

Ultimate Core **TRAINING** *FOR* **HOCKEY**

2.0



Maria L. Mountain, MSc

The following program is intended for healthy, uninjured athletes with the self-discipline to follow a step-wise training progression. It is always a good idea to consult your physician or preferred sport medicine specialist prior to beginning any new exercise routine.

The techniques shared in the following book are the same techniques I have used to train hockey players ranging from AAA, right up to a Stanley Cup Champion. No athlete progresses to the next level of training until they can demonstrate competency in the current exercises. In my gym you are not progressed based on the number of points you had last season, you are evaluated based on your ability to control your body while performing a given task with perfect technique.

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ANATOMY & ACTIONS

My intention is not to write a comprehensive anatomy text, many others have done a much better job on this than I ever could. I do however believe that if an athlete understands what they are training and why they are training it, then it helps with their adherence to the program and therefore their ultimate success.

When I recall my university level anatomy course I realize what an “easy reader” version of anatomy we learned. We learned what all the muscles were, where they originated, where they inserted and what their action was. My classmates and I studied this for hours so we could regurgitate it back on an exam. I actually enjoyed anatomy class, but as I worked with more athletes and more muscles I could see that the way we were taught anatomy was only half of the story. For example we learned that the Rectus Femoris (one of the quadriceps muscles) originated at the anterior superior iliac spine and attached into the common patellar tendon with an action of extending (straightening) the knee.

This is of course correct, but what about the way it can also decelerate knee flexion (bending) the way an athlete lands a jump or uses the legs to

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slow down before changing direction? Okay, so the Rectus Femoris is also functions *eccentrically* (lengthening contraction) during knee flexion. Wait it gets worse. Think about the way we use our legs in real life. How often do you perform an isolated knee extension, using only one muscle? The answer is *never*. Even when you are sitting on one of those machines in a gym where the machine 'stabilizes' everything for you, you are still using a combination of muscles as you straighten and bend your knees. In functional movement, muscles never work in isolation. They work together in chains and slings that crisscross the body in a beautifully complex arrangement.

Why am I lecturing you on anatomy? So you understand that the core muscles are junctions for transferring forces or generating forces that will radiate to the extremities where sport is played. You will never see someone catch a football with his core, nor shoot a slapshot holding a hockey stick with her core. These actions are executed from the hands, but core control helps with positioning and transfer of force. What follows is an overview of the muscles, functions and associated kinetic chains which relate to the core.

Let me be clear, these are not my ideas, again they are theories put forth by therapist and anatomists who are much smarter than me. In particular a massage therapist/anatomist from the U.S. by the name of Tom Meyers really helped give these ideas some structure. If you are intrigued and a bit of anatomy-geek you should definitely check out his book Anatomy Trains. This is not an easy reader; it is not for general interest, but great for trainers or therapists looking to enhance their understanding of functional anatomy. I will use many of Dr. Meyer's terms in the descriptions below. I

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will review only the portions that relate to the discussion of core training for hockey.

Superficial Front Line

Just as it sounds, this is a line of muscles running along the front of the body. It includes the muscles along the front of the shin, the quadriceps, the rectus abdominus and the sternocleidomastoid.

The key core muscle here is the rectus abdominus which functions in a shortening contraction to bend the spine and functions in a lengthening action to decelerate extension of the back. These are the highly sought after six pack muscles.

Superficial Back Line

The tissues which make up the superficial back line include the plantar fascia of the bottom of the foot, the calves, the hamstrings, and the erector spinae all the way up to the connective tissue of the scalp.

The key core muscle here is the erector spinae which function in a shortening contraction to extend the spine and function in a lengthening contraction to decelerate flexion of the spine. Please note the close relationship to the hamstrings; you can clearly see how these muscles all work together as a functional unit.

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Spiral Line

This line has a clear relationship to the skating stride. Skating is not a linear pattern, in other words the movements of the legs and arms are not simultaneous in the same direction, and there is a huge rotational pattern. Try skating without using your arms. Try skating without rotating at your torso. How does that feel? It probably feels awkward and it probably is not nearly as fast as your regular stride. Why?

Well, when you disconnect your upper body from your lower body you are decreasing the benefit of using the spiral line. This is a tough one to picture, but it starts and ends around the base of the skull. From the base of the skull it crosses through the mid back wrapping around to the front of the body along the serratus anterior (just under the arm pit), before cross the body again to follow the path of the internal and external obliques and into the lower limbs along the outside of the thigh (iliotibial band) before wrapping across the front of the shin, passing under the foot to the outside of the lower leg then to the hamstrings and up into the spinal erectors.

That is all very complicated, but the thing I want you to visualize is the way force generated from your upper back muscles are transmitted to the lower body via the abdominal obliques. This is one of the big reasons that we often use one leg and the opposite arm during our functional training exercises.

For those of you who are anatomy geeks, this may make some sense. For those of you who are not, you now have a sense of how complex the body

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is and how muscles that cross your big toe can have an impact on functioning at the knee and the hip. If all of these muscles and connective tissues work together, then why on earth would we spend time doing advanced training working muscles in isolation. There are times when you need to train isolation, such as while recovering from an injury or while learning to turn on a muscle that may be inhibited. But when we are trying to train specifically for sport, then I try to design exercises based on these (and other) movement patterns.

3) THE ATHLETE'S CORE

WHAT IT IS NOT

You will find many coaches and trainers out there who do not like using the term “core”. What in fact is the core? You never hear of someone straining their core, do you? I do use the term, because if I talk about training the TVA and multifidus in a workout, inevitably someone will ask me when we get to train the core. Much like the term ‘groin’ is understood to mean the groups of muscles that include the adductors, hip flexors and maybe even the lower portions of the rectus abdominus. I use the term core to describe the torso and hips; roughly the region between the armpits and the knees, so that will be the operational definition for this resource.

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Now we get to one of MY pet peeves and that is athletes who tell me all about how much they train their core, but when they describe the exercises they use it reads like a laundry list of crunches. The goal of core training is not to get a six pack. Calling crunches core training is the same as calling seated knee extensions leg training. Crunches do have a place in core training, but there is so much more to it.

Think about hockey, how often during a game do you have to lie on your back and curl your ribs toward your hips? Probably a few times per game right after you get smoked by an opposing player and have to find your way off the ice and back up onto your skates. Do not get me wrong, I am not a pure 'functionalist', meaning that I do believe that isolation exercises have their place in training, but I also believe that any isolation exercise should be prescribed with the intention to strengthen or transfer to a sport specific or life specific movement pattern.

My take home message (and the end of my rant) is that core training is not the same as ab training. The core is a 3D structure including the front, back and sides of the body. Training the front portion disproportionately in pursuit of a six pack may lead to muscle imbalances which over time can contribute to injury. If you are training for vanity, then best of luck. If you are training for sport then work then do not just train your mirror muscles.

