

PUBLIC ORDER MANAGEMENT

Less Than Lethal Weapons



Background

Before the inception of UN Peacekeeping mission, the Department of Peacekeeping Operations requests TCC/PCC to contribute with their forces to the strength of the mission. The UN Police component is composed by Individual Police Officers (IPO) and Formed Police Units (FPU). The deployment of FPU is subject to a Memorandum of Understanding between the UN and the contributing country and the compliance with the force requirements of the mission. The force requirement lists the equipment and the weapons that the FPU has to deploy with.

Despite the fact 'Guidelines on the Use of Force by Law Enforcement Agencies' recommends the development and the deployment of less than lethal weapons and ammunitions, FPUs usually do not possess this type of equipment.

Until the development of less-lethal weapons, police officers around the world had few if any less-lethal options for riot control. Common tactics used by police that were intended to be non-lethal or less than lethal included a slowly advancing wall of men with batons.

Considering the tasks the FPUs are demanded to carry out, those weapons should be mandatory as part of their equipment. The more equipped with these weapons FPUs are, the more they will be able to efficiently respond to the different type of threats and situation.

Non-lethal weapons, also called less-lethal weapons, less-than-lethal weapons, non-deadly weapons, compliance weapons, or pain-inducing weapons are weapons intended to be used in the scale of Use of Force before using any lethal weapon.

Aim

To understand the principle of proportionality in the use of force and to use the less than lethal weapons and ammunition during public order operations.

Learning outcomes

At the end of this module, the students will be able to:

- Define less than lethal weapons and ammunition
- Identify less than lethal weapons
- Identify less than lethal ammunition
- Demonstrate the use of less than lethal ammunition and weapons used during public order management.

Training sequence

The material in this module is designed to be delivered over 90 minutes classroom based theory lessons followed by 2 and half hours of practice, which should also

include a period for the assessment. This is on the assumption that the students have received no previous training in this subject.

Duration

Minimum Session time	Lecture/Presentation	Question/Assessment	Session Activities
4 hours	1 hour 30 mins		2 hours 30 mins
Additional Options	Mission Specific	Optional film	Optional activity

Methodology

This module contains one PowerPoint theory presentation to explain and show the various techniques. However, the majority of this module should be taught in a practical manner using the format:

- Explanation by the instructor
- Demonstration by the instructor
- Imitation by the students (with instructor correcting where necessary)
- Practice by the students until the technique is perfected

At the end of the final stage the instructor will be able to assess if the student is competent in the technique having carried out continuous assessment throughout the preceding lessons.

The instructor should inform participants of the content, format and timing. Knowing what to expect, participants can improve their ability to focus on the subject and benefit better from the session.

- Theory of barricades (90 minutes classroom lesson) = lesson 1
- Practice (2 and half hours of practical lessons) = lesson 2

The practice should be carried out over a number of days and the instructors should be aware that the physically demanding nature of deploying the FPU in Public Order Management techniques must be carefully managed so that the students do not get fatigued as this is likely to lead to injury.

A number of the practical periods should be conducted in the form of exercises which should be carried out in as realistic situation as possible with the use of other officers acting at 'Mob crowd'. Less-lethal weapons should be made available for the purpose of the lesson.

Instructors are encouraged to add practical examples and mission specific information related to the specific deployment of participants, if known.

Instructor Profile

This module is best presented by an instructor who has practical experience in Public Order Management in peacekeeping operations and who could share his/her experience with the group. They must be practiced and skilled to be able to demonstrate the technique correctly. If there is more than one instructor, at least one should have practical experience as firearms trainer in either domestic policing or a peacekeeping mission.

Instructor Preparations

Required Readings

- DPKO Policy on Formed Police Units in United Nations Peacekeeping Operations
- FPU Training Handbook
- Basic Principles on the Use of Force and Firearms by Law Enforcement Officials
- FPU Policy and SOPs

General Preparations

Equipment:

1. Computer and PowerPoint slides for lesson 1
2. Projector and Screen for lesson 1
3. Full public Order management equipment for each officer for the practical section of the training.
4. Less-lethal weapons and ammunition for lesson 2
5. Crowd control and protective equipment

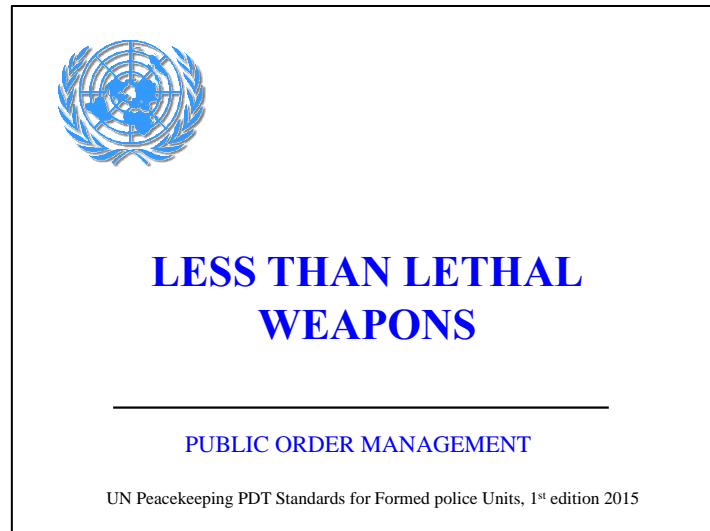
Training Area:

The initial lesson should be carried out in the classroom. Once the basic tactics have been grasped by the students, the FPU will need to practice their tactics in a more urban situation. For this purpose a 'ghost town' or public order village is ideal, where the FPU command staff will have to deal with streets, real buildings and environment. Training can also be performed in a shooting range for some weapons.

