



Less Lethal Technologies for Law Enforcement

Charles Stephenson

August 26, 2015

This project was supported by Grant No. 2013-DP-BX-K006 awarded by the Bureau of Justice Assistance. The Bureau of Justice Assistance is a component of the Office of Justice Programs, which also includes the Bureau of Justice Statistics, the National Institute of Justice, the Office of Juvenile Justice and Delinquency Prevention, the Office for Victims of Crime, and the SMART Office. Points of view or opinions in this document are those of the author and do not necessarily represent the official position or policies of the U.S. Department of Justice.

Smart Policing Initiative

- Smart Policing Initiative (SPI)
 - What is “SPI”?
 - What does “SPI” provide the law enforcement community?

The President's Task Force on 21st Century Policing

- The use of technology can improve policing practices and build community trust and legitimacy, but its implementation must be built on a defined policy framework with its purposes and goals.

The President's Task Force on 21st Century Policing cont.

- Law enforcement agencies and personnel also need to recognize that technology is a tool for doing their jobs: just because you have access to technology does not necessarily mean you should always use it.

Less Lethal Technologies

- Introduction
 - Definitions
 - 4th Amendment
 - Use
 - History
- Overview of technologies
 - Mechanical and kinetic
 - Conducted energy
 - Directed energy

Less Lethal Technologies cont.

- Chemical agents
 - Barrier and entanglement devices
- Effectiveness
 - Risk & safety
- Newly developed technologies
- Training
- Polices and “Use-of-Force Continuum”
- Future technologies
- Conclusion

Definitions

- What is deadly force?
- What is less-than-lethal force?
- What is a less lethal weapon?

Definitions cont.

- The use of force as defined by the US Supreme Court.
 - How much and when may a law enforcement officer use force?
 - What is considered a reasonable amount of force?
 - When is deadly force considered meeting constitutional intention?

Definitions cont.

- The use of force as defined by International Law.
 - Basic Principles on the Use of Force and Firearms.
 - International law.
 - When is non-lethal force considered.

4th Amendment and the Use of Force

- The 4th Amendment?
- The leading case on use of force, “1989 Supreme Court decision in *Graham v. Connor*”.
- What does all this mean?
 - What is excessive force?
 - What is reasonable force?

Less Lethal Use “Law Enforcement”

- Primary use in law enforcement.
 - Confrontations
 - Suicided interventions
 - Riots
 - Prison disturbances
- When is less lethal force used?
 - When lethal force is not appropriate.
 - When lethal force is justified but lesser force may work.
 - When lethal force is justified but its use could cause damage or harm others.

Less Lethal

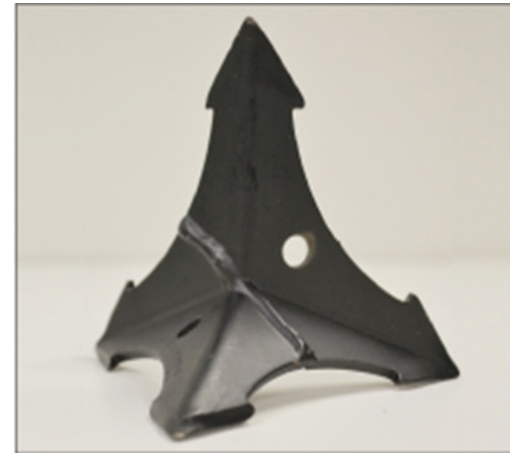
- Common terms used for less-than-lethal “weapons”.
 - Non-lethal weapons
 - Less-than-lethal weapons
 - Non-deadly weapons
 - Compliance weapons
 - Pain-inducing weapons

History of Less Lethal Use

- The concept of limiting the application of force to something short of lethality has been applied throughout history.

History cont.

- Early examples:
 - CALTROPS such as Water Chestnuts were used to slow mounted soldiers (331BC); today's version has not changed much.



History cont.

- Early examples:
 - Mounted Officers for crowd and riot control (early 1900s)
 - Water cannons for crowd and riot control (1930s)



History cont.

- Early examples:
 - Trained working dogs
 - Tear gas (1919)



Overview of Technologies

- Mechanical and kinetic devices/weapons
 - Intended not to kill
 - Influence behavior
 - Cause physical discomfort or pain.

Overview of Technologies cont.

- Examples of mechanical and kinetic devices:
 - Baton, water cannon, impact munition “pain through blunt impact of device”.



Overview of Technologies cont.

- Conducted energy devices
 - Radiated energy
 - Achieve control of subject
 - Induces pain or causes involuntary muscle convulsion.

Overview of Technologies cont.

- Examples of conducted energy devices:
 - Stun guns, electric shock projectiles, shock shields and batons.



Overview of Technologies cont.

- Directed energy devices
 - Deposit energy
 - Desired effect
 - Distract
 - Disorient
 - Incapacitate

Overview of Technologies cont.

- Examples of directed energy devices:
 - Flash bangs, throw lights, laser dazzlers, high powered flashlights, and acoustic devices such as a bull horn and more recently directional long-range acoustic devices.



