

UNITED STATES TRACK & FIELD/ CROSS COUNTRY COACHES ASSOCIATION  
(USTFCCCA) Convention in San Antonio, December 10-13, 2006

Report from the Combined-Events Committees (Decathlon & Heptathlon)

Event Coordinators, elite athletes and their coaches attended a symposium and two seminars hosted by the USTFCCCA in San Antonio. The events were attended by:

## **HEPTATHLON**

Gigi Johnson	Chris Johnson
Hyleas Fountain	Lynn Smith
Fiona Asigbee	Rick McGuire
Lela Nelson	Scott Hall

\*John Turek – Event Chair

## **DECATHLON**

Tom Pappas	Cliff Rovelto
Ryan Harlan	Casey Thom
Trey Hardee	Mario Sategna
Chris Randolph	
Jake Arnold	
Chris Boyles	Scott Hall

\*Scott Hall – Event Chair

\*Kip Javrin – guest

### **#1 ADVANCED COACHES SYMPOSIUM – COMBINED EVENTS**

#### ***Speakers***

Cliff Rovelto – Combined Event Athlete Norms and Point Derivation Analysis

Boo Schexnayder – Complementary and Compatible Training Principles

Rick McGuire – Transitional Control in the Combined Events

Rock Light – Training the Multiple Event” Athlete

Other Topics:

General Preparation – Boo Schexnayder

Special Preparation – Cliff Rovelto

Competition- Rock Light

### **#2 TECHNICAL SEMINARS**

#### **HIGH JUMP**

Speaker – Cliff Rovelto

## HURDLES

**Dr. Tommy Lee White**

#3 NUTRITION

Speaker – Jackie Maurer

## OVERVIEW OF PRESENTATIONS

### Combined-Events Symposium

**Cliff Rovelto** started off the symposium with a power point presentation on Athlete Norms and Point Derivation Analysis on elite athletes in 2004. He talked about the anthropometry (height and weight) of Decathletes and Heptathletes

- The average height for a Decathlete is 6' 3½" and 5' 9 ¼" for a Heptathlete
- The average weight for a Decathlete is 192 lbs and 141 lbs for a Heptathlete
- The average age for a Decathlete is 27.2 years and 25.7 years for a Heptathlete.
- The average Decathlete competed 3 times a year and the Heptathlete competed 3.5 times a year.

The purpose of looking at the Point Derivation by event helps in determining the direction of training and setting goals.

<u>Averages</u>	<u>Decathlon</u>	<u>Heptathlon</u>
Sprints	32%	32%
Jumps	31%	31%
Throws	28%	23%
Endurance	8%	13%

It is also important to look at the differences between Open vs. Combined Event PR's. *The smaller the total point difference the better.* For example, in the Decathlon Tomas Dvorak has only 147 point difference between his open events and his combined events compared to 524 points for Dan O'Brien. This means that Dvorak competed at or near his potential in the Decathlon in most of the events. The average was 473 points for top Decathletes.

In the Heptathlon Carolina Klufft has only a 62 point difference while Jackie Joyner-Kersey is 363 points. The average was 185 points for the top Heptathletes.

Cliff returned the next day to give some examples of weekly (Microcycle) training cycle during the SPECIFIC PREPARATORY PHASE

<u>Monday</u>	<u>Tuesday</u>	<u>Wednesday</u>	<u>Thursday</u>	<u>Friday</u>
AM-wt trg	warm up	AM-wt trg	HJ warm up	AM-wt trg
Cleans	SP fronts	DB exercises	high jump work	weighted drills
Ft squats	step throws	pull overs	approach wk	Russian twists
Jerks	glides	PM-jav warm up	jumps 10-12	PM-LJ warm up
6 x 3 3mr	6 x 200	jav approach	hurdle drills	LJ Landings
PM-accel w/u	w-2/mr	jav ball	warm down	take off drills
Multi throws	@ 80%	jav mobility		4 x 75m in-n-outs
Hurdle drills	warm down	core work		w-4/mr
Box drills		warm down		warm down
Hurdle hops				
Warm down				

**Boo Schexnayder** presented Commonality, Compatible and Complementary Training Principles. It was a very in-depth look at the consideration that go into designing a training program whether it be for a macrocycle(yearly), mesocycle(monthly), microcycle(weekly), or session(daily).

