



# **PFPS patient' s muscle training in chronic phase**

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**PFPS:**  
**patellofemoral pain**  
**syndrome**



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PFPS?**

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**01**

What is patellafemoral pain syndrome?



# What is PFPS?

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**Patellofemoral pain syndrome** is one of the most common knee complaints of both the young active sportsperson and the elderly.

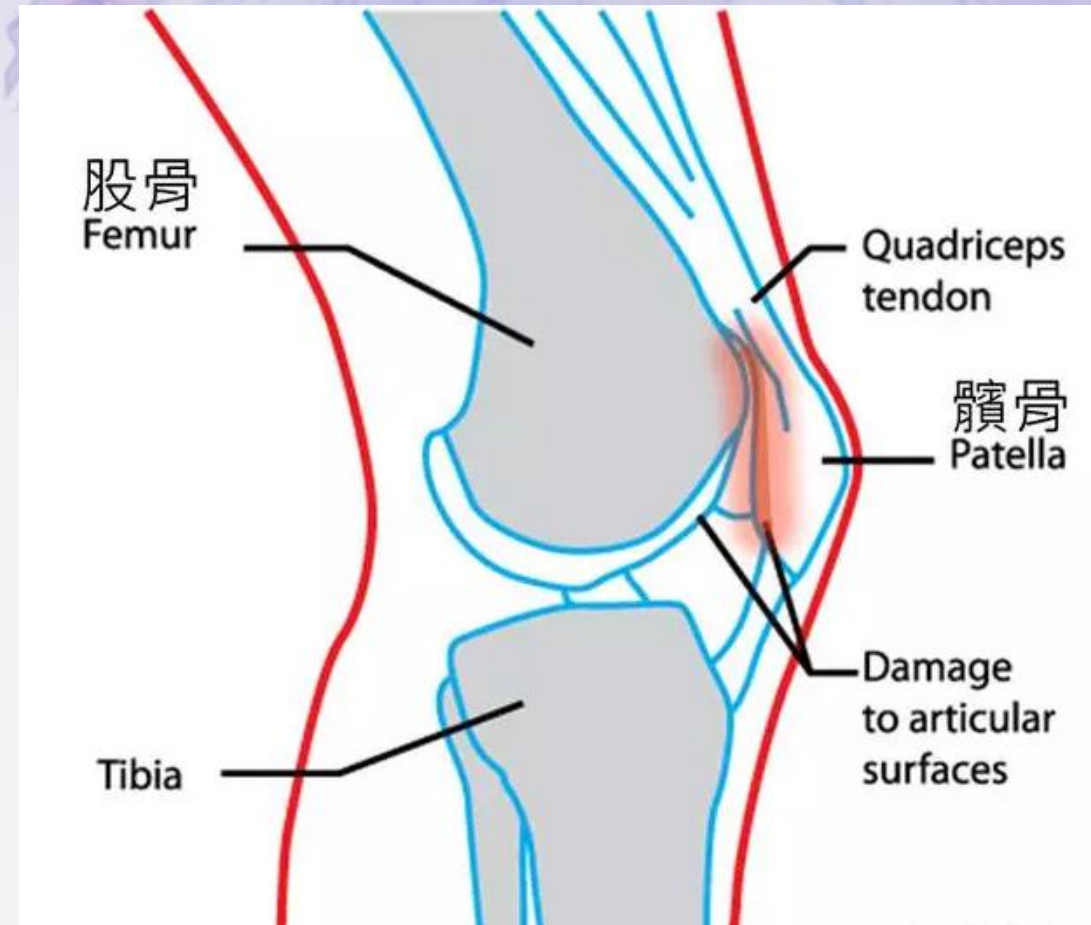
# What is PFPS?



**PFPS** refers to pain under and around the knee cap. The pain of PFPS may occur in one or both knees.



**Worsen with activity while descending stairs and after long periods of inactivity.**





**02**

what causes PFPS?







