

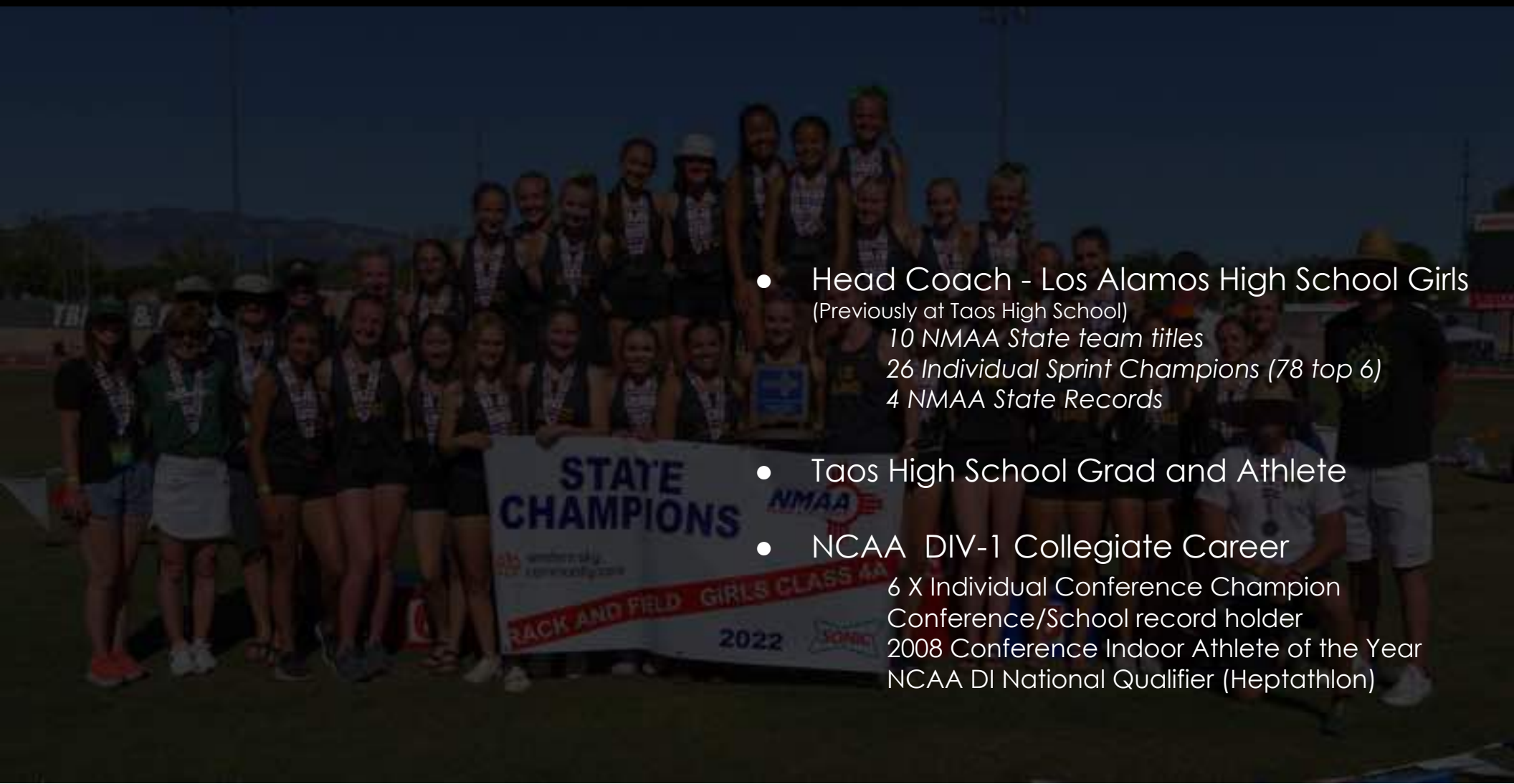


LOS ALAMOS
TRACK AND FIELD

Building a CHAMPIONSHIP Sprint Program

Ernest Martinez

e.martinez@laschools.net



- Head Coach - Los Alamos High School Girls
(Previously at Taos High School)
10 NMAA State team titles
26 Individual Sprint Champions (78 top 6)
4 NMAA State Records
- Taos High School Grad and Athlete
- NCAA DIV-1 Collegiate Career
6 X Individual Conference Champion
Conference/School record holder
2008 Conference Indoor Athlete of the Year
NCAA DI National Qualifier (Heptathlon)