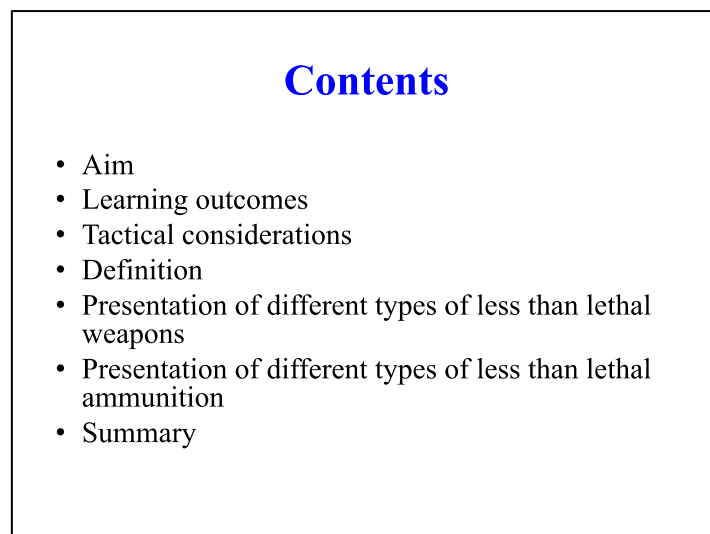
Session notes

Lesson 1 – Less than lethal Weapons (theory)

Contents:



Slide 1



Slide 2

Aim

To introduce the FPU to the less than lethal weapons and ammunition to be used during public order operations

Slide 3

Learning outcomes

At the end of this module, the students will be able to:

- Define less than lethal weapons and ammunition
- Identify less than lethal weapons
- Identify less than lethal ammunition
- Demonstrate the use of less than lethal ammunition and weapons used during public order management

Slide 4

Definition of less than lethal weapons

Weapons that are explicitly designed and primarily employed so as to incapacitate personnel or materiel while minimizing fatalities, permanent injury to personnel and undesired damage to property and the environment

Slide 5

Non-lethal weapons are intended to minimize injury or death. While people are occasionally seriously injured or killed by these weapons, fatalities are relatively infrequent. Causes of death from non-lethal weapons are varied and occasionally uncertain. Misplaced or ricocheting shots, pre-existing medical conditions, inadequate user training, repetitive applications and intentional misuse have been implicated in different cases where death has occurred.

As different parts of the body differ in vulnerability, and because people vary in weight and fitness, any weapon powerful enough to incapacitate may be capable of killing under certain circumstances. Thus "less-lethal force" does have some risk of causing death: in this context "less-lethal" means only "not *intended* to kill".

Several groups maintain there is great room for improvement in non-lethal weapons and procedures for their use. Claims for the relative safety of such weapons are usually contingent on their being used "properly".

There are many different types of L-L weapons and ammunition in service around the world. Some are L-L versions of ammunition for normally lethal weapons (for example, shotguns and 40 mm canisters launchers), others are weapons specifically designed for the L-L role for which no lethal ammunition is generally available (notably, the 37/38 mm riot control guns).

There are three basic types of disabling mechanism used by L-L ammunition; impact, irritant chemical and intense sound and/or light (the "flash/bang" rounds). In some rounds, effects may be combined. For both impact and irritant types, there is a variety of forms of ammunition for use in different circumstances, and this needs to be borne in mind when acquiring and deploying L-L equipment. The equipment which is best for dispersing a rioting crowd may be very different from that needed to disable a specific individual.

Tactical considerations

- Use of force and UN guidelines
- Mission of the unit = objective to reach
- Environment (urban or not, open or closed area, outdoor and indoor use...)
- Equipment of the unit (types of less than lethal weapons and ammunition, conditions...)
- Attitude, composition, intent, equipment and position (distance) of the opponent forces
- Training (fire support element particularly)
- Medical assistance

Slide 6

Less than lethal ammunition (weapons), also known as riot control ammunition, is a general title for ammunition of various types which may be used in circumstances of civil disturbance to disperse riots or to incapacitate individual rioters, or in hostage rescue or other police operations. It is designed to minimise the risk of death or serious injuries **when used as intended**. It is important to stress this latter point, as any of these rounds can inflict severe injuries or result in a fatality if used improperly, which is why weapons and ammunition of this type are now known as "less-lethal" (L-L) rather than "non-lethal".

Non-lethal weapons are used in police situations to limit the escalation of conflict where employment of lethal force is prohibited or undesirable, where rules of engagement require minimum casualties, or where UN policy restricts the use of force. The Use of Force is regulated by the Directives on the Use of Force and the FPU Policy. Less than lethal weapons and ammunitions must be used in self-defence and in the cases defined in the above mentioned reference texts.

FPU's have three core tasks: to protect UN personnel and premises; public order management; to support police operations that require a formed response. Before any mission, a task order is issued by the FPU Coordination Office. This document defines – among others – the equipment to be deployed by the unit according to the mission. The latter can have a defensive or an offensive character which may have an impact on the use of weapons to use in order to achieve the objective.

