STRENGTH TRAINING FOR THE HIGH SCHOOL TRACK AND FIELD ATHLETE

By Carrie Lane, Assistant Track and Field Coach
WHAT IS THE AGENDA OF THE TALK?

1. The case for speed/power early in development
2. Using strength training to enhance your coaching points
3. Using strength training to accelerate recovery and provide balance to your training
4. Organizing strength training within your training plan
5. Addressing logistical issues of strength training
MY PERSPECTIVE

College throws coach ➔
USTFCCCA S and C
course instructor ➔
Speed/power coach for
high school and
professional track and
field athletes ➔
College throws coach
“STRENGTH TRAINING” = “SPEED/POWER/STRENGTH” TRAINING

“Strength Training” INCLUDES hurdle mobility, plyometrics, throwing, bodyweight work, and traditional “weight training” activities.
STRENGTH/POWER/SPEED DEVELOPMENT CONTINUUM FOR HIGH SCHOOL TF ATHLETES

Can athlete handle own bodyweight?

Does some load clean up mechanics?

Does some speed clean up mechanics?

Combine speed and load for best learning opportunity
THE EFFECT OF SPEED/VELOCITY ON STRENGTH DEVELOPMENT

Speed throughout ➔ More efficient muscle recruitment ➔
“Smart,” coordinated, elastic muscles ➔ reduced injury.
USE STRENGTH TRAINING TO ENHANCE YOUR TECHNICAL POINTS

• Your track work itself is just very specific strength training

• Use strength training activities to enforce and enhance concepts learned on the track.
In general, **ALL** track and field events, including distance running, train **movement economy**. That is, the athlete’s ability to absorb force and produce force efficiently.

Otherwise known as **FORCE PRODUCTION**
MOVEMENT ECONOMY

FORCE PRODUCTION

COORDINATION
POSTURE
COUPLING TIME
BALANCE/MOBILITY
ACTIVITIES TO TRAIN FORCE PRODUCTION SKILLS

☒ Posture
☒ Coordination
☒ Coupling time
☑ Balance/ Mobility
ORGANIZING YOUR STRENGTH TRAINING

SAMPLE WORKOUT TO ENHANCE FORCE PRODUCTION TRAINING (BEG/INT HS ATHL):

1. WARMUP: SPRINT DRILLS, WALKING HURDLE MOBILITY

2. IN-PLACE JUMP CIRCUIT: 12 EXERCISES, 15 SEC EACH, 30 SEC REST. 9 MINUTES TOTAL CIRCUIT TIME

3. BACKWARD OVERHEAD THROWS X 6

4. FORWARD UNDERHAND THROWS X 6

5. HAMMER THROW RIGHT X 6

6. HAMMER THROW LEFT X 6
ORGANIZING YOUR STRENGTH TRAINING

SAMPLE WORKOUT TO ENHANCE FORCE PRODUCTION TRAINING (INT/ADV HS ATHL):

1. SPRINT DRILLS WITH RUNOUTS, SKIPPING HURDLE MOBILITY
2. R-L-R-L-LAND BOUNDS X 5 REPS (25 TOTAL TAKEOFFS)
3. CLEAN PULLS 4 SETS OF 5 AT 70-80% ESTIMATED 1 RM
4. SPLIT SQUAT 3 SETS OF 5 SQUATS PER LEG at 70-80% EFFORT
5. SKIPS FOR HEIGHT 2 SETS OF X 6 TAKEOFFS
We don’t train at maximal effort every day. We use submaximal effort track sessions to enhance recovery. We can complement these sessions with strength training protocols that also enhance recovery and provide muscular balance.

