



The following guidelines have been built by the coaches of the WMSC based on the international, national, and provincial rules of alpine ski racing. The purpose of this guide is to provide parents and athletes with the information necessary to acquire the best equipment, on an individual basis, for success.

The most important pieces of equipment for a ski racer are **boots** and **skis**. Both must be proportional to the height, weight, and ability level of the skier. Skis vary in **length** (cm), **radius** (m) and **flex** (every brand has a different scale for measuring stiffness). Boots vary in **sole length** (mm), **flex** (number or equivalent symbol of 0 – 170), **cuff length/height** (short to long from U14 to U18). An example of how boots and skis work together: A long stiff ski for an 75kg U16 athlete will not work effectively with an 80 flex boot.

Find your profile in the following guide and consult with your coach before making any decisions.

Note: New skis are not set-up/ready to go right out of the plastic. They need an initial set (side edge, base edge, sidewall). If you require assistance please contact your coach to set-up an educational/tuning session, or take them to a shop.



## U10 & Fast Fridays

Contact your coach Robbie Williams [robbie@wmsc.info](mailto:robbie@wmsc.info). Before buying any equipment.

- **Boots**

Certainly their most important piece of equipment. Four buckle boots with a power strap are preferred.

It is also important that the athletes can flex their boots, to have supported range of motion in their ankle joint. If you are looking at new boots, please go via a boot fitter to get the right fit and flex (60-70). We'll do some boot checks at the start of the season as well. Please reach out if you're unsure/looking for some further guidance.

- **Skis**

One set of carving/race skis. An example would be a Multi Event or SL ski. For U10 we do not need both SL and GS skis, and there is no need for a plate on the ski. Skis should come up to roughly their nose when standing barefoot, chin when in ski boots.

OPTIONAL: one set of all-mountain skis, maximum width under foot should be 90mm, absolutely no need for anything wider at this age, and second-hand options are worth looking at.

- Poles
- Goggles (a spare pair to go in their backpack on a rainy day is preferred).
- Gloves (a spare pair to go in their backpack on a rainy day is preferred).
- WMSC Uniform
- Helmet (hard ears).
- Back Protector (mandatory)
- Backpack
- Specific race protection (pole guards, shin guards, chin guards etc.) are not required for U10.



## U12

Contact your coach Dana Toso [dana@wmsc.info](mailto:dana@wmsc.info). Before buying any equipment.

### SKIS

U12 athletes should have a pair of skis for each discipline:

EVENT	SKI LENGTH	RADIUS
Slalom (SL)	[130cm, 145cm]	-
Giant Slalom (GS)	[144cm, 158cm]	<21m
All Mountain Skis	Similar to GS	N/A

There are exceptions when it comes to athletes with uncommon heights and weights for their age, if you are stuck between sizes generally it is a better call to size up. As always, contact your coach before buying new equipment.

### BOOTS

It is important that boots be “gentle” in this age category. We highly recommend that a softer flex boot (no stiffer than 80) be your first point of interest. All-mountain or Freeride boots will generally meet the flex recommendations, but we encourage you to invest in a pair of Race boots if possible. Most ski shops will have a professional boot fitter on staff to make sure your new boots fit comfortably and functionally.

### Other equipment

**Poles** should have straps or clip in system.

**Slalom (SL) protection equipment** is not mandatory, but important for practicing proper SL technique. This equipment includes: poleguards, shin guards, chin guard for helmet.

U12 athletes **do not** need a speed/downhill suit.

**Helmets** are mandatory and need to fit properly. Soft-ear helmets are **not** allowed in ski racing at this age. In U14 athletes will need helmets approved by FIS. FIS-legal helmets are clearly marked with the following sticker on the back:



Have proper **goggles** that fit with your helmet. Extra lenses and/or spare goggles are very handy when the weather turns foul or your goggles are damaged.

**Mouthguards** are mandatory for gate training.

**Back Protectors** are mandatory.



## U14

Contact our U14 Lead coach, Drew Heatherington [drew@wmsc.info](mailto:drew@wmsc.info)

### SKIS

All U14 athletes should have a pair of skis for each discipline:

EVENT	SKI LENGTH	RADIUS
SL	[135cm -150cm]	-
GS	[150cm -175cm]	>17m
Freeskiing	Similar to GS	N/A

There are exceptions when it comes to athletes with uncommon heights and weights for their age, if you are stuck between sizes generally it is better to size up. As always, contact your coach before buying new equipment.

