



# PERFORMANCE BASEBALL/SOFTBALL CONDITIONING

A NEWSLETTER DEDICATED TO IMPROVING BASEBALL AND SOFTBALL PLAYERS

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## MOVEMENT PREP - INCOMING FRESHMEN'S FIRST STEP TO A SOFTBALL STRENGTH AND CONDITIONING PROGRAM

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*A certified strength and conditioning specialist, Lauren Harris became part of the Husker strength and conditioning program for the Nebraska, softball, women's gymnastics and rifle programs in February 2012.*

*Before joining the Nebraska staff, Harris served as the director of strength and conditioning at Texas A&M-Corpus Christi, beginning in 2009. While at TAMUCC, Harris was responsible for the training and supervision of all 14 Division I sports and oversaw the design and completion of TAMUCC's first athletics-only weight facility in the spring of 2011.*

*Harris served as an assistant strength and conditioning coach for Olympic sports at Ohio State from 2006 to 2009. She gained experience training numerous all-Big Ten, all-American and national team athletes. She served a six-week stint as the USA national synchronized swimming strength coach while they trained on-site at OSU. Harris also was part of the Olympic sports strength and conditioning staff at Marshall.*

*As a basketball player at Hardin-Simmons in Abilene, Texas, Harris earned All-ASC (2001-2004) and Kodak first team all-American honors (2004). She holds all HSU career, season and game three-point records and was named ASC Female Athlete of the Year in 2004.*



Lauren Harris

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he program presented is for our new kids (incoming freshmen) to our program. We are trying to ingrain proper exercise techniques and movement patterns in everything that we do before we move forward with our strength and conditioning program. We want to be good at the basics first instead of being poor in a lot of different things. This is a way to progress without throwing too much at the athlete. This is especially true in an in-season mode. For softball here, the team starts fall practice at the beginning of the semester.

### **Why Movement Prep is Necessary**

It all starts with what the athletes have been exposed to in high school. The coaching cues have been chest up and sit back with the back tight and arched. This is the case 90 percent of the time. We want to be able to engage glutes, abs and hamstrings. If the back is locked into extension you can't do this. To get the glutes and hamstrings involved you have to have your hips in a neutral position. For this to happen you abs have to be "on". This stabilizes the pelvic floor providing the right internal pressure. We have gone from chest up, arch your back to ribs down, abs tight with knees going forward rather than having them "sit back" (in the squat). This prevents an anterior tilt of the pelvis, something you want to avoid.

Gone are the coaching cues of chest up and out head up. What generally I see in incoming freshmen is that they are asymmetrical in some way or another because of their sport, coupled with weak. Since strength development is largely neural in the first few weeks, what we are doing is re-programming the neural system to help get them out of asymmetrical patterns and start activating the correct musculature. The exercise we see as most crucial to re-programming and building muscle is the squat.

The first rule in our re-programming is, “abs on!” To get abs "on" when squatting (and every other exercise) you want the athlete to slightly exhale in order to set the ribcage. Keep heels down and move the knees forward (over the toes) to lower to the required depth. This is the first movement we want. If the knees aren't forward, the hips have to tilt and move back and there is compensation (generally rotation) by the femur with the patellar tendon now rubbing in the wrong path over the knee. The back also has to extend in an anterior tilt, a position that has potential for injury if the athlete stays locked in that pattern.

The next issue is ankle mobility. If this is lacking the athlete will have to lean forward excessively to reach the required squat depth, and also lock their lower back into extension. So what we try to do is inhibit and stretch muscles the correct muscles to allow for mobility. Inhibiting muscles is the process of shutting off certain muscles so the opposite muscles can work properly. The muscles we want to inhibit are the calves, quads, back extensors and hip flexors. If you hip flexors are locked on it is going to be hard to get the glutes and hamstrings to function properly. This can mean stretching these muscles since a stretch can temporarily inhibit muscle, but we also constantly reinforce the idea of using muscle tension of the correct muscles to put joints in the correct positions (i.e. hamstring tension to get out of an anterior tilt).

