

# **New Trends in Strength Training For Throwers**

**University of Minnesota Head  
Strength and Conditioning Coach**

**Cal Dietz, M.Ed. [dietz011@umn.edu](mailto:dietz011@umn.edu)**

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# These Methods Can Be Used In Many Different Ways

- The only “bad” program is one that does not **change**
- The success of the program depends on constant change
  - **Daily, Weekly, Monthly, and Yearly**
- New stimuli must be given to the athlete at various times during the season
  - This is not to be mistaken for simply returning to previous stimuli
  - You must come up with novel ways of stimulating and stressing your athletes in order to spur change for the better

# Key Factors For Successful Programming

- High Volume
- High Intensity
- High Frequency
- High Expectations
- Some Overtraining

# Daily Organizing Training

- **Training session and days**
  - **What are optimal methods? – RFD**
  - **A single workout or practice session**
    - **For most, this is the same as the training day**
  - **Separate workouts – morning versus post-practice**
    - **Olympics in morning – Squatting after high quality practice is an option, but morning is usually optimal**
  - **For advanced athletes, several sessions may comprise a day**

# Daily Organizing Training

- Total lifting in the morning separated by a few hours
- 2 to 6 hours- not optimal for everyone
- Warm up sets for power – [View Article](#)
- Training week
  - A series of several training days together – train 5 to 6 days

# Throwers Programs Examples

- The following is 6 slides is an example of the undulating periodization model training program that was implemented in the collegiate setting with great success during the pre season. The programs changed monthly as far as loading and exercises. The loads are the percentages used. Videos can be found [www.xlathlete.com](http://www.xlathlete.com)

Monday	1-Dec-08		8-Dec-08	
	REPS	LOAD	SETS	NOTES
Power Clean	5	45 - 55	1	Pre-Set Wup Rest 1:30
Power Clean	3	60 - 65	1	P/w-2 Neck Rest 1:30
Power Clean	1	- 80	1	P/w-2 Neck
Power Clean	1,1	85 - 90	3	0:0:0:15 Rest 3:00
Power Clean	1,1	80 - 85	3	0:0:0:10 Rest 2:30
Strength Prep				
BENCH PRESS	5	45 - 55	1	Rest 1:30
BENCH PRESS	3	60 - 65	1	Rest 1:30
BENCH PRESS	1	80 - 80	1	Coach Watch
BENCH PRESS	C1T	55 - 60	4	3% - Tendo Bands
INC OH Sit Up	10		5	45 Pounds Rest 1:30
Bench Press	15	65 - 70	1	

DB INCLINE BENCH	5	70 - 80	3	
Pair w/				Rest 1:30
Lat Pull Down	9,7,5	70 - 80	3	Increase Wgt
Pair w/				Rest 1:30
DB Side Lat Raise	10	70 - 75	3	
DB Tri Ext	6	75 - 80	4	0:0:0:0
Pair w/				Rest 1:30
Bar Curl	8,6,4	70 - 80	3	
Pair w/				Rest 1:30
DB Rear Delt	12	65 - 70	4	
Bam Bam	12	70% - 75%	3	
GH HANG	120S		1	Relax Mouth
Pair w/				
Rollers Glutes & Hams	120S		1	
Pair w/				
ISO SPLIT	30s		1	

Tuesday	2-Dec-08		9-Dec-08	
	REPS	LOAD	SETS	NOTES
FRONT SQUAT	5	45 - 55	1	P/w-2 Neck
<b>Pair w/</b>				
FRONT SQUAT	3	60 - 65	1	P/w-2 Neck
<b>Pair w/</b>				
FRONT SQUAT	1	- 80	1	P/w-2 Neck
FRONT SQUAT	3	70 - 75	5	Bands
<b>Pair w/</b>				Rest 1:30
Drop Box Jump	4	*N/A .. *N/A	5	Reactive
<b>Pair w/</b>		*N/A .. *N/A		
Hip FLX BND Pulls	8		3	
STEP UP	4	80 - 85	4	Reactive
<b>Pair w/</b>				
GH HYPR Incline	6	*N/A .. *N/A	4	0:4:0:0
<b>Pair w/</b>		*N/A .. *N/A		Reactive
Speed Adduction	10		3	
RDL	5	80 - 85	3	0:0:0:0
<b>Pair w/</b>				+ Shrug
ANT TIB BND	10	*N/A .. *N/A	3	
<b>Pair w/</b>		*N/A .. *N/A		
90 90 Glute ISO Hold	10S		3	

Closed Lunge V BND TW			2	Rest 1:00
<b>Pair w/</b>				
SWB TW Band	10		2	
GH HANG	120S	*N/A .. *N/A	1	Relax Mouth
<b>Pair w/</b>				Twist
Rollers Glutes & Hams	120S		1	

