



The Application of PNF in Functional Ankle Instability

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The Definition of FAI

Anatomical Structure

The Reason For FAI

Theory of PNF

Spot Demonstration



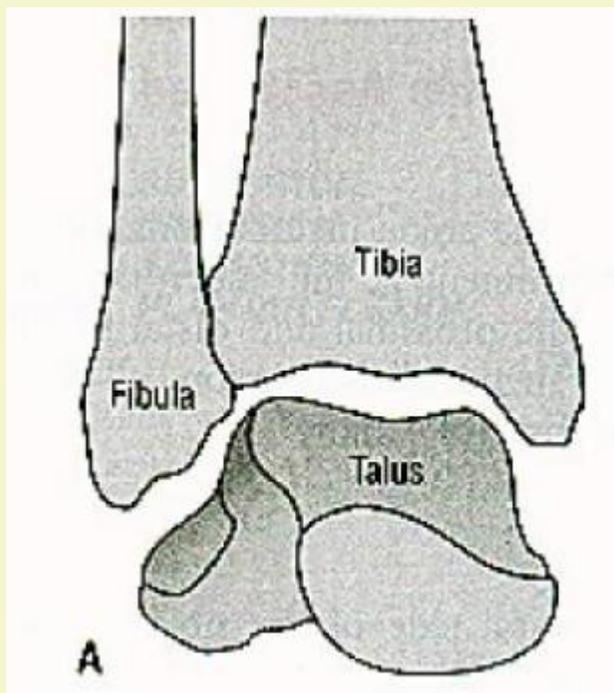
CONTENT

Brief Introduction

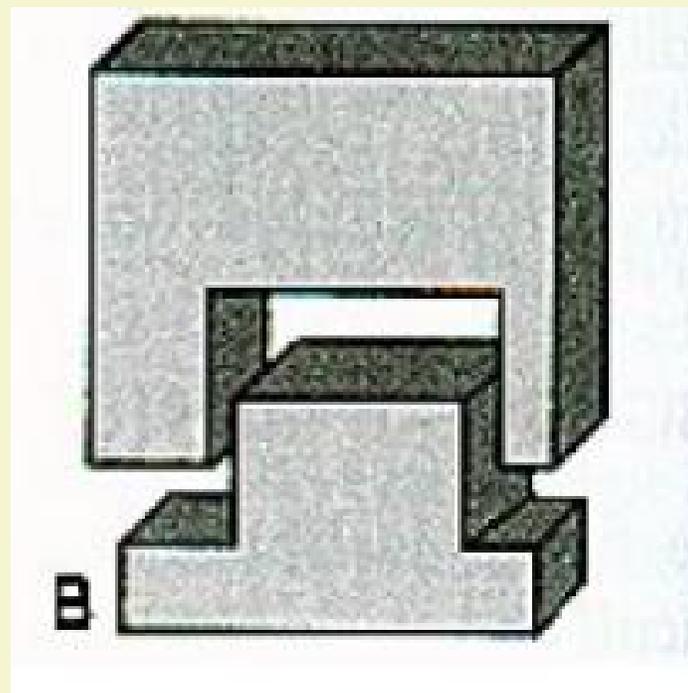
The functional ankle instability

- one kind of the chronic ankle
instability*
- the joint motion couldn't be
controlled
voluntarily but the range of motion is
still normal*
 - “give way”*

