



# Strength & Conditioning

## Part 1: Training Loads vs age

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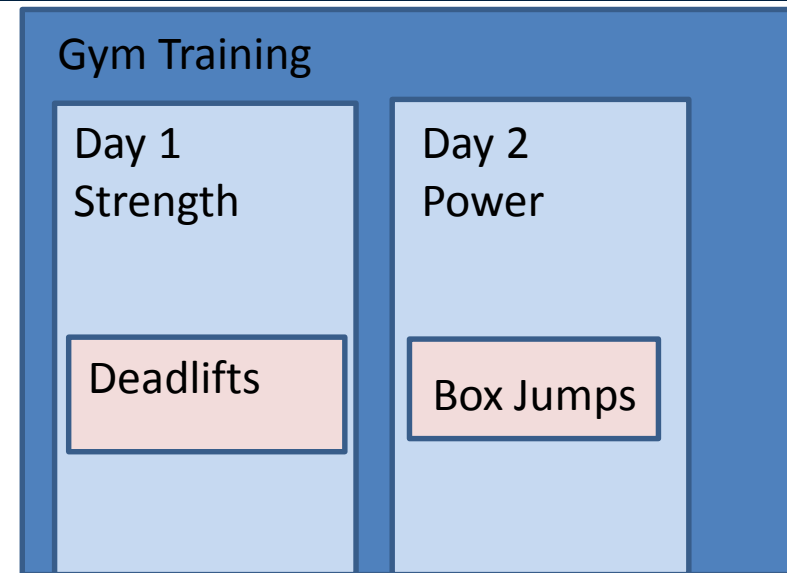
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# Planning vs. Programming



- Planning
  - Long and mid-term strategy that regulates training process
    - Structure within which training takes place
- Programming (implementation)
  - Act of filling said structure with content



Don't fixate on programming (implementing) ideas without a plan!

# Be careful around too much of the same thing or too much taper!

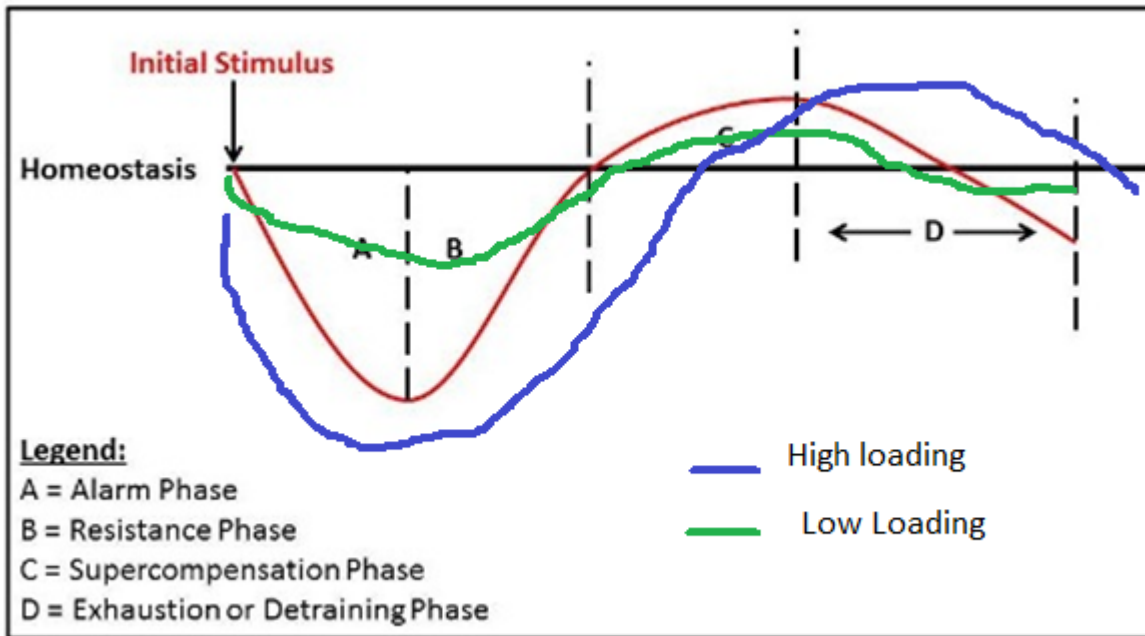


- 2 overriding principles
  - Chronic Loading Syndrome
    - Linear loading is proven to be an inferior way of stimulating and adapting system – excessive and rapid loading not total load! Get training right 1st
  - Acute Relieving Syndrome
    - diminishing returns

# Planning Recovery in the Training Process



- Magnitude = volume + intensity



Time to plan the phases!  
Short or long?

