

Sportsmetrics™ WIPP Exercise Breakdown

Dynamic Warm-up

1. Straight Leg March

Purpose: Provide athletes with a mild hamstring stretch, while at the same time warming up the hip musculature.

Description: The athlete should walk with both legs straight. Alternate bringing up each leg as high as possible without jeopardizing form; the knees should not bend, and the body should not lean backward. The entire body should remain tall and facing forward. Swing the arms in opposition.

Mistakes to Correct: Not having legs straight, bending at the knee
Stomping foot down on the ground when stepping down; loud landing
Not maintaining proper posture; bending at the waist, rounding shoulders
Taking multiple steps between leg raises
Looking down at feet/ground

Training Cues: Keep legs straight
Raise leg high enough that mild stretch is felt in the hamstring; toe to waist
Quiet landing
Keep back straight, shoulders back, and head/eyes up

2. Hand Walk

Purpose: Provide athletes with a mild stretch to the hamstrings, calves, and back, while at the same time warming up the hip and shoulder musculature.

Description: Have the athlete bend at the waist and place the palm of their hands on the ground; body should be in an upside-down “V” position. Keeping the legs and back straight, athlete should walk using their hands and feet. Try to keep the legs shoulder width apart. This can also be called a bear walk.

Mistakes to Correct: Not keeping legs straight
Raising head to look forward
Having too much space between hands and feet

Training Cues: Keep legs and arm straight
Keep hands and feet about shoulder width apart
Try to keep heels on the ground
Keep shoulders and neck relaxed

3. Leg Cradle

Purpose: Provide athletes with a mild stretch to the hip musculature.

Description: Walk forward, keeping the entire body straight. Lift one leg in front of the body, bending at the knee. Rotate the knee outward and the foot inward. Hold the raised foot with both hands; standing on one leg. Hold this for a 3 second count and place it back down. Repeat with the other leg

Mistakes to Correct: Bending at the waist to pick up the leg, instead of raising leg to waist
Looking down at feet/ground
Taking multiple steps in between stretches
Not maintaining proper posture
Stomping foot on the ground when stepping down, loud landing

Training Cues: Bring foot up to the waist, and gently pull on foot until stretch can be felt in hip
Keep back straight, shoulders back, and head/eyes up

4. Hip Rotator Walk

Purpose: Provide athletes with a mild stretch and warm-up to the hip musculature.

Description: The athlete should pretend that there is a small hurdle directly in front of them. Remain facing forward, keeping the shoulders and hips square. Rotate one leg out at the hip, bringing it up and over the imaginary obstacle, and back on the ground. Repeat with the other leg.

Mistakes to Correct: Rotating entire body while lifting leg
Not raising leg/foot high enough to clear imaginary "barrier"
Taking multiple steps in between leg raising
Not maintaining proper posture; rounded shoulders
Looking down at feet/ground

Training Cues: Place hands on hips to ensure that upper body and hips are not rotating
Raise leg so that knee is approximately waist height
Keep back straight, shoulders back, and head/eyes up

Jump Training

1. Tuck Jump

Purpose: Teach athletes to jump with power while maintaining neutral leg alignment

Description: Start in an upright position, feet shoulder/hip width apart. Jump up, bending the knees to bring the thighs up toward the chest while maintaining upright posture.

Mistakes to Correct: Lowering the chest to the knees, rather than lifting the knees to the chest
Bringing knees together during take-off or landing
Double bouncing between jumps
Loud landing with a lack of muscle control

Training Cues: Bring knees up to the chest
Keep landing quiet, land on the ball of the foot
Keep knees bent when landing, in order to go immediately into the next jump
Keep knees and ankles at shoulder/hip width at all times
Keep back straight, shoulders back, and head/eyes up with each jump

2. Squat Jump

Purpose: Teach athletes to generate power from a deep knee and hip flexion position, while at the same time increasing the relative recruitment and strength of the flexor musculature

Description: Begin in a fully crouched position (or as deep as comfortable/cleared to perform), knees and feet directed forward and in alignment with the hips. Upper body is upright with chest open; hands touching or reaching toward the ground at the outside of the heels. Jump up reaching up overhead as high as possible. Torso and legs should extend fully on the jump. Return to the crouched position with the hands reaching back towards the heels.