The location of an operation has to be taken into consideration as gas may be used in an open area to disperse the crowd but not in a closed area where it can have more serious consequences (during the evacuation of an occupied premise, where demonstrators could suffocate due to gas concentration or where a fire can be caused).

The FPU Commander must be aware of all types of less than lethal weapons and

ammunitions available in the unit, their use and conditions. All police officers must be familiar with the use of individual and collective equipment, as well as the scale of use of force.

Trainees should provide examples of less than lethal weapons, such as batons, expandable batons, individual pepper spray, collective gas spray, gas and smoke canister, soft kinetic projectiles, stun canister, water canon etc...

This equipment must be well maintained and the expiry dates must be checked during FPU inspections, upon the initiative of the COE unit or the FPU Coordination. FPU trainers are also responsible for such control.

Instructor's note: give the example of the two demonstrators killed in Kosovo during a demonstration by an FPU using rubber bullet which had expired for more than ten years.

The use of lethal or non-lethal weapons depends on the attitude and the equipment of the crowd. The Use of Force will depend on the mission and it has to be proportioned to the threat or the attack.

The FPU Commander should consider the position of the demonstrators before deciding on the use of means.

As recommended by the FPU Policy, all FPU members should be trained before deployment and the FPU Coordination Office should ensure in-mission training. Such weapons should only be used by operators who have been trained in the proper use of the particular weapon and type of ammunition being issued. It is essential to obtain and adhere to the guidance issued by the manufacturer of the weapon or ammunition.

The presence of an ambulance and a medical team must be foreseen for any police operations. In case of injury of a demonstrator, his/her medical assistance falls within the responsibility of the unit.

Strategic considerations

- WHEN**
- To manage from a distance rather than in contact where the risk of injuries is higher for both side
 - To gain some operative targets
 - In support to the conventional police tactics.
- HOW**
- By taking in consideration the available stock, possible supply, estimated duration of the operation. Efficiency of that type of force on the type of demonstrators you're facing.

Slide 7

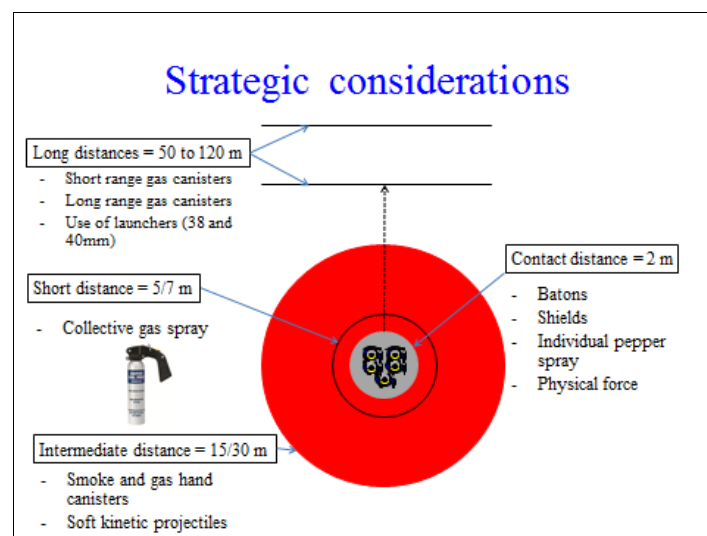
WHEN: As mentioned in the tactical considerations, the position of the demonstrator is a key factor to consider. The choice of a less than lethal means has to be made according to the distance, as it can either be inefficient or have a serious impact on the demonstrators/team.

For example, using soft-kinetic projectiles at a very short distance increases the impact of the projectile on the person with consequent physical injuries; using individual pepper spray against a demonstrator standing at 20 meters of distance will be inefficient.

The use of less than lethal weapons can also be considered in order to neutralize a threat. For example, from a static position, soft-kinetic bullets can be used against a demonstrator throwing constantly stones, when arrest method cannot be applied.

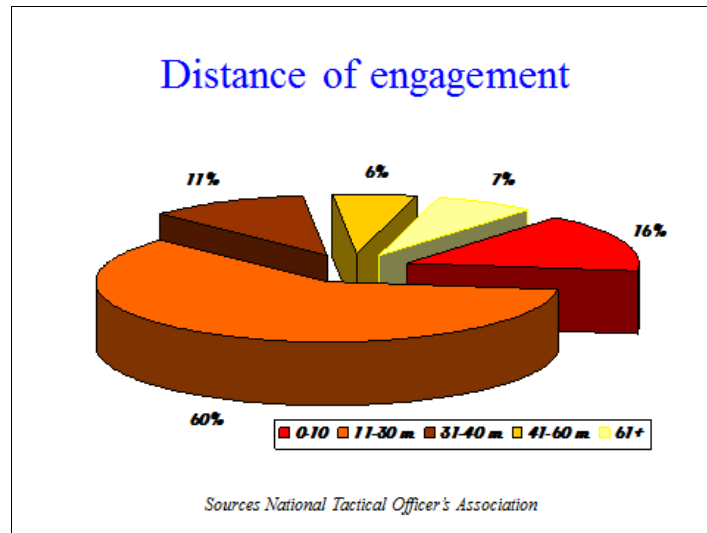
The use of non-lethal means should be also accompanied by basic police tactics (foot or vehicle). It can be used in preparation of a manoeuvre, in protection of the manoeuvre or at end of the manoeuvre to avoid the return of the demonstrators on the spot.