Building an Identity

Proactive

- Early intervention
- Looking ahead for success and needs

Specific, Deliberate, Focused

- Know program direction
- Effective training philosophy
- Being an EXCELLENT teacher



Intangibles

- Building relationships
- Execution
- Little things (hype, fun, facilities, etc)
- Adaptability and flexibility

Organized

- Structured
- Delivered with Clarity
- Being an EXCELLENT teacher

Coach Initiated

- Bridge the gap
- Staff concerns
- One voice!

CREATE

A DISTINCT culture

Accountability

CLEAR work ethic
(show what it takes)

Demand
EXCELLENCE!

LEAD

CONFIDENCE!

Have a plan/move
with DIRECTION

Be FLEXIBLE when
needed

Life-long Learner

Educate yourself

Be knowledgeable

Stagnation (death of a
program)

TEACH

A COMPLETE athlete

Differentiated

Simple

Constant feedback

External to Intrinsic

WHAT. DOES. THIS. EVEN. MEAN???

YOU must model

There is no magic shortcut!

Trust is not given, it is earned

If you are not a leader, they
will not follow.

Be the expert, but understand
you are not.

Carry the weight first.

Being smart does not make you
a good teacher

Do not regurgitate information

Know Your Athletes



Spoiler Alert:

They are
COMPLEX!



Getting to work:
Your Foundation

Wide Scope

Sprinters
Hurdlers
Relays
Jumpers
Vaulters
Throwers

Mission Statement

What is our identity?

What are we about?

What are our goals?

Training Approach

What does our
program model
look like?

Who influences our
philosophy?

Periodization:

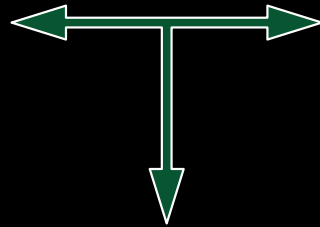
Short - Short
Short - Long
Long - Short
BLEND??

Physical Requirements: A Complete Sprinter

Strength

Raw Power

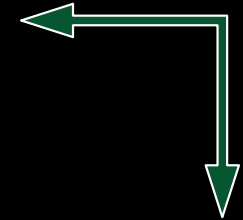
Ability to accelerate



Dynamic Movement

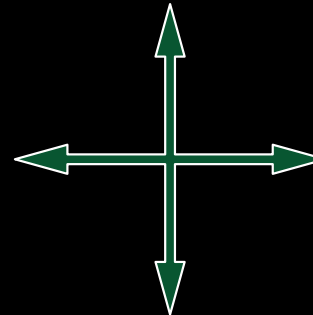
Coordination and Body Awareness

Ability to exert force, quickly!



Absolute Speed

Max Velocity



Sprint Mechanics

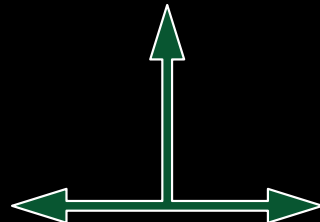
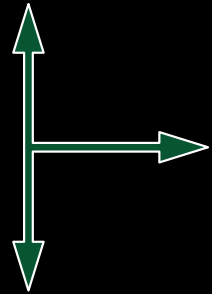
Efficiency

Ability to correctly transfer force into the ground

Flexibility & Mobility

Ability to perform event specific movements and training

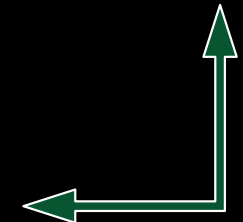
Injury prevention



Endurance

Sprint and event specific

Ability to handle the rigors of the sport, training, competitions



Technique: Max V. Sprint Mechanics

Posture

- Alignment of the head
- Hip angle (force reduction)
- Slightly leaning forward
- Square (efficient and stable)

Front-side Mechanics

- Dorsiflexion (stretch reflex)
- Hip flexion
- Knee drive
- Force application: MAX!

