

SELECTING NONLETHAL WEAPONS

By Lois Pilant, Houston, Texas

Out of the entire police arsenal, non-lethal weapons are probably the tools most often used but about which the least has been written. Policy manuals are specific in the use-of-force continuum. Guidelines are written to protect officers from assault and to justify the use of various levels of force. They protect suspects from excessive force and, ideally, the department budget from enormous liability judgments. They provide for training in the use of force, the decision-making process and techniques to calm a volatile situation.

Rarely, however, is the use of nonlethal weapons addressed as a whole. Perhaps it is because these devices—batons, chemical sprays and electronic weapons—are usually discussed in officer-survival or defensive-tactics training. Perhaps it is because they fall in the intermediate range on the use-of-force continuum, often seen as a gray area at best. Perhaps it is because the choice of which one to use is subjective and sometimes difficult to make. Or perhaps it is because the sale of such devices has become hotly competitive, leaving many administrators frustrated by manufacturers' product claims that range from the credible to the ridiculous.

While myths, misinformation and confusion are rampant, there are points on which there is widespread agreement. One of those is that there is no perfect nonlethal weapon. None of them work all of the time. What is important, says Ron Widener, an IACP instructor and security and training specialist with the Department of Energy, is that officers avoid depending too heavily on any one device and learn to follow up when it fails.

"Officers should expect the unex-

pected," Widener says. "If the suspect doesn't fall down, they shouldn't be surprised. They should respond with another technique instead of standing there wondering what to do."

"There have been surveys done concerning officers who have been shot and died. Seventy percent of them did not die from the wound itself. They died because, in our minds, we believe that when you get shot you die. It was mental. They died from the shock.

"The most important thing is attitude. If it doesn't go the way you want, be prepared to move on to another technique."

Another point on which most agree is the fact that training is inconsistent. Spartan or—in some cases—completely nonexistent. Some experts say training budgets are drying up—that they are the first to fall under the axe of budget cuts. Such a move could prove catastrophic, particularly when smart lawyers know that the first place to look when filing a liability claim is at the department's training.

Proficiency with any tool is not gained on the streets with irregular use under extreme stress. Officers survive, suspects are safely controlled and lawsuits are reduced when personnel undergo regular training. Use-of-force policies should be clear, specific and well-written, explaining why a particular level of force is appropriate to a particular situation and providing a standard against which an officer's decision can be judged.

Some departments mandate which nonlethal weapons officers can carry; others leave it to the officers' discretion. Although there is some controversy about which policy works best, it is generally accepted that officers should carry some-

Threats To Officer Safety Are Often Silent And Unexpected

Survival begins with awareness...

Silent War is a comprehensive training course on the critical topic of infection control for law enforcement and corrections officers.

SILENT WAR



INFECTION CONTROL FOR LAW ENFORCEMENT

For information on SILENT WAR call:

1-800-544-3473 ext. 750

(US and Canada)



Circle no. 20 on Reader Service Card

**Q
U
A
L
I
T
Y**

**V
E
H
I
C
L
E
S**



Our Reconditioned Police Package Units!

To Brand New!

We're Pioneers in Reconditioned Police Cars!
We have one of the most intense reconditioning programs available in the country. We're not the biggest, but we're trying to be the best!

Ford & Chevrolet Reconditioned Police Pkg. Units
Each car is carefully inspected, then thoroughly reconditioned inside and out from top to bottom, according to our strict restoration schedule. Finally, the exterior is painted to your specifications. For one car or a fleet.

Call 1-205-647-1717

MUNICI FLEET

Inc.
P.O. Box 277 — Kimberly, AL 35091

Circle no. 10 on Reader Service Card

thing. "If you don't carry anything, you leave yourself open to liability," says Sergeant Bruce Anest, an IACP instructor in tactics, firearms and officer survival, and a member of the Phoenix Police Department's Special Assignments Unit. "You'll find yourself going from verbal commands to pain compliance to deadly force because you have nothing in between."

The other side of the argument, Anest says, is that officers often have too much—hence the saying that the bad guy doesn't have to bring any weapons to a fight because the police always have plenty.

Picking a nonlethal weapon can be a difficult task. The market is flooded with options, and there are more in the development stages. Batons and chemical sprays are the most common, with other devices used for special situations.

The flashlight is one tool that, at least in law enforcement, has yet to be categorized. Certainly, flashlights are necessary as illumination devices. In some departments, officers also are trained to use them as defensive impact weapons, with policies that govern their use. In other departments, officers are not allowed to defend themselves with flashlights. Still other departments have issued plastic flashlights. But the reality is that if an officer holding a flashlight is assaulted, he will probably defend himself with it.

In 1988, the Americans for Effective Law Enforcement (AELE) issued a training bulletin detailing the various choices of nonlethal weapons and the strengths and weaknesses of each. According to the AELE, the positive and negative aspects of the flashlight are as follows:

Advantages:

- It does not look like an offensive weapon.
- It is readily available and considered standard equipment.
- It can be used with minimal reaction time if held in the hand.
- It is an effective impact weapon in that it can deliver a heavy blow.

Disadvantages:

- Its reach is too short for effective use as a tactical weapon.
- It has a slower response time than the baton, and the recovery time is not rapid enough.
- Its sharp edges can cut a person.
- A blow to the head can cause permanent paralysis, if not death.
- An officer carrying a flashlight will be reluctant to drop it and reach for a baton. If he does drop it, it could be used as a weapon against him.
- Manufacturers have not approved or endorsed the use of their flashlights as impact weapons.

Many administrators have banned flashlights in response to unfortunate flashlight incidents. According to John Peters Jr. and Michael A. Brave, such a "knee-jerk" reaction is a mistake. Banning heavy flashlights, adopting flashlights that are too small to be used as defensive impact tools or mandating that officers only carry plastic flashlights are not solutions, the authors say. The only way to reduce liability is to have solid policies and job-related training.

Impact Weapons

There are many things to consider when deciding which baton an officer should carry, if he should carry one at all. How will it be used? What kind of an area will the officer be working in? Should it be a straight stick, a side-handle or a low-profile, collapsible baton? How long should it be? What kind of material should it be made of? What kind of training does each type of weapon require? Does the manufacturer offer training or will the department have to provide it? What has been the experience of other departments with each type of weapon?

