

# PneuGait Foot™

## Personal Instructions



Patent 7,094,213 B1

## Key Benefits

- Correction of Supination, Pronation, External rotation, Internal rotation and Drop foot
- Relief of Knee Pain
- Relief of Hip Pain
- Alters Weight Stress on Knee
- Reducing Repetitive Stress on knee and ankle

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# Contents

Preface .....	4
Liability Notice .....	4
Description and Use .....	5
Components .....	5
Using the Strap .....	6
Ankle Cuff .....	6
Knot String .....	6
Straps.....	6
Strapping Methods .....	8
External Rotation .....	8
Internal Rotation .....	10
Drop Foot .....	12
Gait assessment .....	14
Your Warranty.....	16

To be used under direction of health care provider.

## Preface

This manual contains the operating instructions for the PneuGait Foot Strap. Please read the manual carefully before using the PneuGait Foot Strap.

## Liability Notice

Failure to follow the conditions set forth below shall absolve Pneumex, Inc. from any responsibility for the safety, reliability, and performance of this equipment.

Each user must read the instruction manual in full before using the product for the first time.

The PneuGait Foot Strap must be used in accordance with the instructions for use. It is suggested users of PneuGait Foot Strap receive approved training from their Physical Therapist, Chiropractor or Medical provider on the application, use, and length of time they should take advantage of the PneuGait Foot Strap. Please call Pneumex at 800-447-5792 for more information.

To be used under direction of health care provider.

## Description and Use

The PneuGait Foot Strap aids in correcting gait issues by correcting the way the muscles work while walking. A simple and effective way to dynamically correct

- Pronation-inward rolling of the foot (pronation)
- Supination -outward rolling of the foot (supination)
- External Rotation –walking with knees out –toes out
- Internal rotation –walking with knees in - toes in
- Drop foot—walking with toe drag

**Pneumex recommends you have your gait analyzed to make sure you are using the PneuGait Foot Straps correctly.**

Gait analysis is essentially the assessment of your walking pattern. Poor walking or running gait is not only inefficient, it can also cause the body to compensate in other areas. An injured foot can cause knee, hip or back pain. This can put undue stress on other body parts.

Poor gait habits may become long-term, which can lead to other injuries because your body is not functioning the way it was intended. It only takes a small injury resulting in mild pain, stiffness or weakness to affect the way you walk or run.

## Common Gait (Walking) Problems

With injury or illness, your gait pattern can be very different from normal.

### Hip-

Dip down

Difficult to swing the leg round on step

### Knee-

Turning outwardly or away from the midline of the body, external rotation

Turning inward towards the midline of the body, internal rotation

### Foot-

Walk on outside of foot

Walk on inside of foot

Unable to pull up toes (foot drop), which could lead an inability to place heel on the ground.

Walk with weight too far back on heels

Walk with weight on toes Tip Toe

## Components

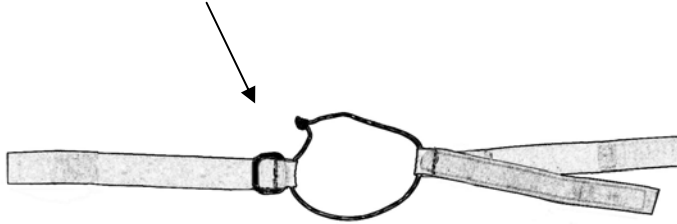
The PneuGait Foot Strap components include a neoprene ankle cuff, a knotted string that goes on the bottom of the shoe, a Velcro tightening strap and the gait adjustment straps that are velcroed to the ankle strap.

Consists of two parts

the neoprene **ankle cuff**



and the **foot strap**

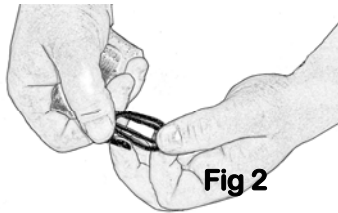


The Drop Foot Straps have a wider **ankle cuff** to help lift the toe.

