MOBILITY CLINIC

CrossFit Aerial x Nordic Performance
Saturday, January 18th, 2025

OVERVIEW & PURPOSE

The Mobility Clinic teaches the importance of mobility for CrossFit performance and overall function. It will cover how hypo-mobility in areas like the hips, shoulders, and ankles can impact movement and increase injury risk. Participants will undergo a mobility screen to identify personal deficits and learn targeted exercises to improve range of motion, flexibility, and joint health. By the end, they'll have tools to enhance performance and reduce injury risk.

OBJECTIVES

- Understand the role of mobility in CrossFit performance and daily function
- Learn how hypo-mobility in key areas (hips, shoulders, ankles) impacts movement and increases injury risk
- Identify personal mobility limitations through a mobility screening
- Learn specific interventions and exercises to address individual mobility deficits
- Improve range of motion, flexibility, and joint health for better performance and injury prevention
- Gain strategies to incorporate mobility work into a regular training routine.

MATERIALS NEEDED

1. PVC Pipe
2. Looped Elastic Band

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GENERAL MOBILITY OVERVIEW | CROSSFIT: FUNCTIONAL FITNESS

SECTION 1

CrossFit promotes functional fitness by mirroring real-life movement patterns, such as carrying, lifting, pushing, and pressing, across multiple planes of motion. These movements are designed to improve the body's ability to tolerate and adapt to daily stressors, like lifting groceries, carrying heavy objects, or moving furniture. CrossFit is built around nine foundational movement patterns—squatting, hinging, lunging, pushing, pulling, rotating, bracing, jumping, and running—that engage multiple muscle groups and enhance overall body coordination. This comprehensive approach helps improve strength, flexibility, and endurance, which translates to better performance in both everyday activities and athletic pursuits. By training these foundational movements, CrossFit fosters a balanced, functional fitness base that supports long-term health and reduces the risk of injury.

Mobility deficits in key body regions—ankles, hips, and shoulders—can significantly impact both foundational movement patterns in CrossFit and functional movements in daily life. Restricted mobility in the ankles, hips, or shoulders can prevent proper execution of essential movement patterns, leading to compensation strategies that place undue stress on other areas of the body. These imbalances can reduce overall movement efficiency, hinder performance, and increase the risk of injury, both during exercise and in everyday activities. Addressing mobility deficits in these regions is crucial for restoring proper movement mechanics, improving performance, and supporting long-term joint health. Let's breakdown how stiffness in each of these body regions can impact your mobility:

Ankle Mobility

Ankle mobility is crucial in both CrossFit and daily life as it enables proper functional movement patterns, enhances performance, and reduces the risk of injury. In CrossFit, adequate ankle mobility ensures that exercises are performed with correct form, maximizing effectiveness and preventing compensatory strains. In daily life, adequate ankle mobility allows for everyday tasks to become easier and less taxing on the body.

Normal Ankle Range of Motion: 10 degrees of dorsiflexion

Movement Patterns Affected by Ankle Mobility Deficits:

CrossFit Movements: Squats, Wall balls, Deadlifts, Step-ups, Overhead presses, Lunges, Jumping, Running

Real-Life Movements: Walking down stairs, Getting in and out of a chair, Walking, Bending over to pick something up, Lifting and carrying objects

Injuries Caused by Ankle Mobility Deficits:

Foot & Ankle*:* Ankle sprains, Achilles tendinitis, plantar fasciitis

Knee: Meniscus tear, Patellar tendinitis, IT band syndrome

Hip: Gluteal tendinopathy, Trochanteric bursitis, Hip impingement, Hip labral tears

Low Back: Lumbar strains, Facet joint dysfunction

Shoulder: Shoulder impingement, Rotator cuff tendinitis

Hip Mobility

Hip mobility is essential for both functional movement and athletic performance, particularly in activities like CrossFit that require dynamic, multi-plane movement. The hip joint, being one of the body's largest and most mobile joints, plays a critical role in movements like squatting, lunging, hinging, and running. Adequate hip mobility allows for proper range of motion, optimal posture, and efficient force transfer during exercise. When mobility in the hips is limited, it can lead to compensation patterns in other areas of the body, increasing the risk of injury and reducing overall movement efficiency. Improving hip mobility not only enhances athletic performance but also supports better posture and reduces strain on the lower back, knees, and other joints during daily activities such as bending, sitting, or walking. Regular hip mobility exercises help maintain joint health, improve flexibility, and promote functional movement both in the gym and in everyday life.