HOW: The FPU Commander must know the stock and the available equipment during the operation. The untimely use of less than lethal means can put the unit in a sensitive position should the demonstration lasts longer than foreseen.



Slide 8

Slide 8 describes in detail the strategic considerations to be taken into account by the unit when operating. It gives a clear picture of the means to use according to the distance.



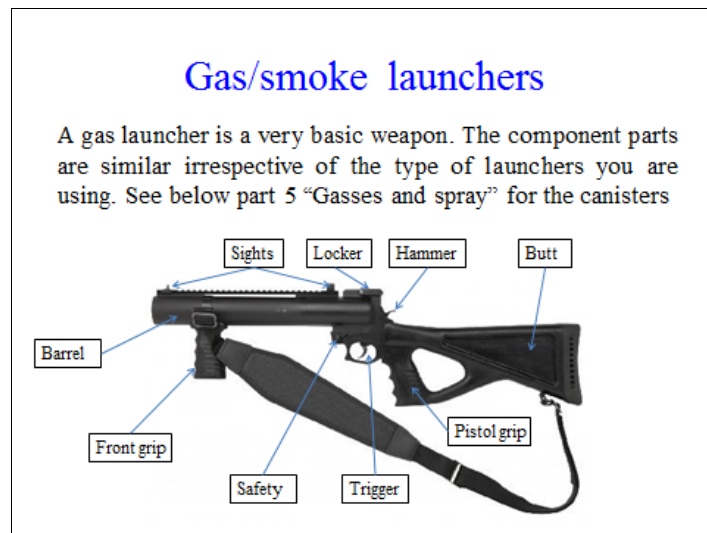
Slide 9

According to the National Tactical Officer's Association (American Association), most of the attacks against the units take place within a range of 11-30 meters. Considering this data and the FPU equipment, most of the less than lethal means currently present in the FPU can be considered as inefficient. Batons and individual pepper spray are not efficient and the only operational response could be through the use of smoke, gas and canisters. Most of the FPUs deployed in UN mission do not possess hand canisters and soft-kinetic projectiles, thus limiting their operational capability.



Slide 10

Slide 10 illustrates different types of weapons which can fire teargas canisters and similar projectiles (smoke, stun).



Slide 11

Slide 11 describes the external parts of a gas launcher.

Generally, gas launchers are light and discreet, they are handy and easy to use and transport and they do not look as aggressive as long rifles.

The most common type of purpose-designed L-L weapon is the 37/38 mm riot gun.

The gas launcher shown in the slide can be used by one person, who is going to load and fire. The number of canisters launched will depend on the training of the launching police officer. However, even by itself, the launcher has a sufficient capacity to cover a large area and to disperse a crowd.

The weapon can be used in and from any position.

Please refer to the lesson plan on basic firearms.




Loading and unloading

- Insert canister
- Close the launcher and check



Loading and unloading

- Take the position (adjust angle according to the point to reach = never aim directly a person except in case of self defense)
- Safety off and fire. After firing, safety on before unloading



Loading and unloading

- Remove empty canister by hand or movement on the back



Slides 12 to 15

Slides 12 – 15 are a series of slides which illustrate the method of loading and

unloading a gas launcher.

The gas launcher is usually transported closed, 'safety on'. Upon order, the launching police officer opens the launcher and prepares a canister. As soon as ready, he announces to the commanding officer 'ready'. He fires upon order. The canister is never shot directly to a person. The grenades should follow a curved trajectory.

Slide 15 shows two methods to remove the empty canister, by a movement on the back or by hand.



Slide 16

The soft kinetic projectiles launcher is an effective tool for the dispersal of crowds at medium ranges. The rounds used are designed to be direct fired at the subjects. The projectiles are also effective for use against violent subjects.

Main use considerations

- The right level of reaction to the aggressor action.
- Distance
 - **SHORT DISTANCES** (too much kinetic energy) increase the risk of penetration or blunt trauma
 - **LONG DISTANCES** (little kinetic energy) increase the risk which the subject recovers prematurely his force avoiding the arrest
- Duration of the incapacitating effects
 - The time which is necessary to reach the subject and to keep himself under control. Also depends from the distance of shoot
- Possible target
- Clothing
- Height subject
- Possible danger for the others citizens

Slide 17

As described in Slide 7, the soft kinetic projectiles are usually used against violent aggressors that cannot be arrested by the arrest teams. Aggressors may use batons, stones, cocktail Molotov against the police or even carry a weapon. In these cases, the soft kinetic launcher should be used in priority in order to defend and protect the police officers in their intervention when the decision is taken to arrest the offenders.

The position (distance) of the aggressor(s) should be assessed by the commanding officer before ordering the use of SKP. Since all projectiles start slowing down from the instant they leave the muzzle, their impact energy will have dropped significantly by the time they reach the longer ranges. Such ammunition therefore has both a minimum safe range and a maximum effective range, and the problem facing designers is to minimise the former while maximising the latter; in other words, to achieve the widest possible effective zone.