With the proper training, batons serve primarily as impact weapons and, with leverage techniques, as tools for compliance. Batons come in varying lengths and are made of hardwood, aluminum, or plastic composite materials. AELE cites the following pros and cons of baton use:

Advantages:

- It is a lightweight, inexpensive weapon.
- The public is accustomed to seeing officers carry one.
- It can disarm or immobilize a combative person.
- Training is available from a variety of public and private trainers.
- It is dual-purpose: it can be used as an impact or come-along device.
- It can be used as a nonoffensive blocking tool to ward off blows or push back an attacker.

Disadvantages:

- Because a noncollapsible is cumbersome, it is often left in the car.
- A noncollapsible is not concealable.
- A noncollapsible can get in the way when the officer is running.
- Even with intensive training, it is difficult or impossible to avoid head strikes, particularly in combat situations.
- Facial strikes often lead to lacerations and substantial blood loss; when these suspects appear in the newspaper or on television news programs, their battered appearance can adversely affect the department's image.

After the decision is made about the basic baton style, there are a variety of

manufacturers to consult. Brown Wood Products offers classic hardwood police batons made of hickory. The Chicago Club is 1 1/2 inches in diameter and 23 inches long. The Straight Handle Baton, 1 1/4 inches in diameter and 26 inches long, is available with a black rubber grommet. The Beaded Handle Baton is also 26 inches long, but is smaller in diameter and has a hole drilled through the end to accommodate an optional leather thong.

Brown Wood also offers two riot batons, both 36 inches long. Fluted grips, which run lengthwise, are available on one or both ends. The batons come in a variety of finishes, including mahogany, oriental walnut, black or natural.

DeSantis Holster and Leather Goods offers the new Celayaton, designed to be both lighter and stronger than conventional police batons. Constructed of natural materials, the Celayaton is 1 inch in diameter, comes in 18-, 26- and 36-inch lengths and weighs only 8 to 14 ounces. Its light weight permits tremendous speed and "snappy" movements that make it effective even in close quarters, without the use of excessive force. Other features include a non-slip, rubber-covered hand guard sleeve, rubber grommet bumper and smooth rounded tip. A free training program is available from DeSantis and Celaya Defense Systems, Inc.

Some departments have moved away from wooden batons in the past few years and gone to those made of polycarbonate, an unbreakable composite material that

will not warp or dent. Another trend has been the move to the side-handle baton, first engineered by Monadnock, which invented the popular PR-24. Originally, the PR-24 was a two-piece unit with a handle that screwed on. But it soon evolved into a solid, one-piece device that, over the years, has become one of the staples of the law enforcement profession.

One of the disadvantages to both the straight and the side-handle baton, however, is that they are frequently left in the car. Carried on the belt, such a baton is nearly impossible to wear in a patrol car and is usually too much trouble to take on and off every time the officer exits the vehicle. In addition, this style of weapon is hardly low profile, hanging at least two feet down the officer's side.

To alleviate these problems and give plainclothes officers a concealable nonlethal weapon, a host of manufacturers have come up with a variety of collapsible (or expandable) batons, all of which can be worn on the duty belt at all times.

Monadnock offers an expandable PR-24, which measures 24 inches extended and 14 inches closed, and the new PR-24FX, an aluminum PR-24 with a Teflon-impregnated shaft. The PR-24FX weighs 29 ounces, opens easily, has high-impact absorption, and is durable and well-balanced.

PPCT Management Systems manufactures a straight baton, but has been most successful with its seven models of expandable batons that ride in a leather scabbard on the belt. The company's most

National Institute of Justice Initiates Less-Than-Lethal Weapons Study

In a recent *Research in Brief*, David W. Hayeslip, Ph.D., and Alan Preszler, Ph.D., describe the approach being taken by the National Institute of Justice (NIJ) to the area of less-than-lethal weapons.

The institute is currently conducting a national survey of the use of less-than-lethal devices by law enforcement. This research is examining the kinds of devices being used, the policies and procedures that departments have developed for the use of such force and the relative effectiveness of the types of less-than-lethal devices being deployed by state and local law enforcement agencies. The survey is designed to provide information on the extent of less-than-lethal device use and to serve as a foundation for the development of a long-term research agenda for NIJ.

NIJ is also examining all less-than-lethal technologies currently under development by federal agencies. The review is considering the development status of the technology, applicability to situations faced by criminal justice professionals, potential for quick transfer to state and local agencies and the ability to incapacitate without inflicting enduring harm.

Already available, for example, are capture nets, dazzle lights and lasers.

A major research priority of the NIJ in the 1990s will be to continue the development and testing of less-than-lethal devices for use in the criminal justice system.

For more information, request a copy of *Research in Brief*, "NIJ Initiative on Less-Than-Lethal Weapons," March 1993, from the National Institute of Justice, 633 Indiana Ave., N.W., Washington, DC 20531.

popular model is the TAC20, which measures 21 inches extended and less than 8 inches retracted. The smaller TAC17 retracts to 6½ inches. A foam handle, rather than the usual plastic or textured handle, also can be ordered on some models.

CASCO International offers three sizes of expandable batons: the CAS 16 measures 6½ inches closed and 16 inches extended; the CAS 21 measures 8 inches closed and 21 inches extended; and the CAS 26 measures 9½ inches closed and 26 inches extended. These collapsible batons use 4130 alloy (high-carbon steel) in the handle and shafts; have a foam, bonded rubber or a "knurled" grip; and come with leather or nylon holsters and perma-stops so the baton won't slide out of the holster. Altogether, the company offers 18 models of batons, including side-handle and straight batons made of polycarbonate or acetate. CASCO's acetate riot baton measures 36 inches with grips at either end.

Other baton manufacturers include AETCO, Inc., and Armament Systems and Procedures, which makes the ASP, one of the industry's most popular expandable batons. The ASP comes in three lengths: 6 inches extending to 16 inches, 7¼ extending to 21 inches, and 9½ inches extending to 26 inches. The black machine-foamed handles produce a firm, durable gripping surface, and there are no sharp edges to tear clothes or cut suspects.

Batons are not the only control devices on the market, however. The Kubotan, manufactured and sold by Reliapon Police Products, can be used with pain compliance techniques or as a self-defense tool. A similar product is the Persuader, made by Monadnock. This harmless-looking 6-inch device has a key ring attached to the end and can be used as a self-defense or pain compliance device. ASP also offers a baton key ring that is 5½ inches long and snaps out to 9 inches.

