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## FUNCTIONAL WARM-UPS THE PLACE TO START

The purpose of warming up is to prepare the body to meet the physiological demands of the sport you are preparing for. The dynamic warm-up begins with a general warm-up, move through dynamic flexibility training and finish with power preparation. It will be up to each individual coach to then integrate your specific drills prior to play.

The advantages of instituting a dynamic warm-up routine into your program are to:

- 1) Elevate core temperature in order for your muscles and tendons to better accept the dynamic stretch to follow
- 2) Increasing range of motion at the joints by systematically taking the body through movements that will be executed in a multi-directional manor.
- 3) Improving the body's ability to produce a more forceful contraction and thus improve their quickness, strength and power and reduce the injury risk.

**Dynamic Warm-Up vs. Static Stretching:** Latest research has shown there is no benefit to static stretching "*prior to activity*" for preventing injuries. Optimal flexibility is healthy—but deep holding stretches right before you perform actually decreases the efficiency of your movements and slows you down for about 15 minutes. Static stretching *can* increase flexibility but should be done following activity.

**The New Way to Warm-Up:** State of the art warm-ups have become "dynamic" which means that you move throughout full ranges of motion without any static holding. Optimal dynamic warm-ups are balance challenging and make you reach in extended positions with diagonal and rotational movements. When you challenge your balance in extended positions you "turn on" smaller muscles around your joints called **stabilizers**. The large muscles that do most of the weight lifting are called "prime movers," but the little muscles surrounding joints that keep our movements coordinated and efficient are stabilizers; these are most often overlooked with traditional or outdated exercise programs.

With a *Dynamic Warm-Up* movement, you are likely to reach out with a twist or turn then snap right back to the starting position—this is very "real world" in terms of human movement and for optimal efficiency requires activation of stabilizer muscles. We usually reach, push, or pull with a diagonal and rotation. In addition to these dynamic movements, we also need to react and move quickly at times to avoid danger, injury, or to just increase efficiency of movement or task while maintaining our balance.

***If you don't train for multiple planes of motion with rotation, quickness, and balance you simply won't be able to move as well.***



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**Injury Prevention!** The *Dynamic Warm-Up* is designed to increase the efficiency of your everyday movements, reduce or eliminate injuries, and to “open you up” so you can return to normal and functional movement patterns with less compensation from other parts of your body. If the exercises feel awkward and difficult this means you have lost some of your normal function. **A person should be able to move forward/back, left/right, up/down while also moving in diagonal planes of motion with rotation and some degree of quickness.**

***Better to prepare now than be injured later!***

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<b>DYNAMIC WARM - UP</b>	<b>LOW BACK/CORE</b>	<b>SHOULDER</b>	<b>KNEES</b>
<b>START</b>			
Jog forward / jog backward	BIRD DOG	WALL SLIDES	SINGLE LEG DRILLS
Skips and arm swings forward and backwards	HIP MOBILITY	EXTERNAL ROT	RUNNING MAN DL
Side skips with arm swings	BRIDGE SEQUENCE	LOWER TRAP WORK	LADDER DRILLS
Leg slide forward – half a carioca	PUSH AND EXTEND	TRAP MUSCLE PROGRESS	PLYO'S
Side kick lateral	RUNNING MAN DL	SIDE LATERAL THUMBS UP	PROPER LANDING DRILL
Carioca step high			CORE X SQUAT
High kicks to hand			OPTIONAL
Ankle hops			BIRD DOG
Walking quad pull reach			HIP MOBILITY
Walking knee hugs			BRIDGE SEQUENCE
Walking lunge twist			PUSH AND EXTEND
Sumo squat			
Spider man			
High knees			
Butt kicks			
Carioca			
Back pedal long			
Back pedal quick			
Spider man			
High knees			
Butt kicks			
Carioca			
Back pedal long			
Back pedal quick			



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Addressing imbalances and keeping young athletes on the field, in the water, on the water, on the ice.....

Fixing before loading up  
Gray cooks work with imbalances and movement patterns

*Rounded shoulders*

Forced positions/back compensation

*Pelvic and back alignment*

Flat backside  
Chronic flexion

*Knee alignment*

Vargus valgus  
Congenital or weakness

## **SQUATING THE KING OR QUEEN OF EXERCISES**

1 – Squat technique

Simple teaching cues

2 – Why move to a single leg?

