# 

# 18 STRENGTH, BALANCE AND EXPLOSIVE EXERCISES YOU CAN DO ANYWHERE TO CREATE STRONG KNEES

# RICK KASELJ, MS www.ACLinjurySolution.com

# **Table of Contents**

Table of Contents	2
Exercise Considerations	4
Disclaimer	4
Preface	5
Secrets to Creating Strong Knees	6
The Importance of Strength	6
The Importance of Balance	6
The Importance of Core	7
The Importance of Explosive Movement	7
The Importance of S-B-C-E	7
References	7
Key Exercise Questions: 10 Minutes to Strong Knees	9
What should I do before performing these exercises?	9
How often should I perform the exercises in this book?	9
When should I feel and see results?	9
What about stretching?	9
How does the 10 Minutes to Stronger Knees program Work?	9
Exercise Legend	10
10 Minutes to Stronger Knees	11
EXERCISE 1a: Static Plank	11
EXERCISE 1b: Static Plank with Leg Kicks	12
EXERCISE 1c: Static Plank with Leg Kicks with Hold	13
EXERCISE 2a: Side Plank	14
EXERCISE 2b: Side Plank with Hip Lift & Lowering	15
EXERCISE 2c: Side Plank with Leg Lift & Lowering	16
EXERCISE 3a: Bridge	17
EXERCISE 3b: Bridge Feet Out	18
EXERCISE 3c: Bridge Feet Out with Straight Leg	19

EXERCISE 4a: Single Leg Balance20	
EXERCISE 4b: Single Leg Ball Toss21	
EXERCISE 4c: Single Leg Ball Reach22	
EXERCISE 5a: Full Squat23	
EXERCISE 5b: Walking Lunge24	
EXERCISE 5c: Single Leg Squat25	
EXERCISE 6a: Vertical Jump26	
EXERCISE 6b: Side Jump27	
EXERCISE 6c: Star Jump28	
Exercise Summary29	
Client Handout35	
About Rick Kaselj	. 38
About Healing Through Movement	. 40
Other Products from Rick Kaselj	. 43
Ready-to-Download Presentations from Rick Kaselj	. 45

<u>Title:</u> 10 Minutes to Strong Knees

Edition: 1<sup>st</sup> edition (September 2010)

Author: Kaselj, Rick, 1973 -

Key words: knee pain, knee injury, acl,

All rights reserved, except for use in a review. The reproduction or use of the content from this book in any form (electronic, mechanical, or other) is prohibited. Photocopying or scanning any information into a storage or retrieval system is forbidden without the written permission of the publisher and author.

#### Published by:

RK Healing Through Movement #199 – 198567 Fraser Highway Surrey, BC V3S 9A4 E-mail: <u>info@HealingThroughMovement.com</u> Webpage: <u>http://www.HealingThroughMovement.com</u>

Phone: (888) 291-2430 Fax: (604) 677-5425

#### **Exercise Considerations**

Consult with a physician before beginning the exercises in this book. A physician can determine which exercises are appropriate for you or your clients, and if any should be avoided or modified.

#### Disclaimer

**10 Minutes to Strong Knees** is primarily an educational resource and is not intended to take the place of the advice and recommendations of a physician. If you suspect your client has a health problem, please have him or her seek the services of a physician or healthcare professional.

Exercise is an ever-changing science. As new research and clinical experience broaden our knowledge, changes in exercise and exercise prescriptions are inevitable. The author has checked with sources believed to be reliable in his effort to provide information that is complete and generally in accord with the standards accepted at the time of publication. However, in view of the possibility of human error or changes in exercise science, neither the author nor any other party who has been involved in the preparation or publication of this work warrants that the information contained herein is in every respect accurate or complete, and they are not responsible for any errors or omissions or for the results obtained from the use of such information. Readers are encouraged to confirm the information contained herein with other sources.

# Preface

Thank you for supporting one of my dreams!

I have always dreamed of being a writer. The book you are reading is one of those writing dreams come true. I hope you take from it as much as I have gotten out of its research and production.

#### Pass this Book On

Feel free to take your personal printed copy and share it with your family, friends and colleagues. Everyone's health will improve if we all learn and educate each other on how to maintain a healthy and active lifestyle. If you received this as an e-book, please do not forward it on. Writing is how I make a living. Unauthorized distribution constitutes theft of my intellectual property.

#### Guarantee

My passion is to help people overcome their injuries. If this book does not help you, does not meet your expectations or is not of value to you, I will give you your money back. Please contact me via e-mail at <u>rick@ExercisesForInjuries.com</u> and I will refund your money.

#### Contact Me

Please let me know what you think of this book. Visit <u>www.ExercisesForInjuries.com</u> or e-mail me at <u>rick@ExercisesForInjuries.com</u>. Your feedback and ideas will help with the content of future editions and books.

Rick Kaselj

# Secrets to Creating Strong Knees

The knee is a very common site of injury and pain. It is important to keep our knees strong in order to prevent injury, fend off knee pain and to continue to do the activities we love.

It is commonly thought that all one needs to do to strengthen their knees is go to the gym and do strength machines exercises. While these exercises do strengthen the knees, much more is needed to create strong knees that fend off injuries, are pain-free and allow us to do the things we love to do.

You don't need special or expensive exercise equipment to strengthen your knees and make them pain-free. All you need are the ten simple exercises outlined in this book.

In the following section, I will introduce you to the four components you need in an effective exercise program for creating stronger knees.

# The Importance of Strength

We all know that strength is important when it comes to healthy, pain-free and injury-free knees. While strong knees keep the knee joint, ligaments and cartilage protected and healthy, weak knees lead to injury, pain and poor performance.

The knee strengthening exercises I introduce in this book can be done anywhere, with no equipment.

# The Importance of Balance

Balance is not often thought about when people put together an exercise program. Most times people focus on strength, cardiovascular and flexibility exercises while balance is largely ignored. However, balance is key in creating strong knees and overall knee health.