### BOOTS

Boots for U14 athletes should be racing boots and the flex should not be lower than 65 or higher than 90. It is strongly recommended that you communicate with your coach prior to buying new boots. Stores can point you in the right direction according to weight and foot size, but they have never seen you ski which is the biggest factor in deciding which boots actually fit you best.

### Other equipment

**Speed/Downhill suits** are encouraged but optional.

**Helmets** are mandatory and need to fit properly. Soft-ear helmets are only allowed for slalom. In U14 athletes need helmets approved by FIS. FIS-legal helmets are clearly marked with the following sticker on the back:



Have proper **goggles** that fit with your helmet. Extra lenses and/or spare goggles are very handy when the weather turns foul or your goggles are damaged.

**Shin guards, pole guards, training shorts and a helmet face bar** are considered basic equipment for slalom training at this age.

**Mouthguards** are mandatory for gate training.

**Back Protectors** are mandatory.



## U16

**Before ordering skis, boots and bindings, contact your Lead Coach for the upcoming season, to discuss which brand, model and length are best for a good balance between short term performance and long-term development.**

Contact our U16 Lead coach David Prades at [david@wmsc.info](mailto:david@wmsc.info).

### SKIS

All U16 athletes must have a pair of skis for each discipline Slalom (SL), Giant Slalom (GS) and Super Giant Slalom (Super-G), for training and racing in each of the specific disciplines.

A second pair of skis for racing GS and SL are not mandatory and only recommended for athletes who are seriously contending for top 5 ranks in provincial competitions.

It is very common that U16 athletes upgrade the ski length mid-way through the season, if they show a significant skills development or physical growth.

		1 <sup>st</sup> Year athletes			2 <sup>nd</sup> Year athletes		
		LENGTH	APPROX RADIUS	BINDING APPROX DIN	LENGTH	APPROX RADIUS	BINDING APPROX DIN
GIRLS	SL	145-157cm	10.5	6-14	150-157cm	11	6-16
	GS	175-185cm	23		180-188cm	25	
	SG	190-195cm	30		195-200cm	33	
BOYS	SL	150-157cm	11	6-14	157-165cm	11.5	6-16
	GS	182-188cm	24		185-188cm	26	
	SG	190- 200cm	30		195-205cm	33	

### BOOTS

U16 athletes need junior or adult racing models provided by the main boot brands, through direct ordering and later delivery at shops. No athlete should buy boots directly at the shops and ski on public models, unless recommended by the coach. Short cuff models for lighter/shorter athletes can be exceptionally used, with previous coach agreement.

U16 Girl sizes range from 22.5 to 24.5. It is extremely rare that any U16 girl has a smaller or bigger size than that. Flex index should range from 90 to 130.



U16 Boy sizes range from 24.5 to 26.5. Rarely, some U16 boys need a size 27.5 boots. Flex index should range from 90 to 130.

**A wrong boot choice will compromise the athlete's development and increase injury risk. Ask your Lead Coach for the upcoming season, before ordering!**

### POLES

Poles are a very important piece of equipment. We recommend straight to have a pair of poles for SL with handguards and a pair if GS with no hand guards and smaller or cone shaped. The GS poles should be straight and of the precise length for the athlete's height. Slalom poles can be 5cm shorter and Sg poles can be same size as GS and curved for easier tucking.

### CLOTHING

**Club Jacket and windbreaker.** The club jacket and softshell contribute to create teambuilding and the sense of belonging to a collective. They are also very good quality pieces of clothing that fit very well. For these reasons, we ask all athletes to have them.

**Ski pants.** Warm ski pants are very important for cold and or weather days. They should have full leg zippers, so they can be worn or removed while wearing the ski boots, on the snow.

**Tight and light puffy jacket.** To wear under the windbreaker or the ski jacket on very cold days. Should have a tight fit with no hoodie, to not be bulky.

**Speed suits** are strongly recommended for racing. Athletes racing with a speed suit, need to be training usually with a speed suit too. They must be the right size, as too small and tight will restrain movements. When training with a speed suit, they need to wear certain layers on top to protect from abrasion in case of fall on hard snow, from weather and from cold temperatures. These layers must be tight, to not affect too much the aerodynamic advantage of the speed suit. For all these reasons, the following layers should be a part of every day's training equipment:

**Tight and light windbreaker.** To wear on top of the speed suit while training, without compromising aerodynamics too much. The club windbreaker is perfect.

**Ski training shorts.** To wear on top of the speed suit while training, without compromising aerodynamics too much and helping the athlete remain warmer and more protected against abrasion in case of falling on hard snow.