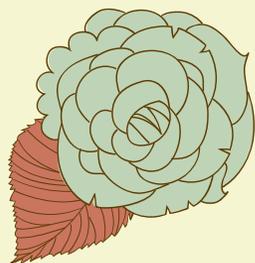
The ankle joint



The anatomical structure

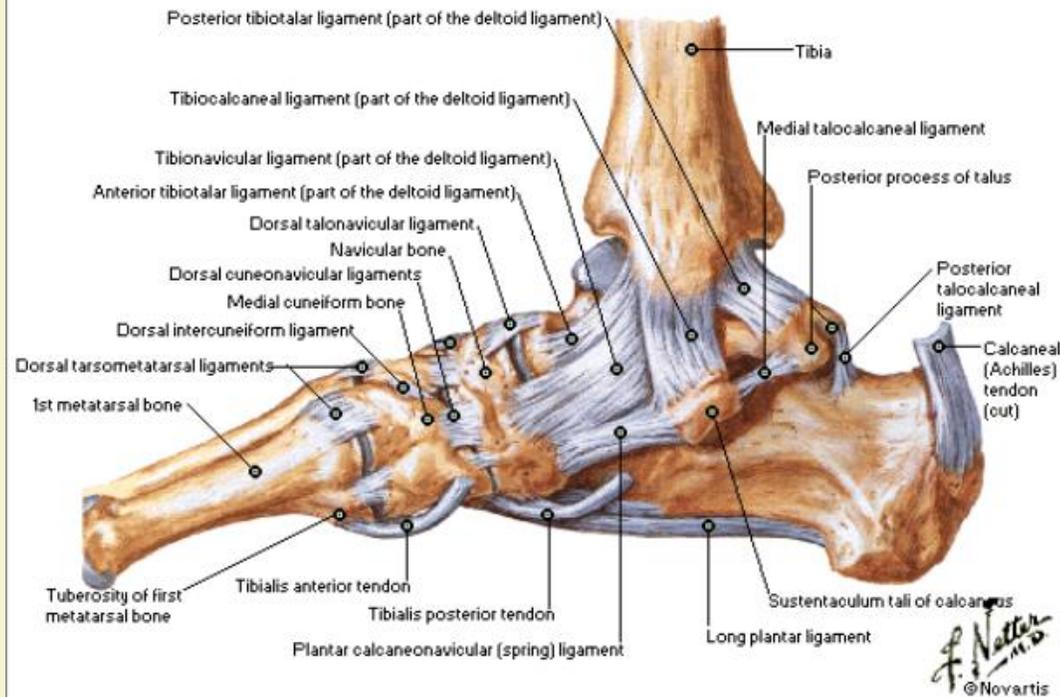


the carpenter's mortise



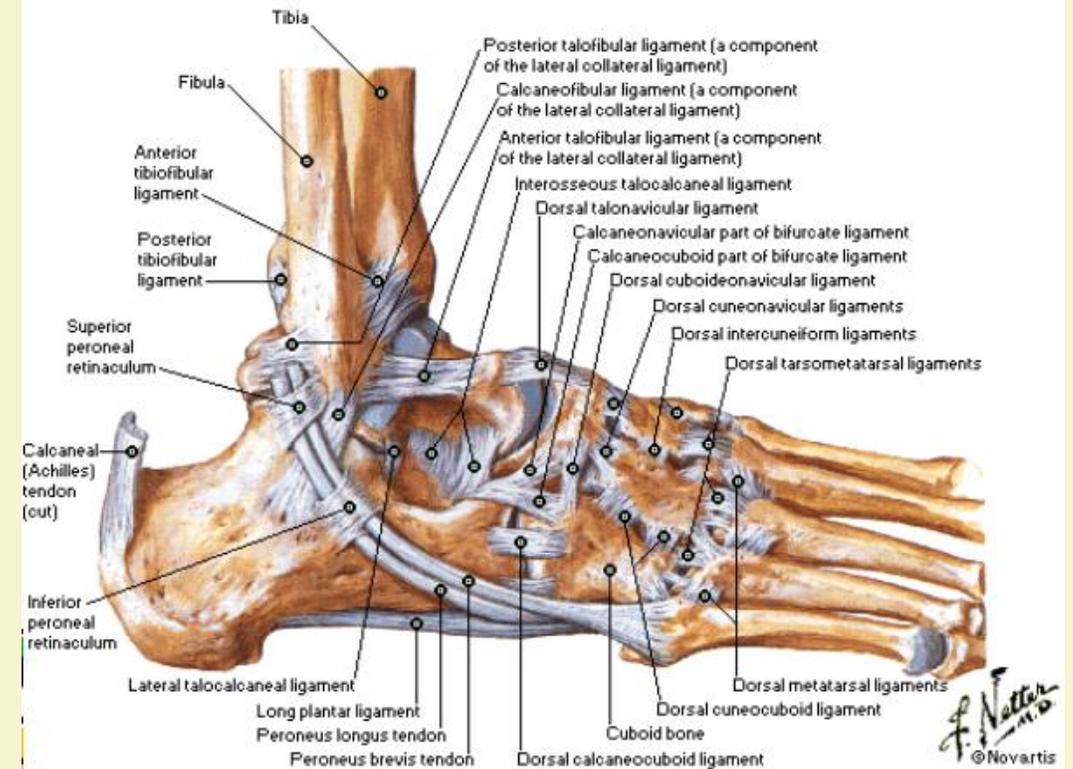
The ankle joint

Ligaments and Tendons of Right Ankle
Medial View



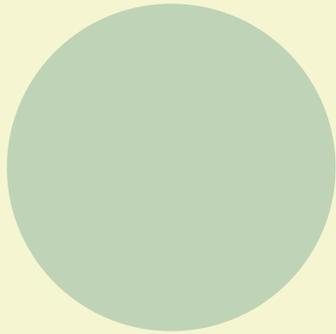
1 The medial side

Ligaments and Tendons of Right Ankle
Lateral View

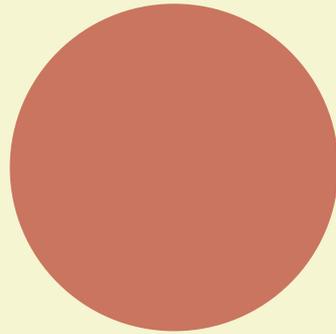


2 The lateral side

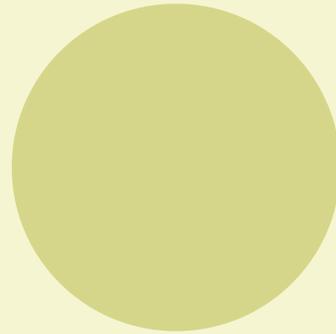
The risk factors



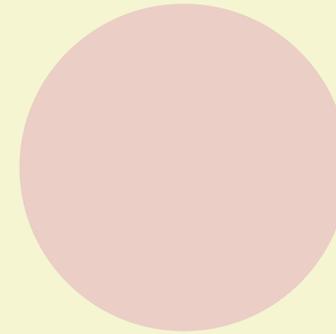
*Multiple
injuries in
ankle joint*



*do not get
proper
treatment
during the
acute stage*



*Lack
prevention of
ankle joint
injuries*



*The
irreversibility
of body*

Results

The abundant proprioceptors will be damaged.

The mechanism of feedback and protection fail to work.

*The sway of body will be more serious ,
The response time of muscle will prolong.*

*Influence the balance ability of body,
And results in multiple and repeating ankle'sprain.*





Theory of PNF

Theory of PNF



★ Adjust the coordination of the muscles and make the patient to learn the correct way of control

1

★ Activate and collect the largest amount of motor fibers to participate in the motion