HOW IT IMPROVES PERFORMANCE

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Training the core can improve your performance in several ways. Think of it this way, when you skate down the ice you are producing force with your legs that you will use to propel your entire body. If you had no strength in your core or no control of your core at all, you would fall over. Have you ever seen a toddler sitting on a toboggan and once her Mom or Dad starts to pull the toboggan she falls over backward. It looks hilarious and demonstrates the importance of core control.

I think most of us have more core control than that by the time we are playing hockey, but it highlights the fact that lacking core strength takes away from ones ability to conduct the force produced up through the hips through the torso and to the upper body if necessary. If forces are being absorbed by the core you are losing energy, if you are losing energy you are decreasing your efficiency. As an athlete are you looking to decrease your efficiency? Never!

HOW IT CAN REDUCE THE RISK OF INJURY

In the paragraph above we talked about how poor core control resulted in a loss of energy. If you remember your high school physics, then you know that energy can not be created nor destroyed, so if you are losing energy due to poor stability, then where does that energy go? It is absorbed by other tissues, maybe connective tissue, maybe other muscles,

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maybe bony structures. If you have assorted tissues working to squander force when this is not their primary roll then you are exposing those areas to an increased risk of overuse and subsequent injury.

4) THE 3D FOUNDATION

ACTIVATION OF THE RECTUS ABDOMINUS & OBLIQUES

Prone Plank

The prone plank is a great static exercise to improve your body awareness of what neutral posture is and how to maintain it using the muscles of your core. If you can use a mirror to help see your body position that is recommended. If you cannot maintain perfect body position for at least 20 seconds, then begin this exercise from your knees.

Starting Position:

Lie on the floor with your elbows directly below your shoulders. Brace with your abdominals prior to starting the action.

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Execution:

Lift your stomach, hips and legs off the floor at once. You will now be perched on your elbows and your toes or knees depending on your current ability. Your body should make a straight line through your ankles, knees, hips, shoulders and ears. Do not allow your rear end to stick up in the air or your low back to sag down. You should primarily feel this exercise in your abdominals. If you feel it in your back, then decrease the duration of your hold or go to a plank from the knees position.



Stability Ball Roll Out

Before attempting this exercise you must be able to hold a perfect prone plank for 30 seconds. This is a difficult exercise to perform with perfect technique. If you are able to use a mirror to help see your body position, that would be helpful because often we *feel* as though the exercise is performed properly, when in actual fact we are compensating. This is a

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great exercise for utilizing the triceps, latissimus dorsi, external obliques, rectus abdominus and the hip flexors as a kinetic chain.

Starting Position:

Kneel on an exercise mat with your hands resting on top of the stability ball. Make sure you are standing tall through your torso e.g. from the side view your knee, hip, shoulders and ears should be in a straight line. The common technical fault is bending forward at the hips. This is a sign of poor body awareness and core weakness.

Execution:

Slowly roll the ball forward keeping your arms straight; do not bend your elbows. Remember, your hands and your hips should move forward at the same rate. If you move your hands without moving your hips then you will bend at the hips.

Roll forward very slowly and pay particular attention to your abdominals. When you feel your abdominals tighten or flex, stop rolling forward. Pause and then pull yourself back up to the starting position while maintaining your straight line posture. If you roll too far forward you will feel your back straining to help control your posture. This tells you that you have exceeded your current ability to stabilize; do not go this far.

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Side Plank

Work the kinetic chain that includes the obliques, hip abductors and erector spinae with this static exercise. If you cannot hold a perfect position for at least 20 seconds, then bend your knees to good plank from you elbow and knee.

Starting Position:

Lie on your side; keep your body in a straight line. Do not pike (bend) forward at the hips. Place your elbow directly below your shoulder.

Execution:

Lift your hips and torso off the floor so you are in a side bridge position balancing on your elbow and the outside of your bottom foot or knee. It is common for athletes to roll their top shoulder forward; this is an attempt to take some load off the obliques and use the rectus abdominus muscles. This is a compensation pattern; do not do it.

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After seeing Dr. Stuart McGill teach this, I now let people put their top foot forward vs. having the feet



ACTIVATION OF THE TRANSVERSUS ABDOMINUS (TVA)

The transversus abdominus can be compared to a muscular weight lifting belt. It wraps around your torso and has the primary role of stabilizing. Where the rectus abdominus and oblique muscles are movers and stabilizers, the transversus abdominus is a stabilizer. In the recent past there has been an over emphasis on transversus abdominus utilization and training. In my opinion this was brought on by some research out of Australia which indicated that improper firing of the TVA was found in individuals who experienced low back pain.

Since personal trainers and strength coaches want to reduce the risk of injury to their clients they applied some of the techniques of TVA activation to all exercises across the board. It may have been a mistake to tell athletes that they should “hollow” or pull in their belly button while squatting etc.

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As the pendulum swings to the other extreme and more trainers and coaches become anti TVA training, I will try to stand my middle ground by using these exercises as muscle activation training and body awareness training.

Prone Draw-In

A pure muscle activation exercise, the goal is to learn how to turn on the rectus abdominus without firing all of the abdominal muscles. Keep in mind that the rectus abdominus does not work at maximal capacity to stabilize the spine, so this should be a gentle squeeze.

Starting Position:

Lie face down on the floor. You may place your arms at your sides or under your forehead, whichever is most comfortable.

Execution:

Slowly, try to lift your belly button off of the floor. You may not be able to actually raise your belly button off the floor, but this is the action you are trying. Muscularly this will not be difficult to do, you will not “feel” your abs working and there will be no burning pain that builds with every rep. You should just feel a tightening and hollowing in your abdomen. When you have drawn your belly button in, hold that position for 5 seconds and

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then *slowly* release it back to the starting position. As you complete each repetition, make sure that you are only using your TVA; you should not be squeezing your glutes, clenching your fists or flexing all of your abdominals.



Progression:

- Perform the same abdominal movement from a hands and knees kneeling position.

Draw In w Leg Slide

Now that you have mastered activation of the TVA, you are going to actually use it to stabilize your torso as you perform a movement with your legs. Again, this exercise will seem too easy, but be patient and focus on executing it with perfect form. Your outer abdominals should not flex at all and your lower back should not arch or round.

Starting Position:

Remove your shoes and perform this exercise in your socked feet. Lie on your back with both knees bent and your feet resting flat on the floor. This works best if you are on a slippery surface such as a smooth floor surface

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(e.g. hardwood floor), if you do this exercise on a carpeted surface, then place your foot inside a plastic bag to reduce the friction.

Execution:

Place the finger tips of each hand on either side of the navel; slowly draw the navel inward slightly. The surface abdominal muscles (rectus abdominus) should remain relaxed throughout the entire exercise. If the muscles under your fingers feel hard, then you are flexing your abs. If I had a dollar for every athlete who told me that rock hard abs was a relaxed as they could get, then I would be very rich. As you sit there reading this manual reach over with your right hand and give your left biceps a squeeze, now feel the tone in your legs. It does not feel like jell-o (hopefully), but they are not in a rock hard contracted state. This is what your abdomen should feel like throughout this exercise, some tension, but not hard.

