Practical High School Strength and Conditioning

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Agenda

• What is Volt?
• The Challenge
• The Volt Approach to Program Design
• Program Implementation
• Questions
• Takeaways
What is Volt?

• The Volt Vision
  – Volt enables coaches to easily and affordably implement elite-level strength and conditioning programs for their athletes
  – Goal is to deliver proven methods of strength and conditioning to athletes around the world

• All Volt programming is rooted in science and research
  – Volt’s strength coaches are all CSCS-certified and rely on the latest research and methods
Why do we strength train?

Resistance → Stress → Adaptation → Performance
The Challenge

• High school athletes often lack the resources and expertise to train properly
  – Strength coaches are expensive
  – Too many sport coaches *think* they know what they’re doing

• College coaches have to start from scratch to build athletes
  – They WANT athletes to come into college with proper training
The Challenge

• Misinformation
  – Too many voices, not enough legitimate expertise
  – HUGE difference between teams that train on legitimate programs and those that don’t

• So where do we turn??
The Challenge

• GOOGLE!
The Challenge

Without a strength coach, what does a sport coach do?

1. Nothing
   • Dangerous, inconsistent
2. Write your own program
   • High variability of quality and safety – this is where Volt can help!
3. Hire an outside coach
   • Expensive, inconsistent, rarely a long-term solution
Before we dive in… a few definitions

- **Stimulus/Mode**
- **Load/Intensity**
- **Volume**
  - Weight room volume vs. total volume
- **Rest/Recovery**
  - “You don’t get stronger by lifting weights. You get stronger by recovering from lifting weights.” – Mark Rippetoe
- **Periodization**
  - Why is periodization so important???
- “**Functional**” Strength
  - Strength in coordinated movement
Pillars of Volt Training

1) Everything works, but nothing works forever
   High school athletes are resilient, but not perpetually resilient... you WILL break them down

2) We train movements, not muscles
   Multiple joint, ground-based movements take priority

3) Safety is our priority
   Proven industry best practices dictate proper progression in movement and load

4) Athletes train to perform
   Not training Olympic weightlifters... or powerlifters... or triathletes... It’s all about sport performance
Periodization

- Each phase generally lasts 2-4 weeks – 3 weeks is optimal
- Progress intensity each week of each phase = SUSTAINABLE SUCCESS
  - We want athletes succeeding in the weight room, NOT FAILING
<table>
<thead>
<tr>
<th>Phase</th>
<th>Intensity</th>
<th>Volume</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>GPP</td>
<td>Very low</td>
<td>Very high</td>
<td>Neuromuscular efficiency</td>
</tr>
<tr>
<td>Hypertrophy</td>
<td>60%-75%</td>
<td>3-4 sets x 8-12 reps</td>
<td>Muscle size/capacity</td>
</tr>
<tr>
<td>Strength</td>
<td>80%-90%</td>
<td>4-5 sets x 3-5 reps</td>
<td>Low end strength</td>
</tr>
<tr>
<td>Unload</td>
<td>50%-65%</td>
<td>3 sets x 6-8 reps</td>
<td>Recovery</td>
</tr>
<tr>
<td>Power</td>
<td>70%-80%</td>
<td>4-5 sets x 4-6 reps</td>
<td>Strength combined with speed</td>
</tr>
<tr>
<td>Speed</td>
<td>50%-65%</td>
<td>4-5 sets x 4-6 reps</td>
<td>Type IIb activation</td>
</tr>
<tr>
<td>Max Strength</td>
<td>90%-100%</td>
<td>4-5 sets x 1-3 reps</td>
<td>Maximal strength</td>
</tr>
</tbody>
</table>
Sample Volt Week – 4 Days

Day 1
- Explosive
- Double Leg Push
- Upper Pull
- Single Leg Push
- Upper Pull

Day 2
- Explosive
- Upper Push
- Straight Leg Hip Ext.
- Upper Push
- Bent Leg Hip Ext.

Day 3
- Explosive
- Lower Push
- Upper Pull
- Single Leg Push
- Upper Pull

Day 4
- Explosive
- Upper Push
- Straight Leg Hip Ext.
- Upper Push
- Bent Leg Hip Ext.
Sample Volt Week – 3 Days

**Day 1**
- Explosive
- Double Leg Push
- Upper Pull
- Single Leg Push
- Upper Pull

**Day 2**
- Explosive
- Upper Push
- Straight Leg Hip Ext.
- Upper Push
- Bent Leg Hip Ext.

**Day 3**
- Explosive
- Lower Push
- Upper Pull
- Upper Push
- Bent Leg Hip Ext.
Sample Volt Week – 2 Days

**Day 1**
- Explosive
- Double Leg Push
- Upper Pull
- Single Leg Push
- Upper Pull

**Day 2**
- Explosive
- Upper Push
- Straight Leg Hip Ext.
- Upper Push
- Bent Leg Hip Ext.
## Sample Volt Workout

<table>
<thead>
<tr>
<th>Stage</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dynamic warmup (including torso training)</td>
<td></td>
</tr>
<tr>
<td>Explosive multi-joint movements</td>
<td></td>
</tr>
<tr>
<td>Multi-joint strength movements</td>
<td></td>
</tr>
<tr>
<td>Unilateral strength movements</td>
<td></td>
</tr>
<tr>
<td>Isolated single joint movements/transverse movements/grip</td>
<td></td>
</tr>
<tr>
<td>Injury prevention</td>
<td></td>
</tr>
</tbody>
</table>