Another nonlethal weapon comes from the martial arts arena. The nunchaku looks like two short batons joined together with a cord that goes from the end of one baton to the end of the other. Although such a device might conjure up visions of Japanese Ninja movies, its use has been the focus of defensive tactics training for years. Some departments do not sanction its use due to the extensive training needed to prevent officers from injuring suspects or themselves. Although the nunchaku is not as well accepted by the public, it has been quite successful when used for come-along holds and can garner tremendous force as an impact weapon if used correctly.

The Orcutt Police Nunchaku (OPN), available from Police Defensive Systems, was developed specifically for police work and looks like a martial arts nunchaku.

OC spray has had a higher effectiveness rate on the mentally disturbed, those who are drunk or on drugs and even dogs than CS/CN sprays. Because of its chemical properties, OC also does not contaminate officers the way CS/CN can—unless, of course, they spray it into the wind or accidentally rub it on themselves.

except that the butt end is slightly squared and the ¼-inch cord that attaches the two pieces wraps about 2 inches down each side. Training does not incorporate the impact spinning moves that nunchaku training does. Instead, officers are taught arrest and control techniques that have them wrapping the cord around the wrists or ankles and using leverage for take-downs, come-along holds and vehicle extractions. The OPN comes with a specially designed nylon, leather or basket-weave holster and has rings that can either be used to keep it quiet when worn on the duty belt or locked on for maximum wrist or ankle control.

The Kubotan, a similar product available from Reliapon Police Products, uses the same basic construction but has the cord running from the middle of one stick to the middle of the other. This prevents the officer from flailing the suspect or himself. The cord can be wrapped around the wrist, forearm, leg or upper leg using one of five movements that, according to the manufacturers, can be learned in about 30 minutes.

The Handler 12, manufactured by Gripton International, can be used as a control or impact device. A little over 15 inches long and shaped like a bent shepherd's crook, the Handler 12 can be applied to a suspect's hand or leg and uses leverage to effect a back arm lock or take-down. It also can be used to block, jab, chop or strike. The aircraft steel frame is covered with plastisol and rubber nitrol has a

relatively low profile and can be purchased with a holster that is integrated with the handgun or radio case to keep from overloading the duty belt. According to the manufacturer, the Handler 12 bridges the gap between verbal commands and chemical sprays.

Chemical Irritants

CN (chloroacetophenone) and CS (orthochlorobenzalmononitrile) sprays have been on the market and regularly used by many departments for years. But these nonlethal weapons have had their problems. Officers transporting prisoners whose clothing was saturated often complained that they were affected also. There were times the sprays did not work on people who were mentally disturbed, drunk or under the influence of certain drugs. According to the AELE, some individuals also became combative when sprayed. Others suffered temporary respiratory problems or eye irritations that became serious if left untreated. Suspects who were armed with a knife or blunt instrument tended to blindly lash out at officers.

This is not to say CS and CN do not have their advantages. The canisters are cheap, lightweight and easily carried and concealed. Extensive training is not required, and no physical contact is needed. And in some cases, they are the most appropriate device available.

Although CS and CN are still used, many departments have turned to oleoresin capsicum, or OC spray. The primary difference between CS/CN and OC sprays is that CS/CN are irritants while OC is an inflammatory. Irritants, which cause pain, are less effective when alcohol and drugs block the neural transmitters. Pain also can be deadened by heightened levels of endorphins or adrenalin in the mentally disturbed.

Oleoresin capsicum is an inflammatory agent found naturally in cayenne or hot peppers. An inflammatory agent causes swelling and, therefore, a different kind of reaction. Instead of the eyes tearing, which is what happens with CS/CN sprays, they swell and involuntarily slam shut. The airway swells and causes choking, coughing, gagging, gasping for breath and, in some cases, nausea. Vision and breathing are severely limited, with some subjects also experiencing a burning sensation on their skin.

OC spray has had a higher effectiveness rate on the mentally disturbed, those who are drunk or on drugs and even dogs than CS/CN sprays. Because of its chemical properties, OC also does not contaminate officers the way CS/CN can—unless, of course, they spray it into the wind or accidentally rub it on themselves.

WE'VE GOT YOU COVERED!

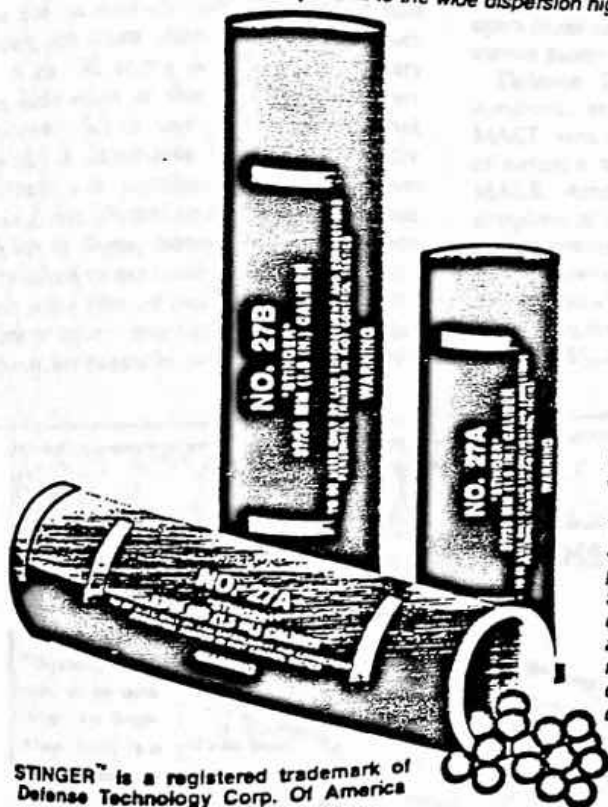
QUALITY PRODUCTS FROM DEFENSE TECHNOLOGY CORP. OF AMERICA

FIRST DEFENSE®

Holding true to its commitment and the fine reputation of DEF-TEC PRODUCTS®, Defense Technology Corp. of America is proud to announce our newest "less-than-lethal" product FIRST DEFENSE®. FIRST DEFENSE was developed with the specific purpose of eliminating ozone depleting carriers (contains no CFC'S or HCFC'S), and to maintain a formula* which is non-flammable. FIRST DEFENSE is available in a wide range of sizes, from the small pocket-style unit to the wide dispersion high-output fogger.



