Psych Meds

What Therapists Need to Know

107: Psychopharmacology for Therapists

Chris Aiken, MD

Psychotherapy NETWORKER

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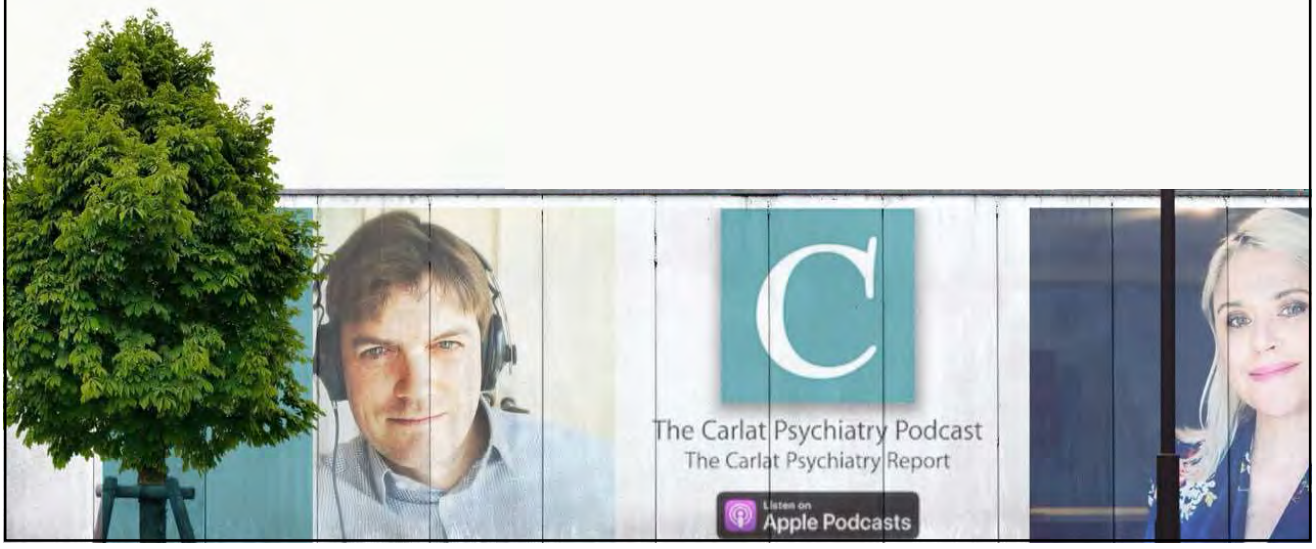
Chris Aiken, MD
Editor-in-Chief, *The Carlat Report*
Assistant Professor, *NYU School of Medicine*
Director, *Psych Partners*

Disclosures
None

Daily Psych Updates (@ChrisAikenMD)

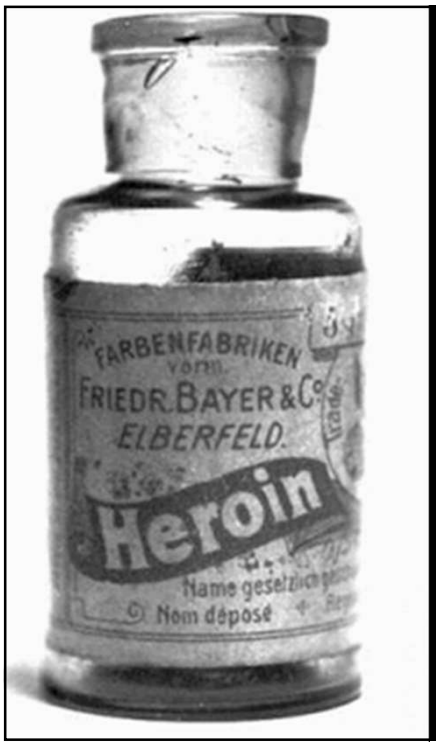
On LinkedIn, Facebook, X, and BlueSky, or chrisaikenmd.com



Six Categories

1. Sedative-Hypnotics
2. Antidepressants
3. Mood stabilizers
4. Antipsychotics
5. Stimulants
6. Psychedelics

Sedative-Hypnotics



Opioids

4000 bc	First use
1860-1900	Post-civil war epidemic
1900	Replaced by barbiturates

Miltown

1 in 20 Americans took this barbiturate-like drug for anxiety within a year of its 1955 launch

Syndromes of the 1960s

The battered parent syndrome

She's the paradox of our age. Compared to her mother, she has more education, more usable income and more labor-saving devices. Yet she is physically and emotionally overworked, overwrought and—by the time you see her—probably overwhelmed.

What went wrong? Is parenthood something other than the rosy fulfillment pictured by the women's magazines? Is anxiety and tension fast becoming the occupational disease of the homemaker?

Some say it's unrealistic to educate a woman and then expect her to be content with the Cub Scouts as an intellectual outlet.

Or to grant that she is socially, politically and culturally equal, while continuing to demand domestic and biological subservience.

Or to expect her to shoulder the guilt burden of this child-centered age without unraveling around the emotional edges.

Or to compete with her husband's job for his time and involvement.

But whatever the cause, the consequences—anxiety, tension, insomnia, functional disorders—fill waiting rooms.

Sometimes it helps to add 'Miltown' to her treatment—to help her relax both emotional *and* muscular tension. It's no substitute for a week in Bermuda, or for emotional readjustment. But it will often make the latter easier for her, as well as for the physician.

And 'Miltown' has been doing just that—for a dozen years now—with substantial success.

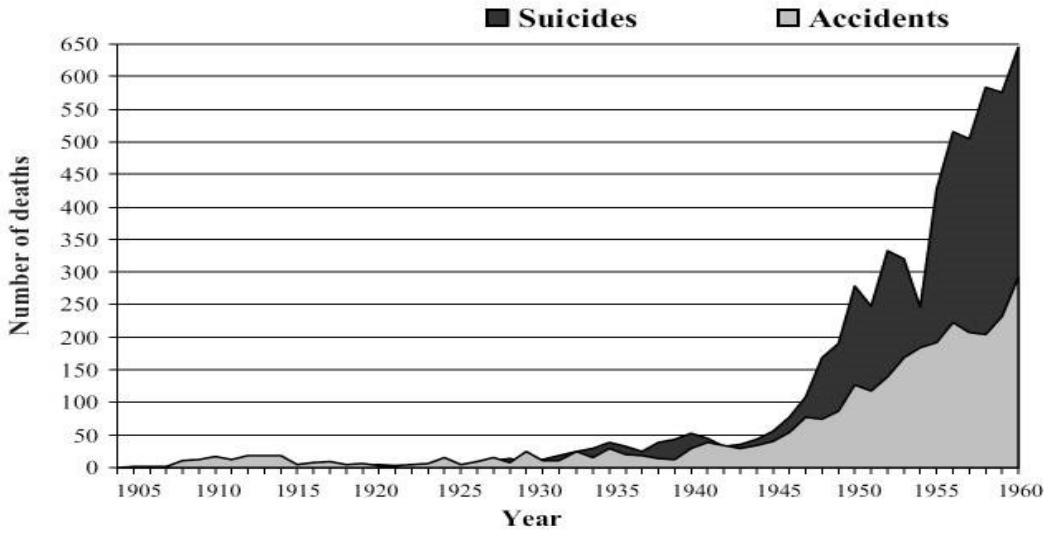
Indications: Effective in relief of anxiety and tension states; adjunctively when anxiety may be a causative or disturbing factor. Fosters normal sleep through anti-anxiety and muscle-relaxant properties.

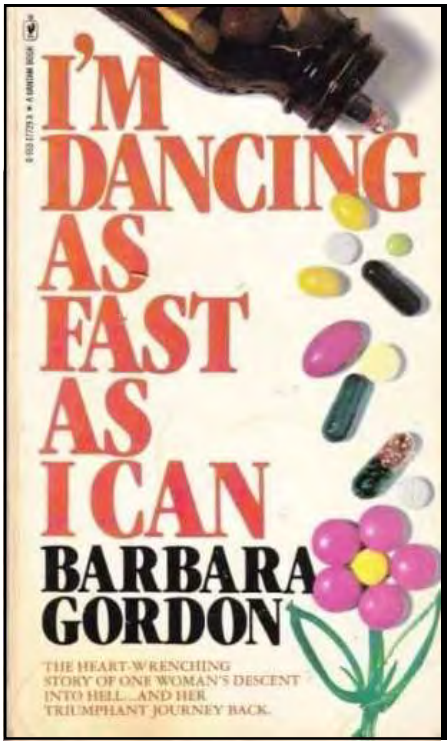
Contraindications: Previous allergic or idiosyncratic reactions to meprobamate. *(Brief summary of prescribing information is continued on next page.)*

Wallace Pharmaceuticals/ *Carabury, N.J.*

when reassurance is not enough **MILTOWN®** (MEPROBAMATE)

Barbiturate Overdose Deaths 1900-1960





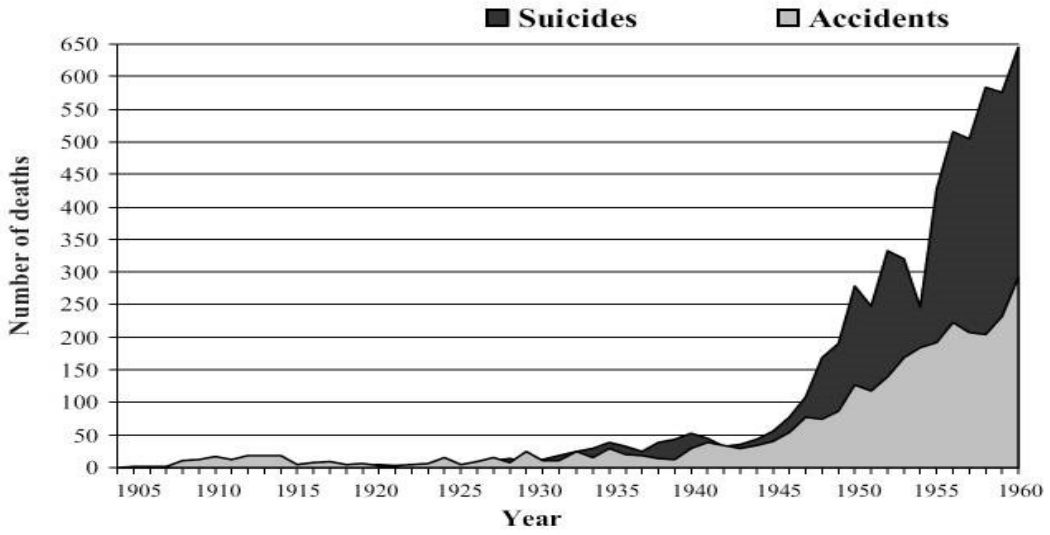
Benzos

1960 Benzos replace barbiturates

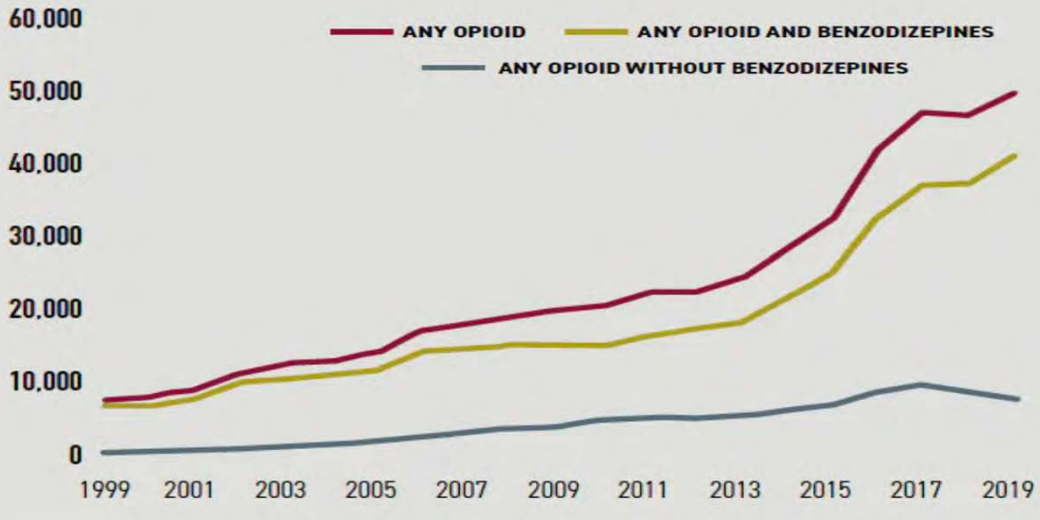
1970-75 Use of benzos peaks

1975-80 Benzo abuse recognized

Barbiturate Overdose Deaths 1900-1960



Opioid-Benzo Overdose Deaths 1999-2019



Suzetrigine (Journavx)

- First pain med that doesn't enter brain.
- Non addictive
- Blocks peripheral sodium receptors (NA v1.8)
- Equaled hydrocodone-acetaminophen (Vicodin) in post-surgical pain
- Risks = Nausea, itch, muscle spasms.