Balance is the body's way of telling where joints are within space, and controlling those joints. If you have poor balance, the body has less control over the knees; this will lead to a knee injury and knee pain.

Balance exercises are simple to do and, like the other exercises in this book, can be done with no equipment. Doing balances exercises will help strengthen your knees but also help strengthen your ankles, hips and lower back.

# The Importance of Core

Core exercise often focuses on abs and abdominal training. It is true that these exercises will help improve your abdominals, but core strength also plays a key role in keeping our knees strong.

The core is made up of the entire abdominal area - not just the 6-pack – and helps connect our upper and lower body, and keep it in good alignment. A weak core leads to greater stress on the lower body, and will impact knee health.

In a person with a weak core, the lower body will compensate during a simple movement such as walking; this can force the body out of alignment. Commonly, the pelvis will drop, the hip will move out and the knee will move in. This compensation ends up putting greater stress on the knee which will lead to further knee injury and pain.

# The Importance of Explosive Movement

When we are moving or playing a sport, we need to "explode" into that movement. When walking, the explosion is small; when sprinting, the explosion is large.

To perform strength exercises correctly, they must be done in a slow and controlled manner. Explosive exercises are like strength exercises but must be done faster.

Explosive exercises help strengthen our knees when we are doing slow (walking) and fast (sprinting) movements.

# The Importance of S-B-C-E

Now that you are familiar with the importance of strength, balance, core and explosive training and exercise (or S-B-C-E), let's look at exercises that incorporate each of these elements to create stronger knees, prevent knee injuries, avoid knee pain and enjoy activity.

#### References

Andersen LL, Magnusson SP, Nielsen M, Haleem J, Poulsen K, Aagaard P. (2006). Neuromuscular activation in conventional therapeutic exercises and heavy resistance exercises: implications for rehabilitation. Phys Ther. 2006 May;86(5):683-97.

Beynnon BD, Johnson RJ, Fleming BC. (2002). The science of anterior cruciate ligament rehabilitation. Clin Orthop Relat Res. 2002 Sep;(402):9-20.

Escamilla RF, Zheng N, Macleod TD, Brent Edwards W, Imamura R, Hreljac A, Fleisig GS, Wilk KE, Moorman CT 3rd, Andrews JR. (2009). Patellofemoral joint force and stress during the wall squat and one-leg squat. Med Sci Sports Exerc. 2009 Apr;41(4):879-88.

FIFA. (2009). The 11+. Retrieved on December 9, 2009, from http://www.fifa.com/aboutfifa/developing/medical/the11/index.html

Fitzgerald GK. (1997). Open versus closed kinetic chain exercise: issues in rehabilitation after anterior cruciate ligament reconstructive surgery. Phys Ther. 1997 Dec;77(12):1747-54.

Grant JA, Mohtadi NG, Maitland ME, Zernicke RF. (2005). Comparison of home versus physical therapy-supervised rehabilitation programs after anterior cruciate ligament reconstruction: a randomized clinical trial. Am J Sports Med. 2005 Sep;33(9):1288-97. Epub 2005 Jul 7.

Hubbell J, and Schwartz. (2006). Anterior Cruciate Ligament Injury. Retrieved on December 1, 2009, from http://emedicine.medscape.com/article/89442-overview

Morrissey MC, Perry MC, King JB. (2009). Is knee laxity change after ACL injury and surgery related to open kinetic chain knee extensor training load? Am J Phys Med Rehabil. 2009 May;88(5):369-75.

Patrick D. (2003). Specific exercise may be key to preventing ACL injuries. Retrieved on December 9, 2009 from http://www.usatoday.com/sports/2003-06-24-acl-cover\_x.htm

Risberg MA, Holm I, Myklebust G, Engebretsen L. (2007). Neuromuscular training versus strength training during first 6 months after anterior cruciate ligament reconstruction: a randomized clinical trial. Phys Ther. 2007 Jun;87(6):737-50. Epub 2007 Apr 18.

Tagesson S, Oberg B, Good L, Kvist J. (2008). A comprehensive rehabilitation program with quadriceps strengthening in closed versus open kinetic chain exercise in patients with anterior cruciate ligament deficiency: a randomized clinical trial evaluating dynamic tibial translation and

# Key Exercise Questions: 10 Minutes to Strong Knees

# What should I do before performing these exercises?

Consult with your physician to see if there is any reason why you should not perform these exercises. Prior to do the exercises, perform a 3 to 5 minute warm up. This can be done with a fast walk or for other suggestions, refer to my *9 Exercises a Day Keeps Knee Pain Away program*.

#### How often should I perform the exercises in this book?

Each exercise can be performed every day to help strength your knees, improving performance and fend off knee injuries.

# When should I feel and see results?

You may feel results within a week of performing the exercises consistently every day. You will see results within three weeks of performing the exercises consistently everyday.

# What about stretching?

It is recommended that you stretch after performing any activity or sport; prior to sports activities, focus on dynamic movements and exercises such as the ones found in *9 Exercises a Day Knees Knee Pain Away.* 

# How does the 10 Minutes to Stronger Knees program Work?

In this book are exercises which address strength, balance, core and explosiveness.

There are three progressions in each exercise. Select the appropriate progression and ensure you have perfect technique. When the exercise gets easy or you have mastered it, perform the next progression or move to the next level of that exercise.

For example, if Exercise 2a Side Plank gets easy and your technique is perfect, progress by doing the exercise for 30 seconds or move onto doing Exercise 2b – Side Plank with Hip Lift & Lower.

# Exercise Legend

Below are definitions of what each exercise category is and what it means.

Name of the exercise: The common name used for the exercise.

**<u>Purpose of the exercise</u>**: What the exercise is targeting and what the goal of the exercise is.

**<u>Starting position:</u>** What position you need to set your body into before starting the exercise.

How to do this exercise: The key steps in performing the exercise safely and for maximum results.

**Progression:** What the next step is when the exercise is too easy.

**Contraindications & Common Mistakes:** Who should be cautious about doing the exercises, or should not be dong them. Common errors that occur when performing the exercise, which will decrease effectiveness and increase the risk of injury.