**Big points:**
- Progress from high CNS involvement to low CNS involvement
- Work multiple joints in different planes
- Balance movement patterns
## Volt Dynamic Warm Up

**Choose One (3 min)**

<table>
<thead>
<tr>
<th></th>
<th>Stationary Bike</th>
<th>Jog/Treadmill</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>GENERAL WARM-UP</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jump Rope</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>STANDING WARM-UP</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 MB Giant Circles</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 MB Wood Choppers</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 MB Russian Twists</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4 MB Over Shoulder Rotations from Knee</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5 MB Squat/Presses</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6 MB Good Mornings</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>FLOOR WARM-UP</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7 MB V-Ups</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8 MB Side-to-Side Taps</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9 MB Spread Eagle Sit-ups</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10 Push-ups</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11 Supermen</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12 Lateral Hip Bridges</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Football Training Program

**Week of**

**DAY 1**

**Strength Phase**

**WEEK 1 OF 3**

**Eric Johnson**

Junior, The Volt School

**6’3” 205**

**STRENGTH NUMBERS**

205 310 240

clean  squat  bench

**COACH NOTES**

AFTER LIFTING: Run twelve 110s building up from 70% to 95% maximal speed. Rest 45 seconds between sprints.

**PRE-WORKOUT DYNAMIC WARM UP**

6-12 reps each:

1. MB Giant Circles
2. MB Wood Choppers
3. MB Russian Twists
4. MB Over Shoulder Rotations
5. MB Squat/Presses
6. MB Good Mornings
7. MB U-ups
8. MB Side-to-side Taps
9. MB Spread Eagle Sit-ups
10. Push-ups

**POST WORKOUT INJURY PREVENTION**

1. BB One Arm Snatch
2. BB Back Squat
3. DB Bulgarian Split Squat
4. DB Calf Raise
5. DB Lateral Raise
6. BW Reverse Crossover Lunges
7. BB Kneeling Rollouts

**KEY**

- **BB** = Barbell
- **DB** = Dumbbell
- **BW** = Body Weight
- **MB** = Medicine Ball
- **SB** = Stability Ball
- [ ] = Grip
- () = Each Side
- **x** = Total Reps
- **__** = Fill In Own

This training program only contains recommendations based on input you, the user (or your coach), provided to Volt. Actual exercises, volumes, and intensities are underestimated in the user’s guide and are performed at the user’s own risk. Volt makes no express or implied warranties regarding the Volt program or content. Use of Volt’s program and content is governed by the terms of use provided on Volt’s website.
Programming Nuts and Bolts

- Rely on **proven** methods of enhancing sport performance and preventing sport injury
- Minimal equipment demands = universal implementation
- Every training session incorporates **explosive hip extension** for athletics power development
- Balance movement patterns FIRST, then adjust for sport-specificity as necessary
- Integrate programs across sports
  - Sport-specificity at the high school level is secondary to ATHLETIC DEVELOPMENT
Programming Nuts and Bolts

• **Progressions**
  – Load
  – Volume
  – Movement complexity

• **Variations**
  – Grips
  – Angles
  – Types of contractions
    • Concentric, Eccentric, Isometric
  – Time under tension

DB Split Squat  DB Bulgarian Split Squat  DB Single Leg Squat
Strength Training and Concussions

• HOTTEST TOPIC EVER.
• The Question: Can lifting weights prevent concussions?

MAYBE

• Most of the focus is on strengthening the neck
  – Anecdotal evidence exists but very little empirical evidence
    • University of Washington has instituted mandatory neck strengthening protocols for high-risk sports
• Volt’s stance:
  – Due diligence calls for a proactive approach
In-Season Training

• Why lift in season?
  – Detraining can begin as soon as two weeks after ceasing strength training

• Adjustments
  – Decrease volume to avoid DOMS
  – Decrease duration – time is a premium in-season
  – Extra awareness of practice/competition volume
    • Proactive recovery and injury prevention is HUGE
Youth Athletes

• Priority = MOBILITY
• Look to engage minds AND bodies
• Build efficiency of movement patterns
• Focus on quality and volume

We ALL start out with proper mobility!
FAQs

• What about multi-sport athletes?
  – Programs have to be integrated across sports
  – Developing the ATHLETE takes precedence
• What if my team has restricted access to the weight room?
  – FIO (Figure it out)
• I have a part-time strength coach – what’s the best way to utilize him/her?
  – Part-time coaches are expensive per minute, so the goal should be to make their time as efficient as possible
• I have stretches of time without contact with my athletes. What do I do then?
  – Make sure they are set up on the right program
• How do I ensure my athletes’ safety?
  – You are always ultimately responsible for your athletes
  – Be a proactive coach at all times
The Ultimate Goal

So what is the ultimate goal of implementing a strength training program??

LONG-TERM ATHLETIC DEVELOPMENT

• It’s not about a single workout or an 8 week training program
• Implementing a true PROGRAM involves planning for 52 weeks year after year after year...
Practical Implementation

• Optimize time and space
  – Be sensitive about your time AND your athletes’ time

• Commit to a system
  – Remember: everything works, but...

• Be a proactive coach in the weight room
  – Be a student and a teacher

• Educate your athletes
Takeaways

So what can YOU do?

• Figure out how realistic it is to design and implement your own program
• Weigh the options
• Equip your weight room
• Get educated
  – Get CSCS certified
  – Take an NSCA Coaches education clinic
VOLT™ ATHLETICS

MAKING ELITE POSSIBLE