Without losing the draw in and without flexing your surface abdominals, slowly (3-5 seconds each way) slide your foot along the floor until your leg is fully extended. Pause momentarily, keeping your contraction, and then slide your foot back up to the starting position.

The problem I see most often with the execution of these exercises is failure to pay attention to the quality of the movement. Anyone can lie on the floor and straighten then bend their knee; this does not tell me anything about their ability to stabilize the torso. In my experience, only approximately 3 out of 10 athletes will be able to perform this exercise

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perfectly on their first attempt. Do not fool yourself that you are doing it properly. Use your hands to feel what is going on with your abdominals. If there is any flexing going on, or if your abdominals start to feel hard under your fingers, then you have lost the contraction we want for this exercise, so you should stop and reset.

You may get to the point where you do a few good reps, but then you cannot reset or you cannot tell if you have a good contraction, this is the time to stop. Better to do three perfect reps, than ten poor ones. Your body does not decide what the proper movement pattern to learn and repeat is. It takes the pattern that it is most regularly exposed to and turns that into its default movement. So practising poor activation mechanics is counter productive and will not lead to proper core stabilization.



Draw In w Leg Lift + Lift & Extend

A progression from the Draw In with Leg Slide, this one adds more challenge to the core stabilizers by increasing the load. Again, be very picky with your technique on this one. Be patient.

Starting Position

Lie face up with your knees bent and your feet flat on the floor.

Execution

Perform your draw-in contraction. By now you should be an expert. Keep your hands on your abdomen so you can monitor your control. Slowly lift one foot off the floor until your thigh is roughly perpendicular to the floor. To start with, this may be enough work for you to control. If you are getting it done without losing your draw in, then try slowly extending the leg in the air. Start by reaching your foot upward as you extend the knee and hip. The steeper the angle, the easier it will be for you to control; the lower your leg gets to the floor the tougher it is. Did I mention that you must keep breathing throughout all of these exercises? Do not hold your breath.



Progression

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- ☑ Bilateral Leg Lift – lift one foot as described above, but then keep that foot up as you attempt to lift the other leg before slowly lowering one at a time down to the floor. Go very slowly and watch for your back arching as you perform this one.

ACTIVATION OF THE POSTERIOR CHAIN COMPONENTS

The core does not consist of only the muscles that you see in the mirror. The torso requires stabilization in all three planes, so the next area of focus will be the muscles of the posterior chain including the large back extensors, the latissimus dorsi, the glutes, the hamstrings and the deeper stabilizing muscles.

Quadruped Superman or Plank Superman

Everyone has probably done this one before, but the truth is, it is a great exercises and that is why you do it. Is it a functional exercise for hockey players, not really unless you spend your time crawling along the ice. Why then is it so great if it is not functional? Well, it gets lots of muscles working together, stabilizers and prime movers working in a kinetic chain the way the body is designed. The hands and knees position is stable enough that

you will not wipe out and injure yourself, but you can still challenge the stabilizers to find your balance point.

Starting Position

Take a hands and knees (quadruped) position. *Make sure you have a slight neutral arch in your lower back and push your hands into the floor slightly so you are not caved between your shoulder blades.* This time instead of drawing your belly button straight inward, I want you to brace lightly with your abdominals as though you are going to get a medium punch in the gut.

Execution

Maintain your back in a neutral (slightly arched) position throughout the exercise. Lift one arm and the opposite leg. You are trying to make a straight line from your leg, through your torso to your arm. Do not try to lift the hand and the foot up toward the ceiling as this will place you in an arched back position.



Bilateral Glute Bridge

This exercise is beautiful in its simplicity. I know that all skaters want big legs, but the other thing you will see in powerful skaters is a big, strong **butt**. When I design programs for skaters, I look at training the movements and the muscles that facilitate those movements. For skating this means knee extension, hip extension and abduction. The muscles responsible for these movements include the quadriceps, the glutes and the hamstrings. Do not discount the impact of the glutes, they are the most powerful hip extensor we have and are essential during acceleration.

Starting Position

Lie on your back with your knees bent and your feet flat on the floor.

Execution

Brace with your abdominals and then lift your hips and lower back off the floor as one unit by pressing your heels straight down into the floor. Squeeze your buttocks as you lift your hips. Only raise your hips to the point where you make a straight line from your knees, to hips, to shoulders; do not hyperextend your back. Pause at the top of the movement for 3 seconds and then slowly lower your hips back down until they just tap the floor. You should feel this exercise working the glutes, but you may also feel it in your hamstrings and lower back. It should not be painful for your lower back at all, but it may be fatiguing.

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To get more glute activation (good) and less hamstring activation, keep your feet on the floor, but turn on your quadriceps as though you are trying to push your feet away from you. Your feet should not actually slide away.

5) EXERCISES TO IMPROVE PERFORMANCE

BUILDING “PUCK STRENGTH”

Do you ever notice how some athletes can play so “strong” on the puck. Even smaller athletes without the size advantage of Zdeno Chara seem impossible to push off the puck while other athletes take a shove and end up on the ice. This is the difference between being strong and playing strong. I first saw this distinction when I started training

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football players. Many of them could bench press 300+ pounds for reps, but when we tried to perform a standing cable press they were working in the mid-double digits because the strength in their chest, shoulders and arms was not supported by comparable strength in the core. This ability to stabilize on your feet while applying force is what I call “Puck Strength”.

When you begin to incorporate the following exercises think about creating a small bracing contraction with your abdominals. How do you do this? Imagine that you land your dream job at Disney World; you will get to be the guy who walks around all day in the Mickey Mouse costume. Got a clear picture of that? Okay, now think about what every 8-year old is going to do immediately after giving you a big hug around the waist, she is probably going to punch you one in the stomach. So now when you prep for the following exercises imagine that you are bracing for a punch from an 8-year old.

Ball Kneeling

This is an excellent beginner exercise for learning to control movements of your hips, torso and upper body to maintain an efficient balanced position. Remember to correct from the hips down only; you should not be waving your arms around to help you balance. Keep your arms available for puck handling.

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Starting Position:

Place your hands on top of the ball, keep your feet on the floor and press your knees into the side of the ball.

Execution:

Increase the pressure on your hands as you move up onto your tip-toes and decrease the pressure on your feet. Now you are quadruped on the ball. You may have to practice getting comfortable in this position to start with. When you are ready to move into kneeling, just pull your knees underneath you a little more and slowly decrease the pressure on your hands as you lift your torso to a vertical position. If this progression is giving you difficulty, then hang on to a stable object for minimal support. Once you get into the kneeling position, make sure that you are not clutching the ball with your feet. You should balance on your knees and shins without your toes touching the ball.



Caution:

Complete this exercise in an open area free of clutter. It is very easy to lose your balance so you do not want any furniture with square corners where you may injure

yourself. If you do find that you are losing your balance, simply place one foot on the floor.

