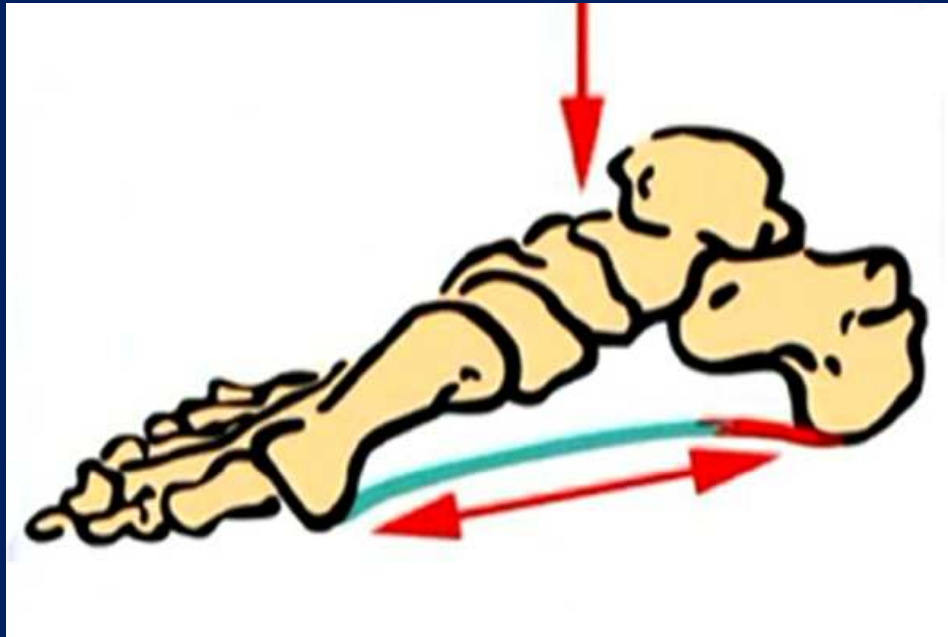


# Immediate efficacy of taping for the treatment of plantar fasciitis

Kuo-Feng Kao (高國峰)

Mawlong Orthopaedic Hospital (茂隆骨科醫院)

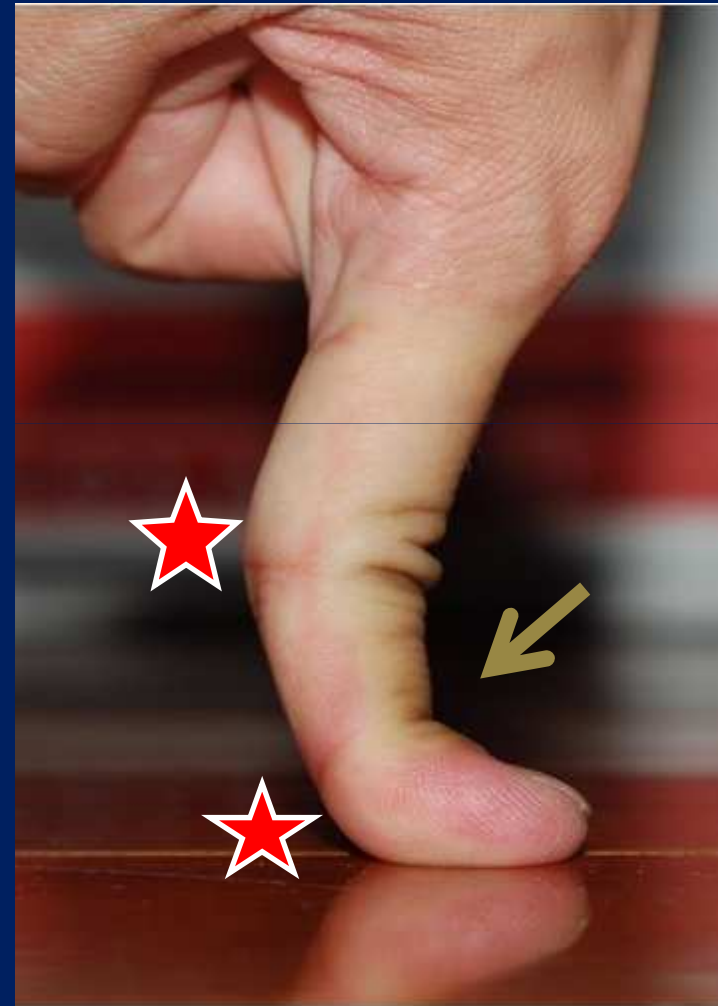


- ▣ The plantar fascia ligament is made of fibrous bands of tissue and runs between the heel bone and metatarsal head
- ▣ Stretches with every step.

# Taping

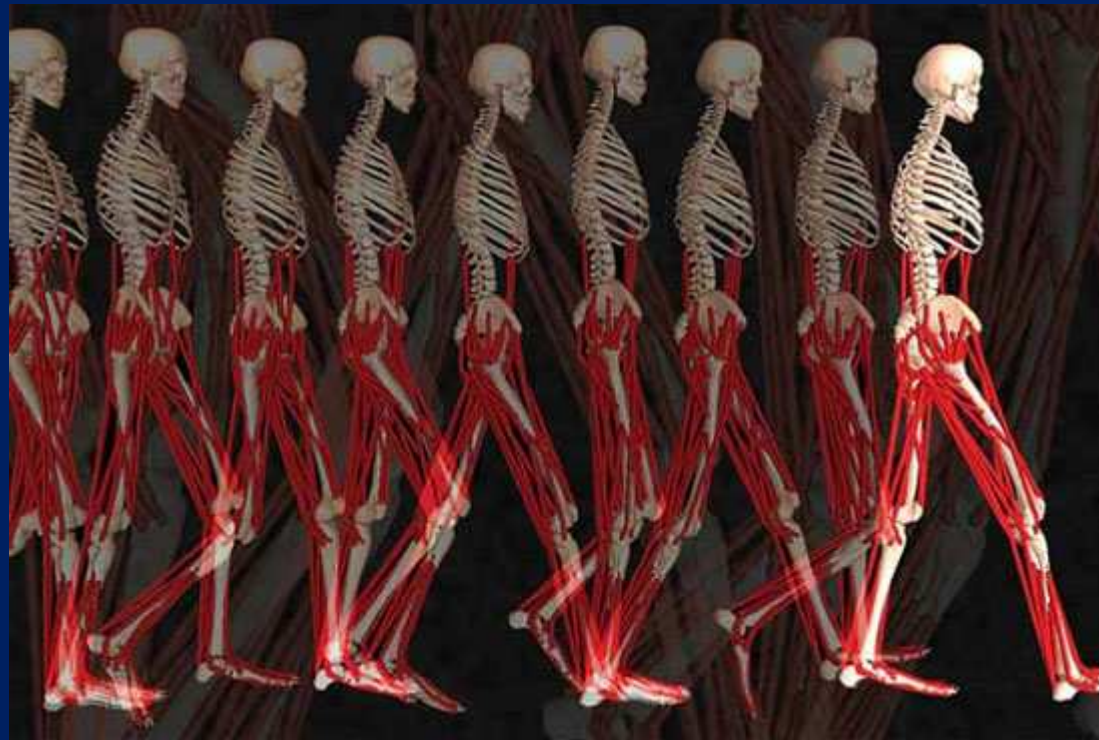
- ▣ A form of strapping
- ▣ Non-invasive treatment:
  - It is a procedure that uses tape, attached to the skin, to physically keep in place **muscles, bones, tendons or ligaments** at a certain position.
- ▣ Used to help recover from **overuse** and other **injuries**.