Using SKP at short distance may cause severe and irreversible injuries. The shooting distance should be between 15 and 30 meters and never less than 7-10 meters (according to the type of launcher), except in case of self-defence. When using SKP at long distance, the shooting will lose its efficiency and the aggressor will be able to run away.

The aim of SKP use is to temporarily create incapacitating effects in order to allow police officers to proceed with the arrest of the aggressor(s).

As defined in the arrest methods (see Lesson Plan on arrest methods), the target has to be clearly identified; the use of force has to be legal; the distance and the environment must be appreciated in order to avoid collateral damages.

Note that large or heavy clothing may reduce the effect of SKP.

Soft Kinetic Projectiles

Technical specification UN approved SKP

(Code Cable 1445 20/06/2014)

- Caliber : high caliber not less than 37 mm
- Velocity : not to exceed 60 m/s at 5 m
- Joules (impact test): not less than 100 joules at 30 m
- Type of projectile: soft projectile – expands upon impact, no set form and blunt impact
- Weight of projectile: not less than 60 g
- Ranges 50-20 m and up to 50 m if possible

Slide 18

Slide 18 describes the technical specifications of UN approved SKP.

SKPs are designed to incapacitate, but not kill, a target. The rounds rely on the transfer of kinetic energy and blunt force trauma to accomplish this incapacitation.

Soft Kinetic Projectiles

- Carriage and use of Rubber bullets and bean-bag rounds strictly prohibited in UN missions

(Code Cable 1445 20/06/2014)



Slide 19

Rubber bullets, wax bullets, plastic bullets, beanbag rounds, ring air foil projectiles (both kinetic and tear gas projectiles) and rubber bullets are less than lethal projectiles, but are not any longer authorized in UN missions.

Soft Kinetic Projectiles

- Effects of rubber bullets and bean-bag rounds, possible death at short distance




Slide 20

Slide 20 shows the possible effects of rubber bullet and bean-bag rounds.

Loading and unloading

- Use upon order of the unit commander (4 golden rules)
- Always consider the distance and the risk for the demonstrators





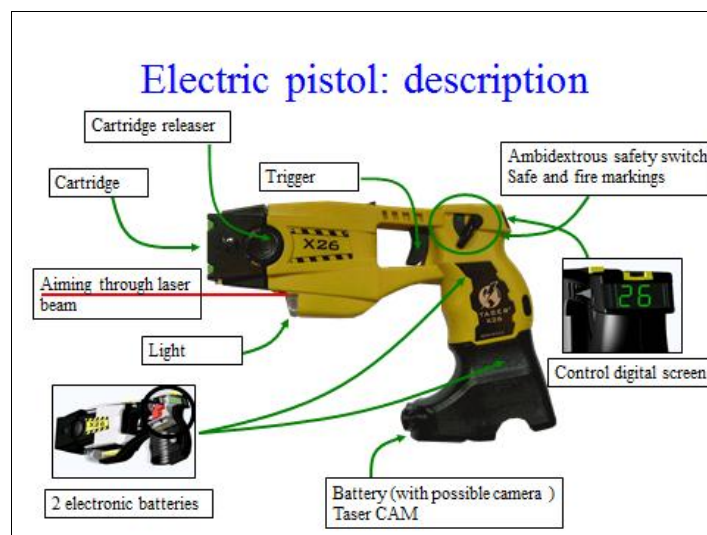
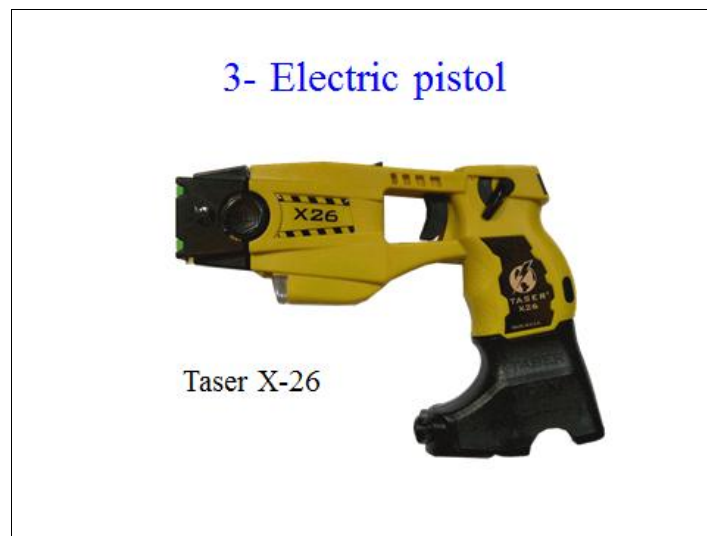
Slide 21

Like for gas launchers, the use of SKP must be ordered by the commanding officer.

What is regarded as an acceptable risk of injury will of course depend upon the circumstances. In dispersing a crowd which is disorderly and perhaps causing only property damage, inflicting serious injury would be regarded as unacceptable. At the other extreme, a very aggressive crowd containing armed individuals posing a threat to life merits more robust treatment, since the only alternative might be to open fire with lethal weapons.