**Thermal inner layers.** When training in a speed suit when temperatures are low, it is very important to have the right thermal layers in contact with the skin. Have different sorts, for colder or warmer temperatures.



#### PROTECTIVE GEAR

**Helmets** are mandatory and need to fit properly. Soft-eared helmets are only allowed for slalom, with a chin guard. In U16 athletes need helmets approved by FIS. FIS-legal helmets are clearly marked with a silver FIS sticker on the back.

**Goggles** that fit with your helmet. Extra lenses and/or spare goggles are very handy when the weather turns foul, or your goggles are damaged. Not being able to see properly with different light conditions will reduce performance significantly.

**Shin guards, pole guards and ching guard** .These items are considered basic equipment for slalom training at this age. They can have a big influence in the athlete's development when learning to cross block SL gates, as too small and low-quality shin guards or hand guards will protect less and tend to get caught with the plastic gates. The chin guard will avoid painful impacts which will reduce confidence significantly and might end up in expensive bills from the dentist.

**Back protector.** This is mandatory for training gates. Every athlete should have one which feels comfortable and has a good level of protection from the back of the neck to the tail bone. There are models made of gel, which adapt to the shape of the back and are light and comfortable, while absorbing a lot of energy from impacts.

**Anti-cut inner layers.** There are several brands in the market that offer inner layers with anti-cut properties. These are strongly recommended, as we are making the ski edges very sharp and it can very possibly happen that someone hits and edge while falling, possibly getting deep cuts.

**Gloves.** They must be tough, comfortable to grab the poles and protected on the back of the hand. Having a second pair of gloves is also a good idea. In case one gets wet or lost.

**Mouthguards** are mandatory for gate training.

#### SKI TUNING GEAR

Minimum ski tuning items to have, for any athlete who wants to take care of his own skis during camps or before training days in Whistler:

##### Edge sharpening

- fine sharpening file (100mm)
- medium sharpening file (150mm)
- angle setting file (cutting file)
- 87 file guide and file guide clamps
- coarse (200) and medium (600) diamond stones
- side wall remover
- gummy stone
- rubber bands for ski brake retaining



## WMSC Equipment Guidelines

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- Set of vices
- Cut resistant glove

### Base preparation

- Waxing iron with temperature regulation
- Waxes for cold, medium and warm snow
- 5mm plastic scrappers
- Horse Hair brush
- Plastic brush



## U18 & U21

Contact: Brad Eades brad@wmsc.info before buying any equipment.

: Jeff Jones jonesy@wmsc.info.

All U18/U21 athletes must have a pair of skis for each discipline (SL, GS):

EVENT	SKI LENGTH	RADIUS
SL Ladies	>=155cm	-
SL Men	>=165cm (-10cm tolerance 1 <sup>st</sup> year FIS)	-
GS Ladies	188cm (-5cm tolerance for FIS races)	30m
GS Men	193cm (-5cm tolerance for FIS races)	30m
SG Ladies	205cm (-5cm tolerance for FIS races)	40m
SG Men	210cm (-5cm tolerance for FIS races)	45m
DH Ladies	210cm (-5cm tolerance for FIS races)	50m
DH Men	218 (-5cm tolerance for FIS races)	50m

## BOOTS

All U18/U21 athletes are strongly recommended to have proper **race boots** with a regular cuff length (as opposed to a shorter junior cuff length), and a **minimum flex of 110**. U18/U21 skis are longer and stiffer than junior skis, so the boots must be stiff enough to bend the skis. It is strongly recommended that you communicate with your coach prior to buying new boots. Stores can point you in the right direction according to weight and foot size, but they have never seen you ski which is the biggest factor in deciding which boots actually fit you best.

Regarding canting and alignment, if you do not already know your ideal setup it is recommended that your boots be zeroed (set up straight at 90 degrees) prior to your first day skiing so any observations can be made from neutral starting point.

## PROTECTIVE GEAR

**Helmets** are **mandatory** and need to fit properly. Soft-eared helmets are only allowed for slalom, with a chin guard. In U16 athletes need helmets approved by FIS. FIS-legal helmets are clearly marked with a silver FIS sticker on the back.

**Goggles** that fit with your helmet. Extra lenses and/or spare goggles are very handy when the weather turns foul, or your goggles are damaged. Not being able to see properly with different light conditions will reduce performance significantly.

**Shin guards, pole guards and ching guard** .These items are considered basic equipment for slalom training at this age. They can have a big influence in the athlete's development when learning to cross block SL gates, as too small and low-quality shin guards or hand guards will protect less and tend to get caught with the



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