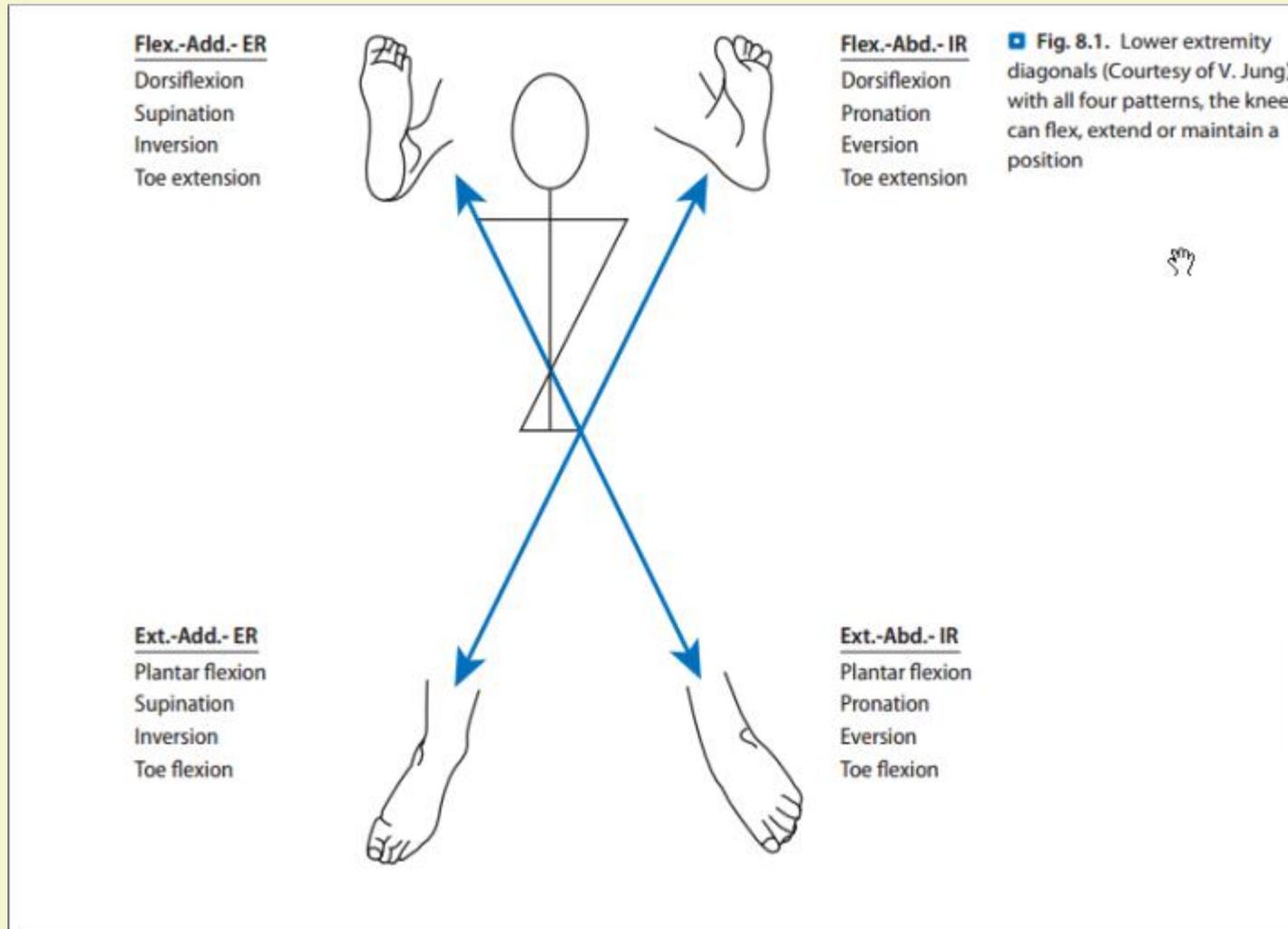
2

★ Resistant myosth training enhances the afferent of activities of γ motoneuron

3



Two Patterns--D1 and D2



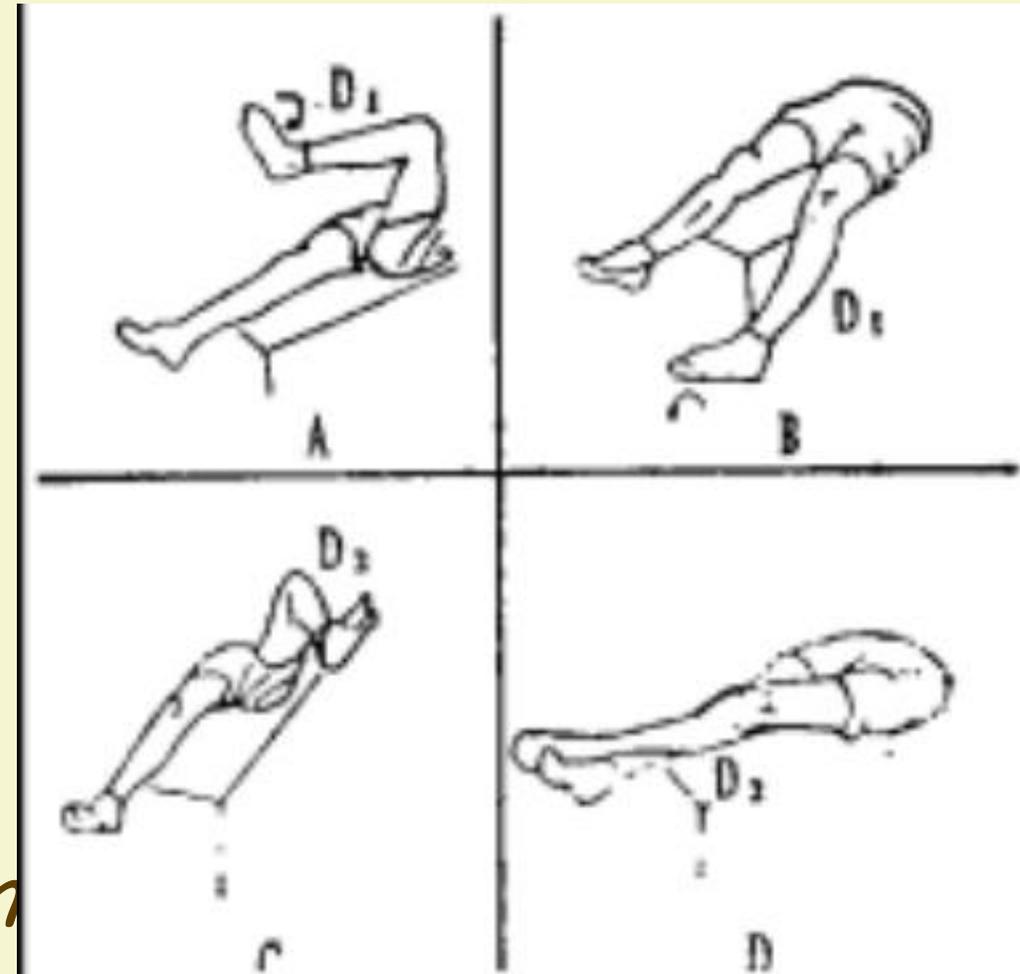
D1-Flexion

