Excessive Prevention of Ankle Sprains?

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Objectives

• Evaluate the need for external bracing application for chronic ankle injury patients.
• Discuss research evidence for and against the application of preventative ankle taping and bracing.
• Distinguish between movement based and neurologic development philosophies for ankle injuries.
• Differentiate various strategies used to obtain objective measurements related to function of the ankle.

Are we wasting our time? Are we causing more harm than good?

• The answer is... Maybe.
• Effect on proprioceptive acuity? (Raymond et al., JSMS; 2012)
  • None on recurrent ankle sprain or FAI
• 3 different types of ankle braces; hinged and un-hinged (Alfuth et al., JAT; 2014)
  • Restricted dynamic inversion movement
  • Passive plantar flexion > in hinged braces compared non-hinged braces
• Protective aspect (Chinn et al., JAT; 2014)
  • Ankle neutrality provides protective aspect on treadmill

Prophylactic Taping and Bracing

• Only for patients with Hx of ankle injuries (Kaminski et al., JAT; 2013)
• Not for healthy populations.
• Are we causing more harm than good in healthy patients placing them in prophylactic tape or braces?
  • Immobilization
    • Air cast, walking boot, fiberglass cast, bracing, taping
    • Weaken soft tissue structures.

What does the “evidence” agree on?

Well, it depends...

Good ole’...Prevention

• Address the global patient (Houston et al., JAT; 2014)
• Rehabilitation programs
• Injury prevention programs
• Psychological aspects
• Isolating the ankle WILL NOT achieve the desired outcomes
Rehabilitation Considerations

- Static stretching (Terada et al., JAT; 2013)
- Help reduce a dorsiflexion restriction in patients with acute ankle sprains
- Identify the source of the dorsiflexion restriction
- Preventative functional training programs (Van Ochten et al., JOSPT; 2014)
- Standard of care for patients with Hx of CAI
- Supervised by health care professionals

NATA Position Statement: Conservative Management and Prevention of Ankle Sprains in Athletes

- Breaks recommendations into categories based on level of evidence:
  - Category A – Recommendation is based on consistent and good-quality patient-oriented evidence
  - Category B – Recommendation is based on inconsistent or limited quality evidence.
  - Category C – Recommendation is based on consensus, usual practice, opinion, disease oriented evidence, or case series for studies of diagnosis, treatment, prevention or screening.

NATA Position Statement...Continued

- Early mobilization (Category A)
  - Grade I and II ankle sprains
- Early immobilization (Category B)
  - Grade III ankle sprains up to 10 days
- Support use of prophylactic taping and bracing (Category B)
  - Only with Hx of CAI

NATA Position Statement...Continued

- Rehabilitation
  - Balance (Category A)
  - Early ROM, flexibility, strengthening (Category B)
- Prevention programs
  - ≥ 3 months duration (Category B)
    - Balance and NM control training
    - Objective measures (Category B)
    - Injury prevention and rehabilitation

So you want to return to play?

Objective Measures of Function

- ROM
- Balance
- Symmetry
- Strength
- Sport specificity

How can we objectively measure ankle dysfunction?

- ROM
- Balance
- Symmetry
- Strength
- Sport specificity
Binford Tools is Proud to Present...

- FMS
- Y-Balance
- BESS
- Star Excursion Balance Test
- Hop, Stop, and Leap Test
- MANY OTHERS

Functional Movement Screen™

- 7 primary movements
  - 3 clearing tests
- Mobility
- Stability
- Symmetry
- Pain

Star Excursion Balance Test

- Multidirectional reach
- Balance
- Strength
- Symmetry
- Endurance

Y-Balance Test

- Modified SEBT
- Lower quarter testing
  - Anterior
  - Posteromedial
  - Posterolateral
- Ratio scoring

Balance Error Scoring System

- More than just a concussion test
- Balance
- Symmetry
- Surface variance

Hop, Stop, and Leap Test

- Patient relative
- Power
- Deceleration
- Balance
- Symmetry
Other Tests

• Pick one based on experience
• Consistency of use
• Be strict
• Sport specificity

Patient Reported Outcomes

• MCD
• MCID
• Increasing popularity
• Objective qualification
• ↑ validity and reliability

Summary

• How is an ankle injury different than any other ligament injury?
• Jury is out on the use of mass taping and bracing
• Recommended with Hx of CAI

Injury Prevention

• EBP
  • Literature, Patient, Clinician

References


References