

## 2014/01: The Australian Open Tennis Championships: are there sufficient safeguards against the effects of hot weather?

### What they said...

*'Given the length of time tennis matches generally go for and the sweat rate of most normal, healthy athletes, they won't get to a state where they get too critically dehydrated'*

The Australian Open's chief medical officer, Dr Tim Wood

*'As much as it's easy to say the conditions are safe - a few people said there's doctors and stuff saying it's fine - it only takes one bad thing to happen'*

British Wimbledon champion, Andy Murray

### The issue at a glance

On Thursday, January 16, 2014, tournament referee, Wayne McEwen, applied the extreme heat policy at the Australian Open, suspending all play on outdoor courts and ordering the roofs closed on the Rod Laver Arena and the Hisense Arena.

This decision was taken on what was the third day during which players had had to compete in very high temperatures. Games proceeded the next day without postponements or the closing of the roofs, despite a continuance of the extreme heat.

A number of players have complained that the conditions were 'inhumane' and potentially placed players' health at risk. There have been calls to review the extreme heat policy and the manner in which it is implemented.

Others have argued that there was no real danger and that the conditions affected all players equally. The issue remains unresolved.

### Background

(The information supplied as background is an abbreviated version of that found in the Wikipedia entries titled 'Australian Open' and 'Australian Open extreme heat policy'.

These entries can be accessed in full at [http://en.wikipedia.org/wiki/Australian\\_Open](http://en.wikipedia.org/wiki/Australian_Open) and [http://en.wikipedia.org/wiki/Australian\\_Openhttp://en.wikipedia.org/wiki/Extreme\\_heat\\_policy](http://en.wikipedia.org/wiki/Australian_Openhttp://en.wikipedia.org/wiki/Extreme_heat_policy))

The Australian Open is a major tennis tournament held annually over the last fortnight of January in Melbourne, Australia. First held in 1905, the tournament is chronologically the first of the four Grand Slam tennis events of the year - the other three being the French Open, Wimbledon and the US Open. It features men's and women's singles; men's, women's, and mixed doubles and junior's championships; as well as wheelchair, legends and exhibition events. Prior to 1988 the tournament had been played on grass. Since 1988 two types of hard court surfaces have been used at Melbourne Park - green Rebound Ace to 2007 and blue Plexicushion from 2008.

The Australian Open typically has very high attendance, second only to the US Open. It was also the first Grand Slam tournament to feature indoor play during wet weather or extreme heat with its two primary courts, the Rod Laver Arena and Hisense Arena, equipped with retractable roofs.

### Sites and dates

The open has been played at a variety of locations. Before the Melbourne Park stadium era, tournament dates fluctuated as well, in particular in the early years because of the climate of each site or exceptional events. For example, the 1919 tournament was held in January 1920 (the 1920 tournament was played in March) and the 1923 tournament in Brisbane took place in August when the weather was not too hot and wet.

After a first 1977 tournament was held in December 1976 - January 1977, the organisers chose to move the next tournament forward a few days, then a second 1977 tournament was played (ended on 31 December), but this failed to attract the best players. From 1982 to 1985, the tournament was played in mid-December. Then it was decided to move the next tournament to mid-January (January 1987), which meant there was no tournament in 1986. Since 1987, the Australian Open date has not changed. However, some top players, including Roger Federer and Rafael Nadal, have said that the tournament is held too soon after the Christmas and New Year holidays, thus preventing players from reaching their best form, and expressed a desire to shift it to February. Such a change, however, would move the tournament outside the summer school holiday period, potentially impacting attendance figures.

Another change of venue was proposed in 2008, with New South Wales authorities making clear their desire to bid for hosting rights to the tournament once Melbourne's contract expires in 2016. In response, Wayne Kayler-Thomson, the head of the Victorian Events Industry Council, was adamant that Melbourne should retain the event, and, in a scathing attack on the New South Wales authorities, said, 'It is disappointing that New South Wales cannot be original and seek their own events instead of trying to cannibalise other Australian cities.' Since the proposal was made, a major redevelopment of Melbourne Park has been announced, which is expected to run into the hundreds of millions of dollars. Melbourne Park will include upgraded and increased seating in major venues, a roof over Margaret Court Arena, improved player facilities, a new headquarters for Tennis Australia, and a partly covered 'town square' area

featuring large televisions showing current tennis play. A year later, these plans were largely approved, with former Premier of Victoria John Brumby confirming the state government's willingness to commit A\$363 million to complete the renovations, a move which guaranteed there will be no change of venue until at least beyond 2036

#### *The Australian Open and the extreme heat policy*

The Extreme Heat Policy is a rule pertaining to the Australian Open (tennis). It was introduced in 1998 after consultation with a number of tennis players. The policy reads:

The Australian Open Extreme Heat Policy (EHP) will be applied at the Referee's discretion and may be altered at any time.

At the Referee's discretion, when the Wet Bulb Globe Temperature only (WBGT) is equal to or above the pre-determined threshold, the Referee may suspend the commencement of any further matches on outside courts. Any matches currently in progress will continue until the end of the current set. At the completion of the set, play will be suspended.