Wednesday	3-Dec-08		10-Dec-08	
	REPS	LOAD	SETS	NOTES
Power Snatch	5	45 - 55	1	Pre-Set Wup Rest 1:30
Power Snatch	3	60 - 65	1	P/w-2 Neck Rest 1:30
Power Snatch	1	80 - 80	1	P/w-2 Neck
Power Snatch	1,1	90 - 90	3	0:0:0:20 Rest 2:30
Pair w/				
Power Snatch	1,1	90 - 90	3	0:0:0:20 Rest 2:30
Strength Prep				
BENCH PRESS	5	45 - 55	1	Rest 1:30
BENCH PRESS	3	60 - 65	1	Rest 1:30
BENCH PRESS	1	80 - 80	1	Coach Watch
BENCH PRESS	1,1	90 - 90	3	0:0:0:20 Rest 2:30
Pair w/				
BENCH PRESS	1,1	85 - 90	3	0:0:0:15 Pair/E. Set
Bench Throw	3	45 - 50	5	0:0:0:3

Push Press	▼	90 - 95	5	Increase Wgt Rest 1:30
Pair w/				
DB Curl	8	65 - 70	5	Rest 1:30
Pair w/				
Gripper	10	65 - 70	4	
EZ Tri Ext	6	80 - 85	3	Chain Rest 1:30
Pair w/				
1 Arm Lat Pull Down	8	75 - 80	3	Rest 1:30
Pair w/				
Gopher U Abs	8		3	25 Pounds
GH HANG	▼		1	Relax Mouth
Pair w/				
Rollers Quads & Back	120S		1	
Pair w/				
LAYING WALL SHAKES	120S		1	Relax Mouth

Thursday	4-Dec-08		11-Dec-08	
	REPS	LOAD	SETS	NOTES
Back Squat	5	45 - 55	1	
Back Squat	3	60 - 65	1	
Back Squat	1	- 80	1	
Back Squat	C1T	90 - 90	4	5% - Tendo
<b>Pair w/</b>				Rest 2:30
USSR Plyo BX Pause	4	*N/A .. *N/A	4	Pause
<b>Pair w/</b>				Each Leg
Speed Adduction	6		4	Rest 1:00
SL Leg Press	5	85 - 85	3	
<b>Pair w/</b>				
Assist Nordic Ham Curl	6		3	Bands
<b>Pair w/</b>				
90 90 Glute ISO Hold	10S		3	

ANT TIB BND			3	
<b>Pair w/</b>				
PRTNR BND Abs	5		3	
<b>Pair w/</b>				
SWB Down TW	10		3	Each Side
GH HANG			1	Relax Mouth
<b>Pair w/</b>				
Rollers Quads & Back	120S		1	
<b>Pair w/</b>				
LAYING WALL SHAKES	120S		1	Relax Mouth

Friday	5-Dec-08		12-Dec-08	
	REPS	LOAD	SETS	NOTES
Power Clean	5	45 - 55	1	Pre-Set Wup Rest 1:30
Power Clean	3	60 - 65	1	P/w-2 Neck Rest 1:30
Power Clean	1	80 - 80	1	P/w-2 Neck
Power Clean	2,2,2	70 - 75	3	0:0:0:10 Rest 2:30
<b>Pair w/</b>				
Power Clean	2,2,2	65 - 70	3	0:0:0:10 Rest 2:30
INCLINE BENCH	5	45 - 55	1	
<b>Pair w/</b>				
INCLINE BENCH	3	60 - 65	1	
INCLINE BENCH	1	█ - 80	1	Coach Watch
INCLINE BENCH	5	70 - 75	5	Chain
<b>Pair w/</b>				Rest 30
Med Ball Chest Pass	3	█/A .. █/A	5	Speed
				Rest 2:00
Jerk Support Iso	3	75 - 80	3	0:4:0:0

Hammer Pull	▼	70 - 40	3	Decrease Wgt
Incline Hammer Curls	FFF	70 - 40	3	
Shrug	FFFF	65 - 35	4	
GH HANG	▼	█	1	Relax Mouth
<b>Pair w/</b>				
Rollers Quads & Back	120S		1	
<b>Pair w/</b>				
LAYING WALL SHAKES	120S		1	Relax Mouth

Saturday	6-Dec-08		13-Dec-08	
	REPS	LOAD	SETS	NOTES
DeadLift	5	45 - 55	1	P/w-2 Neck
DeadLift	3	60 - 65	1	P/w-2 Neck
DeadLift	3	█ - 80	1	Cosch Watch
DeadLift	4	80 - 85	5	Rest 2:30
Close Grip Bench	5	45 - 55	1	4 Board
Close Grip Bench	5	80 - 85	4	4 Board
Rever Hyper	5	85 - 85	3	
<b>Pair w/</b>				
Calf Raises	12		3	Knee Bend

# In season Strength Training Program

- The following three slides are in season training for collegiate level throwers.