Benzos: Ideal Use

Short term (1-3 months) treatment of

› Anxiety that is debilitating but temporary
› Insomnia

Treatment resistant panic disorder

› Best evidence is in panic, studies lasting up to 1 year

Medical uses

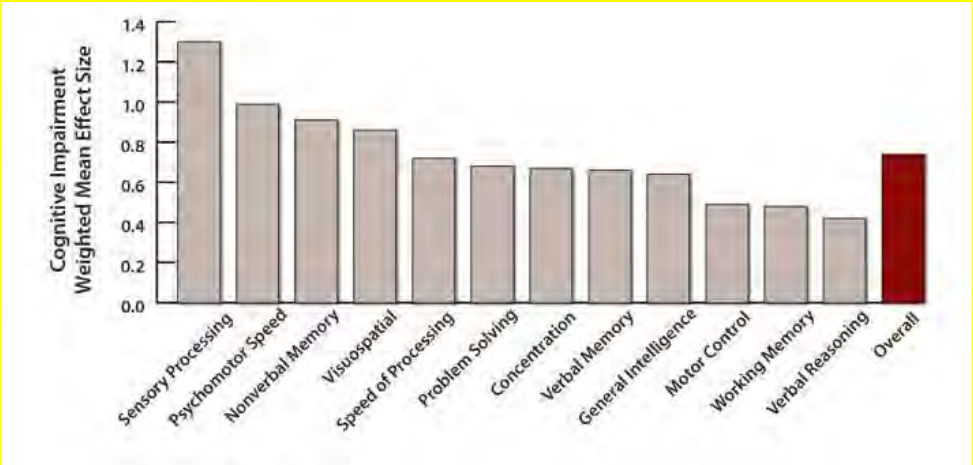
› Seizures, muscle relaxant
› Sleep walking, night terrors
› Alcohol withdrawal

Source: World Health Organization (1996) and Food and Drug Administration

Benzos: Risks

- Opioid interaction: Fatal respiratory suppression
- Tolerance, misuse
- Falls, car accidents
- Cognitive impairment (but unclear if causes dementia)
- Interfere with exposure therapy

Cognitive problems with long term benzo use (effect size 0.8)



Controversy

Can you benefit from behavior therapy while on a benzo?

Benzos and Exposure Therapy

Benzos increase risk of PTSD after a trauma (as does alcohol)

Benzos interfere with learning, and may reduce benefits from exposure-based therapies

However, this is not a black-and-white issue. Many things impede learning (light at night, sleep deprivation), and benzo withdrawal will impair therapy as well.

Some meds (d-cycloserine) may speed learning in behavior therapy or prevent PTSD after a trauma (hydrocortisone)

Z-Hypnotics

1990s Zaleplon, Zolpidem, esZopliclone

Like benzos, bind to GABA, but only the sleep not the anxiety part

Possibly less addictive than benzos

Cons: Sleep-walking behaviors. They don't improve next-day functioning

Orexin Antagonists

2010s Daridorexant, Lemborexant, Suvorexant

Block orexin (which keeps us awake)

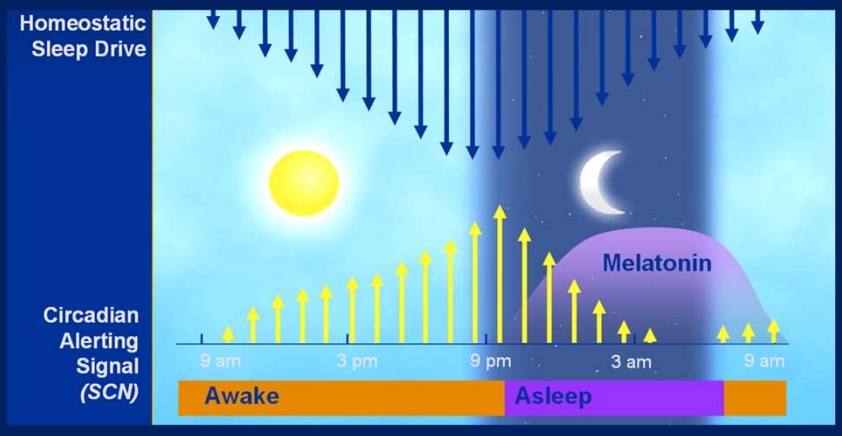
Low risk of abuse

Good safety data in elderly

Improve sleep quality and next-day function

CBT-insomnia

Real Sleep Med: CBTi



Sleep Drive:
Increases the longer you're awake. Driven by adenosine, suppressed by caffeine

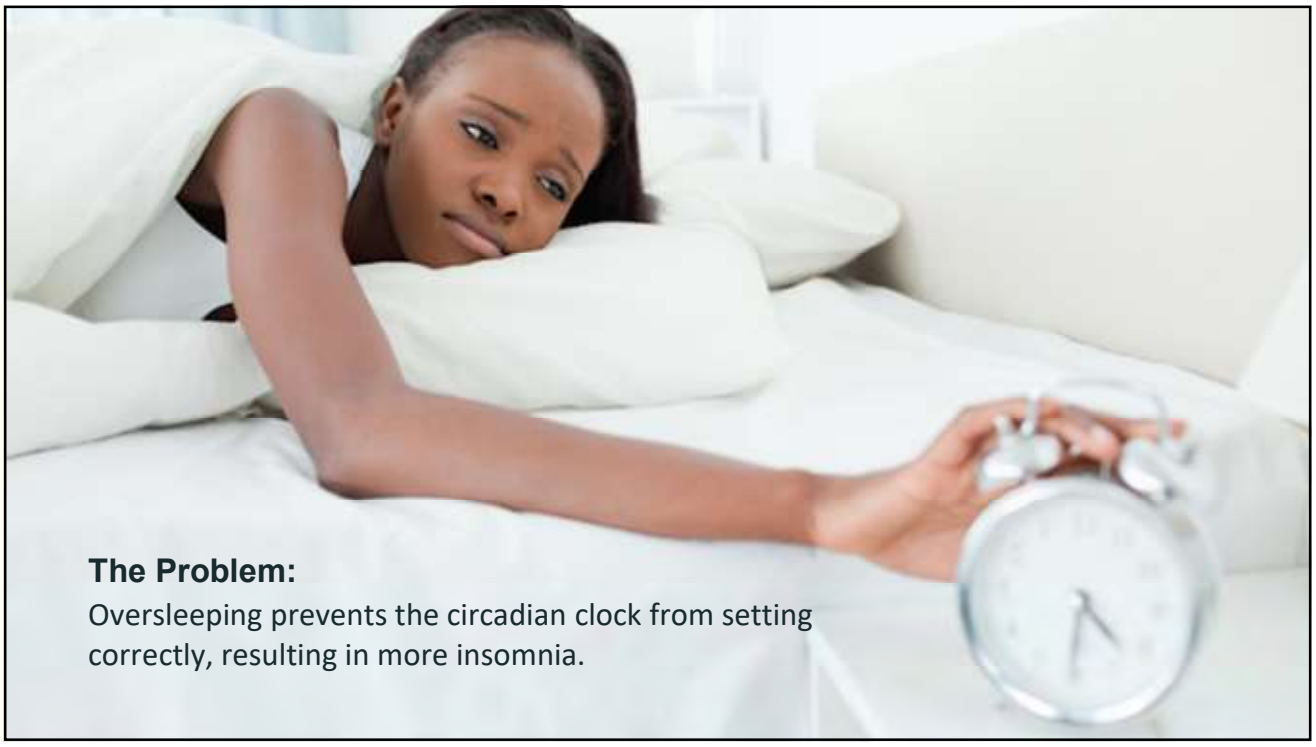
Circadian Drive:
Cycles with sunlight and wake times. Driven by melatonin, suppressed by evening light.

Adenosine = Sleep Drive

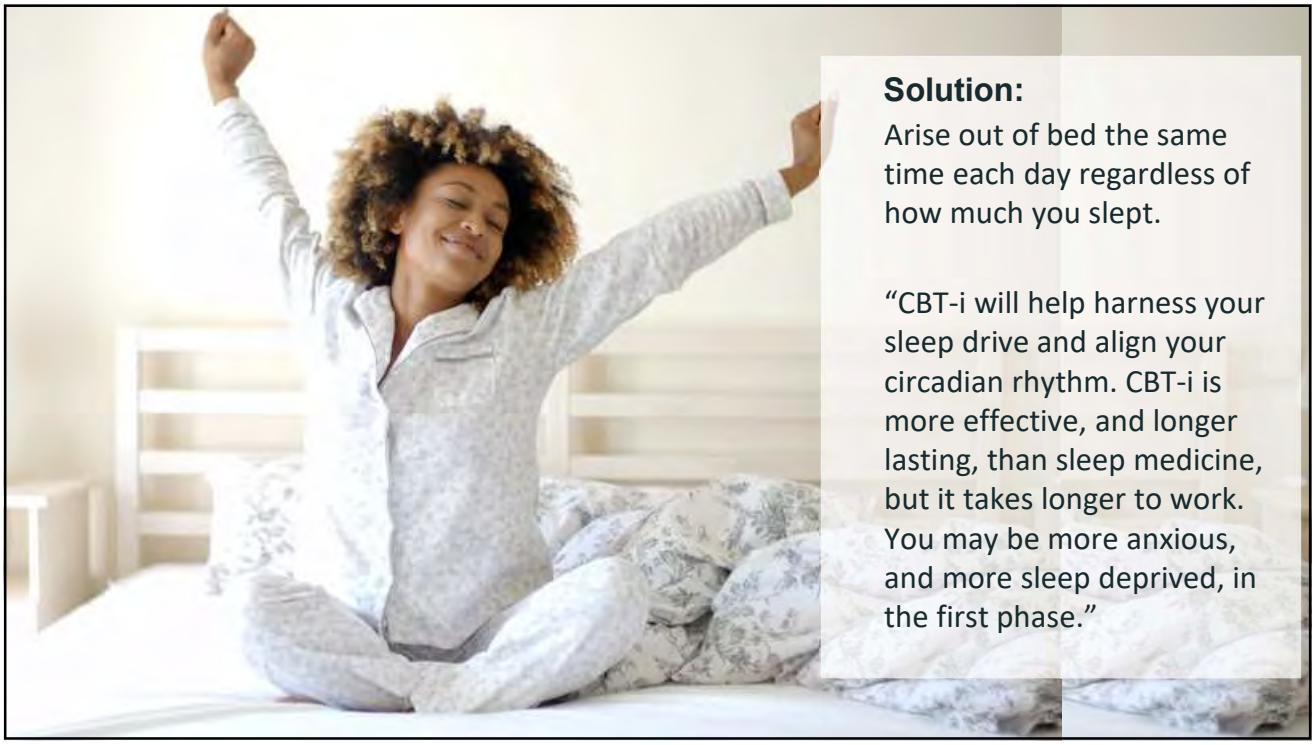
- *Adenosine* rises the longer we stay awake.
- *Caffeine* blocks adenosine.

Melatonin = Circadian Rhythm

- *Melatonin* rises in darkness and shuts down with sunrise.
- *Blue light* blocks melatonin.



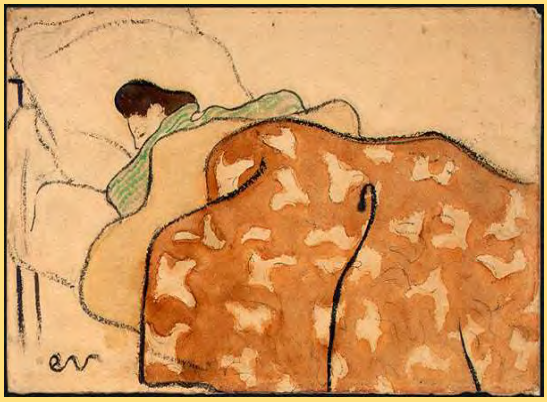
The Problem:
Oversleeping prevents the circadian clock from setting correctly, resulting in more insomnia.



Solution:
Arise out of bed the same time each day regardless of how much you slept.

"CBT-i will help harness your sleep drive and align your circadian rhythm. CBT-i is more effective, and longer lasting, than sleep medicine, but it takes longer to work. You may be more anxious, and more sleep deprived, in the first phase."

First Aid: Sleep Hygeine



- Awake at regular times.
- Out of bed during the day; only use bed for sleep and intimacy.
- Avoid daytime napping.
- Avoid caffeine after 2pm.
- Wind-down time in 30 minutes before bed.
- Only go to bed when tired.
- If unable to sleep after about 20 minutes (don't watch the clock), get up and sit in the dark doing nothing until tired again.

Advanced: Bed Restriction

- For each day, record how much time you spent in bed awake vs. asleep
- At the end of the week, add up **the total time asleep** and divide by 7 for average time asleep.
- Add 30 min to that average time asleep. Over the next week, you can only spend that much time in bed. Choose a regular wake time that fits with it.
- Do not restrict time in bed to < 5 hours (or <6.5 hours if bipolar).

Date	Med?	Hours Awake in Bed (fill in boxes)								Time in / out of bed		Hours Asleep (fill in boxes)																							
		4.5	4	3.5	3	2.5	2	1.5	1	0.5	IN	OUT	0.5	1	1.5	2	2.5	3	3.5	4	4.5	5	5.5	6	6.5	7	7.5	8	8.5	9	9.5	10	10.5	11	11.5	12

Add all hours asleep for past 7 days: ◄Divide this by 7: ◄Add 0.5 to this: ◄Spend only this much time in bed each night for the next week.