Back-side Mechanics

- Triple extension (post up!)
- Rear elbow drive
- Heel recovery (correct path)

MAX V vs. Acceleration Phase

Sprint Drills =
warm up??

Start Early
(Constant Feedback)



Stationary
Dynamic

Ground Contact



Acceleration: **A**lactic Power System

Requirements:

- Produce MAX horizontal force (absolute strength requirements)
- Overcome inertia
- Explosive, Violent, and Powerful
- Stay Low?? Break at waist? NO

- Full Recovery
- 0-30 M Phase
- Blocks/stationary (crouched or 3pt)

← Training basics

Absolute Strength (weights)

Resisted Sprints (Light sleds, short hills)

10's, 20's, 30's from 3 pt start

Block work (free or tethered)

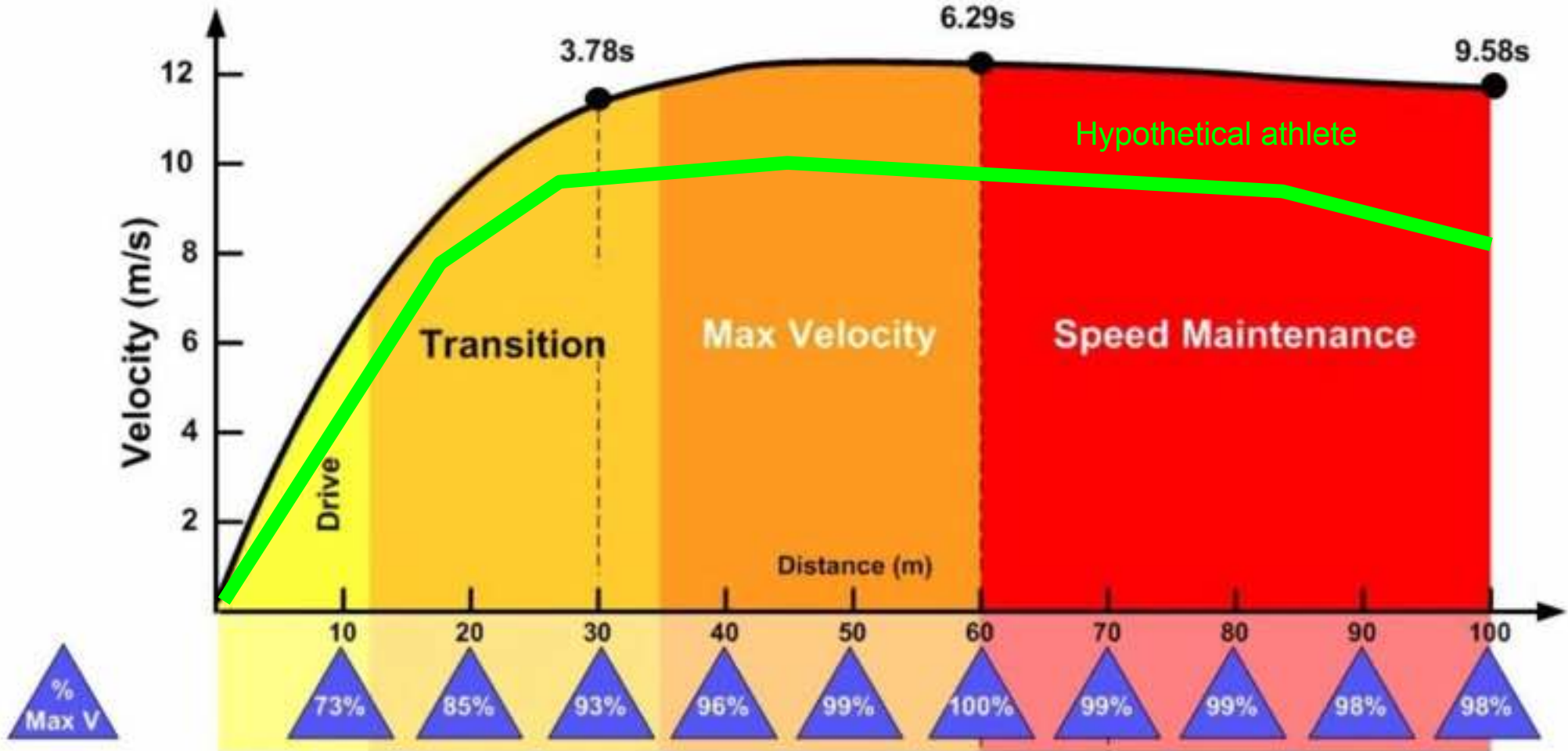
Wall Drills

Triple Extension
torso angle = shin angle

Acceleration: *Dynamic Transition*

		Acceleration Phase	Max Velocity Phase
01	STRIDE FREQUENCY	SLOW	FAST
02	STRIDE LENGTH	*	*
03	VELOCITY	SLOW	FAST
04	GROUND CONTACT TIME	LONG	SHORT
05	HEEL RECOVERY	LOW	HIGH
06	SHIN ANGLES	ACUTE/SMALLER	LARGER
07	FORCE DIRECTION	HORIZONTAL	MORE VERTICAL

100m Race Model based on Usain Bolt 9.58s Berlin, 2009



Composed by England Athletics, 2010

Maximal Velocity: Anaerobic Alactic System

Requirements:

- Highest velocity
- Need for acceleration zone
- Full recovery essential for necessary adaptations
- Once velocity drops = A.S. is no longer being developed

- 95 - 100% Intensity
- Maintain for 10-30M