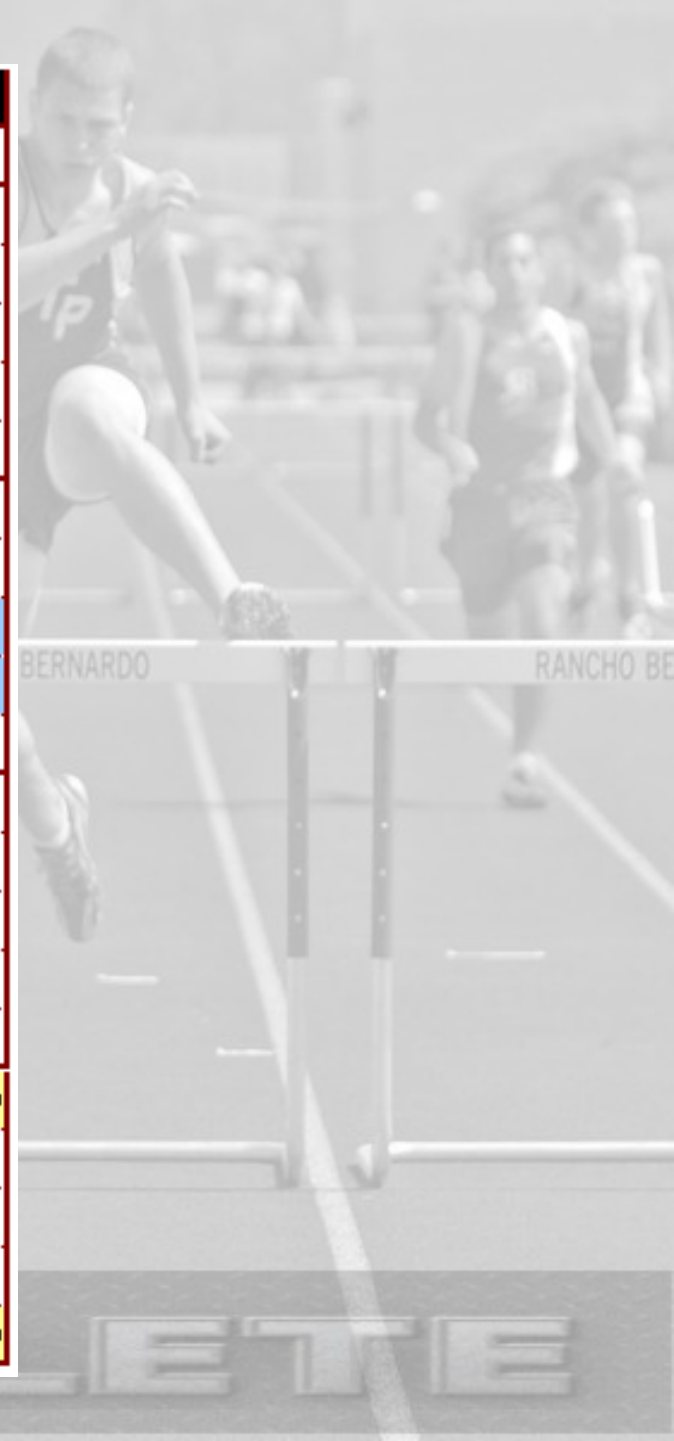
Monday	2-Feb-09			
	REPS	LOAD	SETS	NOTES
Power Clean	5	160 - 195	1	I band roll Rest 1:30
Power Clean	3	210 - 230	1	Back Roll Rest 1:30
Power Clean	1	- 280	1	Glute Roll
Power Clean	1,1	255 - 265	5	0:0:0:10 Rest 3:00
<b>Strength Prep</b>				
BENCH PRESS	5	165 - 200	1	P/w-2 Neck Rest 1:30
<b>Pair w/</b>				
BENCH PRESS	3	215 - 235	1	P/w-2 Neck Rest 1:30
<b>Pair w/</b>				
BENCH PRESS	1	285 - 290	1	Coach Watch
BENCH PRESS	C1T	255 - 275	4	3% - Tendo 0:0:0:30
<b>Pair w/</b>				
Cuban PRSS INC F8	6		4	
Calf Raises	10		4	Knee Bend

Lat Pull Down	▼	205 - 220	3	
<b>Pair w/</b>				
DB Rear Delt	12	30 - 35	3	
<b>Pair w/</b>				
Ankle Band Work	10		3	
DB CURL	6	45 - 50	3	
<b>Pair w/</b>				
Open Lunge V BND TW	6		3	
GH HANG	▼		1	Relax Mouth
<b>Pair w/</b>				
Rollers Glutes & Hams	120s		1	
<b>Pair w/</b>				
ISO SPLIT	30s		1	

**Tuesday**

3-Feb-09

	REPS	LOAD	SETS	NOTES
Back Squat	5	230 - 285	1	Pre-Set Wup Rest 1:30
Back Squat	3	305 - 335	1	P/w-2 Neck Rest 1:30
Back Squat	1	400 - 410	1	P/w-2 Neck
Back Squat	1,1	410 - 425	3	0:0:0:20 Rest 2:30
<b>Pair w/</b> Back Squat	1,1	310 - 335	3	0:0:0:20 Band Medium
Drop Box Jump	3		6	
Close Grip Bench	3	295 - 305	3	3 Board
RDL Shrug	6	285 - 340	3	
GH HANG	▾		1	Relax Mouth
<b>Pair w/</b> Rollers Quads & Back	120S		1	
<b>Pair w/</b> LAYING WALL SHAKES	120S		1	Relax Mouth



