

SNOW  
EAST!

Chip Dwyer

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## BOOT CAMP!

### Ski Boots 101

In the early 80's I worked in a ski shop that preferred the four-buckle overlap boot at a time when rear-entry boots were the rage. I would size the buckle boots carefully and tell the customer the liner padding will compress, making the boot proper-sized after break-in. I would send a skier off with a warning, "wear thin socks! You might curse me the first few days, but you'll thank me later."

Now, twenty years later, the four-buckle overlap boot is the standard. Out-of-the-box fit has improved too. The toe box room in most boots has grown and downsizing for a high performance fit is popular. Often top skiers are two ski boot sizes down from their street shoe size.

Do some research before buying boots. Find the answers to some difficult questions, not questions like, "how many times do you ski?" Here are some examples of the really tough questions:

**Q: What kind of boot do you need?**

**A:** Go to a qualified bootfitter and talk about your desires and abilities; then both of you can pick from one of these four categories.

1) *Ultra-High Performance:* Often called a "Plug" boot, for those looking for World Cup-level stiffness, a boot that transmits all your energy to your skis. Plug boots fit like a cast because of thick plastic in the shell creating a lower volume and minimally padded liners.

2) *High Performance:* For those that ski hard, do an occasional race course, Terrain Park or Halfpipe (free ride category). These skiers want precision with comfort. Liners often are heat molded and warmer than the minimally padded Plug boot, but after break-in they will lose some of that firm fit.

3) *Performance:* Boots made to tackle the whole mountain with comfort and features at a reasonable price. These are for intermediate skiers looking to improve and are an easy boot to put on and take off. Liners may include heat molding in important spots. They have a great out-of-the-box fit, but break-in leaves a larger cavity than initial fit.

4) *Intermediate-Entry level:* These boots feature ease of entry and comfort as the priority. They often include some bells and whistles to aid walking or flex. These boots let the skier stand tall and they start cushy and grow roomier after break-in. Engineered for forgiving flex and lateral stiffness, they come with upper cuff adjustments, so canting issues (bow-legged or knock-kneed) can be addressed. Keep in mind that all but Ultra-High Performance boots come in women's specific models. These anticipate the lighter weight, lower center of gravity (removable heel lifts), narrower heels and the lower, larger calf muscles of a typical woman.

**Q: What shell volume does my foot need?**

**A:** If you placed your foot in a bucket of water, would lots of water spill out (high volume) or very little (low volume)? A low volume foot tends to be narrow and has a low instep. A high volume foot looks like a tank.

Take the time to find your foot measurements on a Brannock device for an accurate measurement of width (quad-A to quad-E), arch length and foot length (weighted and un-weighted). For a high performance fit, choose a boot around the smaller number. By that I mean if the arch length is shorter than the foot length, or one foot is shorter than another, choose the smaller number as your boot size and then do the "shell test" mentioned above.

**Q: What "Last" width should I consider?**

**A:** This specifically relates to the forefoot width. A "last" is the form (wooden foot) the liner is sewn around. Generally Ultra-High Performance boots have a last width of 95-98 mm, high performance boots a width of 98-102 mm, performance boots 100-104 mm and intermediate-entry level boots a width of 102-106 mm.

**Q: What is the difference between a US measured boot and a MondoPoint boot?**

**A:** Manufacturers use MondoPoint as a universal measuring system and to cut costs. The cost cutting involves using 10-12 molds for all the sizes from ladies' petite to men's large, while the older US measurement (Bran-



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nock device) uses 13-14 molds to cover the same size range.

Whatever measuring system, the most accurate way for correct sizing is to “shell size”. Do this by pulling the liner out of the shell and sliding your foot into the shell until your toes are just touching the front. Now measure the space between the heel and the shell back (different thicknesses of sticks works well for this). The goals are 1/2 inch for a performance fit and 1 inch for a comfort fit. A little known secret is the half size vs. whole size (MondoPoint 27.0 vs. 27.5 or US men’s 9 vs. 9.5). The liners are different, but they are fitted in the same shell for both sizes.

**Q: What kind of flex should you have in a ski boot**

**A:** Boot companies rate the stiffness of the plastics they use and call it the flex index. This can be useful when comparing boots from the same company but the system is not universal. One company’s 100 flex index can differ from another’s. Regardless, Ultra-High Performance boots range from 150- 110-flex index.



## ARCH and INSTEP TYPES



identify your foot motion, which relates to your arch type and ultimately your instep height.

Inadequate instep room causes arch cramping and cold and numb toes. To fix this, bootfitters can lower the boot board, stretch the plastic over the instep and remove padding in the tongue. Boots with excess instep volume can cause shin or toe bang, loose heel pockets, or the need to over buckle. Relief comes by adding a shim to the boot board and/or by adding padding to the tongue.

Answering these questions can help take the guesswork and trial-and-error out of the selection process. Once these inner boot modifications are complete, the skier can proceed to outer boot modifications for the fore-aft balance or lateral leg alignment (canting). Outer boot modifications are often the slightest adjustments that make the biggest difference. \*

*Chip Dwyer: Veteran bootfitter and Ski Instructor at the Killington Ski Area for over 25 years.*