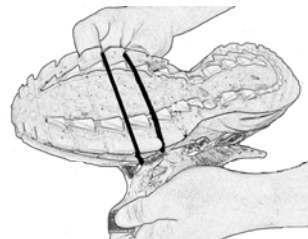
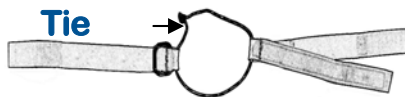


## Using the PneuGait Foot Strap™

1-Place the neoprene cuff above ankle tight enough that it will not slide (Fig 1)



2-Tie knot in string this knot will adjust the string length to fit width of shoe. **Important to allow enough string length to fit widest part of shoe without letting the nylon loops touch the ground causing excessive wear.** (Fig 2)



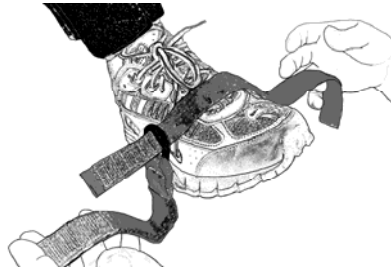
3- Position string on bottom of shoe with colored band on top. **It is very important to position the string at or slightly above the widest part of the foot.** The dynamics of the foot strap will not allow the string to go off the toe if place correctly, but if it is too far down toward the heel the benefits are lost or reduced.





4- Bring colored nylon strap up over top of shoe.  
**(Fig 3)**

**Fig 3**



**Fig 4**



5- Place nylon strap through "D" ring and pull snugly to fit on shoe, at widest part of foot. **(Fig 4)** secure the Velcro.

6-Attach the long Velcro straps as indicated by the desired correction.  
See Pages 10-11 Outside, 12-13 Inside, 14-15 Drop Foot

# PneuGait Foot Strap

## Supination -outward rolling of the foot

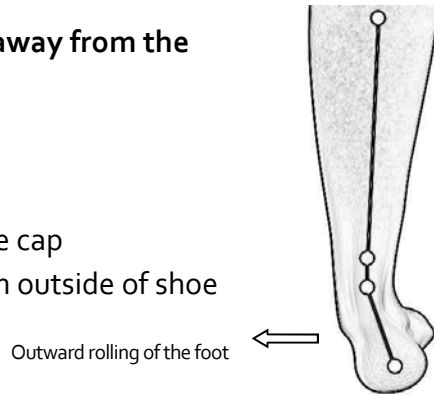
Turning or rolling outward away from the center

### Common Symptoms

- Ankle rolls out
- Pain on inside below knee cap
- Excessive wear on heel on outside of shoe

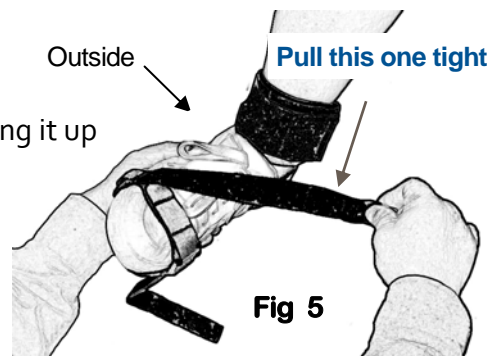
### Problems caused:

- Uneven wear on knee joint cartilage
- Outward push on the knee & possible pain on joint due to repetitive stress
- Pain due to uneven hip and knee stress.
- Shortening of connective tissue-Achilles, calf etc.
- Hyperextension an excessive joint movement beyond its normal, healthy, range of motion. This movement may make the joint unstable and increase the risk for dislocation or other potential injuries.



