



“The most amazing thing about this surgery is that I was able to return to training 48 hours after”

Todd Nicholson (#19, Team Canada) winning Gold at the Paralympic Games in Torino, 2006

20/20 Vision for 2010: Paralympian Sees Clearly

My name is Todd Nicholson. It has been my great privilege and honour to represent Canada for over twenty years as a paralympian during which time I have traveled to four Olympic venues. My teammates and I have returned home with a Bronze medal from Lillehammer (1994), a Silver from Nagano (1998), a 4th place finish in Salt Lake City (2004) and, finally, a Gold earned in Torino (2006). I have been the Captain of the Canadian National Sledge Hockey team for 12 years and I am presently training for this year's team, which will be competing at the world Championships in May of 2009. I'm always looking to the future, and with the clear vision that I have now after the Laser Vision Correction at Focus Eye Centre, the goal of winning a gold medal at the Paralympic Games in Vancouver in 2010 is clearly in sight.

I first heard about the different options for laser vision correction a couple of years ago, but, it was only five months ago that I finally made the call. Focus offered a new procedure called Intralase SBK and this procedure has changed my life. The only wish I have now is that I would have done this earlier in my life and in my career as a National Team Sledge Hockey player. The benefits of this surgery are numerous: I don't have to deal with dry contacts, dry eyes and glasses. I can now travel on a plane without having to worry about my contact solution in my carry-on bag. I can now train without sweat in my eyes and ruining my contacts.

I have a freedom I never even really knew I had missed. The most amazing thing about this surgery is that I was able to return to training 48 hours after the day of the surgery and I was also able to get back to full-time work as a project officer at Canada Border Services Agency without missing any time off work.

As I think about the Paralympic athletes who are competing in Beijing right now, and anyone else who has ever considered having laser eye

surgery, my guess is that once you make the decision and commit to the surgery, you will kick yourselves for not doing it sooner. Not only will your vision amaze you but you won't easily forget the new sense of freedom you will experience. You will wake up in the morning and get up and go. You will lie in bed at night and watch TV and not worry about falling asleep with your contacts in or your glasses still on your face. You will wake and be able to see the clock, TV, or the mountains in the distance. You may also turn to gaze at the one you love lying beside you and see them clearly without squinting or looking for your glasses. I know that you will not regret having the procedure done — only having waited so long to do it. For me, it was essentially pain-free with just a little discomfort during the first 24 hours when in sunlight or a brightly lit room.

One of the lessons I learned early on is to “Never Give up on Your Dreams.” One of my dreams has been to succeed as an athlete and to remain active throughout my life. Right now, I am clearly focused (thanks to Focus) on the goal of gold at Vancouver's Paralympic Games in 2010.

I hope that you too will never give up on YOUR dreams and that you will consider asking the professionals at Focus to help you see clearly.

—Todd Nicholson, #19 Team Canada

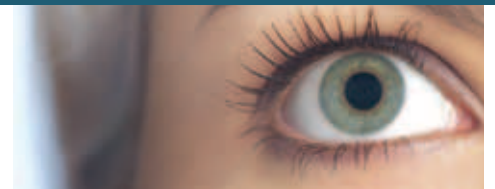
Intralase SBK: A Look Below the Surface

By David Harrison

When I heard that there was a new kid on the Laser Vision Correction block I decided to check it out, but let's begin by reviewing the state of the world last year. Back then, the market was a two-horse race between the solid, safe and reliable Photorefractive Keratotomy (PRK) and the upstart, flashier Laser Assisted In-Situ Keratomileusis (LASIK).

With PRK, the surgeon removes the epithelium with a small brush and then uses a laser, guided by computer, to vaporize tiny amounts of tissue on the cornea and sculpt its shape so that light is focused correctly on the retina. With LASIK the surgical procedure is more complicated with the surgeon first cutting a flap in the cornea, folding it back, and then performing the laser vision correction before replacing the flap.

Which procedure is best? LASIK advocates cite the discomfort, potential haze and longer recovery sometimes associated with surface procedures like PRK, as reasons for choosing



LASIK. Supporters of PRK retaliate with complications relating to biomechanical weakening of the cornea, dry eye and even ectasia (a bulging distortion of the shape of the cornea due to loss of its structural integrity) following LASIK flap creation.

Focus Eye Centre, and Medical Director Dr. David Edmison, have always been supporters of surface ablation, but they are now offering another laser vision correction option called Intralase SBK (Sub-Bowman's Keratomileusis). The supporters of Intralase SBK claim it is a hybrid, offering the safety of PRK combined with a recovery period that is as good as LASIK. The best of both worlds; the war for laser vision supremacy is over, long live the new king, right? But this is your eyes we are talking about, the single most important of your senses, so we need to look below the surface.

