# Programming for Maximum Strength

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**BS, ACSM cpt**

Ideal Strength

# Who am I?

- BS Exercise Science from Eastern Washington University
- ACSM cpt since 2007
- IPL 4th place 181lb weight class in powerlifting 2014
- USPA Washington state record holder in squat, bench, and deadlift
- Sponsored athlete by Gen-X Labs, Egg Whites International, and the Alpha Project

EGG WHITES International

GEN X LABS www.GenXLabs.net

ALPHA PROJECT

# Overview of Today's Seminar

Topics Include:

- Introduction to powerlifting and other strength sports
- Programming with regard to your clients' goals and abilities
- Programming guidelines
- Periodization for peak performance in strength
- Programming considerations, methods, and strategies
- Protective gear and footwear for strength training
- Practical: warm-up and technique for the powerlifts
- Q and A

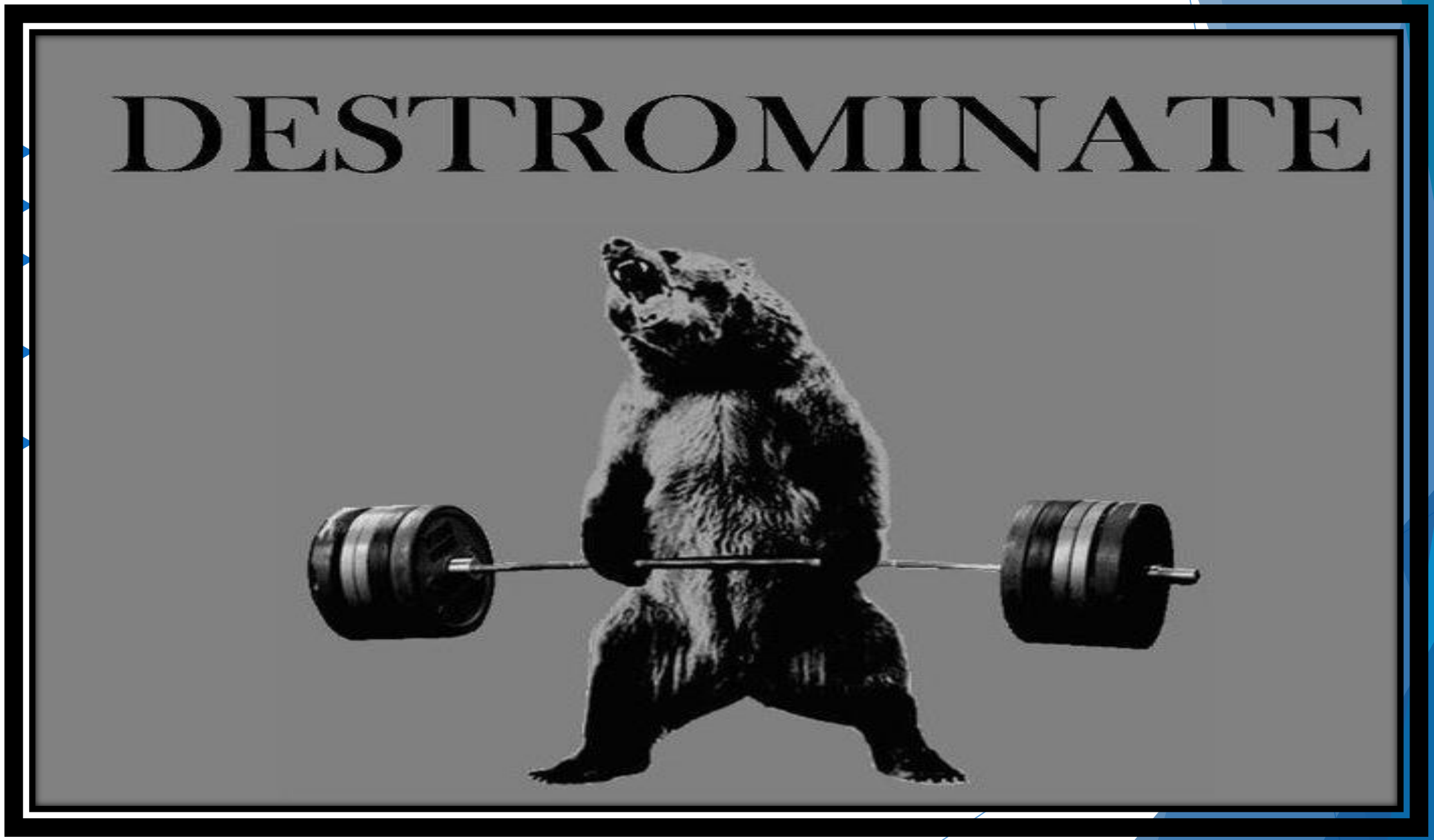
# What is Powerlifting?