Antidepressants

Antidepressant Monoamines:
Dopamine
Norepinephrine
Serotonin

Tricyclics
Serotonin-Norepinephrine
Amitriptyline, nortriptyline, imipramine

MAOIs
Serotonin-Dopamine
Tranylcypromine, phenlzine, EMSAM patch

Other
Bupropion (*dopamine-norepinephrine*)
Mirtazapine (*serotonin partial blocking-norepinephrine enhancing*)

SSRIs
Serotonin
Escitalopram, citalopram, fluoxetine, fluvoxamine, paroxetine, sertraline

SNRIs
Serotonin-Norepinephrine
Desvenlafaxine, duloxetine, levomilnacipran, venlafaxine

SPARIs
Serotonin-Partial Blocking
Trazodone, nefazodone, vilazodone, vortioxetine

Antidepressant Standouts

Sedating
Trazodone, nefazodone, mirtazapine, tricyclics, some MAOIs (phenelzine), Auvelity

Low weight gain
Bupropion, fluoxetine, vortioxetine, trazodone, gepirone

Low sexual dys
Bupropion, vortioxetine, trazodone, vilazodone, nefazodone, mirtazapine, gepirone

Energizing
Bupropion, levomilnacipran, some MAOIs (tranylcypromine, EMSAM)

High weight gain
Mirtazapine, tricyclics

High sexual dys
SSRIs, SNRIs, tricyclics

Highest OD risk
Tricyclics

Worst withdrawal
SSRIs (esp paroxetine, better with fluoxetine); SNRIs (esp venlafaxine)

Dangerous Interactions
MAOIs with tyramine-rich foods (eg charcuterie boards) or with other psychiatric, neurologic, and pain meds or with stimulants/cocaine

Controversy

Can sexual dysfunction persist after stopping an antidepressant?

Post-SSRI Sexual Dysfunction (PSSD)

- Recognized by European FDA
- Active patient groups
- Well described, but cause difficult to prove
- In a large study, erectile dysfunction persisted in 1:200 men who developed the problem on an SSRI (after ruling out medical causes)

Ben-Sheetrit J et al, Annals of General Psychiatry 2023;22:15

Treatment Resistant Depression

Augmentation Strategies for Treatment-Resistant Depression

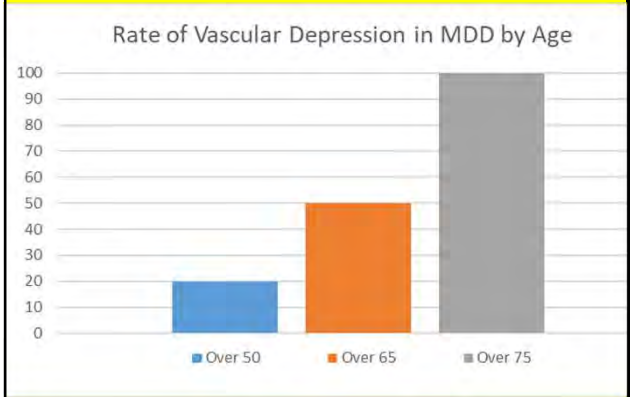
Medication	Dose
Best evidence: Positive results in controlled trials and network meta-analyses	
Aripiprazole*	5–15 mg/day
Quetiapine*	150–300 mg/night
Risperidone	0.5–3 mg/night
Lithium	Serum level 0.5–0.8 mmol/L
Triiodothyronine	50 mcg/day
Moderate evidence: Mixed results in controlled trials and network meta-analyses	
Olanzapine*	5–15 mg/day with fluoxetine
Tricyclics*	Nortriptyline has the best evidence (start 25–50 mg/day, raise weekly toward serum level of 50–150 ng/mL)
Buspirone	15 mg TID (start 5 mg BID)
Promising: Positive results in 1–2 controlled trials	
Brexpiprazole*	3 mg/day
Cariprazine*	1.5–4.5 mg/day
Ziprasidone	20–80 mg BID with a full meal
Mirtazapine*	15–45 mg/night
Pramipexole	1–2 mg/night (start 0.25 mg and titrate every 5–7 days)
D-cycloserine	1,000 mg/day (glutamatergic antagonist)
L-methylfolate*	15 mg/day
SAMe	400–1,600 mg/day
Unlikely to work: Controlled trials are largely negative	
Pindolol, bupropion, lamotrigine, methylphenidate, lisdexamfetamine, modafinil	

* FDA-approved options for depression are starred

Antidepressant Augmentation

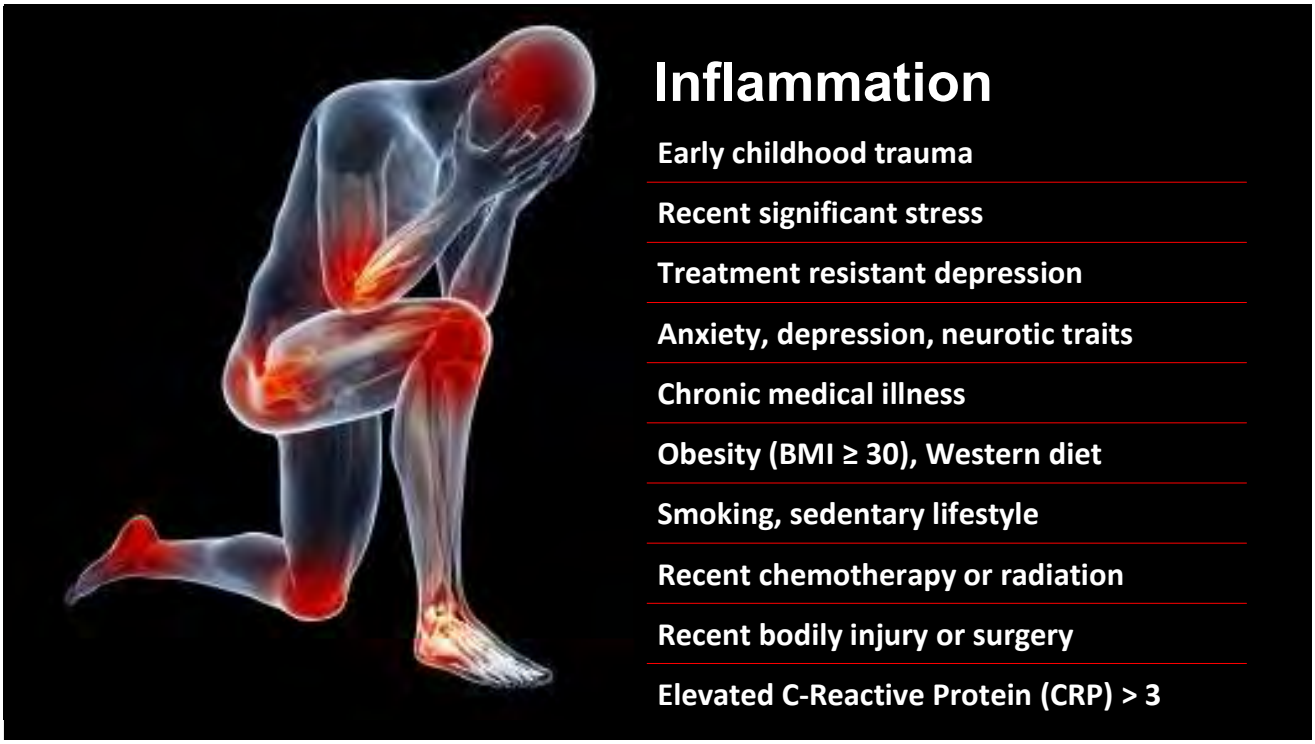
- Adding a new med works better than switching
- Lithium prevents hospitalization and suicide
- Bupropion and buspirone are favored for tolerability but have mixed evidence as augmentation

Vascular Depression



- Cardiovascular risk factors
- MRI white matter hyperintensities
- Cognitive deficits
- Psychomotor retardation, lack of insight
- Less responsive to antidepressants
- Reduce cardiovascular risks, consider TMS

Taylor WD et al, *Am J Psychiatry* 2018;175(12):1169-1175



Inflammation

- Early childhood trauma
- Recent significant stress
- Treatment resistant depression
- Anxiety, depression, neurotic traits
- Chronic medical illness
- Obesity (BMI ≥ 30), Western diet
- Smoking, sedentary lifestyle
- Recent chemotherapy or radiation
- Recent bodily injury or surgery
- Elevated C-Reactive Protein (CRP) > 3

New Antidepressant Mechanisms

Faster, but do they last?

Ketamine/Esketamine (Spravato)
Glutamate

Very effective for depression and suicidality, especially the IV ketamine (but intranasal esketamine is the FDA-approved form).

Dissociative. Benefits last 7-14 days. Abuse potential.

Zuranolone/Brexanolone (Zurzuvae/Zulresso)
GABA-ergic steroid

Treats postpartum depression as IV (brexanolone) or oral (zuranolone) by replacing falling steroid levels. May not work in regular depression. Abuse potential.

Bupropion-Dextro-methorphan (Auvelity)
Dopamine/Glutamate

Speeds antidepressant by adding dextro (cough syrup)

Controversy

Is ketamine a psychedelic?

Ketamine

Antidepressant effects are independent of dissociative effects, but is dissociation the heart of the psychedelic experience?

Ketamine (IV) levels peak higher than esketamine (Spravato, intranasal), and are more likely to cause psychedelic-like experiences

Ketamine reduces rumination for 8 days after treatment

Ketamine-assisted therapy

TMS and ECT

TMS
Transcranial Magnetic Stimulation

Activates specific brain areas to treat depression, OCD, and other conditions

5 days/wk for 6 weeks.
No anesthesia

Twice as effective as med

Improves cognition

Risks: headache, jaw pain, seizure

ECT
Electroconvulsive Therapy

Induces a seizure through electrical stimulation

3 days/wk for 2-3 wks.
Light anesthesia

Twice as effective as TMS, particularly for psychotic depression

Risks: memory impairment, headache, muscle aches

TMS works better in active, positive mental state

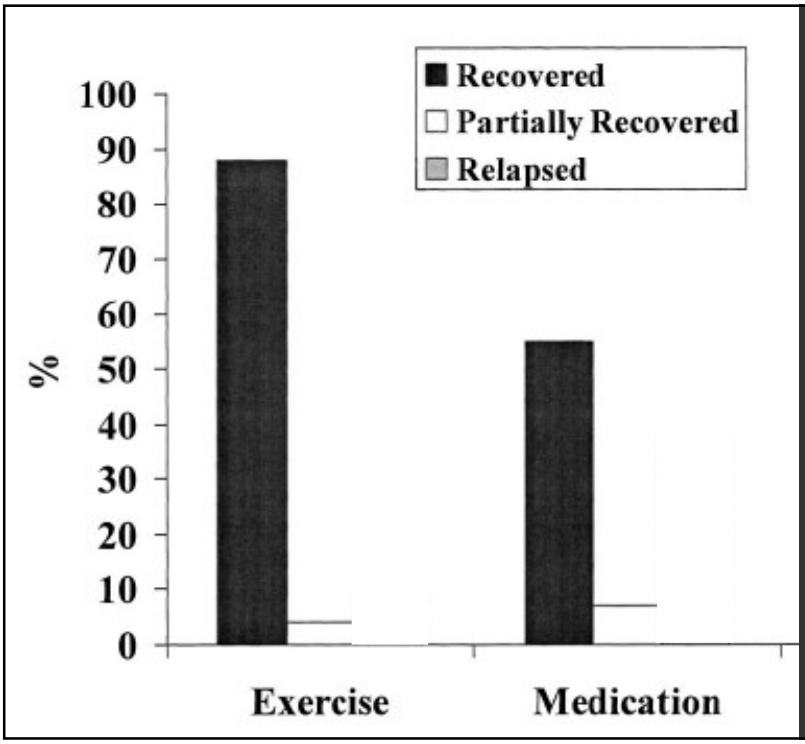
Brisk Walking

the exercise that treats depression

Brisk Walking

45 minutes every other day of light aerobics “moderate exercise”

(heart rate up, breath faster, able to talk but difficult to sing)



Exercise works as well as an antidepressant, but prevents depression 4-times better.

