The Effects of Stress on Your Body & Life
1. Functional Medicine
2. What stress does to your body
3. Adrenal fatigue
4. 5 modifiable lifestyle factors
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Thought I was going to help people be healthy.
Started out trying to help Josie

Realized this was the answer to the problems I was seeing in my practice that I didn’t have good answers for like:

1. Fatigue
2. Hormonal imbalances
3. Frequent infections
4. Slow metabolism (thyroid)
5. Anxiety
Now I work with 2 groups of patients:

1. Those who want more for their health than just taking prescriptions for problems.
2. Those who aren’t finding answers to their problems in conventional medicine.

In both of these groups, the issues very often start with STRESS.
What is **Stress**?

- We all have it.
- Our bodies are better equipped for acute stress vs. chronic stress.
Acute Stress

Cortisol Curve

Melatonin Curve

Dawn Morning Afternoon Dusk Midnight

Adrenals

Best Life Functional Medicine
3 Types of Chronic Stress

Mental/Emotional

Dietary

Inflammatory
Chronic Stress
Adrenal Fatigue

The body keeps up, until it can’t.
Adrenals

Real or Myth?

● Conventional medicine says no.

● The term HPA Axis Dysfunction is more accurate and widely accepted.

● I’m here to say Adrenal Fatigue is REAL.
How do I know?

1. Personal experience
2. Symptoms of my patients
3. Lab work analysis
Those symptoms the patients came to me with that I didn’t previously have answers for:

1. Fatigue → Dysregulated Cortisol
2. Hormonal Imbalance → Sex Hormones are Deprioritize
3. Frequent Infections → Immune System Suppressed
4. Slow Metabolism → Thyroid
5. Anxiety → Heightened Perception
Now I know, it’s likely the adrenals...
Symptoms of Adrenal Fatigue

- Excessive fatigue
- Cravings
- Hair Loss
- Achiness
- Irritability
- Brain fog
- Poor immune response (freq. Infections)
- Sex hormone imbalance

- Insomnia
- Anxiety
- Lightheadedness
- Depression
- Increased Abdominal Fat Deposition
- Thyroid Problems
The **Truth** About Cortisol

- **Good** → when we are in acute danger.
- **Harmful** → when we are chronically stressed.
Cortisol is a goldilocks hormone.

Dysregulated Cortisol = Fatigue
**Good vs. Bad Cortisol**

**Acute** → Stores fat for later use → who knows when you’ll eat again?

**Chronic** → Can’t lose weight
Good vs. Bad Cortisol

**Acute** → Heightens immunity

**Chronic** → Immune Systems wears out → Frequent Infections.
Good vs. Bad Cortisol

**Acute** → Slows the metabolism → Preserving energy for survival

**Chronic** → Slows metabolism and low thyroid function.
Hypothalamus
  ↓
Pituitary Gland
  ↓
TSH
  ↓
Thyroid Gland
  ↓
T4
  ↔
Reverse T3
  ↔
T3

T3 and Reverse T3 compete for cellular binding sites.
Thyroid gland is affected

- Stress leads to production of reverse t3
- This makes your labs look OK.
  - TSH is fine.
- You do actually have plenty of thyroid hormone, often it’s just the wrong type of thyroid hormones.
  - Leads to low energy, difficulty losing weight and other hypothyroid related symptoms.
- Key to fixing this: regulate the adrenals & fix the stress response.
Adrenals

**Good vs. Bad Cortisol**

**Acute** → Heightened Perception → Helpful for survival.

**Chronic** → Anxiety!

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Good vs. Bad Cortisol

**Acute** → Suppresses sex hormones  
**Chronic** → Moody, Irritable, Low Libido

- **Estrogen**
- **Testosterone**
Pregnenolone Conversion - Equal/Simultaneous Processes

