

Joe Kenn MA CSCS\*D RSCC\*E MSCC SCCC YFS

**Big House Power Competitive Athletic Training Inc.** 

## GRATITUDE

## ABSORB,

#### HISTORY and EVOLUTION

Birth of the Tier System

•Boise State Women's Volleyball



• Presented TSST Material @ Rocky Mtn Clinic SLC, UT

Tier System Strength Training for FOOTBALL is born

Boise State Football

•Summer of 1994 all BSU Sports are TSST Trained



1999

1994

1992

• Tier System Strength Training for ALL SPORTS





2001

• Tier System Strength Training for FOOTBALL



• Arizona State University

2003

• Tier System Strength Training for ALL SPORTS



• Arizona State University

2008

• Tier System Strength Training for FOOTBALL





2010

2011

Tier System Strength Training for ALL SPORTS

- Big House Power Competitive Athletic Training
- Proehllific Park



• Tier System Strength Training for FOOTBALL

• Carolina Panthers





#### HISTORY and EVOLUTION

1996

•Implementation of the DYNAMIC EFFORT METHOD as an alternative to the TIER 3 LIGHT VOLUME loading parameter

1997

 "Program Design for the Tier System" Published - NSCA Journal April 1997

1999

Posterior Chain is added as an independent Tier

2002

INTERMIXED Sequencing of the MAXIMAL, DYNAMIC, and REPETITVE EFFORT METHODS as a alternative to the traditional HEAVY, MODERATE, **LIGHT Principle** 

2003

THE COACH'S STRENGTH TRAINING PLAYBOOK

Published – Coaches Choice

2003

• BLOCK ZERO "REALITY" (Incoming Program)

2004

TRAINING LEVELS Implemented

2005

Jump Training as a TOTAL BODY Movement

2006

Posterior Shoulder is added as an Independent Tier

2009

Training Levels become TRAINING AGE "BLOCKS"

•The "QUADRENNIAL PLAN" is Born

2009

• Development of PREPARATION PROGRESSION Medley's

Neck is added as an independent Tier

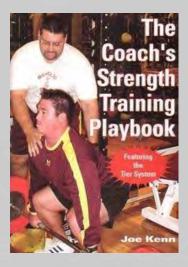
Linking T4-T5-N-PC-PS as a Medley

2013

 Implementation of the 8R programming parameters

2014

Root is added as an independent Tier



#### Standing the Test of Time

"All business' goals are based on developing a model that is REPEATABLE. If it is REPEATABLE, it will be SUSTAINABLE. If it is SUSTAINABLE, it will be SUCCESSFUL."

Scott Auker, Senior Sports Director at Morrison Family YMCA

#### Tier System Strength Training is an ......

# ATHLETIC BASED STRENGTH TRAINING PROGRAM



#### Athletic Based Strength Training

## General Physical Preparation Versus

## Specific Physical Preparation



#### Athletic Based Strength Training

Athlete Versus "Strength" Athlete



#### Athletic Based Strength Training

#### Program Derivatives



Number 1

## Whole Body Training versus Split System



Number 2

# Train Movements versus Body Part Specific



Number 3

## Explosive Movements versus Non Explosive Movements



Number 4

## Variability of Movements



Number 5

### Density of Training



#### What is the Tier System really?

Simply Stated:

## Tier System Strength Training is based on the daily rotation of exercises from 3 basic movement categories. *THAT'S ITum*

Training Gydles DO NOT interfere with the integrity of the system.

OCCAM'S RAZOR

"All things being equal,

the simplest explanation is the best one."