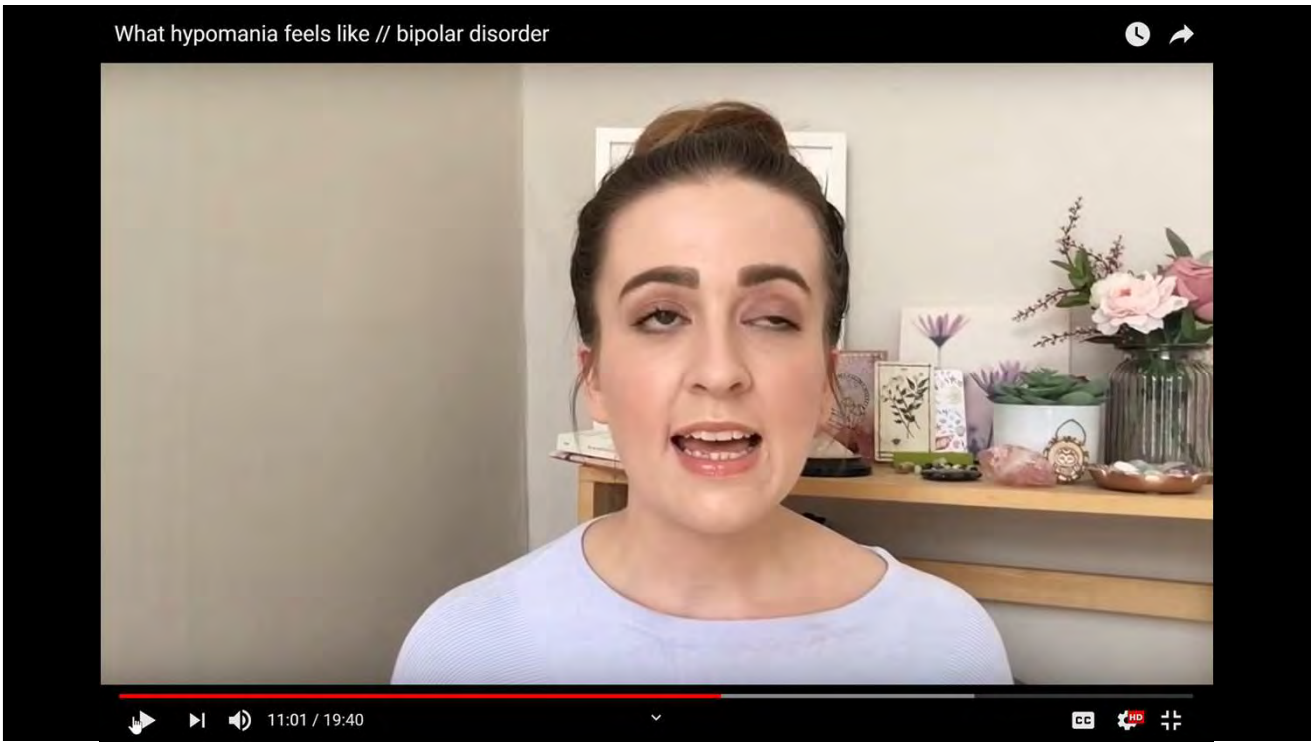
It also improves memory, which antidepressants do not.

Creative Aerobics

- Dance
- Play with kids or animals
- Cycling or stationary bike
- Treadmill in front of TV
- Swimming
- Active video games
  (*Wii Sports, Just Dance, Island Run*)
- *Happy walk* at home video
- Or even better… In nature

Island Run

Mood Stabilizers



Mood Stabilizers for Bipolar Disorder

Lithium
Natural mineral
The gold standard. Treats and prevents mania and depression. Kidney risks, but lowers overall mortality and often well-tolerated.

Antipsychotics
Dopamine-Serotonin action
Most treat mania quickly, but only a few treat depression. Preventative effects are less clear.

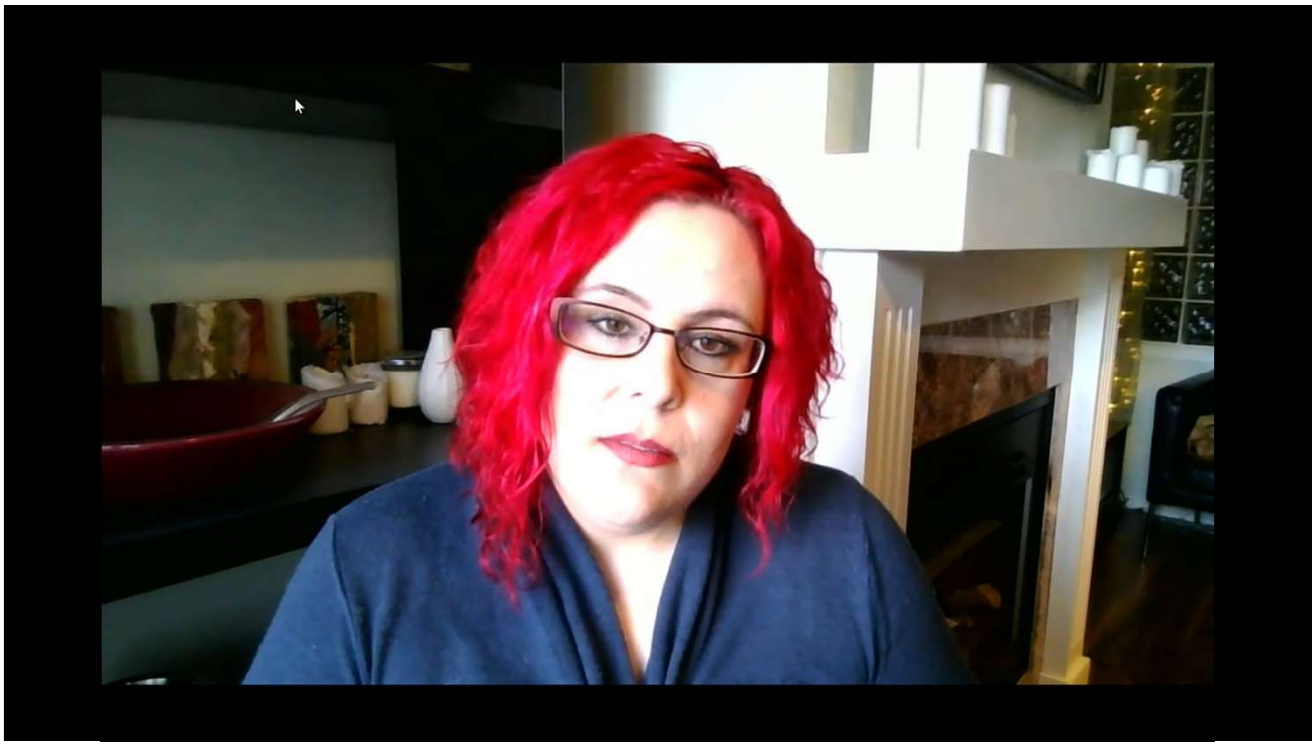
Short-term and long-term tolerability problems

Anticonvulsants (seizure meds)

Lamotrigine
Prevents depression; slowly treats it. Not as strong against mania. Well tolerated (except allergic rash).

Carbamazepine
Treats mania. Well tolerated but lots of drug interactions (interferes with birth control)

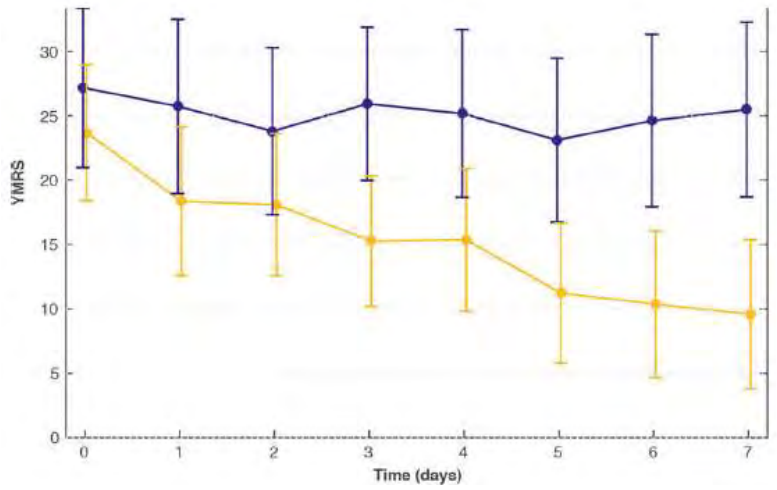
Valproate (Depakote)
Treats mania, depression, anxiety, but weight gain, sedation, hair loss, cannot take in pregnancy



Dark Therapy

for insomnia and bipolar mania

Dark therapy improved mania in hospitalized patients.
Effect size = 1.8 (3-times greater than most meds).
Patients recovered without sleeping more.



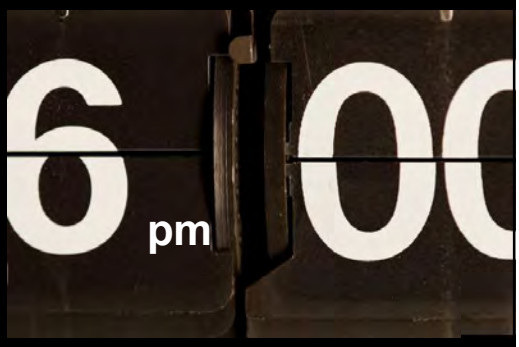
Henricksen et al. *Bipolar Disorders*, 2016

Protocal

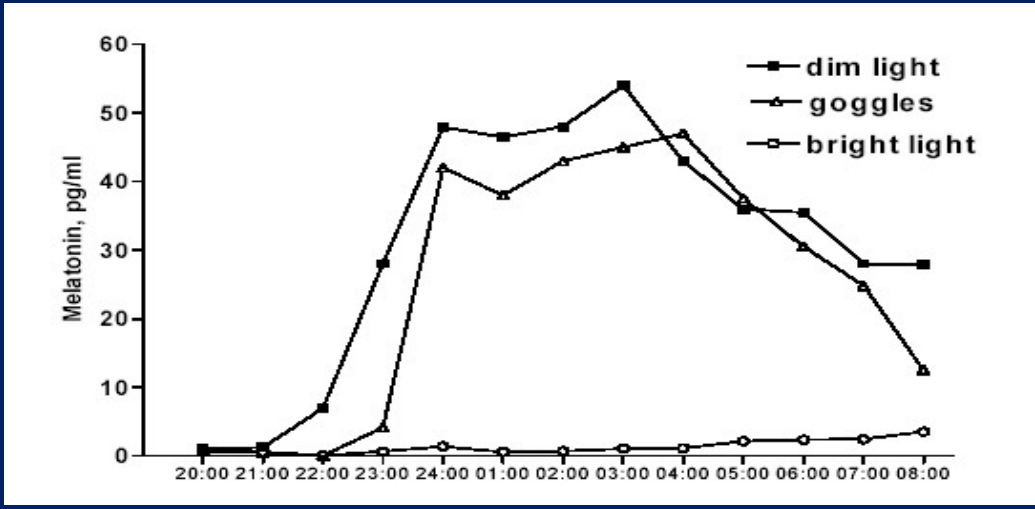
6pm to 8am

- Virtual darkness (blue-light filters) when out of bed
- Total darkness (or eye mask) when in bed

- Can start later if improved after a week or if symptoms are mild
  (Shifting later by 1 hour every 2-3 days)
  (2 hours before bed is ideal for prevention)



Melatonin Rises with Dim Light or Blue-Light Filtering Glasses



Kayumov et al. *J Clin Endocrinol Metabolism,* 2005

Glasses

Uvex Ultraspec 2000, S0360X , $7 on Amazon

Uvex Skyper 3S1933X $7-10 on Amazon

Lowbluelights.com $70-80

Black out

- Blackout curtains (such as ShiftShade, or buy blackout fabric, attach with pins or Velcro)
- Aluminum foil against window
- Electric tape over LED lights
- Sleep in basement

Low blue nightlights:

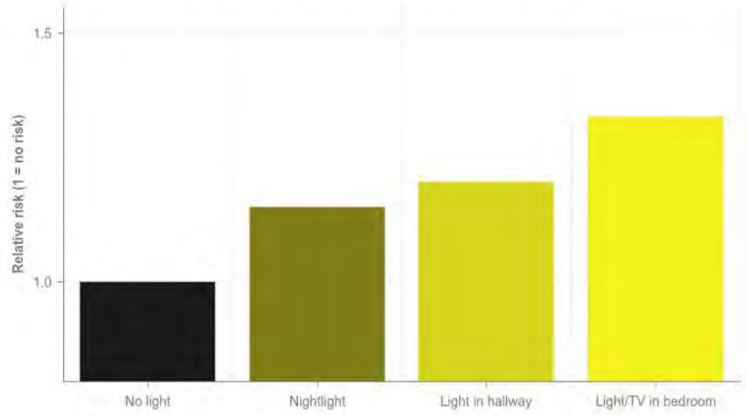
- Maxxima MLN-16 Amber LED Night Light Plug
- SCS Nite-Nite Light Bulb or Sleep-Ready Light
- lowbluelights.com, somnilight.com
- Apps: f.lux, Apple Nightshift mode, Kindle Candle

Light at Night (LAN)

Obesity
Diabetes
Cancer (breast, prostate)
Cardiovascular disease
Neurologic diseases
Gastrointestinal ulcers
Adverse reproductive outcomes

Evening Light Causes Obesity

Obesity Risk and Bedroom Light



Park et al, 2019

1. **Large study, long follow up**
   44,000 women age 35-74 followed for average of 6 years
2. **Uncontrolled but adjusted for**
   Age, race, location,education, income, family size, menopause, stress, depression, and use of nicotine, alcohol, caffeine.
3. **Replicated finding?**
   Yes, in animal studies and several large cross-sectional human studies.

