



Body Armor: Don't Leave Home Without It

*M*aking his best attempt to catch a fleeing suspect, a police officer rounds a corner into a dark alley, unsure of what lies ahead of him. The flash of a .357 revolver cuts through the darkness and he falls, shot in the chest, brought down by one of the many dangers officers face every day. However, because the officer had on his personal body armor, he got up and walked out with a bruised chest . . . and his life.

Since the International Association of Chiefs of Police (IACP)/DuPont™ Kevlar Survivors' Club® was established in 1987, more than 3,000 individuals working in law enforcement have survived both ballistic and nonballistic incidents because they were wearing body armor. Of the approximately 1,200 officers killed in the line of duty since 1980, more than 30 percent might have been saved if they had worn vests.

A study conducted by the FBI in 1994 estimated that an officer not wearing body armor has a risk of dying from gunfire that is 14 times greater than for officers who do wear armor. In 2003, the Office of Justice Programs' National Institute of Justice (NIJ) developed a pilot program to assess injuries caused by less-lethal devices in the field in near real time. In 2006, NIJ evaluated the usefulness of this framework for understanding injuries to officers wearing body armor, and subsequently decided to fund a pilot study focusing on blunt force trauma injuries (bruising, lacerations, and/or internal injuries caused by a bullet striking but not penetrating a vest).

Although final study results will not be available until 2009, some preliminary conclusions have been drawn:

- When an officer is shot in an area covered by body armor, resulting injuries will not always be obvious. Bringing the body armor to the hospital may help the emergency physician diagnose injuries. Even if no injury is apparent in the wake of a shooting, the officer should still seek medical attention because of the possibility of internal injuries.
- Accurate records about ballistic information (including caliber, grain, and barrel length), as well as the

distance between the officer and shooter, are also key in assessing injuries. These records and other information such as how the vest fit at the time of the shooting, number of shots, and shot sequence should be collected within 15 minutes of the incident, or much of this information can be lost.

- Because of the infrequency of officer shootings in most communities, formal guidelines to help emergency room physicians diagnose or treat blunt trauma injuries do not exist. An international panel of experts that is analyzing results of the study is compiling draft guidelines to address this and exploring ways to distribute this information to hospital emergency rooms.
- A tag on the vest that leads to a website that provides the latest information on medical treatment for blunt trauma injuries could prove a great asset to the medical community, as could an Internet resource on how to collect information on the event for later analysis.
- A recommendation that after an event, even if there is limited visible bruising, the officer seek medical attention in case forces were propagated into the body.
- Events of this type also cause psychological trauma and may require long recovery times. Also, the incident's effects may extend beyond the workplace to include the officer's family.

The international panel of experts that is performing the review and analyzing incidents is cochaired by Dr. Cynthia Bir of Wayne State University and Joe Cecconi of NIJ. The Survivors' Club collaborated with Wayne State University to determine the types of injuries likely to occur. Emphasizing injuries sustained and possible long-term health effects, the panel is reviewing actual field data to determine what injuries occurred, estimate their severity, and analyze whether injuries are being fully assessed. The 65 participants, who agreed to release their medical records and contact information for the purposes of an interview, were drawn on a volunteer basis from members of the Survivors' Club.

The panel is reviewing, discussing, and analyzing each participating case, and generating input on injuries sustained and ways to improve the care the officers received. The panel will also examine better ways of collecting data. Surviving officers participate in discussions and recount their own personal experiences, giving the panel a broader understanding of the incidents, the overall care received, and the recovery process.

The panel will continue its work throughout 2009. The researchers want to thank the volunteers who participated and are looking for more volunteers who are still interested in having their cases reviewed.

For more information, or to volunteer to participate, contact Joe Cecconi, senior scientist, Office of Science and Technology, Operational Technologies Division, National Institute of Justice, at 202-305-7959, joseph.cecconi@usdoj.gov; or Cynthia Bir, Ph.D., associate professor, Wayne State University Biomedical Engineering, at 313-577-3830, cbir@wayne.edu.

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