Powerlifting is a strength sport in which athletes have three attempts in the squat, bench press, and deadlift to build the largest total with regards to bodyweight.

Divisions:

Raw – Minimal supportive gear (belt and wraps)

Geared – Use of supportive gear (briefs, suits, shirts)


DESTROMINATE

# Assessment: Are you ready to get strong?

Functional Movement Screen (FMS) to determine current state.

- If score is 2 or higher and equal from Left to Right = **GREEN LIGHT**
- If score is 1 or there is a discrepancy from Left to Right = **RED LIGHT**

Load the **GREEN LIGHT** movements

Correct the **RED LIGHT** movements before loading

# Programming Guidelines

- Law of Individual Difference
- Overcompensation Principle
- Progressive Overload Principle
- SAID Principle
- Reversibility Principle
- GAS Principle
- Specificity Principle

Source: Hatfield, Fred. “Bodybuilding According To Joe Weider: Science Or Marketing Hype?” Bodybuilding.com. 2013

# Law of Individual Differences

We all have individual abilities, strengths, weaknesses, anatomical levers, etc.

- Individuals may respond differently to the same program
- Why “cookie-cutter” programs do not work for everyone
- Can start with a template and personalize from there based on assessments

# Overcompensation Principle

“Mother Nature overcompensates for training stress by giving you bigger and stronger muscles.” – Fred “Dr. Squat” Hatfield

# Progressive Overload Principle

To continue to progress, there must be an overload training stimulus.

- Start a program with room for progression
- Plan for progression
- Utilize assistance work and methods to train overload
- Overload training in at least one variable (increase of weight, shortened rest period, increased volume, increasing frequency, etc.)

# SAID Principle

Specific Adaptations to Imposed Demands.  Training should be specific to goal(s).

- Practice as you play
- In order to get better at a movement, you have to train that movement.
- Assistance work should also have direct carryover to main lift.

# Reversibility Principle

Use it or lose it.

- Gains diminish over time if training is not maintained

# General Adaptation Syndrome (GAS) Principle

“There must be a period of low intensity training (deload) or complete rest following periods of high intensity training.” – Fred “Dr. Squat” Hatfield

- Reduce risk of injury and avoid plateaus in training
- Allow for training adaptations to occur.
  - Rest between training sessions.
- Plan your program in a way that consecutive workouts do not interfere with the recovery of the previous.
- Be proactive with recovery (SMR/foam roll, mobility work, massage, sauna, steam-room, hot-tub, sleep, nutrition)

# Specificity Principle

Training should be specific as possible to achieve the goal(s). For example, you will get stronger at bench press by bench pressing as opposed to doing pushups.