#### What was the reasoning?

- DUtilize a WHOLE BODY Training approach each session
- Prioritize the Foundation Movements
- Dathlete Development
- Tholistic Approach Integrate the training methods and movements of the major 3 Strength Disciplines

(weightlifting, powerlifting, bodybuilding)



Function #1

# Rotate the order of exercises based on MOVEMENT (TLU)

PRE 1998 based on strength developed ELU



#### Function #2

Implement a layering system into the exercise pool to build one movement into a more complex/variable movement

(mesocycle – LTAD)

Pre 1998 Implement a variety of exercises to develop the prime movers of the sport at numerous joint angles

Pre 2010 Implement a variety of exercises to train numerous planes of movements within a micro cycle



Function #3

Prioritize your "Money"
movements and "Strength
Mobility" movements and
create a layering system
when applicable

Pre 1993 Prioritize the exercises based on type of movement and strength developed and place them in order of importance Pre 2010 Prioritize movements based on big movements and athletic movements



#### Function #4

# Control Volume by Training Age and emphasis on specific strength being developed per Tier

#### (Prilepin Rules and Volume Accumulation Training VAT)

Pre 1998 Control Volume by regulating the number of work sets that can be performed based on the level of tier and type of exercise that coincides with it

Pre 2004 Control Volume by movement order and emphasis on specific strength being developed



## MOST IMPORTANT FACTOR of PROGRAM

## EXERCISE

POOL



#### **MEAT AND POTATOES**

MOVEMENT CHOICES
CREATING YOUR EXERCISE POOLS

- 1. Create a list of all the Exercises "YOU"
  - 1. Can you teach it?
  - 2. Do you have the necessary equipment
- 2. Classify into 1 of 3 Major Movement Categories
- 3. Specify Movement per Category
  - 1. <u>YOUR</u> terminology will determine sub categories
- 4. Label Movement by Exercise Classification Rankings
- 5. Reduce down to Mini Pool based on Program needs and Training Age
- 6. Layer Exercise Progressions
- 7. Rank Your Mini Pool



3 Major Movement Categories









#### TOTAL Body Sub Categories:

- ☐ Full Pull and Catch Pulling
  - ☐ Bilateral Independent Limb
  - ☐ Unilateral
- D Extension Pulling
  - ☐ Bilateral Independent Limb
  - Unilateral
- ☐ Extension Bridging
  - Unilateral

- Presses Pushing
  - ☐ Bilateral Independent Limb
  - Unilateral
- Derks Pushing
  - ☐ Bilateral Independent Limb
  - Unilateral
- Hybrids
- ☐ Jumping (Block 3 +)



#### LOWER Body Sub Categories:

- ☐ In Place
  - ☐ Bilateral
  - Unilateral
    (unsupportive or supportive)
- Horizontal (Lunge Series)
  - ☐ Sagittal Plane
  - **Prontal Plane**
  - Transverse Plane
- ☐ Vertical (Step Up Series)
  - ☐ Sagittal Plane
  - ☐ Frontal Plane
  - ☐ Transverse Plane

- Desterior Chain
  - (bilateral unilateral)
    - ☐ Knee Flexion
    - ☐ Hip Hinge
      - □ Bent Leg Hip Extension
      - ☐ Straight Log Hip Extension
    - U Hybrid Hip Extension Knee Flexion
- ☐ Hip Flexion
- ☐ Knee Extension
- Adduction/Abduction
- Hybrids



#### UPPER Body Sub Categories:

- Horizontal Push
  - ☐ Bilateral
  - Bilateral Independent Limb Action
  - Unilateral
- **D Horizontal Pull** 
  - □ Bilateral
  - **Bilateral Independent Limb Action**
  - Unilateral
- Vertical Push
  - ☐ Bilateral
  - ☐ Bilateral Independent Limb Action
  - Unilateral
- ☐ Vertical Pull
  - Bilateral
  - **Bilateral Independent Limb Action**
  - Unilateral

- **D** Elbow Flexion
- ☐ Elbow Extension
- ☐ Shoulder Complex
  - ☐ Adduction/Abduction
  - ☐ Internal/External
  - Depression
  - Protraction/Retraction
  - D Flexion/Extension
  - Hybrids
- Hybrids