### ***Commonalities of Training Principles***

Certain events and activities should be done together and in a certain sequence because of the specific demands on the body. *Ex: you may like beer and you may like ice cream but you would not like to have one right after the other.*

Training consideration include speed-power/endurance ratios. In the Heptathlon the ratio should be 6.5 speed-power/.5 endurance. In the Decathlon the ration should be 8.5 speed-power/1.5 endurance. You can see where we should be spending the bulk of our training time.

According to Richard Liber, fiber type changing does occur. You do have the ability to increase both the size and ratio of fast twitch fibers and slow twitch fibers. Given this information and knowing such a small percentage of the combined events is endurance you can accomplish more with speed-power training than spending time on endurance training. Remember; chronic training makes you slower.

There are many ways to accomplish this. Block Scheme/Rotational Scheme/Block within a Block was three examples given of a Mesocycle training design. Within that one month period you can use any of these three methods, or your own teaching theory, to emphasize a specific technique/drill/exercise and not waste time.

It takes 21-28 days for adaptation to take affect. That means that you need 3-4 weeks of doing a specific technique/drill/exercise before your body learns the neuromuscular pathways to do it again and again without a cognitive thought effort. It is also very specific to the task at hand. Examples: vertical firing versus horizontal firing, range of motion exercises, contact times (foot on the ground) rhythm of activities, acceleration and speed development.

## **Compatible Training**

What you can do in a session that all its parts increase the sum. Whether is be technique features among the different events. Look for neuromuscular pathways, muscle firing patterns, ranges of motion, specific skills within the different events that can be used from one event to another. Example: heel-toe in the long jump and the javelin or the last two steps in the high jump and the take off position in the pole vault. There are also “Grouping Rules” when designing compatibility in a training program

- The first is neuromuscular demand as in high intensity training like sprints/plyometrics and gross lifts (clean & jerk). General activities (abdominals, hurdle mobility, medicine ball) are NOT in this group.
- The second is metabolic demand(energy systems) used in training
- The third is Duration of power output within the neuromuscular system. Ex: Acceleration Development requires short neuromuscular firing and Speed Development requires extended neuromuscular firing. So for training purposes blocks/hurdle hops/ shot put/snatch can be grouped together for acceleration. LJ approach work/bounding/90m sprint/float/sprint/jerk press can be grouped together for speed/power.

## **Complementary Training**

Given all this information it is then important to create daily training sessions that builds off of each other. It is important that a restorative unit be build into each session. Ex: day #1-What did we do? Day#2-What can we do today to make day #1 better. If day #1 had activities focusing on acceleration (short duration) then day #2 should focus on activities with longer duration. The next week day #1 should be speed endurance and day #2 should return to acceleration.

## ***Special Training Design Concerns for the Annual Plan.***

### **Density of Training**

Another important consideration when designing a training program is Density of Training. That is; how often we do things with those mesocycles is important in the acquisition of skill. Motor learning patterns are developed through many different applications but repetition is one of the most successful tools. There are special time demands as well as proper distribution within the macrocycle.

### **Parallel Progressions**

Within the events, try to be at the same pace in regards to intensity/power output/skill acquisition. Ex: in November make sure that one event is not getting too far ahead of the other events.

### **Monitor Power Output**

Monitoring power output controls your power training and allows you to fluctuate with endurance when there is a conflict.

**Dr. Rick McGuire** spoke on Transitional Control in the Combined Events. This was an in depth look at the psycho-emotional factors that occur before competition, in-between events, in-between competition days, and post competition.

Transition Control is moving from one experience to another and it is unique from one athlete to another. The essence of Sport Psychology is the ability to think "right" in sports. The right thoughts are "let it out" and the wrong thoughts are "keep it in" or "choking". Control is nothing other than taking control of your own thoughts.

The model for Transitional Control:

Process – Leave the past behind – *good or bad or okay*

Calm – creating a peace – *give yourself a break*

Psychomotor – Key technical cues, triggers – *key points or focal points*

Psycho-emotional – "thinking right"

Components of Psycho-emotional:

Arousal – where should it be?

Attention – what/where should my focus be?

Affirmation – trust yourself

Activation – DO IT!!!

Other critical components are Emotional Control, Attention Control and Arousal Control.

Emotional Control is how do you deal with happy, celebration, angry, depressed, and afraid?

How do these emotions manifest themselves in your performances?

Attention Control is your ability to focus on different tasks. Do you have the ability to narrow the focus when you need it?

Arousal Control is the ability to control the "upness" of a good individual performance or the "downness" of a bad individual performance.

