Introduction

Thank you for your participation as an expert panellist in this study and for your response to date. This is the second survey for this study.

Lateral ankle sprains are the most prevalent musculoskeletal injury sustained by individuals who participate in sports; they also account for the highest proportion of all musculoskeletal injuries presenting to US emergencies departments. Furthermore, lateral ankle sprains have the highest recurrence rate of all musculoskeletal injuries. It is estimated that up to 74% of individuals who sprain their ankle will experience recurrent sprains and/or ongoing symptoms of pain, swelling, instability and “giving way”. Return to sport (RTS) times vary for individuals who have sustained an acute lateral ankle sprain injury. At the moment, there are no clear criteria to guide RTS decisions after lateral ankle sprains.

The aim of this study is to use a Delphi approach to develop consensus for RTS criteria for individuals who have sustained an acute lateral ankle sprain injury.

You have been identified as having expertise in RTS decision making for athletes that commonly sustain acute lateral ankle sprain injuries. Your participation in this Delphi study will involve completing surveys about RTS criteria after acute lateral ankle sprain injury. Your anonymous responses will be used to develop expert consensus.

Your participation in this study is voluntary and you are able to withdraw at any time by contacting a member of the research team (details below). If you withdraw, you will not be asked to contribute any further data to the study, but data you have already anonymously contributed will be retained. This is due to the anonymity of responses, which means that we are unable to identify your responses among others in the data already collected. Your privacy will be maintained at all times. Survey data will be stored securely on password-protected hard drives/servers. You may not receive direct benefit from participating in this study, but we anticipate the study findings will inform RTS practices and decision-making processes. We will send you a summary of the study findings on completion of the project.

If you have any questions about this research, please contact Dr Michelle Smith at: m.smith5@uq.edu.au or +617 3365 4660.

If you would like to speak to an ethics research officer not involved in the study, you may contact The University of Queensland Ethics Coordinator at: humanethics@research.uq.edu.au or +617 3443 2102.

1. Please select one of the options below to confirm your consent to participate in this research project. If you choose to participate in this study and select “yes” then you will automatically be directed to the survey. If you choose not to participate and select “no”, you will be unable to continue.

- [ ] Yes, I agree/consent to participate in this study
- [ ] No, I do not agree/consent to participate in this study
Part 1: Panellist details

Thank you again for your participation in this Delphi study which aims to develop consensus for RTS criteria for individuals who have sustained an acute lateral ankle sprain injury. To enable us to send you feedback on group-level (de-identified) survey results and send you a follow up survey (if needed), we will need to collect your name and contact details. This information will be removed from your survey responses to keep your responses de-identified.

* 2. Please add your details for the following items.
   
   **Full name**

   **Email address**

   **Country in which you work**

* 3. What is your sex?
   
   - Male
   - Female

* 4. What is your age?

* 5. What is your current profession?
   
   - Physiotherapist
   - Exercise physiologist
   - Athletic trainer
   - Sports medicine physician
   - Athletic therapist
   - Strength and conditioning coach
   - Sports scientist
   - Other (please specify)
* 6. What is the highest qualification that you have undertaken?

- Certificate
- Diploma
- Bachelor
- Masters (Clinical)
- Other (please specify) [ ]
- Masters (Research)
- Doctorate (Clinical)
- Masters of Philosophy (MPhil)
- Doctor of Philosophy (PhD)

* 7. Which elite sport that you are mainly working with, in which athletes experience acute ankle sprains, will serve as the basis for answering the following questions about RTS criteria after an acute lateral ankle sprain?

- Soccer
- American/Canadian football
- Basketball
- Gaelic football
- Rugby league
- Field hockey
- Rugby union
- Tennis
- Rugby 7s
- Lacrosse
- Touch rugby
- Badminton
- Team handball
- Squash
- Volleyball
- Korfball
- Netball
- Hurling
- Australian rules football
- Camogie
- Other (please specify) [ ]

* 8. Did you complete the first Delphi survey from this study that was emailed to you?

- Yes
- No

* 9. Did you start to complete, but not finish, the first Delphi survey from this study that was emailed to you?