PATENT PENDING



STINGER™ CARTRIDGES

The No.'s 27A & B and 28A & B are product designations for our "STINGER"™ Series of 37mm cartridges. The 27A & B are filled with .32 caliber rubber pellets. The 28A & B are filled with .60 caliber rubber pellets. The A-Series is 5.5" in length and the B-Series is a larger capacity 8.0" version. The 27A & B contain 140 and 220 .32 caliber pellets respectively. The 28A & B contain 27 and 39 .60 caliber pellets respectively. These 37mm specialty rounds offer more controlled patterns of dispersion than "STINGER"™ grenades, and are desirable for use in crowd control situations and a wide variety of tactical operations.

STINGER™ is a registered trademark of Defense Technology Corp. Of America

SPECIALTY ROUNDS



NO. 22 T.K.O.
(TACTICAL KNOCK-OUT)
12-GAUGE
FRANGIBLE SLUG



NO. 23 RP
(RUBBER PELLET)

12 GAUGE PROJECTILES



NO. 23 RS
(RUBBER SABOT)

NO. 23
12 GAUGE LIQUID
FILLED PROJECTILE
CN, CS AND PRACTICE



For more information on these and other fine products, call or write:

DEFENSE TECHNOLOGY CORP. OF AMERICA

POSTAL BOX 240-D, CASPER, WY. 82602-0240
(800) 733-3832 EXT. 11 • (307) 235-6900 • FAX (307) 473-2605

DEFENSE TECHNOLOGY
CORP. OF AMERICA

Decontamination consists of exposing the subject to fresh air and flushing the eyes, face and affected areas with cool water; in some cases, it is necessary to wash the exposed areas with soap and water. In FBI tests, the most severe effects were gone—with the help of decontamination—within two to three minutes. Within 10 to 15 minutes after contact, all symptoms had disappeared, including bloodshot eyes and any accompanying skin discoloration (redness) caused by exposure to the pepper. In addition, no permanent injuries of subjects or officers have been recorded.

Most experts agree that sprays fall between passive controls and the baton on the use-of-force continuum. Administrators just have to decide which one to use—a difficult task considering that there are more than 50 on the market.

If an OC spray is chosen, a primary consideration is the carrier or delivery system. Some use isopropyl alcohol, which is flammable but ozone friendly. Others use nonflammable alternatives like Freon, Dymel or methylene chloride. Some of these, however, either deplete the ozone or are toxic or carcinogenic and are being phased out of existence by the federal government and the Clean Air Act. Freon, for example, will be almost entirely

eliminated from OC sprays within the next few years.

Other considerations include price, trigger mechanism (mist, fog, stream), target range, pungency rating and ratio of solution to pepper, which ranges from 1 to 10 percent.

Managers will have to determine how and when the spray will be used. Will it be used to disperse crowds? To control or modify individual behavior? In SWAT incidents? On routine patrol? In open areas or confined ones? SWAT incidents will probably call for a nonflammable carrier, while routine patrol might use an alcohol-based propellant. If the spray is to be used in confined areas, like jails, administrators might choose a non-flammable carrier in case of fire. Those who will be using it in larger or more open areas can probably use a flammable carrier safely.

Defense Technology Corporation of America, manufacturer of Chemical MACE, was one of the first to make use of nature's hot peppers with its Pepper MACE. Among the industry's largest suppliers of OC spray, Defense Technology currently sells First Defense, an environmentally friendly spray in a 10 percent solution that, according to the manufacturer, works even better than Pepper MACE.

Mace Security International (MSI) offers a complete line of OC, CN and CS sprays, with a wide range of sizes, solutions and containers. The company sells its original CN Mace and CS Mace, as well as Peppermace, Mace with Pepper, a combination CN and OC spray and Peppergard, a nontoxic, environmentally friendly, non-flammable spray. Container sizes range from the 2-ounce MK-III, to the MK-V with its 6- to 12-foot range and pistol grip dispenser, to the MK-IX Magnum room fogger. MSI also offers the MK-VIII, which looks like a can of chemical spray attached to the end of a baton. This 21-inch-long, 1½-inch diameter device features a wrist strap.

Guardian Protective Devices sells The Guardian, a 5 percent OC spray mixed with ultraviolet dye. Canisters come in a variety of sizes, with some that can be used for crowd control, as entry devices or to reach a subject from as far away as 40 feet.

Advanced Electronic Technologies sells OC Pepper Gas, which uses a splatter stream similar to a shotgun blast and a foamy base that makes the spray stick to the individual. This product is in a 5 percent solution with a chemical solvent carrier that is nontoxic, noncarcinogenic and nonflammable. Other entries in the company's line of chemical sprays are

STOP

HIGH SPEED PURSUITS WITH THE STINGER SPIKE SYSTEM



The patented rocking arm action introduces the Stinger Spikes into the tire at the correct angle, allowing this unit to be effective when run over from either direction and at all speeds.

The Stinger Spike System is an easy to use and highly effective new tire deflating device for use by law enforcement agencies.

- ★ STOPS VEHICLES SAFELY
- ★ DEPLOYABLE IN SECONDS
- ★ LIGHTWEIGHT
- ★ COMPACT
- ★ BI-DIRECTIONAL
- ★ REPLACEMENT PARTS AVAILABLE
- ★ AVAILABLE IN 15-1/2 FT. & 25 FT. LENGTHS


For information contact:

STINGER SPIKE SYSTEM, INC.
P.O. Box 848 • Monticello UT 84535 • 801-587-2803 • FAX 801-587-2740

Circle no. 29 on Reader Service Card

WHY DEPARTMENTS ARE SWITCHING TO FIRST STRIKE™

- 1. 6% OC Pepper Gas is proven more effective than CN & CS.
- 2. Preferred by departments and leading trainers over "misting" units.
- 3. Immediately effective, even on individuals under the influence of drugs and/or alcohol.
- 4. Supported by an OC training staff that is second to none in law enforcement.
- 5. Easy to use; safe non-toxic formula.
- 6. Non-flammable and environmentally safe.
- 7. Backed by the largest distributor of aerosol chemical weapons in law enforcement.



