Today's police officer works in a very different environment from a police officer's world twenty years ago. Rapid advances in technology have given police officers additional enabling technology to assist them in conducting their duties. From sophisticated communications equipment and laptops in police vehicles to radios, cell phones, body armour and Taser's that are worn on the body — the police officers tool kit is ever expanding. Unfortunately, unlike the construction worker, these tools cannot be put into a tool chest in the back of the truck. The police officer's tools must always be kept close at hand, often worn on their bodies and immediately accessible — for the protection of the police officer and for the protection of members of the public. In fact, the police motor vehicle has become a mobile office space, giving police officers far more flexibility and ability to respond to a community's needs.

Within this setting it is important to note that roughly 52% of WorkSafe BC claims between 1997 and 2005 were related to musculoskeletal injuries (MSIs) (39% of total claims by police officers) and motor vehicle accidents (MVAs) (13% of total claims by police officers). These figures are significant in identifying the contributing factors and root causes between the increasing amount of technology and protective equipment a police officer is expected to wear or have installed in their police vehicle.

The “Heavy” Duty Belt
Changing demographics in policing have resulted in compromised workplace safety and wellness situations that did not exist twenty years ago. For example, progress towards a more inclusive police service resulted in more women and minorities choosing a career in policing. This however brought with it challenges for police equipment and police vehicle layout as these areas remain, for the most part, to be designed for the large robust male body frame. Police personnel are expected to carrying an array of compliance tools and safety equipment on their waist belt. These tools include the standard issued police pistol and roughly 46 rounds of ammunition.

With the pistol and bullets, police officers are expected to carry a set of metal handcuffs, an ASP (metal baton), a portable radio, and a small flashlight. In addition to this array of heavy, cumbersome equipment, some police officers may additionally carry a Taser weapon, a small pouch for first aid / disposable gloves and a second set of handcuffs. All of this equipment is expected to be “immediately available” to the police officer and therefore must be worn on the waist or lower waist area of the individual. A small body frame individual with a slim waist would find this requirement a challenge, if not impossible!

Negotiating the Modern Police Motor Vehicle
The changing nature of police work has also created challenges for the modern police officer who is expected to type all police reports on a keyboard. In addition, operational calls for service in a patrol vehicle are now often dealt with by way of a computer dispatch rather than the previous method of a radio transmission. These factors, combined with recent provincial legislation surrounding the Police Records Information Management Environment program (PRIME) has resulted in front-line police personnel spending an increasing amount of time sitting in their police vehicle filling in mandatory data fields and typing reports.

The continual use of a laptop computer in a motor vehicle is occurring while police personnel are being required to wear an enormous amount of duty equipment that include bullet proof vests, Taser weapons and pistols equipped with numerous bullets! Within this “typical” work environment the modern police officer is required to multi-task; operating a motor vehicle, answering a phone call on their cell phone, manipulating a mouse/keyboard “call for service” and responding to fellow police officers via radio transmission — all at the same time! This technological situation can be both precarious and dangerous — for both police personnel and members of the public.

In addition to these factors it is important to be aware of the lighting that is provided within police vehicles. As noted, the police vehicle has evolved to become the modern office of the day-to-day operational police officer. Concerns regarding lighting, multi-tasking and eyestrain are additional unresolved issues for the contemporary police officer.
The Importance of Functioning Uniforms

Initially identified as particular to female police officers, musculoskeletal complaints and safety issues have emerged that are related to duty belt and uniform design. From uncomfortable seats resulting in poor sitting posture in the police motor vehicle, to technology overload in the passenger compartment, to legs falling asleep from trousers cutting into the legs at the hips - all have impacted on female officer comfort and injuries. These influencing factors also affect the police officers ability to concentrate in the police motor vehicle and, when having to quickly exit, engage in a foot pursuit that may involve the use of force to subdue a suspect.

Female police officers have additionally noted that issued trousers at times result in “back seams bursting” or the “front zipper coming undone” when engaged in a foot pursuit. In some cases this information has been officially recorded as ‘an assault by violent acts by an individual’ but was in fact caused or contributed to by an officer’s attention being diverted to their bursting trousers and away from their assailant in a high-risk situation. Noteworthy, is that this real problem is faced not only be female officers, but also by males officers as well. A problem that actually led to or, contributed to an injury, but typically is not reported as the cause of the injury.

Officer feedback on the topic of a “malfunctioning uniform’ clearly points to unresolved issues in how the officer gets into their police vehicle, sits within the vehicle, interacts with the increasing amount of equipment, both in the passenger compartment of the vehicle, and on their duty belts and finally, exits from the vehicle to commence a street check or foot pursuit.

Improving Health and Safety in the Work Environment

Over the past 20 years considerable work has been done to improve the controls for, and electronic linkage between, technologies - such as the laptops that are now being installed in most police vehicles. There has also been some progress towards police motor vehicle layout and design as well as duty belt equipment design relating to both reducing MSI and MVAs by police officers.

Unfortunately, many of the same issues from 20 years ago remain today. Contemporary discussions have additionally become comprehensive and fragmented with health and safety concerns expanding from the original focal point of “low back pain” to include other forms of MSI such as falls, agility, attention deficit and technology overload.

Research to date has typically focused on these issues in isolation when in fact day-to-day police operations are interrelated in the police motor vehicle setting. As a result, there is a need to identify, in a systematic and logical manner, the root causes of injuries to operational police officers in the day to day working context. A user centered approach to identifying root causes can provide invaluable information in identifying underlying issues leading to injuries in police officers that appear to be misreported and under reported within standardized health and safety legislation.