

## Exercise

Exercise releases BDNF, a key growth hormone that reverses the negative effects of depression. It is a medicine and has been proven to be stronger than Zoloft in reversing depression.

- Exercise increases serotonin stores in the brain. When muscles start working they need amino acids for muscle repair. The bloodstream carries amino acids and delivers them to the muscles, except they *don't bring serotonin, giving serotonin a free ride across the blood brain barrier.*

So why don't we do it?

- Our ancestors would die if they did *meaningless activity* and weren't motivated to do random exercise. However, they were finely tuned to *meaningful and purposeful activity*, which human beings have a high tolerance for.
- A treadmill doesn't do anything for us in terms of purpose and enjoyment. Hiking to our favorite waterfall or running to "beat depression" are much more motivating.
- Depression literally reduces a person's ability to take initiative. The only goal when depressed is to overcome the *massive initial inertia* to exercise.
  - If you tell someone to walk 7 miles, they won't do it. Yet the average visitor to Disneyland walks 7 miles in a day while they are there.

Does exercise have to be intense for it to work?

- Researchers found that it only takes *30 minutes 3 times a week* of activity that raised the heart rate from 60-90% of maximum heart rate for an antidepressant effect.
- Your only goal is to make sure you are exercising at least 30 minutes 3 times a week and maintaining a higher rate. That is all you need.
- Walking is enough for an antidepressant effect if it is brisk and gets your heart rate up.

What's the most important type of exercise?

- The most important type of exercise is... *the one you actually do!*
  - When we are too tired, overworked, sore, unmotivated, strapped for cash... the last thing we want to do is drag ourselves to the gym to run on a treadmill for 2 hours.
- Spend your energy doing activities that meaningful and enjoyable
  - Hike to your favorite waterfall, listen to audiobooks while you walk to the mall, play team basketball or tennis, do hard yard work for a half hour.
  - Get a workout buddy, invite a friend to join you on a walk to the park, get a personal trainer, mountain bike in nature.

How long and how often?

- It only takes 90 minutes of aerobic activity each week to give antidepressant effect.
  - It takes most people 5 minutes to get their heart rate up to speed when they are warming up for exercise, so make sure you plan for more time.
- 75% of heart is most effective. Try to make it more intense if exercising isn't quite as satisfying.
- Schedule 1 hour blocks 3 times a week so you have plenty of time to get going and cool down when you are done.

I know all the steps, but yet I can't exercise still!

- Be accountable
  - Remember, the biggest obstacle is just overcoming the massive inertia that prevents us from becoming active. The depressed brain actually has an impaired ability to initiate activities.
  - Have someone you call every week to tell them that you exercised so they can congratulate

you.

- If you still can't exercise, use my favorite trick: tell someone you will give them \$100 at the end of the week if they call you to find out you didn't do your exercise. At the very least, that means on Friday night you'll be exercising for 90 minutes to get it done :).

I workout ALL THE TIME and I'm STILL depressed

- If you workout TOO much, you can overtrain, which fatigues your central nervous system and wears out your adrenals
- Learn to take a break and give yourself the proper rest if you feel fatigued from exercise instead of energized. The goal isn't to destroy yourself, but to energize yourself and improve your well-being.
- If exercise is the only thing that ever makes you feel good, it could be because that is the only time you are making serotonin. Make sure to supplement with 5-HTP, L-Tryptophan, and the basics discussed earlier in the course to ensure you are getting enough serotonin.