

# WIRED & TIRED

ELECTRONIC FASTING FOR TREATMENT OF ADHD,  
DEPRESSION & AUTISM

1

# OVERVIEW

## The case for restricting interactive screen-time

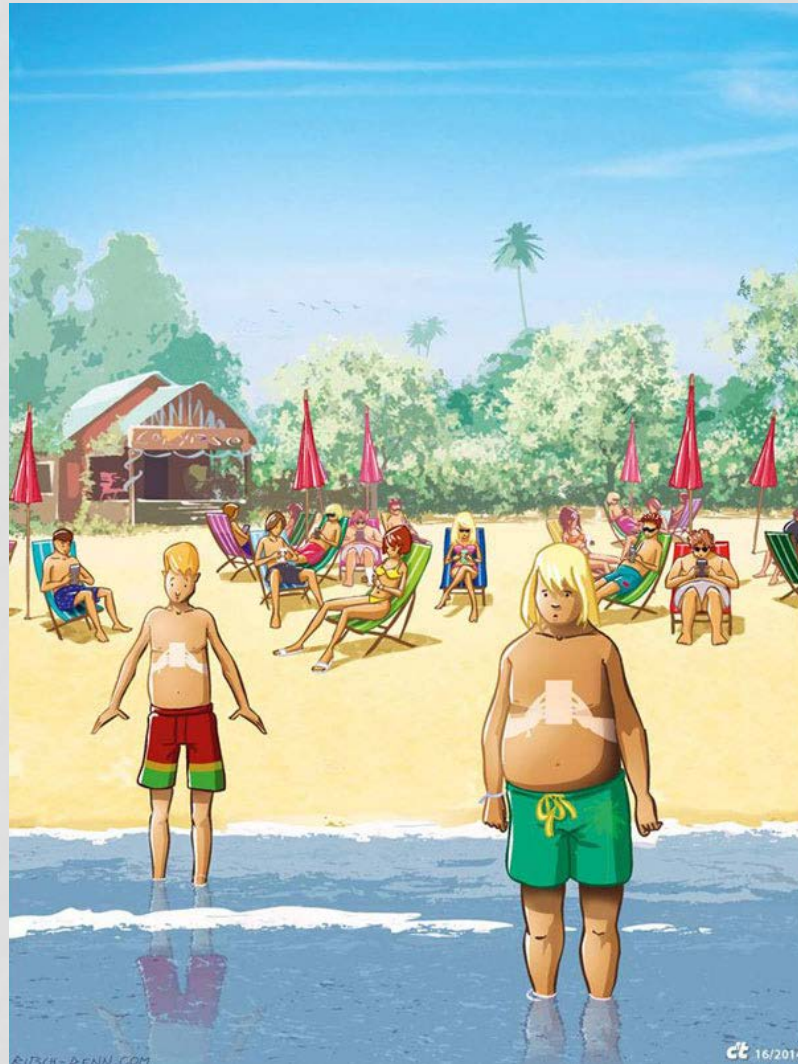
- Trends, risks, myths
- Physiological impacts
- Mental health concerns
- Benefits of restricting (case studies)
- Recommendations

# TRENDS ON THE RISE IN CHILDREN

- Psychiatric disorders
- Psychotropic medication use
- Chronic medical conditions
- Disability filings
- Gender achievement gaps



# MEANWHILE...



# MEANWHILE...

...children's electronics use continues to climb:

- 5-7 hours daily
- Exposure at increasingly younger ages
- School-based screen-time is rapidly escalating

# IS SCREEN-TIME THE CULPRIT?

## KNOWN RISKS:

- Obesity, metabolic syndrome, other medical
- Mental health issues & sleep disturbance
- Delinquency
- Social incompetency
- Aggression
- Addictions
- Delayed language & reading, impaired attention
- Diminished creativity
- Sensory integration issues

# MYTH-BUSTING!

- **Myth:** “ *It all depends on WHAT they’re doing...content matters!* ”  
**Truth:** *Total screen-time more important than type or content: “It’s the medium not the message.”*
- **Myth:** *Computer time is better than TV.*  
**Truth:** *Interactive screen-time is more dysregulating & addicting than passive*
- **Myth:** “*Everything in moderation.*”  
**Truth:** *Not universal; some kids can’t handle any screen-time*
- **Myth:** *The “Digital Divide”*  
**Truth:** *Disadvantaged children at highest risk for problematic use*
- **Myth:** *Computer skills need to be taught early to survive in today’s world.*  
**Truth:** *computer skills are overemphasized in school – and are relatively easy to learn at any age*

