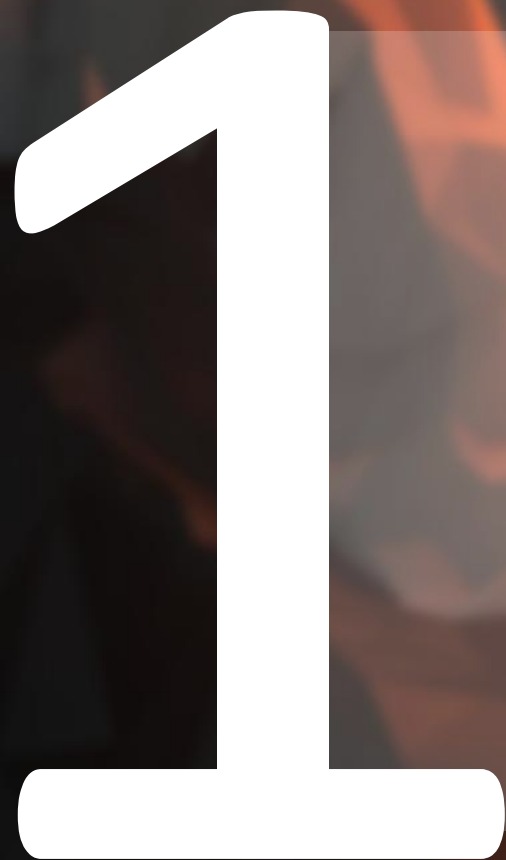




Muscle strength training *of* **acute phase** *after* **ACL reconstruction**

By Yuwei Lin, Yijing Chen, Yuxiao Guo



1

Introduction

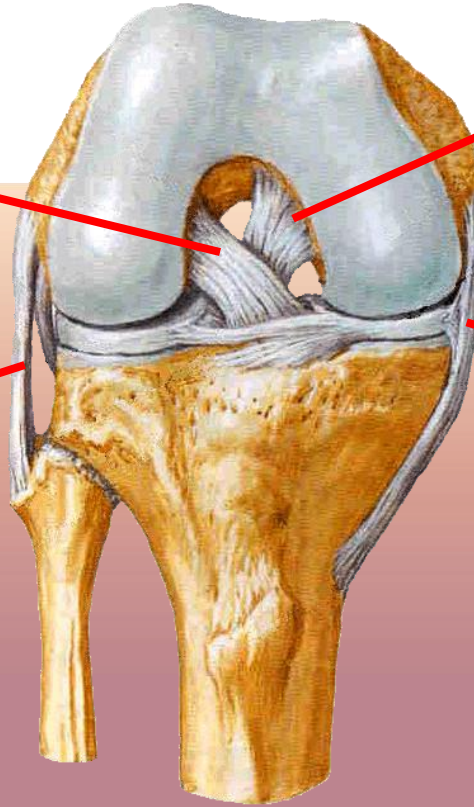
Structure of the knee

Anterior cruciate lig.

Posterior cruciate lig.