# 10 Minutes to Stronger Knees

#### **EXERCISE 1a: Static Plank**



Purpose:	To strengthen the core in the forward and back direction (sagittal plane).	
Starting Position:	Lie on the ground on your stomach.	
How to Do the Exercise:	<ol> <li>Brace your abdominal area.</li> <li>Lift your body off the ground with your toes and forearms. Keep your toes straight ahead, your body in a straight line and elbows under your shoulders.</li> <li>Hold this position for 20 seconds.</li> <li>After 20 seconds relax for 2 seconds and repeat.</li> <li>Perform 3 times.</li> </ol>	
Progressions:	<ul> <li>Increase the hold time to 30 seconds</li> <li>If this exercise does not feel challenging and you are able to maintain perfect technique, progress to Exercise 1b.</li> </ul>	
Contraindications & Common Mistakes:	<ul> <li>Holding Your Breath - Increases the blood pressure in your body which creates an incorrect firing pattern of the muscles. Breathe normally during the exercise.</li> <li>Sagging In Your Lower Back – This puts a lot of strain on the lower back.</li> <li>Bending in the Hips – If you can't keep your shoulders, hips and ankles in a straight line and are bending at the hips to hold the position, stop the exercise.</li> <li>Stress on Your Shoulders – Move your forearms and elbows below your shoulders.</li> </ul>	

# **EXERCISE 1b: Static Plank with Leg Kicks**





End

Purpose:	To strengthen the core in the forward and back direction (sagittal plane).
Starting Position:	Lie on the ground on your stomach.
How to Do the Exercise:	<ol> <li>Brace your abdominal area.</li> <li>Lift your body off the ground with your toes and forearms. Keep your toes straight ahead, your body in a straight line and elbows under your shoulders.</li> <li>Lift your right leg off the ground as high as you can while maintaining the straight line of your body.</li> <li>Hold your right leg at the top for 2 seconds and then return it down.</li> <li>Lift the other leg.</li> <li>Alternate lifting legs back and forth for 40 seconds. Do 3 sets.</li> </ol>
Progressions:	<ul> <li>Perform this exercise for 60 seconds.</li> <li>If this exercise does not feel challenging and you are able to maintain perfect technique, progress to Exercise 1c.</li> </ul>
Contraindications & Common Mistakes:	<ul> <li>Holding Your Breath - Increases the blood pressure in your body which creates an incorrect firing pattern of the muscles. Breathe normally during the exercise.</li> <li>Sagging In Your Lower Back – This puts a lot of strain on the lower back.</li> <li>Bending in the Hips – If you can't keep your shoulders, hips and ankles in a straight line and are bending at the hips to hold the position, stop the exercise.</li> <li>Stress on Your Shoulders – Move your forearms and elbows below your shoulders.</li> </ul>

# EXERCISE 1c: Static Plank with Leg Kicks with Hold







End

Purpose:	To strengthen the core in the forward and back direction (sagittal plane).
Starting Position:	Lie on the ground on your stomach.
How to Do the Exercise:	<ol> <li>Brace your abdominal area.</li> <li>Lift your body off the ground with your toes and forearms. Keep your toes straight ahead, your body in a straight line and elbows under your shoulders.</li> <li>Lift your left leg off the ground as high as you can while maintaining the straight line of your body.</li> <li>Hold your left leg at the top for 20 seconds and then return it down.</li> <li>Lift the other leg.</li> <li>Alternate lifting legs back for 3 repetitions each.</li> </ol>
Progressions:	- Hold the leg at the top for 30 seconds.
Contraindications & Common Mistakes:	<ul> <li>Holding Your Breath - Increases the blood pressure in your body which creates an incorrect firing pattern of the muscles. Breathe normally during the exercise.</li> <li>Sagging In Your Lower Back – This puts a lot of strain on the lower back.</li> <li>Bending in the Hips – If you can't keep your shoulders, hips and ankles in a straight line and are bending at the hips to hold the position, stop the exercise.</li> <li>Stress on Your Shoulders – Move your forearms and elbows below your shoulders.</li> </ul>

#### **EXERCISE 2a: Side Plank**



Purpose:	To strengthen the core and hips in the side-to-side direction (frontal plane).	
Starting Position:	Lie on your side with your forearm on the ground, body in a straight line from the side (shoulder, hip and knee) and legs on top of each other.	
How to Do the Exercise:	<ol> <li>Begin by lifting your hips off the ground until your body is in a straight line from the front (head, trunk and leg). Hold your hips off the ground with your forearm and the outside of your foot.</li> <li>After your body is off the ground, lift your top leg away from your lower leg as high as you can without losing your form.</li> <li>Hold this position for 20 seconds.</li> <li>Perform 3 times on each side.</li> </ol>	
Progressions:	<ul> <li>Progress to 30 seconds.</li> <li>If this exercise does not feel challenging and you are able to maintain perfect technique, progress to Exercise 2b.</li> </ul>	
Contraindications & Common Mistakes:	<ul> <li>Holding Your Breath - Increases the blood pressure in your body which creates an incorrect firing pattern of the muscles. Breathe normally during the exercise.</li> <li>Shoulder Pain – If the shoulder you are using to lift you up is sore, you can use the top hand to cup the shoulder and pull down.</li> </ul>	

# EXERCISE 2b: Side Plank with Hip Lift & Lowering





End

Purpose:	To strengthen the core and hips in the side-to-side direction (frontal plane).	
Starting Position:	Lie on your side with your forearm on the ground, body in a straight line from the side (shoulder, hip and knee) and legs on top of each other.	
How to Do the Exercise:	<ol> <li>Begin by lifting your hips off the ground until your body is in a straight line from the front (head, trunk and leg). Hold yourself off the ground with your forearm and the outside of your foot.</li> <li>Hold this position for 20 seconds.</li> <li>Drop your hips, rest for 2 seconds and return back into the side plank position.</li> <li>Perform 3 times on each side.</li> </ol>	
Progressions:	<ul> <li>Progress to 30 seconds.</li> <li>If this exercise does not feel challenging and you are able to maintain perfect technique, progress to Exercise 2c.</li> </ul>	
Contraindications & Common Mistakes:	<ul> <li>Holding Your Breath - Increases the blood pressure in your body which creates an incorrect firing pattern of the muscles. Breathe normally during the exercise.</li> <li>Shoulder Pain – If the shoulder you are using to lift you up is sore, you can use the top hand to cup the shoulder and pull down.</li> </ul>	

