

# How snow-deprived Aussies can win in snowboard cross and ski-cross in Pyeongchang

Written by Jade Haycraft, PhD Candidate, Victoria University

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Australia's [Steven Bradbury is famous](#) for winning Olympic gold through being the last man standing in the 1000m short-track speed skating event in 2002.

In snowboard cross and ski-cross, the “fall factor” also impacts an athletes chance at medalling. But for Aussies to succeed in these two categories at [Pyeongchang 2018](#) , it's their start performance that will be most important.

The structure of the snowboard cross and ski-cross events – a timed solo run followed by knock-out, head-to-head racing over a [three-hour competition](#) window – means that keeping muscles warm and ready to fire will be crucial.

In Pyeongchang 2018, the events will run from February 15 – and Australia is fielding realistic medal contenders.

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**Read more:** [Live from Pyeongchang: how an Olympic broadcast works](#)

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## Brutal course

[Snowboard Cross \(SBX\)](#) and [Ski-Cross \(SKIX\)](#) are relatively new to the Winter Olympic Games, with [SBX debuting in Turin \(2006\)](#) , and [SKIX in Vancouver \(2010\)](#) .

The event style of both sports is a [combination of slopestyle boarding/skiing and BMX cross](#) . But instead of a bike and dirt track, athletes are racing on a snowboard or skis down an icy hill.

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The SBX and SKIX competitions can be held on the same track, with some minor differences depending on the sport. The Pyeongchang course splits into separate tracks mid-way through, but merges again off a tight left turn onto the finish section.

Pyeongchang 2018 Winter Olympic Games official snowboard and ski cross course preview.

For both sports, each athlete completes a solo (timed) qualifying run to determine the starting line-ups for quarter-, semi-, small-, and big finals. The finals involve head-to-head racing against 4-6 competitors, with each race lasting up to 60 seconds.

At Pyeongchang, the [first 3 SBX](#) and [first 2 SKIX](#) athletes in each final progress through the competition to the big final.

Based on qualifying times at the Vancouver 2010 Olympic Games, in SBX [average speeds](#) for male and female competitors are expected to be around 50km per hour, and in SKIX from 53-57 km per hour: about as fast as a car travelling suburban streets.

### Preparing to 'GO'

A key to success in SBX and SKIX occurs at the start gate, as there [is a link](#) between an athlete's time over the starting section of a course and their qualifying time. Athletes who start well are [more likely](#) to progress into the medal rounds of competition.

The nature of the sports mean that crashes are inevitable, so one's ability to be "ahead of the pack" from the start means they are less likely to collide with fellow competitors as they race down the course.

Aussie Belle Brockhoff explodes out of the gate to take the win in Bankso - Bulgaria.

Generally, a SBX and SKIX competition can last for up to three hours - [but only 3.5 to 5 minutes](#) of that time is spent actually racing. Considering the environmental constraints of sub-zero temperatures, the athletes' warm-up is critical for optimal performance. This is why you may see many of these athletes' [comp](#) [leting dynamic movements \(lunges, squats, jumps, arm pulls\)](#) and visualisation techniques to mentally prepare to race.

**Read more:** [How freestyle skiers and snowboarders learn to pace their fear](#)

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One specific technique used to optimise start performance is a full body [muscle activation](#) in the start gate. Many athletes pull back on the start handles in the moments leading to the “GO” signal. This creates muscle tension – think pulling back a rubber band - before the athlete slingshots out the gate.

Considering this, it is no surprise that race performance of SBX and SKIX athletes is strongly related to [maximal push-off speed, bench press and pull strength, core power](#) , and [muscle pre-activation](#)

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### The hopeful Aussies

The Pyeongchang 2018 Winter Olympic track is providing a difficult start, with a 2m free-fall drop to a steep landing, followed by a technical step-up, step-down feature. Uneven terrain, jumps, rollers, and turning banks continue for a distance of around [1000-1100m, including a 130-250m overall vertical descent](#)

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The level of technicality means the Australian athletes need all the power they can muster to get out in front of fellow competitors.

The competition length of SBX and SKIX courses allow Aussie athletes to be competitive in these sports (compared to downhill for example), as our mountain terrains allow training over these distances.

The major concern for Australian snow athletes is limited contact hours on snow compared to their Northern hemisphere competitors who have longer winters, more on-snow training, and therefore develop in a sport specific environment. As such, many Australian athletes spend long periods of time overseas for training and competition.

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Australia has produced world class athletes in SBX and SKIX. This Winter Olympics, two Aussies (one male, one female) will be representing Australia in the SKIX:

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[Anton Grooms](#) - 20th in the World Cup in January 2018.

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[Sami Kennedy-Sim](#) - recently finished second at the World Cup in 2017, [currently ranked 12th](#) in the World Cup.

In SBX, five Aussie hopefuls will also be representing the country:

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[Belle Brockhoff](#) (who has [just cleared been cleared to compete at PyeongChang](#)) – World Cup winner twice in 2017, and once in 2016.

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[Alex "Chumpy" Pullin](#) - 2011 World Champion, 2 x 1st place at World Cup in August 2017, currently ranked [2nd in the World Cup](#)

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[Jarryd Hughes](#) - 1st place at World Cup in December 2017, currently ranked [9th in the World Cup](#)

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[Cameron Bolton](#) – 4th place at World Cup in 2015, currently ranked [23rd in the World Cup](#)

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[Adam Lambert](#) – 2nd at World Cup in December 2017, currently ranked [8th in the World Cup](#).

So despite Australia being known as the land of sun, sand and beaches, on the world stage of snowboard cross and ski cross we have a solid chance of adding to our Winter Olympic medal count. As long as we stay warm, and start well.

*Jade Haycraft receives funding from the Australian Government (Australian Postgraduate Award)*

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**Read more** <http://theconversation.com/how-snow-deprived-aussies-can-win-in-snowboard-cross-and-ski-cross-in-pyeongchang-91568>