For position and safety procedures, please refer to the Lesson Plan on basics on

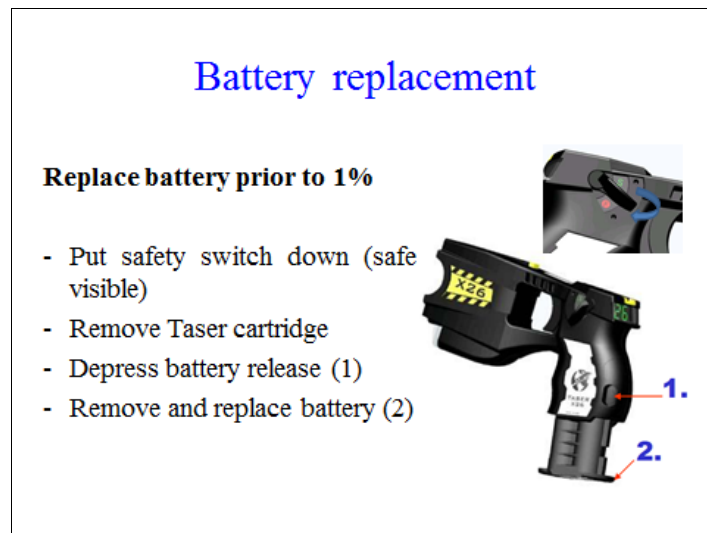
firearms.



Slides 22 and 23

The TASER X26 (**T.A.S.E.R.** = **T**homas **A**ppleton **S**wift's **E**lectrical **R**ifle) is a software upgradable electronic control device. Electronic Control Devices (ECDs) use propelled wires or direct contact to conduct energy to affect the sensory and motor functions of the nervous system. The TASER X26 uses a replaceable cartridge containing compressed nitrogen to deploy two small probes that are attached to the pistol by insulated conductive wires with a maximum length of 4.5 m. The TASER X26 transmits electrical pulses along the wires and into the body affecting the sensory and motor functions of the peripheral nervous system. The energy can penetrate up to two cumulative inches of clothing, or one inch per probe.

Slide 23 describes the different external part of the pistol.



Slide 24

Battery recharge is necessary when the percentage of charge is less than 25%. Thus, it is recommended to recharge it at the end of every shift.

Do not use at 0%.

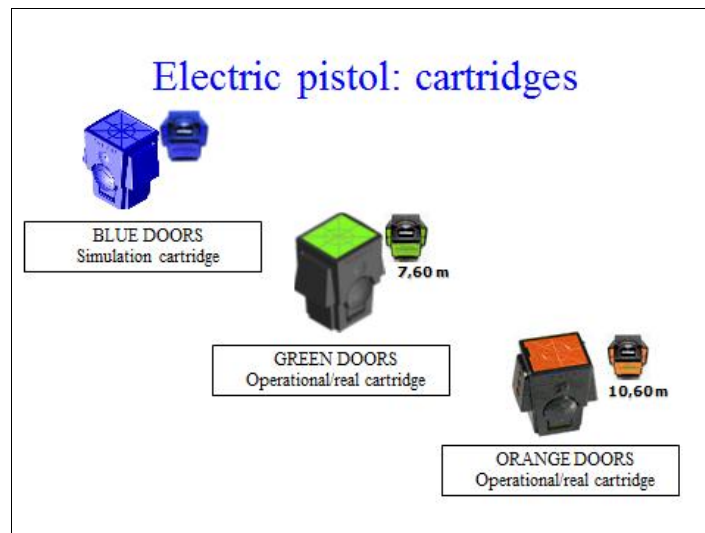
In case of replacement of the battery, avoid removing it during 40 seconds at least in order to allow the transfer of the data.

The Digital Power Magazine is much more than just a lithium energy cell power supply system for the X26. The DPM also contains an on-board memory chip that maintains a record of the remaining power.

The battery percentage indicated is a calculated value and not a direct reading of the battery charge.

1. Place the safety switch in the down (SAFE) position.
2. Safely remove the TASER Cartridge.
3. To remove the DPM, depress the DPM release button and remove the DPM from the handle of the weapon.
4. Wait approximately 5 seconds, then install the new DPM. Ensure that the DPM is fully inserted into the X26. Apply sufficient force to compress the foam gasket and allow the DPM to seat fully in the X26 device. Verify that the DPM release button pops out from the recessed position with an audible click. Failure to do so could result in a damaged X26 or a loss of power during a deployment. When the DPM is installed, the X26 will cycle through the boot-up sequence.

The TASER must imperatively be stored with the battery in position.



Slide 25

Blue doors

- For training purpose
- Short probes
- Wires not conductive
- No contactor

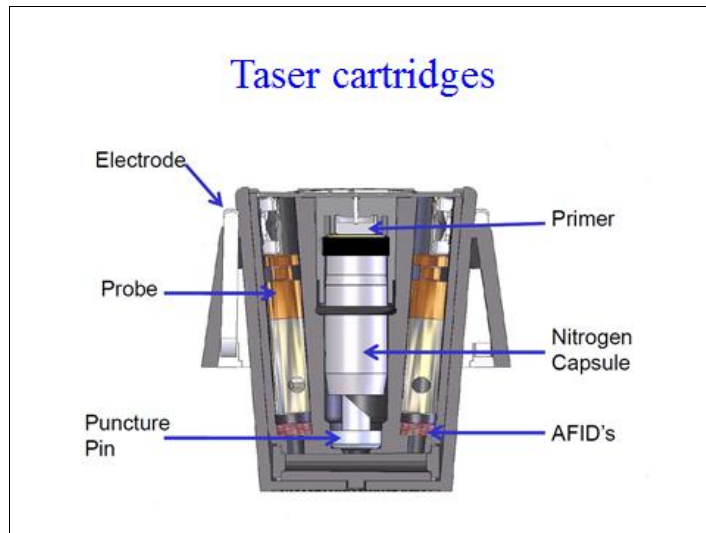
Green doors

- For duty
- Longer and heavier probes
- Conductive wires
- Functional contactors
- Range: 7 m 60