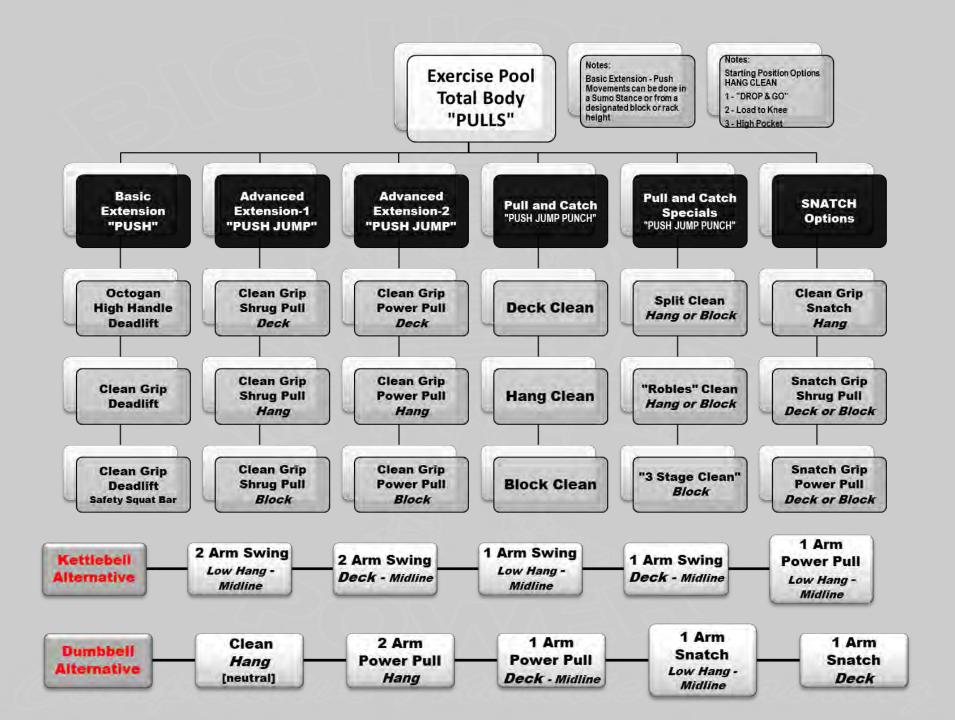
## MOVEMENT CHOICES RANKING YOUR EXERCISE POOLS

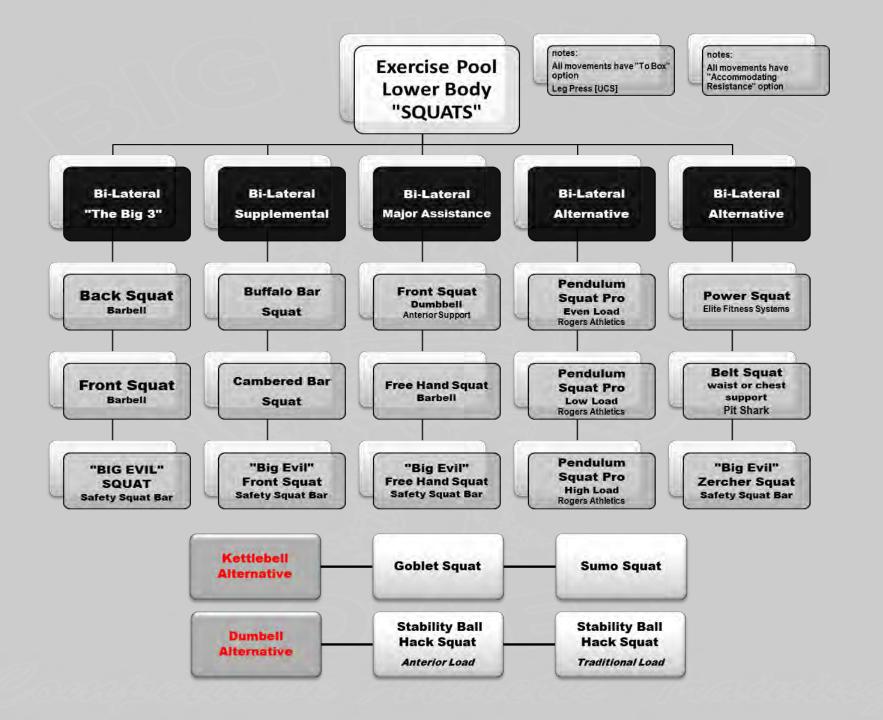
- □ Rank your list based:
  - Dimportance of Movement
  - Dexercise Classification System

