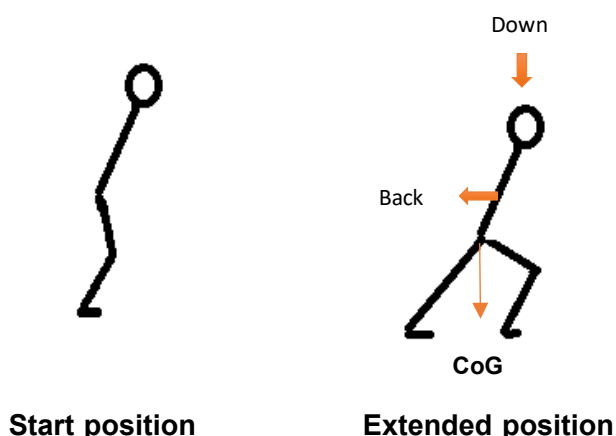


## Rotate around the hip to get that classic grip

In our occasional series of technical articles (they come along as I think of them and decide to write about them!), we look at a fairly common issue faced by quite a number of skiers at beginner and intermediate level. This is the practice of constantly skiing on all four wheels at all times when roller skiing, or keeping one's weight equally on both skis at all times when on snow. There are three main issues linked to this practice: it prevents good grip in classic (requiring a longer and slower grip system), it limits maximum speed to roughly 12-15 km/h and, most importantly, it's 'unnatural'!

If you try to walk in a way which simulates four-wheeled roller skiing, it feels very strange! In effect, you have to move your body weight backwards and down to keep the rear wheel/ski on the ground, as the following pictures show:



Get into the 'extended' position, and firstly note how far back the centre of gravity is. Secondly, try to push the front foot down, as though bringing the grip system into contact with the ground. Tricky, isn't it, because your body weight is roughly equally distributed between both of your feet.

So why is this position seemingly so 'attractive' to people? Primarily, it's a 'safety' issue linked to poor balance; in the same way as many of us struggle to fully commit our body weight right over the glide ski in skating because we fear falling outwards, so staying on four wheels or both skis feels 'stable'. I will leave aside the fact that some people do it simply because they've always done it (practice does *not* make perfect, practice makes permanent; only perfect practice make perfect!) and they don't get the routine poke in the eye from a coach to tell them to desist. I will, instead, suggest that some people do it partly because they don't know what it feels like to do anything different. So what's to be done to prevent it?

Firstly, as shown below, if we imagine that the rear leg pivots around the hip joint (the orange dot), the rear foot, of necessity, follows a circular path, and look where it lands up:



Look, particularly, at where his CoG is, right over his front foot, giving him the chance to use his full body weight and quad extension to get maximum grip so, if waxing, using a shorter (and faster) grip zone.

There are many ways to help people (or indeed you!) think about rotating around the hip. Here are some of my favourites:

- stand on flat ground, without ski or rollers, ankles flexed and simply move one leg backwards and forwards, rotating at the hip joint,
- stand on grass with roller skis on but without poles, and do the same as above,
- stand on asphalt/snow, with rollers/skis on and supported by poles, and do the same as above,
- have two people hold poles between them, walking backwards, while the skier holds on to the poles in the extended position shown in the photo above,
- as above but now, as the skier is being pulled along, they perform either single leg movements or diagonal stride movements,
- on rollers or snow, build up speed then move to the extended position shown above and continue forward motion using diagonal poling only,
- as above, but now while propelling oneself forward using diagonal poling, the skier makes single leg movements or diagonal strides from feet together to extended,
- perform normal diagonal stride but with very short strides; long strides tend to stress balance, leading people back into the 'stable' two-footed position,

- practice any single-legged balance exercise in the extended position; I favour standing on one leg, rear leg extended, then swinging light weights (or roller skis) in the hands while simulating diagonal poling and with slight 'bouncing' by flexing and straightening the ankles,
- continue any combination of the above until supertime, or until the skier has got it, in which case move on to the Olympics.

So, fundamental question, which I present in the form of multiple choice:

- a) I am never going to ski on two skis/four wheels every again in my life,
- b) I am going to continue to ski on two skis/four wheels and risk getting a poke in the eye from that awfully nice Dr. Pinney person,
- c) I don't understand the question.

As always, answers on a postcard, please.