Where play in any match commences outdoors (or with a roof open) and the WBGT temperature is equal to or exceeds the pre-determined threshold, the match will continue until the completion of the set. At the end of the set a decision may be made by the Referee to close the roof for the remainder of the match and the following matches, when the EHP is still in effect.

A roof will only be closed because of extreme heat if a decision has been made by the Referee to suspend the completion or commencement of matches on the outdoor courts.

Supplement for women's singles and junior singles only; to allow a 10-minute break between the second and third sets when a WBGT reading of 28 has been recorded prior to the calling of the match by Tournament Control. Readings are continually made throughout the day.

The 10-minute break will not apply between the second and third sets, if play had previously been suspended after the first set due to the EHP.

When the Rod Laver Arena was opened in 1988, the initial heat policy allowed for the roof to be closed when the temperature rose above 102 degrees (F) or at the referee's discretion when the temperature rose above 95 degrees (F), but only for daytime matches and only once all singles matches could be scheduled inside Rod Laver Arena. This effectively meant that the heat policy could only go in effect in the quarterfinals or later in the tournament.

Officials considered closing the roof for the final in 1993 due to a temperature of 104 degrees (F) (40°C), but Jim Courier threatened to boycott the match unless the roof remained open. The heat rule was first invoked during the quarterfinal round in 1997. In 1998 a new policy was implemented calling for play on all courts to be stopped if the temperature reached 104 degrees (F) (40°C). This was later changed in 2002 to 100 degrees (F) (38°C). The 2002 women's final was played in 95°F heat, which triggered a 10 minute break between the 2nd and 3rd sets but no halt in play. Beginning with the 2003 tournament the policy was changed to 95 degrees (F) (35°C) and a WBGT of 28. The new policy was invoked on January 20, 2003 on a day when the temperature reached 37°C and the WBGT reached the 28 mark. Play was halted for the minimum 2 hours. After the extreme heat policy was invoked in consecutive years in 2006 and 2007, the policy was again changed starting in 2008 to allow matches in progress to be halted at the conclusion of the set. Prior to that a match already underway had to be completed. The policy was further changed in 2008 to allow play to be stopped only at the discretion of the tournament referee, rather than relying solely on temperature and WBGT calculations. The policy was invoked several times in 2009, the hottest tournament on record, with an average temperature of 34.7 Celsius.

#### **Internet information**

On January 12, 2013, The Age ran a report on the economic and tourism benefits enjoyed by Melbourne as a result of hosting The Australian open. The piece is titled 'Melbourne's smash hit' and can be accessed at <http://www.smh.com.au/travel/melbournes-smash-hit-20130111-2ck9e.html>

On January 13, 2014, Rappler published a report from Agence France-Presse titled 'Officials play down extreme heat risk at Australian Open'

The full report can be accessed at <http://www.rappler.com/sports/world/47847-australian-open-heat-risk>

On January 14, 2014, The Chicago Sun-Times reported on the extreme heat being endured during the second day of play at the Australian Open. The report was written by Douglas Robson and is titled 'Fainting, vomiting at Australian Open as temps reach 108 degrees'

The full text of the report can be accessed at <http://www.suntimes.com/sports/24960615-419/story.html>

On January 14, 2014, The Washington Post reported on the extreme heat being endured during the second day of play at the Australian Open. The report was written by Kelyn Soong Robson and is titled 'Australian Open affected by heat wave'

The full text of the report can be accessed at <http://www.washingtonpost.com/blogs/early-lead/wp/2014/01/14/australian-open-affected-by-heat-wave/>

On January 14, 2014, IOL Sport South Africa reported on the extreme heat being endured during the second day of play at the Australian Open. The report was written by Talek Harris and is titled 'Oz Open marred by fainting, vomiting.'

The full text of the report can be accessed at <http://www.iol.co.za/sport/tennis/oz-open-marred-by-fainting-vomitting-1.1631441#.UuRbB7RxXIX>

On January 14, 2014, BBC Sport News reported on the extreme heat being endured during the second day of play at the Australian Open. The report was written by Russell Fuller and is titled 'Australian Open 2014: Dancevic complains of "inhumane" treatment'. The report which includes some analysis and comment can be accessed at <http://www.bbc.com/sport/0/tennis/25724815>

On January 15, 2014, the United States sports report, The Bleacher Report, published a comment titled, 'Australian Open 2014: Why Grand Slam Tournaments Need to Be Rescheduled' which argued that because of regularly adverse weather conditions all the grand slam titles should be held at different times of the year. The full text of this comment can be accessed at <http://bleacherreport.com/articles/1923931-australian-open-2014-why-grand-slam-tournaments-needs-to-be-rescheduled>

On January 15, 2014, the specialist tennis website, The Changeover, published a comment titled, 'This Australian Open Extreme Heat Policy Is Ridiculous' The full comment can be accessed at <http://www.changeovertennis.com/australian-open-extreme-heat-policy-ridiculous/>

On January 15, 2014, The Guardian published a comment by Kevin Mitchell arguing that extreme temperatures were to be expected at The Australian Open and players needed to be able to deal with them. The title of the comment is 'Tennis is tough, and heat at the Australian Open is part of that' The full text of this comment can be accessed at <http://www.theguardian.com/sport/blog/2014/jan/15/australian-open-2014-heat-tennis>