### No Weight Training Experience May be the Best Experience

Because of these issues, in many cases it would have been better for the athlete coming in to have no weight training experience than the wrong weight training experience. Depending on the individual, if the athlete has never lifted, they usually aren't as "locked up" in the ways weight training in extension can cause. Putting on muscle is important but the way you do it is equally or more important. You can't avoid extension on the softball field but if you don't do it in the weight room you can cut down on the overuse and impingement situations that often lead to injury.

### Moving into the Strength and Conditioning Program

Athlete will graduate on they can demonstrate proper movement pattern which I have just explained. In the first two week of the program we don't have anything to do with the clean movement. This is to give them time to re-program. It takes at least two weeks to get the athletes to understand what we are trying to do. We do this by observing the athlete to see if they keep their heels/ribs down, knees forward and a neutral lower back during breathing squats. This is a test. If they pass we can move on to the clean movement and start loading other exercises more heavily. With the breathing squat we use the safety bar. This is done if take lack of shoulder mobility out of the equation (see the program exercises that accompany this article).

In working with individuals some graduate in a week or two (or even a day or two). But when working with a bunch of athletes in a team setting we have come to expect slower rates of adaptation. Typically if it's an off-season period the average is four weeks if it's in-season it takes more like six weeks (because of fewer training sessions each week).

This program we are presenting can be done starting with any age group. But I recommend starting at an early age especially as a substitute for young athletes who don't have the benefit of P.E. class. As athletes get older, they sit more in chairs to study, play, text, read, etc., and aren't generally as active outside of their sport. Because of this, we lose the ability to squat down properly with our own body-weight, let alone loaded. The bottom line is that this program can help improve performance by adding muscle and making the athlete stronger in the right way without compensation and further risking injury.

The following program is designed for the in-season (Table 1). If possible we would like the athlete do the Belly Lift, Tripod and Left Stance progressions every day (See Everyday Movement Technique Menu). In addition I have included Other Recommendations for your consideration. 

**More Information Please!** Contact Lauren at [lharris@huskers.com](mailto:lharris@huskers.com)

Everyday  
Movement  
Technique  
Menu

	MONDAY	WEEK 1		WEEK 2		WEEK 3		WEEK 4		WEEK 5		WEEK 6	
<b>H U S K E R S</b>	<b>WARM-UP:</b>												
	<b>BELLY LIFT</b>	2X	5	2X	5	BEAR CRAWL	BEAR CRAWL	BEAR CRAWL (BKWD)	BEAR CRAWL (LAT)				
	<b>TRIPOD</b>	2X	5	2X	5	CRAB WALK	CRAB WALK	CRAB WALK (BKWD)	CRAB WALK (BKWD)				
	<b>LEFT STANCE</b>	2X	5	2X	5	SL REACH	SL REACH	SL REACH	RETRO STAIRS				
	<b>BREATHING SQUAT</b>		5		5		5		5		5		5
			5		5		5		5		5		5
			5		5	HANDS FREE	HANDS FREE	FRONT	FRONT				
	<b>CLEAN PROGRESSION</b>					2X	5	3X	5	3X	5	3X	5
						BLOCK RDL	BLOCK RDL	HANG RDL	HANG RDL				
	<b>BOX JUMPS</b>		8		10		10		10		10		10
			LANDING ONLY	LANDING ONLY					DEPTH	DEPTH			





### Single Leg Reach

1. Shift into left hip with left knee in vertical alignment with toes.
2. Keeping lower back rounded, lift right foot off ground.
3. Swing right leg back slowly in a straight line and under control. Do not swing leg cross midline of body.
4. Simultaneously move right arm forward touch ground with hand and bring left arm back with elbow bent to ninety degrees.
5. Stand up on left leg as right leg swings forward as right knee flexes forward and up.
6. Simultaneously move right arm back as left elbow to brought together with right knee at midline of the body (Slowly and under control).
7. Inhale through nose and exhale through mouth. Do 5 to 10 reps.
8. Repeat while standing on right leg for 5 to 10 reps.