Antipsychotics

Antipsychotics Old and New

1st Generation

Higher risk of tardive dyskinesia
Chlorpromazine, haloperidol, perphenazine, thioridazine

2nd Atypical Generation

Higher risk of diabetes, weight gain
Aripiprazole, asenapine, brexpiprazole, cariprazine, ***clozapine,*** *iloperidone, lumateperone, lurasidone, olanzapine, paliperidone, pimavanserin, quetiapine, risperidone, ziprasidone*

Risks

Tardive dyskinesia (permanent muscle writhing)

Diabetes, weight gain, high cholesterol

Low blood pressure (falls)

Akathisia (uncomfortable restless feeling)

EPS (muscle stiffness or contractions)

Low blood count (clozapine, requires labs every 1-4 weeks)

Xanomeline-Trospium (KarXT, Copenfy)

- First cholinergic antipsychotic (muscarinic)
- Originally developed for dementia, improved psychosis there
- Paired with peripheral anticholinergic (trospium) to improve tolerability
- Similar benefit to other antipsychotics, lacks their risks
- Not known to improve cognition

Stimulants

Stimulants

Methylphenidates
Ritalin
Methylin
Metadate
Aptensio
Adhansia
Concerta
QuilliChew, Quillivant
Cotempla
Daytrana
Jornay PM

Dexmethylphenidates
Azstarys (abuse deterrant)
Focalin

Amphetamines
Adderall
Adzenys
Dyanavel
Mydayis
Evekeo

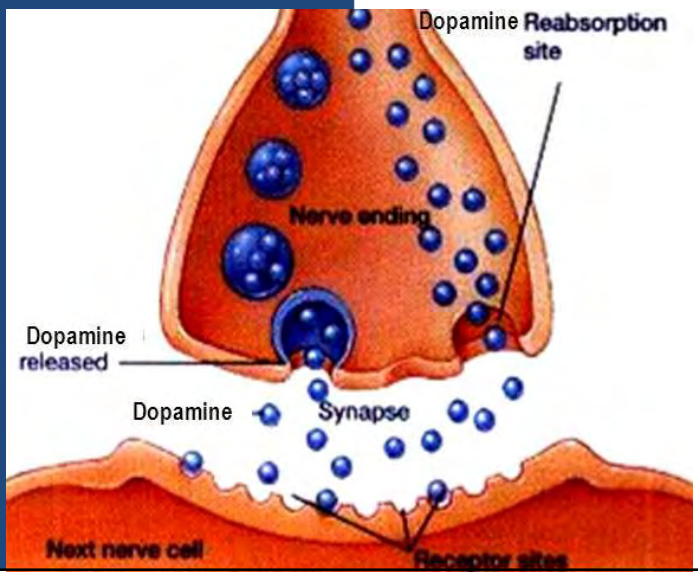
Dextroamphetamines
Dexedrine
Vyvanse (abuse-deterrant)

Amphetamine

Increases dopamine release

Methylphenidate

Blocks dopamine reuptake



Stimulant Side Effects

Physical	Psychiatric
Headaches	Anxiety
GI Distress	Depression
Dry mouth	“Like a zombie”
Low appetite	Insomnia
Tics (involuntary muscle twitching)	Compulsivity (nail biting, skin picking)
Growth delay (in children)	Mania and psychosis
Heart arrhythmia (very rare)	Stimulant abuse

Controversy

Do stimulants treat depression?

Yes
Possible short term benefit for methylphenidate in older and medically ill patients

No
Although marketed for depression from 1950-70, all large trials have failed and the FDA outlawed that kind of marketing in 1970

Amphetamines worsen most psychiatric outcomes when used long-term outside of ADHD

Other ADHD Meds

Antidepressant-like
Atomoxetine (Strattera)
Viloxazine (Qelbree)

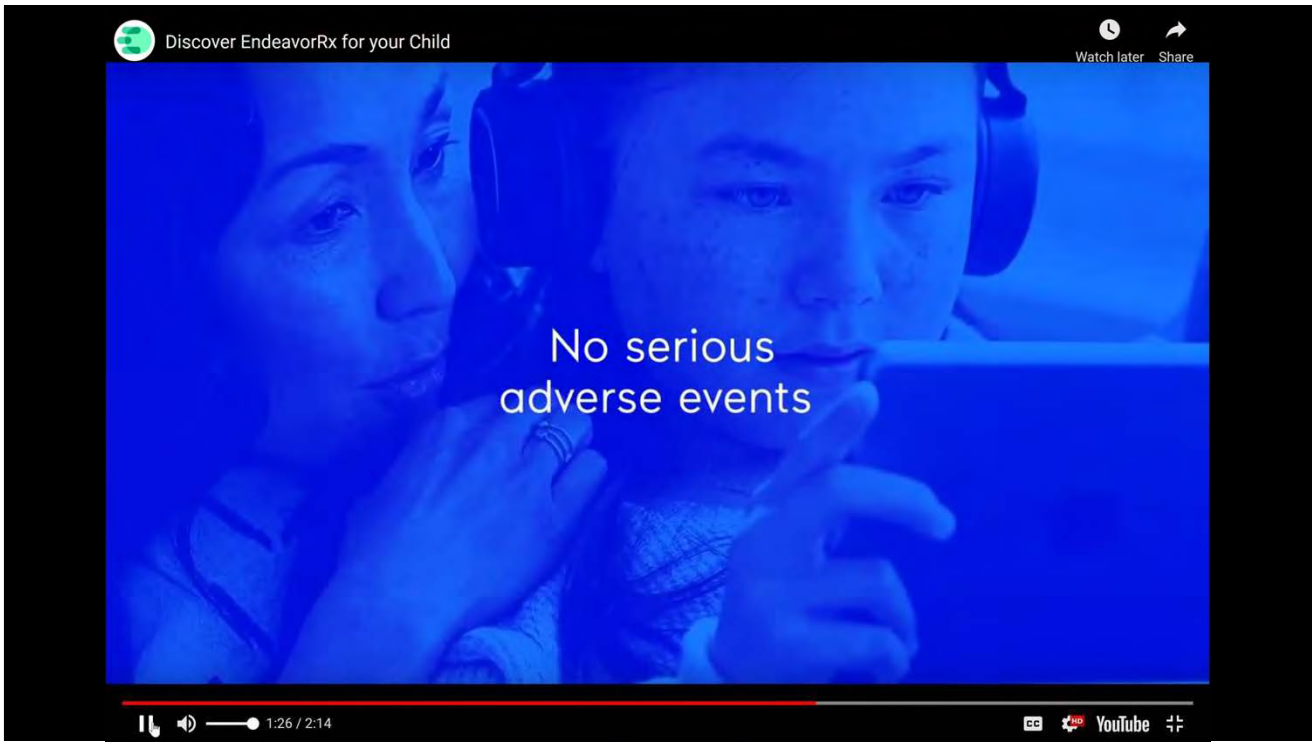
Blood pressure meds
Clonidine (Kapvay)
Guanfacine (Intuniv)

These build up slowly and are 2-3 times less effective than stimulants. No abuse potential.

Wakefulness promoting
Modafinil (Provigil)
Armodafinil (Nuvigil)

These work quickly and are less effective than stimulants. Mild abuse potential.

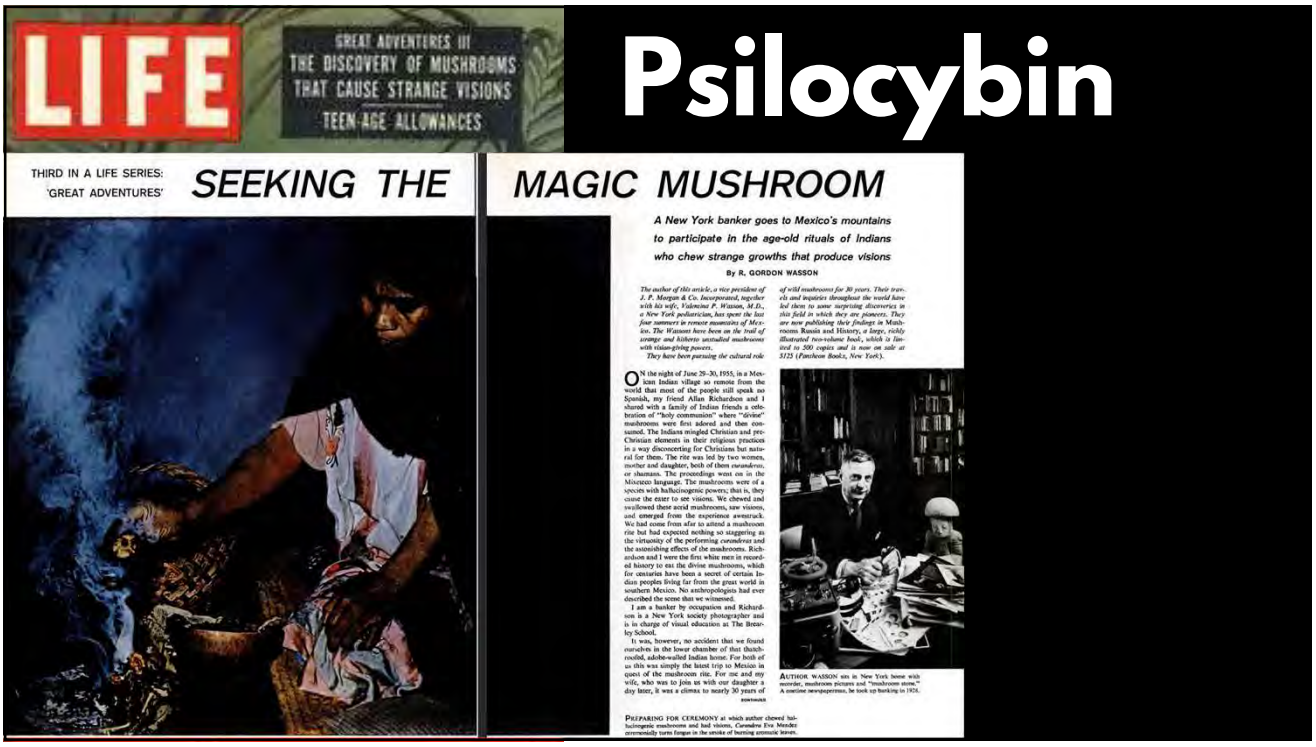
Video game for ADHD?


Discover EndeavorRx for your Child
Watch later
Share
No serious
adverse events
1:26 / 2:14
YouTube


Wii Sports, or Team Sports?

Psychedelics

Psilocybin



LIFE

GREAT ADVENTURES III
THE DISCOVERY OF MUSHROOMS
THAT CAUSE STRANGE VISIONS
TEEN-AGE ALLOWANCES

THIRD IN A LIFE SERIES: 'GREAT ADVENTURES'

SEEKING THE MAGIC MUSHROOM

A New York banker goes to Mexico's mountains to participate in the age-old rituals of Indians who chew strange growths that produce visions

By R. GORDON WASSON

The author of this article, a vice president of J. P. Morgan & Co. Incorporated, together with his wife, Valentina P. Wasson, M.D., a New York pediatrician, has spent the last four summers in remote mountains of Mexico. The Wassons have been on the trail of strange and hitherto unstudied mushrooms with vision-giving powers.

They have been pursuing the cultural role of wild mushrooms for 30 years. Their travels and inquiries throughout the world have led them to some surprising discoveries in this field in which they are pioneers. They are now publishing their findings in Mushrooms Russia and History, *a large, richly illustrated two-volume book, which is limited to 500 copies and is now on sale at $125 (Pantheon Books, New York).*

ON the night of June 29–30, 1955, in a Mexican Indian village so remote from the world that most of the people still speak no Spanish, my friend Allan Richardson and I shared with a family of Indian friends a celebration of "holy communion" where "divine" mushrooms were first adored and then consumed. The Indians mingled Christian and pre-Christian elements in their religious practices in a way disconcerting for Christians but natural for them. The rite was led by two women, mother and daughter, both of them *curanderas*, or shamans. The proceedings went on in the Mixteco language. The mushrooms were of a species with hallucinogenic powers; that is, they cause the eater to see visions. We chewed and swallowed these acrid mushrooms, saw visions, and emerged from the experience awestruck. We had come from afar to attend a mushroom rite but had expected nothing so staggering as the virtuosity of the performing *curanderas* and the astonishing effects of the mushrooms. Richardson and I were the first white men in recorded history to eat the divine mushrooms, which for centuries have been a secret of certain Indian peoples living far from the great world in southern Mexico. No anthropologists had ever described the scene that we witnessed.

I am a banker by occupation and Richardson is a New York society photographer and is in charge of visual education at The Brearley School.

It was, however, no accident that we found ourselves in the lower chamber of that thatch-roofed, adobe-walled Indian home. For both of us this was simply the latest trip to Mexico in quest of the mushroom rite. For me and my wife, who was to join us with our daughter a day later, it was a climax to nearly 30 years of

CONTINUED

AUTHOR WASSON sits in New York home with recorder, mushroom pictures and "mushroom stone." A onetime newspaperman, he took up banking in 1924.

PREPARING FOR CEREMONY at which author chewed hallucinogenic mushrooms and had visions, *Curandera* Eva Mendez ceremonially turns fungus in the smoke of burning aromatic leaves.