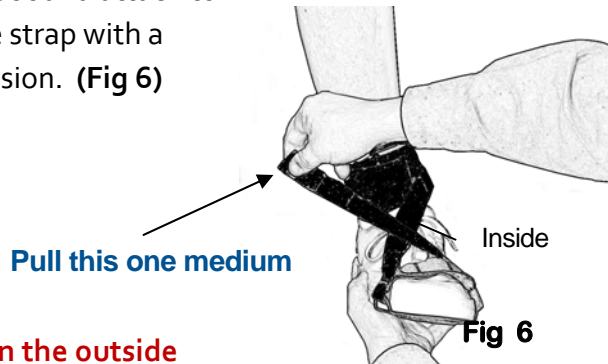
### Strapping Method:

- Hold the knee up at 90 degrees
- Hold the outside of the foot, bring it up as far as ankle will allow
- Pull the outside strap across the foot and attach to Velcro ankle strap as tight as you can make it. (Fig 5)



**Outside to inside pull tight**

- Keep the foot in the same position, bring the inside strap across the foot and attach to Velcro ankle strap with a medium tension. **(Fig 6)**



**If pain occurs on the outside knee reduce tension on outside strap.**

#### **Benefits of Strapping:**

- Balances knee
- Reduces push on outside knee when taking a step
- Prevents hyperextension
- Stretches connective tissue
- Teaches new muscle memory
- Retrains central nervous system
- Corrects the body's physical awareness
- Stabilizes knee

#### **Suggested Wear:**

Day 1 -maximum 1 hour increase daily to 4 hour

Day 7 -during most active period of day, not necessarily continuous.

Day 8-21 repeat day 7

Most users can discontinue at this time. If pain re-occurs or persists, see health care provider.

# PneuGait Foot Strap

## Pronation-inward rolling of the foot

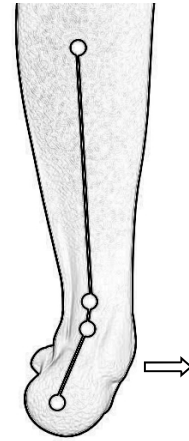
Turning or rolling in an inward toward the center

### Common Symptoms

- Ankle rolls in
- Pain on inside below knee cap
- Excessive wear on inside of shoe

### Problems caused:

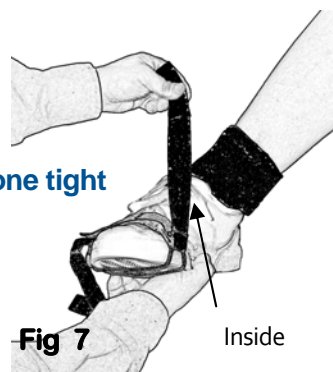
- Uneven wear on cartilage surface of knee
- Pain in joint due to repetitive stress when walking.
- Pain due to uneven hip and knee stress.
- Shortening of connective tissue-Achilles, calf etc.
- Imbalances in the joints of movement which include the knee, hip, and ankle.



Inward rolling of the foot

### Strapping Method:

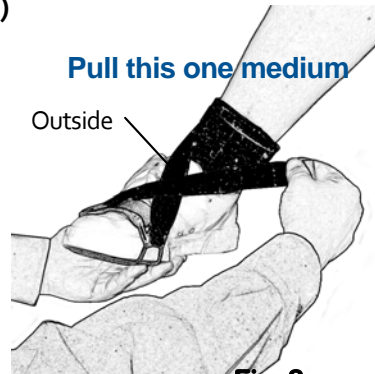
- Hold the knee up at 90 degrees
- Hold the inside of the foot, bring it up as far as ankle will allow
- Pull the inside strap across the foot and attach to Velcro ankle strap as tight as you can make it. (Fig 7)



Pull this one tight

Inside to outside pull tight

- Pull the outside strap up and out- attach to the Velcro ankle cuff, with medium tension (**Fig 8**)



**If pain occurs on the inside knee reduce tension on outside strap.**

### **Affects of Strapping:**

- Balances knee
- Reduces push on inside knee when taking a step
- Prevents hyperextension
- Stretches connective tissue
- Teaches new muscle memory
- Retrains central nervous system
- Corrects the body's physical awareness
- Stabilizes knee

### **Suggested Wear:**

Day 1 – maximum 1 hour increase daily to 4 hour

Day 7 - during most active period of day, not necessarily continuous.

Day 8-21 repeat day 7

Most users can discontinue at this time. If pain re-occurs or persists, see health care provider.

