



**MALAYSIAN ASSOCIATION OF  
SPORTS MEDICINE  
(MASM)**

# Ankle Injury - Return To Play and Return to Work

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# A review of ankle injury and RTP

- ▶ The ankle is the most common site for many sports
- ▶ Ankle sprain accounted for 76.7% of injuries, followed by fractures at 16.3%.
- ▶ In soccer, the risk of injury during match play is 4 to 6 times greater than during training.
- ▶ Once an ankle sprain occurs, up to 80% will suffer recurrent sprains, and up to 72% develop recurrent symptoms or chronic instability
- ▶ Recurrence most strongly correlates with premature return to sport and a prior ankle injury.
- ▶ Recurrent injury returns to play faster and the new injury (McKeon et al, 2014)

In determining an athlete's ability to RTP, subjective and objective data are required in a quantitative and qualitative way. RTP determination can be challenging as there is lack of evidence-based guidelines

Clanton et al, 2012

## Table 1. Factors to Consider in Returning an Injured Athlete to Play

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The status of anatomic and functional healing

The status of chronic injury

That the athlete poses no undue risk to the safety of other participants

Restoration of sport-specific skills

Psychosocial readiness

Ability to perform safely with equipment modification, bracing, and orthoses

Compliance with applicable federal, state, local, school, and governing body regulations

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*Adapted with permission from The team physician and return-to-play issues: a consensus statement. Med Sci Sports Exerc. 2002;34(7):1213.*

# Return to play - The magic number (of days)...

- ▶ Depends on the grade...
- ▶ Grade 1 ankle sprain - ?days
- ▶ Grade 2 ankle sprain - ?weeks
- ▶ Grade 3 ankle sprain - ?months
  
- ▶ But, the real deal is more complex
- ▶ And, our aim of RTP and RTW is returning as soon as possible and as safe as possible...

# Clinical perspective

- ▶ Pain
- ▶ ROM/flexibility
- ▶ Strength (isokinetic strength)
- ▶ Balance and proprioception (static)

# Pain - first and foremost consideration...

- ▶ Analgesics? Would NSAIDs work?
- ▶ Safety of the analgesics?
- ▶ Healing and inflammation - 'brothers and enemies'

# ROM, strength?

- ▶ ? What is the required ROM for RTP
- ▶ ?what is the required strength for RTP
- ▶ ?what about RTW

# RTW - MC?

- ▶ Rest or no rest?...Should you immobilize?
- ▶ Immobilization delays return to work
- ▶ Focused ROM exercise and functional mobilization are beneficial in earlier RTW and RTP (van Rijn et al, 2010)
- ▶ Helps healing, helps psychology too

# Functional perspective ... the critical questions

- ▶ Can he walk? Jog? Run ?sprint
- ▶ Can he jump (take off and landing)?
- ▶ Can he do side-stepping?
- ▶ Can he do dynamic balancing?
- ▶ Can he do sports-specific drills?
- ▶ For RTW: consider what he needs to function at his work place

# An example of functional test - The ALESA test

- ▶ From a textbook: Clinical Orthopaedic Rehabilitation: An Evidence-based Approach
- ▶ Advanced Lower Extremity Sports Assessment Test
- ▶ 13 tests
- ▶ Score must be >10/13

- ▶ **#1. bilateral squat**
- ▶ - knee flexed at 90 degrees
- ▶ - hands - crossed at chest
- ▶ - look for balance esp knee alignment (straight down, no valgus/bearing weight on the other side)
- ▶ - score 1 or 0

- ▶ **#2. single leg squat**
- ▶ **Dynamic balance test**
- ▶ **Squat down on one leg up to 60 degrees knee flexion**
- ▶ **Look for loss of balance**
- ▶ **Do 5 repetitions, R and L**
- ▶ **Allow 1 fail/imbalance - i.e must pass score 4/5 successful try**
- ▶ **LSI (Limb Symmetrical Index) is also taken**

- ▶ **#3. broad for distance**
- ▶ **Measure height and mark**
- ▶ **Must do a single jump -> mark, measure distance**
- ▶ **3 repetitions, calculate average**
- ▶ **If jump distance more his height → score 1, less score 0**