- Leave at least 1-2 reps “in the tank” when training a skill or major lift.
  - Goal is to reinforce proper technique and avoid bad habits for motor learning
- Avoid conflicting training goals in the same training session
  - Example: If the goal of the training session is dynamic effort or speed, grinding out heavy or low quality, fatigued reps defeats the purpose

# FITT - Frequency, Intensity, Time, Type

For main lift exercises…

**Frequency** – Depending on level of experience and intensity

- Beginner – As often as 3x/week (ex. Starting Strength)
- Intermediate – 1-3x/week (ex. Texas Method)
- Advanced – 1-2x/week (ex. Conjugate Method)

**Intensity** – Depending on frequency

- 90% 1RM or above – no more than once per week (adaptation)
- 75% 1RM or below – multiple times per week (speed, practice, etc.)
- 75-90% 1RM – bulk of training will occur

# FITT - Frequency, Intensity, Time, Type

My training…

**Frequency** – Typical weekly breakdown

- 4-5 Strength Training (ST) sessions per week
- At least 2 Cardiovascular Training (CT) sessions per week (often separate from strength workouts AM/PM sessions)
- At least 1 full recovery day

**Intensity** - Typical weekly breakdown

- 3 ST sessions– High intensity (heavy-loading/ High-volume depending on phase of training)
- 1-2 ST sessions – Moderate intensity (moderate-loading/ moderate-volume)
- 2 CT sessions – Low-Moderate intensity or High Intensity Interval Training (w/ minimal impact)

# FITT - Frequency, Intensity, Time, Type

My training…

**Time** – Typical Strength Training session breakdown

- Warm-up/ Activation – 10 min
- Warm-up Sets – 15 min
- Working Sets – 30 min
- Accessory Work – 30 min

**Time** – Typical Cardiovascular Training session breakdown

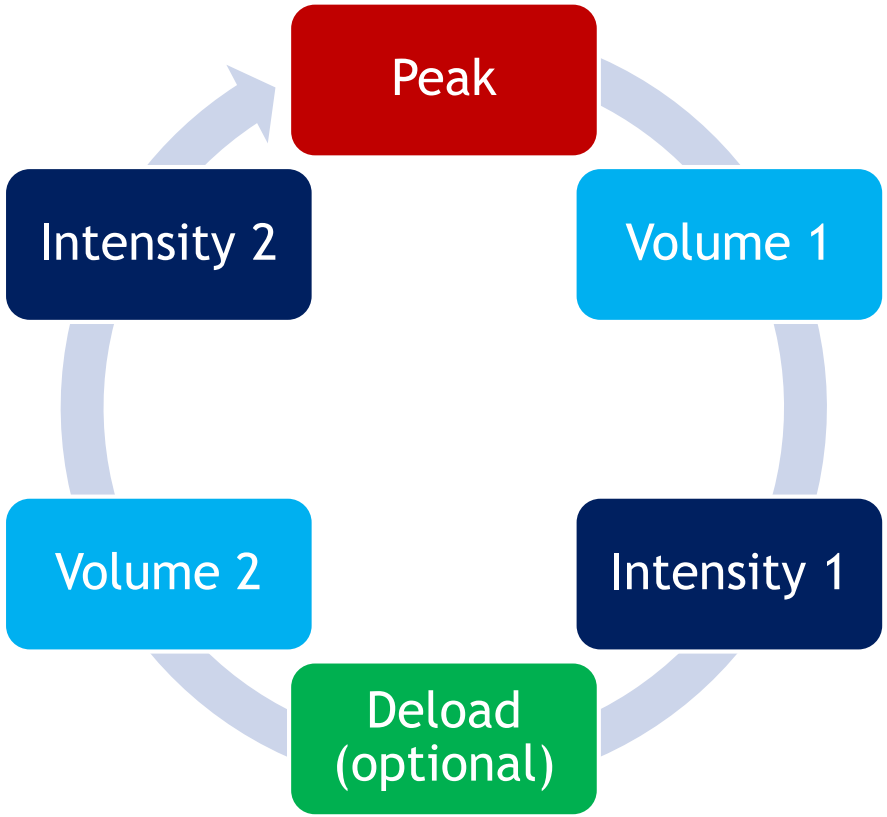
- Warm-up – 5 to 8 min
- Workout – 10 to 30 min (depending on type and intensity)