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Thursday	5-Feb-09			
	REPS	LOAD	SETS	NOTES
Snatch	5	110 - 135	1	Pre-Set Wup Rest 1:30
Snatch	3	145 - 155	1	P/w-2 Neck Rest 1:30
Snatch	1	190 - 195	1	P/w-2 Neck
Snatch	1,1,1	145 - 155	3	0:0:0:10 Rest 2:30
BENCH PRESS	5	165 - 200	1	
<b>Pair w/</b>				
BENCH PRESS	3	215 - 235	1	
BENCH PRESS	1	█ - 290	1	Coach Watch
Bench Press	1	320 - 330	3	
<b>Pair w/</b>				
BENCH PRESS	3	235 - 245	3	



# Prehab Exercise

- 2 sets of 2 to 3 Exercises paired together

- Examples

- Balance Single Leg Squat (knees, quads, ACL)

- Piston Squat – With Band (knees, quads, ACL)

- TKE (quads, prevention of tendonitis)

- 4 Way Ankle Kicks (hips, glutes, groin)

- 3 Way Ham Press (hamstrings)

- Cuban Press Figure 8 (rotator cuff)

# Types of Daily Lifting Methods

- **Four primary types**
  - **Clustering, Contrast, Complex**
- **These are most effective daily methods**
  - Why are these methods are effective?
  - “Rate of Force Development”
- **We must seek out stressful methods that increase force during the event**

# Clustering

- 3 sets of 3 reps or 3 sets of 1+1+1+1
- Using cluster sets in training is an excellent way to stress an athlete, especially during phases of considerably intense loading. A cluster set allows for **more repetitions** to be made at a weight that an athlete would not normally be able to lift two or more times in succession.

[View Full Cluster Article](#)

# Complex Training

- **The use of plyometrics in between sets of strength training**
- **3 sets of 3 reps paired with 3 sets of 3 plyometrics**
- **Speed load should be under 80 percent**

# Complex Training

- **Set 1** - 2 Reps Back Squat p/w 3 Box Jumps
- **Set 2** - 2 Reps Back Squat p/w 3 Box Jumps
- **Set 3** - 3 Reps Back Squat p/w 3 Box Jumps

# Contrast Training

- **Used during heavy loading phases – Drop off around 15 to 20 percent**
- **Set 1 – 2 reps @ 90%**
- **Set 2 - 2 reps @ 70%**
- **Set 3 – 2 reps @ 90%**
- **Set 4 - 2 reps @ 70%**
- **Set 5 – 2 reps @ 90%**
- **Set 6 - 2 reps @ 70%**

# Contrast Training

- **Your drop set should be below 80%**
- **95 drop to 75**
- **90 drop to 70**
- **85 drop to 65**
- **80 drop to 60**

# Guidelines with Percentages and Reps

- **55% - 74% - reps of 5 to 3 – with variables**
- **75 % - 4 to 2 – out-of-season – in-season**
- **80 % - 4 to 1 – out-of-season – in-season**
- **85 % - 3 to 1 – out-of-season – in-season**
- **92 % - 2 to 1 – out-of-season – in-season**
- **Rule # 1 ( Speed/Quality )**
- **Cluster Training-**
  - **Set of 3 Reps (1+1+1) 10 to 30 Sec**

# Exercise Selection

Power Snatch

Back Squat

Glute Ham Hyper

Squat Jump

Back Step Up

Clean and Jerk

Walking Lunge With  
Band

Clean

Power Clean

RDL Shrug

Back Step Up

# Organizing Weekly Training

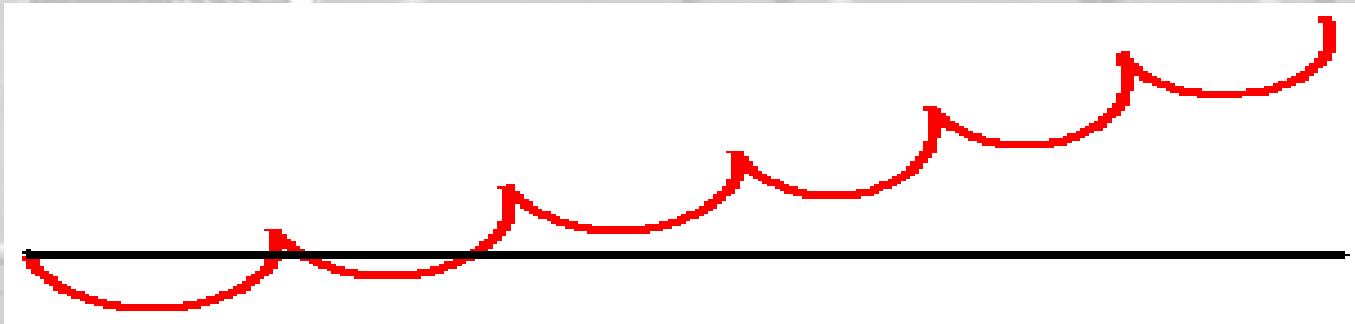
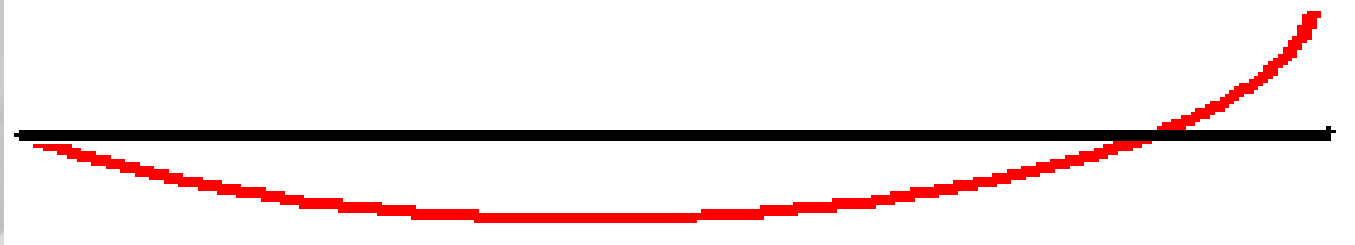
- Working Various Motor Task



