

NOT JUST STRENGTH &
CONDITIONING: THE BEST WAY
TO TRAIN TODAY'S HIGH
SCHOOL ATHLETE

GOALS

- Injury Prevention
 - Research on non-contact injuries (ACLs, planting, landing, etc.), correlated with improper biomechanics
- Learning/Reinforcing Proper Joint Mobility & Stability
 - Fatigue may be a by-product, but not meant to be fatiguing
 - Increase athleticism by improving form
 - Conscious incompetence ----→ Unconscious competence
 - Tightness in certain areas is common with rotational athletes (these areas need more mobility)
 - T-Spine, hip flexors (anterior pelvic tilt), ankles (athletes in general)

GOALS

- MOVING CORRECTLY
 - Stability & Mobility
 - Boyle's Joint-by-Joint Theory
 - Ankle = mobile
 - Knee = stable
 - Hip = Mobile
 - Lower Back = Stable
 - Upper Back / T-Spine = Mobile
 - Scapulo-Thoracic = Stability
 - Gleno-Humeral = Mobility
 - Elbow = Stability
 - Etc.

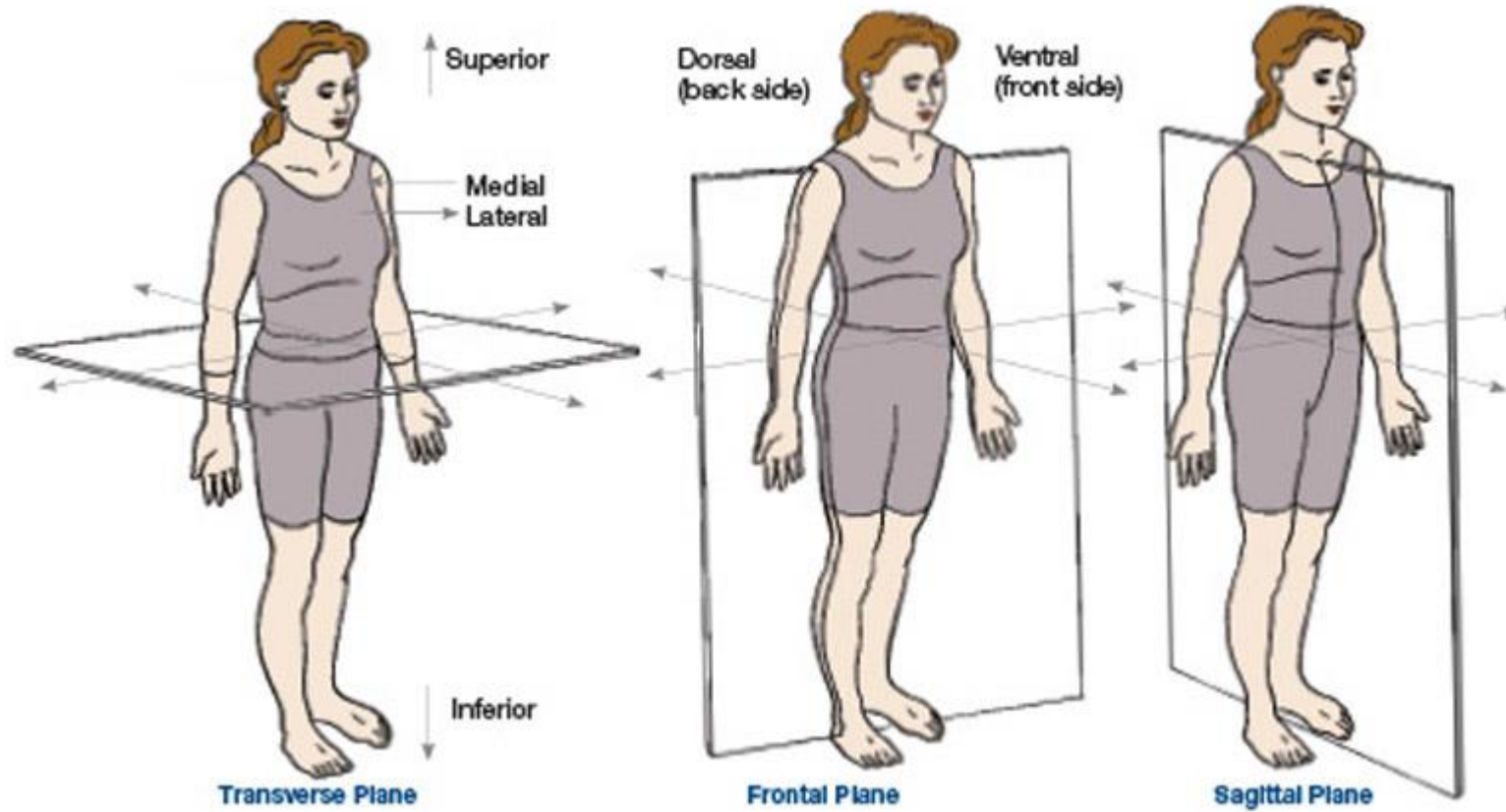
GOALS (CON'T)