# EXERCISE 2c: Side Plank with Leg Lift & Lowering

Г



Purpose:	To strengthen the core and hips in the side-to-side direction (frontal plane).	
Starting Position:	Lie on your side with your forearm on the ground, body in a straight line from the side (shoulder, hip and knee) and legs on top of each other.	
How to Do the Exercise:	<ol> <li>Begin by lifting your hips off the ground until your body is in a straight line from the front (head, trunk and leg). Hold yourself off the ground with your forearm and the outside of your foot.</li> <li>After your body is off the ground, lift your top leg away from your lower leg as high as you can without losing your form and then lower it.</li> <li>Hold your body and continue lifting and lowering your top leg up and down for 20 seconds.</li> <li>Perform 3 times on each side.</li> </ol>	
Progressions:	<ul> <li>Progress to 30 seconds.</li> <li>If this exercise does not feel challenging and you are able to maintain perfect technique, progress to Exercise 2b.</li> </ul>	
Contraindications & Common Mistakes:	<ul> <li>Holding Your Breath - Increases the blood pressure in your body which creates an incorrect firing pattern of the muscles. Breathe normally during the exercise.</li> <li>Shoulder Pain – If the shoulder you are using to lift you up is sore, you can use the top hand to cup the shoulder and pull down.</li> </ul>	

Т

# EXERCISE 3a: Bridge



Purpose:	To strengthen the hamstrings and gluteus maximus in forward-and- backwards direction (sagittal plane).	
Starting Position:	Lie on your back on the ground. Place your legs hip width apart and your feet flat on the floor.	
How to Do the Exercise:	<ol> <li>Lift your seat off the ground until your hips are in a straight line with your knees and shoulders.</li> <li>Hold at the top position for 20 seconds and then lower back down to the start.</li> <li>Perform 7 repetitions.</li> </ol>	
Progressions:	<ul> <li>Progress to 10 repetitions.</li> <li>If this exercise does not feel challenging and you are able to maintain perfect technique, progress to Exercise 3b.</li> </ul>	
Contraindications & Common Mistakes:	<ul> <li>Holding Your Breath - Increases the blood pressure in your body which creates an incorrect firing pattern of the muscles. Breathe normally during the exercise.</li> <li>Lower Back Pain – Drop your hips a touch down if you feel lower back stress.</li> <li>Knee Pain – Make sure to land softly on the balls of your feet.</li> <li>Collapsing Knees – Make sure your knees do not collapse inwards.</li> </ul>	

# EXERCISE 3b: Bridge Feet Out

ſ





End

Purpose:	To strengthen the hamstrings and gluteus maximus in forward-and- backwards direction (sagittal plane).	
Starting Position:	Lie on your back on the ground. Place your legs hip width apart and your feet flat on the floor. Now move your feet away from your head about 1 foot.	
How to Do the Exercise:	<ol> <li>Lift your seat off the ground until your hips are in a straight line with your knees and shoulders.</li> <li>Hold at the top position for 20 seconds and then lower back down to the start.</li> <li>Perform 7 repetitions.</li> </ol>	
Progressions:	<ul> <li>Progress to 10 repetitions.</li> <li>If this exercise does not feel challenging and you are able to maintain perfect technique, progress to Exercise 3c.</li> </ul>	
Contraindications & Common Mistakes:	<ul> <li>Holding Your Breath - Increases the blood pressure in your body which creates an incorrect firing pattern of the muscles. Breathe normally during the exercise.</li> <li>Lower Back Pain – Drop your hips a touch down if you feel lower back stress.</li> <li>Knee Pain – Make sure to land softly on the balls of your feet.</li> <li>Collapsing Knees – Make sure your knees do not collapse inwards.</li> </ul>	

# EXERCISE 3c: Bridge Feet Out with Straight Leg

T

Г



Purpose:	To strengthen the hamstrings and gluteus maximus in forward-and- backwards direction (sagittal plane).	
Starting Position:	Lie on your back on the ground. Place your legs hip width apart and your feet flat on the floor. Now move your feet away from your head about 1 foot.	
How to Do the Exercise:	<ol> <li>Lift your seat off the ground until your hips are in a straight line with your knees and shoulders.</li> <li>Then straighten your left leg, hold this position for 10 seconds then lower the leg and hips to the start position.</li> <li>Switch side and perform 7 repetitions on each side.</li> </ol>	
Progressions:	<ul><li>Hold the top position for 20 seconds.</li><li>Progress to 10 repetitions.</li></ul>	
Contraindications & Common Mistakes:	<ul> <li>Holding Your Breath - Increases the blood pressure in your body which creates an incorrect firing pattern of the muscles. Breathe normally during the exercise.</li> <li>Lower Back Pain – Drop your hips a touch down if you feel lower back stress.</li> <li>Knee Pain – Make sure to land softly on the balls of your feet.</li> <li>Collapsing Knees – Make sure your knees do not collapse inwards.</li> </ul>	

Т

# EXERCISE 4a: Single Leg Balance

Start	End

Purpose:	To improve balance of the leg in all planes of movement (forward- backwards, side-to-side and twisting).											
Starting Position:	old a ball in your hands and stand on one leg. Make sure your foot, ankle, nee and hip are in a straight line from the front and side.											
How to Do the Exercise:	<ol> <li>Stand on your left leg and hold this position for 30 seconds.</li> <li>Switch legs and perform twice on each leg.</li> </ol>											
Progressions:	<ul> <li>Progress to 4 repetitions.</li> <li>If this exercise does not feel challenging and you are able to maintain perfect technique, progress to Exercise 4b.</li> </ul>											
Contraindications & Common Mistakes:	<ul> <li>Knee Pain - Placing too much weight on the front part of the foot can increase the stress on your knee and lead to irritation.</li> <li>Wobbling – You should be under control during the whole exercise. If you start to wobble, end that repetition and move to the other leg.</li> </ul>											