Diagonal One - Flexion

Hip: Flexion, adduction, external

Knee: Flexion

Ankle: Introversipon, dorsiflexion



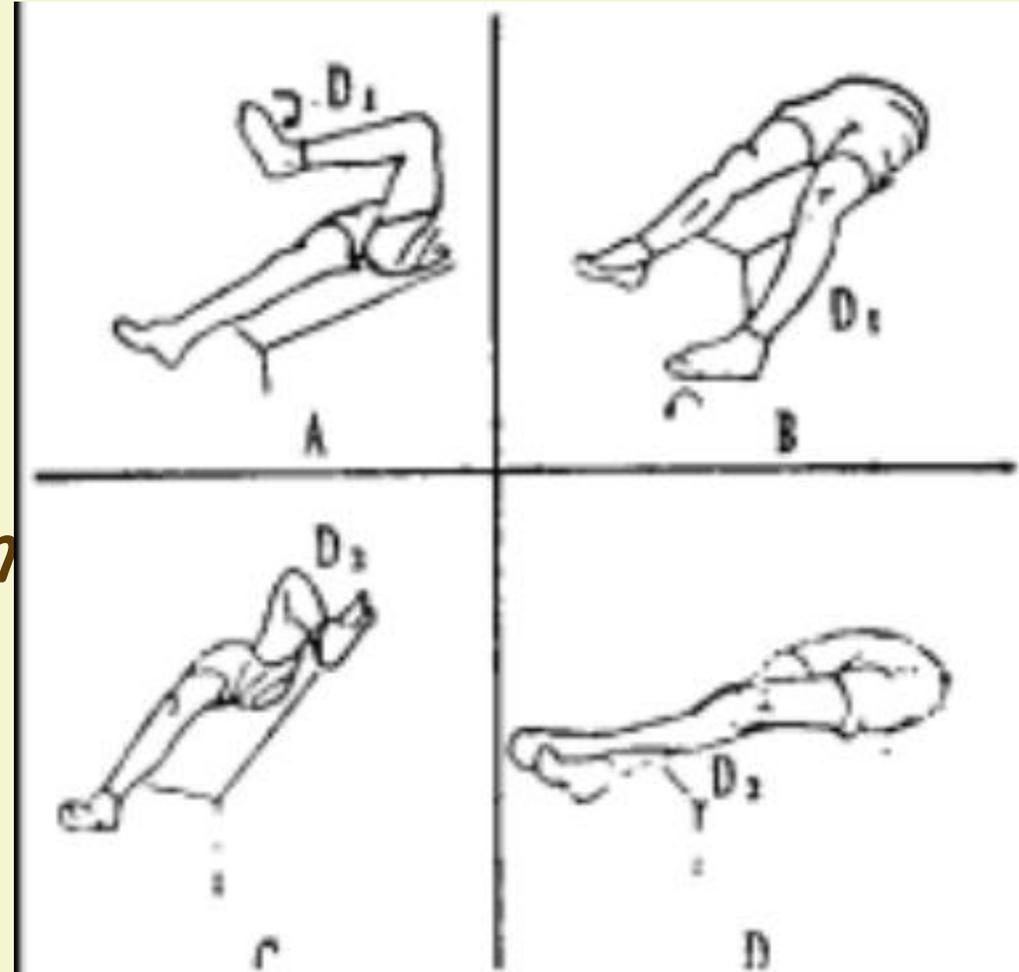
D1-Extensxon

Diagonal One-Extension

Hip: Extensxon, abduction, intern