On January 15, 2014, The Guardian published a comment by Chris O'Neil arguing that players should not be required to play in conditions of extreme heat. The piece is titled 'Australian Open 2014: Heat a danger for players, says former champion' and the full text can be accessed at <http://www.theguardian.com/sport/blog/2014/jan/15/australian-open-2014-heat-danger-players-inhumane-chris-o-neil>

On January 15, 2014, TVNZ ran a news report titled 'Heat divides players on day of Aussie Open carnage' The report focuses on the mixed reactions from players to the conditions of extreme heat. The full text of this report can be accessed at <http://tvnz.co.nz/tennis-news/heat-divides-players-day-aussie-open-carnage-5800189>

The Science of Sport is a specialised Internet site dedicated to supplying the science behind a range of issues in contemporary sport.

On January 16, 2014, The Science of Sport published an article by Dr Ross Tucker titled 'Melting in Melbourne: Thoughts on the heat' The report looks at the physiological effects of heat on athletes and how these can be dealt with. The full text of the report can be accessed at <http://www.sportsscienists.com/2014/01/melting-in-melbourne-quick-thoughts-on-the-heat/>

On January 16, 2014, Lean Blitz published a comment by Chad Walters titled 'Playing Australian Open In Extreme Heat Shows No Respect For People' The full text of the report can be accessed at <http://leanblitzconsulting.com/2014/01/playing-australian-open-extreme-heat-shows-respect-people/>

On January 16, 2014, BBC News published a health report by Philippa Roxby, the BBC health reporter, titled 'Too hot for tennis? The impact of heat on players'. The report examines in some detail the physical effects of heat on athletes and suggests how these can be countered. The full report can be accessed at <http://www.bbc.co.uk/news/health-25758278>

On January 16, 2014, BBC Sport News published a report titled 'Australian Open: Medical officer defends extreme heat policy'. The report details a range of player criticisms and Tom Wood's defence of the decision to continue play. The full text of this report can be accessed at <http://www.bbc.com/sport/0/tennis/25755065>

On January 16, 2014, The Washing Post ran a news report and analysis by Cindy Boren titled 'Australian Open play suspended: How hot is too hot?' The full report can be accessed at <http://www.washingtonpost.com/blogs/early-lead/wp/2014/01/16/australian-open-play-suspended-how-hot-is-too-hot/>

On January 16, 2014, The Conversation published a specialist report on the effects of heat on the human body, especially the bodies of elite tennis players. The piece is titled 'How heat can make your body melt down from the inside out' and was written by Donna Green, a

senior lecturer and researcher at the Climate Change Research Centre,

The full text can be accessed at <http://theconversation.com/how-heat-can-make-your-body-melt-down-from-the-inside-out-22042>

On January 16, 2014, BBC Sport News ran a report titled 'Australian Open: The challenges of playing in 40C heat' The report looks at the physical stresses created by playing in extreme heat and how they can be minimised. The full text of the report can be accessed at <http://tevel1.com:81/sport/0/tennis/21045745>

On January 16, 2014, The Guardian ran an article considering the possible effects of climate change and its contribution to the extreme temperatures being experienced at the Australian Open. The piece is titled 'Is the Australian Open tennis feeling the heat of climate change?' and it can be accessed in full at <http://www.theguardian.com/environment/planet-oz/2014/jan/16/australia-tennis-open-climate-change-extreme-heat>

On January 17, 2014, The Roar published an opinion piece by Adam Julian titled 'Should the Australian Open move out of the summer heat?' The comment presents arguments for and against a change in the time when the Australian Open is held. The full text of this comment can be found at <http://www.theroar.com.au/2014/01/17/should-the-australian-open-move-out-of-the-summer-heat/>

On January 17, 2014, The Telegraph ran a news report indicating that the Association of Tennis Professionals will be considering what measures should be adopted to protect players from the effects of extreme heat at its next meeting in March 2014. The report is titled 'Australian Open 2014: ATP to reconsider its extreme heat policy after player meltdown in Melbourne heat' and it can be accessed at <http://www.telegraph.co.uk/sport/tennis/australianopen/10580334/Australian-Open-2014-ATP-to-reconsider-its-extreme-heat-policy-after-player-meltdown-in-Melbourne-heat.html>

On January 18, 2014, The Sydney Morning Herald ran a report titled 'ATP to review extreme heat policy' The full report can be accessed at <http://www.smh.com.au/sport/tennis/atp-to-review-extreme-heat-policy-20140118-3113t.html>

On January 18, 2014, The New York Times ran a comment by Greg Bishop titled 'At the Australian Open, It's Not the Heat, It's the Stupidity' The comment is extremely critical of the manner in which the Australian Open of 2014 has been conducted. The full text of the comment can be accessed at [http://www.nytimes.com/2014/01/18/sports/tennis/players-are-not-cool-with-australian-open-heat-policy.html?\\_r=1](http://www.nytimes.com/2014/01/18/sports/tennis/players-are-not-cool-with-australian-open-heat-policy.html?_r=1)

On January 19, 2014, The Age ran a report titled 'Heat on Australian Open tournament director Craig Tiley' detailing the tournament director's response to criticisms of the way in which the extreme heat policy had been implemented at the Australian Open. The full text of the report can be accessed at <http://www.theage.com.au/sport/tennis/heat-on-australian-open-tournament-director-craig-tiley-20140118-3120w.html>

### **Arguments suggesting the Australian Open offers sufficient safeguards against hot weather**

1. The heat presents no serious threat to player health

Officials at the Australian Open repeatedly assured players and the media that there was no serious risk involved in players competing in the conditions of extreme heat that prevailed during the first week of the tournament in January, 2014.