# FITT - Frequency, Intensity, Time, Type

- **Type** - Example of Strength Training session (Volume Phase)

| Movement Type | Exercise | Sets x Reps @ % of 1RM |
|---|---|---|
| Main Lift | Deadlift | 5x5 @ 80% |
| Main Accessory | Deficit Deadlift | 3x5 @ 65% |
| Secondary Accessory | RDL | 4x8 |
| Auxiliary | Single Arm DB Row | 4x12/side |
| Auxiliary | Hamstring Curl | 4x12/side |
| Recovery Auxiliary | Wide Walking Lunge | 2x30/side |

# Block Periodization for Strength



# Block Periodization for Strength

**Volume Training Phase (Base-building)**

- 3 week block
- Goal is to Increase volume each week.
  - Example 1 –
    - Week 1: 5x4 at 80%
    - Week 2: 5x5 at 80%
    - Week 3: 5x6 at 80%
  - Example 2 –
    - Week 1: 5x5 at 80%
    - Week 2: 5x5 at 82.5%
    - Week 3: 5x5 at 85%

# Block Periodization for Strength

**Intensity Training Phase (Max Effort)**

- 3 week block
- Goal is increase weights used each week (usually >90% 1RM).
  - Example –
    - Week 4: 3x3 at 90-95%
    - Week 5: 3x3 at 92.5-97.5%
    - Week 6: 3x2 at 95-100%

# Block Periodization for Strength

**Peak Training Phase (Testing or Competition)**

With a competition date in mind, work backwards counting the weeks.

- 1 week out – Deload
  - Very minimal on intensity (50% or less)
  - If competition is on a Saturday, take Thursday and Friday off completely
  - Focus Is on recovery and mental preparation through visualization and planning.
- 2-3 weeks out – Tapering
  - RPE of workouts 5-6
  - Nothing new in training.  No new PR attempts. Nothing that you cannot recover well from.
- 1 week post competition – Deload
  - Very minimal on intensity (50% or less)
  - Normal training can resume starting the following week

# Programming Considerations

**Auto-Regulation**

Taking into account day to day training abilities.

- Having a good training day?
  - Increase your working weight by 5%
- Having a bad training day?
  - Decrease your working weight by 5-10%

# Programming Considerations

**Compensatory Acceleration Training (CAT)**

- Method of lifting where the intent is to move the weight as explosively as possible during concentric movement.
- Use with weights over 40%.  Anything lighter is too light and may cause injury to joints on lockout
- Improve neurological efficiency for every rep
- Technique > Speed.  Do not let the bar speed throw off technique

"I look at weights as fast weights and slow weights, not by the old fashioned terms "light" to build muscle mass and then later on "heavy" to build strength. Dr. Hatfield said no one can lift a heavy weight slow. Well said!" – Louie Simmons

Source: Bryant. "elitefts.com" online video clip. Youtube.com

# Programming Considerations

**Lowest System Load** (credit to Charlie Weingroff)

- Same RPE (Rating of Perceived Exertion), lighter load on the body
- Examples: Goblet Squat, Rear Ft Elevated Split-Squat, Chaos Bench Press,  Bands or Chains on the barbell, Single Leg Deadlift, Kettlebell Swings
- More similar the movement, the better (Specificity)
- Great for deload weeks or 2nd training day for same muscle group.