- Yes
- No
Part 2: RTS criteria from Survey 1

For the purpose of this survey, return to sport (RTS) is defined as “sanctioned for unrestricted training and cleared/available for match play/competition selection”. (This is based on definitions of time loss injury from Fuller et al 2006 and RTS from Ardern et al 2016).

Based on your responses to the first survey, the following items reached consensus (>70% agreement) and are included as criteria to support the RTS decision after an acute lateral ankle sprain.

<table>
<thead>
<tr>
<th>Criteria</th>
<th>% Agreement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assessment of sport specific tasks</td>
<td>98.1%</td>
</tr>
<tr>
<td>Assessment of pain severity on sport specific physical activity</td>
<td>92.9%</td>
</tr>
<tr>
<td>Assessment of ankle range of motion</td>
<td>89.7%</td>
</tr>
<tr>
<td>Assessment of ankle muscle strength</td>
<td>86.5%</td>
</tr>
<tr>
<td>Assessment of hopping</td>
<td>86.5%</td>
</tr>
<tr>
<td>Assessment of agility</td>
<td>86.5%</td>
</tr>
<tr>
<td>Assessment of jumping</td>
<td>83.9%</td>
</tr>
<tr>
<td>Assessment of pain severity over the last 24 hours</td>
<td>81.3%</td>
</tr>
<tr>
<td>Assessment of perceived ankle reassurance/confidence</td>
<td>81.3%</td>
</tr>
<tr>
<td>Assessment of proprioception</td>
<td>75.5%</td>
</tr>
<tr>
<td>Assessment of perceived ankle instability</td>
<td>75.5%</td>
</tr>
<tr>
<td>Assessment of psychological readiness</td>
<td>74.2%</td>
</tr>
<tr>
<td>Assessment of ankle muscle endurance</td>
<td>72.9%</td>
</tr>
<tr>
<td>Assessment of dynamic postural control/balance</td>
<td>72.9%</td>
</tr>
</tbody>
</table>

You might be also interested to know that there were no items that for which ‘no’ was registered by >70% of respondents, and therefore no criteria have been excluded at this stage.

For noting, we have used a strict criterion of 70% being the minimum and no rounding up of >69.5 was done, as you will see. The other items included in the first survey did not reach >70% agreement for their inclusion or exclusion in the RTS criteria. For each of these items we will provide you with the following:

a) The percentage of panellists who indicated the item should or should not be included as a criterion to support the RTS decision after an acute lateral ankle sprain, and the percentage of panellist who were unsure;

b) A summary of the top reasons panellists provided to support their answers;

c) A follow up question asking if you feel the assessment item should be a criterion to support the RTS decision after an acute lateral ankle sprain.

We would like to clarify that a RTS criterion is a specific criterion that must be assessed to determine ability to RTS, rather than assessments that will be performed at some point in the rehabilitation program to determine the diagnosis or guide management.
Assessment of swelling
69.7% of panellists indicated that the assessment of swelling should be a criterion to support the RTS decision after an acute lateral ankle sprain. Their top reasons included:

- Swelling can interfere with range of motion, muscle strength, proprioception and function
- Swelling indicates that tissue damage has not been resolved and may indicate an intra-articular problem or synovitis

21.9% of panellists indicated that swelling should not be a criterion to support the RTS decision after an acute lateral ankle sprain and 8.4% of panellists were unsure. Their top reasons included:

- Swelling is not correlated with function, impairments or pain and can persist after tissue damage has resolved

* 10. Do you feel the assessment of swelling should be a criterion to support the RTS decision after an acute lateral ankle sprain?

- Yes
- Unsure/I don't know
- No

Please indicate the reason(s) for your response.

Assessment of pain severity over the last week
62.6% of panellists indicated that the assessment of pain severity over the last week should be a criterion to support the RTS decision after an acute lateral ankle sprain. Their top reasons included:

- It is important to consider the progression of pain over the last week to monitor improvement and response to rehabilitation, training and load
  - Pain indicates the presence of inflammation and injury that has not resolved

25.8% of panellists indicated that the assessment of pain severity over the last week should not be a criterion to support the RTS decision after an acute lateral ankle sprain and 11.6% of panellists were unsure. Their top reason included:

- It is important to determine pain severity in the last 24-72 hours but not over the last week as changes in symptoms and recovery can occur quickly

Please note: There are some differences in the interpretation of this question. We are referring to a single measure (for example, “what was your level of pain in the last week”), rather than repeated measures on a daily basis over the last week (which would be asking the athlete to rate their pain 7 times, one for each day, over the past week). Assessment of pain severity over the last 24 hours and pain severity on sport specific physical activity have already reached consensus and are included as criteria to support the RTS decision after an acute lateral ankle sprain.
**11.** Do you feel the assessment of pain severity over the last week should be a criterion to support the RTS decision after an acute lateral ankle sprain? That is, the athlete is asked the question; ‘What is the level of your pain over the past week?’.