Mistakes to Correct: Landing with body/knees forward and/or off balance
Bringing knees together during take-off or landing
Loud landing with a lack of muscle control

Training Cues: Keep hands reaching back towards heels, not forward
Keep knees tracking under the hips on take-off and landing
Keep knees and ankles at shoulder/hip width at all times
Keep back straight, shoulders back, and head/eyes up with each jump

3. 180 Degree Jump

Purpose: Teach athletes dynamic body and knee control by introducing a rotational component that must be decelerated, and immediately redirected in the opposite direction

Description: Start with feet shoulder/hip width apart. Take off with both feet, jumping up and then rotating the body 180-degrees in midair. Torso and legs should extend fully during the jump. Upon landing, repeat jump in the opposite direction.

Mistakes to Correct: Over- or under- rotating, the body does not turn 180 degrees
Body does not rotate as a unit
Loud, straight, or stiff legged landing

Landing with staggered feet or one foot landing before the other
Always jumping in the same direction, jumping in a complete circle
Rotating back and forth with minimal height during jump
Feet separate beyond "feet shoulder/hip width" distance

Training Cues: Jump straight up and rotate the body as a unit from the head to the toes
Land with soft, slightly-flexed knees
Always jump in opposing directions; over the right shoulder, then over the left.
Keep knees tracking under the hips on take-off and landing
Keep knees and ankles at shoulder/hip width at all times
Keep back straight, shoulders back, and head/eyes up with each jump

4. Scissor Jump

Purpose: Provide athletes with a transition from generating double leg to generating single leg power and control

Description: Start in a long lunge position with the front knee bent directly over the ankle. Alternate leg positioning by pushing off with the front leg, jumping straight up in the air, and landing with the opposite leg bent in front.

Mistakes to Correct: Landing with wobbly knees or knees extended past the front ankle
Jumping up to alternate legs with minimal height
Legs not switching directly under body, legs swing outward
Simply switching legs without power
Landing loudly, with a straight or stiff leg
Landing with staggered feet or one foot landing before the other

Training Cues: Push off with power from the front leg
Obtain maximum height on the leg switch
Land in control with legs bent, and the front knee directly over the ankle
Keep back straight, shoulders back, and head/eyes up with each jump
Keep toes pointed forward with each take off and landing

5. Barrier Hop Side/Side

Purpose: Teach athletes to directly create and target the dynamic control of dangerous valgus and varus moments at the knee by shifting their body/knee from side to side.

Description: Standing in a modified squat position (approximately 60-70 degrees of knee flexion), lift one foot without straightening the supporting knee, or shifting body weight. Using a 6-8" cone or barrier, perform a single leg hop side-to-side over the barrier while maintaining constant knee flexion.

Mistakes to Correct: Landing or taking off with stiff and/or straight knees
Landing with wobbly knees or ankles
Hopping side to side quickly, without bringing entire body over barrier
Double bouncing on landing

Training Cues: Bend the knee to clear the barrier
Land quietly, landing on the ball of the foot and rocking back to the heel
Once landing is controlled, immediately take off again
Keep back straight, shoulders back, and head/eyes up with each hop
Keep knees tracking under the hips on take-off and landing
Keep toes pointed forward with each take off and landing

Strength Training

1. Steamboats

Purpose: Provide dynamic strengthening of the hip flexor and extensor musculature, while providing stabilization strength training to the opposite leg.

Description: Place the resistance band around the thighs, halfway between the hips and knees. Begin with feet shoulder width apart and then slightly bend one knee so that the foot is off the ground. Balancing on the one leg, begin kicking the bent leg forward and backward at the hip.