Intralase SBK employs an infrared beam of light to make a thin flap, much thinner than the LASIK flap, by a process called photo-disruption. The process uses highly focused, unimaginably short duration laser pulses to divide material at the molecular level without impacting the surrounding tissue. The beam of laser light is focused to a distinct point, creating a microscopic bubble of carbon dioxide and water vapor. Thousands of these bubbles are precisely positioned to define the flap's dimensions, as well as the location of the hinge. The surgeon can then lift the flap to permit treatment by the laser. When treatment is complete, the flap can be accurately repositioned, thanks to its beveled edge.

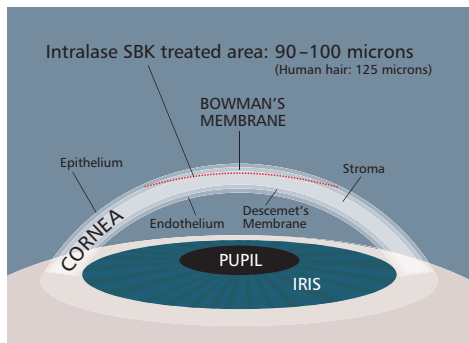
Dr. Edmison's well-documented concerns with LASIK lie mainly with the flap, as it weakens the structure of the eye more than the surface ablation technique used in PRK. It also causes dry eye in a large percentage of patients, maybe as many as 30%, versus around 2% with both PRK and Intralase SBK.

What's the Flap All About?

So why offer a technique that at first glance looks a lot like LASIK?

"Intralase SBK and PRK are two forms of surface ablation," explains Dr. Edmison. The Intralase SBK flap is much thinner and more precisely made by the computer than the traditional LASIK flap, which means the correction takes place much closer to the surface, similar to PRK. "With a thinner flap the eye maintains its structural rigidity," says Dr. Edmison. Focus uses a 95-micron flap for Intralase SBK, compared with around 150-microns for LASIK. "It's like cellophane," he says. Such a thin flap needs careful handling, but Dr. Edmison has all the right tools. "I haven't had to look for anything else to help me deal with the thin flap," he says, adding that in a worst case scenario, if something happened to the flap, it could always be removed completely, essentially making it a PRK procedure.

Intralase SBK and LASIK differ by more than just the thickness of the flap. A blade and a laser are different in that a blade cuts, whereas



a laser sculpts. The laser can cut vertically as well as horizontally; it can engrave patterns in the side walls to enhance stability. This is particularly useful for corneal transplants, but the same versatility is also used in refractive surgery. A blade can only cut tangentially across the corneal surface, which means that the flap tends to be thinner in the centre, with more possibility of "buttonholing", where the flap breaks through in the middle. By contrast, the laser can sculpt a curved flap, following the contours of the eye.

Focus has always been firmly in the PRK camp, but started offering Intralase SBK in early 2008, even though Intralase SBK introduces a potential new symptom that neither PRK nor LASIK patients develop. Transient Light Sensitivity (TLS) can occur up to three months after the procedure and the cause is believed to be a byproduct of the gas bubbles that create the flap. However, TLS is rare (Focus has only seen one case in over 500 eyes treated) and is treatable with steroid drops.

Another of Dr. Edmison's LASIK concerns surrounded the pressure experienced by the eye while the flap is being made. This is much reduced with Intralase SBK, to around a third of that used by LASIK, enough of a difference to mean that the eye doesn't lose vision, the way that it does during every LASIK procedure. "Things may go a little grey," says Dr. Edmison, "but they don't go black."

The most famous Intralase SBK study was conducted by Drs. Slade and Durrie in the U.S., and tested 50 patients. One eye of each patient underwent Intralase SBK using the femtosecond laser to create a 100-micron flap, while the other eye underwent PRK. In the first three days, the Intralase SBK eyes had better uncorrected vision and much less discomfort, but after the first week, visual acuity in the two sets of eyes began to converge. After six months, the results for the groups were nearly identical. Dr. Slade reported that 100% of eyes that underwent Intralase SBK had 20/40 or better vision on day one and that record was not approached in the PRK-treated eyes until a month after surgery.

Dr. Daniel Durrie, one of the study's organizers and a leading proponent of Intralase SBK, says, "The results for Intralase SBK just keep getting better. Our studies indicate so far that there is nothing to choose from between Intralase SBK and PRK in the long term, but the results with Intralase SBK come much sooner and with less pain."