**Figure 20: Increase in power in the vertical jump in place after 6 weeks of training with various weights: 1) 50% of maximum. 2) 90% of maximum and 3) combination of 90% and 50% of maximum.**

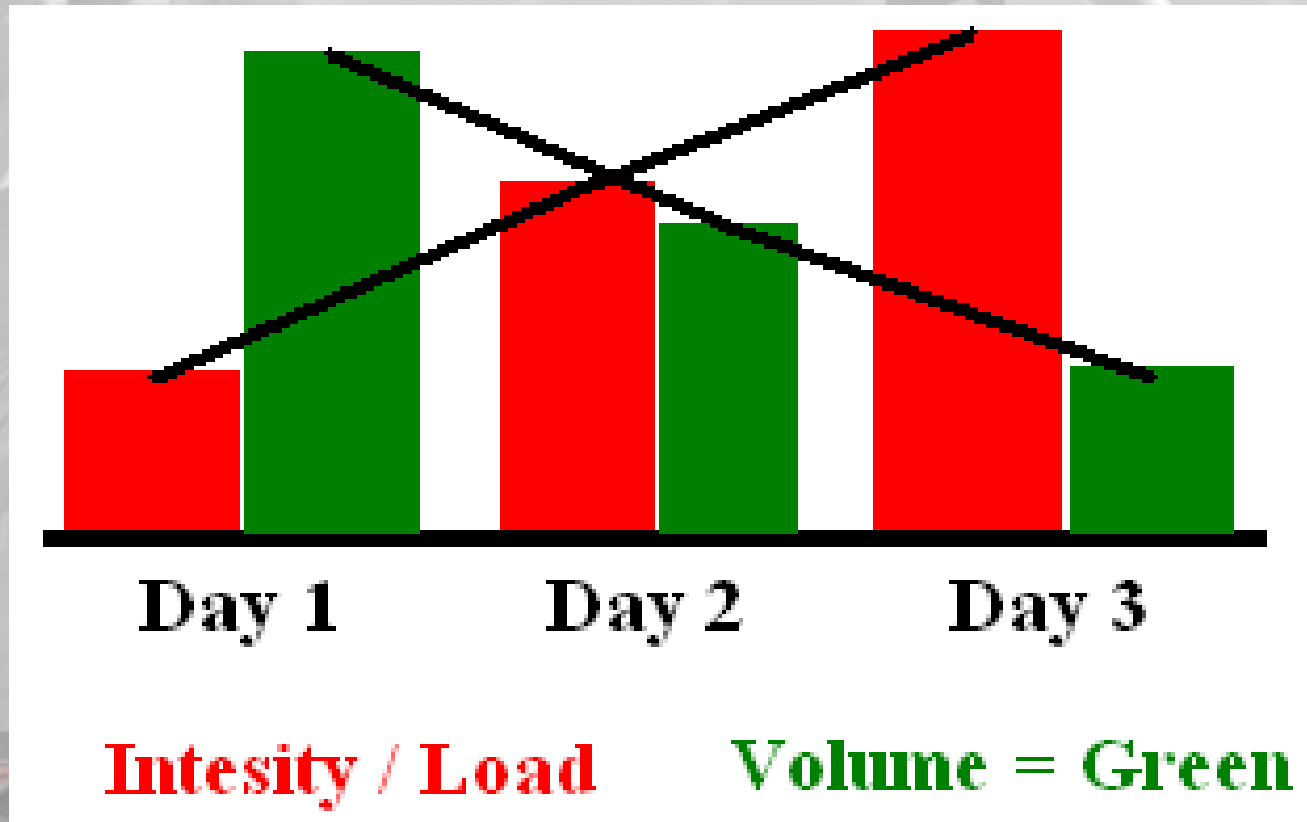
# Organizing Monthly Training

## Periodization vs. Undulating Model



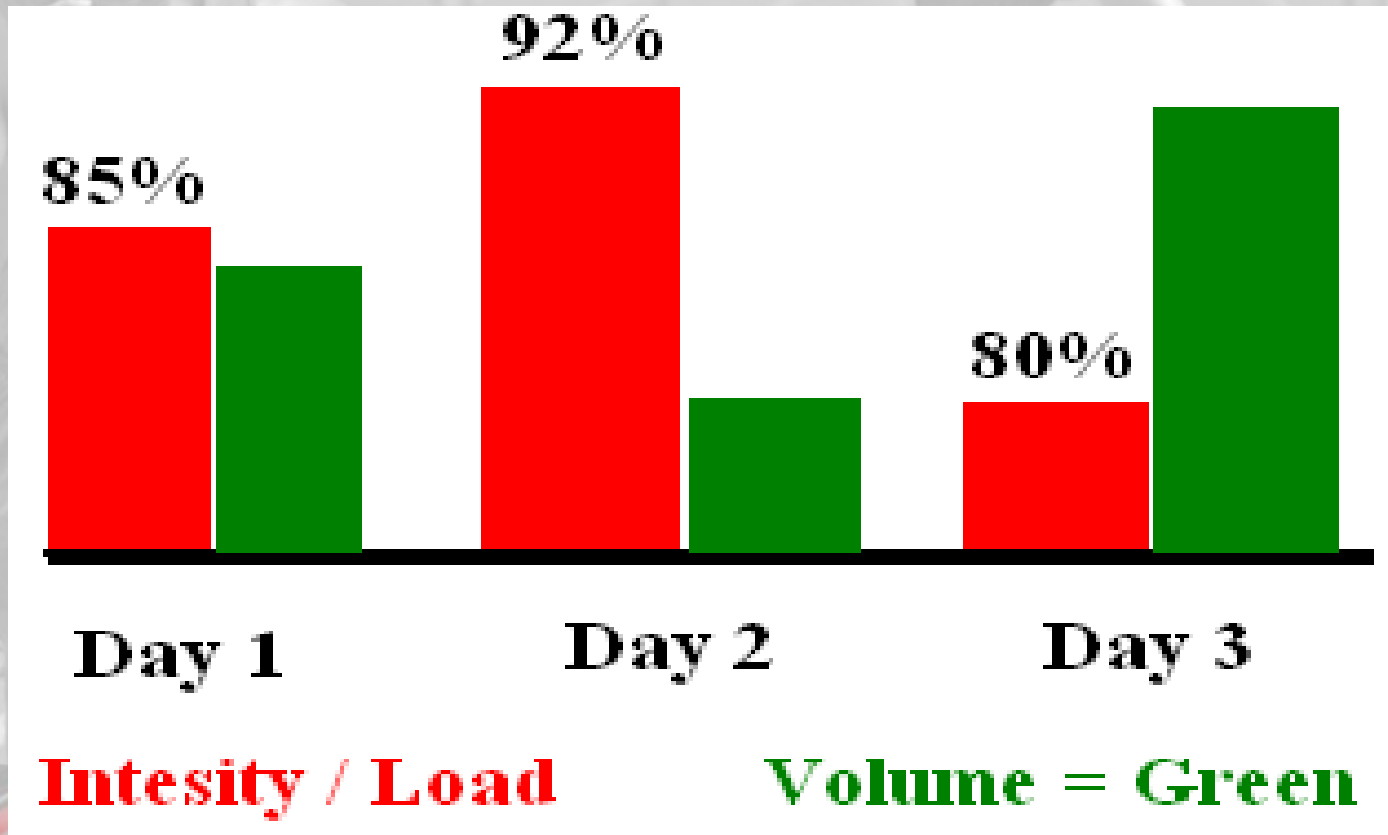
# Organizing Weekly Training

## Classic Undulating Model



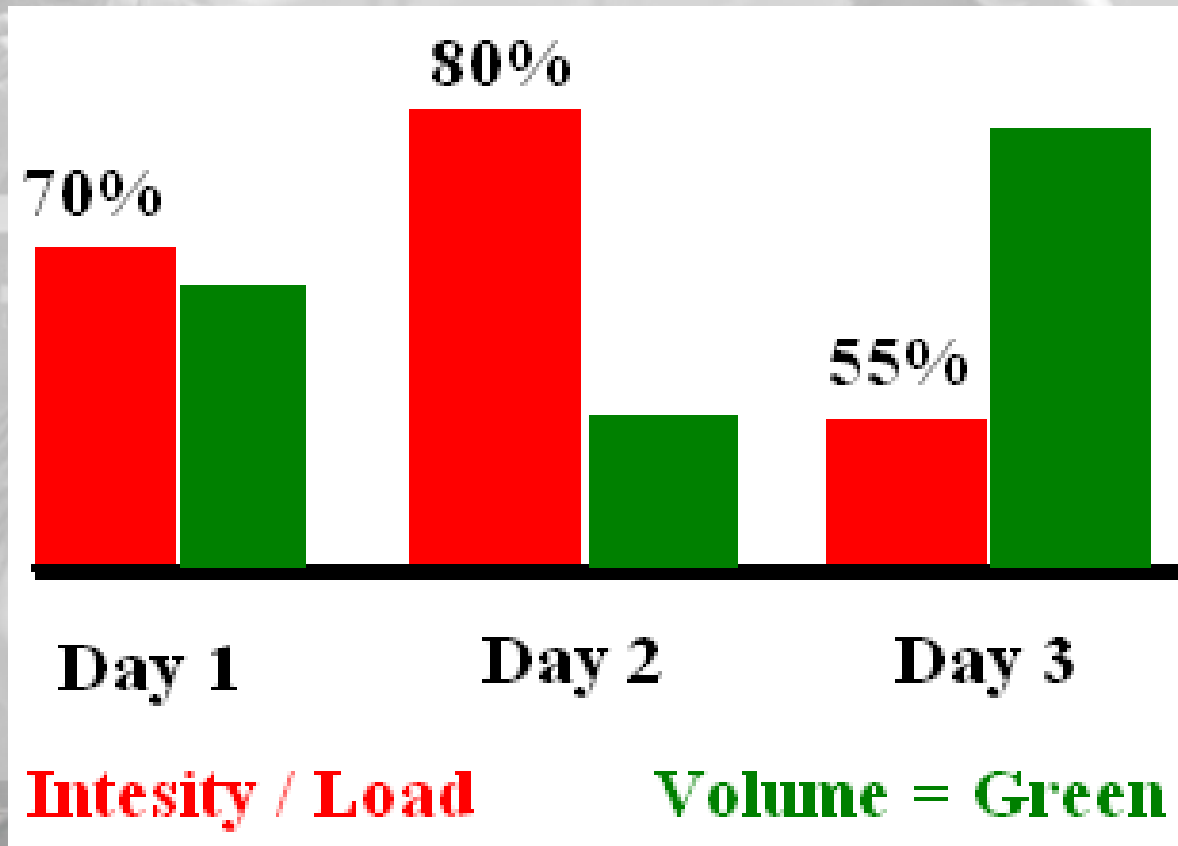
# Organizing Weekly Training

## Heavy Undulating Loading Week



# Organizing Weekly Training

## Lighter Undulating Loading Weeks



# Weekly Lifting Sessions

- It is helpful to vary training loads from day to day and week to week
- Rule of 60% for in-season
  - The number of reps used during the in-season should be about 60% of the number of reps used on the out-of-season workout

# Acceleration Strength Exercises

Key Factors in Specificity – Same Joint Angle