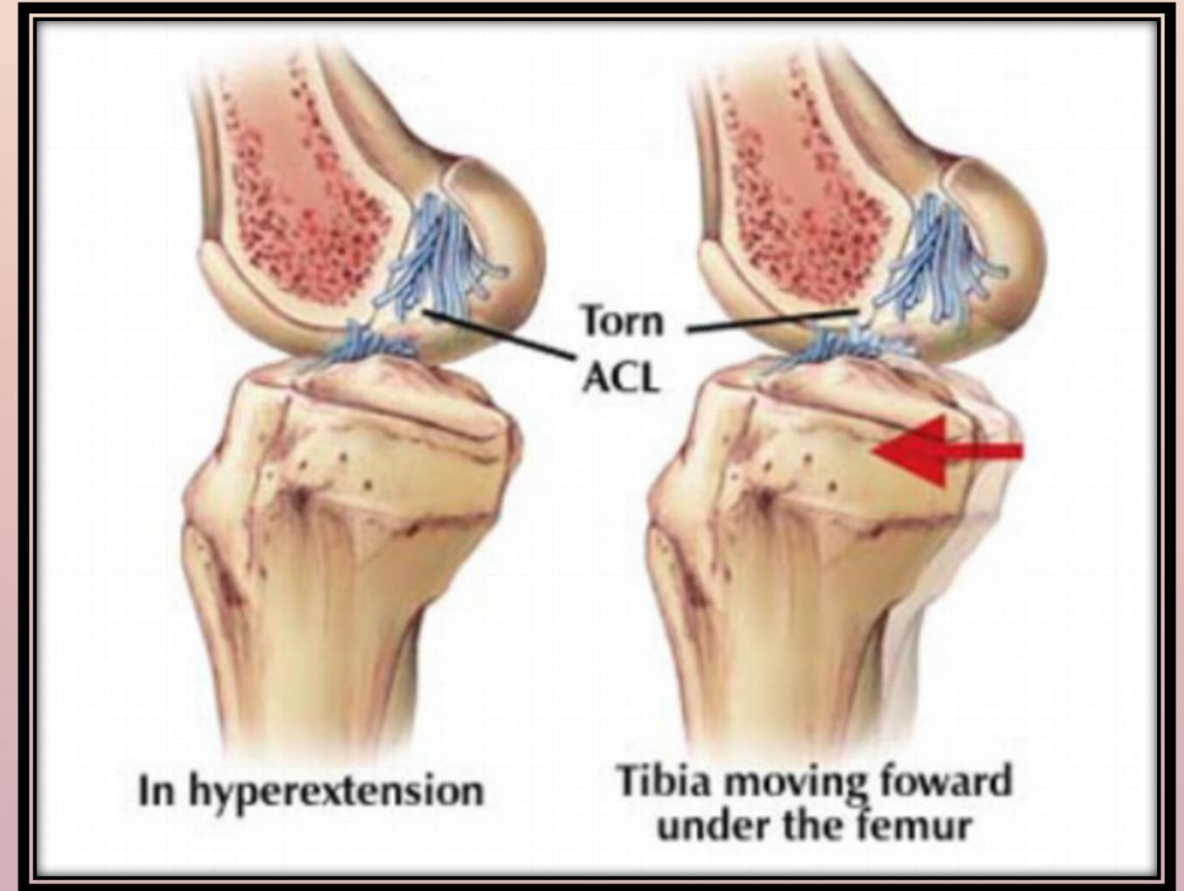
Fibular collateral lig.

Tibial collateral lig.



Function and injury mechanism

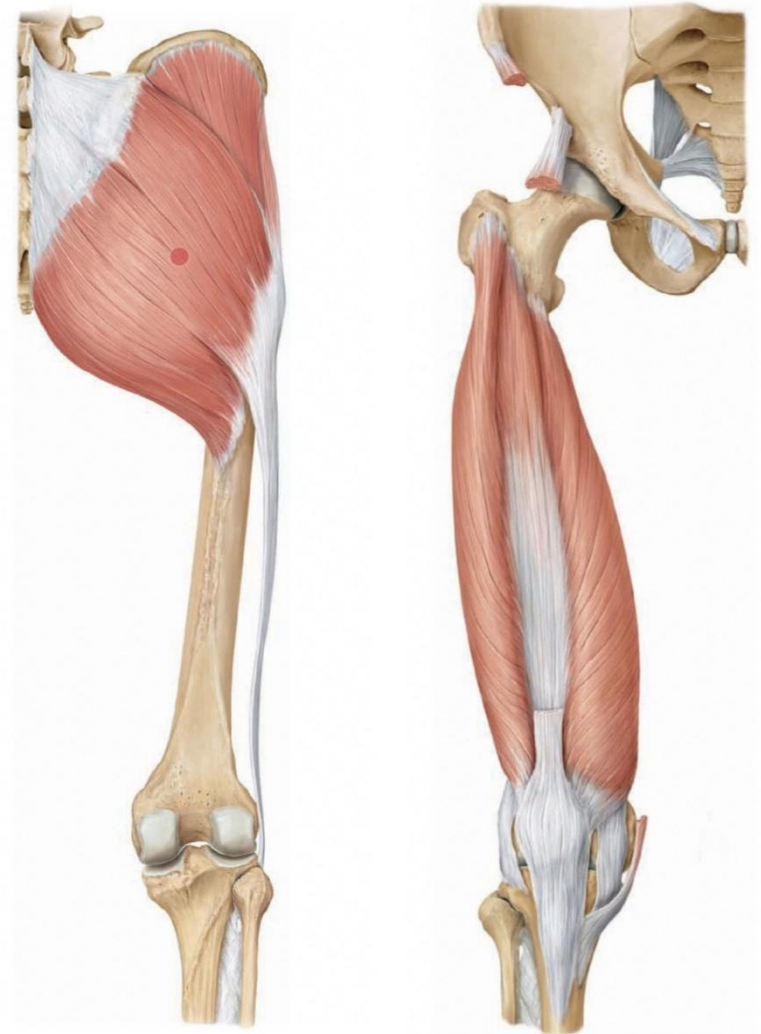
- **Connect the tibia and the femur**
- **Prevent the excessive forward movement**
- **Maintain the stability of the knee**



After ACL reconstruction



- **Stiff joints**
- **Decrease in muscle strength**
- **Disuse muscular atrophy**



Training principle

Protective

Painless

Appropriate

Personalized



A large, stylized white number '2' is positioned on the left side of the image. The background features a mountain range under a warm, orange-hued sky, suggesting a sunset or sunrise. A semi-transparent rectangular box is overlaid on the right side of the image, containing the text 'Muscle strength training'.