Knee: Flexion

Ankle: Eversion, planter flexion



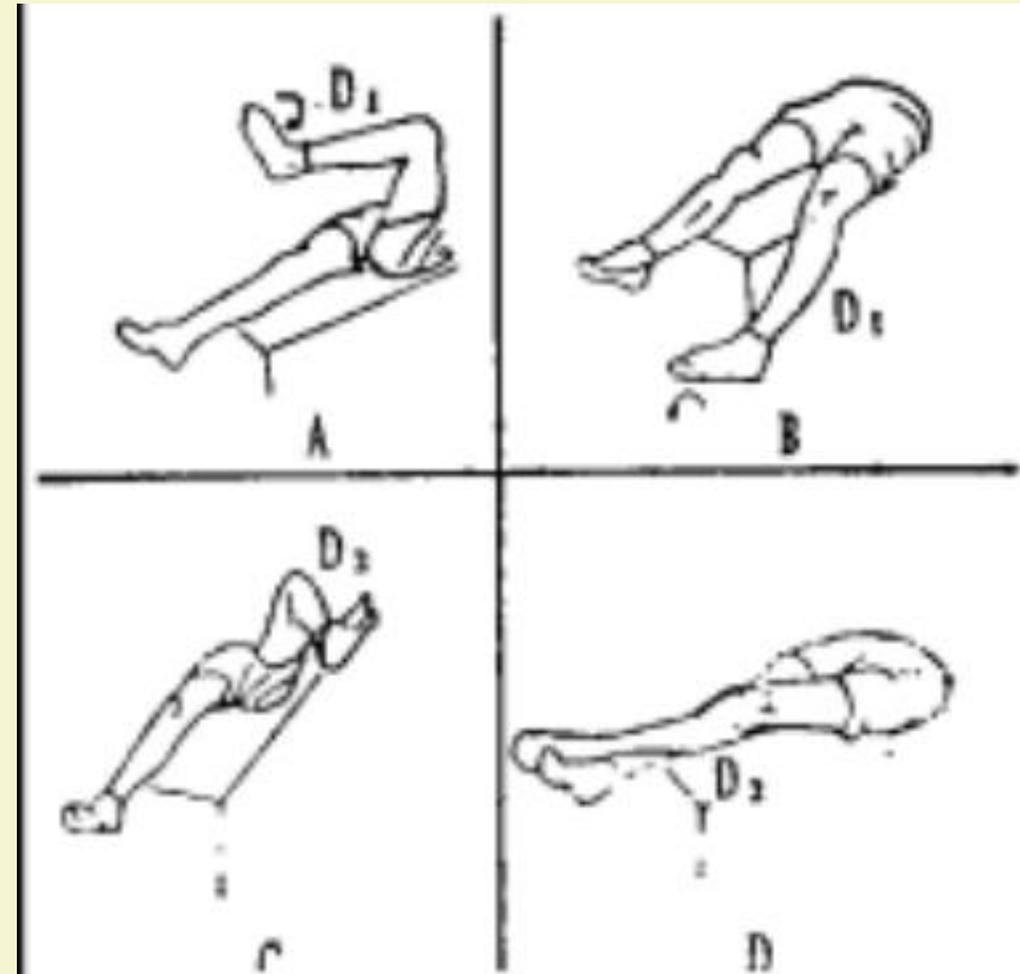
D2-Flexion

Diagonal Two - Flexion

Hip: Flexion, abduction, external

Knee: Flexion

Ankle: Eversion, dorsiflexion