[Back Squat](#)

[Back Step Up - Band](#)

[Walking Lunge](#)

[Walking Lunge W/ Band](#)

[Piston Squats](#)

[Balance Single Leg Squat](#)

# Acceleration Strength Exercises

Power Step Up

Relaxed Box Jump

Squat Jump Pause

Half Squat Jump

Double Knee Jump

Alternating Split Lunge  
Jump

# Organizing Monthly Training

- **Training Cycles Possibilities**
- **3 Day Per Week Body Part Training**
  1. **Day 1 – Medium Loading**
  2. **Day 2 – Heavy Loading**
  3. **Day 3 – Light Loading – High Reps Endurance**
- **2 Day Per Week Body Part Training**
  1. **Day 1 – Medium or Light Loading/Endurance**
  2. **Day 2 – Heavy Loading**

# Organizing Monthly Training

- **Training Cycles Possibilities**
  1. **3-6 weeks hard training**
  2. **1 week lighter training (download week if needed)**
  3. **If 9 weeks of training is available- then break into 4 weeks cycles with a lift week in middle**
  4. **Female vs Male**
    1. **Females need more assisted exercises**
    2. **1 to 2 days a month extra rest**
    3. **Females need work capacity**
    4. **Much easier to coach**

# Organizing Yearly Training

- **Several months of training towards a specific goal makes training more effective**
- **Goal would be to apply more stress over a long period of time**
- **The type of stress that you want to apply in the beginning is volume based**

# Organizing Yearly Training

- **Off-Season Training Plan-with Academic Plans**

<b>Off Season -August</b>	<b>In-Season January</b>
<b>Month 1 – GPP</b>	<b>Month 7 – Strength</b>
<b>Month 2 – Speed</b>	<b>Month 8 – Speed</b>
<b>Month 3 – Strength</b>	<b>Month 9 – Strength</b>
<b>Month 4 – Speed</b>	<b>Month 10 – Speed</b>
<b>Month 5 – Strength</b>	<b>Month 11 – Speed?</b>
<b>Break 6 - GPP</b>	<b>Month 12 – GPP</b>