Single Leg Balance w Partner Taps

This is a great exercise for training dynamic balance like you need when you are fighting for the puck down low. Remember to focus on technique and stabilizing through the bracing contraction.

Starting Position:

Begin in an athletic position with your knees slightly bent and your chest up. Your feet should be hip width apart. Resist the temptation to take a wider stance; remember we want to load the torso for this exercise rather than use the mechanical advantage of a wide stance. Brace slightly with your abdominals.

Execution:

Work to maintain your starting position without budging. Your partner will deliver taps and pushes to your trunk, shoulders, arms and legs in a random fashion. Vary the intensity and duration of each contact. If your partner does manage to move you from your starting position, then make sure she gives you the time to return to your original position before delivering the next contact.



Progressions:

- Once you have mastered this exercise from the athletic position, then, perform the exercise from different starting positions such as a backhand position or a reach position as shown below.
- Try this exercise from a single leg balanced position.
- Now begin to incorporate puck control while stabilizing from various positions.

Standing Bungee Press- floor or BOSU

This exercise allows you to stabilize your torso while exerting force with your upper body. Since we are using this exercise as a core stabilization exercise, make an effort to keep your torso still i.e. do not use your body weight to initiate the pressing motion.

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Starting Position:

Begin in an athletic position with your knees slightly bent and your chest up. Your feet should be hip width apart. Resist the temptation to take a wider stance; remember we want to load the torso for this exercise rather than use the mechanical advantage of a wide stance. Brace slightly with your abdominals. Hold one end of a bungee in each hand and make sure the mid-point is attached to a stable fixation point.

Execution:

Quickly press the bungee to arms length; stabilize in this extended position for 2-3 seconds, then slowly return to your starting position.





Progressions:

- Complete the same technique with a single arm.
- Complete the same technique from a single leg balanced position.
- You may also go through this progression standing on the BOSU.
- You may also go through this progression wearing roller blades.

Standing Isometric Stabilization w Hockey Stick

The goal of this exercise is to develop reactive stability through the stick. This will help your react and resist having your stick lifted and help you guard the puck while battling along the boards. Remember to engage your core, using your arms as an extension rather than relying on your arms exclusively.

Starting Position:

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Begin in an athletic position with your knees slightly bent and your chest up. Your feet should be hip width apart. Resist the temptation to take a wider stance; remember we want to load the torso for this exercise rather than use the mechanical advantage of a wide stance. Brace slightly with your abdominals. Hold your hockey stick with the blade approximately 1-2 inches above the floor. Allowing the blade of your stick to get more than 2 inches above the floor will train non-specific motor patterns for hockey.

Execution:

Your partner may either use his hands or you may tie a bungee or rope around the blade of the stick for force application. Once again your goal is to keep the stick as still as possible. Your partner should apply enough force that the stick does move a few inches each time, but you are resisting this with all your might.

Initially, use a predictable pattern so you can get good at using your abdominals to help stabilize and get a “feel” for their strong activation. I suggest starting with a force from the forehand side for 3 seconds followed by a force from the backhand side for 3 seconds.

For muscle balance, perform each set with both a right and left hand grip on the stick. Your non-dominant side will feel awkward at first, but you cannot neglect the pattern that is opposite to your preferred side.



Progressions:

- Partner can apply force from different directions in random patterns.
- Complete the exercise from a single leg balanced position.

BUILD SHOOTING POWER

According to the laws of physics, power is the product of force and velocity. How does this relate to shooting? Well the good news is that there are *two* ways an athlete can improve their shot velocity. One way is by putting more force into the puck over the same amount of time, in other words your stick does not make contact any faster, but your muscles are either

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generating more force or more force from your muscles is being transferred to the stick and ultimately the puck. The second way a player can improve his shot power is by applying the same force to the puck over a shorter period of time, in other words the stick is moving quicker.

Core training can help improve both of these factors, but the most room for improvement will come from the first source; increasing force transmitted to the puck. A strong core helps the shooter not only generate more force by using the muscles of the torso, but it also allows her to transmit more of the force through the stick by reducing 'weak links' in the system. Players who cannot stabilize the core against forces produced through the legs, hips and torso will use the core as a shock absorber.

Using the core as a shock absorber is undesirable for two reasons: 1) Decreased power production and 2) forces may be absorbed by bony or connective tissue which over time will lead to an overuse injury. These overuse injuries may appear in the back, hips, groins, shoulders or any other weak link that has been accepting the forces.

Again remember to focus on your small bracing contraction; do not merely go through the motions, focus on learning to use your core muscles while performing these dynamic exercises.

Bungee Rotation

This exercise helps you to do two things at once, stabilize and rotate. This is an important movement skill for hockey players as it is required during both passing and shooting.

Starting Position:

Balance on one foot with your knee slightly bent and torso bent forward slightly in your puck handling position. Your arms will be extended in front of you with a slight bend in the elbows. Position your body such that the slack is removed from the bungee, but it should not be on much stretch at this point.

Don't live down the street from a top hockey strength and conditioning coach? Feel that this puts you at a disadvantage? Forwards and D should check out the pro-style off-ice training program that you can download:

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Execution:

From the starting position you will keep your arms still (they should be in line straight out from your chest) and complete the rotation by turning your chest, shoulders and hips. You will pivot on your back toe, but your front foot will remain planted. Start with slow rotations until you find the proper form, then try exploding through the first part of the movement and controlling yourself back to the starting position.

You may also perform diagonal chops from low to high and high to low using the same technique. This will help train slightly different muscle recruitment patterns.



Your hips and shoulders should come around at the same rate; do not twist your spine.

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Progressions:

- ☑ Try this exercise from one leg only. It will be very difficult to balance in the beginning, but really fight for it. Do not put your other foot down as soon as you start to tip over. Do your best to regain your balance. It may not be pretty in the beginning, but these battles to stay balanced will train your body to quickly regain its equilibrium.
- ☑ Increase the amount of tension on the bungee in the starting position.
- ☑ Tie the bungee to the blade of your stick and perform this exercise using a shooting motion.
- ☑ Perform a small hop straight up in the air followed by the bungee trunk rotation.

Bungee Slapshot

The bungee slapshot is similar to the bungee trunk rotation, but will attach the bungee to the blade or your stick. You must use a light bungee for this exercise so you may maintain a sport specific speed of contraction with a small amount of overload.

Starting Position:

Start in your slapshot stance. Position your body so you have slight tension on the bungee at the back position of your wind up. Remember to brace lightly with your abdominals.

Execution:

Begin with a slow tempo to get a feel for the technique. , Do not perform this exercise using your arms alone. I know that you have a technique for doing a slapshot that works for you, but remember that this is not a slapshot exercise; it is a sport specific core training exercise, so the focus is on using your torso to generate power and to transmit force. Concentrate on bracing lightly with your abdominals; *feel* that you are using your core to generate power. Only follow through to hip height.



