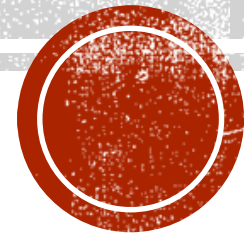


# TRAINING MULTIPLE EVENT ATHLETES

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# TRACK AND FIELD BACKGROUND



- Pole vaulted at Wichita State University
- Volunteer assistant coach at the University of Oregon
- Assistant Coach at Kent State University
- Current pole vault & dec/hept coach at the University of Louisville



# TOPICS

- Designing Training Program
- Global Training Concepts
- Event Commonalities



# DESIGNING TRAINING PLAN

## PROGRAM PHILOSOPHY

- What are your objectives/goals?
  - Team Accomplishments
  - Individual Accomplishments
  - Participation/Retention
  - Others
- Does your structure support your objectives?
  - Programmatic Structure
  - Coaching Staff Strengths/Weaknesses

## TRAINING PLAN FACTORS

- Meet Schedule
- Training Timeline
- Coaching Distribution
- Common Multiple Event Combinations
- Best Athlete Combinations
- Facility/Weather Restraints
- Other Factors



# GLOBAL TRAINING CONCEPTS

## NEUROMUSCULAR DEVELOPMENT

- Bodies ability to fire and coordinate movements
- Important for development in all speed/power events
- Recovery of neuromuscular system
  - High neuro days vs. Low neuro days
  - Younger/less developed athletes can handle more high neuro days in a week (4-5) than older/more developed athletes (2-3).
  - Can do back to back high neuro days if volume is limited.



# GLOBAL TRAINING CONCEPTS

## HIGH NEUROMUSCULAR TAXING EXAMPLES

- Speed Development – First and Fresh
  - Acceleration – 10m-40m @ 100%
  - Max Velocity – 40m-70m @ 100%
- High Intensity Technical Work Examples
  - High Intensity Hurdling
  - Long Jump Approaches/Jumps
  - Full Approach Vaulting (short approach for higher level athletes)
  - Full High Jump Attempts
- High Intensity Plyometrics
- High Intensity Medball Throws
- Speed Endurance – 60m-120m @ 90-95%

## LOW NEUROMUSCULAR TAXING EXAMPLES

- Body Weight Strength Circuit
- Tempo Running
- Low Intensity Technical Work Examples
  - HJ: Back Overs, Mobility, Circle Runs, Take-Off drills w/ 1-3 steps
  - PV: 1-2 left vaults, gymnastic work, easy rhythm pole runs, pole drop walking drills
  - Hurdles: Mobility, low intensity drilling
  - LJ: landing drills, continuous penultimate drills
  - Discus/Shotput: balance progression drills with ball/cone/medball
- Circuit Training
- Hurdle Mobility
- Postural Function



# HIGH NEUROMUSCULAR DAY EXAMPLES

## SPRINTER / LONG JUMPER

- Dynamic Warmup
- Block starts: 2x10m, 2x20m, 2x30m
- Long Jump Approaches – 3-4x
- 5-left long jumps off box – 4-6x
- Medball: 2x3 Overhead back, Underhand forward, Hop Chest Pass, Scoop Toss

## HURDLER / POLE VAULTER

- Hurdle Specific Warmup
- Blocks: 2x1h, 2x2h, 3x3h
- Pole Vault: 6-8x Full approach pole runs
- Plyos: 2x5 Single Leg Hops, 2x10 Skip for height, 2x10 Skip for distance, 2x10 Power Bounds, 2x5 Hurdle Hops



# WEEKLY LAYOUT

## PRE-COMPETITION PHASE EXAMPLE

- Monday
  - Acceleration Work
  - Primary Event – High Neuro Technical Work
  - Medball Throws
- Tuesday
  - Secondary Event – Low Neuro Technical Work
  - Tempo Runs
- Wednesday
  - Max Velocity
  - Primary Event – High Neuro Technical Work
  - Plyometrics
- Thursday
  - 3<sup>rd</sup> event – Low Neuro Technical Work
  - General Strength/Cross Training Recovery
- Friday
  - Secondary Event – High Neuro Technical Work
  - 3<sup>rd</sup> Event – High Neuro Technical Work
  - Speed Endurance/Special Endurance
- Saturday/Sunday - OFF

## EARLY COMPETITION PHASE EXAMPLE

- Monday
  - Acceleration Work – Limited amount
  - Primary Event – Low Neuro Technical Work
- Tuesday – Dual Meet
  - Primary Event – short approach
  - 3<sup>rd</sup> event – full approach
  - Sprint/Hurdle
- Wednesday
  - 3<sup>rd</sup> event – Low Neuro Technical Work
  - Easy Tempo or General Strength Circuit
- Thursday
  - Max Velocity – Limited amount
  - Secondary Event – High Neuro Technical Work
  - Primary Event – High Neuro Technical Work
  - Medball Throws
- Friday
  - Light Warmup
- Saturday – Invitational Meet
  - Primary Event – full approach
  - Secondary Event – full approach
  - Relay/Hurdle
- Sunday - OFF