When listening to Dr. Edmison talk about PRK it is like he is talking about an old, trusted friend. He talks about understanding everything that might happen, being able to tweak the healing process pharmacologically to 'nudge' the outcome exactly where he wants it.

"Wavefront PRK is still the standard of care at Focus," he says. However, later in the interview, in the midst of passionate praise of Intralase SBK he breaks off suddenly, as though hearing himself for the first time. "Not going to take much for me to say that SBK is the way to go is it?" he asks rhetorically. "It would be nice and simple," he muses, "if we could just tell patients 'Come to Focus, we do Wavefront SBK'." (Editor's Note: Wavefront is part of all Intralase SBK procedures performed at Focus.) Dr. Edmison is clearly impressed with Intralase SBK.

Patients and staff members alike love the new procedure at Focus. Patients are happy, even at their first check-up, the day after surgery. The vast majority have vision which is good enough to drive at that point.

"The morning after Wavefront SBK I was able to read my newspaper"

"The next morning, after Wavefront SBK, I was able to read my morning newspaper... which is *The Sun*, small print... without my glasses," says Elda White. "Within 24 hours I was absolutely fully functional," says Margaret Slavik. It is no surprise that with results like this, and the increasing support of scientific evidence, people are flocking to Intralase SBK, and it has recently overtaken PRK as the most popular procedure at Focus, with approximately 65% of patients now opting for the new procedure.

The Future is Now

With one new procedure gaining traction, is it worth waiting for the next big thing? Asked about the future, Dr. Edmison talks about small improvements; making it easier for the surgeon to move between lasers, and ultimately, maybe, combining the two lasers into one machine. When pushed, he delves into the realm of science fiction. "Intrastromal ablation, without opening up the eye at all," he suggests with a smile. "You might even be able to do it yourself at a kiosk in the mall".

Until that time, even though Intralase SBK looks like LASIK's thinner cousin, when you get right down to it, Focus Eye Centre is still sticking close to the surface.

And personally, I wouldn't wait for that kiosk in the mall.



DAVID HARRISON is an occasional contributor to *InFocus* and a freelance writer based in Ottawa, specializing in technology and health related issues. He has a degree in Electronics and has worked in a variety of high tech positions, including Director of R&D for a company producing artificial heart technology. He can be reached at david.harrison@xplornet.com



A TALE OF TWO DJs

InFocus recently posed questions for two DJs in Kingston, both of whom had Laser Vision Correction (LVC) with Focus, albeit 8 years apart. Doug Elliott is one of the K-Rock Morning Crew and the Operations Manager for The Radio Group in Kingston, Ontario, which includes K-Rock 105.7, KIX 93.5, and The Lake 102-7. Tony Orr is one of K-Rock's most popular DJs.

The answers that Doug and Tony give are as insightful as they are candid. Their (unedited) responses to life before and after LVC appear here.

Q: What procedure did you have, and when?

Doug Elliott: I had Wavefront PRK in May of 2008.

Tony Orr: I also had PRK, for monovision, but that was 8-and-a-half years ago!

Q: Had you heard a lot about laser vision correction and/or Focus prior to booking in for a procedure?

Doug: Yes, but not scientific information. It was testimonies from people; speaking directly to them and asking questions that impressed me most.

Tony: I had only heard about laser eye surgery in passing, but knew that Focus had a clinic in Kingston

Q: What put you over the top on your decision, be it a person, new procedure, etc?

Doug: As my vision deteriorated over the years it was a dream to get done, like how some people want to go to Disneyland or buy the car they have always wanted, for me it was to see again.

Tony: I was apprehensive about the idea of doing something with my eyes, but as soon as I met Dr. Edmison I knew [that] I wanted him to do the procedure as soon as possible.

Q: What were you expecting heading into surgery? Were you at all fearful or had something or someone put you at ease about laser vision correction and Focus?

Doug: I have to admit, I was nervous and scared. I had no idea what the procedure would feel like and if there was any immediate pain or discomfort. During the procedure I was laughing with the staff, which was extremely comforting but also gave me a sense of confidence in their knowledge because they could have fun while doing their job. The surgery itself was easier than going to the dentist, and much less painful.

Tony: Dr. Edmison encouraged me to read everything possible about the surgery and ask as many questions as possible. After doing my own research I was a bit concerned, but excited about getting laser eye surgery.

Q: Where would you place yourself on the spectrum of risk, ranging from Very Risk Averse to Very Comfortable with Risk? Mindful of that, how did LVC rate as a safe versus risky choice for you?

Doug: It was not a risk at all for me; I only needed to build up the intestinal fortitude to do the procedure. I have always had a soft spot for my eyes and tearing. I couldn't stand to see someone put contacts in or touch their eyes; even using eye drops would have been almost impossible for me.