- Session Volume - 50-150M

Training basics

Wicket and MVR'S

Flying 50's, 70's

"Oreo" Surges

Max Velocity SPRINT MECHANICS

Plyometrics

Stationary Drills

~~ACC.~~

~~Endurance~~

~~TEMPO~~





Speed Endurance: Anaerobic Lactic System

Requirements:

- Need to know your athletes %
- Differentiation!
- 2 different types (0-75M and 75-150m)
- Addresses deceleration/Speed Maintenance

- 90-95% Intensity
- Full recovery
- 0-75M & 75-150M
- Sesh vol: 300-800M (short) & 500-1K (long)

Training basics

Periodized

Volume High/
Intensity 90%

Volume Lower/
Intensity 95%

High Quality

~~ACC~~

~~TEMPO~~



Special Endurance I and II: Anaerobic & LAT

Requirements:

- Precision and QUALITY
- Differentiated
- Mental prep
- SE I = half the REP distance of SE II, but with the same Vol.

- 90% Effort (both)
- Rep: 150-300M & 300-600M
- Sesh Vol: 2-4 X event distance
- Full Recovery 10-15 min

Training basics

Event Runs
(race modeling)

Target 2's

300H
"touch-down"
target

Strength Training: **Functional & Specific**

Periodization

ALIGN and COMPLIMENT
track specific training

Right time - Right exercise

Restorative

Convert

Translate Max Strength
to Functional Power

Vertical vs Horizontal

Prerequisite

Prepares athlete for
increased stimulus

Addresses imbalances

Bigger is not better

A.S. gains not reflected
on the track.

Pushing HEAVY weight??



Olympic Lifts
Body Weight
Core Work
Upper Body?