- Moving correctly (unconsciously) is ultimately the end-all-be-all
 - What good is strength built from the weight room if it is not used correctly?
 - Get strong in the weight room while at the same time moving better = more force/speed/quickness because of efficient movement + strength

CONSIDERATIONS

- What plane(s) are most important in softball?
 - Sagittal, frontal, transverse
- Master the Sagittal plane first
 - Squats, deadlifts (RDLs), Lunges, Presses, Rows, etc.
- Then Frontal
 - Lateral lunges, lateral exercises, DB Raises, etc.
- Then Transverse
 - Rotational Exercises (core, MB plyos, etc.)

CONSIDERATIONS



CONSIDERATIONS

- What are the priorities of the sport?
 - For speed: Sagittal plane emphasis, straight line (home to first)
 - For defense: Agility/Change of Direction (all), speed (outfield), strength/balance (infield)
 - For power/throwing: Rotational strength, isometric core strength (minimizing torso movement & energy leaks), hips/legs to generate power

CONSIDERATIONS

- **THEY NEED TO KNOW WHY**
 - Your responsibility as a coach to get them to buy in
 - Not always easy
 - Stress the importance and be excited when done correctly
- Those who move the best and have mastered the fundamentals are the best athletes
- 1:30- Michael Jordan Mastering All Planes of Movement
 - <https://www.youtube.com/watch?v=3yWSuCHdTKc>

CONSIDERATIONS

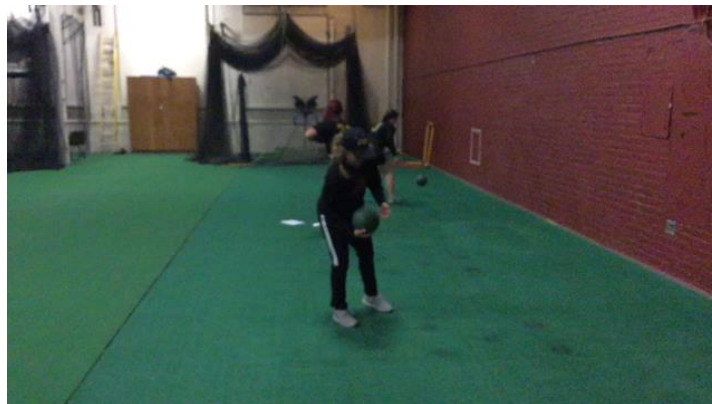
- Progressions
 - Where do we want to be, & how do we get there?
 - If athletes aren't ready for intense plyometrics, jumps & bounds, have poor form during lateral movement, etc., DON'T FORCE IT!
 - Progress so they are ready
- E.g., Basic Sagittal Plane Movements (videos on next slide)
 - Push-ups (eccentric unless form is great)
 - Squats, Lunges, Step-ups, RDLs
 - Rows
 - Eccentric Push up- <https://www.youtube.com/watch?v=06dfV9uAb80>

CONSIDERATIONS

- 90 DEGREE ANGLES
- Rows
 - <https://www.youtube.com/watch?v=BmV6JIIJ5LE>
- Step-Ups
 - <https://www.youtube.com/watch?v=E67SNyu1y0>
- RDLs
 - <https://www.youtube.com/watch?v=vwNCs1guNJI>
- Lunge
 - https://www.youtube.com/watch?v=rCQcy_za3R0

CONSIDERATIONS

- Progressions
 - RDL → SL RDL (<https://www.youtube.com/watch?v=z5-9KucAsbQ>)
 - Eccentric Push-up → Use weight on back
 - Step-up → Squat Jump onto Box
 - Reverse Lunge → Lateral Lunge (Frontal Plane)
 - <https://www.youtube.com/watch?v=SCJ5A-Ajb2c>
 - Eventually- Transverse Plane Exercises:



CONSIDERATIONS

- 1) Deceleration/Isometric
 - Injuries occur mostly during deceleration
 - Important to work on form & isometrically strengthening at certain “risk angles”
 - What is isometric work?
 - Squat holds, planks, push-ups (isometric core work)
- Setting up for the Next Phase
 - Must learn to decelerate under control and with sufficient form before progressing
 - Slow Eccentric in lifts
 - Holding basic positions
 - E.g. can hold a squat at the bottom of the lift, or hold a push-up in the middle
 - THEN, progress once those are mastered

CONSIDERATIONS

- Core Training
 - What is purpose of core?
 - Is it to PROVIDE power? ...or TRANSFER power
 - Big muscles (hips, glutes, legs) start process of generating power
 - Core = Rubber Band
 - Transfers into Upper Body
 - Best Bang for Buck = Front Planks (Sagittal Plane)
 - Frontal Plane Core Work = Side Planks
 - <https://www.youtube.com/watch?v=ACPvSnU3qmM>
 - Transverse Plane Core Work = Pallof Presses
 - <https://www.youtube.com/watch?v=IRUqbjb8pQA>

