UNLOCK YOUR POWERHOUSE
The Kinetic Key to Hip Flexibility
Rob “The Kinetic Guru” Williams, MS, CSCS, PES
Introduction

In sport, success is determined by powerful movements, whether on the court or on the field. Speed, agility, strength and explosiveness are abilities that athletes train for all the time. But a lack of flexibility in the hips is the number one limiting factor to unleashing your full potential in your respective sport.

All of the muscles that contribute to speed, agility, strength and explosiveness are attached to the hips. The hips can be thought of as the “powerhouse” of the body. All of the energy and strength that we display in both our upper body and lower body is magnified whenever we fully engage our hips during all athletic movements.

It doesn’t matter whether you are trying to develop strength and power in the weight room or master skills relative to your sport during practice, it is essential that you ALWAYS unlock your powerhouse. If any restrictions in movement occur at the hip, this will then result in a decrease in your ability to generate speed, strength and explosiveness, while increasing your potential for injury.

You are about to be provided with the key to unlock your powerhouse. So if you are an athlete who is looking to develop high amounts of strength that will actually transfer over to improving your athletic performance, then you will want to master every concept and stretch on the following pages. But before we get in to the exercises, it is important to understand the different types of flexibility tools you can use to “unlock’ your hips so that you will have a highly tuned powerhouse.
Science and Theory

When training for any sport we all understand that learning technique is very important. But it isn’t until one masters a series of specific techniques that they are actually considered to be great at their sport. The foundation to success in athletics is founded on three primary principles:

1. Coordination
2. Balance
3. Flexibility

Mastering technique is only done through consistent skill execution so that we actually program our bodies to execute the desired techniques reactively, especially in practice and competition. This programming of the body is known as coordination. By repetitively executing technique these movements become “hard wired” in our brains which allows for us to execute the movements at the right time, when needed, through instinctive reflexive action.

Balance is usually learned in the weight room and on the field, or court, when we are trying to maintain good posture and a strong base while learning and improving technique. In athletics, a good base will decide whether you are the hammer or the nail during live sport play. But one thing that will help you speed up the progress of both mastering skill and maintaining a good base is flexibility.

Flexibility serves three specific purposes and I have called these purposes The 3P’s of Purpose and they are:

1. Prevent
2. Prepare
3. Perform

Prevent or prevention serves the purpose of reducing our potential for developing injuries. There is nothing more frustrating than missing both practices and games due to injury, especially since most of the injuries that occur in sport could be either prevented or made less severe through flexibility. The more practice time you miss, the longer it will take you to master techniques resulting
in altered coordination, which can leave an athlete feeling “rusty” or like they’ve “lost a step” because the precision of their timing has been disrupted. All injuries disrupt how our brain and muscles communicate.

For example the optimal communication between the brain and muscles can be compared to a high definition signal. A high definition signal is crisp and clear with no delay. When an injury disrupts that communication, the signal will then resemble that of an old television that uses a coat hanger to get reception. This type of communication will not lead to elite level athletic performance, which includes high levels of speed, strength and explosiveness. So the longer you remain injury free, the faster you will be able to excel in your sport.

*Prepare* or preparation serves the purpose of priming our bodies for movement. Preparing our bodies will not only aid in injury prevention but it will also help increase our core body temperature to help learn new skills and techniques while we continue to master previously learned skills and techniques.

*Perform* or performance is what you want increased every single time that you go to practice or hit the weight room. Flexibility increases your ability to enhance your overall performance. There is a principle in exercise science known as the **length-tension relationship**. The length-tension relationship states that a muscle will only develop high amounts of tension or force (strength) when the muscle is at its optimal length.

So if a muscle is abnormally short and tight, then your ability to use that muscle and the movements that it is responsible for becomes restricted. It does not matter whether you are learning new ways to accelerate, make quick cuts or stop your opponents from making plays; flexibility improves your ability to get into different stances and positions that are necessary to effectively use your agility and explosiveness to dominate your opponents.

*The Kinetic Key to Hip Flexibility* provides the solution that will help you prevent injuries, and prepare your body to perform at an elite level. Now that you understand the three primary purposes of flexibility, now its time to actually define what flexibility is and why it’s so important.
**Flexibility Defined**

Flexibility is the ability a muscle has to lengthen and stretch around our joints in order to produce quality movement. Another term used to more accurately describe a muscle’s ability to be lengthened is **extensibility**. Extensibility encompasses the lengthening of our targeted **myofascia**. Myofascia is a term that refers to our muscle bellies, tendons and all of the webbing that encases our soft tissues. So when our aim is to improve flexibility, we are looking to alleviate restrictions in the myofascia that can restrict a muscle’s extensibility and joint motion.