Otherwise known as “CHILL” DAYS
ACTIVITIES TO ACCELERATE RECOVERY and BALANCE THE BODY

- Common theme
- Exercise selection
- Move with intent
- Modify for injuries

General strength + MB calisthenics
### ORGANIZING YOUR STRENGTH TRAINING

**SAMPLE STRENGTH CIRCUITS FOR RECOVERY AND BALANCE:**

#### BODYWEIGHT CIRCUIT:
Perform each exercise for 30 sec. Take 15 sec rest. Proceed to next exercise. 8 min circuit

1. PRISONER SQUAT
2. DECLINE PUSHUPS (FEET ON BLEACHERS)
3. V-UPS
4. LATERAL LUNGES R
5. LATERAL LUNGES L
6. YOGIS
7. LUNGE-RETURN ALTERNATE R-L
8. INCLINE PUSHUPS (HANDS ON BLEACHERS)
9. SUPINE R/L HEEL TAPS
10. MOUNTAIN CLIMBERS

#### PARTNER MED BALL CIRCUIT:
Perform each exercise for 10 reps. Take 15 sec rest. Proceed to next exercise. Approx 8 min circuit

1. KNEELING OVERHEAD PASS
2. STANDING SCOOP PASS R
3. STANDING SCOOP PASS L
4. ROTATIONAL CHEST PASS R
5. ROTATIONAL CHEST PASS L
6. SLAMDOWNS WITH JUMP
7. ROTATIONAL SLAMDOWNS R
8. ROTATIONAL SLAMDOWNS L
9. TRICEP THROWS
ORGANIZING YOUR STRENGTH TRAINING

SAMPLE WEIGHT CIRCUIT FOR RECOVERY AND BALANCE:

2x 10 REPS AT APPROX 75% EFFORT.
TAKE 60 SECONDS REST AFTER EACH EXERCISE.
REPEAT ENTIRE CIRCUIT ONE TIME

1 Lat pull down
2 Hamstring curl
3 Hanging knee ups
4 DB or BB upright row
5 Leg extension
6 Weighted back hyper with twist R-L
7 Tricep extension
8 Windmills
9 Single leg RDL R
10 Single leg RDL L
ORGANIZING YOUR STRENGTH TRAINING

Step 1: What is the warmup and cooldown?

Opportunity for daily training of light force production skills

Hurdle mobility
- ✓ Posture
- ✓ Limb stiffness (advanced)
- ✗ Vert force development
- ✓ Gen strength, balance, coordination

Sprint drills
- ✓ Posture
- ✓ Limb stiffness (advanced)
- ✗ Vert force development
- ✓ Gen strength, balance, coordination
Step 2: What is the spr/jump/hurdle workout today?

Match the running and strength themes

Recovery and light technique day
“CHILL” ACTIVITIES
- Circuits- BW, MB, Core
- Circuits- weight room (BB)

Intervals or speed endurance
“SKILL” OR “CHILL” ACTIVITIES
- Multi-jumps
- Multi throws
- Olympic and/or static lifts
  *OR*
- Circuits- MB, MB Catch-toss
- Circuits- weight room (BB)

Accel and speed development
“SKILL” ACTIVITIES
- Multi-jumps
- Multi-throws
- Olympic and/or static lifts
**Step 2: What is the throwing workout today?**

**Match the throwing and strength themes**

<table>
<thead>
<tr>
<th>Recovery and light technique day “CHILL” ACTIVITIES</th>
</tr>
</thead>
<tbody>
<tr>
<td>✓ Circuits- BW, MB, Core</td>
</tr>
<tr>
<td>✓ Circuits- weight room (BB)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Full throw sessions (light and regular implements “SKILL” ACTIVITIES</th>
</tr>
</thead>
<tbody>
<tr>
<td>✓ Multi-jumps</td>
</tr>
<tr>
<td>✓ Multi throws</td>
</tr>
<tr>
<td>✓ Olympic and/or static lifts</td>
</tr>
<tr>
<td>✓ Short sprints</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Full throw sessions (heavy &amp; regular implements “SKILL” ACTIVITIES</th>
</tr>
</thead>
<tbody>
<tr>
<td>✓ Multi-jumps</td>
</tr>
<tr>
<td>✓ Multi throws</td>
</tr>
<tr>
<td>✓ Olympic and/or static lifts</td>
</tr>
<tr>
<td>✓ Short sprints</td>
</tr>
</tbody>
</table>
ORGANIZING YOUR STRENGTH TRAINING

Step 2: What is the distance workout today?