# MYTH-BUSTING!

- **Myth:** Ed tech is revolutionizing the way kids learn & saves schools money  
**Truth:** Using technology to teach is *at best neutral* – and may be harmful
  - \*Devices in the classroom impair performance
  - \*Schools with most computer use = lowest scores
  - \*Kids with <30 min of screen-time daily = highest GPAs
- **Myth:** New software can help kids learn to read  
**Truth:** E-reading *hinders* literacy & comprehension
- **Myth:** Devices in class helps students be more efficient  
**Truth:** Handwriting *beats* laptop note-taking for recall, integration, & test scores; laptops distract others.



**The nature of technology is *at odds* with basic developmental needs!**



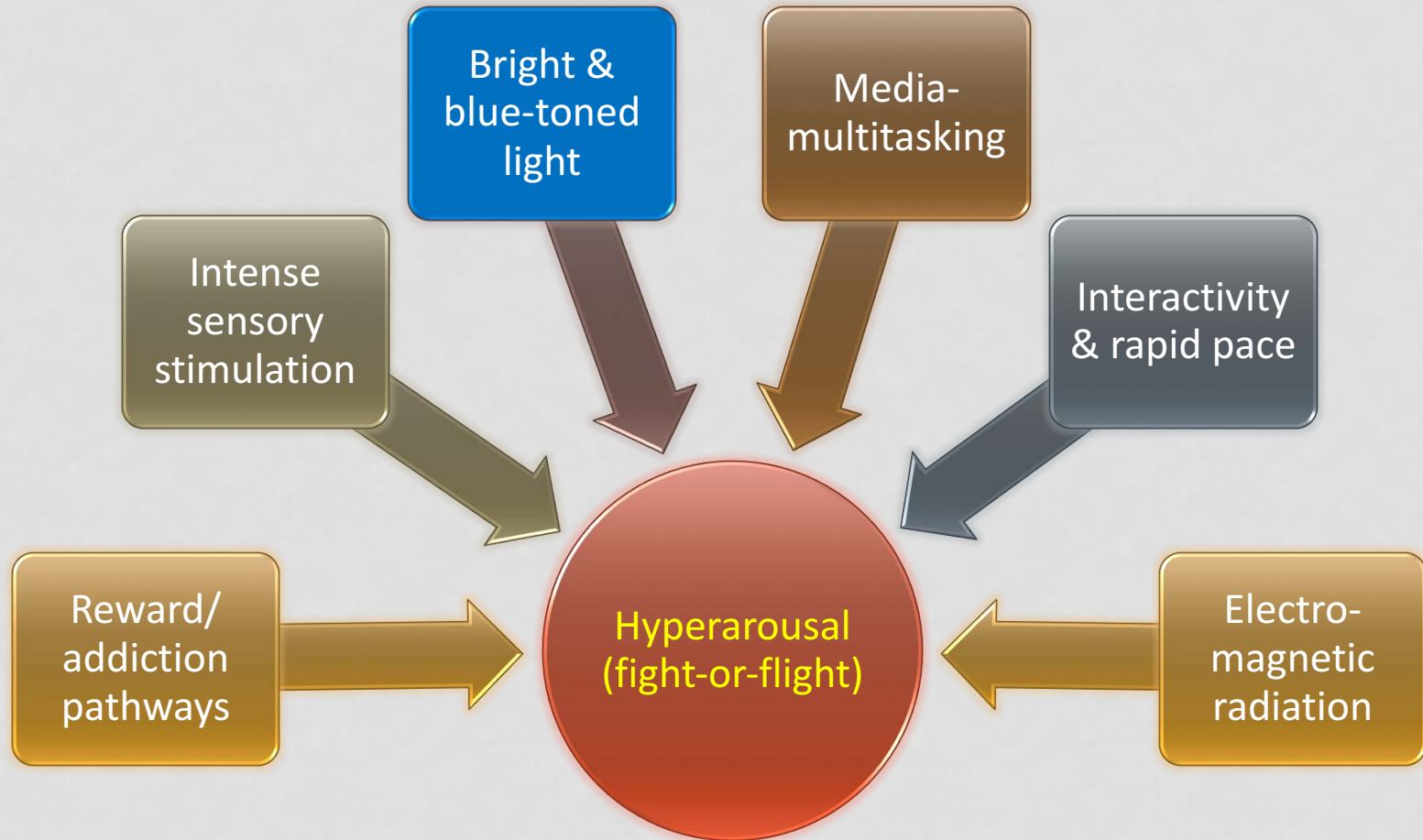
# WHY BE CONCERNED?