Progressions:

- Perform the same technique using a snapshot technique.
- Balance on one foot.

Caution:

1) Make sure the bungee you are using is firmly attached to the blade of the stick. I usually 'lasso' the blade and then place a piece of hockey tape around the tubing to make sure it stays in place.



2) Resist the temptation to use a heavy resistance tube for this exercise. Shooting with precision requires fine motor control. Adding too much resistance will change the way you use your muscles to perform the action and your shooting accuracy will suffer in a big way! You should feel a very light overload.

Goalies have some specific needs for their off-ice training. It does not have to be crazy acrobatics, but you do need to focus on some key areas to improve performance and reduce the risk of those all too common injuries. If you are seriously ready to take your game to the next level, then you need:

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Basketball or MB Pass to the Wall

Speed is the key here. Using proper core activation, you want to receive and pass the ball as quickly as you can. This exercise will help you get a quicker release and as you may remember from the intro, increasing the velocity of the blade (even without a change in the force production) will increase the power of your shot. Start with a basketball, but then move up to a medicine ball (make sure you get one that bounces) if you have access to one. I know you are all motivated athletes who want to be the best, but do not go out and pick up the heaviest medicine ball you can get your hands on. This will not only be a recipe for *injury*. My suggestion is to begin with a 2kg (4lb) ball going up to no more than 4kg (9lb). Remember this exercise should be performed quickly.

Execution:

Stand sideways to a concrete block wall (approximately two metres or six feet from the wall) with your knees bent, chest up and bracing contraction of your abs. Hold the medicine ball (MB) out in front of your body slightly. Rotate your shoulders, chest and hips away from the wall and then firing from your hips through a strong torso throw the MB forcefully at the wall. The MB should stay between waist and chest level. As the ball rebounds back to you, absorb it by rotating your shoulders, chest and hips away from the wall, then quickly fire your hips, legs and torso to pass the ball back to the wall. This will be a very quick tempo exercise.



Caution:

Keep your chest up throughout the set; do not round your back as you receive the ball. Rounding the back while catching and passing the ball will result in injury over time.

IMPROVE SKATING EFFICIENCY

Skaters can improve their efficiency by reducing wasted movements. The exercises you have done to this point have helped you build strong, smart and stable muscles; these ones will add a little extra challenge and put you in a more skating specific position. Do not find unique ways to 'get the job done' with these exercises, do them exactly as outlined without any tolerance for poor technique. Failure to do so will result in training faulty

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motor patterns that your body will accept as proper technique. This decreases the effectiveness of the exercises and may leave the athlete open to injury.

Gecko Push Up

Performing the Gecko Push up will place a rotational force on the torso, so you should concentrate on keeping your hips level as you bring one knee out to the side. If you are lacking hip mobility, then you will not be able to bring your knee out to the side.

Starting Position:

Take a standard Push Up position with the hands directly below the shoulders and a straight line body position.

Execution:

Slowly lower your chest toward the floor. As you lower your body, bring one knee out to the side and up toward your elbow. Try to bring your knee up the waist level, while keeping your calf parallel to the floor. As you return to the starting position, return your foot to the starting position. Repeat on the other side.



Stability Ball Push Up

This is one of my favourite exercises ever! I routinely have athletes who have a very respectable bench press, but they cannot perform one Stability Ball Push Up. Is it because they are not *strong* enough? No, not at all, it is because they are not *stable* enough! This highlights the fact that any athlete can only produce as much force as they are able to stabilize. Who cares if you can bench 300lbs if you cannot perform one bodyweight push up on a stability ball? Which movement is more related to sport? I would argue it is the exercise that requires force application in conjunction with stabilization. The ball push up – argument over!

Starting Position:

Assume a push up position with a slightly wider than shoulder width hand position. Point your fingers outward slightly to reduce the stress on your

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wrists. If you have never done this exercise before, then position the ball so it is braced against the wall, this will help stabilize the ball slightly. Make sure your body is in a straight line position, your hips should not be up and your back should not sag.

Execution:

Bend your elbows only as you lower your chest to lightly touch the ball. Your shoulders should not shrug up toward your ears *at all* during this exercise. If your shoulders are coming up, you either do not have the strength to do this exercise from your toes, so you may have to begin from a kneeling position. Or you are not concentrating on bending at the elbows only.

Lower yourself to the ball slowly. Pause with your chest lightly touching the ball (you should not be resting any of your weight on the ball), and then push yourself back up to the starting position. You may push yourself back up to the starting position quickly.



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Progressions:

- Push Up to alternate knee drive.
- Push Up with one foot on the floor only.
- Push Up with hands on hockey stick.

Glute Bridge w Leg Lift

Beautiful in its simplicity; this exercise teaches athletes to activate their glutes, hamstrings and back extensors as a kinetic chain or linkage of muscles that work together as a unit.

Starting Position:

Lie on your back with your knees bent and feet flat on the floor.

Execution:

Brace with your abdominals and lift your hips and lower back up off the floor as one unit. Push your heels into the floor and activate your glutes (butt muscles) as you lift your hips. Lift your hips to the point where your

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knees, hips and ankles make a straight line; your back should not be hyper extended. From the bridging position, lift one foot off the floor. Keep a strong contraction of your glutes and abdominals. When you lift the foot off the floor your hips should not tilt or drop at all.



Progression:

- Glute Bridge w Leg Lift on BOSU
- Glute Bridge with Leg Lift on SB

Core Plank w Rotation

The core plank is one that most hockey players have used at one time; coaches love to torture their athletes with these ones. The difference with this one is that it challenges the player to stabilize the shoulder, back and hips during movement.

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Starting Position:

Lay on the floor with your elbows below your shoulders. Lift your hips, legs and chest off of the floor so you are balanced on your toes and forearms.

Execution: Hold the forward plank position for 5 seconds and then slowly rotate your body to a side plank position. The key here is to keep your shoulders and hips inline throughout the rotation. Your shoulders should not lead the way followed by the hips; the entire torso should rotate as one unit.

When you arrive at the side plank position, your feet should be stacked one on the other and you will support your weight on the outside portion of the bottom foot. Hold this position for 5 seconds and then return to the forward plank starting position using the same form. If you cannot maintain perfect form for this exercise then use the exact same technique, starting from the knees rather than the toes.



Dr. Stuart McGill says it is okay to place the top foot in front of the bottom foot rather than stacking the feet and he is a genius, so I am okay with that!

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Striders w Bungee Rotation

A static stabilization exercise, this one teaches the player to stabilize her torso while generating force with the legs. Do not allow your hips and torso to wiggle as you perform your strides.

Starting Position:

Hold a bungee straight out in front of your body; keep your elbows extended. Step away from the bungee to put some tension into the elastic. Now take a low skating position. If you are performing this exercise on a smooth surface such as a wood or gym floor, then place one foot on an old washcloth. If you are doing this exercise on a carpeted floor, then place your foot inside a plastic grocery bag.