# Dynamic Action Concept

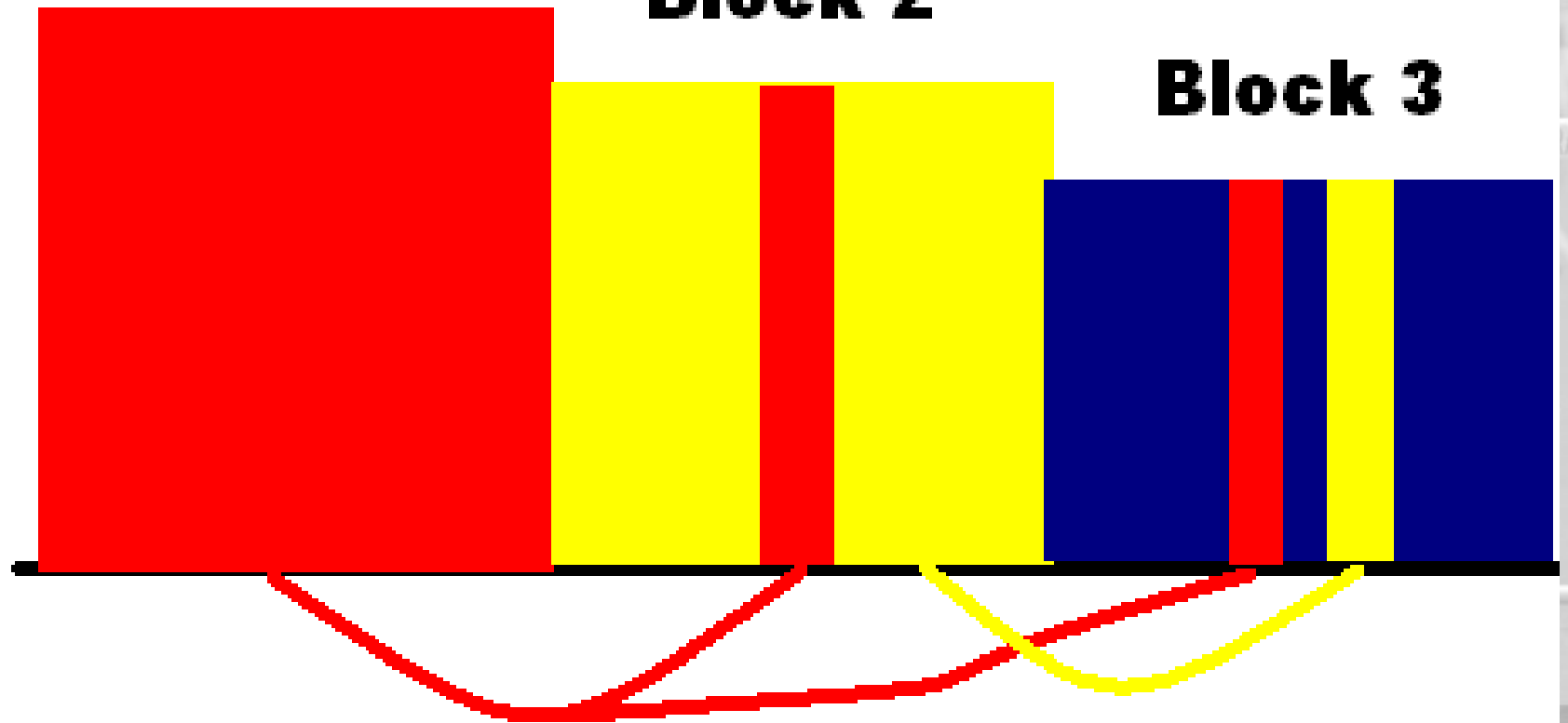
- 3 Phase of Movements
- Block 1 - Focus on Eccentric Movement
- Block 2 - Focus on Stretched Isometric Phase
- Block 3 – Explosively
- Key Movements – Back Squat – Glute ham  
Hyper- Bench Press
- Block with **DAC** should only be 2 to 3 Weeks
- General Blocks can be 2 to 6 weeks

# Block Training Sequencing

**Block 1**

**Block 2**

**Block 3**



# Mechanical Recovery Methods

- Sauna Recovery Workout
- Restorative Shower
- Post Workout Track Recovery
- Various Exercise Methods
- Band Stretching
- Soft Tissue
- Partner Stretching
- Flush Bike Workout

# **Chocolate Milk For Recovery?**

- **Why Refuel?**

- 1. The nutrients found in 16 Oz of flavored milk can't be matched in other workout products.**
- 2. Many of my athletes prefers chocolate milk over supplements.**
- 3. The Ratio of Carb's and Protein is Ideal for recovery after strenuous activity**

# **Chocolate Milk For Recovery?**

- 1. The key is to drink within a 30 minute window post strenuous activity.**
- 2. Improves body composition and recovery research has shown.**
- 3. Chocolate Milk is 90% Water.**

# **Chocolate Milk For Recovery?**

- 1. Has key nutrients and electrolytes such as Calcium, Vitamin D. Phosphorus and Magnesium.**
- 2. Potassium to help muscle contract and regulate body fluids.**
- 3. B-Vitamins to help convert food energy to exercising Muscles.**

# Questions?

- Thank you for your interest!
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