# Keep well alignment



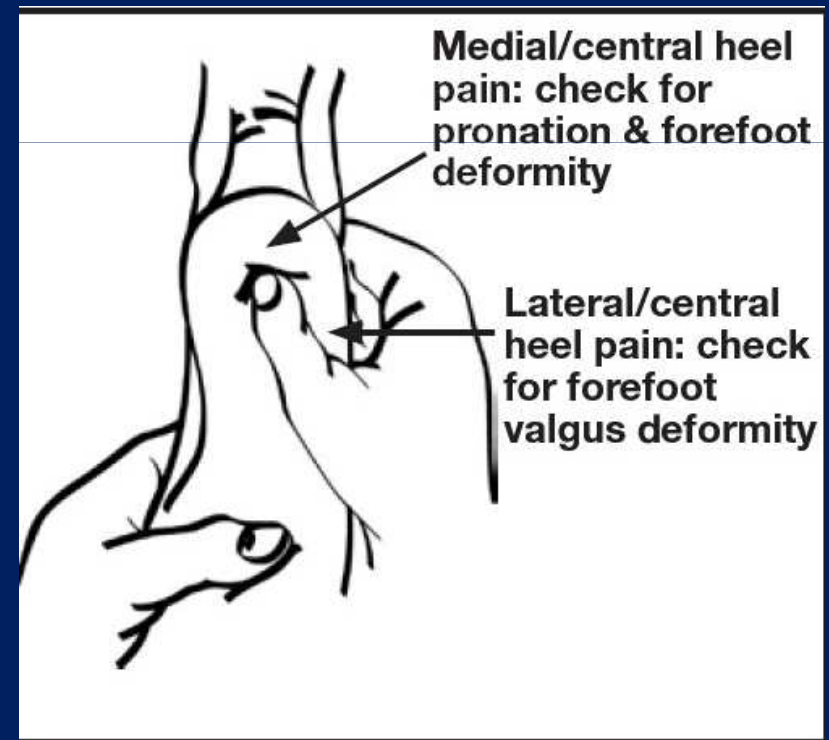
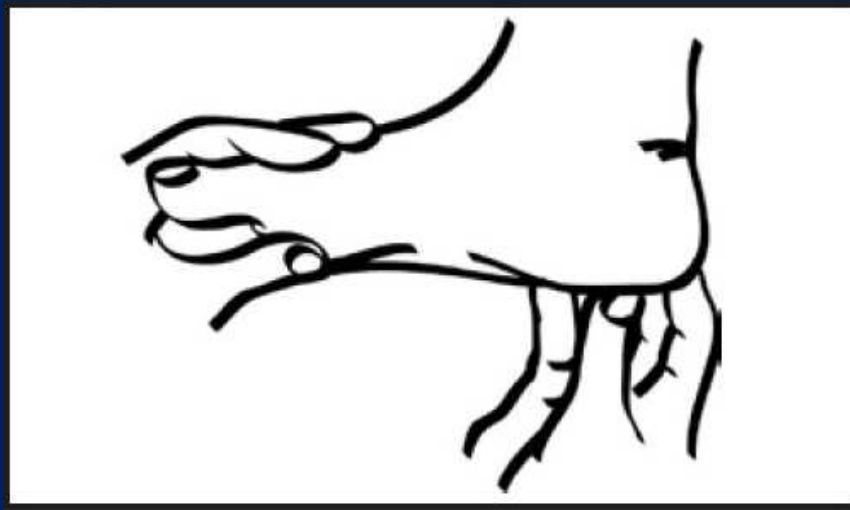
Less stretches = Less pain ?