The officials cited both the human body's capacity to deal with such conditions and the nature of the game of tennis. Tim Wood, the doctor for the championship, stated, 'We know that man is well-adapted to exercising in the heat. If you take us back a few thousand years, we evolved on the high plains of Africa chasing antelope for eight hours under these conditions.'

Dr Wood continued, 'There will be some players who complain and no-one is saying it is terribly comfortable to play out there, but, from a medical perspective, we know that man is well adapted to exercising in the heat. Whether it is humane or not is a whole other issue.'

On Tuesday, January 14, 2014, the second day of the tournament, Dr Wood noted, 'Of course there were a few players who experienced heat-related illness or discomfort, but none required significant medical intervention after they had completed their match.'

Dr Wood stated further, 'Certainly in the next four days the players will have plenty of chance to acclimatize. The body does put in measures that assist in coping with the heat, so if anything, the players will acclimatize with playing in the heat.'

They might actually get better, particularly with the 48 hours' rest between matches.'

Dr Ross Tucker, exercise physiologist and sports consultant, has explained that the body has self-protective mechanisms which protect it from serious malfunction once its internal temperature reaches 40.

Dr Tucker explains, 'When people are made to run on treadmills in lab studies, exhaustion happens when this body temperature is reached. Think of it as a short circuit switch, for your own protection - the hot brain reduces muscle

activation once we hit 40C, and there is also evidence that this reduction in muscle activation happens in anticipation of the thermal failure, specifically to prevent it.'

It has also been argued that tennis has regular breaks and does not therefore demand uninterrupted exertion. It is also noted that tennis matches are generally relatively short. This point has also been made by Dr Wood, 'Given the length of time tennis matches generally go for and the sweat rate of most normal, healthy athletes, they won't get to a state where they get too critically dehydrated.'

Dr Wood further noted, 'Tennis, as a sport, is relatively low risk for major heat problems compared to, in Melbourne, AFL football, compared to continuous running events... The time the ball is in play, [compared with] total time for the match, is relatively small. The amount of heat they produce from muscles exercising is relatively small in terms of what someone continuously exercising will do.'

## 2. A range of safeguards have been put in place to protect the players

The measures put in place to protect players from the effects of heat are largely determined by the wet bulb globe temperature (WBGT). This is a reading that is determined by combining a variety of variables - the air temperature, the humidity, the wind and the effect of solar radiation.

The WBGT was developed by the United States military in the 1950s to help stop heat sickness in its training camps.

At a reading of 26, for instance, ice vests are provided to all players on the courts. At 28, there is a 10-minute break after the second set for players in the junior singles event and a 15-minute break for the wheelchair events.

At a reading of 30.1, there's a mandatory 10-minute break in women's singles if the players split the first two sets.

The tournament doctor, Tim Wood, has noted that if a player is affected by the heat, they may be advised to lie down with their legs elevated to stop the pooling of blood, which can lead to the staggers. And plenty of ice will be on hand at the change of ends.

The last protection offered under the extreme heat policy is that at a certain WBGT games on the outside courts will be suspended and the roofs will be closed on the two show courts and air-conditioning deployed. These provisions only occur once the sets currently being played have been completed.

The stage at which these last protections are deployed is at the discretion of the tournament referee, who consults with the tournament doctor and meteorologist.

The tournament referee, Wayne McKewen, has indicated that he values the discretion he has been given to determine when the final provision of the extreme heat policy will be put in place. He believes that the flexibility he has allows him to better protect the players.

Mr McKewen has stated, 'I don't like to have a set guideline because if we know it's going to be fluctuating - then we will make a decision based on that. If we know it's going to spike, we can bring it in sooner rather than later for the players.'

The tournament referee has also observed that he also receives input from trainers after a player has had a particularly gruelling match in the heat and gives that player a later starting time in their subsequent match.

## 3. Dealing with the heat is largely a matter of players' attitude and preparation

Those who argue that the Australian Open offers sufficient heat protection for players note that being able to deal with such adverse conditions is in large measure a result of mental fitness and appropriate preparation.

Many players have argued that being able to deal with the heat is in large measure a product of prior training and attitude.

Serbian player, Novak Djokovic, who withdrew from the 2009 Australian Open with heat sickness, has said of this year's championship, 'I'm physically fit. I've been practising, preparing for the Australian summer that we all know can be difficult at times with the conditions.

Knowing that I played a day match today, I prepared myself mentally for that. It's not just physically. Mentally you need to be tough enough to not give up and not think about what conditions can do to you.'

Former world number one, Roger Federer, commented similarly, 'It's just a mental thing.