Muscle extensibility and joint motion are two of the most under estimated aspects of athletics. Most athletes put such a focus on getting stronger and faster, that they neglect flexibility work. When two athletes have equal strength, speed and technique, the athlete with more flexibility and mobility will ALWAYS have the advantage to dominate their opponent due to their ability to fully utilize their powerhouse (hips).

**Mobility Defined**

It is difficult to fully understand flexibility if you do not have a clear understanding of what joint mobility is. Mobility refers to the full range of motion of your joints. The joints move primarily through rotation about a pivotal point. This movement can be described as active or passive movement.

So with this I am going to discuss three of the most effective types of flexibility tools that have yet to be fully accepted within the mainstream. Each of the three types has their own distinct method and protocol and they are:

1. Self-Myofascial Release (SMR)
2. Movement Preparation (MP)
3. Active Isolated Stretching (AIS)

Now a lot of individuals may argue which type and method is more superior and more appropriate. With my research and experience as an athlete and training athletes, I have found that all three methods are very useful and beneficial to
improving a muscle’s extensibility, but timing is one of the most critical elements when it comes to their use.

**Self-Myofascial Release (SMR)**

SMR is a newer flexibility tool that is starting to gain bigger acceptance in both the rehab and performance training communities, and is commonly referred to as “self massage”. SMR helps to prevent injury by increasing muscle extensibility through the principle of **autogenic inhibition**.

Autogenic inhibition takes place when different sensory organs in your muscles called Golgi-tendon organs (GTO’s), which monitor the changes in tension within a muscle, receive prolonged stimulation and sends a signal to the brain instructing the neurons (nerve cells) to relax. The neurons then signal the muscle spindles, which are sensory organs that monitor changes in length within a muscle, to relax which allows for the muscle being stretched to relax and elongate.

SMR utilizes controlled compressive forces to improve the quality of our myofascia. The myofascia responds to the compression tension by stimulating the GTO’s within the muscle. The GTO’s then stimulate the neurons which then stimulate the muscle spindles to relax.

SMFR is also helpful with stimulating blood flow to the muscles which helps to improve circulation, recovery and tissue health as well. Taking care of your myofascia is very important to ensure that your muscles remain healthy and pliable with sufficient extensibility. Healthy muscles have the characteristics of a nice thick juicy steak while tight and unhealthy muscles resemble beef jerky.

When muscles are left untreated, over time they can start to develop adhesions. Adhesions occur when the myofascia becomes “glued” to the joints and the bones which decrease neural activity, muscle extensibility and joint mobility. This is usually caused by lack of hydration, and/or poor circulation due to inflammation from muscles that have not properly recovered between training
and workouts. Adhesions can also lead to an abnormal increase in density (tension) within a muscle resulting in a **trigger point**.

A trigger point is a section of muscle that is usually sensitive to pressure, resulting in a pinching or burning sensation when the area is compressed. This increases tension throughout the entire muscle that can also cause pain in other muscles or joints close to the trigger point (called *referred pain*).

Trigger points can be found in:
- Extremely tight or bulky muscles
- Muscles that are strained and overstretched

Trigger points can cause:
- Muscles to be weak
- Muscles to be less efficient
- Surrounding joint pain

Different Tools that can be used for SMR are:
- Tennis balls
- Lacrosse balls
- Foam Rollers
- The Stick® self massaging tool

SMR is a good tool to use before training in order to ensure that the extensibility of the myofascia will allow for quality movement and mobility of the joints. Since SMR does improve circulation and blood flow it can also be used between training in order to improve muscle recovery.

One important thing to keep in mind is that since the muscles are inhibited and “turned off” during SMR, it should be immediately followed by Movement Preparation before in order to increase motor neuron (muscle nerve cell) excitability (activation) to prime the muscles for explosive movement.
Movement Preparation

Movement Preparation (MP) includes different types of exercises that include body weight and other exercises that prepare the body for movement. Before movement begins the nerves, joints, muscles and brain must be “warmed up” prior to training or practice. MP serves the purpose of:

- Exciting (activating) the nervous system
- Increasing core body temperature
- Lubricating the joints
- Slightly increasing muscle extensibility

MP exercises utilize the principle of **reciprocal inhibition** to actively elongate the muscles preparing them for the randomized chaotic movement that can take place in both training and active sport play. Reciprocal inhibition takes place when one muscle is contracted (activated) and a signal is sent to the brain to tell its opposing muscle to relax.