# EVENT SPECIFIC WARMUPS / DAILY FUNDAMENTALS

- Fundamental movement patterns for each event
- Touch on an event then move on
- Athletes can perform activities on their own
- Developing event specific warmups
  - Know your purpose and focus
  - Low intensity to moderate/high intensity
  - General to specific movements
  - Limit long periods of slow movements
- Developing daily fundamentals
  - Low neuro/impact vs. High neuro/impact
  - Basic drills that provide event specific values
  - Event mobility/event strength



# EXAMPLES

## HIGH JUMP DAILY FUNDAMENTALS

### High Neuro Days

- 10 Step Rhythm Runs
- Circle Runs
- Figure 8 Runs
- Penultimate Drill – 20m
- Box Take-Offs

### Low Neuro Days

- Hip Lifts
- Falling Hip Ups
- Bridges
- Dolphins
- Back Over Off a Box

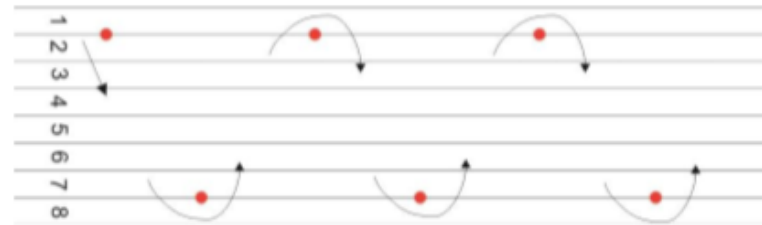
## HIGH JUMP SPECIFIC WARMUP ROUTINE

### Strides

3x 100 yard strides – choose a general exercise to do halfway back (ex. skip, side shuffle, carioca, backward run, backward skip, dance kicks, ankle hugs, etc.), then walk the other half back

### Serpentine Runs

3x 60m – Lane 1 to Lane 8 – walk back recovery



### Drills

2x20m straight

1. High Side Shuffle (L/R)
2. Knee/Ankle Hugs
3. Carioca (L/R)

On 'U' with exercise between – both ways

- |   |        |                                 |
|---|--------|---------------------------------|
| 1. Ankle Pops   |        | 5x Truck Circles (each)         |
| 2. Rocking Chair Walk (flat foot contact, roll onto toes) |        | 5x Hip Circles (each)           |
| 3. Rocking Chair Easy Skip                                |        | 5x Lunge to high knee (each)    |
| 4. A-Skips  |        | 5x ¼ Split Squat Jumps (each)   |
| 5. SL Skips   | on mat | 5x Hip Ups (toes and shoulders) |
| 6. Skip for height  | on mat | 5x Falling Hip Ups              |
| 7. Gallop for height                                      | on mat | 5x Bridges                      |
| 8. Power Bounds   | on mat | 3x Back Layouts                 |

5x 3-step Take-off Set up (hips are running away, gather arms above waist on penultimate, lean)

4x Circle Runs (lean from ankles)



# GLOBAL TRAINING CONCEPTS

## TECHNICAL TRAINING

- Must be technical in all aspects of practice. Ex. warm up through cool down, weight room.
- Short sessions more often are more productive than long sessions less frequent.
- Communicate a focus for each session – prefer quality over quantity
- Practice makes permanent, not perfect
- Season schedule determines technical progression more than any other factor
- Coaching staff
  - Utilize each other
  - Common language
  - Check egos at the door



# COMMONALITIES

- Posture
- Acceleration Mechanics
- Max Velocity Mechanics
- Approach
- Takeoff Setup



# POSTURE

- What to look for?
  - Solid body contact with ground
  - Tall / In line – hips/back/head
  - Foot contact under hip
  - Knees closed at ground contact
  - Front side mechanics
  - Ankle Dorsiflexion
  - Triple extension
- Challenges
  - Short approach jumping
  - Reaching for hurdles/board
  - Overcoming block start position
  - Over cueing 'Stay down'
  - Force lift of knees rather than pushing



# ACCELERATION VS. MAX VELOCITY

Acceleration Mechanics	Max Velocity Mechanics
Posture line angle – increasing	Almost vertical posture line
Short stride length / less time in air	Longer stride length / more time in air
Lower heel recovery	Higher heel recovery
Larger arm action	Arm action – ice cream cone / hip pocket



# APPROACH

- Posture
- Rhythm – slow to fast
- Mechanics – acceleration to max velocity
- Optimal velocity into take-off
- Consistency
- Steering



# TAKE-OFF MECHANICS

- Posture
- Body alignment at take-off – lower take-off angle, more vertical body alignment
- Vertical shin angle with penultimate step
- Long to short – penultimate to take-off step
- Free leg block





# QUESTIONS / COMMENTS

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