Normal Hip Range of Motion: 120 degrees flexion, 45 degrees ER & IR

Movement Patterns Affected by Hip Mobility:

CrossFit Movements: Squats, Wall balls, Deadlifts, Sumo deadlifts, Romanian deadlifts, Goodmornings, Lunges, Kettlebell Swings, Cleans, Snatches, Burpees

Real-Life Movements: Walking, Getting in and out of a chair, Getting in and out of car, Bending over to pick something up, Lifting and carrying objects, Climbing stairs

Injuries Caused by Hip Mobility Deficits:

Knee: IT Band Syndrome, Patellar tendinitis, Meniscus tears, knee osteoarthritis

Hip: Hip impingement, Hip labral tears, Hip osteoarthritis, Trochanteric bursitis, Gluteal tendinopathy, Sciatica, IT Band Syndrome, Piriformis syndrome

Low Back: Lumbar sprain, Lumbar strain, Facet joint dysfunction

Shoulder Mobility

Shoulder mobility is crucial for movements like overhead presses, push-ups, and everyday tasks such as reaching or lifting objects. The shoulder joint's stability relies on surrounding muscles and proper movement patterns. Limited shoulder mobility can affect performance and increase injury risk. Thoracic spine stiffness also plays a key role, as a restricted upper back can limit shoulder movement and force the shoulders to compensate. Improving both shoulder mobility and thoracic spine mobility enhances movement efficiency, reduces injury risk, and supports overall shoulder health.

Normal Shoulder Range of Motion: 180 degrees flexion and abduction, 90 degrees external rotation

Movement Patterns Affected by Shoulder Mobility:

CrossFit Movements: Overhead presses, Front squats, Push-ups, Pull-ups, Kettlebell swings, Cleans, Snatches, Muscle-ups, Wall balls

Real-Life Movements: Reaching overhead, Lifting objects from high places, Carrying heavy loads, Driving or holding a steering wheel, Sleeping positions, Reaching behind the back (e.g., putting on a coat)

Injuries Caused by Shoulder Mobility Deficits:

Shoulder: Rotator cuff tears & tendinitis, shoulder labral tears, shoulder impingement, weightlifter's shoulder, AC joint arthrosis

MOBILITY ASSESSMENT

SECTION 2

FUNCTIONAL MOBILITY

Overhead Squat

The overhead squat is an excellent assessment tool for observing functional mobility because it challenges the body to move as a whole, requiring proper alignment and coordination across multiple joints and muscle groups. It provides valuable insight into the mobility of the ankles, hips, and shoulders, as the position demands adequate range of motion in each of these areas to maintain balance, depth, and stability. By observing the movement, coaches can identify any restrictions or compensations in the ankles, hips, and shoulders that may affect overall movement patterns and performance.

Instructions for Performing the Overhead Squat:

1. **Start Position**: Stand hip-width apart with toes slightly outward. Hold a light weight or dowel overhead, arms extended, hands wider than shoulders, palms forward. Keep your chest tall and core engaged.
2. **Movement**: Hinge at the hips, push hips back, and bend knees to squat while keeping the weight overhead and arms locked in line with your torso.
3. **Depth**: Lower as deeply as possible with balance, heels grounded, knees tracking toes, and chest up. Aim for thighs parallel to the floor or deeper, depending on mobility.
4. **Form Check**: Keep your back straight, core engaged, shoulders stable, and avoid arching your lower back or letting the weight drift forward. Maintain balance and control.
5. **Return**: Press through your heels to stand, keeping the weight overhead and posture aligned.


Please note if you experienced any stiffness in your body:_____

Please note if you experienced any discomfort in your body:_____

ANKLE MOBILITY

Knee to Wall Test

The knee-to-wall test is a simple and effective assessment of ankle dorsiflexion mobility. It evaluates the ability of the ankle joint to move forward over the foot, which is crucial for activities like walking, running, and squatting.

Instructions for performing the Knee to Wall test:

1. **Setup**: Kneel down on one knee in a lunging position, facing a wall with your front foot one fist-width away from the wall. The front foot should be pointing straight towards the wall.
2. **Test**: Keeping your heel flat on the ground, bend your front knee forwards and try

to touch the wall. Gradually move your foot back until you can barely touch the wall without lifting your heel.

3. **Measure**: Use a ruler or measure the distance from your big toe to the wall. This indicates your ankle dorsiflexion range.
4. **Compare**: Repeat on the other leg to check for side-to-side differences.