- Yes
- No
- Unsure/I don’t know

Please indicate the reason(s) for your response.

**Assessment of pain severity on palpation**

46.5% of panellists indicated that the assessment of pain severity on palpation should be a criterion to support the RTS decision after an acute lateral ankle sprain. Their top reasons included:

- Pain on palpation indicates inflammation and unresolved tissue damage
- The location of pain on palpation is important as it could indicate fracture, bone bruising or synovitis

41.9% of panellists indicated that the assessment of pain severity on palpation should not be a criterion to support the RTS decision after an acute lateral ankle sprain and 11.6% of panellists were unsure. Their top reasons included:

- Pain on palpation is not indicative of function or other impairments
- Pain on palpation if one of the last things to improve after a lateral ankle sprain and does not restrict progress to RTS

**Note:** Assessment of pain severity over the last 24 hours and pain severity on sport specific physical activity have already reached consensus and are included as criteria to support the RTS decision after an acute lateral ankle sprain. This item is about pain reported by the athlete when the clinician directly palpates the ankle.

**12.** Do you feel the assessment of pain severity on palpation should be a criterion to support the RTS decision after an acute lateral ankle sprain?

- Yes
- No
- Unsure/I don’t know

Please indicate the reason(s) for your response.
Assessment of ankle muscle length
26.5% of panellists indicated that the assessment of ankle muscle length should be a criterion to support the RTS decision after an acute lateral ankle sprain.
49.7% of panellists indicated that the assessment of ankle muscle length should NOT be a criterion to support the RTS decision after an acute lateral ankle sprain and 23.9% of panellists were unsure.
Unfortunately panellists were not asked to provide reasons for their response in the first survey and therefore this information cannot be provided for this item.

* 13. Do you feel the assessment of ankle muscle length should be a criterion to support the RTS decision after an acute lateral ankle sprain?
☐ Yes ☐ Unsure/I don't know
☐ No

Please indicate the reason(s) for your response.

Assessment of hip/knee muscle strength
51.6% of panellists indicated that the assessment of hip/knee muscle strength should be a criterion to support the RTS decision after an acute lateral ankle sprain. Their top reasons included:

- Hip and knee muscle strength effects lower limb and ankle kinematics, stability, function and performance
- Hip and knee muscle strength could be related to an increased risk of injury/re-injury

28.4% of panellists indicated that the assessment of hip/knee muscle strength should not be a criterion to support the RTS decision after an acute lateral ankle sprain and 20.0% of panellists were unsure. Their top reasons included:

- Hip and knee muscle strength may be important for injury prevention and will be addressed in the rehabilitation program, but it is not a RTS criterion

* 14. Do you feel the assessment of hip/knee muscle strength should be a criterion to support the RTS decision after an acute lateral ankle sprain?
☐ Yes ☐ Unsure/I don't know
☐ No

Please indicate the reason(s) for your response.
Assessment of hip/knee muscle endurance

37.4% of panellists indicated that the assessment of hip/knee muscle endurance should be a criterion to support the RTS decision after an acute lateral ankle sprain. Their top reasons included:

- Hip and knee muscle endurance is important to prevent injury/re-injury

36.8% of panellists indicated that the assessment of hip/knee muscle endurance should not be a criterion to support the RTS decision after an acute lateral ankle sprain and 25.8% of panellists were unsure. Their top reasons included:

- Hip and knee muscle endurance should be assessed and deficits should be addressed in the rehabilitation program, but it is not a RTS criterion

* 15. Do you feel the assessment of hip/knee muscle endurance should be a criterion to support the RTS decision after an acute lateral ankle sprain?

- Yes
- Unsure/I don't know
- No

Please indicate the reason(s) for your response.