# Injury Continuum



## The Injury Prevention Pyramid

The Sports Physio @adammeakins



# Planning Elements - Volume



## 1) Volume

- Measure by a total score
  - Kilometres, metres, contact, number of reps
- Measure by duration
  - Time Scale
- Over what time period?
  - Accumulation across cycles
    - Day ( micro), Week (meso), Month (macro), year (annual)
    - Know your averages for the above! How big is the wave?
  - How should/does this change across the cycle?
    - Plan (should) vs. actual (does)
    - 3:1 but do you adjust to actual?

# Planning Elements



## 1) Volume

1. How are you measuring Volume?
2. How are you dividing for cycles? Or training parts?
3. Are you adjusting for plan vs actual? How tracking?
4. What are your current limitations?

\*Note your volume across a weekly cycle for a 'typical 17yo athlete' in your event

# Planning Elements - Intensity

## 2) Intensity

- Measure by speed, distance, performance = EXTERNAL LOAD
  - m/s, km pace, metres – height, distance, weight on the bar
- Measure by exertion = INTERNAL LOAD
  - RPE, readiness score, fatigue score

- Over what time period?

- Accumulation across cycles
  - Day ( micro), Week (meso), Month (macro), year (annual)
  - Know your averages for the above! How big is the wave?
- How should/does this change across the cycle?
  - Plan (should) vs. actual (does)
  - 3:1 but do you adjust to actual?



# Planning Elements - Intensity

## 2) Intensity

1. How are you measuring Intensity?
2. How are you dividing for cycles? Or training parts?
3. Are you adjusting for plan vs actual? How tracking EXTERNAL and INTERNAL?
4. What are your current limitations?

\*Note your intensity across a weekly cycle for a 'typical 17yo athlete' in your event

# Message = Plan and Track what you are doing



- Volume x Intensity = Load
  - Volume measure:
    - Total Reps (sets, reps)
  - Intensity measure
    - Internal Load
      - Internally driven: RPE- How hard did you find it? 1-10
    - External Load
      - Weight on the bar
      - ‘System’ load : body weight + extra



**Load = volume x intensity. Balance both! What ways can we balance this in the gym?**

# Balancing load in the gym

## 1) Themed

Day 1: Strength.

Deadlifts  
3 x 5

Day 2: Capacity

SL Squats  
3 x 10e.s

## 2) Mixed Method

Days 1 and 2:  
everything

Full body –  
capacity phase

What time do you have? What is realistic around track or field training? Equipment? Interference effects?

# Balancing gym with training



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Day 1: Strength.

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3 x 5

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# Planning Elements – Balancing



## 3) Load of gym vs load of training

1. How are you balancing both/will you balance both?

2. How are you dividing for cycles in the gym? Where is the emphasis?

- Frequency

- Capacity -> Strength -> Max Strength -> Power

- » For now just note generally details to come later today

3. How are you accounting for chronic loading and acute relieving in your gym training?

\*Note on your program how and when you will integrate gym

# How do we know if gym is 'working'



- Is it changing performance?
  - Speed, distance, height
  - Technical Issue: video now vs then

Is it preventing injury?

- Injury monitoring
- Training consistency



# Planning Elements – Age Effects



## 4) Effect of age

- Really is an effect of skill (or “functional”) VS. Load
- What ages should skill be emphasised?
  - Evidence that changes to nervous system (specifically myelination) creates a ‘skill window’ 12-16
  - Evidence that strength is accelerated at 18+
- What does all all this mean?
  - Ensure you have good technical models for VARIOUS exercises
    - Take advantage of this skill window
  - Ensure that once technical models are sound ADD LOAD check model ADD AGAIN
    - Take advantage of adding strength

Technical Models to come this afternoon

\*Note on your program changes – for a 15 year old and for a 19 year old