# Biomechanics



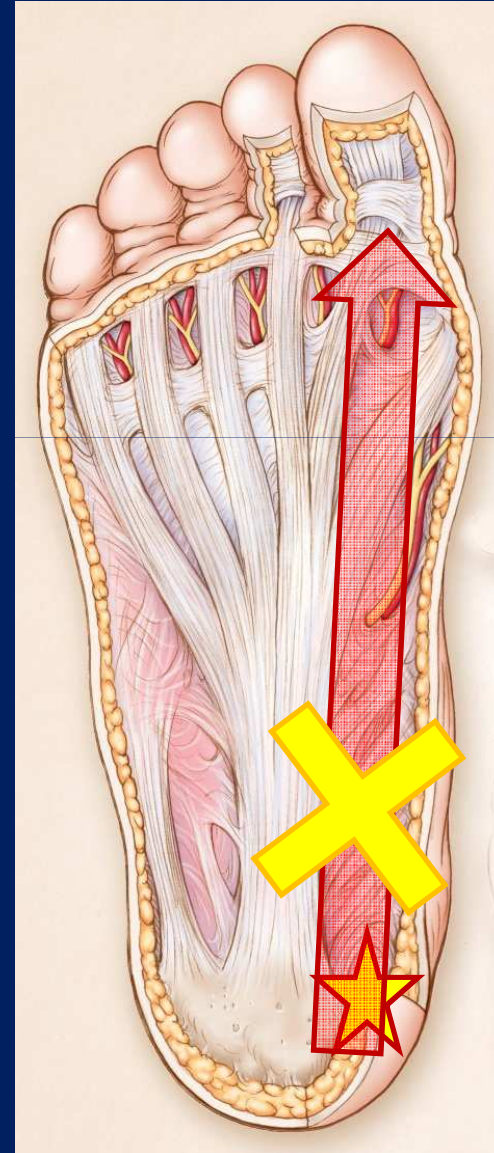
# Point of pain

- ▣ **Medial** heel pain
- ▣ **Central** heel pain
- ▣ Lateral heel pain



# Medial heel pain

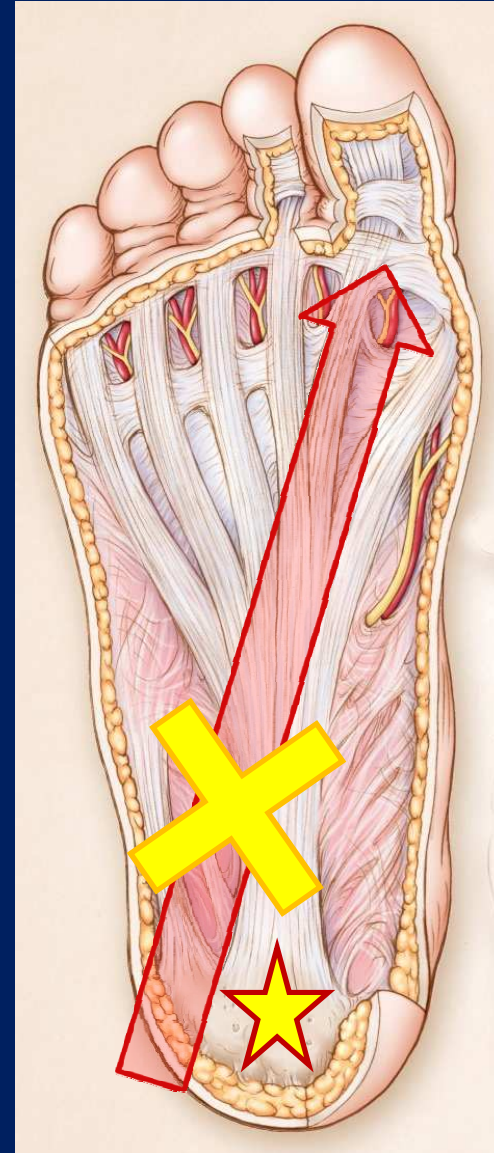
- ▣ Pronation
- ▣ Medial plantar fascia to elongate and injury away from the calcaneal attachment





# Central heel pain

- ▣ Supination, pronation
- ▣ **Lateral heel strike** in gait to mid-foot collapse
- ▣ **Pronation** at mid stance of gait

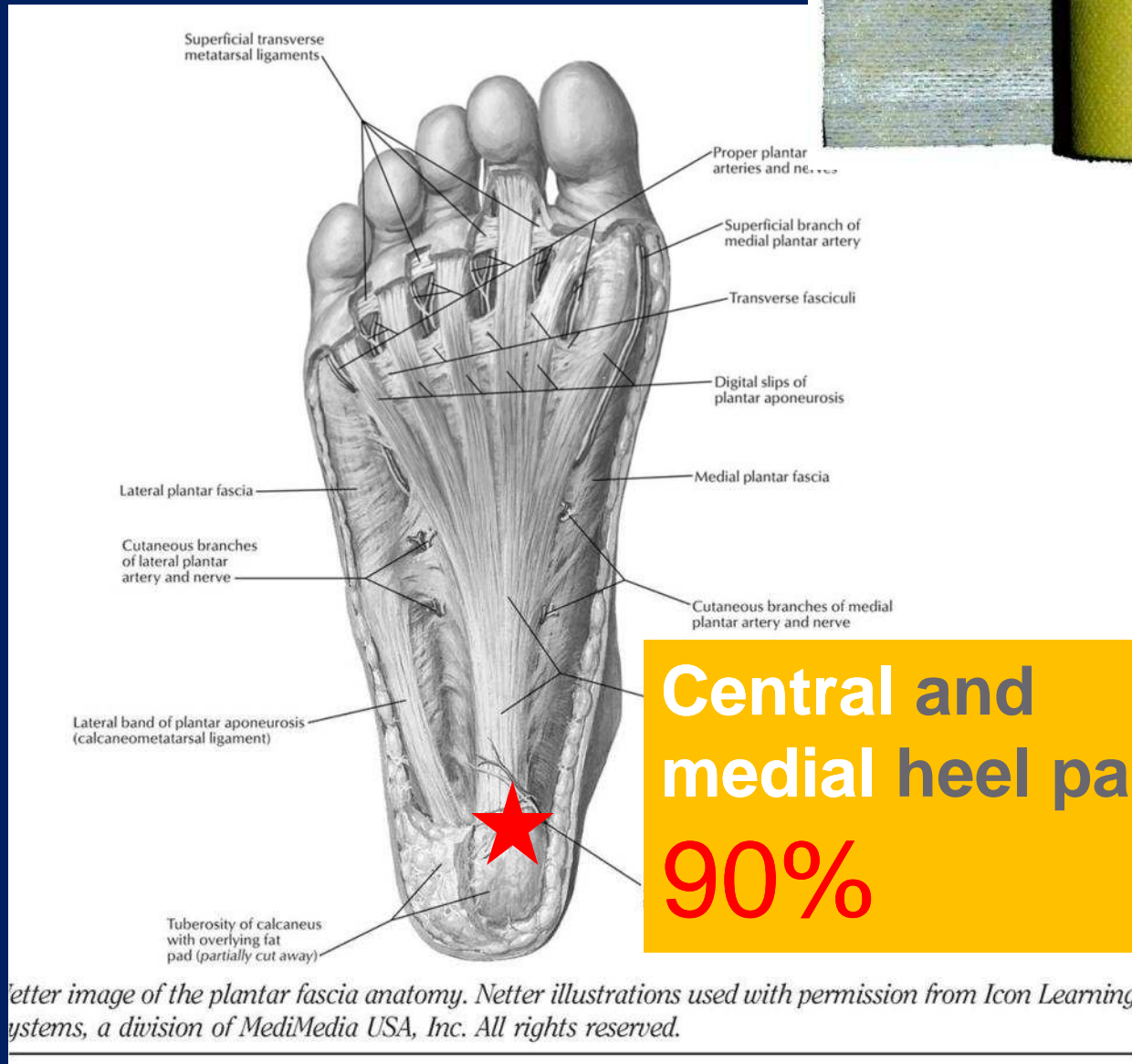
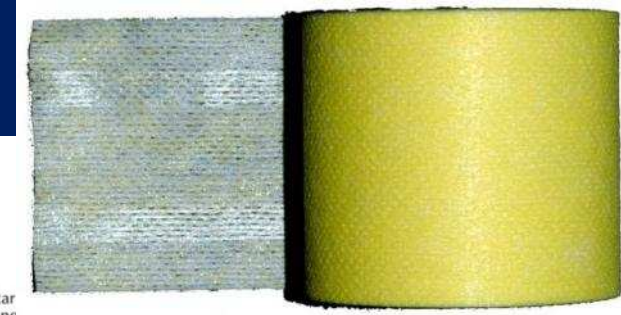