If you've trained hard enough your entire life or the last few weeks and you believe you can do it and come through it, there's no reason [you can't do it]. If you can't deal with it, you throw in the towel.'

Former world champion, Serena Williams, has also claimed, 'So far I have been okay.

I have been training for a long, long time in the heat in Florida as well as playing. I have been coming to Melbourne for years and years.

So you just have to be ready for those hot conditions and just try to get through it.'

Jamie Murray, who suffered heatstroke after his first round doubles victory, stated later that he believed the problem was that he had not prepared adequately.

Murray claimed, 'My alarm didn't go off so I slept in about an hour and a half later than what I should have. I was only woken up because the driver called the room to see where I was.

That was 8.30am and we were supposed to practise at 9am, then the match was 11am. I was kind of rushing around, I didn't get time to have breakfast and all that stuff, so it wasn't an ideal start.'

Murray concluded, 'I'm sure I would have been okay if I hadn't had the start to the day that I had. I know the risks you take by going out in that heat and not being fully prepared.'

Greg Whyte, a former Olympian and professor of applied sport and exercise science, has noted, 'What you have to remember is that athletes, particularly tennis players, play all over the world.

They are very well acclimatised and incredibly well looked after. They hydrate themselves well on court and there are expert teams around them who are deciding if it is potentially dangerous.

If we were taking unacclimatised individuals and putting them in these extreme environment then I would be more concerned.'

On January 15, 2014, Kevin Mitchell, writing in The Guardian, argued that many of those who complain of the heat are really suffering from a lack of will and commitment.

Mitchell stated, 'Some of them turn up, collect their \$30,000 cheque for just making it to the first round and they tank it - they may not necessarily withdraw but may not play to their fullest potential (and it should be emphasised that a lack of effort is very different from fixing a match). There is no other way to put it, however harsh it sounds. They give up mentally if not physically, denying the crowd a proper contest and their opponent a satisfying victory...

And the heat was not really the deciding factor in most cases.'

#### 4. Making additional changes to the Australian Open would be disruptive

It has been claimed that many of the changes that have been proposed for the Australian Open to reduce the impact of the heat would have disruptive side-effects.

For example, it has been noted that changing the time of year when the championship is held would have a variety of adverse consequences.

In an opinion piece published in The Roar, on January 17, 2014, it was claimed, 'The date of the tournament hasn't changed since 1987. Changing the Open to March/April would move the tournament outside the summer school holiday period, potentially impacting attendance figures, which reached record levels last year despite the heat. Such a change would also clash with the early rounds of the NRL and AFL seasons.'

It has also been noted that two Masters Series events are held in March and established tournaments in January and February could suffer from a drop in quality.

It has also been noted that many of the changes proposed would result in making games and indeed tournaments take longer to stage and that this could pose difficulties for both players and spectators.

It has also been noted that if a variety of additional processes to reduce the effect of the heat were introduced it would be difficult for the referee to decide at just what point each should be applied. This, it is claimed, has the potential to create even more uncertainty for the players.

#### 5. Australian tennis officials have adopted an attitude which respects the views of all players

The Australian tournament officials have tried to adopt an attitude which is fair to all, recognising that there are many players who do not want games postponed because of the heat.

The Australian Open tournament director, Craig Tiley, has stated, 'It's important to note that the player feedback has ranged from players who wanted to stop play because of the heat to many players who did not want play to stop at all.'

Tiley stated further, 'We have always, and will continue to, talk to players on both tours and look to alleviate any confusion in this process and in the players' understanding of it.'

Some players have clearly not looked to have the roof closed or games postponed, believing the heat affects everyone and that those who have prepared properly will prevail. They therefore consider it unfair when provisions are made for those whom they believe have simply not trained appropriately.

Roger Federer has stated, 'Just deal with it, because it's the same for both players.'

Spanish player David Ferrer has offered a similar opinion. 'I prefer when it's not too hot, but I think everybody prefers that. But it's the same for everybody. I know it's always hot every year here in Australia.'

In the 2009 Australian Open, when the decision was also taken to close the roof because of the heat, Russian Svetlana Kuznetsova complained because she felt she was disadvantaged by the change in conditions.

Kuznetsova stated, 'Well, yeah, definitely I'm angry. Why should I not be? Game going my way. I'm fine playing with the roof (open). I think the guys yesterday, it was the same weather everybody was playing with the roof (open). Why today they had to close it? I didn't get it. Yeah, that was why I was angry.'

Retired American tennis player Andy Roddick has similarly stated, 'I used to hate it when they took us out of the extreme conditions and put us indoors, because I felt like I had worked in the off-season on my fitness...

Do we need to do extreme things because guys are struggling in the heat? I don't know. Personally, I don't think so. I think as athletes we push our bodies to do things that aren't normal and, frankly, that's what we get paid for. I can't feel it...

When you play there, it's brutal. It feels like you're playing in a hairdryer, but that's all part of it. Each Slam presents its own unique set of challenges and you kind of have to attack it accordingly."

### **Arguments suggesting the Australian Open does not offer sufficient safeguards against hot weather**

#### 1. The weather conditions at the Australian Open could endanger the health of players, officials and spectators

It has been suggested that playing tennis in extreme temperatures can cause significant distress and may endanger their health.