FIRST STRIKE...you may not get a second chance!

ADVANCED DEFENSE TECHNOLOGIES, #1 in Law Enforcement.

<p>WEST</p> <p>1-800-854-1414</p> <p>1-801-298-7942 (Fax)</p>	<p>EAST</p> <p>1-800-543-5207</p> <p>1-704-505-9061 (Fax)</p>
--	--

Circle no. 1 on Reader Service Card

Punch II, Pepper Defense, OC Pepper Gas, First Strike and Hot Stuff, a water-based OC spray. The company also acts as a distributor for Aerko International, makers of Freeze, a combination CS-OC spray.

B-Safe Industries offers the Devastator, manufactured by LTL Products. The Devastator, which uses a CO₂ carrier, delivers a finely atomized mist. B-Safe also has a 58-gram OC grenade that measures 1 1/4 inches by 3 1/2 inches. Small enough to be carried in a pocket or on a vest, it won't overgas a room, and will disperse in one-third the amount of time because it empties out of three valves.

The Devastator Mega is a high-volume, high-velocity, long-range (33 feet) system that delivers about 40 half-second, 3-ounce bursts every time the trigger is pulled. This device, which weighs a little over 9 pounds, carried on a shoulder sling and can be operated with one hand.

The Devastator Magnum Mob Stopper is a 1-pound, hand-held, pistol-grip disposal canister that delivers wide-angle bursts at a range of about 20 to 25 feet.

Zarc International is the current manufacturer of CAP-STUN, which uses an alcohol carrier and comes in containers that range from .42 ounces with a range of 6 feet for undercover officers, to 1 ounce for standard duty, 5 ounces for crowd control and an anti-terror grenade that

emits a 45-second continuous burst of spray and covers 10,000 cubic feet. CAP-STUN sprays in a full-cone pattern, which does not require perfect aim on the part of the officer, rather than a solid stream. The company also sells a tubing attachment that lets officers inject the spray under doors, down air or elevator shafts, into ventilation systems and around window gaskets or openings on automobiles or boats.

Reliapon Police Products offers Body Guard, which uses the nonflammable propellant, Dymel, and a spray trigger. According to the manufacturer, the carrier evaporates immediately so suspects are hit primarily with the pepper. Another product that uses Dymel as a carrier is CAS-OC, a new pepper spray recently released by CASCO International.

Clearly, all OC sprays are not alike, and solution percentages are not necessarily the way to judge whether a mix will be effective. A better criterion may be the rating of Scoville Heat Units (SCUs).

SCUs were invented by a pharmacist who was producing liniments for treating painful muscle problems. He started using hot peppers in the mix and needed a way to measure the amount of "fire." His scale rated a sweet bell pepper at 0, jalapeno at 5, cayenne at 8 and the hottest peppers, the habenero and Bahamian, at 10. Not

all manufacturers use cayenne peppers in OC sprays, with the result being that some are simply hotter than others.

Chemists quantify the degree by measuring the SCUs in the mix. The standard in OC sprays is 1.5 million. Although hotter might be better, it could also cause tissue damage or other serious problems.

Administrators should check the manufacturer's Materials Safety Data Sheet, a three- to four-page document that lists the exact chemical makeup of the spray and the hazardous materials classification for the ingredients. The department should keep this document on file for whatever brand it ultimately chooses. Administrators should also find out what kind of product liability insurance the manufacturer carries.

To a great degree, OC sprays have swept the law enforcement market in the past several years, primarily because of their high rate of effectiveness, low rate of injuries and the fact that even if the spray is misused, it probably will not cause any permanent or long-lasting physical injury. Such success has tempted some chiefs to throw out other nonlethal weapons in favor of this new "cop in a can," says Ed Nowicki, former executive director of the American Society of Law Enforcement Trainers. "It is one of the best nonlethal options on the market today,

Need A Better Way To Store Evidence?

Pacific Concepts Has Your Evidence Storage Solution!

We Have What You Need For A Tamperproof Storage System !!

- Gun Racking System
- Evi-Dry Evidence Drying System
- Bike Storage System
- Barrier and Non-Barrier Pouches
- Evidence Labels



Pacific Concepts, Inc.
415 S. Holgate St.
Seattle, WA 98134
Fax # (206) 622-7819

Call Us Today #800-827-2247 For Your Solutions !

Circle no. 21 on Reader Service Card

but it is not meant to replace training or unarmed tactics or control techniques. You are going to have situations where it's inappropriate to use and you're going to have people it won't work on. You can't take away the officer's other options," Nowicki says.

Training is a vital element when using chemical irritants. Most manufacturers offer instructor and user training, as do a number of private companies. One of those is the Oleoresin Capsicum Aerosol Training program developed and taught by Nowicki, a 25-year police veteran and training specialist with the Milwaukee Area Technical College.

Most manufacturers offer carrying cases, holsters or belt rings for their OC sprays. Cases also are available from several holster and belt manufacturers, including Gould & Goodrich, which offers

a black, black weave and high-gloss Pouch, or a nylon carrier with a Velcro close. Satariland, which has three styles of carriers with a top flap, snap or Velcro closure in a plain, basket weave or high-gloss finish; Stallion Leather, which manufactures leather cases in four styles for both 2-ounce and 4-ounce First Defense and Punch pepper mace; W.S. Darley & Company and Gall's, Inc.

Electronic Weapons

Electronic weapons have not always had the best of reputations. According to one writer, the public often equates them with "torture devices used in fascist basements." Of course, it hasn't helped that the media tend to lump all electronic devices under the misnomer of "cattle prods," which put out a harmful level of power.

Electronic weapons do have their drawbacks. According to the AELE, these devices can not only be misused, but may produce electrical sparks that cause burns or fires. Additionally, manufacturers may be unwilling to provide testimony or litigation support services, and may not carry product liability insurance.

However, the AELE also lists a number of advantages to electronic weapons:

- They are lightweight, easily carried and affordable.

- They may work better on people who do not respond to chemical irritants.

- They are especially useful for non-criminal behavior, like that exhibited by the mentally deranged or those who are under the influence of mind-altering substances.