Tony: I'm mildly risk averse, but felt there was no risk in having the surgery because of the surgeon!

Q: How would you describe your LVC results when you compare it to other investments (such as health, fitness, self improvement) that you have made over the years?

Doug: Without question [it is] the best thing ever, the ability to see well has changed my life significantly in so many ways. It is very much like having an enhanced sense of taste and experiencing expertly prepared food.

Tony: The results I had were amazing. It took time to get used to monovision, but once it clicked in it was like a new lease on life. I didn't need bifocals for reading or glasses for distance.

Q: Can you name one or two activities that have improved for you post LVC?

Doug: I can see my golf ball and the clock from across the room, and my eyes don't get tired from straining while working on the computer anymore.

Tony: Using a computer became much easier because I didn't have to try to find a range of bifocal or regular lens where I could see the screen clearly. It has made me more confident of my appearance, and the surgery has made working out at the gym comfortable. Simple things like taking a shower are now much easier: I can see where I put the soap!

Q: Would you recommend LVC/Focus to family or friends?

Doug: I would, and have, recommended Focus to anybody and everybody that has asked.

Tony: I have recommended Focus to friends [and] several have had the surgery and are also pleased with the results.

Q: Is there anything you'd like to add?

Tony: LVC is one of the best things that ever happened to me; it was life changing. The biggest thing for someone who wore glasses for more than 30 years is no more glasses and none of the hassles that come with wearing glasses or contacts!

Keeping Dreams Alive

When considering laser vision correction (LVC), the first question that comes to mind is: "Am I a good candidate?" And the first action should be: have a thorough consultation.

Focus offers a careful screening process in which our experienced staff conducts a number of pre-operative tests before the patient meets with their surgeon. Dr. John Cheung, Kingston Medical Director, then addresses all of your questions. Our goal is to educate you and assist you in making the decision that best suits you, your career, and your daily activities.

Everyone has a personal reason for wanting to have LVC. The reason for most people is simply the freedom from wearing glasses or contact lenses on a daily basis. But today, there are also many professions that stipulate that one's visual acuity must meet certain standards before an individual can be hired or accepted.

For example, if you want to go into the Canadian Armed forces or enter the police force and your eyesight does not meet their standards, then your application will be rejected. Conversely, LVC can turn dreams into reality. Take the case of Ryan, age 20. Ryan wants to follow in his father's footsteps and enter the military. Due to very poor eye sight (-10.00), he would never have been considered, but now that Ryan has undergone LVC at Focus, he will continue with the application process and his dream of joining the Infantry remains very much alive. (Ryan's father also had his surgery here at Focus and, as a graduation gift to his son, paid for the procedure.)

Our careful screening process covers the following; details that must be addressed before identifying someone as a good candidate for LVC. Are you 18 years or older? How stable is your vision? What profession are you in/entering? These and many other questions will be answered during the consultation process, after which Dr. Cheung will be able to tell you whether you meet the standards to go forward with an often life-enhancing procedure.

If you are considering LVC, the consultation is the first step to changing your life

Michelle Owen
Manager, Focus Eye
Centre, Kingston



THANK YOU FOCUS



Dear Focus,

I just want to take this opportunity to say how happy and satisfied I am with the Intralase SBK procedure I had on May 29. The results are remarkable; to me it's a miracle!

I had been wearing glasses for 40 years and more recently monovision contacts. My monovision Intralase SBK procedure allows me to read and drive without glasses. I had my surgery at 4pm on a Thursday afternoon and by 12pm on Friday I was able to drive without glasses — and I was seeing 20/15. Simply amazing!

The recovery after surgery was so fast and I really experienced only a few hours of "tearing" on the night after my surgery. I work in an office environment and after only 3 weeks I did not need to use any drops for dry eyes. The Focus staff — from the initial consultation with Dr. Edmison, to the front-office staff and all the technicians and doctors — was very friendly, caring and professional. I researched laser eye surgery before my procedure and can honestly say Focus is really the only option to consider.

Keep up the good work. Thank you again.
Craig Searle

Dear Staff,

This note comes from the bottom of my heart. Since my surgery I have awoken from the darkness behind my glasses. The sun is now brighter and to feel the rain once again on my face is indescribable.

You have given me a freedom that I never thought would be a reality.

I want to thank everyone there for being advocates of making people happy rather than just feeling like paying customers. I hope that your team continues to make more people believers.

Sincerely,
Sheena Reynolds

If you have a story about laser vision correction, InFocus wants to hear it.

Send your e-mails or letters (including your name and daytime contact information) to: The Editor, *InFocus*
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