For example, if I wanted to stretch my hamstring, located on the back of my thigh, using reciprocal inhibition I would do this by straightening my knee and tightening (contracting) my quadriceps, located on the front of my thigh. In this position when I activate my quadriceps, while putting the hamstring on stretch I decrease the neural communication from my brain to my hamstring, which causes it to relax.

The different stretches and exercises mimic similar movements and positions that apply a small amount of stress to the body while increasing circulation and heart rate in order to prepare the body for higher levels of force production, force absorption and dynamic stabilization.

MP is commonly referred to as a dynamic warm-up since this type of stretching is more preferential than the “old-school” traditional view of static stretching before activity. The past view on static stretching before was to ensure that muscles were stretched so that athletes would not injure themselves or cramp up, but research has shown us that excessive static stretching before and during activity can decrease the explosive capability of the muscle by shutting of
the nerves that control the muscles. It more appropriate to use static stretching after workouts and practices.

**Active Isolated Stretching (AIS)**

Active Isolated Stretching (AIS) is form of stretching developed by massage therapist Aaron Mattes that actually helps us to *perform* better. AIS also utilizes the concept of reciprocal inhibition, and serves many purposes such as:

- Improve oxygenation (circulation) and nutrition of myofascia for growth and repair
- Eliminate metabolic wastes for improved recovery
- Break down myofascial adhesions
- Reduce the risk of muscle strain or tear

To utilize AIS to stretch the hamstring you could lie down on your back and raise your leg straight up by squeezing the quadriceps and your hip flexors. By activating these muscles on the front of the thigh, it causes the hamstrings on the back of the thigh to relax and elongate. Usually 5-10 repetitions are performed for each stretch while holding the squeeze (contraction) for 1-2 seconds. AIS is best performed with assistance either with rope assistance or a partner assist. Some of the stretches can be performed without a rope or partner, but some work best with extra assistance.

AIS is unique in the fact that this is the only stretch I’d recommend to do *during* a workout between sets or within practice between drills and plays. AIS is active in nature, so by doing this stretch *during* activity this will promote improved muscle recovery while maintaining and even improving muscle extensibility. So whenever you are between sets or plays, you can make the most of your rest periods and recovery times by performing select AIS stretches.

In addition to performing AIS during the workout, they can also be done after or even before. But if you’re pressed for time before a workout, Movement Preparation alone is just fine.
Summary

By now you should have a clear understanding of the three different methods included in *The Kinetic Key to Hip Flexibility*. Now that you understand the theory let’s look at some exercises that will unlock your powerhouse.
SELF-MYOFASCIAL RELEASE (SMR) EXERCISES

FOAM ROLL – GLUTES & HIP ROTATORS

1. Sit on the foam roller with right glute (cheek) and right leg crossed over left leg.
2. Gently roll right glute to alleviate posterior hip restriction. If you find tender (painful) spots, sit on those for 30 seconds to release tight tissues. Do both sides.
3. Note: Pain is a sign of release so stay as relaxed and calm as possible. Tennis balls or lacrosse balls can be used here as well.

FOAM ROLL – ADDUCTORS, GROIN & INNER THIGH

1. Place inside of right thigh (right above the knee) on foam roller with left leg straight.
2. Gently roll from the knee all the way to the inner pelvic bone (groin area) to alleviate interior hip restriction. If you find tender (painful) spots, relax and sit on those for 30 seconds to release tight tissues. Do both sides.
FOAM ROLL – VASTUS LATERALIS, IT-BAND & OUTER THIGH

1. Place the foam roller above the knee right knee with leg crossed over and foot flat on ground.
2. Gently roll up and down the side of the outer thigh. You may notice some tenderness (pain) right above the knee, in the middle of your outer thigh and right on the side of your hips. For these spots sit on those tender (painful) areas for 30 seconds to alleviate restrictions in IT band that can lead to potential knee pain or injury.