Mistakes to Correct: Simply bending and straightening the knee, not moving at the hip
Swaying the upper body back and forth with kicking movement
Not kicking forward or backward enough to feel resistance of band

Training Cues: Keep back straight, shoulders back, and head/eyes up
Keep slight bend in both knees at all times
Keep upper body stationary
Kick leg back and forth through full range of motion
Keep hips level at all times, do not hike hip with motion

2. Lateral Step w/ band

Purpose: Provide strength training to the intrinsic hip musculature that provide for hip abduction and adduction

Description: Place the resistance band around the thighs, halfway between the hips and the knees. Start with your feet shoulder width apart, and step out to the side approx. 2-3 feet. Slowly, and under control, follow with the other foot to regain the 'feet shoulder width apart' position. Once finished, switch directions so that you lead with the opposite foot than before.

Mistakes to Correct: Allowing leg that follows to "snap" back to starting position
Allowing feet to come completely together in between steps
Walking with knees locked in the straight position
Bending forward at the waist, rounding the shoulders
Looking down at the feet/ground

Training Cues: Keep back straight, shoulders back, and head/eyes up
Keep steps to a distance that allows for leg control throughout the activity
Keep motion slow and under control at all times
Make sure that all motion is coming from the hips and legs

3. Supine Hamstring (Bridge)

Purpose: Provide athletes with isolated training of the hamstring and glutei musculature, while at the same time working on core stabilization

Description: Lying flat on the back, bend one knee and place the heel of the foot as close to the gluteus as possible. Extend the other leg straight up in the air. Pushing with the heel that is on the ground, perform small lifts raising the gluteus off the ground, taking the extended leg higher in the air with each push.

Mistakes to Correct: Leg in the air simply swinging back and forth
Gluteus not raised off the ground into a bridge position
Leg in the air is bent
Pushing up through the toe instead of the heel
Holding body up off the ground with the arms/hands

Training Cues: Press the heel into the ground
Keep the abdominals tight; keep the lower back neutral
Lift the leg in the air straight up, pushing the foot up towards the ceiling
Keep heel close to the gluteus
Raise and lower leg slowly and under control

4. Abdominal Crunch

Purpose: Provide athletes with an isolated abdominal workout

Description: Lying on the ground, bend at the knees and place the heels on the floor. From this starting position, raise the upper body off the ground until the shoulders are no longer touching the ground. Hold this position for a count of 3. Hands can be placed behind the head or across the chest as long as the neck remains relaxed.

Mistakes to Correct: Not raising the upper body/shoulder blades off the floor
Pulling up on the head and neck with each motion
Allowing the lower back to lift off of the ground
Jerky and erratic raising and lowering of the body

Training Cues: Keep the neck and shoulders relaxed throughout the duration of the exercise.
Keep hands relaxed making sure not to pull on the head or neck
Hold crunch position briefly before lowering back down
Keep abdominal muscles tight at all times
Keep lower back on the floor at all times

5. Modified Plank Position

Purpose: Provide athletes with a way to increase complete core stabilization and strength

Description: Begin by lying facedown, placing the elbows under the shoulders and forearms on the ground. Place the legs hip-distance apart and curl the toes under. Once set in this position, lift the body up onto the elbows and toes.

Mistakes to Correct: Slouched or arched mid-section
Elbows and/or toes are too close together

Training Cues: Make sure to maintain a neutral posture
Keep the neck and shoulders relaxed
Keep the body in a straight line, parallel to the ground
Keep head in a neutral position
Keep abdominals tight at all times

Flexibility

1. Hamstring Stretch

Purpose: Provide athletes with a total stretch of the hamstring musculature, that spans the entire length of the hamstring muscle group

Description: While seated, extend the right leg fully, and bend the left leg placing the inside of the left foot along the right calf. Keeping the back straight, and bending at the waist, press the chest toward the knee. Reach with both hands towards the toes. Hold this stretch for 20 seconds, release, and stretch the same side again. Switch sides and repeat the sequence.

Mistakes to Correct: Rounding the shoulders when leaning into stretch
Bringing the chin into the chest when stretching
Allowing knee of the leg on the ground to bend
Bouncing into the stretch

Training Cues: Keep back straight when leaning forward into stretch
Bend forward at the waist
Keep shoulders back and head up for the duration of the stretch

2. Hip Flexor Stretch

Purpose: Provide athletes with a stretch to the intrinsic hip musculature that provides for hip flexion

Description: Stand with feet in a lunge position with the front knee slightly bent. Push up on the rear toe and press the hips forward while tightening the buttocks until a stretch is felt in the front of the hip, of the rear leg. Hold this stretch for 20 seconds, release, and stretch the same side again. Switch sides and repeat the sequence.

