



Introduction

Hip Mobility is a fundamental component of full body movement and athletic ability. This training guide has been developed to guide you through progressive phases of hip mobility to improve joint range of movement, assess potential left to right range of movement differences, help prevent injury, aid in building a mobility base and help build a pathway to hip joint longevity.

Joint Mobility is an important concept of physical fitness, longevity, injury reduction and injury prevention. Strength, speed and endurance are important factors of physical fitness but everyone irrespective of age and function needs to be able to move their joints, limbs and overall body throughout its full range of movement. Movement is three dimensional and requires effective joint range and mobility to perform efficient and pain free movement.

Mobility Training can begin the process of improving and often regaining lost joint range of movement. As children we are blessed with flexibility, a deep squat and hinging/hip movement patterns. This is often lost or lessened with training, poor postures, immobility or faulty movement patterns throughout life. A process of regaining this mobility and then maintaining it is fundamental to good pain free movement and healthy living.

Activities of Daily Living (ADL's) require good joint range of movement. Picking up shopping bags, loading a car and carrying children all require a continuum of joint range, stability, mobility and strength. Therefore mobility training is important to all irrespective of athletic or sporting demands. Poor quality movement or stiff joints can cause issues that 'creep' up over time causing pain and dysfunction.

In Athletic Performance mobility becomes even more important. High levels of strength without mobility can result in underutilised

strength and lowered strength development. This can be the result of poor mobility foundations. The risk of injury also increases should the joints be placed in a range that they are not regularly exposed to. This combined with insufficient strength in that range of movement can culminate in injury. Both speed, power output and change of direction capability will be reduced with poor joint mobility as the range of force production is limited.

The strongest lifters are able to move weight through a full range of movement across a broad spectrum of joints – furthering joint range and strengthening those joints through a full range of movement. Limited range of movement and repeated loading can lead to uneven joint surface pressures and possibly increased stress to the joint. In simple activities such as jogging, the range of movement at the hip is limited by virtue of stride and speed. Conversely sprinters will need full joint range (notably flexion and extension) to maximise speed and distance gains. With a partial range of hip movement activity the constant load adaptations can lead to stiffening and surface pressure. Therefore by training with mobility and then adding strength training into the fully achievable ranges these potential adverse effects can be reduced.

Mobility for multisport pursuits is fundamentally important. Joggers who decide to play squash need to have a different outlook on their hip mobility requirements and therefore preparation, training and mobility maintenance.

Improving Joint Mobility can keep the body's joints healthy. Movement and 'through-range' movement and loading increases synovial fluid production – 'the oil in the engine' and helps nourish the joint and joint surface. Movement increases exchanges of important nutrients to the soft tissues and bones. Much

like a moving part that is poorly utilised or moved partially, restrictions can occur. This can lead to pain and injury if mobility training is not completed regularly.

Hip Mobility is crucial to all body movement. The body works as a collective and has multiple planes of movement to navigate in both daily life and athletic movement and training. The hip is a ball and socket joint, meaning that it can move and transmit force in all planes of movement and importantly control and resist movement in all planes of movement. Crucially the hips and pelvis transfer forces from the lower limb to the spine/upper limb and then conversely from the upper limb/spine to the lower limb.

Symmetry in hip mobility is fundamentally important. This can be tested within mobility programs when comparing movement capability and strength in the left and right hip joints. Building awareness and addressing any asymmetry (or differences) between the two sides is pivotal in the mobility training and the desired results of reduction in injury risk, improved performance and longevity of the joint and attaching tissues.

One of the most common mobility deficiencies seen clinically and athletically is within the hip. Lack of hip mobility can increase lower back pain, knee pain, foot and ankle issues and cause a general level of stiffness and pain around the hip. Importantly, as a ball and socket joint, the concept of centration – the ball sitting within the centre of the joint, is key for efficient movement and utilisation of the muscles around the hip effectively without pain. Poor mobility can cause overuse and changes in muscle length that affects this adversely. Evolution and common patterns of movement have altered hip function. Prolonged sitting with chronically shortened hip flexors gets lots of recognition however lifting items from the floor, picking up a child repeatedly, lifting items from the boot of a car or in weight and athletic training can be affected by overuse of the lower back and underuse of the powerful hip muscles by reduced and poor hip mobility.

In summary the hips are designed to generate a lot of force and power to drive the vast majority of daily and athletic movement.

Improving and Restoring hip mobility can have a plethora of functional and health improvements. There can be reduction in lower back and knee pain. There can be improvements in daily activities such as standing from a seated position to improvements in sports, olympic weightlifting, kettlebell swings, deadlift, squats, push press and anything else that utilises the hips to generate movement, control and force.

Mobility is one part of the package to hip health. Optimal strengthening through range is necessary. Without a basis of adequate range of movement optimal strengthening cannot be achieved. With progression in mobility training some of the advanced movements rely on increasing stability demand which aids the body in creating stabilising strength into the developing ranges. Techniques within the programme to create muscular contraction within extended ranges can develop this further. Such techniques include MET's – Muscle Energy Techniques – which are discussed in the opening sections of the program. The result of improved mobility can then be seen to carry over to potential for improved strength and control outcomes for the hip.

The hips are pivotal for assisting in rotational power. This is required in the majority of athletic movements – football, tennis, rugby, the list continues. Think of a golfer who has limited hip movement. The swing is either limited, pain can increase in the hip, or the lower back is rotated beyond safe limits as a compensation which can then cause pain and dysfunction. From a performance perspective the strength and force output of this hips is reduced with poor mobility. For the golfer, distance and control from the club strike is likely to be lowered as a result.

Hip mobility training will improve the link and relationship with the entire body. Often, learned compensations are as a result of immobility or inefficient movement and poor range of movement at the hips and pelvis. Hip

Mobility Training may not fix every ailment you have in your body, however in developing hip mobility it is a good starting point at addressing some of the fundamental movement 'compensatory' patterns that can translate to other areas of the body.

The Programme will guide you through a 3 Phase Approach of simple exercises that build in complexity through a variety of specific hip mobilisation ranges. There are no difficult multi-body movement requirements such as deep squatting. Underpinning the program is

the ability for you to firstly recognise and then secondly safely work on any differences between left and right sides of the body. Any issues should be raised with a medical professional to assist in resolution of these issues, particularly if the differences are pronounced. The program is designed to establish a foundation for improvement in hip mobility. This can then be progressed and managed alongside more complex strength loading and full range training whilst providing a backdrop for maintenance and corrective mobility to aid with daily life and sporting or athletic training.