# EXERCISE 4b: Single Leg Ball Toss



Purpose:	To improve balance of the leg in all planes of movement (forward- backwards, side-to-side and twisting).
Starting Position:	Hold a ball in your hands and stand on one leg. Make sure your foot, ankle, knee and hip are in a straight line from the front and the side.
How to Do the Exercise:	<ol> <li>Stand on your left leg, toss the ball in the air and catch it.</li> <li>Do this for 30 seconds.</li> <li>Then switch legs and perform twice on each leg.</li> </ol>
Progressions:	<ul> <li>Progress to 4 repetitions.</li> <li>If this exercise does not feel challenging and you are able to maintain perfect technique, progress to Exercise 4c.</li> </ul>
Contraindications & Common Mistakes:	<ul> <li>Knee Pain - Placing too much weight on the front part of the foot can increase the stress on your knee and lead to irritation.</li> <li>Wobbling – You should be under control during the whole exercise. If you start to wobble, end that repetition and move to the other leg.</li> </ul>

# EXERCISE 4c: Single Leg Ball Reach



Purpose:	To improve balance of the leg in all planes of movement (forward- backwards, side-to-side and twisting).
Starting Position:	Hold a ball in your hands and stand on one leg. Make sure your foot, ankle, knee and hip are in a straight line from the front.
How to Do the Exercise:	<ol> <li>Stand on your left leg and reach forward at a 45 degree angle to the left in a controlled manner.</li> <li>Move back to the start and reach out front in a slow and controlled manner.</li> <li>Then move at a 45 degree to the right in a slow and controlled manner.</li> <li>Do this for 30 seconds.</li> <li>Then switch legs and perform twice on each leg.</li> </ol>
Progressions:	- Progress to 4 repetitions.
Contraindications & Common Mistakes:	<ul> <li>Knee Pain - Placing too much weight on the front part of the foot can increase the stress on your knee and lead to irritation.</li> <li>Wobbling – You should be under control during the whole exercise. If you start to wobble, end that repetition and move to the other leg.</li> </ul>

# **EXERCISE 5a: Full Squat**



Purpose:	o strengthen the legs in the forward and back direction (sagittal plane).											
Starting Position:	and upright with feet about a hip width apart.											
How to Do the Exercise:	<ol> <li>Squatting down to a point where your ankle-knee-hip reaches 90 degrees.</li> <li>Returning back to the start position.</li> <li>Repeat for 20 seconds and perform 2 sets.</li> </ol>											
Progressions:	<ul> <li>Progress to 30 seconds.</li> <li>If this exercise does not feel challenging and you are able to maintain perfect technique, progress to Exercise 5b.</li> </ul>											
Contraindications & Common Mistakes:	<ul> <li>Knee Pain - Placing too much weight on the front part of the foot can increase the stress on your knee and lead to irritation.</li> <li>Collapsing Knees – Make sure the knees do not collapse inwards.</li> <li>Standing Upright – Bend at your hips and move your trunk forward.</li> </ul>											

# EXERCISE 5b: Walking Lunge



Purpose:	To strengthen the legs in the forward and back direction (sagittal plane).											
Starting Position:	and upright with feet about a hip width apart.											
How to Do the Exercise:	<ol> <li>Step forward and bend at the ankle, knee and hip until they reach a 90 degree angle in the front back leg. Ensure the front knee does not pass the toes.</li> <li>Step forward with the other leg.</li> <li>Repeat for 10 repetitions on each leg and perform 2 sets.</li> </ol>											
Progressions:	<ul> <li>If this exercise does not feel challenging and you are able to maintain perfect technique, progress to Exercise 5c.</li> </ul>											
Contraindications & Common Mistakes:	<ul> <li>Knee Pain - Placing too much weight on the front part of the foot can increase the stress on your knee and lead to irritation.</li> <li>Collapsing Knees – Make sure the knees do not collapse inwards.</li> <li>Standing Upright – Bend at your hips and move your trunk forward.</li> </ul>											

# EXERCISE 5c: Single Leg Squat



Purpose:	To strengthen the legs in the forward and back direction (sagittal plane) and improve on balance in all three directions.										
Starting Position:	and on one leg.										
How to Do the Exercise:	<ol> <li>Squat down on the leg you are standing on to a point where your ankle- knee-hip are at 90 degrees.</li> <li>Repeat for 10 repetitions and switch legs.</li> <li>Perform 2 sets on each leg.</li> </ol>										
Progressions:	- Perform with your eyes closed.										
Contraindications & Common Mistakes:	<ul> <li>Knee Pain - Placing too much weight on the front part of the foot can increase the stress on your knee and lead to irritation. Shift your weight back more on your heel.</li> <li>Collapsing Knees – Make sure the knees does not collapse inwards.</li> <li>Lean Forward – Make sure you are leaning forward a touch.</li> <li>Pelvis Square – Do not let your ?? drop. It should be parallel to the ground.</li> <li>Standing Upright – Bend at your hips and move your trunk forward.</li> </ul>										

# **EXERCISE 6a: Vertical Jump**



Purpose:	To improve explosive jumping and landing in the forward and back direction (sagittal plane).
Starting Position:	Standing with feet hip width apart.
How to Do the Exercise:	<ol> <li>Jump as high as you can.</li> <li>When landing bend your knees to a point where your ankle-knee-hip are at 90 degrees.</li> <li>Hold the bottom position for 1 second and repeat the exercise.</li> <li>Perform for 20 seconds and do 2 sets.</li> </ol>
Progressions:	<ul> <li>Do the exercise for 30 seconds.</li> <li>Perform the exercise with your hands on your hips.</li> <li>If this exercise does not feel challenging and you are able to maintain perfect technique, progress to Exercise 6b.</li> </ul>
Contraindications & Common Mistakes:	<ul> <li>Knee Pain – Make sure to land softly on the balls of your feet.</li> <li>Collapsing Knees – Make sure the knees do not collapse inwards.</li> </ul>

