# Transferring Power from Hip to Ball of Foot

By Susan Ellis

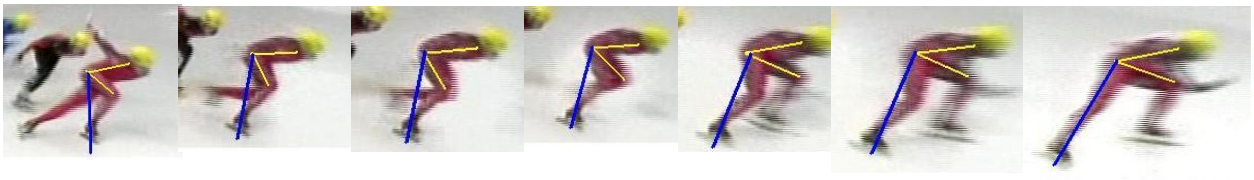
In the November 2006 tip, we talked about **transferring power hip to hip**. The article focused on how to 'lock in' the powerful hip muscles by keeping your belly close to your thigh, keeping your chest down and driving your recovery leg all the way through close to your chest. This allows your hip and glute muscles to be engaged so you can fully use them during the push. If you have not yet read Transferring Power Hip to Hip – November 2006, I would suggest you do so now.

This month we will focus on transferring that power from the hip and glutes through to the ball of the foot. As we have discussed in the past, the ball of the foot is the power center of the body. That is the sweet spot in the blade where you can deliver the longest and most powerful push. And bringing the weight to the ball of the foot allows for the super important, component of forward momentum in to the push.

Holding the locked hip position (scrunched belly to thigh, chest low) through the entire recovery phase is key. This is where many skaters tend to lose power as they allow the hip angle, and therefore the knee and ankle angle, to open as they bring the recovery leg back through underneath the body. This may be OK for longer long track distances (5-10K) to allow more blood flow to the legs, but for short, high speed sprinting all angles must be kept closed and locked.

I have said that the push must come from the ball of the foot, but in reality you are already putting pressure in to the ice as soon as you start your lean in to your push. This additional pressure from the lean creates pressure which creates speed. So, really what you are doing is creating pressure in to the ice starting on your heel (for straights, mid-foot for corners), and then bringing that pressure forward towards the ball of the foot as you are loading your push. You are creating pressure using the whole blade, not just the heel or just through the ball of the foot.

During the recovery phase you want to feel pressure coming forward from heel to ball. **For this to happen your hips must thrust forward as you load and continue to thrust forward as you push.**



With the recovery thigh perpendicular to the ice, you feel pressure on the heel.

As the recovery knee starts to drive forward you want to feel the blade angle change from flat of blade to pushing edge and feel the pressure moving forward up the blade.

As the front of your recovery knee comes even with the back of your pushing knee you want to feel your weight (pressure) in to the ice mid-blade.

As the front of both knees come even with each other your weight should be approaching the back part of the ball of the foot (i.e.: your weight is between the mid-blade and back of ball). This is when you need to start your push and continue to drive your recovery thigh under your chest.

Your weight should stay on the back part of the ball of the foot until the completion of your extension through your hip and knee. Then your ankle opens to finish the push off the ball. Of course the pressure does come slightly through the front of the blade (beyond the ball in the very last part of the push), as this is a natural completion of your extension.

Throughout the recovery you want to feel your lower belly very close to your pushing thigh to ensure the pushing hip muscles are engaged and ready to work. During the push you want to feel that you are basically sliding your belly from pushing thigh forward and over to new pushing thigh to ensure the hip muscles have worked for you through the entire push.