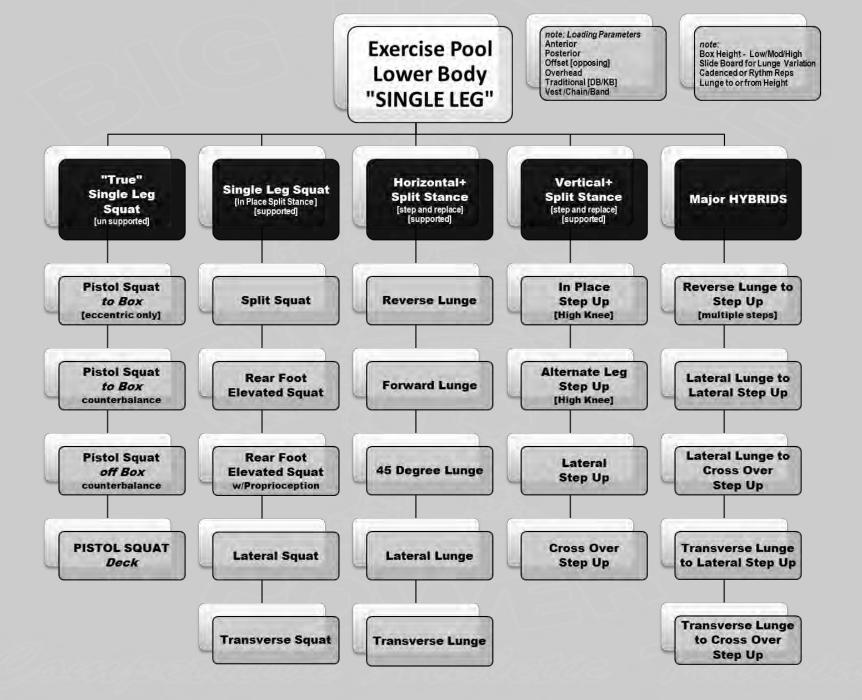


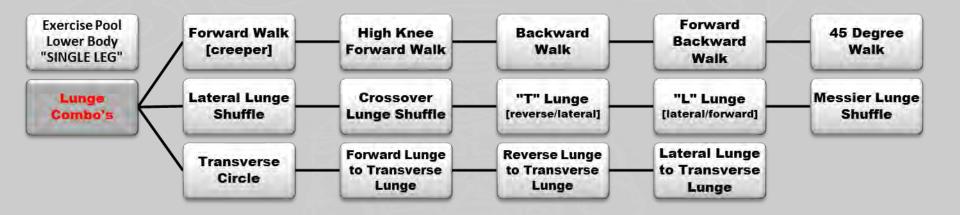
<b>Exercise Classification Per Movement Category</b>
DFoundation Exercises
<b>DPrimary</b>
DSecondary
<b>DSequential</b>
OSupplemental Exercises
DMajor Assistance
DSecondary Assistance