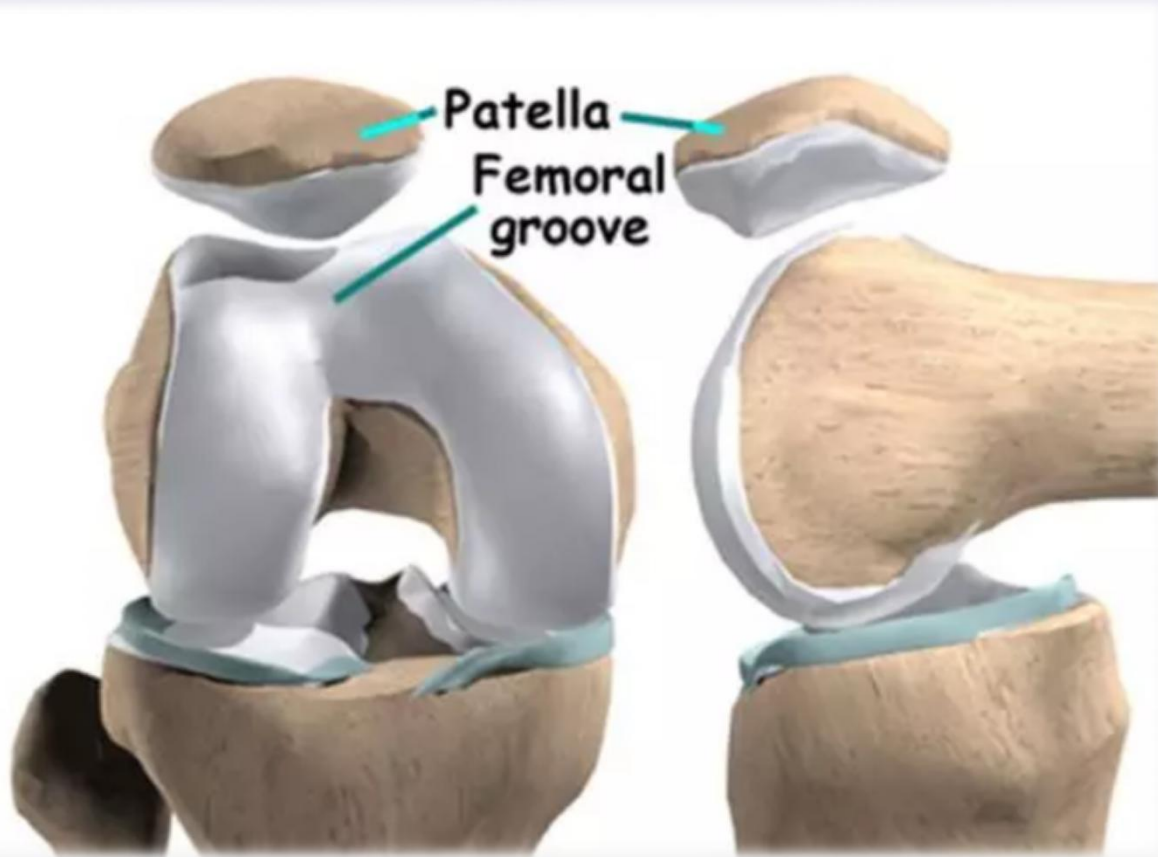
# what causes PFPS?