CONSIDERATIONS

- Core Progressions

- Increase time ... weight on back (or side) ... move limbs (activate muscles) ... feet elevated ... combinations
 - 2-Minutes seems to be more than enough according to research
 - Back Health, proper transfer of energy

- Examples:

- <https://www.youtube.com/watch?v=LjUhJDlhO5k>
- <https://www.youtube.com/watch?v=jHK2i8KrAul>
- <https://www.youtube.com/watch?v=Q6GkGKt-jEM>
- <https://www.youtube.com/watch?v=Y2-z8aJq0KY>
- https://www.youtube.com/watch?v=7fFnQ2_k-0o

CONSIDERATIONS

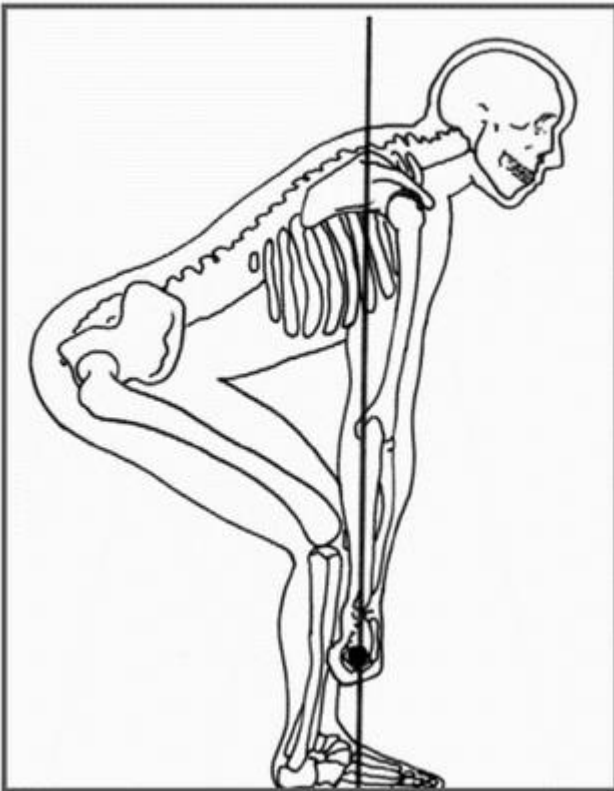
- New exercises seem exciting BUT
 - DON'T be afraid to RE-GRESS instead of progressing when needed
 - Athletes must “earn” the next level, otherwise, continue to master previous level

PROGRAMMING

- Basic Categories
 - Upper Push/Pull
 - Lower Push/Pull
- In general, more upper body pulls (unless constantly using pulling muscles somehow)
- Lower body pull = more hip hinge
 - RDLs, Deadlifts
 - <https://www.youtube.com/watch?v=vwNCs1guNJI>
- Lower body push = more knee bend
 - Lunges, squats
 - https://www.youtube.com/watch?v=TZ_ixASEoVw

PROPER FORM

- Hip Hinge/Deadlift vs. Squat
 - Hips further back, less knee bend (otherwise in the way), torso lower



PROPER FORM

- Best way to learn?
 - Muscle Memory
 - Hold Positions (basic isometric holds)
 - Good part of intro “movement” program
 - Can work into practices even if not a strength & conditioning coach or doing in weight room
 - Can use as part of every day warm-up
 - STAY ON TOP OF THEIR FORM (our jobs as coaches)
 - Human nature is to go through the motions / follow path of least resistance
 - Not natural to get out of comfort zone but that is what creates true changes

SOFTBALL SPECIFICS

- Balance Lots of Rotating w/ Anti-Rotation
 - Pallof Presses, Rotary Stability Planks, 1-Arm Holds, etc.
 - Extra Scapular Stability Work
 - Upper body pulls (rows, etc.)
 - Overhead Carries
 - Y's, I's, T's
 - Can do every day in warm-ups
 - Stay under control
 - Light Rotator Cuff Work (avoid over-doing)
 - <https://www.youtube.com/watch?v=qwvel2isIC8>
 - Progress- Split Stance, Manual Partner Resistance
 - Combine w/ Core Work
 - <https://www.youtube.com/watch?v=SRXORaSRlxY>

SOFTBALL SPECIFICS

- If Ready....
 - Can Progress to Transverse Plane Plyometrics
 - MB Throws, etc.
 - Jumps
 - Again- progress
 - Start on ground only ... sagittal plane ... frontal with lateral jumps ... transverse
 - Transverse Plane Box Jumps
 - <https://www.youtube.com/watch?v=xl6NWhTm00M>