A critical component is using one thought at a time. Another critical component is to build a plan when you don't need it so that you have one when you do need it.

## **Rock Light**

Rock light's presentation was an overview of "TRAINING THE MULTIPLE EVENT ATHLETE". He spoke on the philosophical, theoretical, practical approach to working with these "special" athletes.

Combined Event athletes come in many forms; sprinter-jumper, sprinter-hurdler, hurdler-jumper, jumper-thrower, and even dual sport athletes.

His approach to training the combined event athlete encompassed the Neuromuscular, musculoskeletal, neuroendocrine, proprioceptive and energy systems.

He explained the Multilateral Training Philosophy as introduced by Tudor Bumpa's. The Primary Biomotor Abilities: SPEED, STRENGTH, COORDINATION, FLEXIBILITY, and

WORK CAPACITY. The Secondary/Combination Abilities: POWER, AGILITY and ABILITY.

His Training Inventory included Flexibility Exercises, Sprint Development Drills, Mobility Exercises, Coordination Routines, General Strength Exercises, Weight training exercises and Medicine Ball Routines, Multijump Routines, Multithrow Routines, Special Strength Exercises, Run-Jump-Throw Training, Technical Training, Testing, Competitions.

The Model for Developing and Teaching the Technical Model is a compilation of Sports Science Contributions, Anatomy-Physiology-Physics and Motor Learning. Also development of Commonality Based Technical Training. All this is done with the Integration of Biomotor and Technical Development.

Consideration should be given to; Lifestyle Issues, Restoration Activities, Medical Concerns, and Psychological Issues.

The TRAINING DESIGN is driven by these factors;

TRAINING THEIR PRINCIPLES

TRAINING SEQUENCES AND PREREQUISITES

MACROCYCLE CONSIDERATIONS

MESOCYCLE CONSIDERATIONS

MICROCYCLE CONSIDERATIONS

COMPATIBLE TRAINING

COMPLIMENTARY TRAINING.

Practice and Competition Scheduling and Management.

TRAINING SCHEDULES

COMPETITION SCHEDULES

OPEN EVENT SCHEDULING

SPECIAL ISSUES

COMPETITION WAMUP

COMPETITION PLAN

TRANSITIONAL CONTROL

He gave us a sample of his training during the COMPETITIVE PHASE

## **MONDAY**

*Warm up*

*Hurdle mobility*

*Shot Put (simulate competition time in between throws)*

*Hurdle acceleration Development (from blocks with gun)*

*Competition modeling emphasis (3-4 hurdles) (hurdles spaces closer & lower)*

*Multi jumps routine (standing LJ – Standing TJ – landing tech)*  
*Multi throws routine (proximal-distal firing) (push-off angles)*  
*Weight training (low reps & high load)*  
*Cool down*

## **TUESDAY**

*Warm up*  
*High jump (circle runs)*  
*Javelin Full approach & full throws (but not from full approach)*  
*Medicine ball high volume*  
*General strength*  
*Body building 2 (3 x 12 exercises 25-26 minutes)*  
*Cool down (skipping is good for removing Lactic Acid)*

## **WEDNESDAY**

*Warm up*  
*Speed endurance 200m work out (150 w-1/mr 100m x 3-4 sets @ 95%)*  
*Multi Jumps (hurdle jumps with emphasis perpendicular to ground) (vary height and distance)*  
*Weight training (emphasis on vertical component i.e.; step ups)*  
*Cool down*

## **THURSDAY**

*Warm up*  
*Medicine Ball*  
*General Strength*  
*Rest and recovery (speed up recovery with PNF Stretching and ice baths)*  
*Cool down*  
*Film study*

## **FRIDAY**

*Warm Up*  
*Long jump (full approach+ modified jumps and short runs + full jumps)*  
*Hurdle Rhythm endurance (skip hurdles 100m+)*

*Multi Jumps (longer bounds & less volume i.e.; 30m straight leg bound & 30m bent leg bound)*

*Multi throws (Light implements, reps down)*

*Wight training (similar to Monday)*

*Cool down*

## **SATURDAY**

*Warm up*

*Throw*

*Intensive tempo (800 training 2 minute cycle – 200 in 2m minute count)*

*Medicine ball*

*General strength*

*Body building (volume down – technique up, postural 2 x 12 x 12 activities)*

*Cool down (static stretching – stretchrite belts – distal stretching)*

## **SUNDAY**

*Active rest and recovery*

HERE ARE SOME OTHER THOUGHTS AND IDEAS THAT ROCK IMPLEMENTS INTO HIS TRAINING THEORY THIS TIME OF THE YEAR

Intensities of work are HIGH

Planned consistent unloading in total volume while intensities remain high

Recovery emphasis

Utilization of restoration modality emphasis

Desensitizing emphasis

Confidence building emphasis

\*early in Competition Preparatory Phase there is deeper themes and longer power duration output (re; longer intervals).