# Lateral heel pain

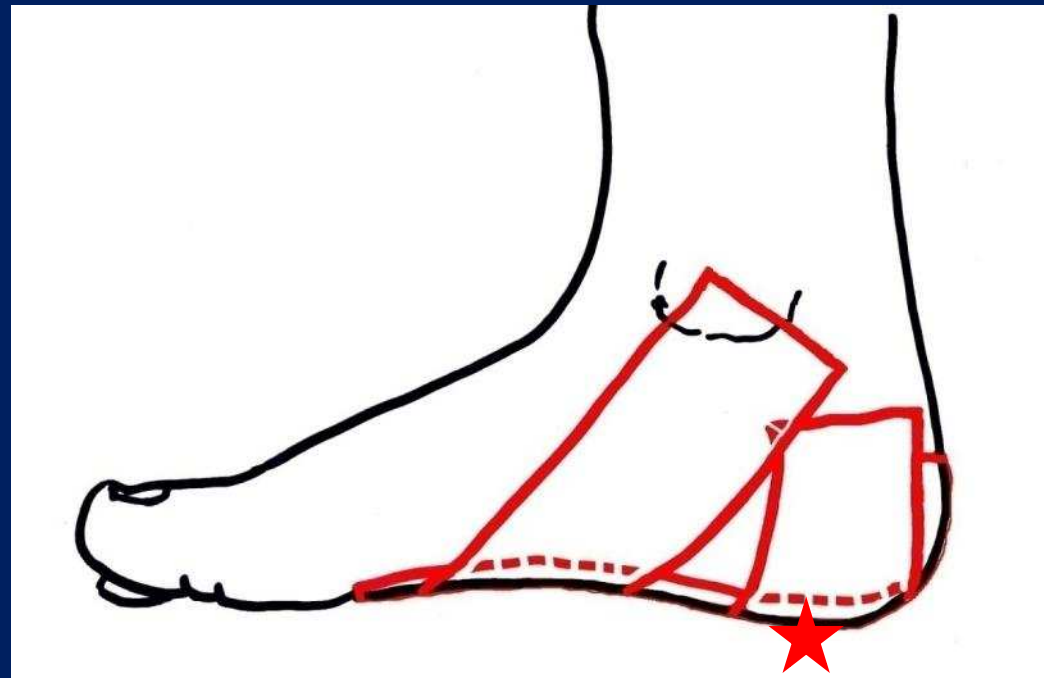
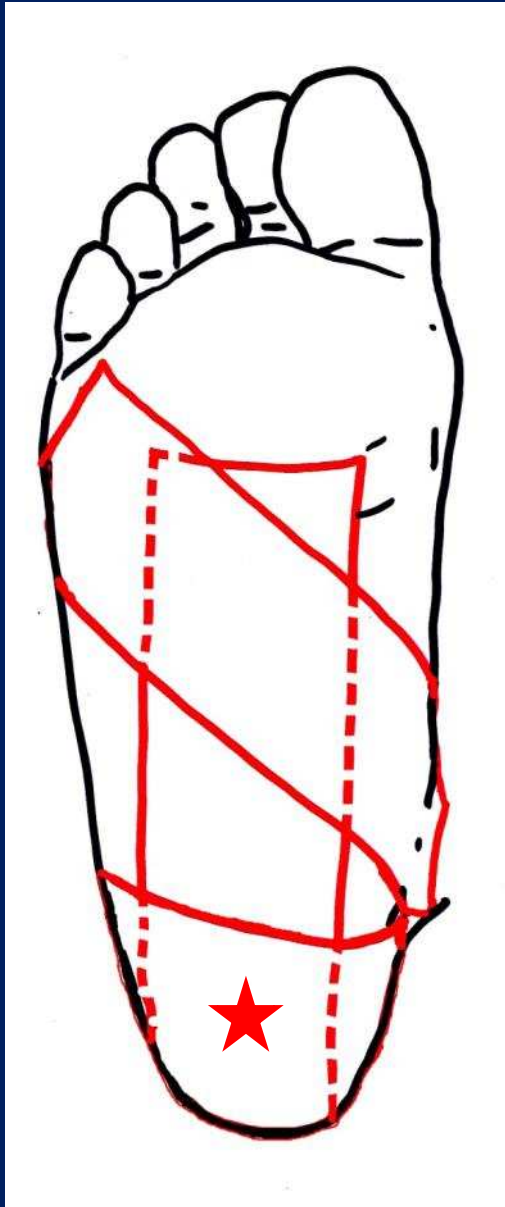
- ▣ Supination
- ▣ Pes cavus
- ▣ Excessive forefoot valgus
- ▣ Lateral plantar fascia to strain from the attachment



