

WORK CAPACITY

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1) **Rough definition:** How much work you can do and recover from

2) **Training more is usually better, if you can handle it**

a) Plateau, do more, plateau, do more, etc. (simple decision tree to increase/decrease volume)

b) What happens when you can no longer recover well enough to keep doing more, or when you simply get so worn out during your workouts that you can't do more?

c) WORK CAPACITY

3) **General Adaptation Syndrome** - shock, resistance, fatigue

4) **Impulse-response model; where GAS comes from**

a) Positive Training Effects and Negative Training Effects

b) Work capacity helps minimize negative training effects, and increase rate of diminishment for negative training effects

- i) Less metabolic fatigue

- ii) Less muscle damage

- iii) Less central fatigue (central fatigue largely tied to metabolic fatigue and muscle damage)

5) Part 1: How much work you can do

- a) Training is metabolically costly; the stronger you get, the more metabolically costly it becomes

- b) If you can't produce enough energy, you can't produce powerful enough contractions

- c) Shift from aerobic/anaerobic mix to mostly aerobic after a few repeated efforts

- i) Strength dropoff

- ii) Form goes to shit

- d) Low intensity training; raise amount of energy you can produce aerobically, and decrease recovery times between sets (resynthesizing ATP and metabolizing lactate are both aerobic processes)

- e) High rep training/HIIT (highly specific is probably best; good time for BFR squats; value of bodybuilding style pump work – make low rep sets super easy on your muscles)

6) Part 2: How much work you can recover from

a) Outside the gym

i) SLEEP - Bad stuff for not enough sleep, good stuff for extra sleep

ii) Stress - Stults-Kohleneman studies

iii) Body composition; get lean first (roughly $\frac{1}{3}$ fat $\frac{2}{3}$ lean for lean people, and vice versa for overweight people); fat increases inflammation

iv) Enough protein, enough calories, enough CARBS (serotonin and fatigue)

b) Again, aerobic training; fatigue from rapid energy depletion; the more of your energy you can get from fat and from aerobic metabolism, the better.

- c) Repeated bouts effect; reduce muscle damage, reduce inflammation

7) How to increase work capacity

- a) Work on adding volume more so than adding weight for a while
 - i) Decrease weights from 75-90% to 65-75% for most of your training; still touch heavier loads from time to time to stay comfortable with them, if you want (singles at 85-90%)
 - ii) DON'T just triple the volume overnight. Gradual progression
 - iii) Progression that works pretty well for most people: 65% 3x8 → 5x12 on main lifts (9 week progression) for main

lifts, then 70-75%% 6-8 → 10-12x3-5 with 75-90 seconds for 3 weeks, 70-75%% 6-8 → 10-12x3-5 with 60-75 seconds for 3 weeks, then repeat with same thing with 45-60 seconds rest for 3 weeks

- iv) For accessories, work on keeping rest periods short; circuits/supersets recommended

- v) Add in aerobic training. Stay around 125-140BPM; incline treadmill walking, cycling, or rowing are recommended (mitigate interference effect)

b) Really focus on maximizing those factors outside the gym

8) Monitoring

- a) Should be near, but not exceeding recovery threshold during this time (info from this article: <http://www.jtsstrength.com/articles/2015/12/27/fatigue-indicators-and-how-to-use-them/>)

9) Coming out of work capacity phase

- a) Don't jump straight to super heavy work
- b) Gradually add weight and decrease intensity as you come back out of it
- c) Transition: increase intensity 3-5%/week and drop reps as-needed (keep sets up) for 3-4 weeks