Assessment of ankle muscle power

69.7% of panellists indicated that the assessment of ankle muscle power should be a criterion to support the RTS decision after an acute lateral ankle sprain. Their top reasons included:

- Ankle muscle power effects function and performance
  - Ankle muscle power should be assessed as part of lower limb function (i.e. hopping tests)

13.6% of panellists indicated that the assessment of ankle muscle power should not be a criterion to support the RTS decision after an acute lateral ankle sprain and 16.8% of panellists were unsure. Their top reasons included:

- Ankle muscle power is assessed as part of lower limb function (i.e. hopping tests) but is not assessed in isolation

Please note: Consider this question distinct to the assessment of total lower limb muscle power (which is asked in the next question). This question is purely about power isolated to the ankle.
16. Do you feel the assessment of **ankle muscle power** should be a criterion to support the RTS decision after an acute lateral ankle sprain?

- [ ] Yes
- [ ] No
- [ ] Unsure/I don't know

Please indicate the reason(s) for your response.

### Assessment of lower limb muscle power

55.5% of panellists indicated that the assessment of lower limb muscle power should be a criterion to support the RTS decision after an acute lateral ankle sprain. Their top reasons included:

- Lower limb muscle power is important for optimal lower limb function and performance
- Lower limb muscle power should be assessed functionally (i.e. by using a counter movement jumps or hop tests)

25.2% of panellists indicated that the assessment of lower limb muscle power should not be a criterion to support the RTS decision after an acute lateral ankle sprain and 19.4% of panellists were unsure. Their top reasons included:

- Lower limb muscle power should be assessed and deficits should be addressed in the rehabilitation program, but it is not a RTS criterion

17. Do you feel the assessment of **lower limb muscle power** should be a criterion to support the RTS decision after an acute lateral ankle sprain?

- [ ] Yes
- [ ] No
- [ ] Unsure/I don't know

Please indicate the reason(s) for your response.
Assessment of ankle muscle reaction time
55.5% of panellists indicated that the assessment of ankle muscle reaction time should be a criterion to support the RTS decision after an acute lateral ankle sprain. Their top reasons included:

- Ankle muscle reaction time is associated with increased risk of injury/re-injury and is important for control of the ankle

15.5% of panellists indicated that the assessment of ankle muscle reaction time should not be a criterion to support the RTS decision after an acute lateral ankle sprain and 29.0% of panellists were unsure. Their top reasons included:

- Ankle muscle reaction time cannot easily be measured clinically and therefore should not be a RTS criterion

Please note: A number panellist who indicated that the assessment of ankle muscle reaction time should be a RTS criterion acknowledged that it cannot easily be measured directly in clinic.

*18. Do you feel the assessment of ankle muscle reaction time should be a criterion to support the RTS decision after an acute lateral ankle sprain?

☐ Yes  ☐ Unsure/I don't know  ☐ No

Please indicate the reason(s) for your response.

<table>
<thead>
<tr>
<th>Reason(s) for Response</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

Assessment of ligamentous laxity
34.2% of panellists indicated that the assessment of ligamentous laxity should be a criterion to support the RTS decision after an acute lateral ankle sprain. Their top reasons included:

- Ligamentous laxity may compromise joint stability and increase risk of re-injury

56.1% of panellists indicated that the assessment of ligamentous laxity should not be a criterion to support the RTS decision after an acute lateral ankle sprain and 9.7% of panellists were unsure. Their top reasons included:

- Ligamentous laxity/mechanical instability may remain long-term and is not associated with deficits in function

Please note: A number of panellists who indicated that the assessment of ligamentous laxity should be a RTS criterion also acknowledged that it can remain long-term despite full return to sport and function.
19. Do you feel the assessment of ligamentous laxity should be a criterion to support the RTS decision after an acute lateral ankle sprain?

- Yes
- No

Please indicate the reason(s) for your response.