One such weapon is the Taser. Although it has been around for years, it

Source Listing/Selecting Nonlethal Weapons

- | | | | |
|---|--|--|---|
| Batons | 800/854-2183; 303/451-8362
Circle no. 58 on Reader Service Card | 704/545-2681
Circle no. 1 on Reader Service Card | Los Angeles, CA 90034
213/837-0963
Circle no. 69 on Reader Service Card |
| AETCO, Inc. | Reliapon Police Products
608 7th St. S.W.
Albuquerque, NM 87102
505/291-0307
Circle no. 59 on Reader Service Card | Aerko International
P.O. Box 23884
Fl. Lauderdale, FL 33307
305/565-8475
Circle no. 65 on Reader Service Card | Nova Technologies
8868 Research Blvd., Ste. 404
Austin, TX 78758
512/832-5591
Circle no. 70 on Reader Service Card |
| Armament Systems & Procedures | Carrying Cases | Casco International | POLIFORCE |
| P.O. Box 1794
Appleton, WI 54913
414/735-6242
Circle no. 51 on Reader Service Card | DeSantis Holster & Leather Goods
P.O. Box 2039, Dept. PC
New Hyde Park, NY 11040-0701
516/354-8000
Circle no. 54 on Reader Service Card | P.O. Box 166
Fitzwilliam, NH 03447
800/232-2726
Circle no. 53 on Reader Service Card | P.O. Box 601234
San Diego, CA 92160
619/280-8739
Circle no. 71 on Reader Service Card |
| Brown Wood Products | Galls, Inc. | Defense Technology Corp. of America | Stun Tech |
| P.O. Box 8246
Northfield, IL 60093
800/328-5858
Circle no. 52 on Reader Service Card | P.O. Box 54658
Lexington, KY 40555
800/477-7766
Circle no. 60 on Reader Service Card | 2316 Oil Dr.
Casper, WY 82604
800/733-3832
Circle no. 31 on Reader Service Card | 23860 Miles Rd.
Cleveland, OH 44128
216/663-8228
Circle no. 72 on Reader Service Card |
| Casco International | Gould & Goodrich | Guardian Protective Devices | Tasertron |
| P.O. Box 166
Fitzwilliam, NH 03447
800/232-2726
Circle no. 53 on Reader Service Card | P.O. Box 1479
Lillington, NC 27546
919/893-2071
Circle no. 61 on Reader Service Card | P.O. Box 133
West Berlin, NJ 08091
800/220-2010
Circle no. 66 on Reader Service Card | P.O. Box 10309
Newport Beach, CA 92658
714/660-7774
Circle no. 33 on Reader Service Card |
| DeSantis Holster & Leather Goods | Satariland | MSI | Fleeing Vehicles |
| P.O. Box 2039, Dept. PC
New Hyde Park, NY 11040-0701
516/354-8000
Circle no. 54 on Reader Service Card | 3120 E. Mission Blvd.
Ontario, CA 91761
800/347-1200
Circle no. 62 on Reader Service Card | Dept. L193, Benmont Ave.
Berrington, VT 05201
800/639-4530
Circle no. 15 on Reader Service Card | Stinger Spike Systems
P.O. Box 848
Monticello, UT 84535
801/587-2803
Circle no. 29 on Reader Service Card |
| Gripton International | Stallion Leather | Oleoresin Capsicum Aerosol Training | Hovey Industries |
| 11939 Gorham Ave., Ste. 103
Los Angeles, CA 90049
310/826-4448
Circle no. 55 on Reader Service Card | P.O. Box 68
S. Milwaukee, WI 53172
414/764-7126
Circle no. 63 on Reader Service Card | R.E.B. Security Training
P.O. Box 697
Avon, CT 06001
203/677-5936
Circle no. 67 on Reader Service Card | 2378 Holly Ln.
Ottawa, Ontario, Canada K1V 7P1
613/731-1200
Circle no. 73 on Reader Service Card |
| Monadnock Lifetime Products | W.S. Darley & Co. | Zarc International | Nets |
| P.O. Box 509
Fitzwilliam, NH 03447
800/258-5492
Circle no. 56 on Reader Service Card | 2000 Anson Dr.
Metrose Park, IL 60160
800/323-0244
Circle no. 64 on Reader Service Card | 111 Broad, 2B
Camden, SC 29020
800/882-7011
Circle no. 68 on Reader Service Card | West Coast Netting
8978 Haven Ave.
Rancho Cucamonga, CA 91730
714/987-4708
Circle no. 74 on Reader Service Card |
| PPCT Management Systems | Chemical Irritants | Electronic Weapons | |
| 500 S. Illinois, Ste. 3
Millstadt, IL 62260
618/476-3535
Circle no. 57 on Reader Service Card | Advanced Defense Technologies
5800-A N. Sharon Amity Rd., Ste. 174
Charlotte, NC 28215 | O-Mega Stun Guns
3544 Overland Ave. | |
| Police Defensive Systems | | | |
| P.O. Box 33181
North Glen, CO 80233 | | | |

wasn't until the Rodney King incident that it garnered national attention. An acronym for Thomas A. Swift's Electric Rifle, the Taser is a favorite of many departments, including the Los Angeles Police Department (LAPD). In a study of more than 100 cases, LAPD Sergeant and police tactics consultant Greg Meyer—who specializes in nonlethal weapons policy and training issues—found it had an 86 percent success rate.

Regardless of the fearsome sound of its 50,000 volt potential, the Taser is essentially a low-powered (5 watt) device that runs on a 7.2-volt battery and shoots a pair of tiny barbs attached to 15 feet of wire. As the barbs travel (at 180 feet per second, the lower one drops about one foot for every five feet of range, with both ultimately lodging in the subject's clothing.

Electrons flow from the battery along the lower wire and leap across the gap between the subject's clothes and his skin. The human nervous system forms a closed circuit for the Taser, thereby allowing the current to run from the bottom wire, along the subject's nerves, to the top wire and back to the battery. Short pulses delivered from eight to 22 times per second cause a series of "Charlie horse"-like spasms, which make the subject involuntarily lose control of his movements. If one or both of the darts miss the subject, a second pair can be fired immediately.

The Taser is sold only by Tasertron, which notes that the device will not damage the heart nor will it electrocute someone standing in water. It should not, however, be used in situations or areas where fire could erupt.