Positive findings for the Knee to Wall test includes:

1. **Limited Dorsiflexion Range**: A distance of less than 5 inches between the big toe and the wall may indicate restricted dorsiflexion mobility.
2. **Pinching in the Front of the Ankle**: This may suggest joint impingement or anterior ankle restrictions.
3. **Pain or Discomfort**: Pain during the test can point to underlying joint or soft tissue dysfunction.

Distance recorded between the wall and your big toe:_____

Please note if you experienced any positive findings:_____

HIP MOBILITY

Cossack Squat Assessment

The Cossack squat is a dynamic exercise and assessment tool that evaluates hip mobility, specifically targeting hip joint range of motion and groin flexibility. It requires controlled movement, balance, and strength, making it an effective way to identify restrictions or imbalances in the hips and surrounding structures.

Instructions for performing the Cossack Squat assessment:

1. **Start Position**: Stand with your feet wider than shoulder-width apart. Point your toes slightly outward for stability.
2. **Movement**: Shift your weight to one side by bending the knee of that leg while keeping the opposite leg straight.Squat down as deeply as you can on the bent leg, keeping the heel flat on the ground. The straight leg should remain extended, with the foot flat or the toes pointing up if mobility allows.
3. **Depth**: Lower your body as much as your mobility permits, aiming for the hip crease of the bent leg to drop below knee level. Maintain balance and avoid collapsing forward or rounding your back.
4. **Return**: Push through the heel of the bent leg to return to the starting position. Repeat the movement on the other side.

Positive findings for the Cossack Squat assessment includes:

1. **Squat Depth:** Unable to obtain parallel thighs to the ground on bent leg side.
2. **Symptom Onset:** Pinching in the front of the hip or significant pulling in inner thigh and/or groin region.
3. **Compensatory Movements:** Excessive knee valgus, trunk leaning, or inability to keep the foot flat on the ground.

Did you reach appropriate squat depth?:_____

Please note if you experienced any other positive findings:_____

Shoulder Mobility

Overhead Dowel Press Assessment

The dowel overhead press with back to the wall is a valuable assessment tool for shoulder and thoracic mobility. By requiring the back, hips, and head to stay in contact with the wall, it isolates the shoulder joints and thoracic spine, highlighting mobility restrictions. Difficulty pressing the dowel overhead without arching the back or losing wall contact may indicate limited shoulder flexion, tight lats, or restricted thoracic extension. This test directly translates to functional movements like overhead presses, the front rack position, snatches, and overhead squats as it emphasizes the mobility needed to achieve proper alignment, stability, and range of motion in these positions.

Instructions on how to perform Overhead Dowel Press assessment:

1. **Setup**: Stand with your back against a wall, feet a few inches away, and your lower back gently pressing into the wall. Ensure your hips, upper back, and head are in contact with the wall.
2. **Grip**: Hold a dowel or light bar with both hands, palms facing forward, and hands

slightly wider than shoulder-width apart.

3. **Start Position**: Bring the dowel to shoulder height, elbows bent, and wrists aligned with your forearms. Keep your core engaged to avoid arching your lower back.
4. **Press**: Slowly press the dowel upward in a straight line, aiming to touch or get close to the wall without breaking form. Keep your arms straight and aligned with your torso.
5. **End Position**: Fully extend your arms overhead, ensuring your back, head, and hips remain in contact with the wall. Avoid flaring your ribs or tilting your head forward.
6. **Lower**: Control the movement as you bring the dowel back to the starting position at shoulder height.

Positive findings for Dowel Overhead Press assessment includes:

1. **Symptom Onset:** Provocation of shoulder pain at any point during assessment
2. **Arching of the Lower Back**: Indicates compensations due to limited shoulder flexion or restricted thoracic extension.
3. **Inability to Fully Extend Arms**: Suggests shoulder mobility limitations, particularly in lats, pecs, or thoracic spine extension.
4. **Loss of Wall Contact**: If the head, upper back, or hips lift away from the wall, it may point to poor thoracic mobility.
5. **Elbows Flaring or Bending**: Highlights shoulder instability or tightness in the triceps or surrounding musculature.

Can you maintain 3 points of contact on wall?:_____

Please note if you experienced any other positive findings:_____

Cuban Press Assessment at Wall

The Cuban press at the wall effectively assesses shoulder mobility by targeting internal and external rotation, as well as scapular control. The wall prevents compensations like arching the back, ensuring the shoulder joint is properly engaged. Difficulty achieving full rotation or pressing overhead suggests mobility restrictions in the shoulder or upper back, which can impact movements like overhead presses, high pulls, snatches, and pull ups.