2

Muscle strength training

Quadriceps Femoris Exercise



- Supine with Knees extend
- Contract quadriceps femoris as much as possible
- Hold 10s
- Relax 5s
- 10 times/group, 10 groups

Hamstring exercise



- Supine with Knee extend
- Elevate the calf and knee
- Underdraught heel vertically
- Hold 10s
- Relax 5s.
- 10 times/group, 10 groups

Attention: Ban it after hamstring tendon transplant

Toe Exercise




- Standing
- Cock the toe
- Hold 2s
- 10~15times/group,1~3group
- With brace

Legs crouch exercise



- Split the feet
- Maintain a good line of force
- Bend the hip and the knees
- 10 -15 times/group, 1 - 3 groups
- Wear the braces

A large, stylized white number 3 is positioned on the left side of the image. The background features a mountain range under a warm, orange-hued sky, suggesting a sunset or sunrise. A semi-transparent white rectangular box is overlaid on the right side of the image, containing the text 'Core strength training'.

3

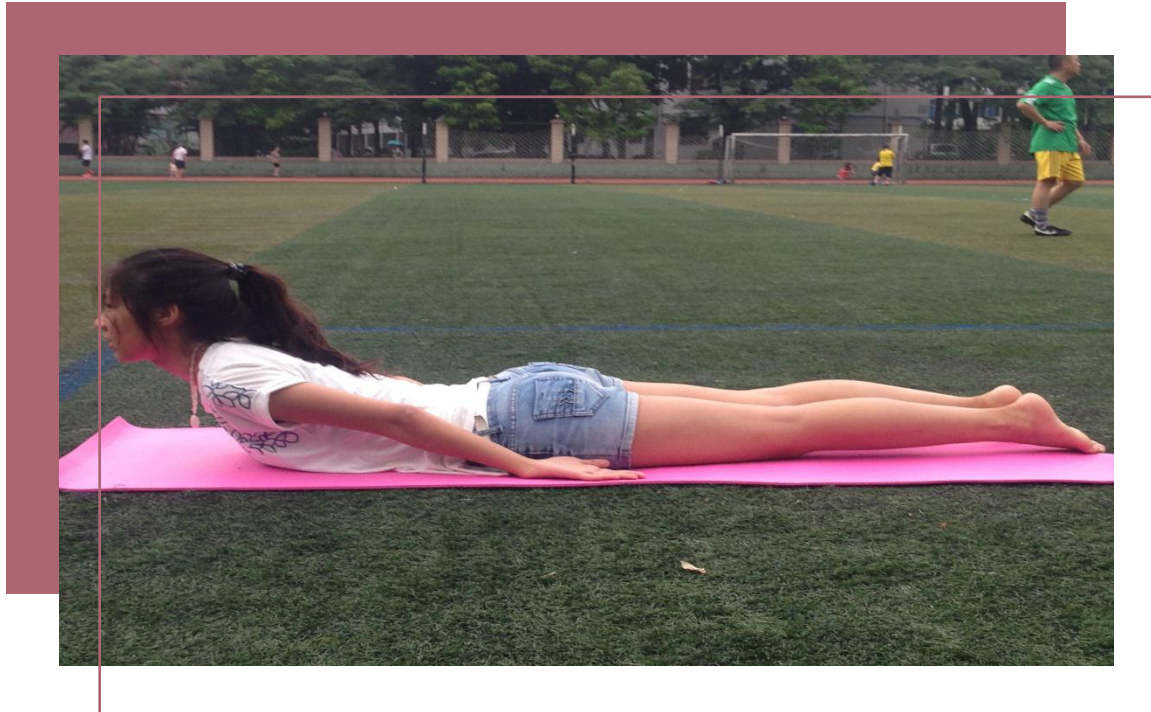
Core strength training

Crunches exercise



- Lie down and bend the knees
- Tighten the abdomen
- Raise the body 15-30 cm
- Keep 10 s
- Put the hands at the sides
- 10 -15 times/group,
1 - 3 groups

Dorsiflexion exercise



- Prone position
- Put the hands at the sides
- Raise the chest 15 - 30 cm
- Keep 10 s
- 10 -15 times/group, 1 - 3 groups