Execution:

With the foot that is on the cloth or bag, you will complete a skating motion at a quick and steady pace. The bungee is trying to pull your shoulders around, but you will maintain a strong core position as you 'skate' with your one leg. Once you have finished the required number of reps with one leg, perform all of your reps using the other leg before turning your body to face the other direction and repeating strides with each leg again. To clarify this point, you will perform all reps on each leg facing each direction. This will give your torso pull from both sides.

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Striders with Skating Arms

Does an athlete use muscles one at a time or do they use muscle systems? The answer is that athletes use muscle systems sometimes called “linked systems”, kinetic chains or slings. They all refer to the way that muscles work together to create or dissipate force in a given direction. Do you every wonder why we walk, run and skate with one arm moving forward with the opposite leg? Please tell me I am not the only one who thinks about these things! Have you ever tried walking with the same arm and same leg moving forward together? Other than looking ridiculous, it just does not feel right does it? Now try running like that; now try skating like that? Awkward, off balance, not natural is it?

Again, our bodies are so clever that we learned to use a muscle system which starts along the back of the upper arm, travels through the back part of your armpit, down along your latissimus dorsi, into a connective tissue

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sheath in your back (called the thoracolumbar fascia), at this point it crosses from one side of the body to the other where the glutes and hamstrings exert their force. Did I mention that muscle and its surrounding tissue called fascia, have elastic properties? What happens when you stretch an elastic band? It wants to snap back to the starting position right?

So when I reach forward with one foot and the opposite arm, I am putting this posterior oblique system on a stretch. The system naturally wants to snap back, then add to that my glutes and lat dorsi forcefully contracting and you have force production. This is why it is important to teach the core to not stabilize like a statue, but to dynamically stabilize while still allowing the body to capitalize on these force production reflexes.

Starting Position:

Begin exactly as you did above with a slightly exaggerated low skating position. Be sure to keep your chest up; do not fold your torso down onto your thighs as you fatigue. Hold a light dumbbell (5lbs) in each hand.

Execution:

Keep your chest up, brace slightly with your abdominals and perform your “striding” motion with the gliding leg. As you stride, you will swing your weighted arms in a skating fashion. Make sure you reach in front of your body as you stride; resist the temptation to keep your elbows tucked in and swing your arms straight across your body.



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6) EXERCISES TO PREVENT INJURY

BUILDING A STRONG SMART CORE

How strong does a player's core need to be? The simple answer is "strong enough". In my opinion it is more important for a hockey player to have a *smart* core than a purely strong core. In addition to some of the bridging exercise outlined above, I use compound exercises like squats, chin ups and rows with a secondary outcome of building general strength in the back.

Now let's think in terms of hockey; when does a player need to use their core? Well, pretty much all the time, he uses it while he is skating, shooting, passing, hitting or fending off a defender. Many of these actions, in particular the contact actions require a reaction from the core. If you limit your training to controlled situations where your body always knows what to expect, then it will not know how to react when you receive an unexpected blow.

Here is an analogy for you: When I competed in rowing, I would often pick up my rowing partner and drive her to the training session. I knew exactly how to get to her house, or so I thought. On day on my way to pick her up,

the main road I took to her place was closed. I now had no idea how to get to her house even though I had driven there dozens of times. Don't worry, I eventually found a way to get there (I know you are relieved), but it took me a while.

To bring this story back to hockey, when you are getting slammed by an opponent, your muscles do not have the luxury of time to figure out a way to control that impact. It needs to have some idea of how to problem solve these issues from your training experience.

Standing on an unstable base of support while performing some of your core exercises will help your body learn to read and react. You should also include some pure unpredictable reaction training, such as eyes closed partner taps. You may perform your bungee resisted hip block with a moving point of fixation or with partner perturbations to your torso.

The bottom line here is always training in a predictable pattern will train your muscles to respond in predictable patterns. Since hockey is not a predictable sport, you must train your core musculature to respond to unpredictable impulses.

HOW CORE TRAINING CAN HELP DECREASE GROIN STRAINS

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I am going to use my 'house building' analogy again. We live a house that is about 90 years old and one of the things we looked for when we were buying it was visible cracks in the walls. Not because we were looking for a problem with the walls, but cracks in the wall can tell you that there is a problem with the foundation.

If the core is the foundation for the arms and legs overuse injuries of the groin and hip flexors are often telling you there is a problem with either your core strength, core intelligence or your mobility. During my time working as an exercise specialist in a sport physiotherapy clinic I saw dozens of hockey players with recurrent groin strains who stretched day and night, yet still struggled constantly with pain. Remember that muscles in the body work in systems or kinetic chains, not in isolation. Pain and dysfunction in one area may be a symptom of trouble in another area. The kinetic chain referred to as the *Anterior Oblique Subsystem* ([Integrated Training for the New Millennium](#), Michael Clark) consists of the: internal obliques, external obliques, adductor (groin) muscles and hip external rotators. Teaching you to dynamically stabilize with your core muscles as you perform functional movement patterns helps your muscles work as a team in both shortening and lengthening contractions. Current training practices often utilize movement only in the sagittal plane (straight forward and back, like a crunch) or they work the muscles of a chain in isolation only by doing exercises for specific muscles only. Training in this way leaves it up to the body to figure out how to use this new strength in a functional way, it often fails. What a terrible thing to make a muscle strong by teaching it to work in a non-functional way. This is the recipe for an injury.

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DO NOT TRAIN YOUR CORE DAILY

You wouldn't train your chest everyday would you? Okay, maybe that was a bad example. How about this; you wouldn't train squats everyday would you? No; of course not. If I asked you why, you would tell me that they need some time to recover between intense training bouts. Now, if I asked you how often you should train your core, some of you will tell me that core training can be done daily because the muscles are postural muscles or more endurance based exercises that can handle daily training. To me this does not make sense, are you telling me that my legs are not postural? That is funny, I thought they were the things that I walk and stand on all day long.

Now that that argument is settled, I will tell you that you should do your "core" training every other day. One part of me hates to say this because technically if you are strength training with free weights or running or working in a physical job you are using your core, however I would like you to complete the workouts designed in this manual every other day.

WOULD YOU DO 500 BICEPS CURLS?

Here is another pet peeve of mine, folks who think that doing 500 crunches per day is core training. I would not call that core training; I would call it doing 500 crunches. Remember the core is a system of muscles, some are stabilizers and some are movers, but they are all muscles. How do we train muscles? We train them with appropriate overload. If you wanted to strengthen your biceps, you would not do 500 biceps curls would you? Rather, you would perform 4-15 reps with a given weight.

When you gained enough strength that you could lift a give weight for 15 repetitions with perfect technique, you would increase the load and start back at 10 reps. This is exactly what we will do with the core. I will have you working in a slightly higher rep range, maxing out around 30 reps.

We will not do any heavy, low repetition (less than 8 reps) core lifting because as a hockey player you are not using your muscles with that type of load and it does place higher loads on the spine. So for the sake of specificity and safety, we will keep the rep range between 10 and 30 for most exercises. When you do see an exercise that is prescribed for only 5 reps, this is because it takes so much concentration to do it properly that I don't want your brain to get too tired.