After the first round of the 2014 Australian Open a record number of players (nine) withdrew from the competition.

Although most of the players cited injuries, the Dutch player Robin Haase went out with cramp, which is often set off by extreme heat. The total is the highest in one round at the Australian Open. There were other players who, though they did not withdraw, appeared to have been heat-affected during their matches.

China's Peng Shuai, vomited and cramped up during her first-round loss to Kurumi Nara of Japan. Canadian player, Frank Dancevic, was unconscious for a minute during his loss to Benoit Paire. He has claimed that conditions were dangerous for the players. He noted that the heat caused him to hallucinate: He stated, 'I was dizzy from the middle of the first set and then I saw Snoopy and I thought, "Wow Snoopy, that's weird."'

British Wimbledon champion, Andy Murray, has also warned about the conditions. Andy Murray has stated, 'You've just got to be very careful... There's been some issues in other sports with, you know, players having heart attacks.' Some critics have also claimed that the high number of injury-related withdrawals may well be at least partially attributable to the effects of the heat. Mr Dancevic has suggested that it is easier for players to suffer injuries when affected by the heat. He has claimed, 'I think when you're running around on court quite dizzy, you're more prone to getting injured also... For sure, it can make players have injuries.'

The heat has also caused distress to non-players. One ball-boy fainted and a ball-girl was treated for heat stress. It also poses risks for spectators. By January 17, 2014, (four days into the competition) 970 spectators had been treated for heat-related illnesses. The seats with no shade on the outer courts were virtually empty, with spectators congregating instead under trees on the sides of courts or in the upper reaches of stands where temporary covers provided some relief. Many spectators appear to have given up on the championship altogether. Total attendance was just 53,226 on the Thursday, down from Monday's high of 63,595.

Melbourne is a city with an established high risk of heat-related deaths. A new report on Australian cities has estimated that Melbourne had the highest annual average number of heat-related deaths. Periods of excessive heat in January have been tentatively linked to fatalities. During 2009's January heatwave, there were 374 more deaths across Victoria than would be expected for the week when comparing data over five years. It has been suggested that in these circumstances it is irresponsible to lure spectators out into the heat.

## 2. Playing in extreme heat reduces the quality of the game and diminishes the spectators' enjoyment

It has been claimed that playing tennis during extremely hot weather adversely affects the quality of the game that players can produce and thus reduces the entertainment for spectators.

Dominic Bliss in a comment published in bet.unibet.com on January 17, 2014, noted, 'At 42 degrees and above, the sport ceases to be tennis and morphs into some epic test of physical endurance instead. And that's not good for the sport. As spectators, we want to see dynamic shots, balletic court coverage and crafty tactics.'

We don't want to watch players hiding under umbrellas, wrapping themselves in ice jackets, boiling like lobsters and ultimately passing out.'

This position was also put by Tariq Engineer in an open piece published in firstpost.sport on January 16, 2014.

Engineer stated, '[E]xtreme conditions only contribute to lowering the level of the contest because it changes the balance between skill and endurance. A player worrying about whether he or she might live or die (or suffer injury) is not going to produce his or her best tennis. And that, along with retirements, cheats the fans, the organisers and the players of a good spectacle... more attention should be paid to what produces a good tournament beyond finishing matches on schedule.'

A number of players have described the effect that the heat had on their game. Russian player Elena Vesnina has stated, 'Impossible to play in this heat. It's only about surviving. Forget about beauty of the tennis.'

Many players have indicated that their priority becomes to get out of the heat. British player Andy Murray noted, 'In these conditions you want to win fast. Whether I've played a lot of matches or not, every player would want to get off the court as quick as possible.' Similarly, German Angelique Kerber said that her main aim had been 'to get off the court before it became really hot.'

Professor Clyde Williams, a sports scientist at Loughborough University, who has worked in Melbourne, has commented on some of the ways heat affects players. The professor has stated, 'Towards the end of five-set matches, players' reaction times may slow by up to a quarter of a second. Your judgement will go, to a certain extent.' American player Varvara Lepchenko noted the impact the heat had on her game. Lepchenko stated, 'I couldn't focus and on my returns I couldn't see the ball. Towards the middle of the second set I started feeling more and more dizzy. I felt like time was going so fast. I needed more time in between points and started feeling really hot on top of my head. Then I completely lost it.'

## 3. The heat protection guidelines are unclear

There have been complaints about a lack of clarity and undue discretion in the application of the 'extreme heat policy' used at the Australian Open.

The extreme heat policy is an arbitrary measure based on the wet bulb globe temperature (WBGT). The wet bulb globe temperature takes into account the actual temperature as well as radiation, wind, and humidity. If the conditions are considered extreme, officials have the discretion to suspend play at the completion of the set. All other scheduled matches will be delayed until conditions improve. Matches on Rod Laver Arena and Hisense Arena would continue under a closed roof.

A WBGT of 26 prompts ice vests to be despatched to all courts, and at 31.6 all women's singles matches get a 10-minute break between the second and third sets. However, there is no break in the men's matches, and no set WBGT that triggers the 'extreme heat policy', which sees all matches on uncovered courts halted at the end of the set in play and roofs brought across on the two main show courts. This final stage in protecting players from the heat is implemented at the discretion of the referee and championship doctor.