4 Goals

Goals of acute phase(2~4W)



**Increase the
strength of
muscle**

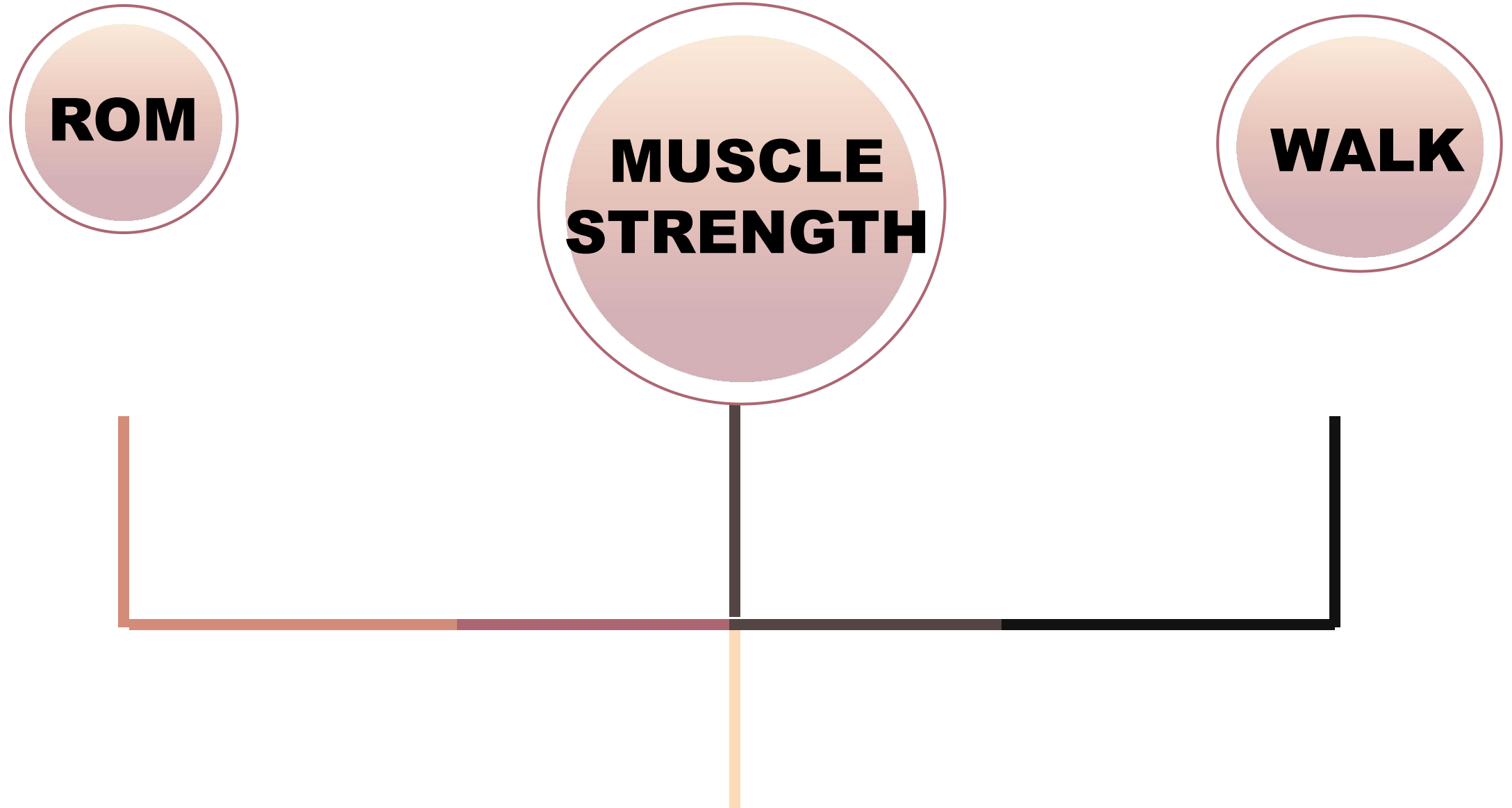
**Lift up the
injured leg in
all direction
without help**

GOALS

Full extension

**Eliminate the
swelling**

WHAT YOU NEED TO DO



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A low-poly, geometric illustration of a mountain range. The mountains are composed of various triangular facets in shades of dark blue, grey, and orange. The sky on the right side is a gradient of warm colors, from light orange to yellow, suggesting a sunset or sunrise. A white rectangular box is centered over the middle of the image, containing the text "THANK YOU!".

**THANK
YOU!**