Any device with an electronic screen acts like a **stimulant**, is a central nervous system **irritant**, and emits electromagnetic **radiation**.

All interactive screen time – *including educational* – stresses the nervous system:

- **Desynchronizes** the body clock
- **Alters** brain **chemistry** & raises **stress hormones**
- Creates a “**mismatch**” (arousal : physical discharge)
- Creates **drag** on mental energy & on development

# NUMEROUS SCREEN-RELATED FACTORS TRIGGER STRESS



# HOW ELECTRONIC STRESS CREATES SYMPTOMS (**ELECTRONIC SCREEN SYNDROME** OR “**ESS**”)

Overstimulation & stress reactions



Blood flow (frontal lobe → primitive areas), desynchronized clock, altered brain chemistry & hormones



**Poor frontal lobe functioning** (emotional regulation, focus, decision-making, impulse control, empathy, creativity)

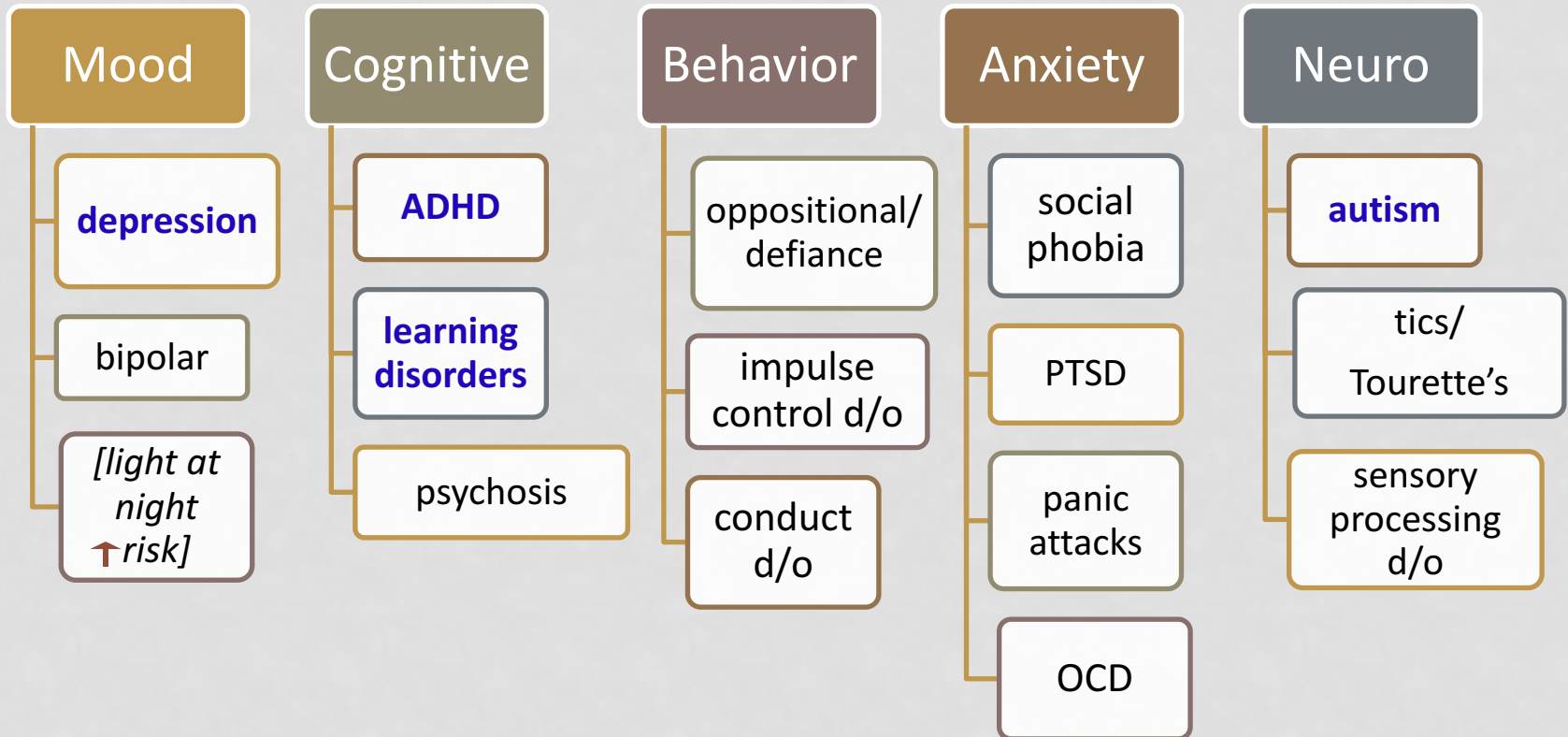
# WHAT DOES **ELECTRONIC SCREEN SYNDROME** LOOK LIKE?