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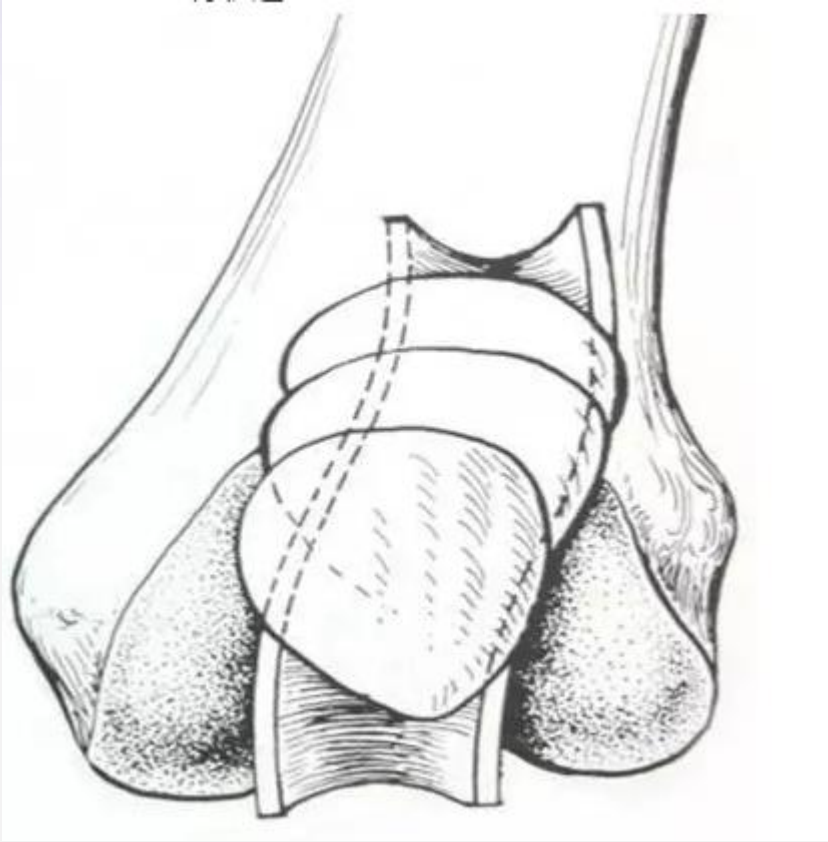
# what causes PFPS?

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The patella has two main functions:

- aid knee extension by increasing the lever arm of the quadriceps muscle group
- reduce the contact forces in the patellofemoral joint and the tibiofemoral joint



**patella normally glides up and down through the femoral groove**

**As your knee is bent, pressure between your kneecap and the groove increases.**

**the pressure is further increased if the patella does not ride normally through the groove, which can lead to kneecap pain**



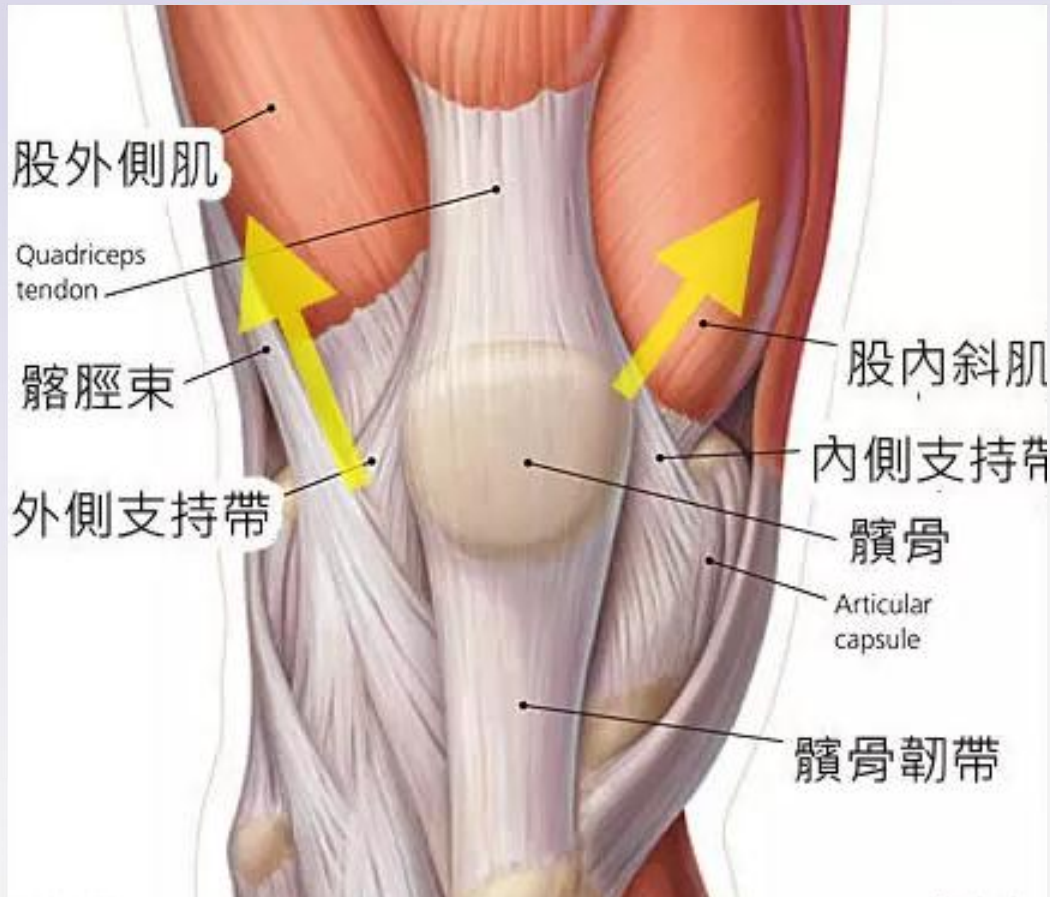
# what causes PFPS?