The lack of clarity has been criticised by Chris Kermode, the head of the Association of Tennis Professionals (ATP).

Kermode has stated, 'Clear messaging is paramount. We need to make sure that players are very clear when they step out onto the court about what temperature means the roof goes on or a game is stopped.'

A number of players have expressed a similar desire for definite, publicly known guidelines. Maria Sharapova has stated, 'I think the question I have is no one really knows what the limit is. Not the players; the trainers themselves, when you ask them when will the roof be closed?

No one actually knows what that number is in comparison to humidity or the actual heat.'

Sharapova further stated, 'Sometimes you wish you know, because it just depends on I'm not sure who, a referee or the meteorologist, and there are just a lot of questions in the air that maybe should be solved.'

A similar complaint was made by France's Alize Cornet who has suggested that the apparent inconsistencies in the application of the extreme heat policy make the decisions taken seem capricious. Cornet has remarked, 'On Tuesday I wonder why they didn't stop play. It was like an oven. The wind was scorching, and some people fainted...

Why [stop play] today [Thursday] and not on Tuesday? The conditions are similar; it's maybe one degree more. It looks like their decision is made a bit on the fly, and that's a pity.'

#### 4. Officials have displayed an insensitive attitude to the difficulties faced by players

Numerous sports commentators have accused the officials administering the extreme heat policy at the Australian Open of demonstrating relative indifference to the comfort and wellbeing of the players.

On January 17, 2014, The New York Times published an opinion piece by Greg Bishop. Bishop argues that the tournament officials appeared largely to want to ignore the controversy surrounding the heat in the first days of the championship with a business-as-usual attitude that nothing extreme or concerning was occurring.

Greg Bishop has written, 'The tournament chose the nothing-to-see-here approach, and the longer that went on, the more absurd it seemed, amid the sea of red faces and collapsed bodies and heads balancing ice packs the way a model would a book.'

Bishop was critical of the attitude adopted by the Australian Open officials that there was nothing to be concerned about because players' lives were not at risk. Rather, he argued, officials should have been concerned because many players were facing unusual physical distress and discomfort.

Greg Bishop stated, 'This is professional tennis, not modern warfare or indentured servitude. Humanity should be a baseline consideration.'

On January 16, 2014, Jon Wertheim, writing for Sports Illustrated, commented, 'As devastating as the heat has been, the reaction of the sport's officials has been comparably brutal. Double-speak. Vagueness. An absence of commonsense. This was tennis - fractious and fractured - at its worst.'

Wertheim went on, 'We got our first indication on Monday, when the tournament referee and the tournament doctor sat in a press conference and projected a strange indifference to the weather forecast and the resulting conditions.'

On January 16, 2014, Chad Walters, writing for LeanBlitz, commented similarly, 'It's bad enough that the Australian Open is scheduled to be played at the peak of the summer season in Melbourne ... but officials at the Australian Open were reluctant to institute measures right away that would protect the players.'

Walters concluded, 'This is an example of leaders not listening to the serious complaints from those who are forced to suffer from the decisions made by those leaders.'

#### 5. There are many other heat-protective measures that could be applied and currently are not

Over the course of the current Australian Open a range of suggestions have been made as to how player distress in the heat could be reduced.

Russian player Maria Sharapova has proposed that change-over periods could be lengthened. Sharapova has suggested officials should give players more time between points than the usual 20 seconds. Sharapova stated, 'You're trying to get as much rest in between points as you can, but then you have an umpire who is giving you a time violation. Then you're asking yourself whether that's fair... in these conditions, let it go. I think it should be [extended] for the safety of the players, definitely.'

The distinction currently made between men's and women's matches played in the heat has also been challenged. A wet bulb globe temperature of 31.6 means that women's singles matches get a 10-minute break between the second and third sets. This is not given the men. Critics claim that this is unfair, particularly given that men's games run for five sets where women's are three. Andy Murray has stated, 'I don't know why there's the different rules for the heat. If there's a medical reason for it, then I'm fine with it, if there isn't, I'm not fine with it. That's it.'

It has also been suggested that the temperature at which outside games are suspended and games on the centre courts have the roof closed should be lowered. In addition to this, if games on outside courts are called off, they could be held at night under lights.

It has further been proposed that the rule requiring a set be completed before a halt is called to play should be reviewed. Maria Sharapova has suggested that because there is no tiebreaker in the final set then it should be possible to call a temporary halt during these sets. Sharapova has stated, 'I think in the third set for the women and the fifth set for the men, if you know that there is no tiebreaker, officials can't just rely on maybe the set will go fast and the set will be over and we will be off court.'

Dr Ross Tucker, exercise physiologist and sports consultant, has recommended that there should be more breaks and that they be shorter. Dr Tucker has proposed, 'For instance, why not allow a three minute change-over every time new balls are called for? Or after every six games, designed to allow a break at approximately half-way through a set? This is slightly longer than the current change after odd-games, and would allow slightly more effective cooling, more often.'



A five minute break after each set would also help, with 10 minutes before the final set (set 3 for women, set 5 for men).'