- Progesterone
  - 17α-Hydroxyprogesterone
  - 11-Deoxycortisol
  - Cortisol

- Pregnenolone
  - 17α-Hydroxylation
  - 17α-Hydroxyprogrenolone
  - Androstenediol
  - Dehydroepiandrosterone (DHEA)
  - Androstenedione
  - Testosterone
    - 5α-Dihydrotestosterone
    - 19α-Hydroxytestosterone
    - Hydroxy-Androstenedione
  - Estradiol - 17α
  - Estradiol - 17β
  - Estradiol
  - Acetyl CoA
  - B5
  - Cholesterol
Decreases Sex Hormones

Pregnenolone Steel

- Progesterone
  - 17α-Hydroxyprogesterone
  - 11α-Deoxycortisol
  - Cortisol
- 17α-Hydroxylation
- Pregnenolone

- Acetyl CoA
  - B5
  - Cholesterol
- Dehydroepiandrosterone (DHEA)
- Androstenediol
- Testosterone
  - 5α-Dihydrotestosterone
  - 19α-Hydroxytestosterone
  - Hydroxy-Androstenedione
  - Estradiol - 17α
  - Estradiol - 17β
  - Androstenedione
Testosterone

- Most abundant hormone in men AND women.

- Low testosterone = one of the 1st signs of aging

- We lose hormones in sequential fashion: (1st) Testosterone, (2nd) Progesterone, (3rd) Estrogen

- Testosterone is key to maintain muscle mass, bone strength, preserve memory, mood regulation & sex drive!
Normal level of testosterone is **264-916** for men & **8-48** for women.

Men’s sex drive: **hormonal**. Women: more about **connection**.

Conveys powerful **anti-aging** effects; turns fat into **muscle**; keeps **skin supple**; increases **bone mineral density**; promotes a **positive mood**; boosts ability to **handle stress**

Low levels have been associated with heart attack, Alzheimer’s disease, osteoporosis, and depression.
Adrenal Fatigue

The body breaks down in a predictable manner and it all starts with the adrenals.

- Low DHEA
- Dysregulated cortisol
1. **Total Cortisol**: 121
   
   *(Reference range: 22-46 nM)*

2. **DHEA**: 4
   
   *(Reference range: 5-10 ng/ml)*
Adrenal Fatigue: **Stage 2**

1. **Total Cortisol:** 32
   
   *(Reference range: 22-46 nM)*

2. **DHEA:** 3
   
   *(Reference range: 5-10 ng/ml)*
1. **Total Cortisol:** 12
   
   *(Reference range: 22-46 nM)*

2. **DHEA:** 1
   
   *(Reference range: 5-10 ng/ml)*
After the adrenals shut down:

2. Toxins overwhelm.
Where do you fall?

- Sickness
- Normal
- Optimal

How do we fix it?

Learn to manage our body and our mind.
So, if you are struggling with:

The Big 5: Fatigue, Hormonal Imbalances, Frequent infections, Slow metabolism and/or Anxiety

1. This is real and there is a reason.
2. You are not alone.
3. There are solutions.
How do we fix it?
The 5 Modifiable Lifestyle Factors

- Diet
- Exercise
- Sleep
- Stress
- Relationships
Diet:
Stabilize Blood Sugar
Solution #1: Follow an adrenal support diet

- Involves eating small, frequent meals to keep blood sugar stable.
- A diet low in sugar and high in healthy fat & protein.
Solution #2: Become **Fat-Adapted**

Our body prefers to run on carbs!

- Carbs are easier = less effort.
- We have fat stores are body isn’t used to tapping into = more effort.
Exercise:

150 min of moderate physical activity or 75 minutes of vigorous physical activity per week + 2 strength training sessions per week.
The importance of **Sleep**

- Sleep is **sooo important**.
- Sleep is **not just for lazy people**.
- Just as important as **diet and exercise to health**.
Why do we sleep?

- Increases our **ability to learn**
- Recalibrates our **emotional circuits**
- Restocks our **immune system**
- Reforms body’s **metabolic state**
- Maintains our **microbiome**
- Decreases our **blood pressure**
How can we get **better sleep**?

- Avoid **alcohol** within 3 hours of bedtime.
- Avoid **caffeine** containing beverages after 2PM.
- Complete **exercise** before 6 pm.
- Avoid **watching the news** before going to bed.
- Avoid **blue light** before bed.
The perception of stress

- We can’t eliminate stress from our life.

