Applying a Sprint Coach's Philosophy to Strength & Conditioning

A Philosophy of Speed Development

A Philosophy of Speed Development

- Planned Balance in Training
- Prioritizing Speed Development
- Patience and Progression - Dodging the Gimmicks
- It's the Training

Speed, Talent and the Nervous System

- Speed – a Neural Quality
- Training the Nervous System
  - Quality and Intensity of Work
  - Long Rests
  - Manageable Volumes
- In Speed/Power/Strength Sports, Most Training Should be Done This Way

Other Neural Based Abilities

- More Neural Abilities
  - Power
  - Absolute or Maximal Strength
  - Coordination and Skill
- These Respond Well Only to Neural Based Training Philosophies

Neural Function

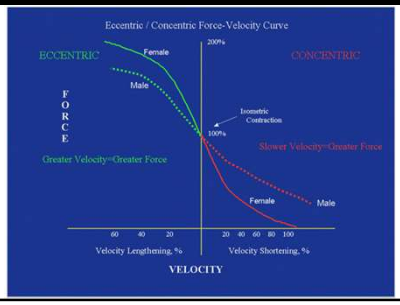
- Neuromuscular Integration
  - Recruitment
  - Rate Coding
  - Synchronization of Motor Units
- These All Respond to Speed and Power Training
  - It's the Fast and Explosive Stuff
  - Not the Slow Stuff
- Improving the Nervous System's Ability to Activate Muscle Tissue

Speed and Strength – A Unique Relationship

Why Train Speed?

- To Get Faster
- To Improve Neural Function – Neuromuscular Integration
- Tissue Loading – Tension Levels

Considering Tissue Load and Tension



Training Implications

- Speed and Strength – Chicken and Egg?
- Speed as a Prerequisite to Strength
- Speed Can Achieve Levels of Tissue Load Traditional Strength Training Can't
- Reaching the Corners
- Enhancing the Strength Program

The Advantages of Neural Based Strength Gains

- Absence of Hypertrophy
- Coordination Gains
- Soft Tissue Injury Resistance
- Improved Movement Quality

So What About Hypertrophy?

- Hypertrophy – Increases in Muscle Size
  - Increased Amounts of Contractile Proteins
  - More Forceful Contractions
- The Force - Velocity Curve
  - Difficulties with Crossbridge Bonding at High Speeds
  - No Improvement In Crossbridge Cycling Rates
- So the Science Says …
  - Hypertrophy Can Result in Increases in Slower Forms of Strength
  - Hypertrophy Doesn't Improve Speed or the Faster Forms of Strength

Compatible Training

Speed Plays Well With Others

- Speed Goes Well with Other Neural Agents
  - Plyometrics
  - Gross Weight Training Exercises
    - Olympic Lifts
    - Squat/Press Work (After)

Speed Acquisition – Potential Decelerators

- Anaerobic Glycolytic Training and Acidity
  - Foe: Lactate Shock and Slowed Speed Acquisition
  - Friend: The Lactate – GH Response
- The Dangers of Aerobic Endurance Training
- Problems with Squats and Presses
  - Proprioceptive Fatigue
  - Shutting Off Speed Improvements
- Implications
  - Train Fitness/Restoration and Speed/Power on Different Days
  - Limit High Level Fitness Training to Certain Times and Schedule Carefully

Sports Specificity

- Sport Specific Speed Training
  - It's Not Really a Thing
  - Problems with Intensity Achievement
- Multidirectional Speed - Needed Qualities
  - Speed
  - Body Balance
  - Reactive Strength
  - Movement Organization

Training Implications – A Summary

Key Training Implications

- Speed Based Training (Speed and Plyometrics) Produces Strength Increases as Well as Speed Increases
- Some Types of Strength Improvements Can Only Be Gained Through Speed Based Training
- Speed Based Training Increases the Effectiveness of Traditional Strength Programs
- Speed Based Training Produces Levels of Injury Resistance Strength Training Can't Reach, Due to Tissue Loading Levels
- Schedule High Level Fitness Work and Squat/Press Work Carefully.
- Moderate Level Fitness/Restoration Work Should Always Be Involved
- Avoid Purely Aerobic Work Except in Endurance Sports


S A C
Schexnayder Athletic Consulting
www.sacspeed.com
bschex@sacspeed.com