Assessment of structural integrity of the ligaments on imaging

19.4% of panellists indicated that the assessment of structural integrity of the ligaments on imaging should be a criterion to support the RTS decision after an acute lateral ankle sprain. Their top reasons included:

- Structural integrity of the ligaments on imaging identifies the extent of the injury and exact structures involved

69.0% of panellists indicated that the assessment of structural integrity of the ligaments on imaging should not be a criterion to support the RTS decision after an acute lateral ankle sprain and 11.6% of panellists were unsure. Their top reasons included:

- Structural integrity of the ligaments on imaging does not correlate with function
- Structure integrity of ligaments may not resolve post-injury and athletes can RTS with ligamentous disruption

20. Do you feel the assessment of structural integrity of the ligaments on imaging should be a criterion to support the RTS decision after an acute lateral ankle sprain?

- Yes
- No

Please indicate the reason(s) for your response.
Assessment of ankle joint arthrokinematics
Arthrokinematics is the movement of joint (articular) surfaces on each other, which in this case is the movement of talus on tibia.

40.0% of panellists indicated that the assessment of ankle joint arthrokinematics should be a criterion to support the RTS decision after an acute lateral ankle sprain. Their top reasons included:

- Talocural arthrokinematics are important for normal ankle range of motion and function, which if compromised may be associated with increased risk of injury/re-injury

32.3% of panellists indicated that the assessment of ankle joint arthrokinematics should not be a criterion to support the RTS decision after an acute lateral ankle sprain and 27.8% of panellists were unsure. Their top reasons included:

- Ankle joint arthrokinematics are not related to function or successful RT
- Ankle joint arthrokinematics are not easy to reliably assess clinically

* 21. Do you feel the assessment of ankle joint arthrokinematics should be a criterion to support the RTS decision after an acute lateral ankle sprain?

☐ Yes  ☐ Unsure/I don't know  ☐ No

Please indicate the reason(s) for your response.

Assessment of static postural control/balance (defined as the coordination of muscles to keep the body's centre of mass within its base of support)
54.2% of panellists indicated that the assessment of static postural control/balance (defined as the coordination of muscles to keep the body's centre of mass within its base of support) should be a criterion to support the RTS decision after an acute lateral ankle sprain. Their top reasons included:

- Static postural control/balance will impact on dynamic postural control in sport, which if compromised may be associated with increased risk of injury/re-injury

30.3% of panellists indicated that the assessment of static postural control/balance should not be a criterion to support the RTS decision after an acute lateral ankle sprain and 15.5% of panellists were unsure. Their top reasons included:

- Static postural control/balance will be considered early in the rehabilitation program and as a precursor for dynamic postural control training, but it is not part of RTS function

Please note: Assessment of dynamic postural control/balance (defined as the ability to tolerate separation of the centre of mass and centre of pressure while transitioning from one posture to the next or between a static to a dynamic state) has already reached consensus and is included as a criterion to support the RTS decision after an acute lateral ankle sprain.
<table>
<thead>
<tr>
<th>Question</th>
<th>Options</th>
<th>Reason(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>* 22. Do you feel the assessment of static postural control/balance (defined as the coordination of muscles to keep the body's centre of mass within its base of support) should be a criterion to support the RTS decision after an acute lateral ankle sprain?</td>
<td>Yes, Unsure/I don't know</td>
<td>Please indicate the reason(s) for your response.</td>
</tr>
<tr>
<td>Assessment of foot mechanics</td>
<td></td>
<td></td>
</tr>
<tr>
<td>27.1% of panellists indicated that the assessment of foot mechanics should be a criterion to support the RTS decision after an acute lateral ankle sprain. Their top reasons included:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Foot mechanics may be associated with increased injury risk and impaired performance</td>
<td></td>
<td></td>
</tr>
<tr>
<td>49.7% of panellists indicated that the assessment of foot mechanics should not be a criterion to support the RTS decision after an acute lateral ankle sprain and 23.2% of panellists were unsure. Their top reasons included:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Foot mechanics may be addressed in the rehabilitation program, but it is not a RTS criterion</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Please note: Consider this question distinct to the assessment of lower limb and trunk kinematics (which is asked in the next question).</td>
<td></td>
<td></td>
</tr>
<tr>
<td>* 23. Do you feel the assessment of foot mechanics should be a criterion to support the RTS decision after an acute lateral ankle sprain?</td>
<td>Yes, Unsure/I don't know</td>
<td>Please indicate the reason(s) for your response.</td>
</tr>
</tbody>
</table>
Assessment of lower limb and/or trunk kinematics
38.1% of panellists indicated that the assessment of lower limb and/or trunk kinematics should be a criterion to support the RTS decision after an acute lateral ankle sprain. Their top reasons included:

- Lower limb and/or trunk kinematic chain abnormalities may be associated with compromised ankle function and increased risk of injury/re-injury

41.9% of panellists indicated that the assessment of lower limb and/or trunk kinematics should not be a criterion to support the RTS decision after an acute lateral ankle sprain and 20.0% of panellists were unsure. Their top reasons included:

- Lower limb and/or trunk kinematics should be assessed and deficits should be addressed in the rehabilitation program, but it is not a RTS criterion

*24. Do you feel the assessment of lower limb and/or trunk kinematics should be a criterion to support the RTS decision after an acute lateral ankle sprain?

- Yes
- Unsure/I don't know
- No

Please indicate the reason(s) for your response.

Assessment of The Functional Movement Screen™
19.4% of panellists indicated that the assessment of The Functional Movement Screen™ should be a criterion to support the RTS decision after an acute lateral ankle sprain. Their top reasons included:

- Some assessment of movement is important to identify functional performance, presence of asymmetries and risk of injury

62.6% of panellists indicated that the assessment of The Functional Movement Screen™ should not be a criterion to support the RTS decision after an acute lateral ankle sprain and 18.1% of panellists were unsure. Their top reasons included:

- Many components of the Functional Movement Screen™ do not related to ankle function or ankle sprain, and it is more suitable to assess performance of sport specific tasks
- There is lack of evidence to support the use of the Functional Movement Screen™, and it is not designed for RTS

Please note: The assessment of sport specific tasks has already reached consensus and is included as a criterion to support the RTS decision after an acute lateral ankle sprain.
**25. Do you feel the assessment of The Functional Movement Screen™ should be a criterion to support the RTS decision after an acute lateral ankle sprain?**

- Yes
- No
- Unsure/I don't know

Please indicate the reason(s) for your response.

**Assessment of anaerobic fitness**

35.5% of panellists indicated that the assessment of anaerobic fitness should be a criterion to support the RTS decision after an acute lateral ankle sprain. Their top reasons included:

- Anaerobic fitness should be assessed as a RTS criterion in players that require anaerobic fitness for their sport

45.2% of panellists indicated that the assessment of anaerobic fitness should not be a criterion to support the RTS decision after an acute lateral ankle sprain and 19.4% of panellists were unsure. Their top reasons included:

- Anaerobic fitness should be addressed as part of the rehabilitation program when required for the sport, but it is not a RTS criterion

**Please note:** Panellists who indicated that the assessment of anaerobic fitness should be a RTS criterion and also those who indicated that it should not be a RTS criterion, indicated similarly that it was only relevant for players who require it for their sport, but that it was not appropriate for all athletes after an acute lateral ankle sprain.

**26. Do you feel the assessment of anaerobic fitness should be a criterion to support the RTS decision after an acute lateral ankle sprain?**

- Yes
- No
- Unsure/I don't know

Please indicate the reason(s) for your response.
Assessment of aerobic fitness

40.0% of panellists indicated that the assessment of aerobic fitness should be a criterion to support the RTS decision after an acute lateral ankle sprain. Their top reasons included:

- Aerobic fitness is important to determine an athlete's readiness to return to sports and their ability to cope with demands of the sport

43.2% of panellists indicated that the assessment of aerobic fitness should not be a criterion to support the RTS decision after an acute lateral ankle sprain and 16.8% of panellists were unsure. Their top reasons included:

- Aerobic fitness should be addressed as part of the rehabilitation program when required for the sport, but it is not a RTS criterion

Please note: Panellists who indicated that the assessment of aerobic fitness should be a RTS criterion and also those who indicated that it should not be a RTS criterion, indicated similarly that it was only relevant for players who require it for their sport, but that it was not appropriate for all athletes after an acute lateral ankle sprain.

* 27. Do you feel the assessment of aerobic fitness should be a criterion to support the RTS decision after an acute lateral ankle sprain?

- Yes
- Unsure/I don't know
- No

Please indicate the reason(s) for your response.