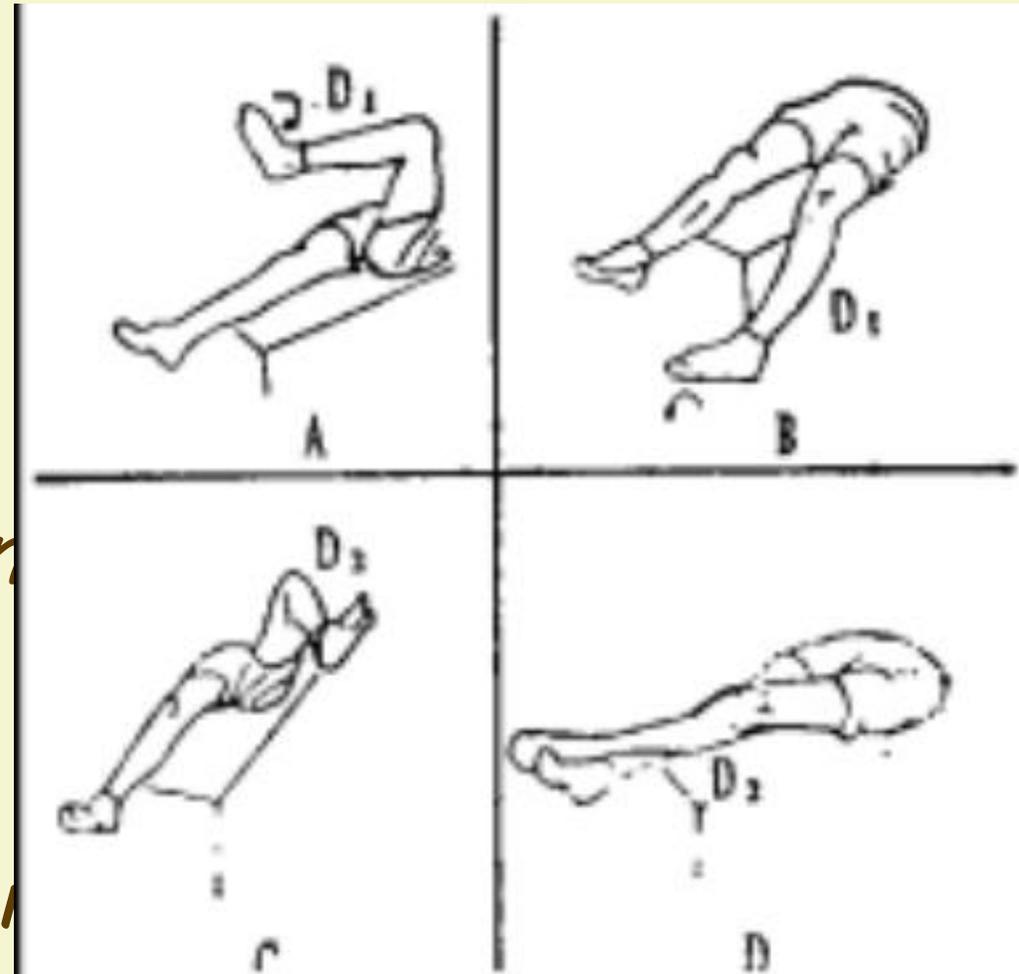
D2-Extension

Diagonal Two - Extension

Hip: Extension, adduction, external rotation

Knee: Extension

Ankle: Inversion, plantar flexion



Why D2 should be applied in the FAI?



