



WORKSHEET 230
INSIDE-OUT: PRACTICAL APPLICATIONS OF THE
LASTEST MUSCLE PHYSIOLOGY RESEARCH.

Scientific Abbreviations to Know

Muscle Physiology:

FT - Fiber Type
MHC- Myosin Heavy Chain
ST- Slow Twitch
FT- Fast Twitch
SFT- Super Fast Twitch
RT- Resistance training
HR- Heart Rate
BPM- Beats per Minute
NEAT- Non-exercise activity thermogenesis
RDL Reverse deadlift
HIIT -High intensity interval training
HIT - High intensity training
RPE- Rate of Perceived Exertion
BF%- BF percentage

Stimulus-Recovery-Adaptation (SRA)- Plan for Attacking Change.

Questions to Consider in Training:

1. What is the biggest priority or limiting factor in your life?
2. What are your major physical limitations ?
3. What is your current training status?
4. What are my baseline measurements? (I.e. BF, step test, max push-ups, flexed arm hang etc.)



Special Considerations:

1. Women v. Men in Training:

- Women (women may handle more volume)- body composition and size comprise most of the differences between men/women in performance and metabolism; not biological sex itself.
- The most important difference is between sex hormones and fiber types.
- Men have ~50% more muscle mass than women (primarily in the upper body).
- Women tend to have 27-35% more FT I area relative to total fiber type area, and greater capillary density v. men.
- Women are better suited for higher volumes of training due to a greater ability to get more blood into muscle tissues thereby providing oxygen and clearing metabolites.
- FTs are trainable in ~3 months of consistent training and can change ~10%.

2. Untrained/Sedentary

- Fat loss/metabolic health - body comp/insulin sensitivity biomarkers. Generally, these types of exercisers want to sweat and want to lose fat.
- Set goals and find simple ways to measure progress. For example, the ability to do work in a given amount of time.
- Priority - you are just starting and building consistency at this point- it's all about habits.
- Weeks 4-6 for new exercisers. Neurological adaptations and you build habit. In terms of energy expenditure - you may begin to lose weight but this is not the priority.
 - Habits are increasing NEAT. These include behavior changes such as: taking the stairs, 15-minute walks after meals, parking far away, or carrying your own luggage and bags. Walking or biking to work if you live close.
 - Hydration is also important and a good habit to build during initial phase.
- After 6 weeks – the next phase is learning what it feels to work and have muscular fatigue. This is the time period when the exerciser needs to commit to the program and workout structure.
 - Either add frequency (number of days), increase intensity, and move more toward HIIT- 80-95% of Vo₂ max and shift the mode to more advanced (for example from biking to jogging).
 - We will switch to a more challenging mode of exercise or selection of exercises in two weeks.
 - HR is a variable we can measure- increase training heart rate gradually.