- It’s the perception of stress that is the problem.

- We can learn to manage it.
How do we do that?

- There is no one-size fits all.
- Getting to the root cause of our stress.
- Functional medicine is all about getting to the root cause of physical symptoms.
- Stress management is all about getting to the root cause of our stress, our thoughts.
#1: Circumstances

- Facts.
- Provable in the court of law.
- No drama.
#2: Thoughts

- **Sentences in our brain** about circumstances.
- Where our **power lies**.
- They are automatic, but we can **choose to think them on purpose**.

We can’t change our circumstances, but we can change the way we think about them--with effort and intention.
Human beings have approximately 60,000 thoughts per day.
#3: Feelings

- Thoughts create **our feelings**.
- **Vibrations** in our body.
- Should be described in **one word**. *(i.e. happy, sad, angry, ashamed, joyful)*
- Your thoughts cause your emotions...**always**.
#4: Actions

- What we do & don’t do.
- Always driven by our feelings.
- Feelings cause actions, inactions and reactions.
#5: Results

- Consequences of our actions.
- What we create for ourselves.
Let’s Review The Model

Basic Premise:

- Circumstances are out of our control.
- We have lots of thoughts about them.
- Your thoughts cause your feelings.
- Your feelings drive your actions.
- Your actions create your results.
Scenario: I’m feeling so stressed. I have so much to do and not enough time to do it.

C → 4 appointments on calendar & a to-do list I created with 10 items on it.
T → I have too much to do.
F → Overwhelm.
A → Jump from task to task, check FB, Instagram, work furiously but don’t accomplish much. Feel scattered and unproductive.
R → Not performing at my optimal level which leaves more things to do.
How else can I **think** about this?

*Is my current thought that is happening automatically serving me? Is it helping me get the results I want in the way I want to get it?*

- **C** → Stays the same.
- **T** → I show up everyday and do the necessary things.
- **F** → in control
- **A** → Focus on task at hand, engage, be present, follow my calendar.
- **R** → I have a productive day.
Let’s do another one...

- **C**: The scale says ______.
- **T**: I’ll never achieve my goal weight.
- **F**: discouraged
- **A**: restrict food, tell myself I’m a failure, look at how everyone else on social media is doing it better than I am, change plans (another one must be better), get frustrated, it doesn’t matter anyways → eat cookies!
- **R**: I never stick with a plan long enough to achieve my goal weight.
How else can I think about this?

- **C** → Stays the same.
- **T** → I am committed to sticking to the plan for my HEALTH.
- **F** → empowered.
- **A** → I eat healthy food, remind myself that it's a marathon not a sprint, stay focused, fill my body with healthy food so I’m not hungry, limit access to temptations, eat ahead of time if I’m going somewhere where I’ll be tempted.
- **R** → The scale moves slowly but surely. I improve my health and my weight follows.
How I manage my stress

- **Thought** download in my journal.

- At the beginning of each journal entry, usually my life is *horrible and full of worrisome things*. Usually by the end, I have an amazing life.

- The next day my brain defaults back to *my old ways of thinking*.

- Creating a **new path** takes a lot of **effort and redirection**. You’ve thought the old way your entire life.
Meditation

- Way to create a **sense of calm** and inner harmony

- There are many forms of meditation, the most popular of which is **mindfulness meditation**; originates from buddhist teachings and concentrates on awareness.

- There are 2 apps that can help guide you in this process. **Headspace and Calm.**
There is a zen saying that states...

“You should sit in meditation for 20 min everyday--unless you are too busy. Then you should sit for 1 hour.”
Dunbar's number 150

- Important to nurture a few meaningful relationships (5)
- Good friends (15)
- Friends (50)
- Meaningful contacts (150)
Slight Edge Philosophy

Diagram:

- Simple Disciplines
- Simple Errors in Judgement
- Time
Ways to **connect** with me

1. Email list
2. Adrenal program
3. Private patient
You’ve got this!