DANGERS OF ADDING RESISTANCE TO CORE EXERCISES

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Some of the exercises listed in this transcript incorporate additional resistance. Just a word of caution to be careful when adding resistance to core exercises; make sure you consider the way you will actually use your core during your sport. For example, adding 100lbs of resistance to your Bungee Slapshot is not justified. This is an instance where the risks outweigh the benefits; secondly, unless you intend to start using a 100lb hockey stick, the load is way out of proportion. This is a power movement, so we are just looking to add a little resistance to help you get the feel of using your torso to generate power.

On the other hand, when you are working on your “Puck Strength” exercises; these are intended to help you stay strong on the puck while maintaining your stability. You may very well have to fight off a bruiser of an opponent, so feel free to add some good resistance to exercises like the Standing Bungee Press. As long as you are focusing on maintaining proper form and gradually progressing with the weight you may add heavier loads.

8) WORKOUTS

Complete the following workouts 2-3 times per week on non-consecutive days. Fill out the training journal as shown below:

Exercise	Sets x Reps	Sept 23	Sept 26		
Ball Crunch	4x20	20 20 18 17	20 20 20 18		
Prone Plank	4x30s	30 30 25 20	30 30 30 30		

You will spend four weeks on each phase. Please resist the temptation to skip the “basic” programs; these are essential to building a strong foundation upon which to build your core for performance.

LEVEL ONE – Muscle Activation:

Week 1

Exercise	Sets x Reps
Prone Draw In	2 x 10
Prone Plank from knees	2 sets of 5x10s hold
Side Plank from knees	2 sets of 4x10s holds

Week 2

Exercise	Sets x Reps
Draw In w Leg Slide	2x5 each
Prone Plank	3 sets of 5x10s holds

Side Plank from knees	3 sets of 4x10s holds
Hands & Knees Superman	3x5 each – hold 5s

Week 3

Exercise	Sets x Reps
Draw In w Leg Slide	2x5 each
Prone Plank	3 sets of 5x10s holds
Side Plank	3 sets of 4x10s holds
Hands & Knees Superman	3x5 each – hold 5s

Week 4

Exercise	Sets x Reps
Draw In w Leg Slide	2x5 each
Prone Plank	3 sets of 7x10s holds
Side Plank	3 sets of 5x10s holds
Hands & Knees Superman	3x5 each – hold 10s

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LEVEL TWO – Bombproof Foundation:

Week 1

Exercise	Sets x Reps
Draw In w Leg Lift & Extend	2x5
Glute Bridge	3x15: pause 2s at top
Quadruped Superman & Hold	3x5 each – hold 10s

Week 2

Exercise	Sets x Reps
Ball Kneeling	2x60s
Prone Plank – single leg lift	3x 5 reps each – hold 5s
Hands and Knees Superman	3x10 each

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Week 3

Exercise	Sets x Reps
Bungee Rotation – 2 legs	3x10-15 each
Glute Bridge	3 sets of 4x10s hold
Gecko Push Up	3x5-10 each

Week 4

Exercise	Sets x Reps
Ball Kneeling w Stick Handling	3x60s
Prone Plank Superman (or just single leg lift)	3x5 each – hold 2s
Single Leg Balance w Partner Taps	3x30 taps

LEVEL THREE – Strong, Stable & Scoring:

Week 1

Exercise	Sets x Reps
Standing Bungee Press	3x8-12
Standing Isometric Stabilization w Hockey Stick	3x30 taps
Bungee Rotation	3x15 each
SB Push Up	3x10-15

Week 2

Exercise	Sets x Reps
Core Plank w Rotation	2x5 each – hold 5s

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Striders w Bungee Rotation	3x20-30 each
MB Pass to the Wall	3x10 each
Glute Bridge w Leg Lift	3x10 each – hold 5s

Week 3

Exercise	Sets x Reps
Standing Bungee Press (one leg)	3x8-12
Standing Isometric Stabilization w Hockey Stick	3x30 taps
Bungee Slapshot	3x15 each
SB Push Up (one foot on floor)	3x6-10 each

Week 4

Exercise	Sets x Reps
Core Plank w Rotation	2x5 each – hold 5s
Striders w Skating Arms	3x20-30 each
MB Pass to the Wall	3x10 each
Glute Bridge w Leg Lift	3x10 each – hold 5s



9) BUILD YOUR OWN CORE TRAINING GYM AT HOME

CHOOSING THE CORRECT STABILITY BALL

This is not rocket science, but there is a huge difference between stability balls. When I started out, your only option for a stability ball cost \$45. Next came the department store stability balls which were a very affordable \$10. If you are one of those people who will buy a stability ball and the most exercise you will get from it is the 15-minutes it took you to inflate it with your bicycle pump, well then buy the cheapest one you can find. If however, you are actually going to exercise on it, then you need a high quality stability ball.

For a high quality stability ball, you are looking for a *burst resistant* stability ball that has a firm feel when it is inflated. It should not feel soft like a balloon. Stability balls come in different sizes, typically 55cm, 65cm and 75cm. The size depends to some extent on how you will be using the stability ball, but in general you want a stability ball with the circumference that places you with your knees bent to 90° when you are sitting on the ball with

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your feet flat on the floor. This will put you in a good position for exercises where you are sitting on the ball or in a bridging position. If you fall between sizes, then my suggestion is to go with the slightly larger ball.

My suggestion for Stability Balls:

Twist ABS Classic Stability Ball – burst rated to 400kg – available through the Twist Conditioning online store:

www.twistconditioning.com - \$30-35 + shipping & taxes

Duraball Pro Stability Ball – 1000lb rating – available through Perform Better (located in the U.S.) www.performbetter.com - \$60-70 + shipping & taxes. This is the only stability ball I use with the pro athletes I train.

10) CORE TRAINING SAFETY

ARE YOU AN ATHLETE OR A CIRCUS CLOWN?

Don't get me wrong; I like to have fun. But remember there is a difference between *playing* and training. Sometimes athletes begin playing with stability balls and try to disguise it as "core training". One example is the fad of standing on a stability ball, right up to squatting with a loaded Olympic bar while standing on the ball. I like to stand on the ball from time to time, usually if I am trying to show off a little. Heck, I even use a picture of me standing on the ball for some of my marketing because it gets people's attention, but make no mistake, for the vast majority these techniques are nothing more than circus tricks.

I do have some of my Alpine Ski racers stand in a tucked position on the ball. I think it is somewhat specific for them and does help train their bilateral balance. To make it more specific, I wish they could have independent control of each foot, but that is an entirely different manual.

I would never, ever, ever, ever have an athlete squat a barbell while standing on the stability ball. There are two reasons for my strong opinion on this:

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- 1) I generally like my clients and do not want to injure them;
- 2) My insurance company tends to frown on negligence and
- 3) How in the world does squatting on the ball make them a better hockey player?