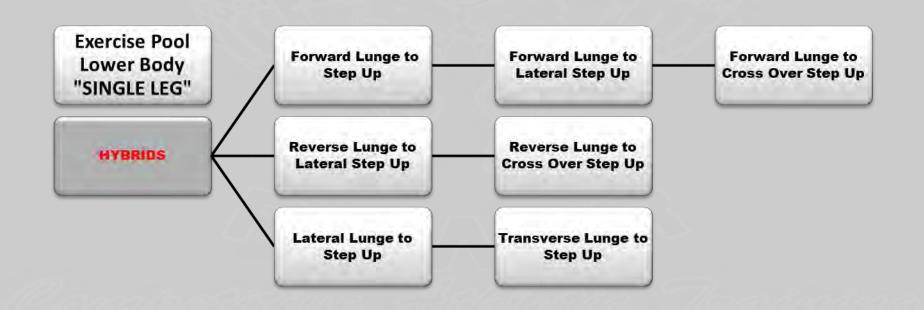












#### Lunge Layering Series



Reverse Lunge Sagittal Plane

#### **Continuous Movement Plus**

Cycling

[add in secondary movement]



Continuous Movement
Cycling

#### **Cadenced Movement**

**Power Steps** 

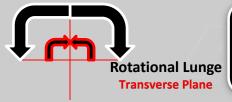
[transfer of force production]

**In Place Movement** 

**Power Steps** 



Lateral Lunge Frontal Plane



In Place Stabilization
Isometric Positions

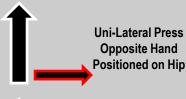
#### **NOTES**

Force Production – Iso Front Heel and Back Ball of Foot [bottom of toe]

Forward Lunge Strike – Heel to Flat

Forward Lunge
Movement – Heel strike
transfer to Ball of Foot
to Drive

#### Dumbbell Upper Body Press Layering Series



**Uni-Lateral Press**Opposite Arm – Stable at Hip



High to Low Opposite Arm

Bi-Lateral Alternate Press
High to Low Stabilization

Low to High Opposite Arm Flexed **Bi-Lateral Alternate Press**Low to High Stabilization



**Bi-Lateral Press** [Incline - Flat - 90 - Standing]

Floor Elbows Contact Ground

Bi-Lateral Floor Press [padded - neutral grip - pause]

## FILTER OUT WHAT

# DEVELOPING THE TRAINING TEMPLATE

### Establishing the Major Movement Categories Ranked in Order of ATHLETIC DEVOLOPMENT

Number 1 - TOTAL BODY MOVEMENTS

Number 2 - LOWER BODY MOVEMENTS

Number 3 - UPPER BODY MOVEMENTS

A Whole Body Training Session is defined as including at least one exercise per MMC

# DEVELOPING THE TRAINING TEMPLATE

### **Program Keys**

- ☐ Whole Body Training Sessions
- D Structured Weekly Rotation of Movement Categories
- Daily Rotation of Movement Categories
- D Prioritize Movements per Category
  - D LAYERI LTAD
- Ontrol Volume Based on Tier Level
  - ☐ Traditional
  - ☐ Intermixed Sequencing

# DEVELOPING THE TRAINING TEMPLATE

#### What is a Tier?

#### A Ranked Exercise based on:

- ☐ Movement Category
- ☐ Session Rotation

### **Coding the Programs**

- ☐ 3x3 primary program
- ☐ 3x5 primary program
- □ 3x7
- ☐ 2xx3 (rotation)



<b>SESSION 1</b>	SESSION 2	SESSION 3
TOTAL BODY	LOWER BODY	UPPER BODY

Establishing the Major Movement Categories into the WEEKLY Rotation



SESSION 1	SESSION 2	SESSION 3
TOTAL BODY	LOWER BODY	UPPER BODY
LOWER BODY	UPPER BODY	TOTAL BODY
UPPER BODY	TOTAL BODY	LOWER BODY