- Dysregulated **mood**
  - irritable, tearful, depressed, rageful
- Impaired **cognition**
  - poor focus, forgetful, disorganized, (hallucinations in some)
- Dysfunctional **behavior**
  - oppositional, impulsive, low empathy





# ESS MIMICS & EXACERBATES PSYCHIATRIC DISORDERS



# ESS & ADHD OVERLAP: VULNERABILITIES

- Dopamine dysfunction
- Trouble regulating arousal/sleep disturbance
- Impulsivity
- Poor executive functioning
- High movement needs
- Difficulty filtering irrelevant stimuli
- Drawn to novel stimuli
- Higher risk for addiction/compulsions
- Exploitation of unmet needs (competency, control, sustained focus, “good at it”)



# ESS & AUTISM OVERLAP: VULNERABILITIES

- Dopamine and serotonin dysfunction
- Trouble regulating arousal, sleep disturbance
- Low melatonin
- Repetitive movements/behaviors
- Sensitivity to stimulants
- Prone to tics and OCD
- Cognitive rigidity
- Social/communication deficits



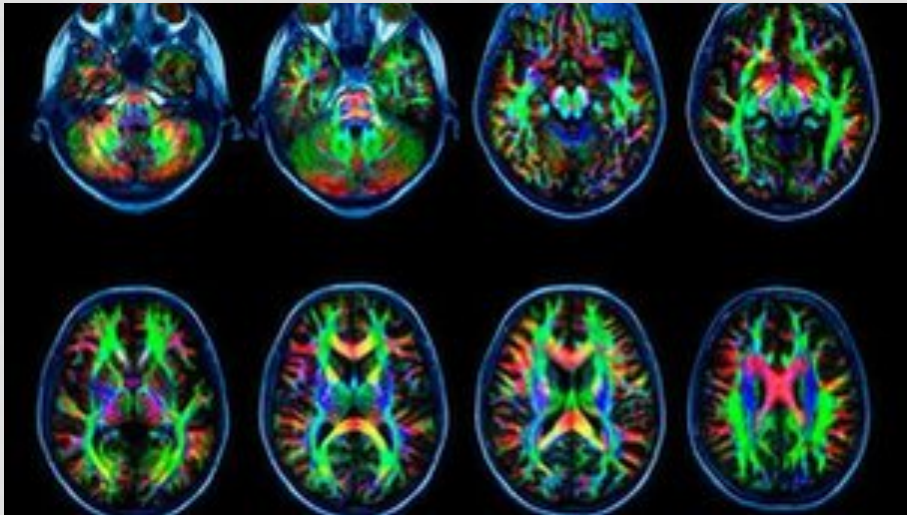


# WHAT ARE THE CONSEQUENCES?

Technology overuse exacts large costs on the individual, the family, and on society:

- **unnecessary medication use**
- **inefficient treatment**
- **misuse of health and education resources**
- **technology & other addictions**
- **academic failure, unemployment**

# TECH ADDICTION: BRAIN SCAN FINDINGS



- Gray matter atrophy
- Thinner cortex
- White matter fragmentation
- Reduced dopamine receptors & transporters
- Abnormal processing (decision-making)
- Similar to alcohol/substance abuse damage

# WHAT'S THE SOLUTION?

## The Reset Program:

A strict, extended “**electronic fast**” (or screen fast) followed by methodical screen management based on *tolerability* and risk factors—NOT blanket guidelines.



