Abstract

Arguably Canada’s national sporting obsession, hockey is a vigorous physical activity, regular participation in which provides many of the physical and mental health benefits associated with regular exercise. This is particularly true for young Canadians. However, along with this and other positive effects, there is a darker side to hockey in Canada. In addition to the ongoing financial strain and time commitments on parents, there are a number of potential physical, emotional and psychological stresses that are ever-present for participating children to deal with. A number of negative outcomes are associated with the expected level of commitment from these youngsters when it comes to the excessive number of games over a short period of time during tournament play and the expectations placed on them to win games. This, together with intense practices, increases the risk of injury and/or burnout for many young boys and girls. The mass media-driven value system of physical size, roughness, and overt violence with the intent to intimidate and instill fear in opponents echoes a certain anti-social disposition of many of those involved in ice hockey in Canada. At the center of all this, and the persons who have the capacity to emphasize the positive components and deemphasize the negative,
are the coaches. Unfortunately, many are ill-prepared for the task. From the very core philosophical underpinnings to the physical training and personal interactions with the children in their care, many coaches bring out the negative possibilities while missing many valuable opportunities to truly enhance the lives of their charges.

Introduction

Ice hockey is often thought to be both the true national pastime and an expression of the collective psyche of the Canadian population. Whether or not this is true, hockey is surely an important part of Canadian life and exerts a strong influence on the Canadian population. This paper will highlight the positive potentialities but focus primarily on those negative realities within the sport that are chronic and systemic, and that need, in our view, considerable interventions.

The Good

Due to the vigorous nature of ice hockey, regular participation in games and/or practices can lead to a variety of physiological health-related benefits including enhanced cardiovascular fitness and increased muscular strength, neuromuscular endurance, and flexibility. Additionally, initial exposure followed by significant practice of new movement patterns will expand the skill repertoire of the athlete. Another benefit of regular activity in this sport provided the environment is positive and supportive, is the development of an overall sense of psychological well-being. Ice hockey is played in an environment that allows for social interactions among individuals and groups. Positive group dynamics can foster growth in leadership, teamwork, and cooperation among individuals towards a common goal. All the above are possible improvements that may be gained from participation in this sport. Last, the sheer enjoyment of
this activity is perhaps ultimately the most important reason people play this game.

**The Bad**

*(1) Administrative/Financial*

Possibly one of the most-troubling but fixable issues facing young hockey players is the structure of tournament play. In most cases, young players are forced to play several games over a Friday night, Saturday, and Sunday period. As the weekend progresses, each game becomes more intense than the previous one. Indeed, many tournaments are designed with a knockout format (if you win, you move on). Not surprisingly, the repeated games and the pressure to perform have the net adverse effect of increasing both the possibility for injury and anxiety levels for many young players. Burnout is a common outcome for many. After a few seasons, mental exhaustion can set in and ultimately discourage young players from playing hockey.

Another less noted problem is the excessive cost of equipment. Manufacturers with the goal of maximizing profits elevate as much as the market will bear the price of brand-name gear. Marketing strategies include the promotion of products with elite athletes. These “role models” endorse equipment, implying that using some particular brand of equipment will improve performance. Such virtue-by-association fallacies (elite performance as associated with, hence erroneously thought to be produced by, some brand) are virtually a cultural cliché, and yet despite, and in a way because of this, we must be wary of the effects of such advertising on the un- or less suspecting youth, however cynical they might pretend to be later on in their teens.

The financial stress placed on the purchaser (usually the parents) may force a delay in re-equipment the young player. Prolonged use of worn-out gear increases the likelihood of poor fitting and decreases the protective value of the equipment. The safety of the child is
compromised. At minimum, gear that has lost its functionality will often result in various soft tissue overuse injuries. For example, skates that are the wrong size will not only cause blisters, abrasions and skin infections; they could result in a variety of chronic soft tissue low extremity and trunk injuries, and interfere with skill acquisition.

Coupled with the above-mentioned monetary pressures are additional costs of ice rental, league and team fees, which may ultimately be the final factors in preventing many young athletes from playing organized hockey.

Government restrictions on excessive profit-taking by mega sporting goods chains on safety gear for young athletes, and a stronger commitment by government to funding youth sport, could decrease the financial burden on families of children who want a fair chance to play ice hockey.

(2) Environmental

As we have suggested, the financial burden of playing hockey has implications for the health and safety of players. In this section we focus on a phenomenon that has a more direct effect on players’ health, specifically the high levels of ambient pollutants that have been found in enclosed skating facilities (Pelham, Holt & Moss, 2002a, 2002b, and 2002c). These pollutants can compromise the health of individuals that frequent these facilities. Acute and chronic exposure to high concentrations of carbon monoxide and nitrogen dioxide has clinical significance (Pelham, Holt & Moss, 2002a, 2002b, and 2002c). The cardio-respiratory functions of young individuals may be most vulnerable to the effects of these pollutants (Pelham, Holt & Moss, 2002a, 2002b, and 2002c). Although there have been repeated calls for health professionals to improve the air quality of these enclosed skating rinks, little to this end has been
done (Pelham, Holt & Moss, 2002a, 2002b, 2002c). Given the popularity of these facilities, and
the huge numbers of people using them, it is reasonable to expect immediate and comprehensive
efforts to change them from environments that foster disease to those that enhance health as,
after all, they are intended to. However, the sad fact remains that sport governing bodies and
most rink administrators have been aware of this problem for more than a decade, and very few
rinks have been modified at all much less sufficiently.