### Retro Walking

1. Shift into left hip.
2. Keeping back rounded, lift right foot off ground.
3. Swing right leg out to side with knee straight and toes pointed forward.
4. Simultaneously move right arm forward and left arm back.
5. Stay shifted in left hip.
6. Stop when right foot is parallel with left foot, hold this position for 3 seconds.
7. Should feel left outer hip, front of left thigh, and right outer hip engaged.
8. After 3 seconds continue to swing right foot behind you, toes pointed ahead. Continue to move right arm forward and left arm back.
9. Once right foot is placed flat on the ground, shift majority of weight back to right leg.
10. The right knee will flex as the left knee extends.
11. Side bend your trunk to right, shift zipper over right foot, right knee in line with toes.
12. Alternate from side to side. Inhale through nose and exhale through mouth.

### Crawl/Belly Lift Progression (All 4 Belly Lift, Inchworm, Bear Crawl)

#### All Four Belly Lift

1. Position yourself on your hands and knees.
2. Maximally round your spine upward.
3. Raise knees off floor until they are straight.
4. Tuck your hips under, feel abs engage.
5. Shift your bodyweight so your nose is over your fingertips.
6. Raise your lift hand off the floor as you maintain a rounded trunk position.
7. Feel the left ab wall engage.
8. Don't let your trunk turn or twist.
9. Hold position while taking 4-5 deep breaths, inhale though your nose exhale through your mouth.



#### Bear Crawl

1. Position yourself on your hands and knees.
2. Maximally round your spine upward.
3. Raise knees off floor until they are straight.
4. Tuck your hips under, feel abs engage (approximate pelvis and hips).
5. Bring right foot and left hand forward. Try to keep toes point forward as much as possible.
6. Knees will bend slightly as you bring feet forward, place the foot flat on the ground. Hlps are hight.
7. Then alternate with left foot and right hand forward.

### Additional Exercises

**Breathing Squat** (preferably a safety squat bar, but the barbell can be used):

1. Bar should be unloaded
2. For a barbell, place hands slightly wider than the shoulders, rule-of-thumb, the closer the better. Use a pronated grip with thumbs around the bar.
3. Feet should be parallel and at hip width apart, and no wider than shoulder width with toes pointed straight ahead.
4. Head should be neutral, not chin high or chin tucked to sternum
5. Take a deep breath, exhale partially to set anterior ribs into internal rotation with the abs and set shoulder blades by retracting and depressing them.
6. Initiate descent by bending the knees, with abs and shoulder blades engaged and exhaling the rest of your air out.
7. Maintain weight over the arches of the foot, keeping heel contact.
8. Drop all the way until the glutes are sitting on the heel cords (goal is for trunk and tibia angle to be parallel).
9. At the bottom, inhale through the nose and exhale out through the mouth for 2 deep breaths.
10. After inhale of the 3rd breath, push the feet into the ground, maintaining weight over arches of the foot.
11. Exhale through entire ascent to help keep abs and shoulder blades engaged (goal is to keep trunk and tibia parallel until standing erect).
12. Avoid leading with the chest during ascent. This places the spine into an unstable position.
13. Repeat for 5 repetitions.



### Gorilla Lunges

1. Standing with dumbbells in each hand and feet at hip width, step forward with the left foot.
2. Initiate the descent by bending at the knee, with abs engaged and weight through the mid-foot.
3. Reach with the dumbbells to the floor on either side of the left foot.
4. Exhale through the ascent with weight through the left mid foot and abs engaged until standing upright (do not lead with the chest).
5. Repeat with the right leg.



### Reciprocal Lunges

1. Reach with the dumbbell in the right hand to just inside the instep of the left foot instead of both dumbbells simultaneously.



### Tornado Ball

1. Use bolster between knees for standing, or chop on knees
2. In bilateral stance, nothing is touching the wall
3. Do not lean back against wall, left hip touching only with L stance
4. Must establish proficiency in L stance to progress to L stance wall



**Other Recommendations**

- Follow all lifts with 90-90 progression
- Jump Progression- Landings take precedence
  - Off Boxes/Broad Jump Landings first
  - Jump Rope regimen (preferably without rope 1st week at least)
- Clean Progression - "squeeze shoulder blades" only for overly rounded athletes

**All Athletes (Includes Upperclassmen)**

- Use at least one positioning exercise in warm-up, but include all each week.
- Techniques learned in teaching program should carry over and be re-enforced in subsequent training.
- Use video to re-enforce technique and understanding.