

Advanced Methods in Triphasic Training

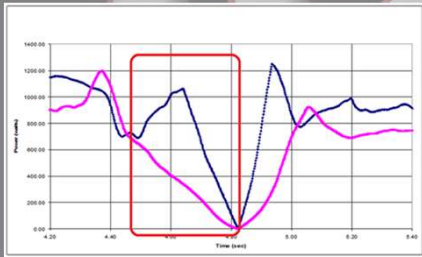
Cal Dietz – cal.dietz@gmail.com

Triphasic Muscle Action

- Every movement contains 3 phases
 - **Eccentric**
 - Muscle lengthening
 - **Isometric**
 - No length change
 - Most commonly missed action
 - **Concentric**
 - Muscle shortening
- Ultimate goal is improving efficiency and power of SSC

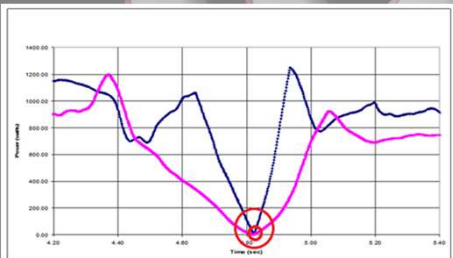
Notice how steep the eccentric and concentric slope of Ben's repetition is in comparison to Tommy's. This indicates Ben's ability to absorb more force at a faster rate and, consequently produce more force concentrically. This explains why, although the two athletes had similar strength, Ben could throw the shot 10' further.

Eccentric Phase

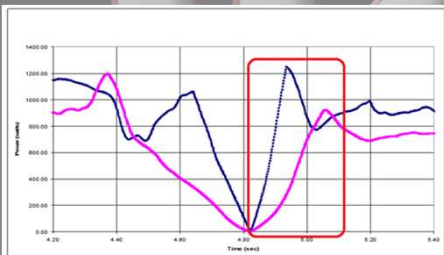


Throwing Sample

Isometric Phase



Concentric Phase



Tri-Phasic Undulating Block Method – Squat Example

Block 1	Block 2	Block 3
Weeks 1 & 2 Eccentric	Weeks 3 & 4 Isometric	Weeks 5 & 6 Concentric
Eccentric Squat 6:0:0:0	Isometric Squat 0:3:0:0	Explosive Squat 0:0:0:0
Technique : Ecc , Iso , Con		Throwing Sample

Tri-phasic Undulating Block Method - Peaking

Block 1	Block 2	Block 3
Weeks 1 & 2 Eccentric	Weeks 3 & 4 Isometric	Weeks 5 & 6 Concentric

Peaking for Sport - Triphasic Supramaximal with GPP Model

Phase	GPP						Supramax Strength		Aerobic		Supramax Strength		Aerobic		Triphasic Strength		Aerobic		Triphasic Power		Aerobic		Triphasic Speed	
Weeks	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Quality Addressed	Aerobic	Aerobic	Lactate	Lactate	Alactic	Alactic	Eccentric	Eccentric	Downstroke	Isometric	Isometric	Downstroke	Concentric	Concentric	Downstroke	Power	Power	Downstroke	Peaking	Peaking				
Percent Load	Below 50%		50-75%		Above 80%		110-105%		Below 50%		120-105%		Below 80%		Below 80%		Below 80%		Below 55%					
Durations	over 10 sec. sets		under 10 sec. sets		20-30 sec. sets		20-30 sec. sets		20-30 sec. sets		under 10 sec. sets		under 10 sec. sets		under 10 sec. sets		under 10 sec. sets		under 10 sec. sets					
Add Ons																								
Fasted State																								
Type Mouth																								
Fast Twitch RSA Capacity																								
Fast Twitch RSA Hypertrophy																								
Potential Clusters																								
French Contrast																								
Hypertrophy for Examples	Aerobic	Lactate	Alactic				Supramax-Ecc	ex	Supramax-iso	Contra	Concentric	Contra	Power	Contra	Speed									

RESULTS OF APPLIED INTEGRATION

- Week 0: 65-70 Resting heart rate (RHR)
- Weeks 1-3: 55-60 RHR
- Weeks 4-5: 48-52 RHR
- Weeks 6-8: 32-38 RHR – Post Super max Isometrics
- All this happened with no conditioning: why?
- Training – Block , Breathing , RPR – Reflexive performance Reset
- Youtube
- [Triphasic Training Bioenergetics Integration Dynamics Method Part 1](#) AND [Workout Structure off Season](#)