What do we use squatting for? For building strength right? In order to squat while standing on the ball an athlete needs to cut their weight way back, so she is not really getting the strength stimulus she would get from a floor based squat. I will concede that she is working on her balance, but even the balance required to stand on the ball, does not mirror the type of balance required while playing hockey. Not often does one player squat another player during the course of the game. Hockey balance requires more pushing and pulling actions.

Finally if you do a risk to benefit analysis this is a no brainer. If you really want to squat or stand on an unstable surface then try the Extreme Balance Board. It is much more difficult to balance on than the stability ball. The hardest thing about standing on a stability ball is hitting the ground when you fall off.

Not to flog a dead horse or anything, but this really bears repeating...the secret to core training is mastering the movements, by doing this you will be teaching your body movement patterns which use chains of muscles, rather than overloading individual muscles. Please do not worry about adding heavy loads. For this entire program you should not be using dumbbells heavier than 8lbs (starting at 3-5lbs dumbbells), you should not use a bungee heavier than medium and no medicine ball heavier than 8lbs.

Once you have completed the entire program and have perfected the movement patterns, then you may gradually bump up the resistance.

FREQUENTLY ASKED QUESTIONS

Sometimes I get the same questions over and over, so here are a few answers to the most common questions I receive about core training.

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Will this workout give me ripped abs?

My first impulse is to answer, *"I don't care about your ripped abs; I want you to be a better hockey player!"* But then again, if it is important to you, then it is important to me. This program will help you develop a 3D Core which includes all abdominal muscles, so yes, it will help you get strong abdominals. In order to show your six pack though, you need to keep low body fat. No matter how many crunches you do, if you have an inch of blubber covering them up, no one will see them. You need to keep up with your energy system development (sport specific cardio training) and equally importantly, you need to eat like a saint. If you are training hard, you do not have to eat less, you just have to eat more of the right types of food at the right time.

Will this program help strengthen my discs? I have had trouble with them in the past.

Training will only make your muscle chains stronger; it will not “strengthen” a disc. Even if it could, having a stronger disc will not reduce your back pain. For various reasons, discs get dislodged to varying degrees from their anatomical position between the vertebrae, which may result in an impingement and it is this impingement that leads to disc pain. If you have, or are suffering from any back pain, then you should see your preferred sport medicine specialist before beginning this program. These exercises are intended for healthy injury-free athletes. They are not designed to treat any injuries.

What if I cannot do the exercises with perfect form?

If you come across an exercise that you cannot perform with perfect technique at the basic level, then either leave that exercise out for the time being, until you have had a chance to strengthen some of the supporting muscles, or revert back to the easier version of the same movement. Do not perform any of the exercises using poor form or compensatory movements; this could lead to injury.

Some of these exercises were pretty easy; I want to see what you give your pro hockey players for core training.

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Okay, fair enough – some of the exercises are pretty easy on your muscles, but tough on your brain. Do you want me to spill the beans and give you the exercises that I train my pros with? Okay, here goes...turn to page one and start reading. HONESTLY, this is exactly where they start.

I really want a strong core – should I do these exercises every day?

Again, would you do 10 sets of biceps curls everyday? No, that would be crazy. Same goes for your core training, trust me there is plenty of volume in this program. Complete the routines as prescribed and then spend the other days working on your strength and stamina.

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CORE TRAINING LOG

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LEVEL ONE – Muscle Activation:

Week 1

Exercise	Sets x Reps			
Prone Draw In	2 x 10			
Prone Plank from knees	2x(5x10s)			
Side Plank from knees	2x(4x10s)			

Week 2

Exercise	Sets x Reps			
Draw In w Leg Slide	2x5 each			
Prone Plank	3x(5x10s)			
Side Plank	3x(4x10s)			

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Hands & Knees Superman	3x(5x5s)			
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Week 3

Exercise	Sets x Reps			
Draw In w Leg Slide	2x5 each			
Prone Plank	3x(5x10s)			
Side Plank	3x(4x10s)			
Hands & Knees Superman	3x(5x5s)			

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Week 4

Exercise	Sets x Reps			
Draw In w Leg Slide	2x5 each			
Prone Plank	3x(7x10s)			
Side Plank	3x(5x10s)			
Hands & Knees Superman	3x(5x10s)			

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LEVEL TWO – Bombproof Foundation:

Week 1

Exercise	Sets x Reps			
Draw In w Leg Lift & Extend	2x5			
Glute Bridge	3x15: pause 2s at top			
Quadruped Superman & Hold	3x5 each – hold 10s			

Week 2

Exercise	Sets x Reps			
Ball Kneeling	2x60s			
Prone Plank w Single Leg Lift	3x(5x5s)			

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Hands & Knees Superman	3x10 ea			
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Week 3

Exercise	Sets x Reps			
Bungee Rotation – 2 legs	3x10-15 each			
Glute Bridge	3x(4x10s)			
Gecko Push Up	3x5-10 each			

Week 4

Exercise	Sets x Reps			
Ball Kneeling w Stick Handling	3x60s			

Prone Plank Superman	3x5 each – hold 5s			
Single Leg Balance w Partner Taps	3x30 taps			

LEVEL THREE – Strong, Stable & Scoring:

Week 1

Exercise	Sets x Reps			
Standing Bungee Press	3x8-12			
Standing Isometric Stabilization w Hockey Stick	3x30 taps			
Bungee Rotation	3x15 each			
SB Push Up	3x10-15			

Week 2

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Exercise	Sets x Reps			
Core Plank w Rotation	2x(5x5s)			
Striders w Bungee Rotation	3x20-30 each			
MB Pass to the Wall	3x10 each			
Glute Bridge w Leg Lift	3x(10x5s)			

Week 3

Exercise	Sets x Reps			
Standing Bungee Press (one leg)	3x8-12			
Standing Isometric Stabilization w	3x30 taps			

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Hockey Stick				
Bungee Slapshot	3x15 each			
SB Push Up (one foot on floor)	3x6-10 each			

Week 4

Exercise	Sets x Reps			
Core Plank w Rotation	2x(5x5s)			
Striders w Skating Arms	3x20-30 each			
MB Pass to the Wall	3x10 each			
Glute Bridge w Leg Lift	3x(10x5s)			



Maria Mountain, MSc is a Fitness Coach and the owner of Revolution Conditioning in Ontario, Canada. She works with Olympic, professional and amateur athletes who are committed to maximizing their performance while reducing the risk of injuries.

To learn more about training for hockey visit

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If you are a goalie looking for a pro-style training program to help you become more agile and reactive, then take a look at www.ultimategoalietraining.com. If you are still committed to improving your play on the ice, but have an overwhelmingly busy schedule then you are a goalie who needs the [Rapid Response Goalie Training](#) system. A complete downloadable training system that you can do at home with minimal equipment, minimal time (no workout longer than 40 minutes) and maximal returns on the ice.