# **THE RESET:**

## **BENEFITS OF AN ELECTRONIC FAST**

**A strict, extended, 3-4 week electronic fast helps “reset” the brain:**

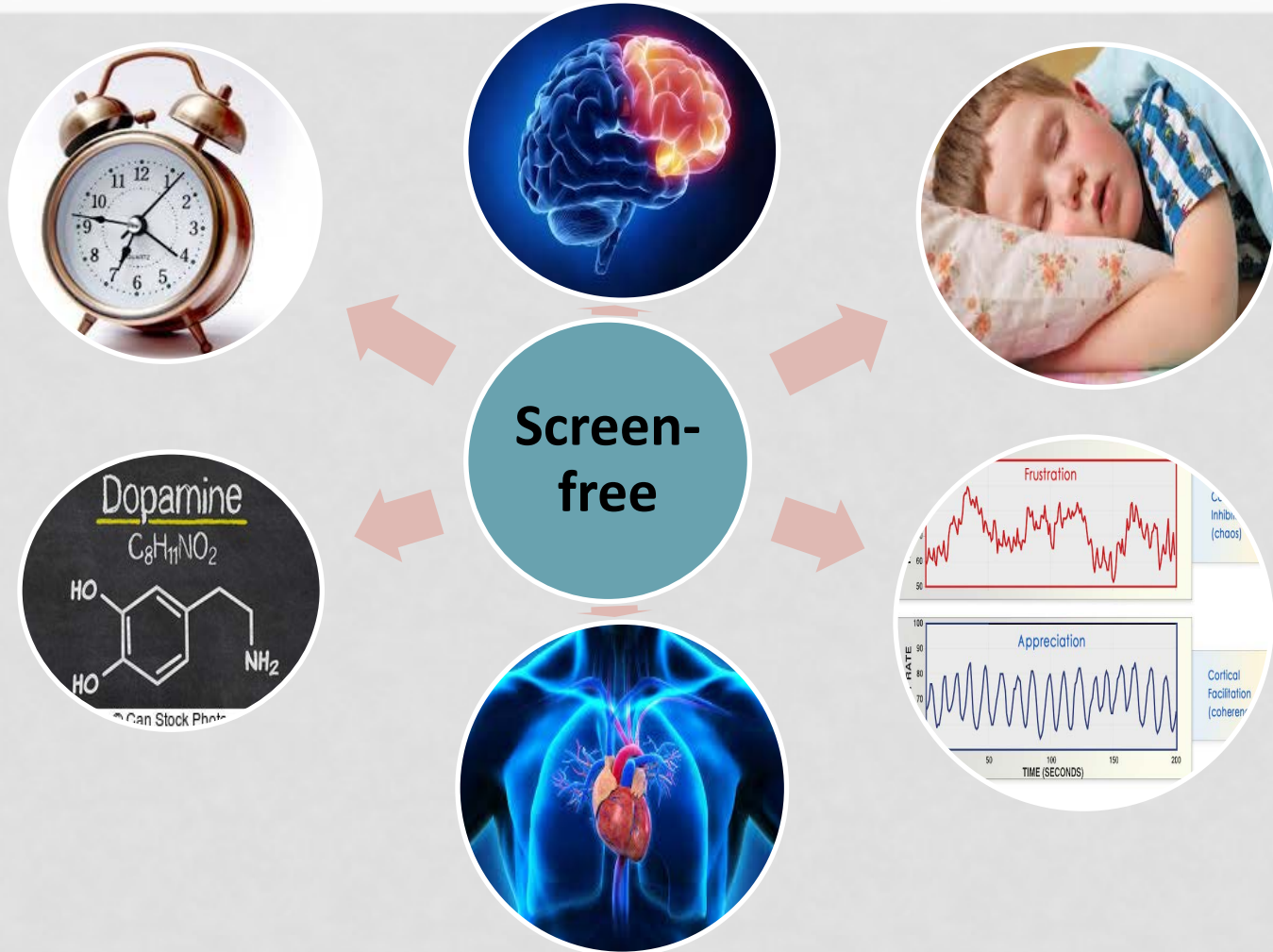
- resynchronizes body clock
- provides deep rest, shifts brain blood flow
- normalizes stress hormones & brain chemistry
- Improves mood, cognition, sleep & behavior

**And simultaneously:**

- clarifies diagnosis & optimizes treatment
- minimizes need for medication
- provides baseline for screen-time tolerability