Functional Reserve Range

- Twins
- Athlete 1 - Resting Heart Rate – 65
- LTH – 165 – FRR – 100
- Athlete 2 - Resting Heart Rate – 32
- LTH – 172 – FRR – 140
- Difference of 40 beats

What We Have Seen SBSS - Safety Bar Split Squat

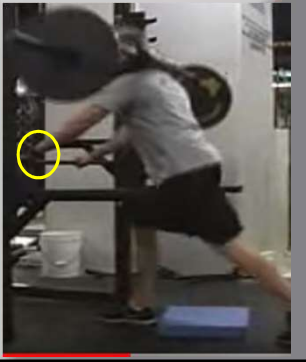
- Nervous System
 - Throwers didn't back squat...
 - Gained AVERAGE 57lbs on squat in 8 weeks
- Cardiovascular System
 - Week 0: 65-70 resting heart rate (RHR)
 - Weeks 1-3: 55-60 RHR *GPP*
 - Weeks 4-5: 48-52 RHR *ECC*
 - Weeks 6-7: 32-38 RHR *ISO*

Muscular System
 Female Athlete
 132 body weight
 355 Safety Bar Squat

Single leg - 800 Pounds
<https://www.youtube.com/watch?v=H4SLuXqWmg>

Why Safety Bar Squat

- Lower body → Unilateral, total body
Global stressor
- Sport-Specific
- Increased stress on individual leg muscles
- No hands placed on Safety Bar
Removes balance from equation
Allows for heavier loads used
- ↑ Core Stabilization?



Why Supramaximal?

- STRESS
- SUBmaximal ECC and ISO is not enough
 - Various mechanisms allow body to lower more weight than lift
 - E.g. 120% ECC = 100% CON
 - With this, 90% CON = 70% ECC!!!
 - Not enough!
- Greater hormone release
 - Must monitor cortisol - sets are under 10 seconds
 - Breaks down NEW tissue first

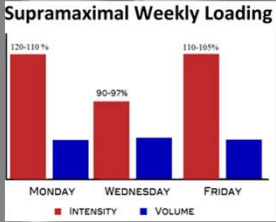
How to Implement - ECC

First training block

Tempos
 Monday - :07
 Wednesday - Any Implement @ 90-97%
 Friday - :10

Pairings
 French Contrast Exercises
 Prehab Exercises

Equipment
 Safety Bar
 Weight Releasers
 Fixed Barbell for hands-on assistance
[Hex Bar](#)



Day	Intensity	Volume
MONDAY	120-110%	Low
WEDNESDAY	90-97%	Low
FRIDAY	110-105%	Low

Coaching Cues - ECC

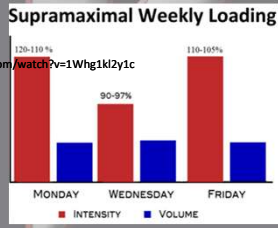
- Adjust height of bar, crash bars, weight releasers accordingly
- Spine neutral with chest up
- Front and Back Leg at 90° at Knee and Hip
Don't let back leg get too extended
- Belly Breathe in, hold breathe during lift
- Slow, smooth and controlled descent - Half Range
Make sure descent is even throughout specified tempo
- Big toes and Glutes!
- Explode up!
- 2 spotters on either side of bar assist for fast CON

Example:



How to Implement - ISO

- First training block
- Tempos
 - Monday - :07
 - Wednesday - Any implementation
 - Friday - :10
- Pairings
 - French Contrast Exercises
 - Prehab Exercises
- Equipment
 - Safety Bar
 - Weight Releasers
 - Fixed Barbell for hands-on assistance
 - [Hex Bar](#)



<https://www.youtube.com/watch?v=1Whg1kZy1c>

Coaching Cues - ISO

- Adjust height of bar, crash bars, weight releasers accordingly
- Spine neutral with chest up
- Front and Back Leg at 90° at Knee and Hip
Don't let back leg get too extended
- Belly Breathe in, hold breathe
- Controlled descent into position with hard stop
Hold position for specified tempo
Drop to engage weight releasers
- Big toes and Glutes!
- Explode up!
- 2 spotters on either side of bar assist for fast CON

Example:



Weekly Block Loading Model

Block Focus	Monday	Wednesday	Friday
Block 1-2 Weeks	Loading Day 1	Loading Day 2	Loading Day 3
Eccentric	120-110%	90-92%	110-105%
Block 2-2 Weeks	De-load week	De-load week	De-load week
Isometric	120-110%	90-92%	110-105%
Block 3-2 Weeks	De-load week	De-load week	De-load week
Con- Strength	95%	90-92%	85%
Con- Speed	65%	80%	65%

Concentric SBSS – Has Many Options

- Above 80% loading
- Below 80% loading
- 55% - 25% loading – [Video](#)
 - The Reason for [Knee in front of toe](#)

Peaking for Sport - Triphasic Supramaximal with GPP Model

Phase	GPP						Supramax Strength		Aerobic		Triphasic Strength		Aerobic		Triphasic Power		Aerobic		Triphasic Speed	
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Durations			over 10 sec. sets		under 10 sec. sets		20-30 sec. sets				20-30 sec. sets		under 10 sec. sets		under 10 sec. sets		under 10 sec. sets		under 10 sec. sets	
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Hyperlinks for Examples	Aerobic	Lactate	Alactic	Supramax-EC	ex	Supramax-100	Contra	Concentric	Contra	Power	Contra	Speed								

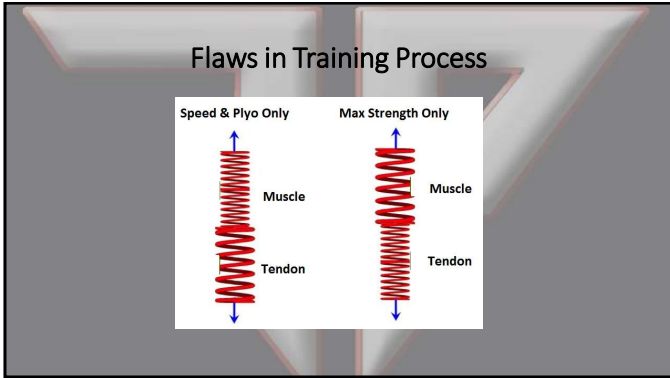
More Speed and Power Examples for Peaking

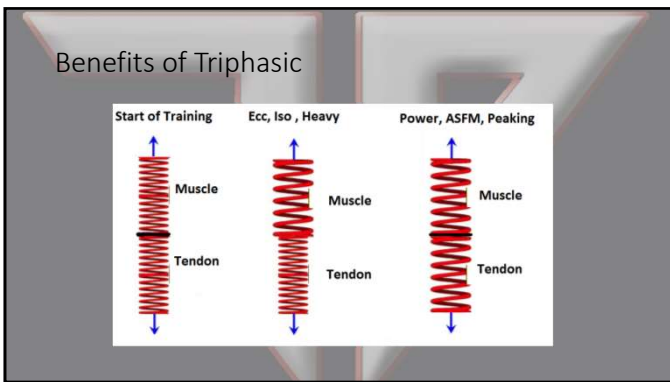
Power Training – 75%-55% Loading	Speed Training – 50%-25% Loading
• Psoas Single Leg Kick Prone	• Psoas Double Leg Kick Prone
• Single Leg Band Hamstring Kick	• Double Leg Band Hamstring Kick
• Hip Thrust Single Leg OC	• Hip Thrust Double leg OC
• Banded Abduction Glute	• Banded Abduction Glute

TENDON STIFFNESS, COLLAGEN PRODUCTION, AND TRIPHASIC FOR PERFORMANCE

The Process Of Training Tissues

The diagram illustrates the process of training tissues. It is divided into two parts: 'Start of Training' and 'End of Training Process'. In the 'Start of Training' section, a muscle and tendon are shown as loose, elongated springs. In the 'End of Training Process' section, the muscle and tendon are shown as tighter, more compressed springs, indicating that training leads to increased stiffness and collagen production in these tissues.