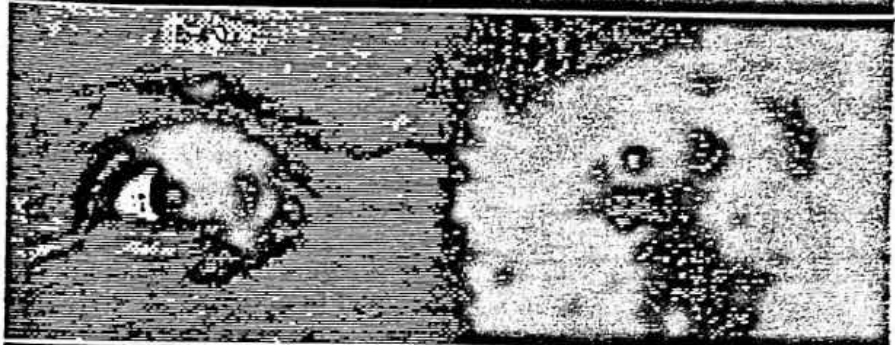
Stun guns do not have quite the reputation the Taser does. Although the Taser can be operated from a distance, a stun gun puts the officer within arm's reach of an assailant, something many tacticians say should be avoided if possible. Stun guns also require that the electrical current be held against a suspect for several seconds, at least.

As with all nonlethal weapons, each one has its place. Stun guns may be appropriate when the Taser, chemical spray or baton is not.

O-Mega Network, Inc., makes a variety of stun guns and batons. Its Super Stunner puts out 120,000 volts and has an extremely loud electrical sound. Such a device may be appropriate for crowd control or in a crowded bar room, where a chemical spray or baton would create more problems than it solves.

O-Mega also sells two types of stun batons. The Super Baton, which puts out 120,000 volts, is 18 inches long and features an electrified shaft and a rubberized handle. The Star Warrior is similar but more powerful, putting out 150,000 volts.

KEEP HIM AT A DISTANCE



THE TASER®. THE ALTERNATIVE TO DEADLY FORCE™

Without a fight. Without bullets. Without injury. Neutralize and incapacitate a potentially dangerous situation with the Taser, an instantly immobilizing electronic device. From distances as far away as 15 feet the Taser is the safe, reliable method to bring a life-threatening situation to an immediate halt. Without batons. Torn uniforms. Or liability.



Your department shouldn't be without the safe, effective option of the Taser. Contact us for complete information.

TASERTRON

P.O. Box 10309, Newport Beach, CA 92658

Circle no. 33 on Reader Service Card

Q. *Is it possible to provide a full year of police in-service training for only \$5.00 per officer?*

A. Yes! The **IACP Training Keys** have met this need for thousands of police departments for over 25 years. Find out how your department can participate by contacting Phil Lynn, IACP, 515 N. Washington St., Alexandria, VA 22314; 1-800-THE IACP

To keep officers at a greater distance, the company recently developed the X-Caliber, an extendable stun device that has two 18-inch batons crossed—like an X—at the end of a 3-foot pole. By using an additional pole, the entire device can be extended up to seven feet. It weighs 4.5 pounds and runs on two 9-volt batteries.

Nova Technologies also makes several electronic weapons. The Nova Stun Guns come in two models. The XR5000 runs on one 9-volt battery and can deter violent suspects with 40,000 volts of electricity at 17 to 22 pulses per second. The Nova Spirit police model is a slightly larger, heavy-duty version of the XR5000.

Nova also makes an electrified riot shield, an electronic capture shield and a telescopic restraint staff. This 4-pound device extends from 2 to 4 feet and uses the same electronic pulse technology as the stun guns, except that the entire forward extension is electrified. The company also sells holsters for its stun guns, as well as long-life lithium batteries, Ni-Cad rechargeable batteries and an electronic stun gun tester. Training is offered through the Defensive Tactics Institute in Albuquerque, New Mexico.

POLIFORCE sells a device called the Long Arm of the Law. This telescopic weapon comes in two models: one extends from 4 to 8 feet; the second extends from 3 to 9 feet. Both work on the same principle as other electronic weapons, in that the jolt of electrical current causes involuntary muscle spasms, making the suspect drop to the ground. The Poliforce device also can be made to any length specified by the department.

Stun Tech manufactures the Ultron II, which is capable of 45,000 volts and has several safety features built in for both the officer and suspect. The officer wears the device with a wrist strap that, if disengaged, automatically disables the machine. The device will also shut down for five seconds if it is held on someone for more than 20 seconds—a feature engineered for the safety of the subject. A battery light tells the officer when to replace batteries; otherwise, according to the manufacturer, the device is relatively maintenance free.

Stun Tech also offers an electrified riot shield and a prisoner transport belt that has a stun package and a wireless transmitter that can be operated from as far away as 400 feet.

Administrators should pay particular attention to the laws of physics when researching and testing stun guns. According to Ohm's Law (Georg Simon Ohm, 1827), as voltage increases, amperage decreases. It is the amperage that is dangerous, not the voltage, which is why 50,000 volts or more will not harm a per-

"Police are human beings, and with the million other tasks they have to do, they don't have time to spend umpteen dozen hours practicing once they get out of boot camp. . . . Remember, the weapon is only as good as the way in which you use it."

son when the power source is relatively small. Weapons with higher voltage may not have enough knock-down power because the amperage has been decreased in proportion to the increase in voltage.

Other Devices

There are a variety of other tools that may help officers contain or control suspects while protecting themselves and the public.

Developed specifically to stop fleeing vehicles are two types of roadblock devices: the Stinger Spike System and the Hovey Spike Belt.

The Stinger Spike System can be extended across a roadway 15½ feet with one model and 25 feet with another, and has a rocker arm that makes it bidirectional. Front tires will pick up five to seven of the 1½-inch long spikes, causing the tires to deflate in about 20 seconds. The spikes are hollow so that tires will deflate even if the opening is automatically sealed by the tire's inner liner. The 7-pound unit can be deployed by one officer in as little as five seconds, and the 25-foot model can form a roadblock across as many as three lanes.

Hovey Industries sells the Hollow Spike Belt, made of a 15-foot strip of heavy-duty, reinforced, four-ply belting with hollow stainless steel spikes mounted on corrosion-resistant backing plates. The Hollow Spike Belt, with its carrying case, weighs 24 pounds and can be deployed in seconds by simply rolling the belt across the roadway.