# THE RESET:

## PHYSIOLOGICAL BENEFITS OF AN ELECTRONIC FAST



# CASE #1

## SOPHIA

### 15 yo girl with autism and ADHD

- Stable for several yrs, on 2 meds, one “as-needed”
- Sudden 12 lb weight gain plus agitation, repetitive movements, crying spells, hitting self and mother
- Uncovered: mother allowing smartphone play. Why?...
- ...new iPad program at school
- Weight gain due to increased use of “as-needed” med
- Symptoms reduced upon eliminating smartphone use; resolved upon eliminating iPad program; lost weight

# CASE STUDY

## LILY

### 16 yo girl with “bipolar disorder” and social problems

- Presented with mood swings, disruptive behavior, academic failure
- “Kicked out” of school; homeschooling unsuccessful
- 30 lb weight gain in 2 yrs
- Excessive computer time, phone use
- Electronic fast: 1<sup>st</sup> week “brutal.” By 6 weeks-smiling, compliant, less arguing, good focus
- 6 months-back in school, lost weight, good grades, made friends. Low dose of mild mood stabilizer, rages resolved.

# CASE STUDY

## RYAN

### 8 yo boy, good student, no mental health history

- Gradual onset of falling grades, depressed mood, disinterest in learning, disruptive in class
- Given 3 diagnoses (ADHD, depression, autism), multiple med trials, multiple services at home and school with poor results
- Daily video games, smartphone given 1 yr prior
- Electronic fast x 4 weeks → mood, play, behavior, and grades dramatically improved
- Mother continued electronics' restriction by banning all handheld devices, all video games, no phone
- Child continues to do well 3 years later; no meds, no services





# CASE STUDY

## RILEY

### 17 yo boy, ADHD & depression

- Bright but failing grades in high school; depressed, on two meds; irritable, defiant, UNMOTIVATED
- Video gaming, several hours daily
- Electronic fast x 6 weeks → mood, behavior, and grades dramatically improved
- Gave up gaming (after several relapses), got part-time job
- Began running, lost weight, stopped meds
- 2 years community college, transferred to UCLA, obtained driver's license
- Still stable 5 years later: no meds, geology degree. NO GAMING.



# CASE STUDY

## CAELYN

### 19 year old young woman, ASD & anxiety

- Failed several day programs due to disruptive behavior, failed college classes
- Daily phone & computer use, anime obsessed
- “walking on egg shells”
- Severe emotional outbursts, rigid thinking, argumentative, refused all chores
- Electronic fast x 4 weeks → more even mood, better frustration tolerance, able to “go with the flow”
- Continued elimination of phone, earned computer time
- Able to complete college courses, tolerate life skills training, enjoy screenfree interests (swimming , art, reading)
- Better eye contact and verbal skills
- Needed periodic fasting , trouble tolerating phone

# CASE STUDY:

## TAYLOR

### 6 yo girl with attention and hyperactivity issues -- but bright. ADHD?

- Attention span “5 seconds”, hyper, frequent notes from teacher
- Daily meltdowns, constant arguing & defiance
- Had to repeat preschool due to inattention & poor behavior
- iPad and other devices since infancy
- Electronic fast x 4 weeks → attention 20-60 min, joined jujitsu class, better eye contact
- Now: Plays outside , engages in games with brother, improved manners
- Meltdowns – cut in half (10% of day)
- Compliant with tasks, needs 1-2 reminders only
- AFTER FAST: family decided to continue being device-free



# SHANNON, MOTHER OF 10 YEAR OLD BOY: 2 TEACHERS' FEEDBACK:

Mary [REDACTED]

7:07 AM

To: Shannon, [REDACTED]

[Details](#)

R [REDACTED] has been very focused here at school and has put forth much effort into his academics. He did well in fractions, but struggled a little with decimals. This is a new concept for fourth graders, however so to be developing proficient at this time is expected for many children. We continue with this concept and I expect it to become easier for him with time. R [REDACTED] is a very mannerly young man!

Mary [REDACTED]  
Fourth Grade Teacher  
Grant Elementary School

I've seen a HUGE difference in his focus and stamina. His mid-year reading inventory improved 85 lexile points. 100 points is considered to be a year's worth of growth and he almost accomplished that in half a year. His understanding of vocabulary has also increased even when there are multiple meanings for words. I'm really proud of him and see that this screen time fast has paid big dividends for him.