Orange doors

- For intervention unit
- Long range distance
- Probes more longer and heavier
- Conductive wires
- Functional contactors
- Range: 10 m 60

Be sure, however, not to fire at a subject who is over 15 feet or 4.5 meters away (measure 15 feet or 4.5 meters to see how far this is – it will probably be further than you think). If you do deploy at someone more than 15 feet or 4.5 meters away, the probes will not have sufficient TASER wire to reach the target.

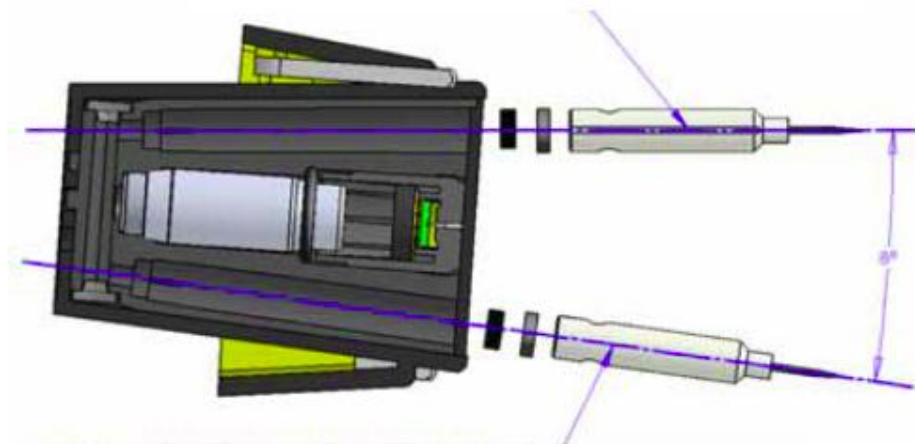


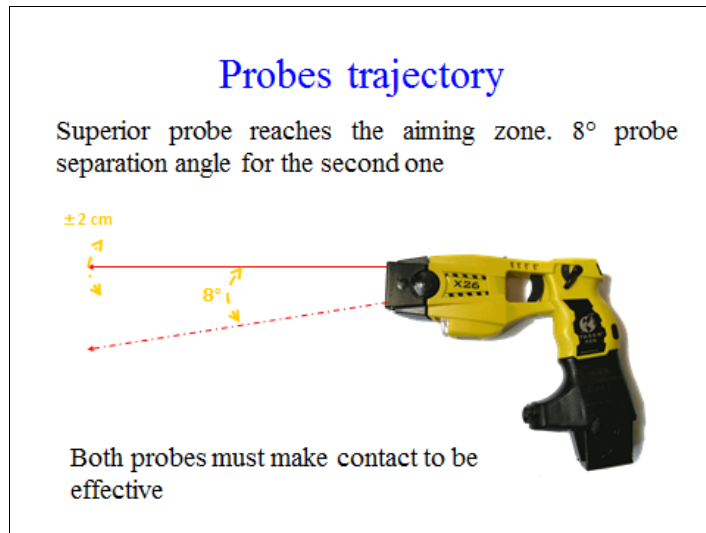
Slide 26

The TASER X26 uses a replaceable cartridge containing compressed nitrogen to deploy two small probes that are attached to the TASER X26 by insulated conductive wires with a maximum length of 15 feet. The TASER X26 transmits electrical pulses along the wires and into the body affecting the sensory and motor functions of the peripheral nervous system.

The energy can penetrate up to two cumulative inches of clothing, or one inch (2.5 cm) per probe.

The probes are launched at a speed of 48 or 54 m/s. Probes are made of copper.





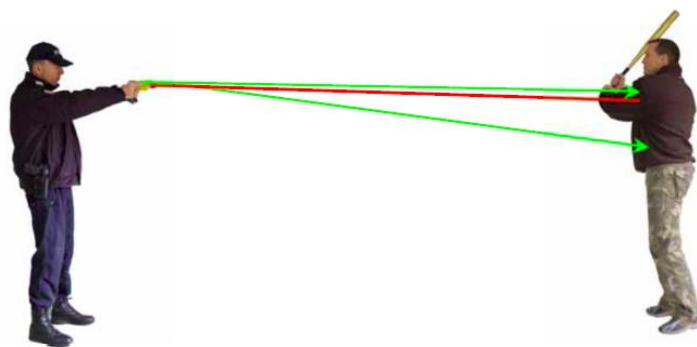
Slide 27

Aiming and probe placement

Normally, aim the laser of the device at one of the large muscle groups (centre of mass) such as the torso or thigh areas. The top probe impacts the target near the laser beam; however, the probe impact distance from the laser beam will vary depending on the distance between the device and the target. The bottom probe impacts at an 8-degree angle from the top probe. This results in a spread of approximately 1' for every 7' of distance from the target. Greater probe spread increases effectiveness. If possible, a minimum 10 cm spread between the probes is recommended.