- ▶ **#4. single leg hop for distance**
- ▶ **Jump single leg (maximal effort)**
- ▶ **3 repetitions, R and L**
- ▶ **Average of distance**
- ▶ **LSI > 85% → score 1, less score 0**

- ▶ #5. single leg hop for time
- ▶ Mark 6 m
- ▶ Jump single leg (maximal effort) (as fast as possible)
- ▶ Time to complete the 6 m distance
- ▶ 3 repetitions, R and L
- ▶ Average of time
- ▶ LSI > 85% → score 1, less score 0

- ▶ **#6. single leg triple hop- stop for distance**
- ▶ **Jump single leg (maximal effort)**
- ▶ **Measure distance**
- ▶ **3 repetitions, R and L**
- ▶ **Average of distance**
- ▶ **LSI > 85% → score 1, less score 0**

- ▶ **#7. single leg triple crossover hop for distance**
- ▶ **Draw a straight line**
- ▶ **Jump left, right and left (contralateral direction)**
- ▶ **Jump single leg (maximal effort)**
- ▶ **3 repetitions, R and L**
- ▶ **Average of distance**
- ▶ **LSI > 85% → score 1, less score 0**

- ▶ **#8. single leg hop stop series**
- ▶ **Jump single leg (maximal effort)**
- ▶ **3 repetitions, R and L**
- ▶ **Average of distance**
- ▶ **LSI > 85% → score 1, less score 0**

- ▶ **#9 single leg hop-stop series - (testing endurance)**
- ▶ **Jump single leg (submaximal effort)**
- ▶ **10 repetitions, R and L**
- ▶ **Calculate complete reps**
- ▶ **Compare with the other side**
- ▶ **LSI > 85% → score 1, less → 0**

- ▶ #10 triple leg hop -stop series - (testing endurance)
- ▶ Jump single leg (submaximal effort)
- ▶ 5 repetitions, R and L
- ▶ Calculate complete reps
- ▶ Compare with the other side
- ▶ LSI > 85% → score 1, less → 0

- ▶ **#11. single leg balance - eyes open (30 seconds)**
- ▶ **Pass → score 1, fail → 0**
- ▶ **#12 single leg balance - eyes close (30 seconds)**
- ▶ **Pass → score 1, fail → 0**