Plyometric Training: **Max force/shortest time**

Periodization

ALIGN and compliment track specific training

Varies by athlete, age, proficiency, etc

Functional

Directly relates to every single track & field event

Easy to administer (but must be done correctly)

Prerequisite

Prepares athlete for increased stimulus

Form AND Function

Force Development

Rapid stretch reflex

Fundamentally reduce ground contact time

Increase lower leg stiffness

Easy



Difficult

Deep



Stiffer

Rebound

Response

Bilateral



Unilateral

Lower

Intensity



Higher

Intensity

Lower

Volume



Higher

Volume

General Macrocycle Progression

	Winter	Pre-Season	Competition Season	Championship Season
Max Velocity				
Acceleration				
Speed Endurance				
Spec. Endurance				
Tempo				
Absolute Strength				
Plyometric				
Sprint Mechanics				

PRACTICE EXAMPLES: FOCUSED, CONCISE, COACH LED

Los Alamos Girls Sprint, Jumps, & Hurdle Group			Tuesday, February 22, 2022		Friday, February 25, 2022					
<p>Monday, February 21, 2022</p> <p>Combined Group</p> <p>Dynamic Jog, Stretch, Drills, Strides</p> <p>Long - 4 X 325 Meters (hurdles over for 2 @ every other)</p> <p>Short - 4 X 225 Meters (hurdles over for 2 @ every other)</p> <p>Back: 17-18 Sec per 100</p> <p>Gold: 18-19 Sec per 100</p> <p>Green: 19-20 Sec per 100</p> <p>White: 20+ Sec per 100</p> <p>Red: Easy 100 yds in the grass</p> <p>COOL-DOWN (barefoot) Roll out and Rehab!</p> <p>Strength Training - Black 1 (8 Set Arms)</p>			<p>Thursday, February 24, 2022</p> <p>Combined Group</p> <p>Dynamic Jog, Stretch, Drills, Strides</p> <p>4 X MVRS in the Grass (tempo wickets)</p> <p>Repeat complete atletic stretch routine</p> <p>Ice Bath!!</p> <p>*** NO FIELD or HURDLES ***</p>		<p>TABAS</p> <p>Hold Parents Meeting (Virtual)</p> <p>Review Shake-out (Sun recovery)</p> <p>Varsity Specific Handoffs/Blocks</p> <p>Schedule Ice Baths for THURS</p> <p>Dry run the FAT system for TT</p> <p>*Need to measure 60M, put line</p>		<p>Combined Group</p> <p>Dynamic Jog, Stretch, Drills, Strides</p> <p>Hurdle Group</p> <p>FULL Hurdle Warm-up & Drills</p> <p>*1 step over shorties (cadence and trail leg power)</p> <p>Endurance D&B's (10 hurdle X 6 reps)</p> <p>FV Group</p> <p>Horizontal Jump</p> <p>Landing Drills, Pit drills, Posture and take off position</p> <p>Sprint Only Group</p> <p>6 X 50's in grass (Build up to 90% - Emphasis on sprint mechanics & form)</p> <p>Pillar of Strength (45 Reps)</p>		<p>Combined Group</p> <p>Dynamic Jog, Stretch, Drills, Strides</p> <p>2 X 30 Meter Build-ups (85,90, and 95%) SPIKES</p> <p>TIME TRIAL! (FAT system)</p> <p>1 X 60 Meters</p> <p>1 X 300 Meters</p> <p>COOL-DOWN (barefoot) Shin Splint prevention work</p> <p>Review weekend "Shakeout"</p> <p>Pillar of Strength (45 Reps)</p>	
			<p>Wednesday, February 23, 2022</p> <p>Combined Group</p> <p>Dynamic Jog, Stretch, Drills, Strides</p> <p>3 X Meter Build-Ups in Spikes (85,90,95%)</p> <p>Group Specific Blocks and Handoffs</p> <p>Blocks: Clean AND Tethered</p> <p>Varsity closed handoff session (4x1)</p> <p>HJ Group</p> <p>Approach and Curve emphasis</p> <p>Bridges, Back overs, Boxes, Back Flips</p> <p>Singles, Singles (skip bounds), Singles (take off), Figure 8's</p> <p>Strength Training - Green 2</p>		<p>Saturday, February 26, 2022</p> <p>Complete Recovery (Rehab and preventative)</p>					
					<p>Sunday, February 27, 2022</p> <p>OYO Active Rest Full Shake out</p>					