Simple teaching cues

3 – Explosive hip drive

Kettle bell or Olympic lifts

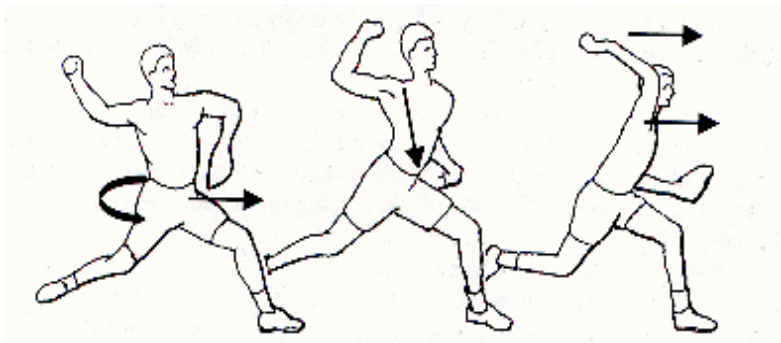
4 – Glut med work

Using a tube  
Side stepper

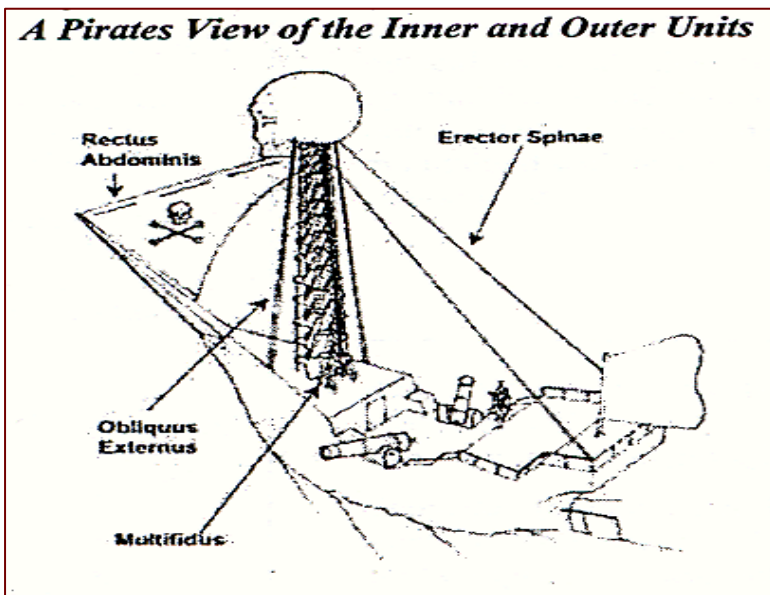
## CORE CONDITIONING

### WHY DO WE TRAIN AND FOCUS ON THIS AREA?

The goal is to stabilize the spine in response to balance shifts and connect the hips to the shoulders during force production



Research has concluded that this is best developed by isometric, dynamic and unstable training





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## DEVELOPING THE PROGRAM

### *Evaluation*

- Assess posture
  - Shirley Sahrman
- Poor control
  - Bird dog test
- Core endurance
  - Get in touch with them
- Back pain
  - Physiotherapist assessment

### McGill with a twist

#### Stage 1: Groove motor pattern or correct motor pattern

- Pelvic alignment
- Forward head tilt
- Spinal flexion
- Neutral Spine

#### Stage 2: Build stiffness

- Build stability through “core” exercises and movements

#### Stage 3: Increase endurance

- Increase endurance through isometric holds
- Increase volume over time

#### Stage 4: build strength

#### Stage 5: develop speed, power and agility



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## STAGES IN CORE TRAINING

The big three  
Variations

Then the ball  
Do the basics first

Resistance training is core training

Lay down a good movement pattern

## COOLDOWNS

Cool downs are important as warm-ups.

Allows heart and respiration rates to decrease gradually, placing less stress on body systems than if the activity is abruptly stopped. Nausea, dizziness, and fainting are common in individuals who stop activity too quickly. Brisk walking and slow jogging keep the blood flowing through the muscles. If activity is stopped quickly, blood tends to "pool" (remain) in the muscles, particularly in the legs. This causes muscle cramping, stiffness, and soreness potentially.

Provides an opportunity to stretch the muscles again. When cooling, warm muscles tend to shorten to a length less than what they were before the activity! If an athlete fails to stretch after being active, the eventual result will be a long time if not permanent shortening of muscle fibres. She might then become much more prone to stiffness, soreness, and injury due to decreased flexibility. A runner or cyclist might emphasize stretching the hamstrings, calves, groin, and quadriceps, while swimmers would focus on the groin, shoulders, and back.

*\*\*New kind of cool down! Foam rollers.*

**Don't forget the first key to prevent injury is PLANNING!**

**Manage fatigue and make sure you have planned breaks in the program and structure rest.**

## RESOURCES

The Athletes Ball: Integrative Training, Rick Jemmett, 2004.

Ultimate Back Fitness and Performance, Stuart McGill, 2006

Therapeutic Exercises for Spinal Segmental Stabilization in Low Back Pain, Richardson et al., 1999