# Taping 貼紮



# Plantar Protection + Arch Support Taping



# Ez Peel<sup>®</sup> EPRA 休護運動貼布

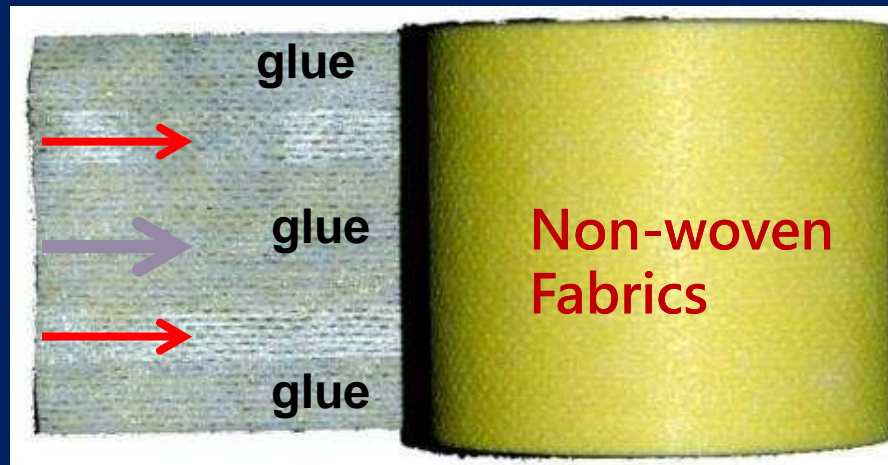
縱向無延展性



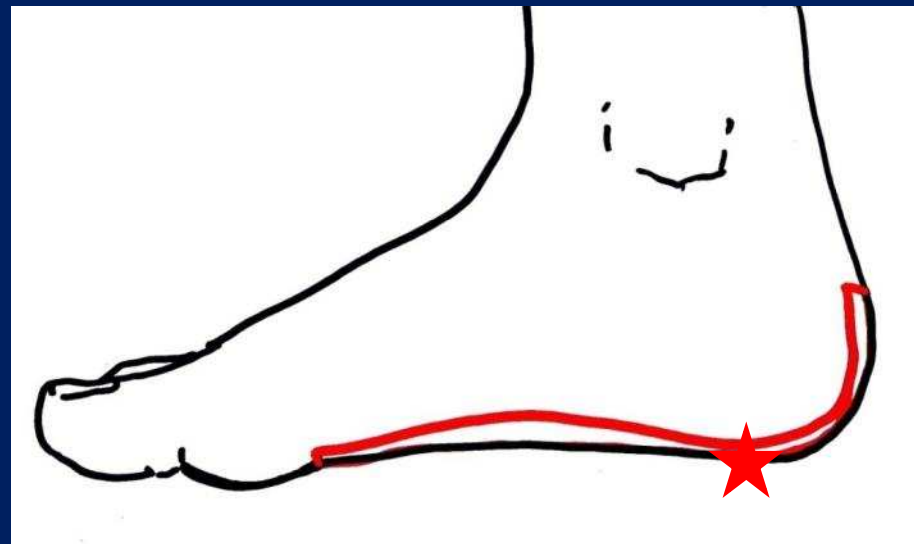
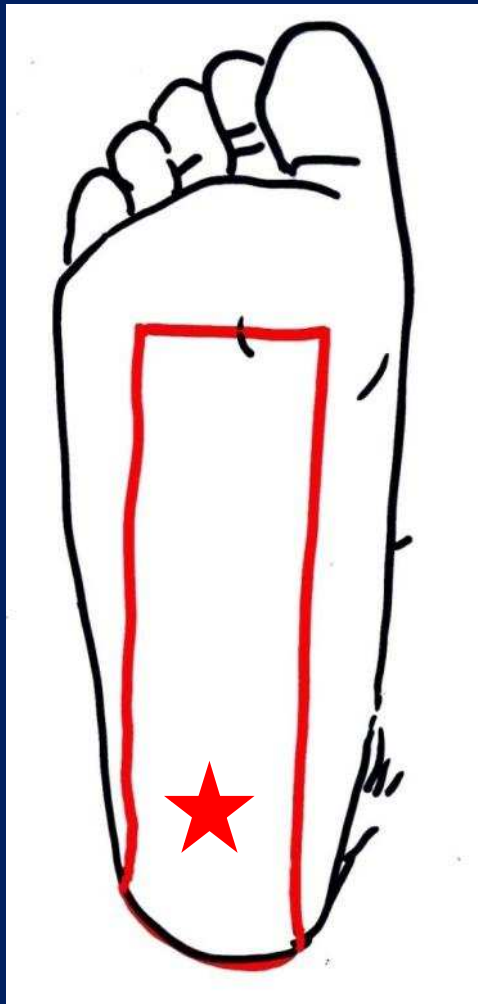
橫向延展性  
140%



無膠區  
低敏膠  
無膠區

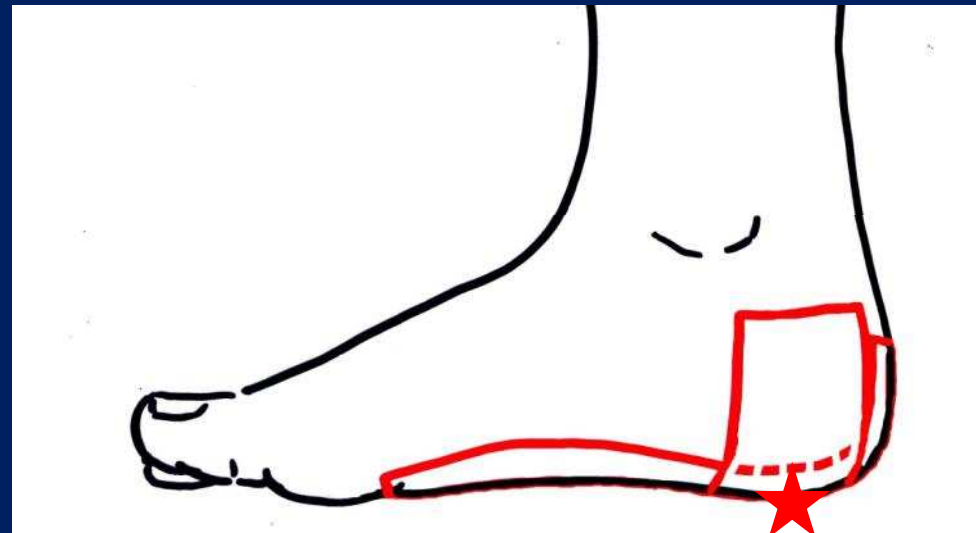
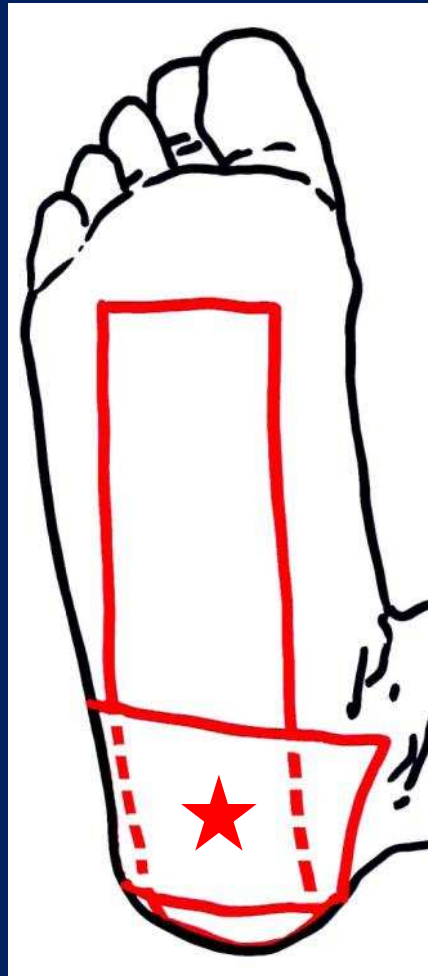


