

# Achilles Tendinitis and Tendinosis

## Achilles Tendinitis & Tendinosis

with Rick Kaselj, MS

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## My Story

### Rick Kaselj

- BSc – 1997
- MS – 2008 / RC
- Work – physio, studio, gym, rehab
- Courses – live, webinars
- Writing – books, manuals
- Blog – ExercisesForInjuries.com



Rick Hiking 4300 km / 5 months from Mexico to Canada

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## Objectives



- **Part 1** – What is Achilles Tendinitis and Tendinosis?
- **Part 2** – Exercise Considerations for Achilles Tendinitis and Tendinosis
- **Part 3** – 12 Week Exercise Program for Achilles Tendinitis and Tendinosis

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## Achilles Tendinitis and Tendinosis

### **Part 1 – What is Achilles Tendinitis & Tendinosis?**

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### **What is Achilles Tendinitis & Tendinosis?**

- **Tendinitis** – Acute irritation of the Achilles tendon that leads to inflammation and swelling that can be seen and touched.
- **Tendinosis** – Chronic and is a result of degenerative changes (aging) of the Achilles Tendon

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### **Few Things to Know About Achilles Tendinitis & Tendinosis**



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- Most frequently reported overuse injury
- Very common in people that are active (recreational & competitive)
- 7 to 9% of runners report Achilles tendinopathy (disease of the tendon) on a yearly basis
- Runners are most effected

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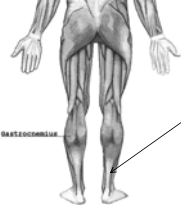
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## Achilles Tendinitis and Tendinosis

### Key Structures Involved in Achilles Tendonitis & Tendinosis



- Key Structures
  - Achilles Tendon
    - 15 cm in length
    - From calf (tendon junction) to Calcaneus
    - Made up of 50% of Gastrocnemius and 50% Soleus

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### Key Structures Involved in Achilles Tendonitis & Tendinosis



- Key Structures
  - Achilles Tendon
    - Starts off broad and flat and goes rounded and then broad

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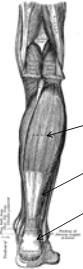
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### Key Structures Involved in Achilles Tendonitis & Tendinosis



- Key Structures
  - Gastrocnemius (Calf)
  - Soleus
  - Achilles tendon
  - Calcaneus (Heel)

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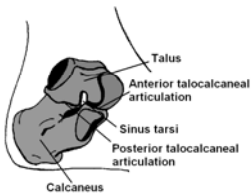
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## Achilles Tendinitis and Tendinosis

### Key Structures Involved in Achilles Tendonitis & Tendinosis



- Key Structures
  - Subtalar joint or Talocalcaneal Joint
    - Allows inversion and eversion (foot in and out)
    - Meeting of talus and calcaneus
    - Calcaneus = heel
    - Talus = lower leg attaches

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### Most Common Causes Leading to Achilles Tendinitis & Tendinosis

- Intrinsic Factors
  - Abnormal ankle dorsiflexion range of motion
    - Less than 11.5 degrees increase risk by 3.5 times
    - Too much
  - Subtalar joint range of motion
    - Too much or too little
  - Decrease in ankle plantar flexion strength
  - Increase foot pronation



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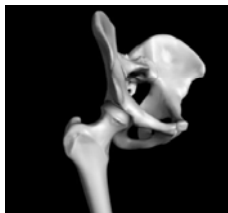
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### What Else Can It Be?

- Acute Achilles tendon rupture
- Partial tear of the Achilles tendon
- Retrocalcaneal bursitis
- Posterior ankle impingement
- Irritation of neuroma of the sural nerve
- Os trigonum syndrome
- Accessory soleus muscle
- Achilles tendon ossification
- Systemic inflammatory disease
- Insertional Achilles tendinopathy



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# Achilles Tendinitis and Tendinosis

## Remember!

1. Get things checked out
2. Get an accurate diagnosis
  1. Ultrasound
  2. Magnetic Resonance Imaging - MRI
3. Get clearance to start an exercise program
4. Bring this exercise program to your doctor to see if it is right for you



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## Assessing of Achilles Tendinitis & Tendinosis?



- Self Assessment or Client Assessment
  1. Feet on Wall (Dorsiflexion range of motion)
  2. Single Leg Toe Raises (Plantar flexion strength – 1 time)
  3. Multiple Single Toe Raises (Plantar flexion endurance – 10 to 20 times)
  4. Pain with palpation

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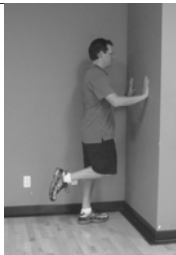
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## Assessing of Achilles Tendinitis & Tendinosis?