# EXERCISE 6b: Side Jump



Purpose:	To improve explosive jumping and landing in the side-to-side direction (frontal plane).
Starting Position:	Begin with standing on one leg with hip, knee and ankle bent and your trunk forward a touch.
How to Do the Exercise:	<ol> <li>Jump about 1 meter to one side.</li> <li>Land with your ankle, foot, knee and hip in a straight line.</li> <li>Hold the bottom position for 1 second and repeat the exercise.</li> <li>Perform for 20 seconds, twice.</li> </ol>
Progressions:	<ul> <li>Do the exercise for 30 seconds.</li> <li>Perform the exercise with your hands on your hips.</li> <li>If this exercise does not feel challenging and you are able to maintain perfect technique, progress to Exercise 6c.</li> </ul>
Contraindications & Common Mistakes:	<ul> <li>Knee Pain – Make sure to land softly on the balls of your feet.</li> <li>Collapsing Knees – Make sure the knees do not collapse inwards.</li> </ul>

# EXERCISE 6c: Star Jump



Purpose:	To improve explosive jumping and landing in all directions.										
Starting Position:	and with feet hip width apart and imagine you are standing in the center a cross.										
How to Do the Exercise:	<ol> <li>Jump about 1 meter forwards and backwards, from side-to-side and diagonal across the cross.</li> <li>Try to jump as quickly as you can.</li> <li>Perform for 20 seconds, twice.</li> </ol>										
Progressions:	<ul> <li>Do the exercise for 30 seconds.</li> <li>Perform the exercise with your hands on your hips.</li> </ul>										
Contraindications & Common Mistakes:	<ul> <li>Knee Pain – Make sure to land softly on the balls of your feet.</li> <li>Collapsing Knees – Make sure the knees do not collapse inwards.</li> <li>Straight Legs – Make sure to bend in your ankle, knee and hip when landing.</li> </ul>										

Exercise Summary		
Picture	Number of Times	Description
1a - Static Plank	Perform the exercise for 20 seconds and do 3 sets.	Hold your body off the ground in a plank position.
1b - Static Plank with Leg Kicks	Perform the exercise for 40 seconds and do 3 sets.	In a plank position, alternate lifting your legs up.
1c - Static Plank with Leg Kicks with Hold	Hold for 20 seconds and perform 2 sets.	In a plank position lift one leg up and hold it at the top for 20 seconds.
2a - Side Plank	Hold for 20 seconds and perform 3 sets.	Hold your body off the ground in a side plank position with your top leg lifted.









# Star Jump Perform for 20 sets. Jump forward, back, side-to-side and diagonal.

Client Handout							
Exercise	Day						
1a - Static Plank	20 sec / 3 sets						
1b - Static Plank with Leg Kicks	40 sec / 3 sets						
1c - Static Plank with Leg Kicks with Hold	20 sec / 2 sets						
2a - Side Plank	20 sec / 3 sets						
2b - Side Plank with Hip Lift & Lowering	20 sec / 3 sets						
2c - Side Plank with Leg Lift & Lowering	20 sec / 3 sets						
3a - Bridge	20 sec / 7 reps						
3b - Bridge Feet Out	20 sec / 7 reps						

						 	 · · · · · · · · · · · · · · · · · · ·
3c - Bridge Feet Out with Straight Leg	10 sec / 7 reps						
4a - Single Leg Balance	30 sec						
4b - Single Leg Ball Toss	30 sec						
4c - Single Leg Ball Reach	30 sec						
5a - Full Squat	20 sec / 2 sets						
5b - Walking Lunge	10 reps / 2 sets						
5c - Single Leg Squat	10 reps / 2 sets						
6a - Vertical Jump							

6b - Side Jump							
6c - Star Jump							

# About Rick Kaselj

Rick Kaselj, M.S. (Exercise Science), B.Sc. (Kinesiology), PK, CPT, CEP, CES



Rick Kaselj specializes in active rehabilitation and fitness. He works in one-on-one and group rehabilitation settings, educating and training people who have been injured at work, in car accidents, and during sport activities.

Rick has combined his rehabilitation experience and passion for research to develop a variety of courses and

presentations for fitness professionals, Kinesiologists, and healthcare providers. Rick has given over 260 presentations to more than 5000 fitness professionals across Canada and USA. These courses include:

- Core stability of the shoulder
- Exercise rehabilitation for the shoulder, lower back, hip, or knee
- Foam roller essentials
- Intro and advanced core stability
- Intro and advanced stability ball exercises
- Postural assessment and exercise prescription
- Injury-free running
- Save your shoulders
- Training for better golf

Rick strives to balance his work life with his personal fitness endeavours and travel. He has trained for and competed in the Manitoba Marathon, the 225 km Ironman Canada Triathlon, and the 160 km Sea2Summit Adventure Race in Whistler, BC.

He recently hiked 4,300 km along the *Pacific Crest Trail* from Mexico to Canada and mountain biked the 5,000 km *Great Divide Mountain Bike Route* over the Rocky Mountains from Mexico to Canada. An avid traveler, Rick has toured three continents and visited 17 countries.

In 1997 he graduated with his Bachelor of Science degree in Kinesiology from Simon Fraser University. Rick recently completed his Masters of Science degree focusing on corrective exercise and therapeutic exercise for the rotator cuff. Rick currently works as a lecturer, Kinesiologist, personal trainer, and exercise rehabilitation specialist in and around Vancouver, British Columbia, Canada.

To learn more about Rick Kaselj, please visit <a href="http://www.ExercisesForInjuries.com">www.ExercisesForInjuries.com</a>

# **About Healing Through Movement**



Healing Through Movement has been helping people reach their health, fitness, rehabilitation and sport goals since 1999.