The Capture Net by West Coast Netting was developed to increase officer safety when dealing with suspects who are violent or mentally impaired. Once

the net is cast over the suspect, he can safely be pulled to the ground and handcuffed through the net. The manufacturer recently added a containment rope to the net, which draws the netting around the suspect and further restricts his movements. Although the device can be deployed with two officers if necessary, three are ideal. Additional officers can be used to distract and contain the suspect before the net is thrown.

One of the newest devices on the law enforcement market is the COP Bag 38, a restraining device from Innovative Products International that fits over a suspect's handcuffed hands and prevents him from using a weapon, hiding contraband, assaulting the officer or hurting himself. The bag was developed after an officer was killed while transporting a suspect to jail. The suspect was hiding a .38-caliber pistol and was able to use it on the officer, even though he was handcuffed. When not in use, the 11-ounce bag folds into a 6-inch x 6-inch x 2-inch square.

The Future

Although the future looks bright in the area of nonlethal weapons, it may be several years before any are available to law enforcement. The National Institute of Justice (NIJ), charged with the support of state and local agencies, is funding research in this area by administering a number of grants.

Working in conjunction with the Department of Energy (DOE) research labs, the NIJ's Less-Than-Lethal (LTL) project is looking at such things as foam restraints, which currently are part of the security hierarchy around nuclear weapons systems. These foams, which initially will be tested in prisons, can freeze a person in place or even block up a doorway, which would be useful in drug raids, for example. A second type of foam acts like contact cement and makes the subject stick to whatever he touches.

Chemical incapacitants are another possibility, although one that has hit some serious snags. The most promising drug is alfentanil, a potent synthetic narcotic used in hospitals as an anesthetic. The problem is that as alfentanil tranquilizes, it also depresses the central nervous system and slows respiration. Scientists are currently working to find a way to simultaneously administer an antidote that would not affect the drug's action but would inhibit its effect on respiration.

The NIJ is also funding grants for research into devices that will stop fleeing vehicles, airbags for the back seats of patrol cars to keep unruly prisoners from assaulting officers, velocity range finders that will focus on a target and automat-

ically calculate the velocity at which chemical munitions or impact projectiles should be launched. Brilliant white and pulsed light are being studied for distraction, disorientation and control of violent prisoners or suspects.

Research is an expensive and time-consuming undertaking, and in these areas it is just beginning. In the meantime, administrators would do well to do their homework when choosing nonlethal weapons. Talk to manufacturers, the city's attorneys and other departments.

"What people need to look at is the simplicity of the weapon and the technique it's going to take to use it," says the DOE's Ron Widener. "Police are human beings and with the million other tasks they have to do, they don't have time to spend umpteen dozen hours practicing once they get out of boot camp. You need to look at the simplicity of the weapon, what it's going to take to use it and its effectiveness on the suspect. Remember, the weapon is only as good as the way in which you use it."

Research and Findings

As part of the thesis for his master of science degree, consultant Meyer studied 502 of the Los Angeles Police Depart-

ment's 1989 use-of-force incidents that did not involve firearms in 1989. His research examined eight tactics used by officers to cause a suspect to fall to the ground:

baton, karate kick, punch, flashlight, swarm, miscellaneous body force (pushing, shoving, tackling), chemical irritant and Taser. ★

Success Rates of Force Types, with Corresponding Injury Rates¹

Force Type	Study Cases ²	Success Cases	Success Rate	Major/Moderate Injuries (%)	
				Officers	Suspects
Baton	143	121	85%	16%	61%
Kick	47	41	87%	11%	26%
Punch	36	27	75%	36%	64%
Miscellaneous	143	135	94%	15%	46%
Flashlight	25	24	96%	4%	80%
Swarm	51	47	92%	16%	24%
Chemical spray	21	19	90%	0%	0%
TASER	102	88	86%	0%	0%
TOTAL	568	502	88%	13%	39%

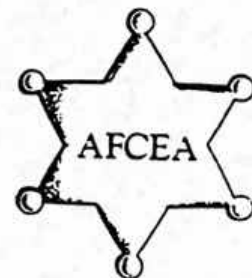
¹ Source: Greg Meyer, "Nonlethal Weapons versus Conventional Police Tactics: The Los Angeles Police Department Experience," (master's thesis, California State University, Los Angeles, 1991).

² Includes effective and ineffective force types.

³ Percentage of major and moderate injuries, regardless of whether or not force was effective.



AFCEA ANNUAL SOUTHWEST BORDER CONFERENCE AND EXPOSITION



"COUNTERDRUGS SCIENCE AND TECHNOLOGY"

★ GOVERNMENT ★ MILITARY ★ LAW ENFORCEMENT ★
AUGUST 3-5, 1993 ★ EL PASO CONVENTION CENTER ★ EL PASO, TEXAS

Keynote Speakers...

- ▶ The Honorable Ronald D. Coleman, Chairman
House Select Committee on Intelligence
U.S. House of Representatives, 16th District, Texas
- ▶ Dr. Albert Brandenstein, Chief Scientist
Office of National Drug Control Policy
- ▶ Mr. Travis Kuykendall, Special Agent in Charge,
Drug Enforcement Agency (El Paso)
- ▶ R. Adm John Linnon, USCG, Commander
Joint Task Force-Five
- ▶ MG Samuel Leffler, USA, Commander
US Army Information Systems Command
- ▶ Mr. Gerald Shamla, Director
Counterdrug Integration Office
Defense Information Systems Agency
- ▶ MGEN John H. Pickler, USA, Commander
Joint Task Force-Six (El Paso)

Technical Panel Discussions...

- ▶ "Distributed Data Bases and Multilevel Security"
- ▶ "Innovation in Cargo Inspection"
- ▶ "Automation in Financial Crimes Investigations"
- ▶ "Protecting Sensitive Information—Data and Voice"
- ▶ "Imaging Technologies in Drug Enforcement"

The Exposition...

- ▶ Over 50 companies/agencies will be displaying the latest technology available today to help fight the War on Drugs.
- ▶ Admission to the exposition is **FREE OF CHARGE** to all participants.

For Further Information...

- ▶ Please call Beth B. Cain at 1-800-336-4553 x6200.

Circle no. 2 on Reader Service Card