Establishing the Major Movement Categories into the DAILY Rotation



<b>EMPHASIS</b>	SESSION T	SESSION L	SESSION U
TIER ONE	TOTAL	LOWER	UPPER
PRIORITY	BODY	BODY	BODY
TIER TWO	LOWER	UPPER	TOTAL
MAJOR	BODY	BODY	BODY
TIER THREE	UPPER	TOTAL	LOWER
MINOR	BODY	BODY	BODY

**Establishing the Emphasis of the Daily Session into a Tiered Hierarchy** 



<b>EMPHASIS</b>	SESSION T	SESSION L	SESSION U
TIER ONE	TOTAL	LOWER	UPPER
PRIORITY	BODY	BODY	BODY
TIER TWO	LOWER	UPPER	TOTAL
MAJOR	BODY	BODY	BODY
TIER THREE	UPPER	TOTAL	LOWER
MINOR	BODY	BODY	BODY
TIER FOUR	TOTAL	LOWER	UPPER
	BODY	BODY	BODY
TIER FIVE	LOWER	UPPER	TOTAL
	BODY	BODY	BODY

Tier 4 and 5 Daily Rotation Add On



<b>EMPHASIS</b>	SESSION T	SESSION L	SESSION U
TIER ONE PRIORITY	TOTAL BODY	LOWER BODY	UPPER BODY
TIER TWO MAJOR	LOWER BODY	UPPER BODY	TOTAL BODY
TIER THREE MINOR	UPPER BODY	TOTAL BODY	LOWER BODY
TIER FOUR	TOTAL BODY	LOWER BODY	UPPER BODY
TIER FIVE	LOWER BODY	UPPER BODY	TOTAL BODY
TIER SIX	UPPER BODY	TOTAL BODY	LOWER BODY
TIER SEVEN	TOTAL BODY	LOWER BODY	UPPER BODY

Tier 6 and 7 Daily Rotation Add On



<b>EMPHASIS</b>		SESSION T		SESSION L		SESSION U
TIER ONE PRIORITY	T	FOUNDATION	L	FOUNDATION	U	FOUNDATION
TIER TWO MAJOR	L	SUPPLEMENTAL	U	SUPPLEMENTAL	T	SUPPLEMENTAL
TIER THREE MINOR	U	SUPPLEMENTAL Major Assistance	Т	SUPPLEMENTAL Major Assistance	L	SUPPLEMENTAL Major Assistance
TIER FOUR	T	MAJOR Assistance	L	MAJOR Assistance	U	MAJOR Assistance
TIER FIVE	L	MAJOR Assistance	U	MAJOR Assistance	T	MAJOR Assistance
TIER SIX	U	SECONDARY Assistance	Т	SECONDARY Assistance	L	SECONDARY Assistance
TIER SEVEN	T	SECONDARY Assistance	L	SECONDARY Assistance	U	SECONDARY Assistance

**Daily Rotation** 

Exercise Classification Beginner - Novice



<b>EMPHASIS</b>		SESSION T		SESSION L		SESSION U
TIER ONE PRIORITY	T	FOUNDATION Sequential	L	FOUNDATION Sequential	U	FOUNDATION Sequential
TIER TWO MAJOR	L	SUPPLEMENTAL Foundation #2 Major Assistance	U	SUPPLEMENTAL Foundation #2 Major Assistance	Т	SUPPLEMENTAL Foundation #2 Major Assistance
TIER THREE MINOR	U	SUPPLEMENTAL Major Assistance	T	SUPPLEMENTAL Major Assistance	L	SUPPLEMENTAL Major Assistance
TIER FOUR	Т	MAJOR Assistance	L	MAJOR Assistance	U	MAJOR Assistance
TIER FIVE	L	MAJOR Assistance	U	MAJOR Assistance	T	MAJOR Assistance
TIER SIX	U	SECONDARY Assistance	T	MAJOR ASSISTANCE	L	SECONDARY Assistance
TIER SEVEN	T	MAJOR ASSISTANCE	L	SECONDARY Assistance	U	SECONDARY Assistance