- Self Assessment or Client Assessment
  - Use to show a starting point
  - Measure progress

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## Achilles Tendinitis and Tendinosis

### Assessing of Achilles Tendinitis & Tendinosis?



- How are they or you with?
  - Walking
  - Descending stairs
  - Single Leg Hopping

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### Part 2 – Exercise Considerations for Achilles Tendinitis & Tendinosis

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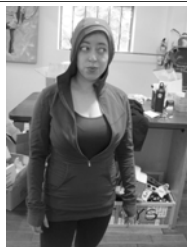
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### Most Common Causes Leading to Achilles Tendinitis & Tendinosis

- Extrinsic Factors
  - Training errors
    - Increase in mileage
    - Increase in intensity
    - Hill training
    - Return off of a break
  - Environmental factors
    - More prone in Winter
  - Faulty equipment



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## Achilles Tendinitis and Tendinosis

### Most Common Causes Leading to Achilles Tendinitis & Tendinosis

- **Other Conditions**
  - Obesity
  - Hypertension
  - Diabetes



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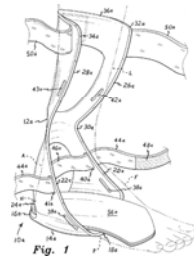
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### What Else Could Help Other than Exercise?

- **Low-level laser therapy**
- **Manual Therapy**
- **Taping**
- **Foot Orthotics**
  - Custom
- **Night Splints**



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### What Else Could Help Other than Exercise?

- **Surgery**
  - 29% of people needed surgery
  - 4 to 6 months to recover



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# Achilles Tendinitis and Tendinosis

## Important Training Techniques for Recovering from Achilles Tendinitis & Tendinosis

- **Abnormal Ankle Dorsiflexion Range of Motion**

- Need to improve
- Mobility
- Stretching



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## Important Training Techniques for Recovering from Achilles Tendinitis & Tendinosis



- **Abnormal Subtalar joint range of motion**

- Work on balance

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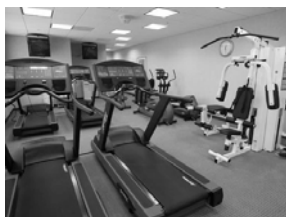
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## Important Training Techniques for Recovering from Achilles Tendinitis

- **Decreased Calf Strength**

- Ankle plantar flexion (Go onto toes) strength



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## Achilles Tendinitis and Tendinosis

### Important Training Techniques for Recovering from Achilles Tendinitis & Tendinosis

- **Increase Foot Pronation**

- Flattening of feet
- Good set of shoes
- Over the counter foot inserts
- Work on balance
- Calf strength



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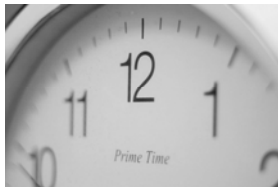
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### Important Training Techniques for Recovering from Achilles Tendinitis & Tendinosis



- **When To Do Training**

- End of exercise program
- End of day

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### Important Training Techniques for Recovering from Achilles Tendinitis & Tendinosis

- **Manage Conditions**

- Obesity
- Hypertension
- Diabetes



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## Achilles Tendinitis and Tendinosis

### Important Training Techniques for Recovering from Achilles Tendinitis & Tendinosis

- **Extrinsic Factors**
  - Training errors
  - Environmental factors



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### Important Training Techniques for Recovering from Achilles Tendinitis & Tendinosis



- **Education**
  - What is Achilles tendinitis and tendinosis?
  - What make it worse?
  - What to do about it?
  - How to do exercise program properly?

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### Part 3 – 12 Week Exercise Program for Achilles Tendinitis & Tendinosis

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## Achilles Tendinitis and Tendinosis

### Week Exercise Program for Achilles Tendinitis

	Stage 1	Stage 2	Stage 3
<b>Self Massage</b>	Foam Roller Calf Toe Up	Foam Roller Calf Toe Out	
<b>Self Massage</b>	Self Massage with Ball Toe Up	Self Massage with Ball Toe Out	
<b>Self Massage</b>	Self Massage with Thumb		
<b>Ankle Mobility</b>	Knee to Wall	Knee to Wall (Toe Away)	Three Way Knee to Wall
<b>Calf Stretch</b>	Natural	Straight	Toe In
<b>Soleus Stretch</b>	Natural	Straight	Toe In
<b>Calf Strength</b>	Calf Raises Both Toes	Calf Raises One Toe	Calf Raises Hoping
<b>Balance</b>	Single Leg Balance	Single Leg Deadlift	Single Leg on Toe
<b>Hip Stability</b>	Lateral Walking	Lateral Tubing Walk	Monster Walking
<b>Stepping</b>	Step Up	Step Down	Step Over

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### The Exercise NOT to DO if You Have Achilles Tendonitis



- **Non-weight Bearing**
- **Weight Bearing**
  - Standing
  - Squatting
  - Single Leg Balance
  - Single Leg Squat
  - Lunge
- **Functional**
  - Walking
  - Jumping
  - Running
  - Hiking
  - Cutting

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### Exercises for Achilles Tendinitis



- **Equipment**
  - Foam roller or soda bottle
  - Medicine Ball or Ball
  - A thumb
  - Riser or stair step
  - Tubing
  - Dumbbells or backpack