Mistakes to Correct: Leaning the upper body forward
Not pressing the hips forward
Bouncing into the stretch

Training Cues: Keep the upper body upright and centered directly over the hips
Press or rock the hips forward to initiate stretch
Keep back straight, shoulders back, and head/eyes up

3. Quadriceps Stretch

Purpose: Provide athletes with a total stretch of the quadriceps musculature, that spans the entire length of the quadriceps muscle group

Description: While standing, grab the foot or ankle of one leg and lift it up behind the body. Gently pull the lower leg and foot up, directly behind the upper leg, with no twisting inward or outward. Hold this stretch for 20 seconds, release, and stretch the same side again. Switch sides and repeat the sequence.

Mistakes to Correct: Allowing foot to rest on the buttocks
Pulling the leg and/or foot inward or outward
Locking the knee of the leg being used for balance

Training Cues: Pull straight up on the foot and leg
Keep back straight, shoulders back, and head/eyes up

4. Calf Stretch

Purpose: Provide athletes with a stretch of the calf musculature

Description: Stand in a long lunge position with the front knee bent. Make sure that the front knee does not extend past the ankle. Place both hands on the front of the thigh, and lean body forward keeping the back leg straight. Make sure to press the rear heel down into the floor. Hold this stretch for 20 seconds, release, and stretch the same side again. Switch sides and repeat the sequence.

Mistakes to Correct: Allowing back heel to raise off of the ground
Bouncing into the stretch
Allowing the knee of the back leg to bend
Not maintaining upper body posture

Training Cues: Keep back straight, shoulders back, and head/eyes up
Keep back leg straight, and heel on the ground at all times

Agility Drills

1. Quick Feet

Purpose: Provide athletes with a drill that will teach them how to move in a lateral pattern quickly and efficiently by using short, choppy steps that do not waste energy by allowing the feet to cross.

Description: Start at the end of a straight line, lined up parallel to the line. Moving down the line, to the left, step the left foot forward and diagonally over the line followed quickly by the right foot. As soon as the right foot crosses the line, step the left foot backward and diagonally (back over the line), again followed quickly by the right foot. Continue this pattern along the length of the line for 30 seconds. At the end of the first 30 seconds, proceed back the starting position, moving to your right, this time with the right foot leading and following with the left. Lead with the right foot for 30 seconds.

Mistakes to Correct: Overlapping feet while traveling along the line
Rotating upper body
Leading with the wrong foot

Taking very wide steps
Bending forward at the waist, rounding the shoulders
Looking down at the feet/ground

Training Cues: Keep toes and knees pointed forward
Keep back straight, shoulders back, and head/eyes up
Keep steps short and choppy, with feet not getting wider than shoulder width
Keep speed under control until proper pattern is achieved

2. Nebraska Agility Drill

Purpose: Teach athletes how to make quick, sharp cuts and directional transitions without jeopardizing proper running technique

Description: Set up 2 cones 30' apart from one another. Beginning on the right side of the first cone, sprint to the left side of the other cone. Put your right hand down to touch the cone and pivot around the cone until you are facing the first cone. Sprint to the right side of the first cone, putting your left hand down to pivot around the cone until you are facing the second cone (completing a figure 8 around the cones). Staying on the right side of both cones, and close to the cones, sprint forward to the second cone. Upon reaching the second cone backpedal to the starting cone.

Mistakes to Correct: Not touching the cone
Straightening the knees when decelerating/approaching the cone
Letting knee "collapse in" when pivoting around the cone
Not completing the figure 8 pattern
Loud steps when decelerating/approaching cone
Bending forward at the waist, rounding the shoulders
Looking down at the feet/ground

Training Cues: Keep toes and knees pointed forward
Keep back straight, shoulders back, and head/eyes up
Keep knees bent and feet quiet when decelerating/approaching the cone
Stay tight to the cones at all times
Keep shoulders and hips square; the body should travel as a complete unit
Lean forward slightly during sprints and backpedal