Thanks,

Ann [REDACTED]  
Fourth Grade Teacher  
Grant Elementary School

# MARSHA, MOTHER OF 6 YEAR OLD BOY

**Marsha**

[View Profile](#)

05/13/2016 5:26AM

Hello! Thank you so much for asking!! On February 29, my husband packed up all the electronics.. iPads, DSs, Wii, Xbox, laptop, and even the desktop. Dr. Dunckley, things have been unbelievable since then!! The first two days were the hardest - when he cried and fought for them. Today, he never mentions them! He got heavily into Minecraft Legos for a while and played as if he was playing online. We had to act out scenes. He's even say "reloading" when we were changing scenes (as in, the computer was reloading). lol!! He has went to literally kicking and screaming not wanting to leave the house to asking to go to the park, the library, and so on. He plays with his

siblings and even by himself. He has developed an amazing imagination since we started the fast. He also wouldn't sit in my lap for me to read him stories. Now h reads and lets me read to him all the time. His handwriting has gone from looking like scribbles to being legible and spaced perfectly. We had an IEP meeting in January where we increased his time in the SPED room because of behavior. Now I'm getting emails from all his teachers (even the music teacher) expressing awe of our new little boy! I don't have to give him melatonin to sleep anymore; he tells ME when it's time for him to go to bed! We have also taken him off his [redacted] ! I could go on and on!! His school social worked told me I should be a speaker and advocate of limited/no screen time. 😊 I'd love to talk to and support

# ELIMINATE OR MODERATE?

## POST-RESET DECISION TREE

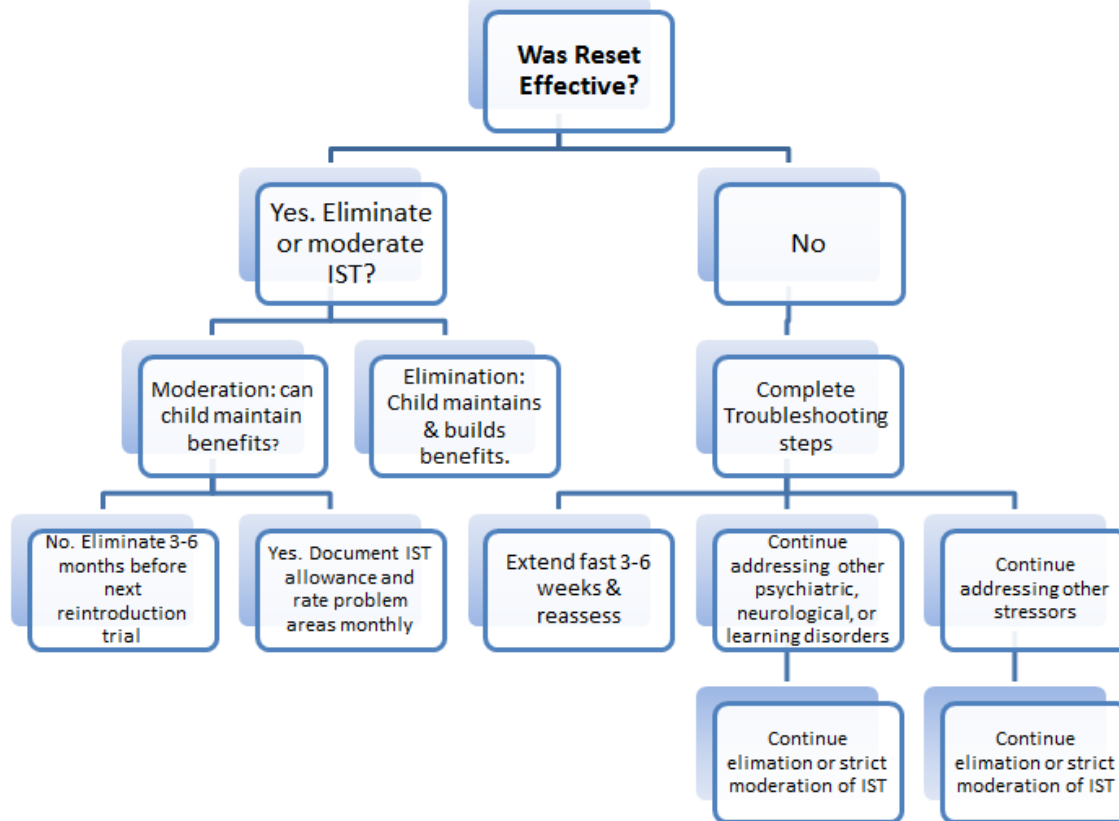


Figure 1. After the Reset: Eliminate or moderate? (IST = interactive screen-time)