FOAM ROLL – QUADRICEPS & HIP FLEXORS

1. Place the foam roller above both knees while keeping your abs tight.
2. Gently roll up and down the front of the thighs. You may notice some tenderness (pain) right above the knee, in the middle of the thigh and front part of the hips. For these spots sit on those tender (painful) areas for 30 seconds to alleviate restrictions in the quadriceps and hip flexors that can lead to potential knee and/or lower back pain or injury.
MOVEMENT PREP (MP) EXERCISES

QUADRUPED CIRCLES

1. Start off on all fours with a flat back.
2. Lift right leg backwards, keeping the knee bent, and fire (squeeze) the right glute.
3. While keeping the rest of the body stable, start to circle the thigh forward while maintaining a bent knee.
4. Finish the circle by going towards the front and returning back to the start position and continue with the circles.
5. Note: Keep the spine stable and focus on ONLY moving from the hip. You should also start to feel a little burn in the muscle on the side of the hip. This is the gluteus medius muscle being activated which helps to stabilize the knees during movement. Repeat the same amount of circles going forward and backward on each side.
QUADRUPED ROCK

1. Start off on all fours with a flat back.
2. While maintaining a flat back push your hands in the ground while pushing your hips straight back and elbows straight.
3. Note: You should feel compression, on the front part (hip flexors) of your hips to mobilize the hip joint. If you feel a little pain or tightness in your hip flexors, repeat this movement to alleviate restrictions in the front part.

LATERAL SQUAT – FULL VIEW

1. Start in a wide stance with feet pointing straight forward ensuring that most of your bodyweight is along the inside portion of each foot.
2. By keeping the chest and ribcage up with an arch in your upper back, initiate pushing the hips straight back while starting to slowly bend the knee. Return to the starting position and repeat repetitions on both sides.
3. Note: You should feel a deep stretch in the inner thigh and groin muscles on the straight leg. If the pain is really high then I would suggest that you foam roll the inner thigh again.
LATERAL SQUAT – SIDE VIEW

1. Start in a wide stance with feet pointing straight forward ensuring that most of your bodyweight is along the inside portion of each foot.

2. By keeping the chest and ribcage up with an arch in your upper back, initiate pushing the hips straight back while starting to slowly bend the knee. Return to the starting position and repeat repetitions on both sides.

3. Note: You should feel a deep stretch in the inner thigh and groin muscles on the straight leg. If the pain is really high then I would suggest that you foam roll the inner thigh again.
LATERAL SLIDE SQUAT

1. Start in a wide stance with feet pointing straight forward ensuring that most of your bodyweight is along the inside portion of each foot.
2. By keeping the chest and ribcage up with an arch in your upper back, initiate pushing the hips straight back while starting to slowly bend the knee.
3. While keeping the hips at the same height, slowly slide the hips to the right.
4. Pause for 1 second and then slowly slide the hips back to the left.
5. Note: You should feel a deeper stretch in the inner thigh and groin compared to the lateral squat. If the tightness and/or pain are unbearable then you should foam roll your inner thigh muscles and groin again.
FORWARD LUNGE ELBOW-TO-INSTEP  
 a.k.a. WORLD’S GREATEST STRETCH

1. Stand with feet hip width apart while holding good posture (shoulder blades back and abs tight)
2. Take a step forward with the left leg while firing (squeezing) the right leg glute and keeping the right knee straight.
3. While maintaining an arch in your upper/mid back try to reach your elbow down to the instep (inside arch) of your foot while placing the right hand down on the ground.
4. Pull your hips straight up while rocking backward pushing the right heel toward the ground and lifting you left foot towards your left knee while keeping the left knee straight.
5. Drop your hips back down while pulling your chest and ribcage up and keeping the right glute tight as you get into a sprinting position.
6. Step forward with the right leg right into the next stretch.
7. Note: You should feel a deep stretch in the hip flexors on the trail leg, the hamstrings on the front leg and the inner thigh muscles and calves on both legs.

