

Critical Zones: Absolute Strength and Power Development for World Class Horizontal Jumpers

Dan A. Pfaff
Chula Vista, California

- ### The Interactive World of Biomotor Abilities
- Non-isolation Policies, No entity is unaffected by change in one category of work.
 - Speed
 - Strength
 - Skill
 - Stamina or work capacity
 - Suppleness
 - Over Development Problems
 - Block Scheme Periodization Issues

- ### Strength Development Factors
- Skill Factors
 - General skill efficiencies are a window to event specific idiosyncrasies
 - Specific skill efficiencies are a window to specific physiological qualities
 - Injury Factors
 - Prevention or Prehab
 - Rehabilitation
 - Fulcrum
 - Proximal-distal reactions
 - Chains of recruitment
 - Guarding and sub-recruitment patterns
 - Proprioceptors and motor re-education
 - Joint integrity

- ### Strength Development Factors- Continued Classifications
- Absolute
 - Inertial/isometric moment
 - Striking
 - Amortization
 - Elastic
 - Stabilization
 - Power
 - Contralateral
 - Ipsilateral

- ### Absolute Strength Development Thoughts and Concepts
- Squatting
 - Depth
 - Phase of training
 - Needs of athlete
 - Injury issues
 - Skill Levels
 - Training age
 - Styles
 - Front
 - Back
 - Single Leg
 - High Box Stepup****
 - Set and Rep Schemes
 - Purpose of lift, i.e., Development, rehab, prehab, maintenance, etc.
 - Phase of training
 - Fixed variable or floating ancillary
 - Deadlifts
 - Classic
 - SLRDL's
 - Hex bar
 - Eccentric emphasis

- ### ASD 2
- Pressing Movements
 - Bench
 - Jerks
 - Swiss ball
 - Special Strength Exercises
 - Stepups- rotational, static, dynamic
 - Lunge jumps and lunge Russian twists
 - Jump Squats
 - Lateral Squats
 - Lateral Squat Jumps
 - Box positives jumps
 - Twisting Exercises
 - Depth Jumps

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A Return to Theory

- Balance
 - Static
 - Dynamic
 - General
 - Specific
- Rotational specific issues
 - T-10/T12
 - Hip and shoulder axis undulation and oscillation
- Neuromuscular Factors
 - Rate coding
 - Frequency of firing
 - Synchronization
 - Pre-firing/ firing phasics, the role of the collagen matrix
 - switching

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- Central nervous system
 - Chemistry
 - Biophysics
 - Alternative communicative pathways
- Biochemistry
 - Hormonal panels
 - Pituitary, Thyroid and Hypothalamus axis
- Work capacity
- Volitional qualities
- Cardio-pulmonary influences

Methodologies

- Overload Theory
- Compensation factors
 - Stimulus
 - Adaptation
 - Stabilization
 - Actualization
- Environmental methods
 - Wind
 - Temperatures
 - Sociological
 - Physiological states
 - Psychological
- Specific methods
 - Sport specific activities
 - Weight apparatus
 - Projectile apparatus
 - Specific apparatus

Ancillary Schemes

- Plyometrics
 - Horizontal
 - Vertical
 - Loaded
 - Reduced wavelength and amplitude jumps
- Running
 - Normal
 - Stressed
 - Recovered
 - Exaggerated
 - Sprint isolation exercises
 - Adaptive muscle exercises
- General strength exercises
 - Body weight circuits
 - Apparatus circuits
- Medicine ball series
 - Range of motion and symmetry
 - Short arc
- Multiple throw series
 - Classic
 - Plyometric Switching

Training Theory Factors

- Volume
 - Systematic progressions
 - Competition readiness drops
- Intensity
 - Correct values for given tasks and durations
 - Greatest indicator of injury or chemical depletion factors
- Density
 - Overlooked factor for the aging athlete
 - Must be factored in all tapering
- Compatible/complimentary issues
 - Daily
 - Weekly
 - Phases
 - Yearly