## PneuGait Drop Foot Strap

### Drop Foot –Tip Toe

Toe drag prevents people from lifting the front part of the foot

### Common Symptoms

- Toes drag causing tripping
- Tip toe walking

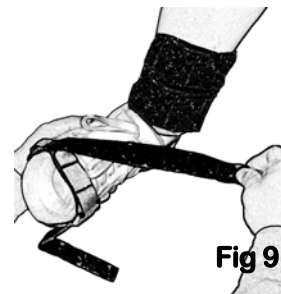


### Problems caused:

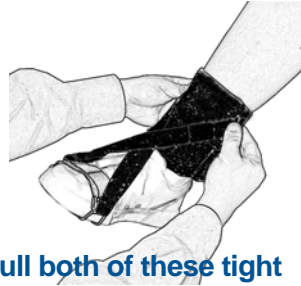
- Falling with toe drag
- Slow, stumbling, unsure gait pattern.
- Uneven wear of knee cartilage surface.
- Pain in joint-due to repetitive stress.
- Hyperextension an excessive joint movement beyond its normal, healthy, range of motion. This movement may make the joint unstable and increase the risk for dislocation or other potential injuries.
- Shortening of connective tissue-Achilles, calf etc.
- Imbalances in the joints of movement which include the knee, hip, and ankle.

### Strapping Method:

- For Drop Foot you will need double cuff.
- Hold the knee at 90 degrees
- Turn the toes upward and in far as ankle will allow (Fig 9)
- Attach both straps to the double ankle strap as tight as you can make it.



- Cross over both straps as high on the ankle strap as possible and stretch both straps to maximum tension.



### **Affects of Strapping:**

- Maximizes heel to toe step
- Prevents hyperextension.
- Stabilizes knee
- Stretches connective tissue.
- Teaches new muscle memory
- Retrains central nervous system- corrects the body's physical awareness

### **Suggested Wear Pattern:**

Day 1 – maximum 1 hour increase daily to 4 hour

Day 7 - during most active period of day, not necessarily continuous.

Day 8-21 repeat day 7

Most users can discontinue at this time. If pain re-occurs or persists, see health care provider. To be used under direction of health care provider. People, for whom drop foot is a problem, should consider this approach as opposed to traditional bracing approach.

## PneuGait Foot Strap

### External Rotation –walking with knees out –toes out

Duck foot

#### Common Symptoms

- Pain on inside just below kneecap
- Excessive wear on heel of outside of shoe

#### Problems caused:

- Posture problems
- Limping
- Uneven wear on knee joint cartilage
- Imbalances in the joints of movement which include the knee, hip, and ankle.

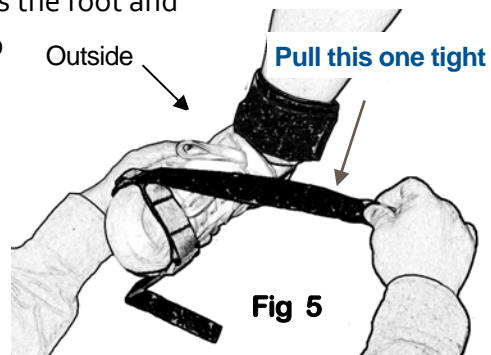


#### Strapping Method:

- Hold the knee up at 90 degrees
- Hold the outside of the foot, bring it up as far as ankle will allow
- Pull the outside strap across the foot and attach to Velcro ankle strap as tight as you can make it.