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# Achilles Tendinitis and Tendinosis

## Exercises for Achilles Tendinitis

### #1 - Foam Roller Calf

- Toe up
  - Toe out
  - No foam roller use 2L soda / pop bottle
  - Hold until subside and go up leg once
  - 1 to 3 times a day
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## Exercises for Achilles Tendinitis

### #2 - Self Massage with Ball

- Ball
- Tennis
- Dog toy
- Hold until subside and go up leg once or twice
- 1 to 3 times a day



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## Exercises for Achilles Tendinitis

### #3 - Self Massage with Thumb

- Thumb
- Massage around sore area
- 1 to 3 times a day



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## Achilles Tendinitis and Tendinosis

### Exercises for Achilles Tendinitis

#### #4 - Ankle Mobility

- Knee to wall
- Knee to Wall (Toe Away)
- Three Way Knee to Wall
- 10 times
- Smooth controlled movement
- 1 to 3 times a day



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### Exercises for Achilles Tendinitis

#### #5 - Calf Stretch

- Natural
- Straight
- Toe In
- 2 times for 30 seconds
- 1 to 3 times a day



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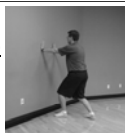
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### Exercises for Achilles Tendinitis

#### #6 - Soleus Stretch

- Natural
- Straight
- Toe In
- 2 times for 30 seconds
- 1 to 3 times a day



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## Achilles Tendinitis and Tendinosis

### Exercises for Achilles Tendinitis

- **#7 - Calf Raises**

- Both toes
- One toe
- Hoping
- 10 to 20 times
- 1 to 3 times a day



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### Exercises for Achilles Tendinitis

- **#8 - Balance**

- Single Leg Balance
- Single Leg Deadlift
- Single Leg on Toe
- 10 times
- 2 sets for a 30 second hold
- 1 to 3 times a day



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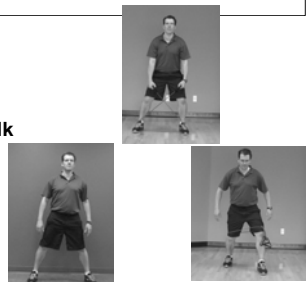
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### Exercises for Achilles Tendinitis

- **#9 - Lateral Movement**

- Lateral Walking
- Lateral Tubing Walk
- Monster Walking
- 10 times each way
- Smooth controlled movement
- 1 to 3 times a day



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## Achilles Tendinitis and Tendinosis

### Exercises for Achilles Tendinitis

- **#10 - Step Ups**

- Up
- Down
- Over
- 10 times
- Smooth controlled movement
- 1 to 3 times a day



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### Exercises for Achilles Tendinosis

- **Heel Drop Program**

- Both Legs
- One Leg
- One Leg with Weight



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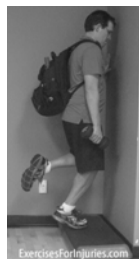
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### Exercises for Achilles Tendinosis

- **Heel Drop Program**

- Return to start with uninjured leg
- Controlled movement
- Knee straight and knee bent



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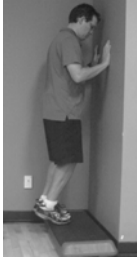
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## Achilles Tendinitis and Tendinosis

### Exercises for Achilles Tendinosis

- **Heel Drop Program**
  - Progress to a leg press machine
  - 12 weeks
  - 2 times a day
  - 3 sets of 15 repetitions
  - Moderate pain but not disabling pain



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### Objectives



**Part 1** – What is Achilles Tendinitis and Tendinosis?

**Part 2** – Exercise Considerations for Achilles Tendinitis and Tendinosis

**Part 3** – 12 Week Exercise Program for Achilles Tendinitis and Tendinosis

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### Other Exercises & Injuries

- Scapular Stabilization Exercises
- Plantar Fasciitis and Exercise
- The Most Effective Rotator Cuff Exercise Program
- Exercises for Prevention, Rehabilitation and Overcoming Knee Injuries
- Corrective Exercises for Running Injury-free
- Lumbar Spinal Fusion and Exercise



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## Achilles Tendinitis and Tendinosis

### More FREE Information on Exercise & Injuries

- **\$299 Fitness Education**
  - Returning the Shoulder Back to Optimal Function Seminar
  - Exercise Modification for the Sensitive Shoulder Seminar
  - Visit [www.ExercisesForInjuries.com](http://www.ExercisesForInjuries.com)

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THE PAIN MANAGEMENT PROGRAM

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### Thank You

- **Send me your questions!**
- **Visit [ExercisesForInjuries.com](http://ExercisesForInjuries.com) to get \$299 in Fitness Education Gifts**
- **Rick Kaselj**
  - [rick@ExercisesForInjuries.com](mailto:rick@ExercisesForInjuries.com)
  - [www.ExercisesForInjuries.com](http://www.ExercisesForInjuries.com)

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### End

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