**Daily Rotation** 

Exercise Classification Advanced - Elite



EMPHASIS	SESSION T	SESSION L	SESSION U
TIER ONE PRIORITY	Total Body 1	Lower Body 1	Upper Body 1
TIER TWO MAJOR	Lower Body 2	Upper Body 2	Total Body 2
TIER THREE MINOR	Upper Body 3	Total Body 3	Lower Body 3
TIER FOUR	Total Body 4	Lower Body 4	Upper Body 4
TIER FIVE	Lower Body 5	Upper Body 5	Total Body 5
TIER SIX	Upper Body 6	Total Body 6	Lower Body 6
TIER SEVEN	Total Body 7	Lower Body 7	Upper Body 7

Daily Rotation

RANKED MOVEMENTS



<b>EMPHASIS</b>	SESSION T	SESSION L	SESSION U
TIER ONE PRIORITY	TOTAL BODY	LOWER BODY	UPPER BODY
TIER TWO MAJOR	LOWER BODY	UPPER BODY	TOTAL BODY
TIER THREE MINOR	UPPER BODY	TOTAL BODY	LOWER BODY
TIER FOUR	TOTAL BODY	LOWER BODY	UPPER BODY
TIER FIVE	LOWER BODY	UPPER BODY	TOTAL BODY
POSTERIOR CHAIN			

Posterior Chain Add On



EMPHASIS	SESSION T	SESSION L	SESSION U
TIER ONE PRIORITY	TOTAL BODY	LOWER BODY	UPPER BODY
TIER TWO MAJOR	LOWER BODY	UPPER BODY	TOTAL BODY
TIER THREE MINOR	UPPER BODY	TOTAL BODY	LOWER BODY
TIER FOUR	TOTAL BODY	LOWER BODY	UPPER BODY
TIER FIVE	LOWER BODY	UPPER BODY	TOTAL BODY
POSTERIOR CHAIN			
POSTERIOR SHOULDER			

Posterior Shoulder Add On



EMPHASIS	SESSION T	SESSION L	SESSION U
TIER ONE PRIORITY	TOTAL BODY	LOWER BODY	UPPER BODY
TIER TWO MAJOR	LOWER BODY	UPPER BODY	TOTAL BODY
TIER THREE MINOR	UPPER BODY	TOTAL BODY	LOWER BODY
TIER FOUR	TOTAL BODY	LOWER BODY	UPPER BODY
TIER FIVE	LOWER BODY	UPPER BODY	TOTAL BODY
NECK			
POSTERIOR CHAIN			
POSTERIOR SHOULDER			

Neck Add On



EMPHASIS	SESSION T	SESSION L	SESSION U
TIER ONE PRIORITY	TOTAL BODY	LOWER BODY	UPPER BODY
TIER TWO MAJOR	LOWER BODY	UPPER BODY	TOTAL BODY
TIER THREE MINOR	UPPER BODY	TOTAL BODY	LOWER BODY
TIER FOUR	TOTAL BODY	LOWER BODY	UPPER BODY
TIER FIVE	LOWER BODY	UPPER BODY	TOTAL BODY
NECK			
POSTERIOR CHAIN			
POSTERIOR SHOULDER			

**ROOT** 

**Developing the Training Template** 

ROOT Add On



Tier Level	Rotation	Classification	Movement		
ONE	Total Body 1	Foundation	Foundation		
TWO	Lower Body 2	Supplemental	In Place Double Leg		
THREE	Upper Body 3	Supplemental Major Assistance	Horizontal or Vertical Movement		
FOUR	Total Body 4	Supplemental Major Assistance	Bilateral Extension, Any Unilateral Movement, Hybrid		
FIVE	Lower Body 5	Major Assistance	Horizontal, Vertical, Unilateral Hybrid		
SIX	Upper Body 6	Secondary Assistance	Flexion or Extension of Elbow, Wrist		
SEVEN	Total Body 7	Major Assistance	Any Unilateral DB Movement		

