There is a very strong culture in the sport of ice hockey with regard to on-ice training methods and practices. Coaches tend to coach the way they were coached, relying on traditional and familiar training practices.

**Question:** Are the traditional on-ice training methods of yesterday sufficient to develop the skills required of today’s or tomorrow’s game?

The game has evolved; it is not the same game as yesterday. It’s a game of skill and speed. Success demands a multi-tasking approach to executing technical skills in concert, at high speeds, with precision and accuracy. On-ice training methods need to develop the players to meet the demands of today’s game.

Sport performance has been driven by science; this in turn has challenged new and innovative training systems to provide empirical evidence to educate the consumer and differentiate between the old and the new.

**Question:** What is the difference between traditional on-ice stick handing drill training and PEP training.

PEP has challenged traditional on-ice stick handing drill training and pioneered a system of player development that incorporates the fundamental building blocks of essential skills however extends learning to executing the skills in simulated game environments. Namely, skating, stick handling, puck control, reactive countering, executed in small spaces, with traffic, at high speeds, while demanding accuracy and precision. PEP training is unique and innovative; and designed to train the technical demands of today’s game.

PEP consists of a combination of infrastructure (patented on-ice equipment) and expertise (training drills packaged as a coaching assisted software).

**Question:** How does it work?

PEP is a system of learning. Physical skills are best learned through hours and hours of repetitive practice. The 10,000 hour-rule quantifies how much repetitive practice is typically required to automate or optimize a skill. However, there are shortcomings to the concept of repetitive practice in sport performance. First, the execution of skills is specific to how they are learned. So if skills are learned in isolation, skills will be best executed in isolation. Second, once the skill is learned, the stimulus for improvement with repetitive practice plateaus. PEP’s system of learning is built on the concept of repetitive practice, however applies the principle of progressive overload. PEP drills continue to challenged the player to further learning by combining or sequencing multiple skills in a variety of game specific environments. The learning does not stop with isolated skills; the learning is enhanced through combining skating, stickhandling, puck control executed in small spaces, with traffic, under pressure, at high speeds while demanding precision and accuracy, and facilitates the transfer of skill training to game performance.

**Question:** What is progressive overload?

PEP’s success is built upon a system of progressive-overload, meaning that the learning stimulus provides an ongoing challenge to the player. Traditional on-ice drills are based upon repetitive
practice and require the player to repeat a movement pattern or skill. Players become competent at what they know and as such, the stimulus for learning plateaus. PEP provides a progressive overload by sequencing skills and changing the environment of execution. Therefore, the struggle leads to more learning.

Research conducted by Dr. Kelly Lockwood, an Applied Sport Scientist at Brock University investigated the effectiveness of the PEP training system. Competitive hockey players from Novice through Midget levels were exposed to a series of eight 1-hour PEP trainings. Pre and post on-ice tests of speed and accuracy were completed to assess the impact of the training intervention.

**Question: What scientific evidence do we have to support the effectiveness of PEP training?**

- Players participating in PEP trainings were able to complete PEP drills ~10% faster. Whereas, players participating in traditional on-ice practices did not increase speed of execution.
- Players participating in PEP training were able to complete PEP drills with significantly greater accuracy. Whereas, players participating in traditional practices only, revealed no difference in accuracy of execution.
- The number of tactical touches or repetitions increased significantly over 8 sessions. If learning is a function of physical practice and repetitions, players participating in PEP training are exposed to more repetitions in the same period of time.
- Players participating in PEP training became significantly more confident in their ability to combine the speed of skating with the accuracy of stick handling and puck control.

In summary, repetitive practice provides a foundation for learning and acquiring skills. Overloading tactical touches creates a stimulus for enhancing speed and accuracy. However repetitive practice alone can fall short of training the skills executed in game play. PEP training provides an effective training opportunity to not only acquire essential skills, however execute the skills specific to the demands of game play.

Research in learning indicates that the combination of both physical practice and observational learning or seeing the skill executed can contribute further to skill development. PEP training has packaged patented on-ice equipment to facilitate physical practice and videotaped simulations of training drills and teaching instructions to facilitate observational learning.

**Question: What are the coaches saying? How does the PEP system enhance the learning environment?**

- Athletes are motivated by the challenge presented by the equipment and progression of drills. The challenge can be individualized to match player’s abilities. Motivated athletes are coachable.
- Coaches recognize that observational learning or the use of the videos enhanced the quality and organization of implementing a skill focused practice.
- The ‘SEE IT, DO IT, TALK ABOUT IT’ progression of instruction is an effective teaching methodology.

PEP training provides both the coach and the athlete with a powerful resource tool.