Assessment of straight-line running speed

45.2% of panellists indicated that the assessment of straight-line running speed should be a criterion to support the RTS decision after an acute lateral ankle sprain. Their top reasons included:

- Straight-line running speed is a good test of ankle and overall function and sport specific ability (n=22)

40.7% of panellists indicated that the assessment of straight-line running speed should not be a criterion to support the RTS decision after an acute lateral ankle sprain and 14.2% of panellists were unsure. Their top reasons included:

- Assessment of sport specific tasks should be considered in the RTS decision rather than straight-line running speed

Note: The assessment of hopping, jumping, agility and sport-specific tasks have already reached consensus and are included as criteria to support the RTS decision after an acute lateral ankle sprain.
28. Do you feel the assessment of **straight-line running speed** should be a criterion to support the RTS decision after an acute lateral ankle sprain?

- Yes
- No
- Unsure/I don't know

Please indicate the reason(s) for your response.

**Assessment of patient-reported foot and ankle function (e.g. Foot and Ankle Ability Measure or Foot and Ankle Outcome Score)**

49.0% of panellists indicated that the assessment of patient-reported foot and ankle function (e.g. Foot and Ankle Ability Measure or Foot and Ankle Outcome Score) should be a criterion to support the RTS decision after an acute lateral ankle sprain. Their top reasons included:

- Patient-reported foot and ankle outcome measures are important to get the athlete’s perspective on their ability to RTS

23.3% of panellists indicated that the assessment of patient-reported foot and ankle outcome measures should not be a criterion to support the RTS decision after an acute lateral ankle sprain and 27.8% of panellists were unsure. Their top reasons included:

- Patient-reported foot and ankle outcome measures such as the Foot and Ankle Ability Measure or Foot and Ankle Outcome Score are not specific enough to gauge readiness for RTS

**Note:** The assessment of perceived ankle stability (i.e. how steady and controlled the ankle feels when performing sporting tasks), perceived ankle reassurance/confidence (i.e. how confident the athlete is that he/she will not sprain their ankle when performing sporting tasks) and psychological readiness have already reached consensus and are included as criteria to support the RTS decision after an acute lateral ankle sprain.

29. Do you feel the assessment of **patient-reported foot and ankle outcome measures** (e.g. Foot and Ankle Ability Measure or Foot and Ankle Outcome Score) should be a criterion to support the RTS decision after an acute lateral ankle sprain?

- Yes
- No
- Unsure/I don't know

Please indicate the reason(s) for your response.
Assessment of acute:chronic workload ratio
Acute to chronic workload ratio is the workload performed by the athlete recently expressed as a proportion (ratio) of their workload over a longer period. For example, their running distance over the past week expressed as a ratio of their running distance over the past month.

44.5% of panellists indicated that the assessment of acute:chronic workload ratio should be a criterion to support the RTS decision after an acute lateral ankle sprain. Their top reasons included:

- Acute:chronic workload ratio is important to manage load in preparation for RTS and for injury prevention on RTS

29.0% of panellists indicated that the assessment of acute:chronic workload ratio should not be a criterion to support the RTS decision after an acute lateral ankle sprain and 26.5% of panellists were unsure. Their top reasons included:

- Acute:chronic workload ratio should be assessed and taken into account to manage load during rehabilitation and training, but it is not a RTS criterion

* 30. Do you feel the assessment of acute:chronic workload ratio should be a criterion to support the RTS decision after an acute lateral ankle sprain?

- Yes
- No
- Unsure/I don't know

Please indicate the reason(s) for your response.

Assessment of health-related quality of life
17.4% of panellists indicated that the assessment of health-related quality of life should be a criterion to support the RTS decision after an acute lateral ankle sprain. There were no consistently reported reasons provided by panellist to support this answer.

54.2% of panellists indicated that the assessment of health-related quality of life should not be a criterion to support the RTS decision after an acute lateral ankle sprain and 28.4% of panellists were unsure. Their top reasons included:

- Health-related quality of life is not appropriately specific or relevant to determine RTS ability

Note: The assessment of perceived ankle stability (i.e. how steady and controlled the ankle feels when performing sporting tasks), perceived ankle reassurance/confidence (i.e. how confident the athlete is that he/she will not sprain their ankle when performing sporting tasks) and psychological readiness have already reached consensus and are included as criteria to support the RTS decision after an acute lateral ankle sprain.
* 31. Do you feel the assessment of health-related quality of life should be a criterion to support the RTS decision after an acute lateral ankle sprain?