#### How Healing Through Movement can help you:

Active Rehabilitation – This individualized program is designed to help you overcome injury by using flexibility, endurance, strength and cardiovascular exercises.

Adaptive Fitness – A personalized exercise program designed for youth and adults with special needs. The types of special needs may include cerebral palsy, multiple sclerosis, brain injury and/or developmental disability.

Adventure Travel Presentations – A full sensory experience including music, images, and storytelling on the experience and adventure of hiking the 4,300 km Pacific Crest Trail, cycling Cuba, and cycling the Rockies from Mexico to Canada.

**Corrective Exercise** – An exercise program designed to address your muscle imbalances and areas of tightness and pain.

**Endurance Training** – An individualized training program created to help you complete your desired running, cycling, duathlon, triathlon, or adventure race.

**Exercise Rehabilitation** – An exercise program designed to help you recover from your injury or medical condition in a safe and effective manner.

**Exercise Rehabilitation Courses** – Education and training for registered Kinesiologists, exercise therapists, and personal trainers on the use of exercise as a safe and effective tool to recover from back, shoulder, knee, hip, ankle, elbow and wrist injuries.

**Expedition Training** – Forming a complete plan including gear selection, route preparation, nutrition guidelines and a training program to help accomplish your hiking, biking or kayaking dream.

**Personal Training** – An exercise program to help you reach your weight loss, strength gain, and body shape improvement goals.

**Post Rehabilitation** – After you have completed physical therapy, chiropractic or massage therapy treatment, this is an exercise program designed to help you recover from your injury and return your body back to where it was before your injury.

**Pool Therapy** – Use the pool environment to decrease stress on joints and to help your body recover from injury by improving range of motion, strength, endurance and balance.

# Where can Healing Through Movement meet me:

**In Person** – Healing Through Movement can meet you at your home, local community centre or fitness centre to help you achieve your health, fitness, training, sport, travel or rehabilitation goals.

**Phone/Online Training** – More clients are meeting with Healing Through Movement over the phone or through email to reach their health, fitness, training, sport, travel or rehabilitation goals.

#### Founder of Healing Through Movement - Rick Kaselj

**Rick Kaselj** is a Registered Kinesiologist and Personal Trainer with a passion for exercise rehabilitation. Rick designs effective exercise programs that safely and rapidly help his clients recover from an injury, medical condition, and/or musculoskeletal pain, and reach their health, rehabilitation, and sport goals. Rick presents courses on exercise rehabilitation and adventure travel across Canada and USA. To reach Rick, call (888) 291-2430 or visit <u>www.HealingThroughMovement.com</u>.





Healing Through Movement Fitness • Rehabilitation • Presentations • Publications #199 – 19567 Fraser Highway Surrey, BC V3S 9A4 Phone: (888) 291-2430 Fax: (604) 677-5425 E-mail: info@HealingThroughMovment.com Webpage: www.HealingThroughMovement.com

# **Other Products from Rick Kaselj**



#### Core Stability for the Rehab Client DVDs

Core stability muscles assist in stabilizing the lower back and pelvis; when ignored they weaken, and the risk of lower back and pelvis related injuries increase. This course will cover anatomy of the core and introduce functional core exercises which focus on strengthening core muscles and stabilizing the lower back and pelvis. - \$89.00 for 3 DVD set

For more information visit - http://exercisesforinjuries.com/core-stability-for-the-rehab-client/



#### Core Stability of the Back

The Core Stability of the Back program is for the back pain sufferer who wants to get their back onto the road of being pain-free. Core stability muscles play an important role in all activities of daily living. They enable us to perform the simplest of activities and help us maintain good posture. When ignored, core stability muscles become weak and the risk of lower back pain and instability increases. In the Core Stability of the Back program you will get an easy to follow program that you can do anywhere and will help you on your way to a pain-free back. In the Core Stability of the Back book you will learn about the key muscles of the core, how to locate these muscles in the body, how to activate them and an effective program to create a strong and stable back.

- \$19.95 for physical book

#### Core Stability of the Back - Home Program -



The complete Core Stability of the Back program is for the back pain sufferer who wants to get their back onto the road to being pain-free. Core stability muscles play an important role in all activities of daily living. They enable us to perform the simplest of activities and help us maintain good posture. When ignored, core stability muscles become weak and the risk of lower back pain and instability increases. In this home program you will get the Core Stability of the Back book plus a home DVD, audio workout and audio book. The Core Stability of the Back program provides you with an easy to follow program that you can do. In the Core Stability of the Back book you will learn about the key muscles of the core, how to locate these muscles in the body, how to activate them and an effective program to create a strong and stable back. - \$54.95 for physical book, DVD and CD



#### Your Stability Ball Exercise Guide

You bought a stability ball, now what? This guide will take you through 23 exercises that target your legs, chest, back and abdominals. The guide includes two stability ball workouts you can follow based on your fitness level and a stretch routine you can do with the stability ball. - \$9.95 for eBook or \$19.95 for physical book



EFFECTIVE ROTATOR

E ROTATOR CUFF EXERCISES

CUFF EXERCISES

#### Most Effective Gluteus Maximus Exercises

A common area that people want to exercise is their gluteus. There are a number of common exercises people do but recent research has determined which gluteus exercises are the most effective. This guide will help you learn about the most common gluteus exercises and which ones are the most effective in working your gluteus maximus, hamstrings and gluteus medius. - \$9.95 for eBook or \$19.95 for physical book

#### Effective Rotator Cuff Exercises

- Fitness Professional's Guide to Rotator Cuff Exercises -

Rotator cuff injuries are the most common shoulder injuries fitness professionals will face. Exercise is recommended by physicians for people with rotator cuff injuries and therefore it is vital for the fitness professional to be educated and prepared to work with these clients. Exercise can help safely alleviate pain, decrease stiffness, increase range of motion, and improve rotator cuff strength. Gain a comprehensive understanding of rotator cuff injuries, how to design an appropriate exercise program for your clients with a rotator cuff injury and discover the most effective exercises for the rotator cuff. If you are ready to increase your confidence working with clients with rotator cuff injuries, would like to understand how to safely train clients with rotator cuff injuries and empower yourself with the best exercises to help your clients with rotator cuff injuries, then Effective Exercises Rotator Cuff Exercises is a must for you.