Daily Rotation Session T (beginner)

**Exercise Classification with Movement Rotation** 



Tier Level	Rotation	Classification	Movement			
ONE	Lower Body 1	Foundation	Foundation			
TWO	Upper Body 2	Supplemental Major Assistance	Horizontal or Vertical Movement			
THREE	Total Body 3	Supplemental Major Assistance	Any Overhead, Extension, or Hybrid			
FOUR	Lower Body 4	Major Assistance	Horizontal, Vertical, Unilateral Hybrid			
FIVE			Horizontal or Vertical Movement			
SIX	Total Body 6	otal Body 6 Major Assistance Any Unilateral DB Move				
SEVEN	Lower Body 7	Secondary Assistance Flexion or Extension of Knee Hip				

Daily Rotation Session L (beginner)

**Exercise Classification with Movement Rotation** 



Tier Level	Rotation	Classification	Movement		
ONE	Upper Body 1	Foundation	Foundation		
TWO	Total Body 2	Supplemental Major Assistance	Bilateral Full Pull and Catch, Jerk (uni option) Bilateral Extension		
THREE	Lower Body 3	Supplemental Major Assistance	In Place Double or Single Leg, Vertical Horizontal		
FOUR	Upper Body 4	Major Assistance	Horizontal or Vertical Movement		
FIVE	Total Body 5	Major Assistance	Any Unilateral DB Movement		
SIX	Lower Body 6	Secondary Assistance	Flexion or Extension of Ankle Knee Hip		
SEVEN	Upper Body 7	Secondary Assistance	Shoulder Rotation		

Daily Rotation Session U (beginner)

**Exercise Classification with Movement Rotation** 



EMPHASIS			SESSION T		SESSION L		SESSION U
	TIER ONE PRIORITY	Т	Push Jump Punch Progression	L	Squat Variation Bilateral	U	Horizontal Push/Pull Variation Bilateral
itrength lobility	TIER TWO MAJOR	L	Squat Variation Bilateral or H/V Hybrid	U	Vertical Push/Pull Variation	т	Full Pull Catch Clean or Extension - Pulling
	TIER THREE MINOR	вит	Horizontal Push/Pull Variation Bilateral Independent Limb or Unilateral	T	Jump Extension - Bridging	L	Unilateral Supportive or Unsupportive
	TIER FOUR	T	Unilateral Extension Bridging	L	Horizontal or Hybrid	U	Vertical Pull
	TIER FIVE	L	Vertical or Hybrid	U	Horizontal Pull	T	Unilateral Pull or Swing
	Neck		Isometric or Rotation		Flexion - Extension		Lateral Flexion
	POSTERIOR CHAIN		Hip Hinge (Bent Knee)		Knee Flexion or Hybrid		Hip Hinge (straight Leg)
	POSTERIOR SHOULDER		ABD-ADD or Hybrid		Elevation/Depression Protraction/Retraction		Internal/External Rotation

Daily Rotation with Movement Rotation

My Basic Template - ELITE



### **Upper Body Movement Considerations**

Pulls versus Pushes

- ☐ Horizontal versus Vertical
- ☐ Repetition Volume Push/Pull [+] 2 Rule
- ☐ Foundation/Tier 1 Considerations Block Zero
- ☐ 2 Movement Tier



Volume Considerations

Daily Plan Considerations – Concentrated Efforts/Assimilated Efforts

Original Pre Activity Prep (PC,PZ,ISOLB, DYNLB, ISOUB, DYNUB) –

Session Specific Readiness - Medley Bottom Tiers

#### **TIER FAQ's**

- Tier Rotation Space Limitations
- Tier 1 A Special Tier
- Repeat Tiers
- Session A
- Coupling
- Medley
- Extra Sessions Blitz's

**ANKLE MOBILITY** 

**TSST FOR LINEAR AND LATERAL SPEED** 