\*Later use shallow themes with shorter power duration output (re; shorter intervals).

\*Event order more often in training paying very close attention to density concerns.

\* Later in Competition Phase increasing total recovery opportunities with shallow themes

## **HIGH JUMP (Cliff Rovelto)**

### **1. Take-off Goals**

T-O leg fires into the ground. Ideally we want as large a force as possible. A large Range of Motion (ROM) with the Center of Gravity (CG) going through a long vertical (ROM) during T-O with a low (CG) at T-O + quick T-O to facilitate rotation

Relationship of vertical velocity at end of take-off with horizontal velocity of CG in take-off stride

Push through, pull hips, and free leg “swings”

Penultimate step is “flat” and the athlete is moving “over step or “pushing through”

During take-off you’re pulling your “gluts” and hamstrings down and back. DO NOT RISE UP”  
Spend more time on the ground

Make sure you are not too close to the bar because there is not enough room for proper technique.

MAKE SURE YOU FOOT – HIPS – SHOULDERS ARE ON THE SAME PLANE

### **2. Body Positions @ touchdown of T-O leg**

The T-O foot should be pointed to the far back of the pit or slightly to the middle. This is the direction of the Longitudinal Axis. Check your distance from the bar also.

Check the relationship of the hips and shoulders relative to the bar.

Your inside shoulder should be raising during the jump NOT before it.

Check your plant leg and the degree of Knee flexion. You don’t want to be too “low” or “deep”.

Check your body lean – A lateral lean is away from the bar. A backward lean is backward from the bar.

\*At the end of T-O Phase elite jumpers are approximately 10% beyond vertical.

### **2. Bar Clearance**

At the completion of the T-O three (3) rotations commence

1 – Forward somersault caused by angular momentum produced by checking linear motion

2 – Lateral somersault caused by center fleeing force

3 – Rotation about the vertical axis – twisting angular momentum

Arm and free leg styles

Wide sweeping arm motion and long free leg (clockwise rotation) interfere with forward somersault angular rotation

\*Remember that approach and T-O will dictate what must happen on top of the bar.

Legs out over the bar – arms out

Legs in over the bar – arms in

### **HURDLES (Dr. Tommy Lee White)**

Three (3) things guide his philosophy

1 – How quickly the athlete processes information

2 – NEVER HAVE THE ATHLETE REACT OT THE HURDLE

3 – Motivation – have a “formula for success”

Build Around the athletes strengths

The hurdles are a sprint. Sprinting is a series of jumps/bouncing

Bounce over the hurdles

ATTACK THE GROUND and not the hurdle

Focus on the technique that produces a fast time (totally individual)

Understand the phases of the race

Lead leg is always bent

Nose over the knee to maintain sprinters posture

UNDERSTANDING THE RHYTHM OF THE RACE

Adjust the technique to the strengths and limitations of the athlete

ONLY ONE (1) HURDLE AT A TIME

### **KEYS TO HURDLING**

1 – High on the balls of the feet. Run tall – run on top of the ground – bounce over the hurdle – always maintain “sprinters posture”.

2 – Position of the arms – elbow bent (45d) – shorten radius of the arms – arm swing (hands to chin) – top down running (rhythm in the arm swing)

3 – Lift over the hurdle – attack the ground (push off foot) – bounce of the ground – thigh of the lead-leg to the chest – lead with the lead-leg knee. BRING LEG TO CHEST **NOT** CHEST TO LEG.

4 – Action over the hurdle – quick back swing of the trail arm – nose over the lead=-leg knee – sprint off the hurdle – trail arm initiated the action-reaction of the arms and legs.

5 – Lead leg action – The quicker the trail arm the quicker the lead leg touched down – bent lead leg – nose over the lead-leg knee – Sprinter posture ALWAYS

6 – Touch-down action - Nose over knee – touch down with ball of foot – hip, knee, ankle should be flexed – strong arm action