For more details visit - http://effectiverotatorcuffexercises.com/

\$77 for digital manual / \$97 for physical manual



#### The Most Effective Exercises For Scoliosis

- Fitness Professional's Guide to Exercise and Scoliosis -

Exercise is recommended by physicians for people with scoliosis. With more people with scoliosis leaning towards exercise to help improve their condition, it is vital for the fitness professional to be educated and prepared to work with these clients. Exercise can help safely alleviate pain, stiffness, de-conditioning, and muscular weakness associated with scoliosis. Gain a comprehensive understanding of scoliosis, how to design an appropriate exercise program for your clients with scoliosis and discover the most effective exercises for scoliosis. If you are ready to increase your confidence working with clients with scoliosis, would like to understand how to safely train clients with scoliosis and empower yourself with the exercises to help your clients with scoliosis, then Effective Exercises for Scoliosis is a must for you.

For more details visit - http://effectiveexercisesforscoliosis.com/

\$77 for digital manual / \$97 for physical manual

Interested in receiving over \$299 worth of fitness education information?

Visit www.ExercisesForInjuries.com

# Ready-to-Download Presentations from Rick Kaselj



#### Scapular Stabilization Exercise Program

Shoulder injuries lead to pain, prevent people from doing the things they love and make life's simple tasks challenging. Many will learn strength exercises to help them recover from their shoulder injury, but too often these exercises will lead to slower recovery from a shoulder injury. What needs to be done before strengthening the shoulder is activating, building endurance and strengthening the scapular stabilization muscles. Adding this one step will speed up the recovery from a shoulder injury and prevent re-injury of the shoulder. For more details visit - <a href="http://ScapularStabilizationExercises.com/">http://ScapularStabilizationExercises.com/</a>



#### **Exercise and Plantar Fasciitis**

The role of exercise to treat plantar fasciitis is vital in helping shorten recovery time, decrease pain, and decrease the risk of reoccurrence. Creating an action plan on what to do if symptoms return is also important for the plantar fasciitis sufferer. The focus of the plantar fasciitis and exercise webinar will be exercise program design for clients who have plantar fasciitis. For more details visit - http://exercisesforinjuries.com/plantar-fasciitis-exercises/



#### The Most Effective Rotator Cuff Exercise Program

After the back, the second most common injury a fitness professional will encounter is the shoulder. Most times shoulder injuries directly and indirectly involve the rotator cuff. When fitness professionals hear that their client has a rotator cuff issue, they end up focusing on strengthening. Strengthening is important for your rotator cuff clients but it is only one part of an effective rotator cuff conditioning program. The fitness professional must address all five areas of a rotator cuff conditioning program in order to fully rehabilitate the rotator cuff. If not, they will only band-aid the injury and not fully help their client overcome it. In this webinar, fitness professional will learn how to avoid common rotator cuff exercise mistakes, the 5 components of a rotator cuff conditioning program and exercises to help their client's rotator cuff injury. For more details visit - http://exercisesforinjuries.com/rotator-cuff-conditioning-exercises/



#### **Corrective Exercises for Running Injury-Free**

Running is one of the most popular recreational activities among adults but most will have to stop due to an injury. Along with a solid running program that prevents over-training, there are a number of key exercises that must be included in a recreational runner's program in order to be injury-free. In the corrective exercises for running injury-free webinar, the fitness professional will learn a comprehensive list of assessment techniques and exercises to keep their clients running injury-free.

For more details visit - http://exercisesforinjuries.com/running-corrective-exercises/



#### Exercises for Prevention, Rehabilitation & Overcoming Knee Injuries

The knee is the focus of an exercise program when it is injured but often ignored any other time. More and more research has shown that the goal of the client should determine the knee exercise program compared to the presence or absence of injury. If your client's exercise goal is prevention of knee injuries, their exercise program should differ from that of a client recovering from a knee injury. If the client has had a knee injury and would like prevent a future knee injury, here is an exercise program that focuses on overcoming knee injuries. It is important that the fitness professional know which exercises and exercise programs are best for their client depending on the goal of the client. In this exercise and knee injury webinar, fitness professionals will learn three different knee exercise programs to help their clients who want to prevent a knee injury from occurring, to rehabilitate a knee injury and overcome knee injuries by preventing them in future.

For more details visit - http://exercisesforinjuries.com/acl-injury-exercises/



#### Core Stability of the Hip

In this video presentation, fitness professionals will learn a progressive exercise program that they can use with their personal trainer and group fitness clients to improve core stability in the hip, and prevent and recover from back, hip and knee injuries. For more details visit - <u>http://exercisesforinjuries.com/hip-injury-exercises/</u>



#### Lower Back Spinal Fusion & Exercise

In many situations, a lower back condition can lead to lower back spinal fusion surgery. It is estimated that 126,000 spinal fusion surgeries occur each year in the US and since 1996 the number of surgeries has increased 116%. The group that has had the greatest increase in lower back spinal fusion are adults over 60. Lumbar compression fractures, spinal deformities, spondylolisthesis, lumbar instability, disc herniation and degenerative disc disease are common conditions that can lead to lower back spinal fusion. A key component in the recovery from lower back spinal fusion surgery is exercise. The role of exercise after spinal fusion is important in speeding up recovery, strengthening the muscles supporting the vertebrae and improving the endurance of core stability muscles. The focus of the spinal fusion and exercise webinar will be exercise program design and exercises for a client who has had a lower back spinal fusion. For more details visit - http://exercisesforinjuries.com/lumbar\_fusion\_exercises/

#### Upcoming Webinars

- Exercises for Shoulder Impingement
- Exercises for Shoulder Dislocation

Interested in receiving a Shoulder Injury Guide?

Visit www.ExercisesForInjuries.com