Psilocybin

Serotonin 5-HT2A agonist

Naturally occurring "magic mushroom" (similar to LSD but less potent)

Increases cognitive flexibility, self-transcendence, spirituality, dream-like experiences

1-2 doses are followed by psychotherapy for depression (ACT model)

Risks

High blood pressure, dangerous behavior if unmonitored, anxiety, frightening hallucinations, boundary violations by therapists

Indocybin

Psilocybin branded as Indocybin by Sandoz (Novartis) and marketed to enhance psychotherapy in the late 1950's and early 1960's

Removed from market due to unregulated use by counter-cultural groups (along with Sandoz's LSD)

After years of banishment, psilocybin was tested in religious ceremonies (2006), terminal cancer (2011), and major depression (2016)

Psychedelic Assisted Therapy
Two therapists
1-3 dosing sessions (6-8hr)
9-12 integration sessions (1-1.5hr)

MDMA

"Molly" "Ectasy"
Amphetamine with dopamine, norepinephrine, serotonin, and oxytocin effects

Enhances empathy, connection. First used in 1970s for couples counseling

Assists in PTSD psychotherapy, but rejected by FDA

Risks
High blood pressure, overheating, seizures, death if toxicity

MDMA

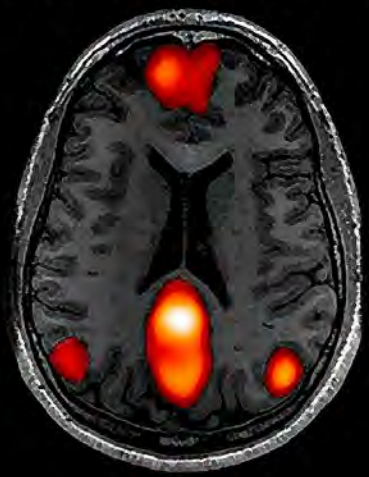
Why did FDA reject MDMA?

1. Subjects could tell if they got placebo
2. So could therapists, who coaxed some to change answers
3. Cases of suicidality and psychosis were suppressed
4. Sexual boundary violations in therapy

Forest Therapy

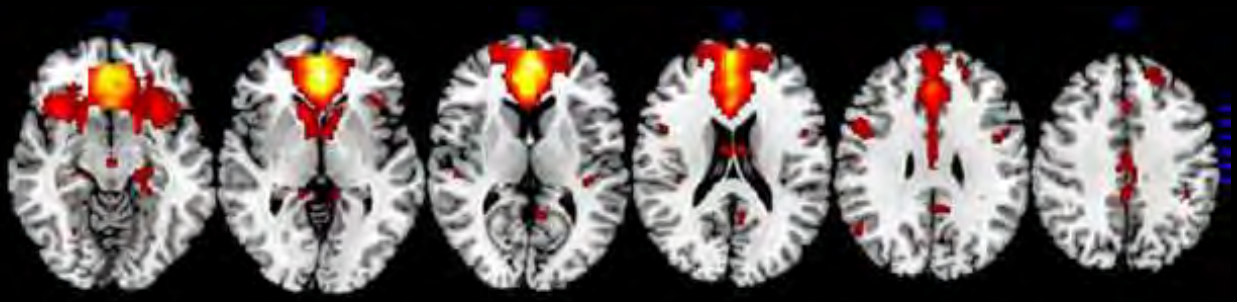
natural way to reduce rumination

THE PSYCHOTHERAPIST'S
ESSENTIAL GUIDE TO THE BRAIN



PART 11
THE DEFAULT MODE NETWORK

Behavioral Activation Quiets the Default Mode Network



Before **After**

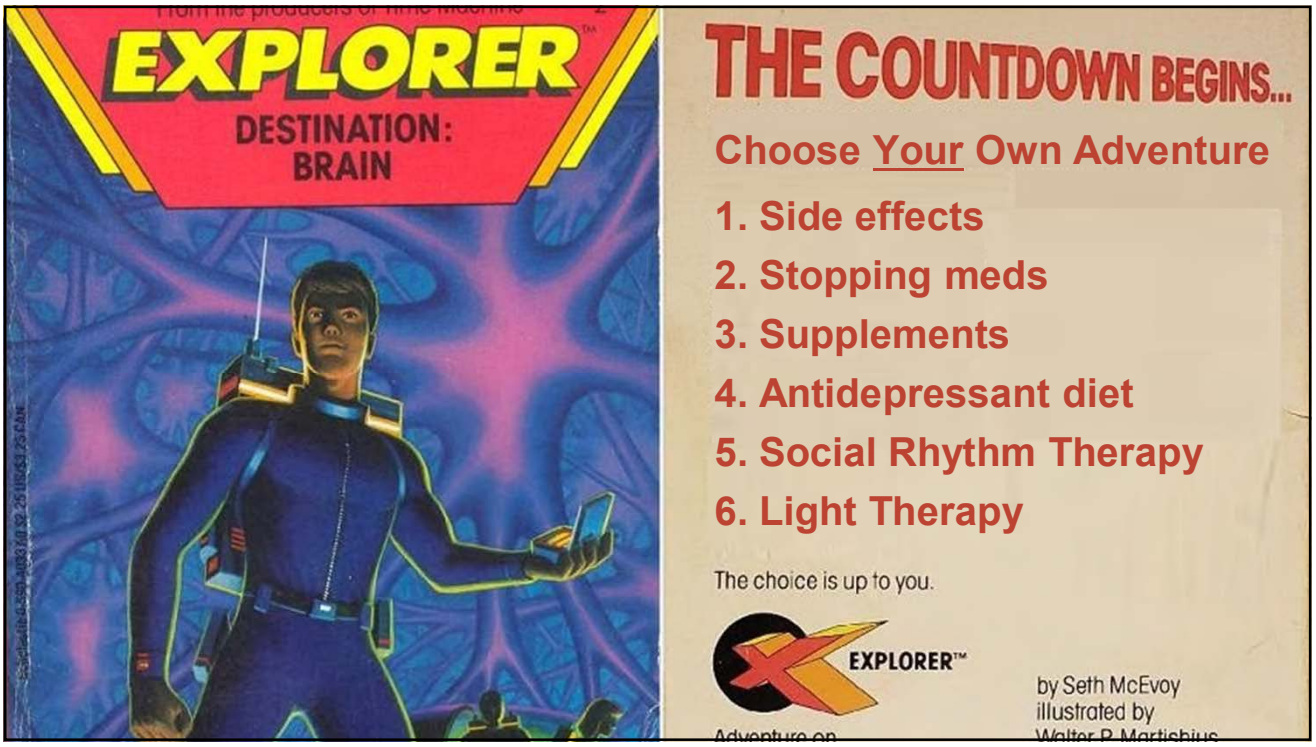
RCT of 5 session of BA in adolescents, n=40, Yokoyamaa et al, 2018

For In-Person Attendees Only

You'll need the following code to complete your evaluation for CE credit.

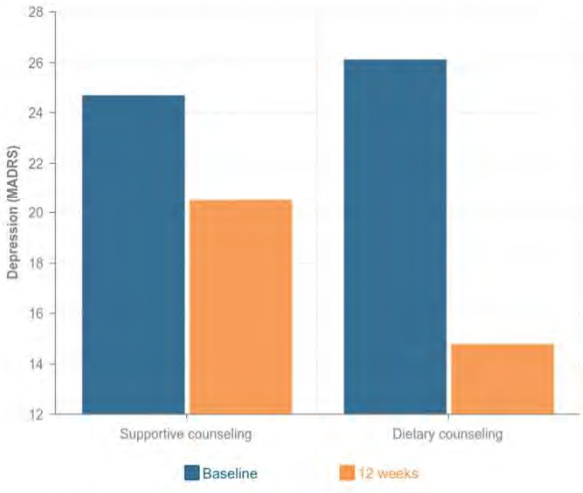
Session 107 Code: 107AIKEN

Psychotherapy NETWORKER


EXPLORER
DESTINATION: BRAIN
THE COUNTDOWN BEGINS...
Choose Your Own Adventure
1. Side effects
2. Stopping meds
3. Supplements
4. Antidepressant diet
5. Social Rhythm Therapy
6. Light Therapy
The choice is up to you.
EXPLORER™
by Seth McEvoy
illustrated by

Questions?

Dietary Counseling 1



n=67, Jacka et al, 2017

1 **Large effect**
Effect size (1.2) larger than that of antidepressants (0.3-0.6)

2 **Benefits follow change**
For every 10% change in diet, there was a 5% drop in depression

3 **Secondary factors**
Improvement not related to changes in exercise, weight, smoking, self-efficacy

Vegetables

Daily servings ≥ 6

One servings = ½ cup

Aim for variety of colors. Include green leafy vegetable or tomatoes in at least one of those servings.

Frozen is fine. Mushrooms count. Limit potatoes to one serving a day unless it's a sweet potato.

Fruit

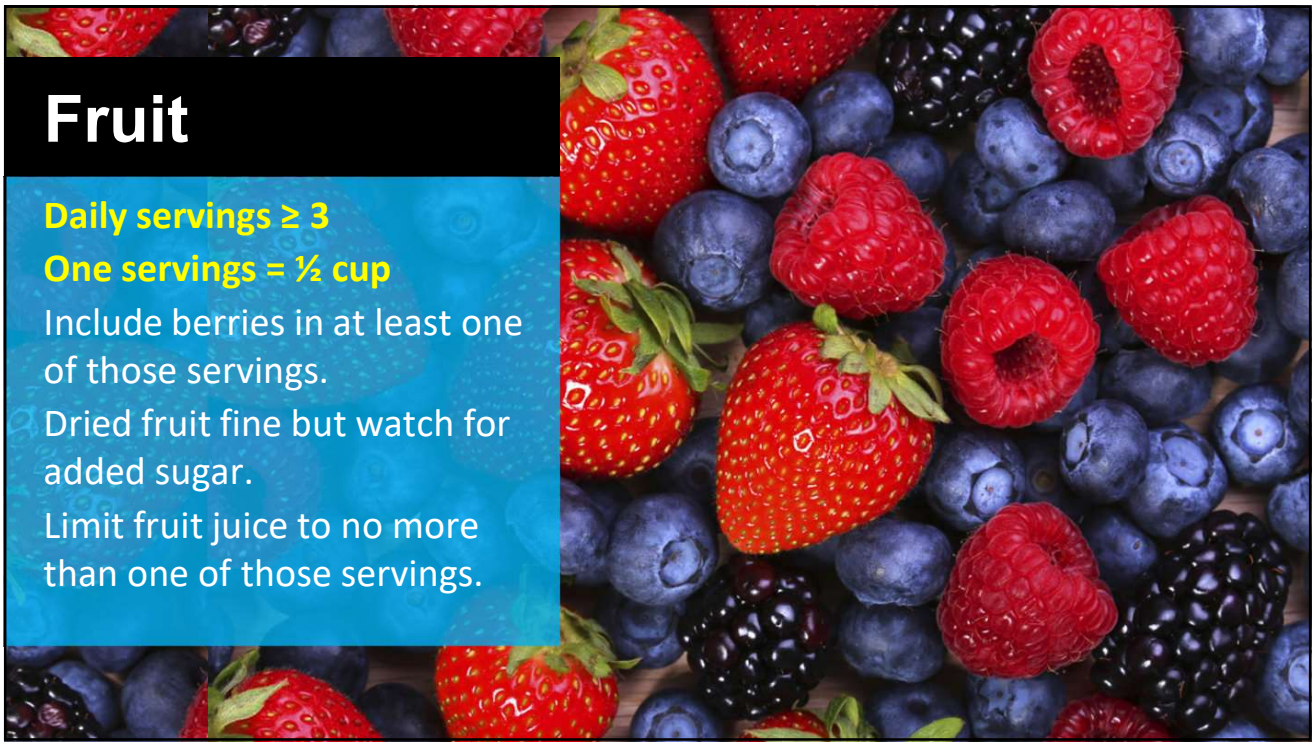
Daily servings ≥ 3

One servings = ½ cup

Include berries in at least one of those servings.

Dried fruit fine but watch for added sugar.

Limit fruit juice to no more than one of those servings.



1 cup of blueberries a day reduced depression

in children and adolescents (3 controlled trials) either on the same day or after 4 weeks of regular use. They improved cognition in all ages (13 controlled trials).

Aiken C, *Psychiatric Times,* 2/9/21

½ cup of almonds a day reduced depression in diabetic patients

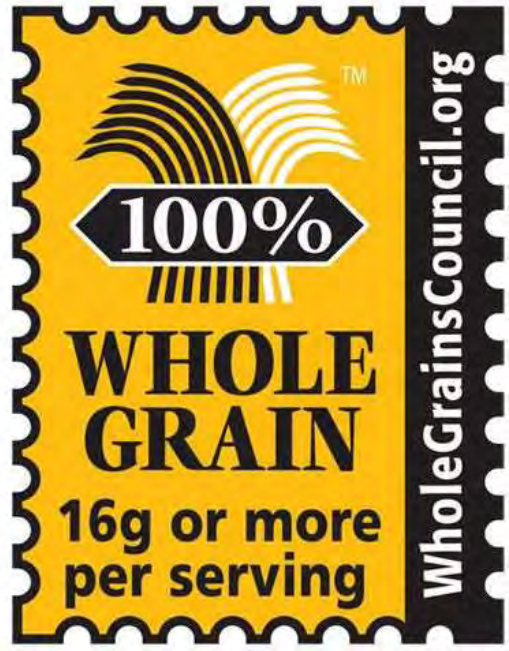
after 3 months in a randomized controlled trial with a large effect size (0.8). They also improved glucose, lipids, metabolic hormones, and the gut microbiome.