- Yes
- No
- Unsure/I don't know

Please indicate the reason(s) for your response.

Assessment of performance during a full training session

In your responses to the first Delphi survey, panellists were asked to nominate additional items they felt could support the RTS decision after an acute lateral ankle sprain. Assessment of performance during a full training session was nominated by greater than 5% of panellists.

* 32. Do you feel the assessment of performance during a full training session should be a criterion to support the RTS decision after an acute lateral ankle sprain?

- Yes
- No
- Unsure/I don't know

Please indicate the reason(s) for your response.
<table>
<thead>
<tr>
<th>Part 3: Other factors that may influence the RTS decision after an acute lateral ankle sprain</th>
</tr>
</thead>
<tbody>
<tr>
<td>There are a number of factors that may influence the criteria to support the RTS decision after an acute lateral ankle sprain. These factors are not specific RTS criteria, but may or may not influence your RTS decision making. The questions below ask your opinions as to whether or not these factors would influence the criteria you use to support the RTS decision after an acute lateral ankle sprain.</td>
</tr>
<tr>
<td>To remind you, for the purpose of this survey, return to sport (RTS) is defined as “sanctioned for unrestricted training and cleared/available for match play/competition selection”. (This is based on definitions of time loss injury from Fuller et al 2006 and RTS from Ardern et al 2016).</td>
</tr>
</tbody>
</table>

* 33. Do you feel that the **type of sport played** should influence (e.g. expedite or delay) the RTS decision after an acute lateral ankle sprain?
   - [ ] Yes
   - [ ] Unsure/I don't know
   - [ ] No
   
   Please indicate the reason(s) for your response.

* 34. Do you feel that the **position played** (e.g. goalkeeper in soccer) should influence (e.g. expedite or delay) the RTS decision after an acute lateral ankle sprain?
   - [ ] Yes
   - [ ] Unsure/I don't know
   - [ ] No
   
   Please indicate the reason(s) for your response.

* 35. Do you feel that **limb dominance** should influence (e.g. expedite or delay) the RTS decision after an acute lateral ankle sprain?
   - [ ] Yes
   - [ ] Unsure/I don't know
   - [ ] No
   
   Please indicate the reason(s) for your response.
36. Do you feel that the **ability to protect the ankle** (e.g. taping or bracing) should influence (e.g. expedite or delay) the RTS decision after an acute lateral ankle sprain?
- Yes
- No
- Unsure/I don't know

Please indicate the reason(s) for your response.

37. Do you feel that **timing in the season** (e.g. playoffs/finals) should influence (e.g. expedite or delay) the RTS decision after an acute lateral ankle sprain?
- Yes
- No
- Unsure/I don't know

Please indicate the reason(s) for your response.

38. Do you feel that **pressure from the athlete to RTS** should influence (e.g. expedite or delay) the RTS decision after an acute lateral ankle sprain?
- Yes
- No
- Unsure/I don't know

Please indicate the reason(s) for your response.

39. Do you feel that **pressure from external individuals** (e.g. coach) should influence (e.g. expedite or delay) the RTS decision after an acute lateral ankle sprain?
- Yes
- No
- Unsure/I don't know

Please indicate the reason(s) for your response.
* 40. Do you feel that masking the injury (e.g. use of analgesics) should influence (e.g. expedite or delay) the RTS decision after an acute lateral ankle sprain?
   - Yes
   - No
   - Unsure/I don't know
   
   Please indicate the reason(s) for your response.

* 41. Do you feel that other (e.g. financial) interests should influence (e.g. expedite or delay) the RTS decision after an acute lateral ankle sprain?
   - Yes
   - No
   - Unsure/I don't know
   
   Please indicate the reason(s) for your response.

* 42. Do you feel that fear of litigation should influence (e.g. expedite or delay) the RTS decision after an acute lateral ankle sprain?
   - Yes
   - No
   - Unsure/I don't know
   
   Please indicate the reason(s) for your response.
Part 4: Thank you!

43. If there is anything else you would like to add regarding RTS criteria after an acute lateral ankle sprain, please add it here.

Thank you for taking the time to complete this survey. Your participation is much appreciated.