(Fig 5)

Outside to inside pull tight

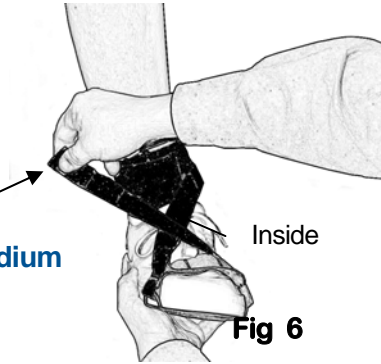




- Keep the foot in the same position, bring the inside strap across the foot and attach to Velcro ankle strap with a medium tension. **(Fig 6)**

**Inside to outside pull medium tension**

**Pull this one medium**



**If pain occurs on the inside knee reduce tension on outside strap.**

### **Benefits of Strapping:**

- Balances knee
- Reduces push on outside knee when taking a step
- Prevents hyperextension
- Stretches connective tissue
- Teaches new muscle memory
- Retrains central nervous system
- Corrects the body's physical awareness
- Stabilizes knee

### **Suggested Wear:**

Day 1 -maximum 1 hour increase daily to 4 hour

Day 7 -during most active period of day, not necessarily continuous.

Day 8-21 repeat day 7

Most users can discontinue at this time. If pain re-occurs or persists, see health care provider.

# PneuGait Foot Strap

## Internal rotation –walking with knees in - toes in

Pigeon Toed, Toes turn in



### Common Symptoms

- General pain below kneecap
- Pain behind knee
- Excessive wear on heel of inside of shoe

### Problems caused:

- Posture problems
- Limping
- Uneven wear on knee joint cartilage
- Imbalances in the joints of movement which include the knee, hip, and ankle.

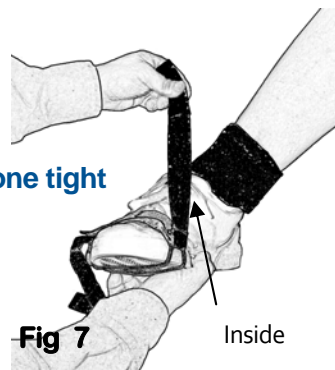
### Strapping Method:

- Hold the knee up at 90 degrees
- Hold the inside of the foot, bring it up as far as ankle will allow
- Pull the inside strap across the foot and attach to Velcro ankle strap as tight as you can make it.

(Fig 7)

**Pull this one tight**

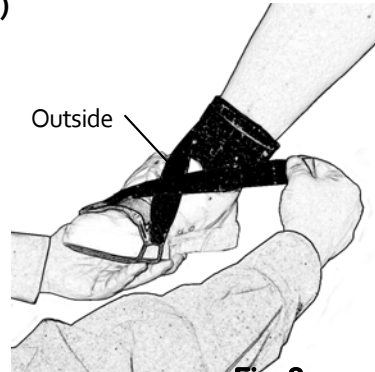
**Inside to outside pull tight**



- Pull the outside strap up and out- attach to the Velcro ankle cuff, with medium tension (**Fig 8**)

**Outside to inside pull tight**

**If pain occurs on the inside knee reduce tension on outside strap.**



**Fig 8**

### **Affects of Strapping:**

- Balances knee
- Reduces push on inside knee when taking a step
- Prevents hyperextension
- Stretches connective tissue
- Teaches new muscle memory
- Retrains central nervous system
- Corrects the body's physical awareness
- Stabilizes knee

### **Suggested Wear:**

Day 1 – maximum 1 hour increase daily to 4 hour

Day 7 - during most active period of day, not necessarily continuous.

Day 8-21 repeat day 7

Most users can discontinue at this time. If pain re-occurs or persists, see health care provider.

## Your Warranty

If a product purchased from Pneumex does not operate properly, Pneumex will repair or replace it at no charge, for up to one year from the date shipped. In the course of repair or replacement, Pneumex may send you written recommendations on how to prevent a problem from occurring again. Pneumex reserves the right to withdraw this warranty if recommendations are not followed. The customer is responsible for freight charges both to and from Pneumex in all cases.

This warranty does not apply to compressors which are covered by the compressor manufacturers.

This warranty is exclusive and is in lieu of all other warranties whether written, oral or implied, including the warranty of fitness for any particular purpose. Pneumex liability is in all cases limited to the replacement price of its product. Pneumex shall not be liable for any other damages, whether indirect, consequential, or incidental arising from the sale or use of its products.

Pneumex sales personnel may modify this warranty, but only by signing a specific written description of any modifications.

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