Match the running and strength themes

✓ Accel and speed development
  “SKILL” ACTIVITIES
✓ Multi-jumps
✓ Multi-throws
✓ Olympic and/or static lifts
✓ Short sprints

✓ Long intervals or threshold work
  “CHILL” ACTIVITIES
✓ Circuits- MB, MB Catch-toss
✓ Circuits- weight room (BB)

✓ Recovery runs
  “CHILL” ACTIVITIES
✓ Circuits- BW, MB, Core
✓ Circuits- weight room (BB)
ORGANIZING YOUR STRENGTH TRAINING

Step 3: Troubleshoot

Matching training themes provides fastest training adaptation

The weight room is too small for my team

We don’t have access to our weight room

We have a separate strength coach

We have to lift in the mornings

We have to lift on the same days each week
SUGGESTIONS FOR MANAGING YOUR SQUAD

“Strength” training outside the weight room
SUGGESTIONS FOR MANAGING YOUR SQUAD

Large groups on “skill” days

Organize based on skill level

• vets with rookies
• all rookies together
• rookies do short, outdoor session only
• vets, rookies alternate days in weight room
SUGGESTIONS FOR MANAGING YOUR SQUAD

Large groups on “skill” days

Employ “Combo training”: combine with track work
SUGGESTIONS FOR MANAGING YOUR SQUAD

Large groups on “chill” days

Relays

Weight room partners for circuits
SUGGESTIONS FOR MANAGING YOUR SQUAD

MAINTAIN A "MENU" OF CIRCUITS

<table>
<thead>
<tr>
<th>GENERAL STRENGTH</th>
<th>CORE AND CORE STABILITY</th>
<th>BODYBUILDING</th>
<th>MEDICINE BALL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Evenstad (Calisthenics)</td>
<td>Menu (Core Stability)</td>
<td>Mount Blanc</td>
<td>Rainier (Calisthenics)</td>
</tr>
<tr>
<td>Riverside (Calisthenics, rotational)</td>
<td></td>
<td>Standing dumbbell press</td>
<td>Backward lung return</td>
</tr>
<tr>
<td>1. Split squat</td>
<td></td>
<td>1. Bulgarian split L</td>
<td>V-ups sit R-L</td>
</tr>
<tr>
<td>2. Split squat (no DB)</td>
<td></td>
<td>2. Bulgarian split R</td>
<td>Seated leg press</td>
</tr>
<tr>
<td>4. Split squat L (no DB)</td>
<td></td>
<td>4. Reverse crunch</td>
<td>Seated tricep extension</td>
</tr>
<tr>
<td>5. Suitcase</td>
<td></td>
<td>5. Seated leg press</td>
<td>Standing Fig 8 pass R</td>
</tr>
<tr>
<td>6. Split squat L</td>
<td></td>
<td>6. Standing leg press</td>
<td>Standing Fig 8 pass L</td>
</tr>
<tr>
<td>7. Reverse crunch</td>
<td></td>
<td>7. Warri lunge</td>
<td>Split jumps MB OH or chest</td>
</tr>
</tbody>
</table>
SUGGESTIONS FOR MANAGING YOUR SQUAD

Working with Weights Class and Strength Coaches

Addressing the “Athlete Tug of War”
CONCLUSION

1. Speed/power = early and often

2. Strength training = a teaching tool

3. Strength training = for recovery and balance

4. Matching training themes = faster adaptation

5. Plan and anticipate logistical issues
REFERENCES/ SUGGESTED READING:

• Bosch, Frans. *Strength Training and Coordination: An Integrative Approach*. 2010 Uitgevers. 2015
• Haff, G and Nimphius, S. Training Principles for Power. *NSCA*, Dec 2012
REFERENCES/ SUGGESTED READING:

• Myers, T. *Anatomy Trains*. Churchill Livingstone. 3e.
• Radcliffe, J and Farentinos, R. *High-Powered Plyometrics*. Human Kinetics. 2e.
THANK YOU!

clane10@uwyo.edu
@coachcarrielane (FB, Insta, Twit)
Videos available at: www.verticalpush.com/news
All materials contained in this presentation are the property of Carrie Lane. They are intended for your private, educational use only. Posting, publishing, duplicating, broadcasting, distributing, or using these materials in any other way is strictly prohibited.