Dr Tucker has further suggested that fans [devices directing air not supporters] be placed at the back of the court. 'Fans on the players during changeovers is...an obvious strategy, especially if the player is going to wet themselves with water and apply ice. It would accelerate cooling and help reduce the thermal strain, and wouldn't affect the match either.'

Finally it has been suggested that the date of the Australian Open should be changed so that it is no longer held during one of the hottest periods in the Melbourne calendar. Adam Julian, in an analysis published in The Roar on January 17, 2014, noted, 'Moving the dates of the tournament isn't without historical precedence. The 1920 tournament was played in March.'

### **Further implications**

As one of only four highly prestigious grand slam events held each year, it is impossible to imagine that there would ever be a boycott of the Australian Open; however, it seems likely that a number of influential players and their national support networks will be putting a strong negative view to their respective player associations about the weather conditions that are sometimes encountered there.

The Association of Tennis Professionals (ATP) is the body which protects the interests of male professional tennis players. It has been reported that the extreme heat policy which is employed at the Australian Open will be discussed at the next ATP player council meeting, in Indian Wells in March, 2014. This is claimed to be in response to the difficulties encountered in this year's Australian Open tournament as a result of the heat.

The ATP does not administer any of the grand slam events. (The Australian Open is one of the grand slams, along with the French Open, the US Open and Wimbledon.) The Australian Open is overseen by Tennis Australia; however, the ATP is in a position to influence the manner in which the Australian Open is conducted.

The Women's Tennis Association (WTA) is the international body which looks after the interests of women tennis players. The WTA has applied an 'extreme heat rule' in the women's tour since 1992, which allows for an optional 10-minute break before the deciding set. This rule was subsequently taken up by Tennis Australia and is applied at the Australian Open. It therefore seems likely that if the ATP and/or the WTA were to make some recommendations in relation to the Australian Open, Tennis Australia may well take them up.

The director of the Australian Open, Craig Tiley, has defended the decisions taken in relation to implementing the 'extreme heat policy' at the 2014 championship. He has argued that player opinion as to whether some games should have been suspended and the roofs closed was divided and that the referee has sought to act in a way that is fair to all. However, it seems unlikely that the assurances offered by Craig Tiley will be the end of the matter.

Over the history of the Australian Open the tournament has been subject to significant change. The location and venues have varied; the time of year in which the championship is held has been altered; and there has been a growing number of provisions put in place to deal with the impact of high temperatures on the players. The impression sometimes created that the Australian Open is immutable is inaccurate.

A number of factors seem likely to affect Tennis Australia's response to this recent controversy surrounding extreme temperatures at the Australian Open. The first is that the issue has aroused a significant, widely-publicised response from a significant number of players, including British champion, Andy Murray, and Canadian Frank Dancevic. High profile Russian, Maria Sharapova, has also voiced concerns. The consequence of this has been that player heat distress and the relevant policies of the Australian Open have been treated extensively by British, Canadian and United States media.

Further, the Australian Open is widely televised around the world, including in the United States, Britain, Canada, Japan, Russia and China. The 2012 worldwide television audience for the Australian Open was 349 million. This means that the international impact the game has is enormous and it has long been a major drawcard for international tourists. It is the biggest sporting event in the world every January and is credited with delivering an economic boost of some \$240 million to Victoria annually and creating 446,000 visitor nights in Melbourne and surrounds.

This means that the message sent to potential spectators regarding the experience they will enjoy at the Australian Open has to be positive. This was not uniformly the case during the opening days of the 2014 championship, where television coverage revealed large numbers of seats empty, vacated by fans who could no longer stand the heat. Andy Murray stated, 'It looks terrible for the whole sport when people are collapsing, ball kids are collapsing, people in the stands are collapsing. That's obviously not great.'

Irrespective of the seriousness of the health risks posed to players by the heat Tennis Australia seems unlikely to be able to ignore the potential impact on spectator patronage. This is particularly important as it has been predicted by climate authorities that climate change is likely to see conditions in Melbourne getting hotter for longer in January. The ultimate solution may well be that the date of the championship has to be shifted till later in the year. Champions such as Roger Federer have previously requested such a shift as they have argued that the first half of January is too early in the year for players to have prepared sufficiently.

However, a time shift may well be too dramatic a solution to be adopted immediately. In the short term there are likely to be changes to the extreme heat policy and its implementation. More breaks seem likely and referee discretion may well be reduced in a way that sees special provisions applied earlier and automatically. Allowing players and spectators to be able to anticipate confidently what dispensations will be allowed when is obviously important.

### **Newspaper items used in the compilation of this issue outline**

The Age, January 17, 2014, page 5, news item by Kate Hagan et al, 'Play abandoned as 1000 fans seek heat treatment'.

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The Age, January 17, 2014, page 17, comment (photo) by Corey Watts, 'Melbourne: open for tennis or closed by climate'.

<http://www.theage.com.au/comment/melbourne-open-for-tennis-or-closed-by-climate-20140116-30xiq.html>

Sydney Morning Herald, January 18, 2014, page 4, analysis by Daisy Dumas, 'A very heated debate.'

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Sydney Morning Herald, January 18, 2014, page 16, comment by John Birmingham, 'A very heated debate.'

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