal Activation Remedy

Essence Remedy:

Place a PINE CONE

And an amethyst crystal

in Water in a sacred vessel:



Hold in the sun for 14 minutes

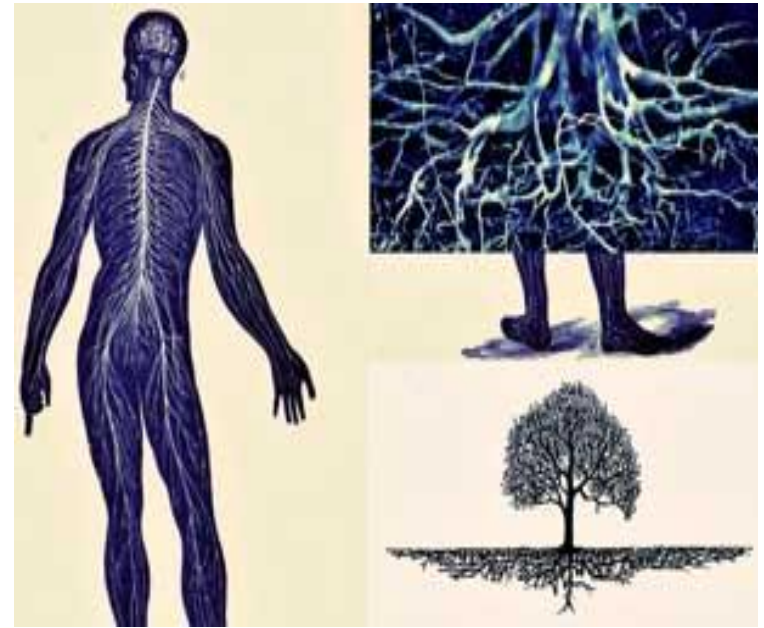
Remove Pine Cone and Crystal

Add 1/3 Brandy- put in closed container- LABEL!



Dr. Kamhi at University of West Indies Natural Products Division

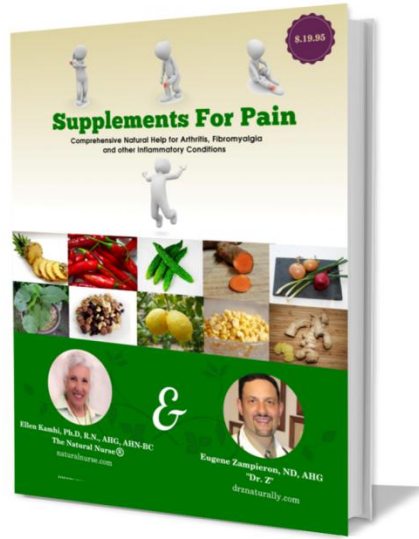




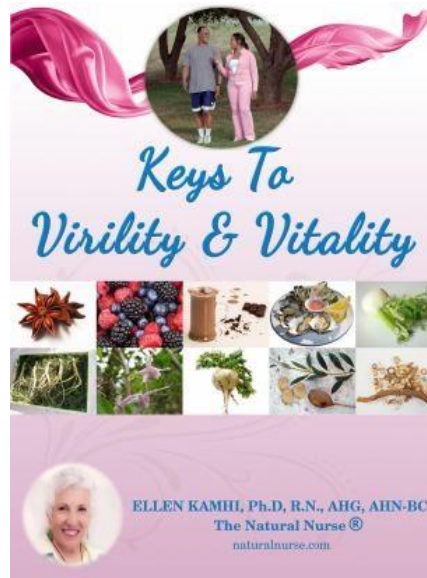
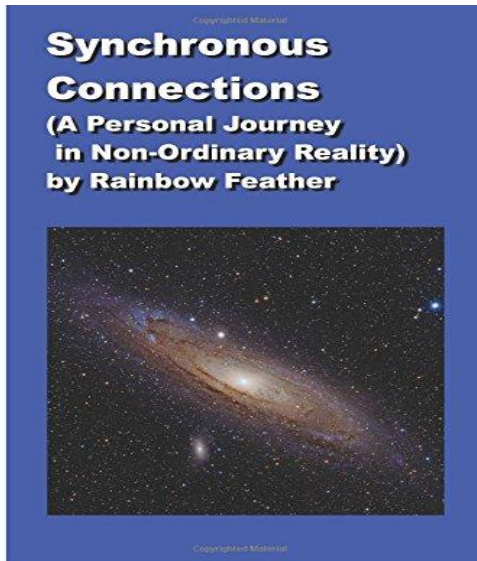
Ellen Kamhi PhD, RN, AHN-BC, RH(AHG)

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