# 足底筋膜炎 Plantar Longitudinal Taping





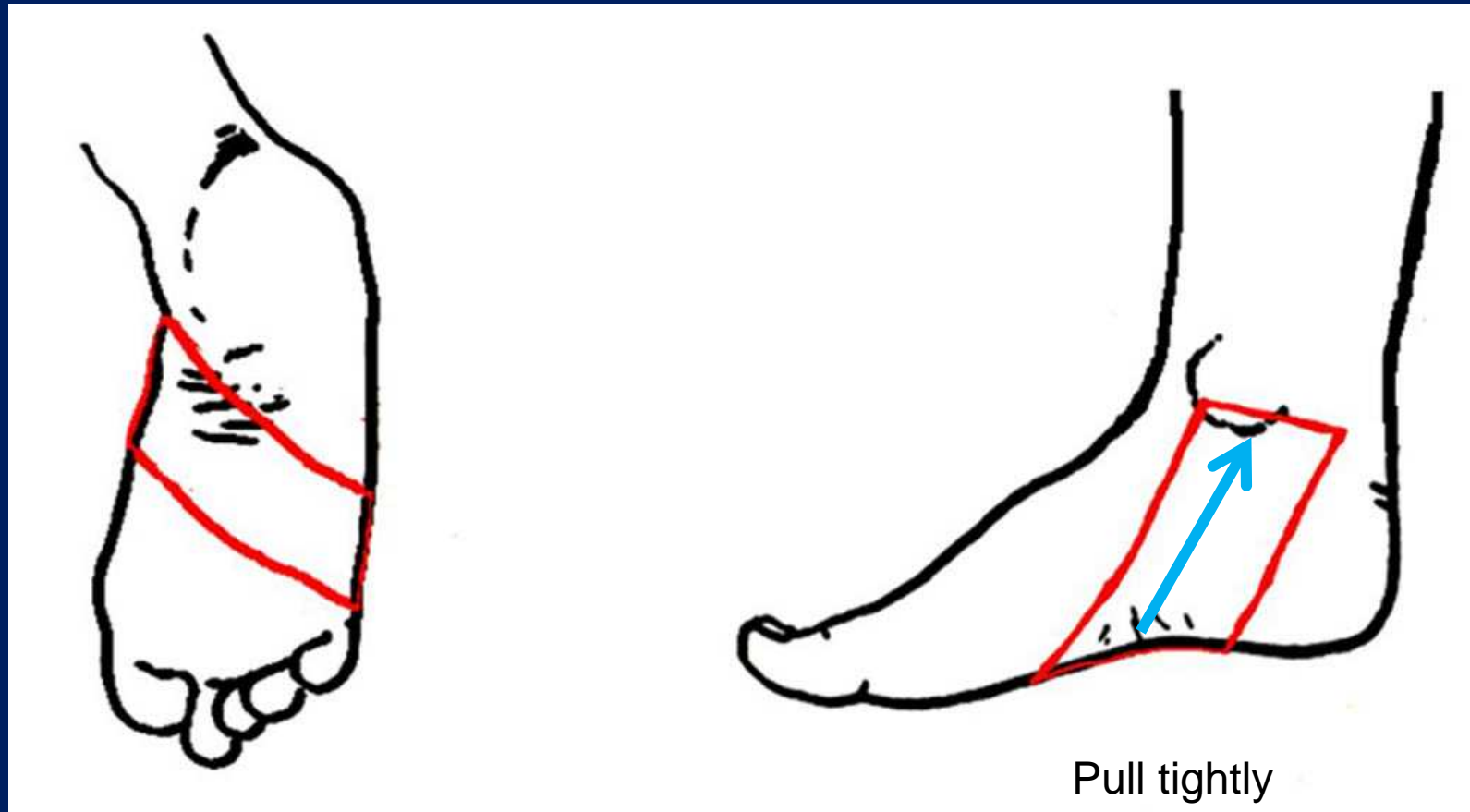
# 足底筋膜炎 Plantar Heel Transverse Taping

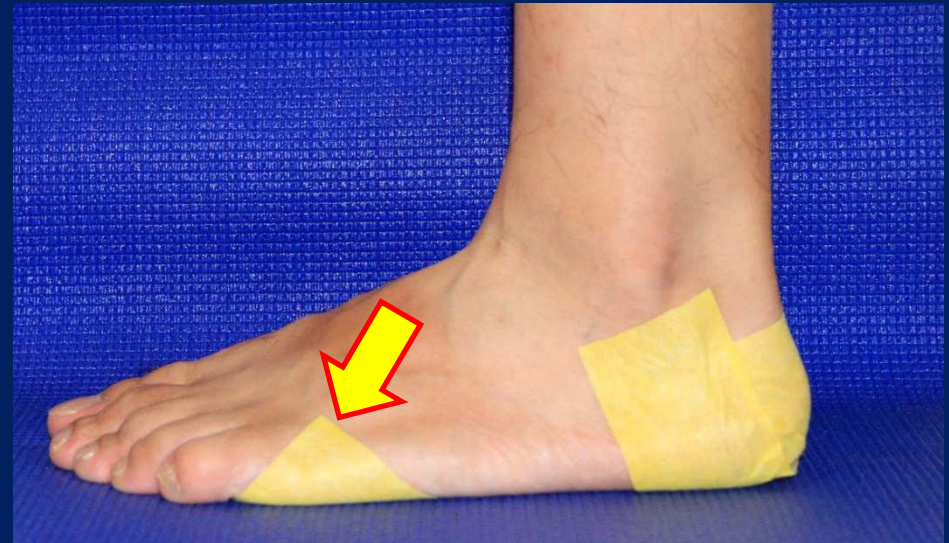


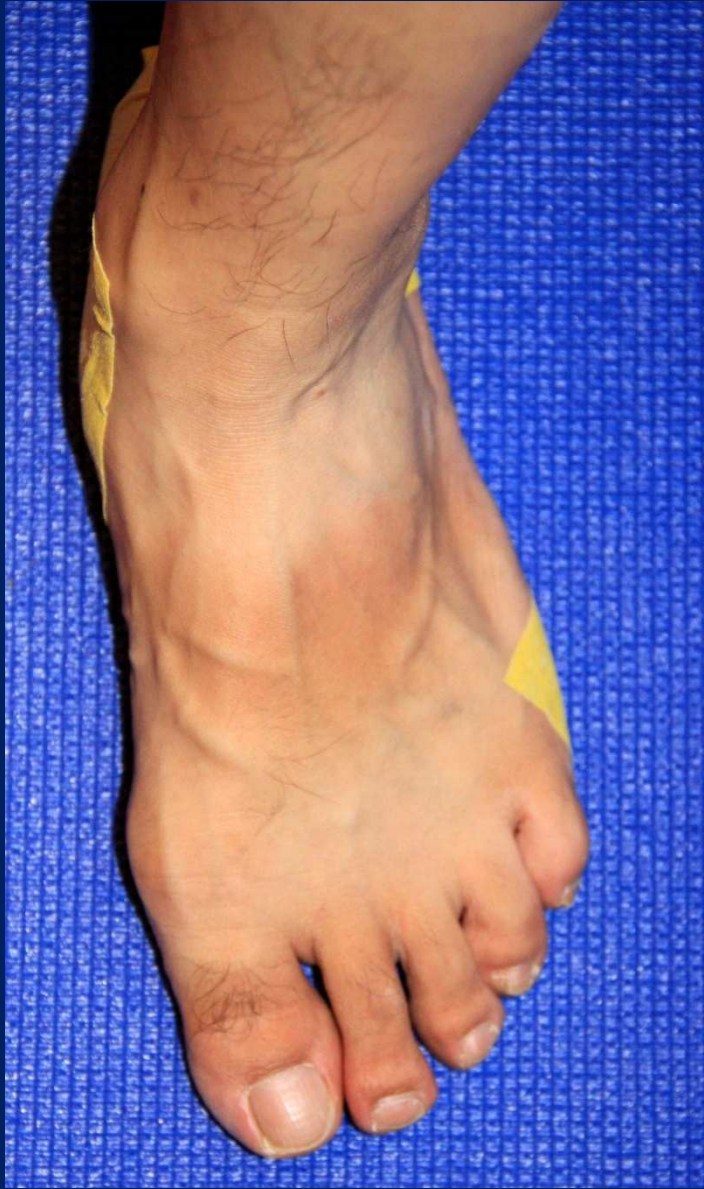




# 足弓支撐 Arch Support Taping

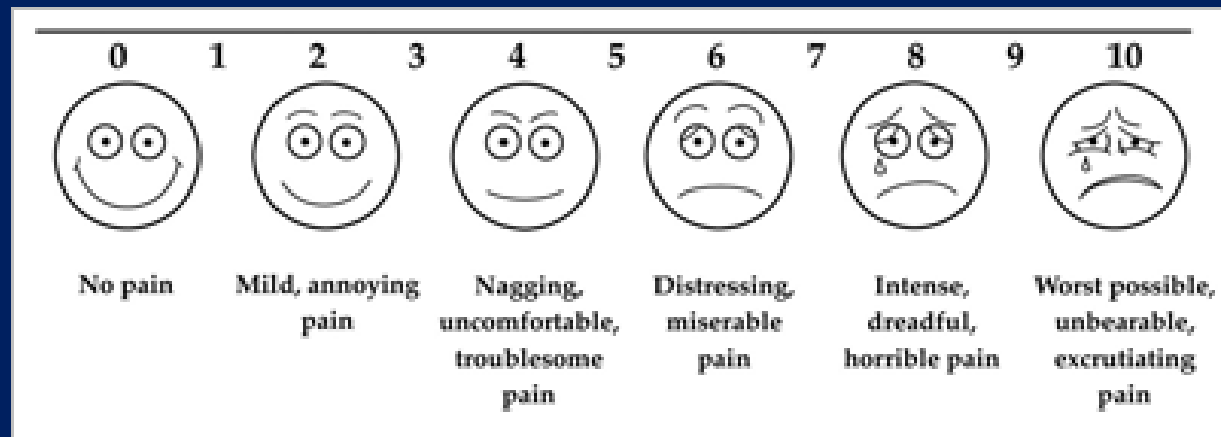







# Material and Method

- From Jan 2010 to May 2010
- 38 patients
- Symptoms: 1 month to 10 years
  
- VAS( visual analogue scale: 0-100)



# Result

- ▣ Immediate improvement: 30 patients
  - VAS: 62  30
  - 30/38: **79%**
  
- ▣ No immediate improvement: 8 feet
  - 8/38: 21%
  - Pain: No more

# Discussion

# Conservative Treatment

## 1. **Medical**

- NSAID
- Steroid injection
- Prolotherapy

## 2. **Physical Therapy**

- Resting
- Combination cold and heat therapy
- Stretching, massage
- Night splints

## 3. **Biomechanical**

- Shoes
- Shoe inserts
- **Taping**
- Custom orthotics



# What types of treatments are effective?

- ▣ **3** types of conservative therapy
  - Anti-inflammatory
  - Accommodative
  - Mechanical
- ▣ **Mechanical** treatment with **taping and orthoses** proving to be more effective