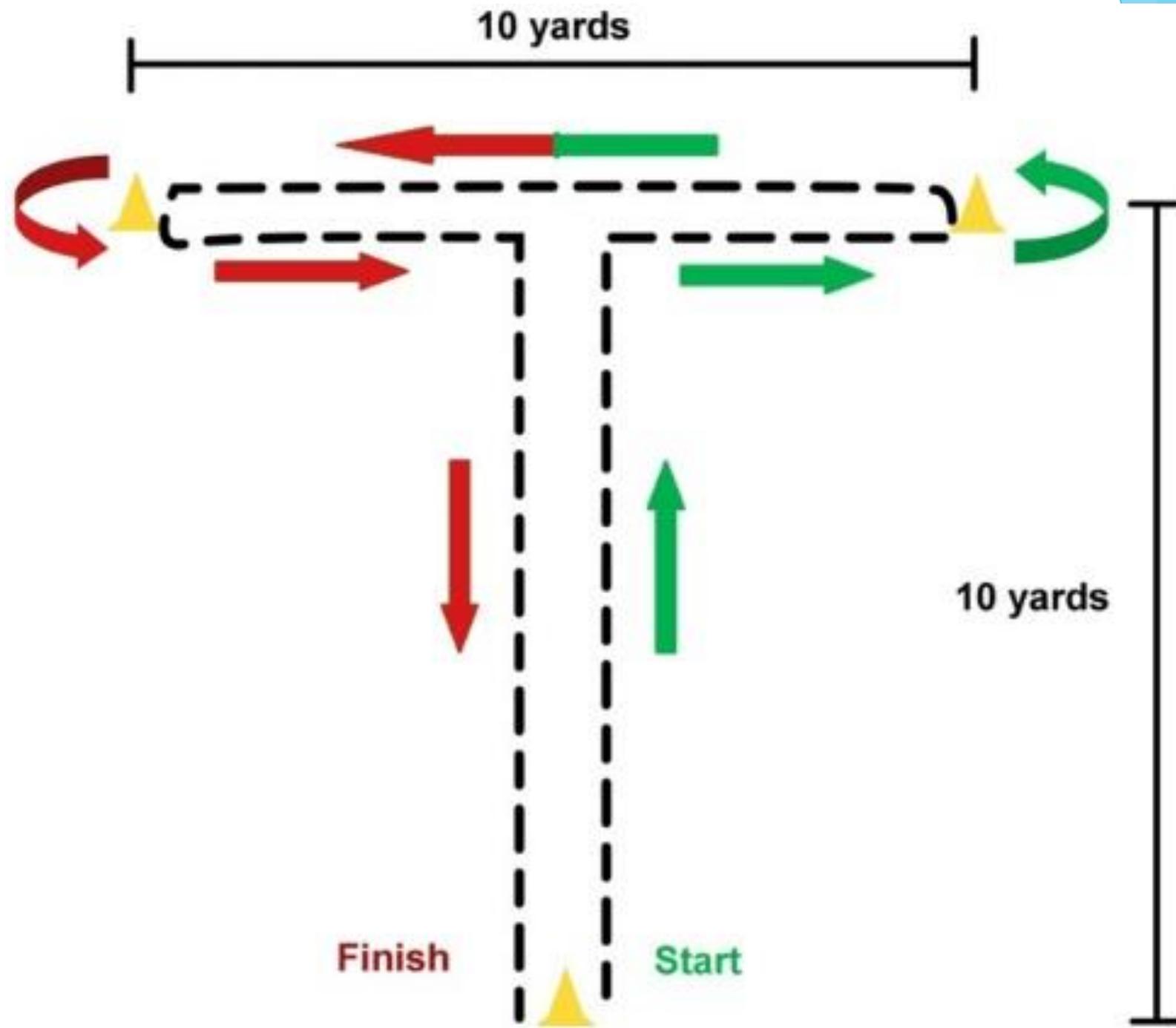
- ▶ #13. start stop series - red green light - distance 40m
- ▶ Sprint
- ▶ Stop when signalled
- ▶ 5 stops within 40 m
- ▶ Successful stop is using less than 2 steps
- ▶ Score 4/5 successful stop → 1, less than this → 0

# Comment:

- ▶ 1. You may also use/make up several tests on your own, provided that you have a reference point eg LSI
- ▶ 2. test batteries should include several elements:
  - ▶ loading of the ankle
  - ▶ Explosive capability (strength and power)
  - ▶ Endurance capability (repetitions)
  - ▶ Mimic sports

# Training Agility

- ▶ Agility definition - "a rapid whole-body movement with change of velocity or direction in response to a stimulus". Sheppard and Young, 2006)
- ▶ Importance of agility to team sports/field sport:
  - ▶ neuromuscular control,
  - ▶ injury reduction,
  - ▶ and overall performance capabilities



# Psychological perspective (from: Injury-Psychological Readiness to Return to Sport)

- ▶ Overall confidence to play
- ▶ Confidence to play without pain
- ▶ Confidence to give 100% effort
- ▶ Confidence in the injured body part to handle the demands of the situation
- ▶ confidence in skill level/ability
- ▶ Confidence to not to concentrate on the injury

# Return to work

- ▶ Similar considerations but...
- ▶ Return to work is expected much earlier as the functional demand at work is less than sports
- ▶ For work that has high demand on the ankle e.g. army, police, or any occupation that requires challenging task to the ankle, consider 'leniency' on the return i.e. 'light duty', 'desk work', avoid certain activities etc.
- ▶ My typical approach on MCs....

# Biology of healing

- ▶ Medial ligament vs lateral ligament tear
- ▶ Individuality
- ▶ Other possible diagnoses (will be discussed in 'the things not to miss in ankle injury' lecture)

# Conclusion:

- ▶ Deciding on return to play is complex
- ▶ Takes consideration of the clinical, functional and psychological aspects of the injury
- ▶ However, the aim remains i.e. getting back to the game as soon as possible and as safe as possible

Thank you

The background features a white space with abstract blue geometric shapes on the right side. These shapes include overlapping triangles and polygons in various shades of blue, ranging from light sky blue to dark navy blue. The shapes are layered, creating a sense of depth and movement.