Overview of Technologies cont.

- Chemical agents
 - Deliver pain
 - Induce discomfort
 - Gain compliance

Overview of Technologies cont.

- Examples chemical agents that incapacitate and or control:
 - Malodorant agents, irritant agents, smoke agents, marking agents and calmative agents.



Overview of Technologies cont.

- Barrier and entanglement devices
 - Passive devices
 - Control and manage movement
 - Restrict or inhibit movement

Overview of Technologies cont.

- Examples of barrier devices:
 - Barricades, stanchions and bollards (can be fixed or portable).



Overview of Technologies cont.

- Examples of entanglement devices:
 - Nets (maritime), spike strips, stop sticks



Stop and Think

- What less-than-lethal devices are currently in use by your department?

Effectiveness, Risk and Safety

- Advances in less-lethal technology offer:
 - Better effective control over resistive suspects.
 - Fewer serious injuries to both officer and suspect.

New Technologies

- Non-lethal munitions
 - SmartRounds Technology, LLC
 - New class of smart non-lethal projectiles
 - Uses micro-electro-mechanical technology
 - CMOS image sensor to activate



- ShockRounds™
- PepperRounds™
- HemiRounds™

New Technologies cont.

- Non-lethal munitions
 - SFI (Security Forces International Inc.)
 - Blunt impact projectile
 - Collapsible nose that mushrooms
 - Spreads impact over larger area
 - Malodorant round
 - Pepper round
 - Tear gas round



New Technologies cont.

- Non-lethal munitions
 - Alternative Ballistics
 - Blunt impact projectile



Training

- General Guidelines:
 - Use Only certified instructors.
 - No officer should be allowed to carry a less lethal device unless trained in its use.
 - Training should consist of both classroom and field deployment drills.

Training

- Examples of instructor certification:
 - OC Aerosol Formulations/carriers/propellants/delivery systems/projectors.
 - Less Lethal Impact Munitions Instructor Program.
 - Chemical Munitions Instructor Program (CN/CS/OC/Smoke).
 - Distraction Device Munitions Instructor Program.

Stop and Think

- What type of training do officers receive in your department and do you think it is adequate? If not why not and what can you do to improve it?

Policy and Force Continuum

- Policy for the use of Force
 - Series of actions
 - Goal “resolution of situation”
- Force Continuum
 - Levels of force
 - Situation dependent
 - Fluid environment

Policy and Force Continuum cont.

- Example:
 - Officer Presence
 - No force is used. Considered the best way to resolve a situation.
 - Verbalization
 - Force is not-physical.
 - Empty-Hand Control
 - Officers use bodily force to gain control of a situation.

Policy and Force Continuum cont.

- Less-Lethal Methods
 - Officers use less-lethal technologies to gain control of a situation.
 - Blunt Impact
 - Chemical
 - Conducted energy devices
- Lethal Force
 - Officers use lethal weapons to gain control of a situation. Should only be used if a suspect poses a serious threat to the officer or another individual.

Future Technologies

- Millimeter Wave Systems
 - Focused energy beam
 - Produces pain
- Radio-frequency
 - Microwave
 - Vehicle stopper
- Distributed sound and light arrays
 - Combined laser, non-coherent light, and acoustics
 - Auditory impairment

Future Technologies

- Smart munitions
 - Chemicals
 - Cause Drowsy
 - Weakness
 - Disorient

Stop and Think

- The issue of the use of non-lethal technology is ever changing both in the perceived view by the public and with new technologies being made available.
- There is yet to be one technology available that fits every situation that may be encountered in the field!
- When was your department's policies and procedures last reviewed?

Conclusion

- Success or failure of a less-than-lethal technology
 - Selection of appropriate device
 - Proper use
- The use of less lethal technologies
 - Prevents and minimizes injuries
 - Increases officer safety

Contact Information

- Charles Stephenson
 - cas5767@gmail.com
 - (843) 810-3046

References

- U.S Department of Defense “Non-Lethal Weapons Program”
<http://jnlwp.defense.gov/>
- The Free Dictionary <http://legal-dictionary.thefreedictionary.com/Lethal+force>
- US Legal.com <http://definitions.uslegal.com/l/less-lethal-weapon/>
- National Institute of Justice “various less-lethal articles and publications” [http://search.usa.gov/search?query=Less lethal&affiliate=national-institute-of-justice](http://search.usa.gov/search?query=Less+lethal&affiliate=national-institute-of-justice)
- www.cops.usdoj.gov/pdf/taskforce/TaskForce_FinalReport.pdf
- <http://www.nij.gov/topics/technology/less-lethal/pages/decide.aspx>
- [http://www.cbp.gov/sites/default/files/documents/UseofForcePolicy Handbook.pdf](http://www.cbp.gov/sites/default/files/documents/UseofForcePolicyHandbook.pdf)
- [https://www.justnet.org/pdf/WPSTC-GUIDE-FINAL-\(2010.05.07\)-COMPLETE.pdf](https://www.justnet.org/pdf/WPSTC-GUIDE-FINAL-(2010.05.07)-COMPLETE.pdf)