# How To Maximize Outcomes With Conservative Therapy

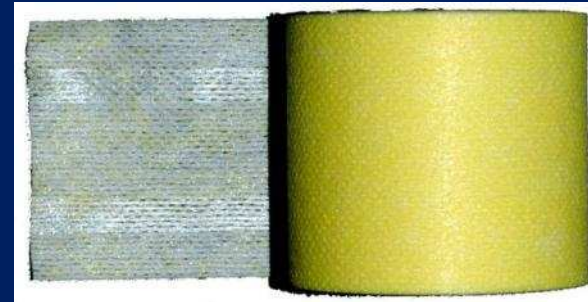
- ◉ Emphasizing The Importance Of **Stretching**
- ◉ Maintain the **flexibility** and **biomechanical alignment**

# Tape Feature

- Elastic adhesive tape
  - Kinesio<sup>®</sup> Tape



- Directional elastic adhesive tape
  - Ez Peel<sup>®</sup> Tape



- Nonelastic adhesive tape
  - 白貼



# Advantages of Ez Peel® Tape

- The advantages of Elastic Tape and Non-Elastic Tape ( Directional Non-Elastic Tape )

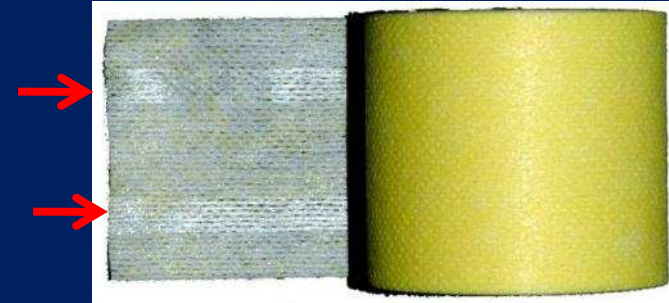
## 1 Longitudinal Non-Elastic :

Ensure the fixation strength

## 2. Transverse Elastic :

Provide the joint activity

# No Plastic (Glue) Zone



1. High permeability

2. Reduce the injury of skin

3. Provide **Massage** effect during the activities

## Biomechanical and Anatomic Factors Associated with a History of Plantar Fasciitis in Female Runners

1. Greater vertical ground reaction force load rates
2. A lower medial longitudinal arch of the foot

Mechanical **treatment** with **taping** and **orthoses** are more effective than anti-inflammatory medication

# Efficacy of Treatments for the Treatment of Plantar Fasiitis

	Immediate < 1 week	Short term 1 - 3 months	Long term > 6 months
Accupuncture		✓	✓
Orthoses		✓	
Shock-wave			✓
Steroid injection		✓	✓
Night splint		✓	
Taping	✓	✓	
Stretches		✓	✓

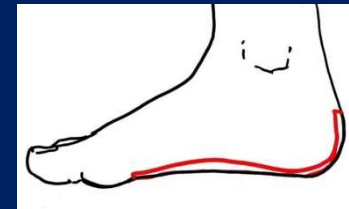
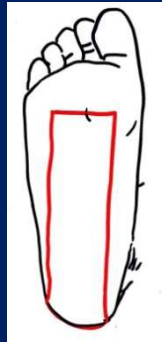


# Low dye plantar taping

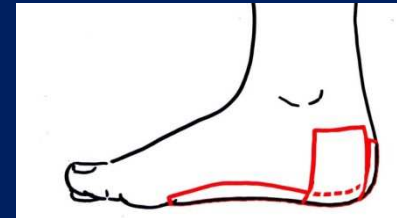
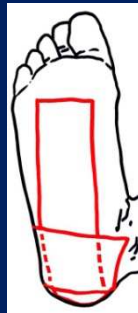


# Taping at a glance

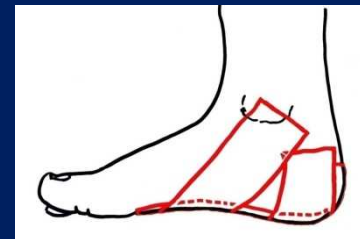
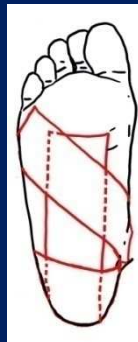
1



2



3



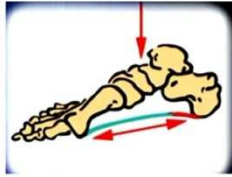
# Education sheet

## 足底筋膜炎

足底筋膜炎最常見之症狀為足跟底部疼痛與不適，一下床踩到地板時，腳跟會有強烈刺痛，在步行三、四十分鐘後，痛覺又再度產生，這類一陣陣腳底刺痛的困擾，不實地干擾患者的生活行動。

足底筋膜炎常發生於 1. 肥胖高體重，2. 久站，3. 踝關節僵硬 的腳底。

足底筋膜炎為腳底足弓之最主要支撐，其主要功能為吸收在正常步態週期中著地期所產生之反作用力。任何可能導致足底筋膜不正常拉力之因素，皆可能導致筋膜對附著端之骨骼及其相連之組織產生牽拉及傷害。



治療可適用以下幾項原則：

### 1. 足底筋膜拉扯運動

將患肢至於對側膝上，用同側手握住腳趾朝腳背拉，腳底要有拉扯感覺，每次持續 10 秒，每階段做 10 次，一天作 3 階段。



### 2. 局部按摩(可與外用藥膏一起使用)

### 3. 貼紮(貼法如後述)

### 4. 利用足弓支撐鞋墊及足跟墊來減少組織壓力

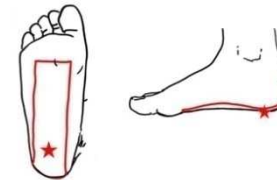
### 5. 局部注射或口服抗發炎藥物

### 6. 手術: 主要是在保守療法無效時才會被建議



## 足底筋膜炎簡易貼紮方法

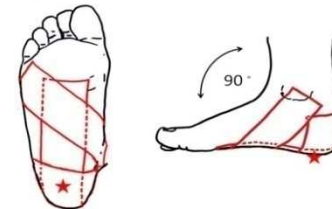
1. 以 1 條縱向貼，自腳跟至前足底部離趾關節處(星星記號為痛點處)



2. 橫向貼於足跟底部



3. 於踝關節成 90 度時，加上足弓支撐貼布





**THANK YOU**