Instructions on how to perform Cuban Press assessment at wall:

1. **Start Position:** Stand with your back against a wall, feet a few inches away, and your head, mid-back, and hips gently touching the wall. Place your arms at shoulder height with your elbows bent to 90 degrees and back of upper arms touching the wall.
2. **Rotation:** Slowly rotate your palms down until they touch the wall while maintaining contact between the back of your arms and the wall. Next, slowly rotate your shoulders so that the back of your hands touch the wall overhead.
3. **End Position**: Press your arms overhead while maintaining your entire arm on the wall. Think of squeezing your elbows towards your ears until your arms are completely straight.
4. **Lower:** Lower your arms until you reach your starting point.

Positive findings for Cuban Press Assessment at Wall:

1. **Symptom Onset:** Provocation of shoulder pain at any point during assessment
2. **Arching of the Lower Back**: Indicates compensations due to limited shoulder flexion or restricted thoracic extension.
3. **Inability to Fully Extend Arms**: Suggests shoulder mobility limitations, particularly in lats, pecs, or thoracic spine extension.
4. **Loss of Wall Contact**: If the head, upper back, or hips lift away from the wall, it may point to poor thoracic mobility.

Can you maintain 3 points of contact on wall?:_____

Please note if you experienced any other positive findings:_____

MOBILITY EXERCISES

SECTION 3

ANKLE MOBILITY EXERCISE

Begin this exercise by going into a lunge position. Tie a looped band just below the ankle bone of the front foot. Place pressure via your hand or weight on the top of your knee and slowly rock knee forwards while keeping your heel down.

Rx: Perform 10-15 reps, 1-2 second hold, 1-2 sets, 3x/week

CrossFit Benefits: Squats, Wall balls, Deadlifts, Step-ups, Overhead presses, Lunges, Jumping, Running

Real-World Benefits: Walking down stairs, Getting in and out of a chair, Walking, Bending over to pick something up, Lifting and carrying objects

HIP MOBILITY EXERCISES

Begin in a half kneeling position and a banded loop placed around your groin. Next, slowly press knee inwards until you feel a pinch in your hip. Return to starting position.

Begin by sitting on the floor with your knees bent and feet flat in front of you. Next, slowly rock both knees down to the floor on one side. Gently rock to the other side. Attempt to maintain your trunk as erect as possible throughout this movement.

Begin with one knee down on the ground and the opposite leg fully extended out to your side. Place a looped band around the limb with bent knee. Slowly rock your hips back towards your heels. You may pivot your toes of the outstretched leg up towards the ceiling and back down. Then, return to starting position.

Rx: Perform 10-15 reps, 1-2 second holds, 1-2 sets, 3x/week

CrossFit Benefits: Squats, Wall balls, Deadlifts, Sumo deadlifts, Romanian deadlifts, Goodmornings, Lunges, Kettlebell Swings, Cleans, Snatches, Burpees

Real-World Benefits: Walking, Getting in and out of a chair, Bending down to floor

SHOULDER MOBILITY EXERCISES

Kneel down on both knees with bench placed in front of you. Place both elbows in front of you while holding onto a dowel. Slowly rock hips back to your heels and push your chest down to the ground. Next, slowly look up to the ceiling. Return to starting position.

Rx: 10-15 reps, 2-3 second hold, 1-2 sets, 3-5x/week

Lay on a foam roller length-wise with the back of your head at the top and tailbone at the bottom. Maintain knees bent and feet flat on the floor. Place your arms at your sides and palms facing up towards the ceiling. Slowly raise your arms upwards in a snow-angel-like movement pattern. Return to starting position.

Rx: 10-15 reps, 0 second hold, 1-2 sets, 3-5x/week

Place a looped band on a rig near the floor. Hold onto the band as you bring your hand over the back of your shoulder. Allow your elbow to rise up towards the ceiling as you stand tall.

Rx: 2-3 sets, 30 second hold, 3x/week

CrossFit Benefits: Overhead presses, Front squats, Push-ups, Pull-ups, Kettlebell swings, Cleans, Snatches, Muscle-ups, Wall balls

Real-World Benefits: Reaching overhead, Lifting objects from high places, Carrying heavy loads, Driving or holding a steering wheel, Sleeping positions, Reaching behind the back (e.g., putting on a coat)