# RECOMMENDATIONS: HOUSE RULES

- No screens in the bedroom
- Homework in a community area
- One screen at a time
- Designate screen-free times, zones, and activities
- Use “device basket”
- Mom & dad have screen rules, too! “Accountability Act”

# EVIDENCE-BASED PROTECTIVE PRACTICES

- Eye contact
- Face-to-face time, loving touch, physical play
- Reading
- Mindfulness
- Nature, green spaces, art

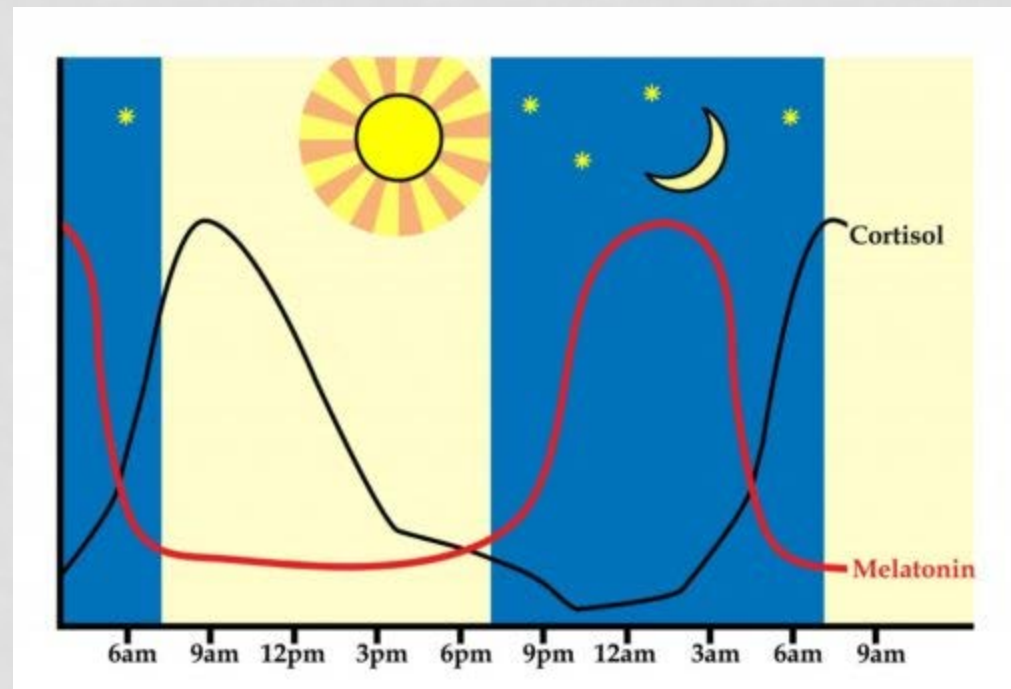




# EVIDENCE-BASED PROTECTIVE PRACTICES

## *THE BODY CLOCK*

- Avoid screens after sundown
- Bright light in mornings
- Robust exercise, especially in mornings
- Filtering software to warm/darken screens
- Incandescent bulbs, red bulb in bedroom?



# RECOMMENDATIONS: “BIG PICTURE”

- Pace technology exposure according to developmental and individual needs
- Restricting during youth protects frontal lobe → higher tolerance later PLUS maximizes child’s potential
- Use electronic fasts to “reset” physiological systems when children are dysregulated; reintroduce slowly as tolerated
- Having physical job/chores improves outcomes; ASD/ADHD kids may need job BEFORE pursuing higher education
- In school, allow fasts, opting-out of iPad/laptop programs, & other tech-related accommodations (e.g. screen-free, WiFi-free, no light-at-night)

# FINAL THOUGHTS...

- When people say it is not realistic for kids to give up screens completely, I say it is not realistic for us to expect kids to thrive when screens hold them back.
- Ironically, we are teaching children with methods that impair concentration and creativity, we are exercising them with mediums linked to obesity, and we are parenting them with devices that cause temper tantrums. It simply doesn't make sense.
- Every time we talk about the effects of screen time we plant a seed. We have brain science, research, and reality on our side. Things are different now than even two years ago; the public is much more aware. Providing the science gives the message some teeth. So keep talking because people are listening.



*"It keeps me from looking at my phone every two seconds."*

## REMEMBER...

**When attempting to reconcile the future of technology with children's health, remember this:**

**"First, do no harm."**

**For more information, visit [www.ResetYourChildsBrain.com](http://www.ResetYourChildsBrain.com)**