The most frequent ankle sprain: planter flexion, inversion

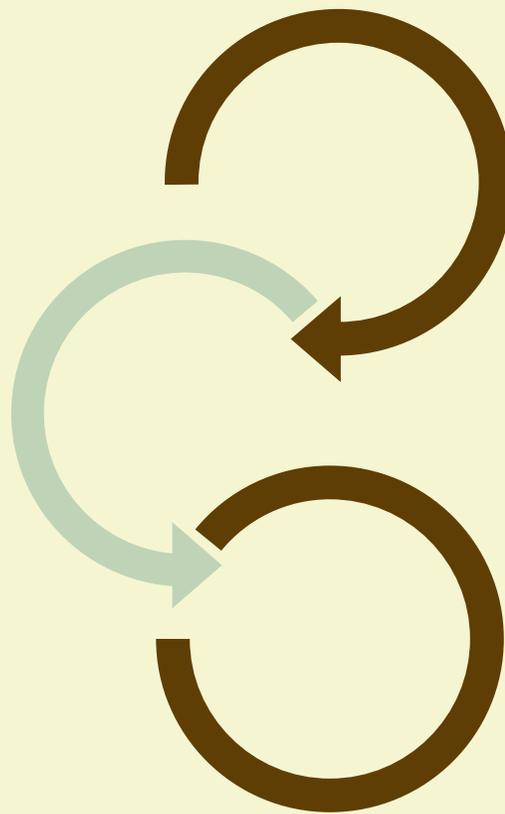
D2: Fortify the lateral strength

Typical Technique



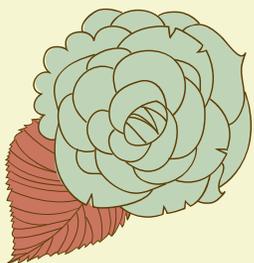
Hold-Relax First

*Dynamic
Reversals*



*Combination of
Isotonics*

*Rhythmic
Stability*



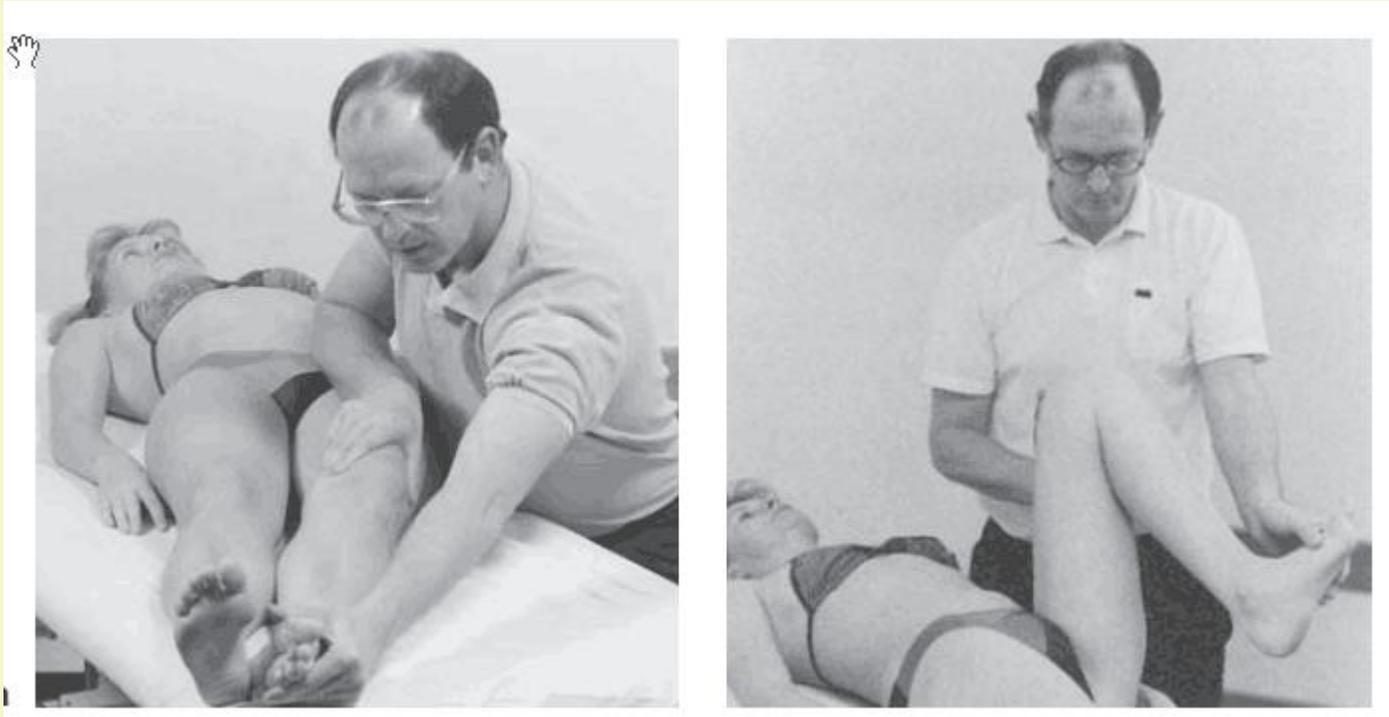
Hold-Relax



Make the ankle dorsiflex to the end position

Contract the triceps surae

Combination of isotonic