Ren M et al, Nutrients 2020

100% whole grains

Daily servings ≥ 5-8
One serving = 1 slice bread
½ cup cooked rice or pasta
¼ cup oats or muesli

Bread, brown rice, whole wheat pasta, oatmeal, muesli cereal, whole wheat crackers, quinoa.



Fish

Weekly servings ≥ 2

One serving = 3 oz cooked.

"Fresh" fish is often defrosted, so frozen is a wise buy.

Costco's frozen Kirkland Atlantic salmon preferred by chefs.

Beans

Weekly servings ≥ 4
One serving = ½ cup beans, or 1/3 cup hummus or tofu.

Edamame, humus, tofu, and falafel count.

Extra Virgin Olive Oil

Daily servings = 3 tab

Olive oil is low in saturated fats, and extra virgin has brain-healthy antioxidants.

EV olive oil burns ≥ 325-400°F. For high-temperature cooking, use regular olive oil (465°F), safflower oil (510°F), or avocado oil (520°F)

Eat in Moderation

Milk, cheese, yogurt

Max daily servings = 3-4

One serving:

- Milk: 1 cup milk (250 mL)
- Yogurt: 200 grams
- Hard cheese: 40 grams
- Soft cheese: 120 grams

Lean red meat

Max weekly servings = 3-4
One serving = 3 oz.

Poultry

Max weekly servings = 2-3
One serving = 3 oz.

Eggs

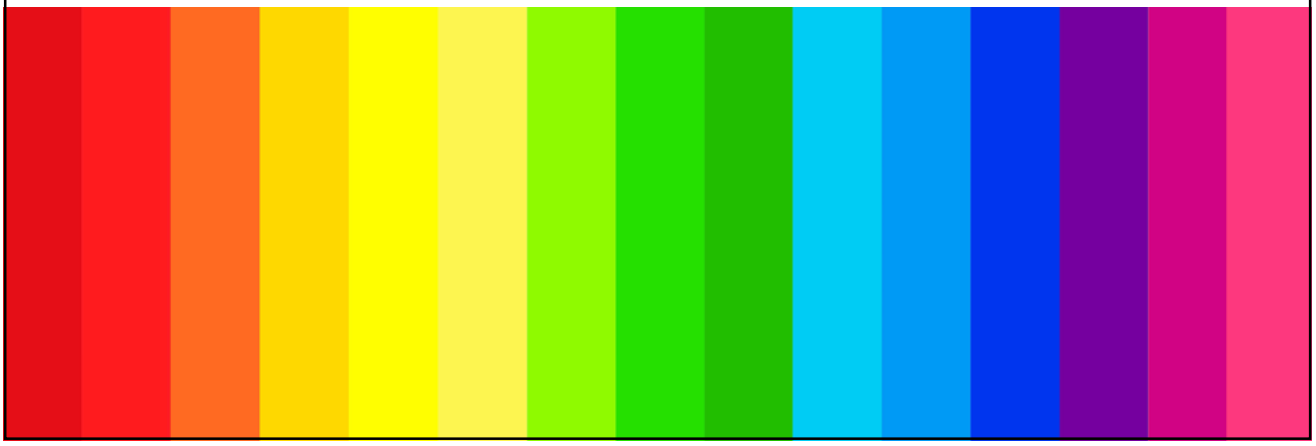
Max weekly servings = 6
Less if high cholesterol

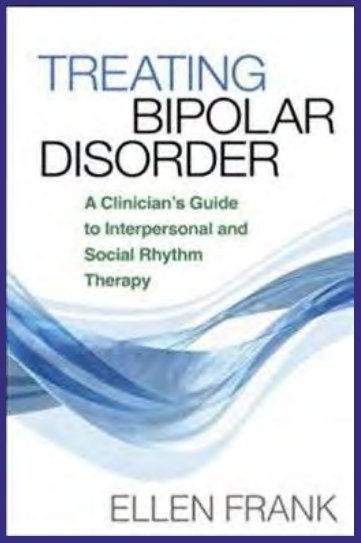
Eat less of

- Processed foods
- Fried foods
- Fast foods
- Sweets
- Sodas
- White bread/pasta
- Deli meats
- Bacon, beef jerky
- Butter, condiments

Max weekly servings = 3
One serving = 120 cal.

Questions?





IPSRT: Interpersonal Social Rhythm Therapy

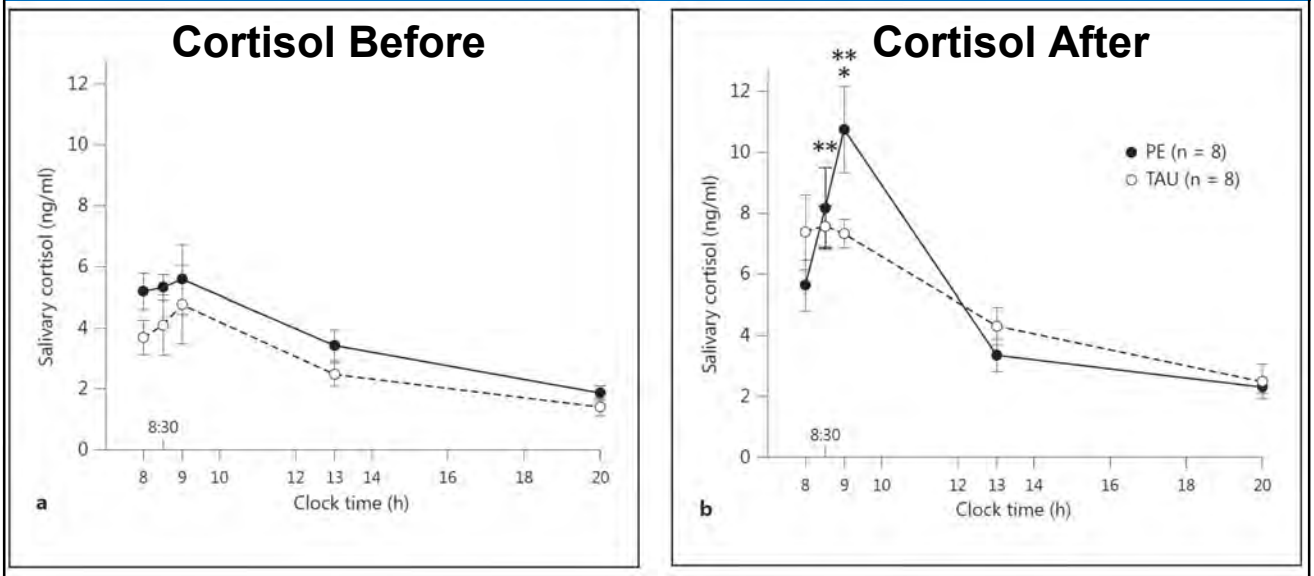
Social Rhythm Therapy

Stive to do these at the same time each day*

- Time out of bed
- Time starting work or chores
- Time of significant interaction with others
- Time of dinner

*Give or take 15-30 minutes

5 Month Educational Group Therapy for Bipolar



Delle Chiaie R et al, n=20, RCT, 2013

Medication

Top Ten Updates

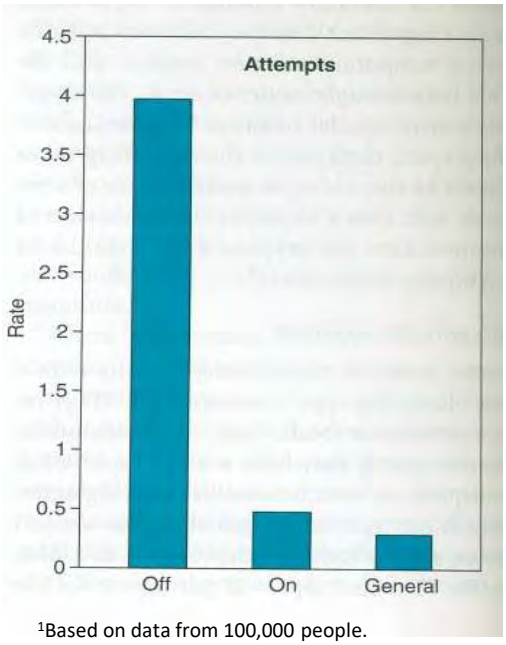
1. Medication increases lifespan in mood disorders, ADHD, and schizophrenia

Causes of Premature Death in Bipolar

Heart disease
Stroke
Cancer
Diabetes mellitus
Chronic obstructive pulmonary disease (COPD)
Pneumonia and influenza
Accidental injuries
Suicide

Top Ten Updates

1. Medication increases lifespan in mood disorders, ADHD, and schizophrenia.
2. Lithium lowers rate of suicide attempts, completion, and suicidal thinking.[1]

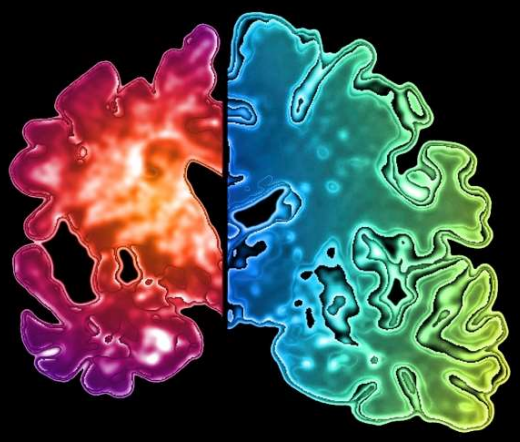


[1]Based on data from 100,000 people.
Goodwin & Jamison, *Manic Depressive Illness,* 2007.

Top Ten Updates

3. Lithium prevents dementia and has other health benefits, lowering the risk of:
   - Dementia
   - Cancer
   - Heart disease
   - Stroke
   - Neurologic illnesses

   Protects telomeres in the genes
   Enhances growth in the brain



Top Ten Updates

1. Medication increases lifespan in mood disorders, ADHD, and schizophrenia.
2. Lithium prevents dementia and has other health benefits
3. Lithium lowers rate of suicide attempts, completion, and suicidal thinking
4. Latuda (lurisidone) and Vryalar (cariprazine) FDA-approved for bipolar depression.
5. Ingrezza and Austedo are first FDA-approved treatment for tardive dyskinesia.
6. New antidepressant vortioxetine (Trintellix) improves cognition and lacks sexual side effects.

Top Ten Updates

1. Medication increases lifespan in mood disorders, ADHD, and schizophrenia.
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4. Latuda (lurisidone) FDA-approved for bipolar depression. Vryalar (cariprazine) may be next.
5. Ingrezza is first FDA-approved treatment for tardive dyskinesia.
6. New antidepressant vortioxetine (Trintellix) improves cognition and lacks sexual side effects
7. Don't take sleep meds with food
8. Warning placed on Abilify (aripiprazole) for gambling risk
9. Varenicline (Chantix) relative safe for smoking cessation in psychiatric patients
10. Disulfiram (Antabuse) most effective med for alcohol abuse when depressed

Therapy and Meds

1. Benzodiazepines may slow learning if taken during CBT or exposure therapy.
2. Cycloserine (an older antibiotic that's hard to find) speeds learning if taken before exposure exercises.
3. Benzodiazepines (and alcohol) increase risk of PTSD if taken after a trauma.
4. Hydrocortisone (a steroid) and possibly propranolol (blood-pressure med) reduce risk of PTSD if given after a trauma.

Low Weight Gain

Antidepressants

- Buproprion (wellbutrin), fluoxetine (prozac), emsam patch (MAOI).

Mood stabilizers

- Lamotrigine (lamictal), carbamazepine, lithium.

Atypical Antipsychotics

- *Best:* Ziprasidone (geodon) best.
- *Worst:* Quetiapine (seroquel), olanzapine (zyprexa, symbyax), clozapine (clozaril).

Are they Neuroprotective?

Stress has caused brain cells in the picture above to shrink back.

The brain cells pictured above have more connections - like a tree with more branches - due to the effects of medication.

Low Fatigue

Antidepressants

- Buproprion (wellbutrin), fluoxetine (prozac), emsam patch (MAOI)
- **SNRIs:** Desvenlafaxine (pristiq), duloxetine (cymbalta), levomilnacipran (fetzima), milnacipran (savella), venlafaxine (effexor).

Mood stabilizers

- Lamotrigine (lamictal), lithium.

Atypical Antipsychotics

- *Low risk:* Aripiprazole (abilify), brexpiprazole (rexulti), paliperidone (invega), lurisidone (latuda), cariprazine (vraylar).
- *Higher risk:* Quetiapine (seroquel), olanzapine (zyprexa, symbyax), ziprasidone (geodon), clozapine (clozaril).

Low Sexual Side Effects

Antidepressants

- Buproprion (wellbutrin), mirtazapine (remeron), vortioxetine (trintellix), vilazodone (viibryd), ?emsam patch (MAOI).

Mood stabilizers

- Lamotrigine (lamictal).

Atypical Antipsychotics need data

- *Low risk:* Aripiprazole (abilify), brexpiprazole (rexulti), paliperidone (invega), lurisidone (latuda), cariprazine (vraylar).
- *Higher risk:* Quetiapine (seroquel), olanzapine (zyprexa, symbyax), ziprasidone (geodon), clozapine (clozaril).