(3) Chronic Systemic

In Canada, as in the United States and other countries, there is an apparent public appetite
for and tolerance of violent behaviour and this attitude permeates the system. Aggressive play is
often encouraged even in young children, and surely comes to the fore once body checking is
brought into the game. This coupled with inappropriate conditioning programs that purport to
improve performance and prevent injuries, often has the exact opposite effect.

There currently rages within the world of hockey great controversy regarding
concussions. In hockey culture there is a growing awareness of not only the large numbers of
brain injuries, but the immediate and long term consequences of this very dangerous
phenomenon. Brutal hits that are intended to injure, and would be considered assault if done
outside the arena, are “justified” by handing out penalties and, when the consequences demand,
temporary expulsion from game play. The argument defending the “legal” checking that results
in these serious injuries stresses that hockey is a physical game and this component can’t be
removed or the game as it has been played will no longer exist: a formalist perspective on the
game, traditionalist, conservative. Opponents state that the violence must be stopped or the
danger potential will put too many youngsters at risk, and eventually ruin the sport.
Although concussions are currently the focus of attention for people concerned with the
game, other serious injuries are also prevalent. The array of these injuries is extensive, including
everything from fractures to eye trauma, many requiring prolonged treatment, often surgery and
result in lengthy recovery times. Both the seriousness and the number of these injuries increase
with age, and this applies to both sexes. Emery and Meeuwisse (2006) investigated injuries
among young hockey players, and found that compared to the youngest group (Atom), the injury
risk were as follows: Pee Wee = 2.97, Bantam = 3.72, Midget = 5.43.

There are two obvious reasons for this phenomenon, the first being the prevailing attitude
within the game that reinforces the value of rough play and intimidation, and the second being
the actual physical demands placed on the athletes both on-ice and in off-ice training. The vast
majority of amateur hockey coaches rely on the professional coaches for their philosophy and
base the practice drills and off-ice training on the professional and Olympic programs. Although
coaches take certification courses which are supposed to educate them appropriately concerning
the differences between children and young adults playing recreationally and those seeking elite
levels for other gains, they still do not demonstrate that they truly understand and can apply those
differences to coaching young players. The aforementioned unfortunately is not restricted to the
boys’ programs, but is carried over into the girls’ experiences as well. In fact, the rate and type
of injuries that are seen in the female hockey population are startling: injury rates between males
and females were found to be significantly similar (respectively, 9.19 and 7.77 per 1000 athlete
exposure) (Schick & Meeuwisse, 2003). These values are quite surprising given the facts that
most injuries were the result of impacts, and female hockey is supposed to be a non-contact
sport.

Within the disciplines of sport and exercise sciences, there is a clear disproportionate
amount of research using the male model as representative of all participants. Investigations
generated by professionals in these disciplines provide the basis for most if not all on-ice skill
development practices and land-based fitness and injury prevention programs for female hockey
players. It is not possible to predict the potential for injury of either young or older female
players of any given skill, or performance level without solid research-based physiological and
biomechanical data generated from studying female subjects. Another troublesome point is that
most safety equipment designs have their background foundations based, again, on male data and
so often do not generalize sufficiently well to account for the needs of female participants.

Agel et al. (2007), for instance, found an unacceptably high rate of concussions among
collegiate female ice hockey players. Contributory factors include poor officiating, as well as
ineffective training of athletes. Huston and Wojtys (1996) suggested that specific conditioning
programming of the lower extremities is an essential component of any female training program
for the prevention of anterior cruciate ligament (ACL) tears. An example of poor conditioning
can be illustrated by the warm-up and cool-down—ironically and specifically safety programs,
designed by Hockey Canada (2006). The warm-up recommended by Hockey Canada has no
stretching component, and the cool-down component has only a series of static stretches. Both
practices have been found to be inappropriate for sport performance and injury prevention (Holt
et al., 2008).

The Ugly

Some of what we have discussed above as “the bad” will also show up, especially in
extreme cases, as part of ice hockey’s ugly side, for instance, cases of extreme on-ice violence,
where consequences for victims are severe, even tragic, as with well-known cases of wanton,
career-ending cheap shots.

Hyperviolence on ice, however, is overt. More sinister in some ways are covert, off-ice abuses of players by coaches. Many hockey coaches knowingly or unknowingly abuse their athletes in a number of ways. When coaches take verbal abuse to an extreme or worse assault their players physically and/or sexually (as increasing media reports of such cases make all too clear), the damage extends to everyone, from the children themselves to parents and society as a whole.

**Summary**

It is clear that there are many things wrong with this national pastime of ours, whatever general benefits we might derive from it as participants and fans. Major changes are needed to swing the balance of many outcomes from negative to positive. Whether this will actually take place in the near or distant future is difficult to say.

**References**