# Programming Considerations

**Cluster Sets or Rest-Pause Method**

- Complete as many reps as possible (without failing), rest 15-20 seconds, perform another set, rest 15-20 seconds, perform a final set.
- Example reps may look like 5, 3, 2, with 15-20 seconds rest in between each mini-set.
- Allows for more time under tension.
- Increases intensity and extends the set with more “first” reps.
- Rationale for more sets, fewer reps.  More first reps, better rep quality in reps 1-5 as opposed to 6+

Source: Bryant, Josh. “*elitefts.com—WATCH: Getting the Most Out of Rest-Pause and Isometric Training*”. Youtube. 2014

# Programming Considerations

**Bands and Chains**

- Lightening Method “Reverse Band” – Bands are attached in way that provides an over-speed assistance during concentric action.
  - Can provide overload with “lightening” the load at the bottom of the lift.
- Accommodative Resistance Method – Bands and/or chains provide added resistance during concentric action.
  - Trains the athlete to drive through to lockout
  - Can be set-up in a way that adds resistance at certain point of ROM (i.e. sticking point)
  - Suggestion: Warm-up w/ band/chain and add weight from there.

# Programming Considerations

**Isometrics**

- Can create a Post-Activation Potential effect with an maximal voluntary isometric hold. (Rixon, 2007).
- Strength gains are limited to small range of motion of which the isometric contraction is performed.
- Application would be to train isometrics at or around a “sticking point.”

# Protective Gear/Footwear for Strength Sports

**Belt**

- Provides external feedback for deep belly breathing
- Helps increase intra-abdominal pressure
- Recommended wearing at loads at or above 80% 1RM
- Usually 10-13mm thick

**Wrist Wraps/ Knee Wraps**

- Stabilize joint for safety under maximal loads

**Choice of footwear**

- Flat and stiff sole preferred for increased stability and feeling grounded
- Olympic weightlifting shoe may help improve squat biomechanics

# Before we take a break…

https://www.youtube.com/watch?v=o_cyUwiZvrk

## Powerlifting Specifics

# Bench Press, Back Squat, and Deadlift Training and Technique Tips

# Bench Press

# Bench Press

Technique cues for building strength

- Root your feet into the ground and upper back into the bench
  - Butt should stay in contact with the bench
- Bend the bar by squeezing the shoulder blades together and driving them down into your back pockets.
  - Elbows should line up under the bar for the duration of the lift
- Keep TIGHT!
- Drive the bar up and back

If interested in using bench press to build up chest, consider using dumbbells more heavily.

# Bench Press

Common Errors

- Bar path is flat and too high on the chest
- Elbows flared
- *Back is flat* (for some this may be necessary if they have any spinal issues or pain getting into an arched position)
- Neglect leg drive
- Elbows tucked too much
- Breathing
- Deflating during the set
- Grip – width, wrist position, tension

# Back Squat


# Back Squat

Technique cues for low-bar back squat

- Bar position is resting on rear delts
- Pull the bar into position as if doing a lat-pulldown
- Root the feet to the ground, grabbing and twisting the floor
- Tuck the rib-cage maintaining a neutral spine throughout the lift
- Breathe deeply into the gut and brace
- Push back with the hips

# Back Squat

Common Errors

- Hyperextension of the low back
- Breathing
- Not sitting back into the hips
- Knees buckling in
- Weight rolling onto the outsides of the feet (misinterpretation of “Knees out” cue)
- Not engaging the lats to pull the bar down but rather pushing up with the shoulders
- Altering head position during lift

# Deadlift

**May 2015**

**March 2013**

# Deadlift

Technique cues for conventional deadlift

- Set-up from the top, not the bottom
- Root feet into the floor under hips
- Pre-tense the upper body including the lats and brace the core
- Sit back and load the hips
- Grip just outside of knees
- Grip and Rip
- Drive the hips into the bar

# Deadlift

Common Errors

- Hyperextension in the lower back
- Hips too high creating a “table-top” deadlift
- Bodyweight shifted too far over the front the bar
- Retracted shoulder blades
- Thinking “up” instead of pulling through the hips
- Grip too wide
- Feet too wide

# References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# Thank You!

Find out more about my sponsors at:

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http://Idealstrength.com

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www.GenXlabs.net

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http://www.alphaprojecttraining.org/

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# Questions?

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