If there is a muscle imbalance between the quadriceps muscles:

**vastus lateralis (VL): patella up and outwards.**

**the vastus medialis oblique (VMO): up and slightly in.**

**then your patella will track laterally in the groove**

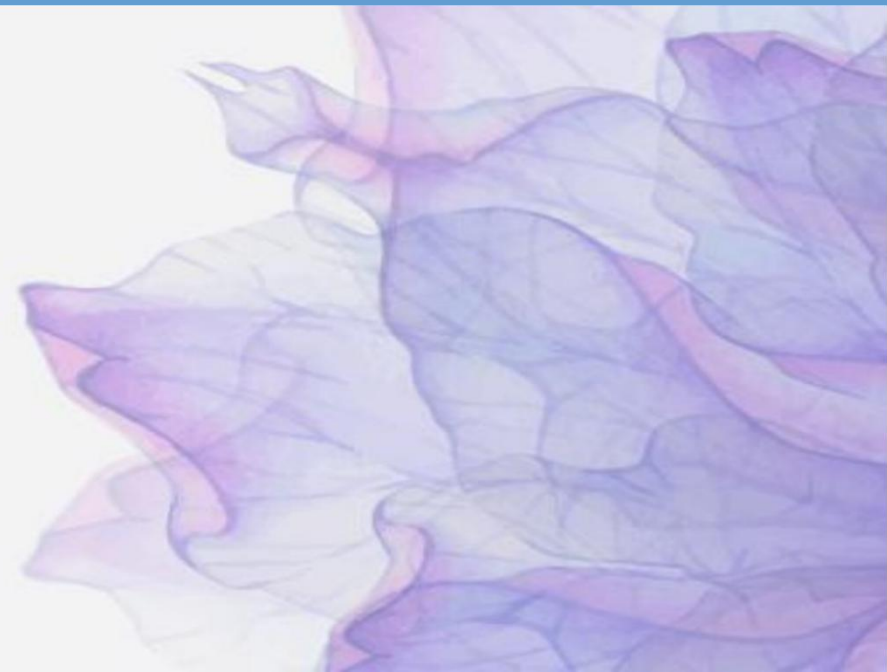


<http://cn.bing.com/images/search?>

Almeida, G. P. L., Carvalho, A. P. D. M. C., França, F. J. R., Magalhães, M. O., Burke, T. N., & Marques, A. P. (2016).

**03**

## **How to treat PFPS?**



# How to treat PFPS in chronic phase

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**exercise interventions  
in patients with PFPS are effective at reducing  
pain and  
improving function and strength.**



# Muscle stretches

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## Hamstring Stretch

**Keep your back straight**

**keep you knees straight and slide  
your hands to your feet.**

**Hold the stretch for 30 seconds**







## Quadriceps Stretch

**Stand straight**

**Pull your heel gently toward your butt, feeling a stretch in your quad.**

**Hold the stretch for 15 to 30 seconds. Release and repeat.**



# Calf Stretch



**Lean against the wall with one leg bent forward and the other leg extended back with your knee straight and foot facing forward.**

**Keep the heel of your foot on that floor.**

**Feel the stretch in the calf of that leg, and hold 30 to 60 seconds.**



# IT Band Stretch

Rolling your iliotibial (IT) band on a foam roller is an excellent way to keep your IT band from getting too tight.





# **Vastus medialis oblique' s strength training**

<https://www.verywell.com/treatment-of-pfps-2549593>

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**Thanks for your attention!**