Secret to Hypertrophy of Fast Fiber

- Skill is Key – Everything is a Skill
- Quality Reps – 3 Reps
- Fatigued Prevents Skill Development
- Clusters Training 1+1+1+1+1
- [Potentiation Clusters](#)

French Contrast

- Safety Single Leg Squat – 2 - 4 reps
- Hurdle hops – 4 Reps
- Loaded Squat Jump – 4 reps
- Accelerated Jumps – 4 reps

Potential Clusters

- Simple Contrast Model for high school - Acceleration
- [Sport Back Squat](#) - 1 rep 65-80% + Box Jump / 1 rep...15-20 seconds Rest
- Sport Back Squat - 1 rep 65-80% + Box Jump / 1 rep...15-20 seconds Rest
- Sport Back Squat - 1 rep 65-80% + Box Jump / 1 rep...15-20 seconds Rest
- Sport Back Squat - 1 rep 65-80% + Box Jump / 1 rep
- Rest 2-3 minutes, then repeat for a total of 2 to 4 sets

Potential Clusters

- Top end Speed Running
- Hex Dead lift - 1 rep 65-80% + Hurdle Hop / 1 rep...15-20 seconds Rest
- Hex Dead lift - 1 rep 65-80% + Hurdle Hop / 1 rep...15-20 seconds Rest
- Hex Dead lift - 1 rep 65-80% + Hurdle Hop / 1 rep...15-20 seconds Rest
- Hex Dead lift - 1 rep 65-80% + Hurdle Hop / 1 rep
- Rest 2-3 minutes, then repeat for a total of 2 to 4 sets

Potential Clusters

- Peaking Focus for Team Sports, Basic Approach
- 25-30% Load Squat jump 1 rep + Drop box Jump / 1 rep...15-20 seconds Rest
- 25-30% Load Squat jump 1 rep + Drop box Jump / 1 rep...15-20 seconds Rest
- 25-30% Load Squat jump 1 rep + Drop box Jump / 1 rep...15-20 seconds Rest
- 25-30% Load Squat jump 1 rep + Drop box Jump / 1 rep
- Rest 2-3 minutes, then repeat for a total of 1 to 3 sets

Potential Clusters

- Peaking Focus for Team Sports, Advanced Athletes
- 25-30% Load Squat jump/1 rep + Drop box Jump/1 rep + Acc. Band Jump/1 rep...15-20 seconds Rest
- 25-30% Load Squat jump/1 rep + Drop box Jump/1 rep + Acc. Band Jump/1 rep...15-20 seconds Rest
- 25-30% Load Squat jump/1 rep + Drop box Jump/1 rep + Accelerated Band Jump/1 rep
- Rest 2-3 minutes, then repeat for a total of 2 to 4 sets

What is Lactate Retention Method

It's the Utilization of Lactate for Adaptation purposes prior to optimal Training Preparation Yin/Yang
 -When using Lactate Retention Training you're doing the opposite of the normal to Get adaption Results at the Cellular level.

What is Lactate Retention Method

What is the Normal - After completing a 20 to 120 Set - you flush out the Lactate that has formed.

-Walking or light movement

The Lactate Retention method - you don't move to Keep the Lactate (the Burn) in the muscle. You remain Still.

Lactate Retention Methods



30 -40 Seconds of Squatting after Lactate Set

Deep Relaxed - Rpr Breathing

What is Lactate Retention Method

What method?

Running - Biking - Stadium Stairs , Squat jumps in place - Leg Press - 300's - Suicides -

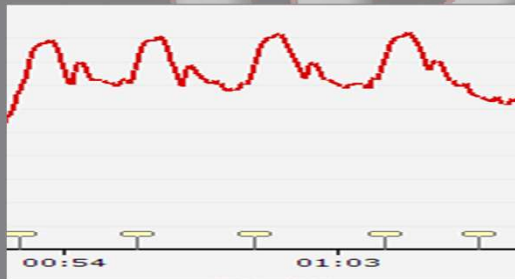
Bulgarian Lactate Jumping 3 Sets x 33 Sets - Rest in between is - 110 Heart Rate

What is Lactate Retention Method

What Workout - any

- 1) Set 1 -Running a 300 shuttle - then Squatting for 30 second
- 2) Set 1 -Running a 300 shuttle - then Squatting for 30 second
- 3) Set 1 -Running a 300 shuttle - then Squatting for 30 second

Lactate Retention Methods



Lactate Retention Methods

- Henk Kraaijenhof
- Adaptation over Performance
- What Phase/Block [Two GPP – Triphasic Model](#)
- Base Training last 2 to 3 weeks for Adaptation
- 4 to 6 weeks for Performance

Adaption Over Performance

Yin/Yang Performance
Adaptation Sequencing
Adaptation Phase 2 - 4 Weeks
Performance Phase - 3 to 8 Weeks - not for