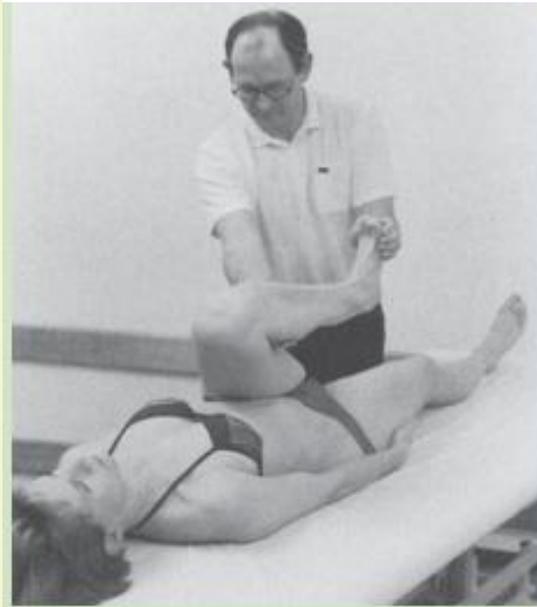
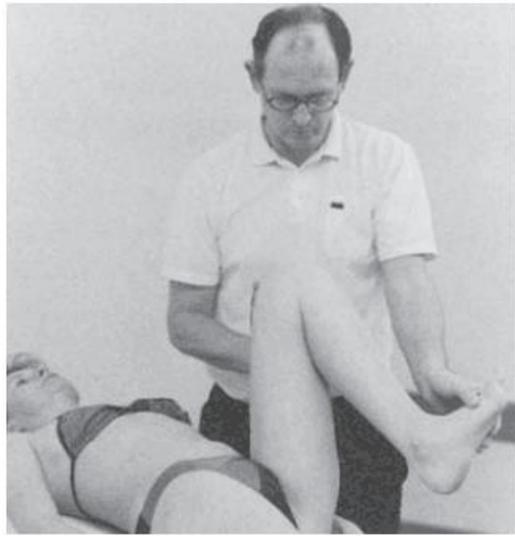
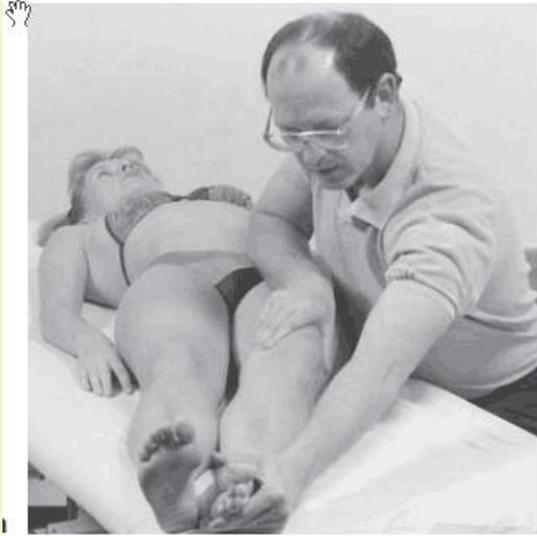


D₂-Flexion

Concentric contraction

Eccentric contraction

Dynamic Reversals



Inverse the direction of resistance

Do not hold on

Rhythmic Stabilization



Instep and outside of foot

Inverse the direction of resistance

Veracity of sense

Reference

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THANK YOU
SO MUCH!