Unlock Your Powerhouse: The Kinetic Key to Hip Flexibility  
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FORWARD LUNGE ELBOW-TO-INSTEP  
a.k.a. WORLD'S GREATEST STRETCH continued
ACTIVE ISOLATED STRETCHING (AIS) EXERCISES

AIS HIP FLEXOR & PSOAS

1. Kneel down on right knee with good posture (shoulder blades down and back with abs tight and chest up) and left leg straight forward.
2. Keep good posture while firing your right glute and pushing the hips as far forward as possible.
3. Hold the stretch for 2 seconds while maintaining good posture and the hard glute contraction on the right leg.
4. Return back to the starting position.
5. Note: You should feel a deep stretch in front part of the right hip. If you can’t feel a good stretch then you need to push the hips more forward during the stretch.
AIS ADDUCTOR, INNER THIGH & GROIN

1. Kneel down on right knee with good posture and left leg forward and shifted to the left.
2. Keep good posture while firing your right glute and pushing the hips as far to the left as possible.
3. Hold the stretch for 2 seconds while maintaining good posture and the hard glute contraction on the right leg.
4. Return back to the starting position.
5. Note: You should feel a deep stretch in the inner thigh and groin area. If you can’t feel a good stretch then you need to push the hips more sideways during the stretch.
AIS QUADRICEPS/FRONT THIGH

1. Kneel down on right knee with top of right foot on box or bench, left leg bent straight forward, and your right glute touching your right heel.
2. Keep good posture while firing your right glute and pushing the hips as far forward as possible.
3. Hold the stretch for 2 seconds while maintaining good posture and the hard glute contraction on the right leg.
4. Return back to the starting position.
5. Note: You should feel a deep stretch in front part of the thigh from the top of the knee all the way to the front of the hip. If you can’t feel a good stretch then you need to push the hips more forward during the stretch.
AIS BENT KNEE HAMSTRING

1. Lye down on your back with right knee pulled toward the chest, left leg straight and left foot pointing straight up.
2. Straighten the right knee while firing the right quadriceps and the left glute.
3. Hold the hamstring stretch for 2 seconds while keeping the hard left glute contraction.
4. Return to the starting position.
5. Note: Make sure your right knee DOES NOT move forward when straightening the knee. This will make the stretch less effective.

AIS BENT KNEE HAMSTRING WITH ROPE ASSIST

1. Wrap the rope around the arch of the foot.
2. Lye down on your back with right knee pulled toward the chest, left leg straight and left foot pointing straight up.
3. Straighten the right knee while firing the right quadriceps and the left glute.
4. Hold the hamstring stretch for 2 seconds while keeping the hard left glute contraction.
5. Return to the starting position.
6. Note: As you can see the rope assist allows for a deeper stretch.
AIS STRAIGHT KNEE HAMSTRING

1. Wrap the rope around the arch of the foot.
2. Lye down on your back with both legs flat on the ground and both feet pointing straight up.
3. Raise the right leg by firing the right quadriceps and the left glute.
4. Give a gentle yet firm assist with the rope by pulling the rope towards the chest.
5. Hold the hamstring stretch for 2 seconds while keeping the hard left glute contraction.
6. Return to the starting position.
7. Note: You should feel the stretch from the back of the knee all the way to the right glute.
SAMPLE KINETIC ROUTINES

Pre-Workout Exercises

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<td>SMR Adductor</td>
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<td>SMR Quad</td>
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<td>SMR IT-Band</td>
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Kinetic Warm-Up: Pre-Workout Exercises

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During Workout Exercises

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<tr>
<td>AIS Bent Knee Hamstring</td>
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CONCLUSION

When you are looking to decrease your potential for injury and enhance your performance developing and maintaining flexibility in and around the hips is crucial. And if you want to ensure that you’ll be able to display all of the speed, agility, strength and explosiveness that you train so hard for always look to “Unlock Your Powerhouse.”

Train hard, help somebody and recover fast.

“10 Laws Strong!”

-Rob “The Kinetic Guru” Williams, MS, CSCS, PES

President & Founder of Kinetic Training Systems, LLC
Owner of The 10 Kinetic Laws of Performance
EAS Strength & Performance Specialist

REFERENCES


ABOUT ROB WILLIAMS

Rob “The Kinetic Guru” Williams is a Certified Strength & Conditioning Specialist (CSCS) through the National Strength and Conditioning Association (NSCA), a Performance Enhancement Specialist (PES) through the National Academy of Sports Medicine (NASM) and a certified Flexband® instructor through Jump Stretch Inc.

He currently works for serving as the sport nutrition brand’s Strength & Performance Specialist and has developed a reputation of making performance training and nutrition topics simple and practical. In his own training he focuses on developing strength, power, agility and flexibility when training athletes and practicing and competing in Gracie Brazilian Jiu-Jitsu.

To learn more about “The Kinetic Guru” and how to be “10 Laws Strong!” visit Rob’s website www.10kineticlaws.com.