Low Cognitive Effects

Antidepressants

- Buproprion (wellbutrin), vortioxetine (trintellix) improve cognition.
- Most others are neutral.

Mood stabilizers

- Lamotrigine (lamictal) best.

Also lacking weight gain, sexual dysfunction, cognitive problems:

- Pramipexole (mirapex) treats restless leg syndrome and both bipolar and unipolar depression. It can cause fatigue.
- Modafinil (provigil/nuvigil) treats fatigue, ADHD, and partially helps both bipolar and unipolar depression.

Can I Stop Meds?

- The main reason people with bipolar stop meds is not because they miss the mania; it's because they don't think they are working.
- Chance of bipolar episodes returning: 95% in next 5 years after stopping
- In unipolar, best evidence of prevention is in first 6 months of recovery; after that preventative effects of antidepressants are likely but unproven
- Prevention is necessary. Meds are one tool in prevention.

How to Stop Meds

- One at a time.
- Slowly; at least 2 weeks. 2-6 months may be better.
- Only after symptom-free for 6-12 months (depending on diagnosis).
- Preferably after making lifestyle changes to prevent depression.

Meds and Cost

- It takes 7-10 years for a med to go generic, and another year for the cost to drop.
- Generics have the same blood levels as brands, plus or minus 10%.
- Generics with release coatings (SR, CR, XR) may have more issues.

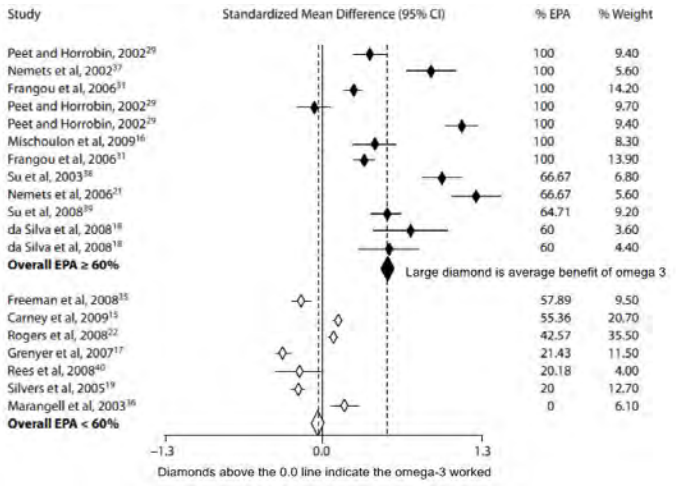
Solutions for Medication Costs

- Price check if paying out-of-pocket: Costco or www.goodrx.com
- Assistance if uninsured:
  www.pparx.org, www.togetherrxacces.com, www.rxassist.org

Natural Supplements

Omega 3

- Fish oil, 30% of the brain
- Improves flexibility of brain cell membranes
- Treats: depression, bipolar, irritability, borderline, emotional features of ADHD. Prevents psychosis and dementia.
- Dosage 1-3,000mg daily, with EPA = at least 1.5 times DHA amount



Omega 3

Physical Benefits:

- Reduce cholesterol, blood pressure, and inflammation.
- Lower the risk of cancer, stroke, osteoporosis, psoriasis, inflammatory bowel disease, macular degeneration, and asthma.

Recommended products at chrisaikenmd.com/supplements

N-Acetylcysteine (NAC)

- Main antioxidant in the brain.
- Improves low-grade depression in bipolar and schizophrenia.
- Treats trichotillomania (compulsive hair pulling), skin picking, self-cutting, and nail biting, OCD.
- Addictions (e.g., marijuana, cocaine, nicotine, gambling).
- Dementia.
- Dose 2,000mg daily.

Recommended products at chrisaikenmd.com/supplements

L-Methylfolate (Deplin)

- FDA approved to augment antidepressants.
- Works preferentially in obesity, inflammation, elderly, and people with MTHFR c-677t gene.
- Small study showed efficacy in bipolar depression.
- Involved in production of neurotransmitters.

Vitamins

- Folate 2mg daily with vitamin B12 400–600 mg daily. Prevents depression, improves SSRI efficacy.
- Vitamin D 2,000 IU daily – unclear if helpful for depression but good for health (and COVID)

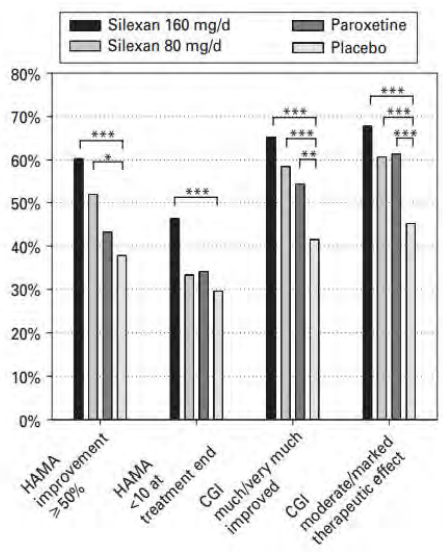
SAM-e

- Natural methyl-donor, involved in serotonin, dopamine, norepinephrine.
- Best-studied natural supplement for depression; worked as well as a tricyclic antidepressant.
- Dose 400–1,600 mg daily.
- Can trigger mania.

Lavender (Silexan)

- Prescription medicine in Germany.
- Improved Generalized Anxiety Disorder better than paroxetine (Paxil).

Recommended products at chrisaikenmd.com/supplements



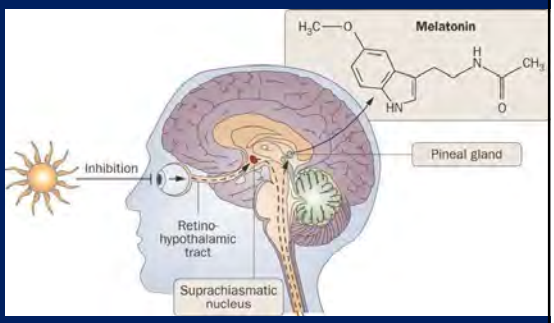
Chamomile

- Improves anxiety and sleep.
- Dose 220mg/day, with 1.2% apigenin

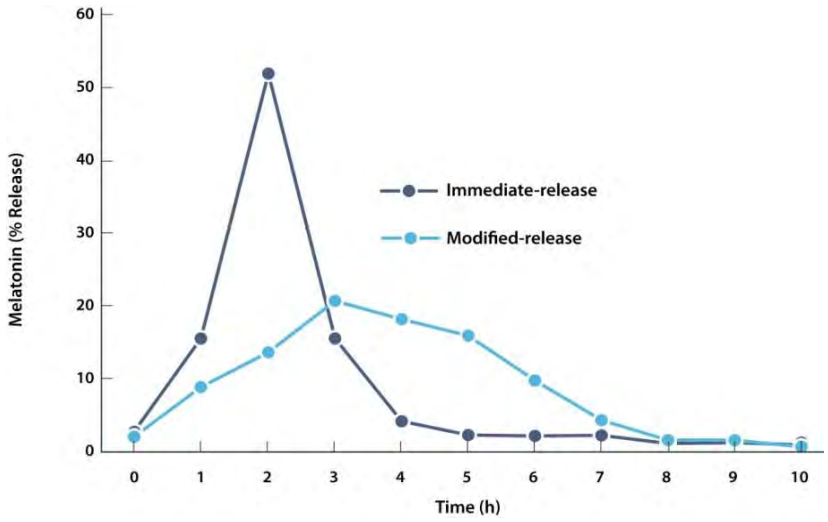
Recommended products at
chrisaikenmd.com/supplements

Melatonin

- Naturally increases in darkness and shuts off with bright/blue light.
- Mild benefits in sleep, 0.2-5 mg at night, can use SR version.
- Can take with zinc 11.25mg and magnesium 225mg, which enhance natural release.
- More helpful in old age



Sustained release melatonin



Melatonin

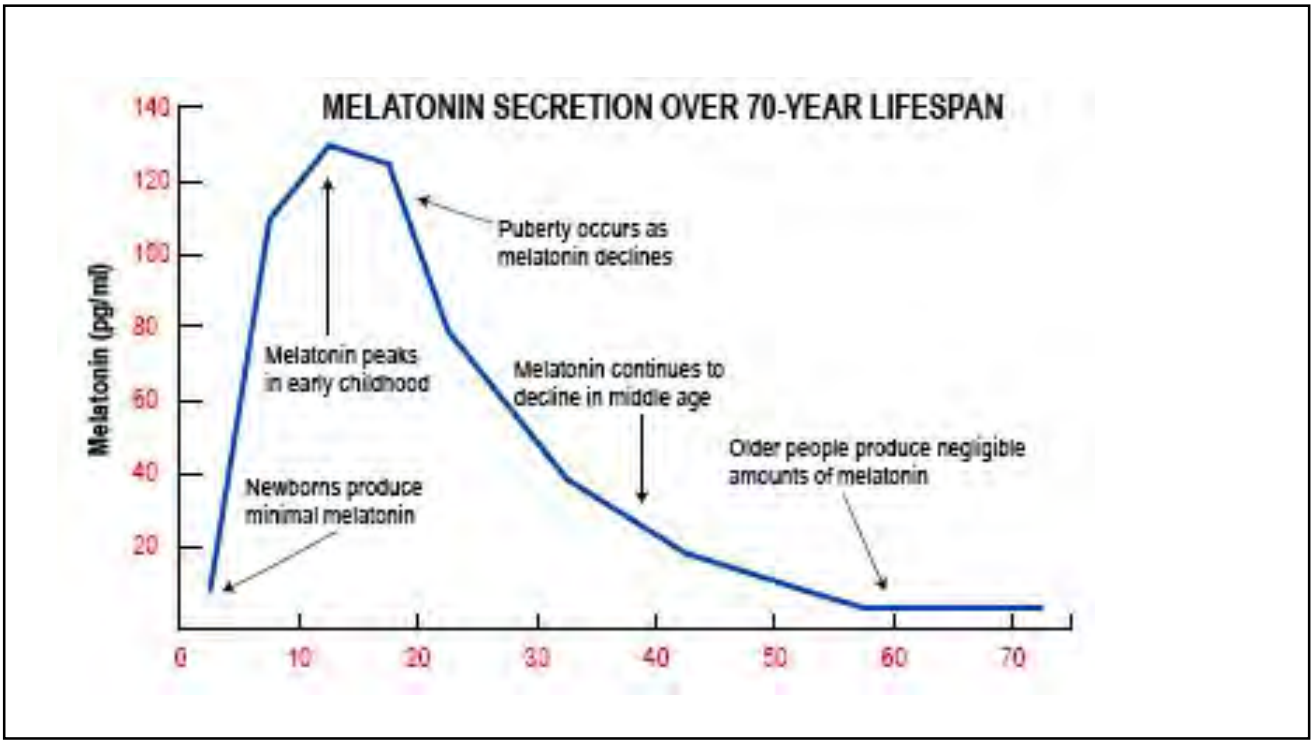
Reliable Brands

- **Time release:** Natrol Melatonin, Sam's Club Member's Mark, REMFresh, Source Naturals time release. **Instant release:** Swanson's natural
- Dr. Wurtman's combines instant release and sustained release

Dr. Wurtman's Melatonin

Melatonin

- Useful in elderly, shift-work, and jet-lag.
- Prevents weight gain on antipsychotics (3-5mg/night), migraines, and possibly tinnitus.
- Possible treatment for depression (e.g. taken with buspirone, as melatonin agonists: ramelteon or agomelatine).



Other

For Unipolar:

- Chromium picolinate (600 mcg daily)
- Saffron (30 mg daily)
- Creatine (5 grams daily; effect when used with an SSRI antidepressant in women)
- Acetyl-L-carnitine 1,000–3,00 daily
- St. John's Wort (Hypericum perforatum) 900–1,800 mg daily
- Rhodiola rosea (200–400 mg daily)

For Bipolar:

- Inositol
- Magnesium
- EMPowerPlus

Some natural treatments for unipolar can worsen mood in bipolar.

Lightbox

- Treats depression as well as an antidepressant.
- Can work in summer as well.
- Typically started early in morning (use AutoMEQ test at cet.org to optimize timing) for 30-60min per day.
- For bipolar, less destabilizing at noon.
- Need to sit close to it, and box should be above head.

Uplift Daylight XL and Recommended products at chrisaikenmd.com/supplements

Sleep Inertia

- Sound alarms wake us from deep sleep 90% of the time, causing *sleep inertia.*
- This groggy state lasts 15 minutes in most people, but up to 4 hours during depression.

Dawn Simulator

TURNS ON
Gradually over 30 minutes

IMPROVES
Alertness
Energy
Depression

EXAMPLES
Philips morning wake-up

LightenUp (best price)

Apps (*Rise & Shine, Lichtwecker)*

Phillips HF3520/60 $100

Dawn Simulation

$20 at windhovermfg.com

Seasonal Affective Disorder (SAD)

- Positive in 8/10 small controlled trials (total n=446)
- 7/10 of those are placebo-controlled

Other Conditions

- Sleep inertia
- SAD in recovered alcoholics
- Sleep quality in normal adults (cross-over study, n=100)
- Attention, alertness, and working memory in adolescents and sleep deprived adults (pb-control)

Products

www.chrisaikenmd.com/supplements