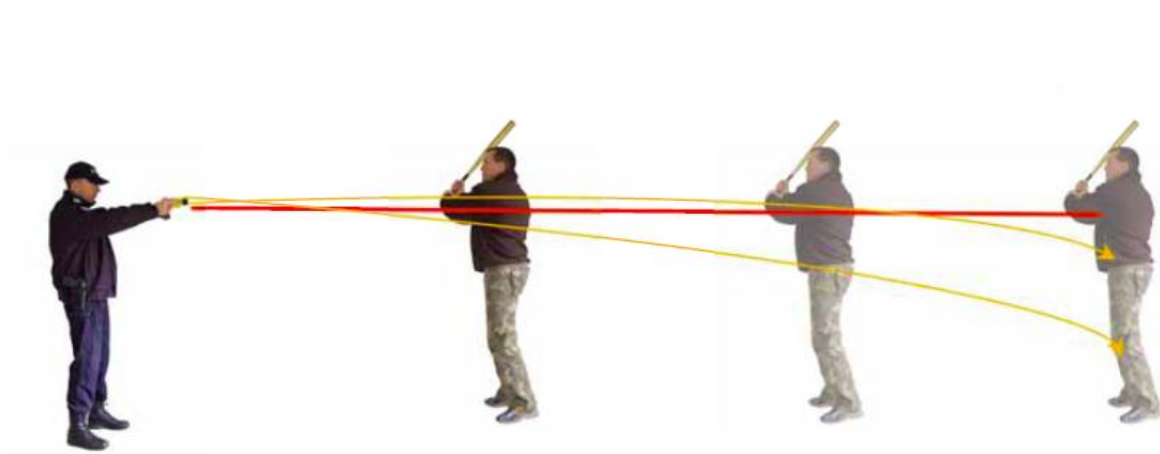
Operational ranges (for green cartridge):

Distance of the target (m)	1	2	3	4	5	6	7,6
Spread between probes (cm)	15	30	45	60	75	90	110



Operational ranges (for orange cartridge):


Distance (m)	3,6	7,6	10,6
Superior probe (cm)	+ 10	+ 2	- 20
Inferior probe (cm)	- 8	- 41	- 86



Ready

- Draw Taser device from holster
- Keep finger off the trigger
- Point in safe direction
- Place safety switch up (armed)





DO NOT TILT



Slide 28


Please refer to the golden rules and to the safety procedures describes in the lesson plan on Basics on firearms

Test Instructions

- Verify that the safety switch is in the down (SAFE) position.
- Verify that the TASER Cartridge is removed. A spark test should never be conducted with a TASER Cartridge in the device.
- Point the device in a safe direction (such as the floor) and verify that your fingers and no part of your body are in front of the device.
- Place the safety switch in the up (ARMED) position.
- Depress the trigger and confirm sparking across the electrodes at a rapid rate.
- Place the safety switch in the down (SAFE) position.
- Do not block the safety switch on one side of the X26 while attempting to move it on the other side. This can break the safety switch and disable the device.
- If the X26 safety switch is left in the up (ARMED) position for more than 20 minutes, the system will shut down to preserve digital power magazine (DPM) battery life.
- To re-arm the weapon, simply cycle the safety switch to the down (SAFE) position, then back to the up (ARMED) position.

Reloading

- Safety switch down (Safe)
- Remove expended cartridge
- Load new cartridge keeping fingers and hands clear of the blast doors
- Safety switch up (Armed)
- Reassess the situation and discharge the Taser device if necessary



Slide 29

WARNING: Never place your hands, fingers, or any part of your body in front of the cartridge.

When loading and unloading, always hold the cartridge on the sides or top.

LOADED



LOADING:

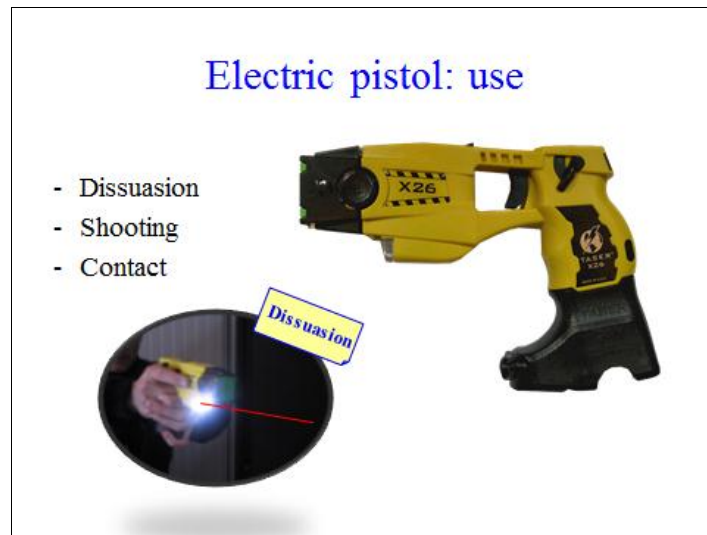
1. Verify that the safety switch is in the down (SAFE) position.
2. Point the device in a safe direction
3. Place the cartridge into the front of the weapon until an audible click is heard.
4. Verify that the cartridge is secure by gently pulling on the sides of the cartridge.

UNLOADED



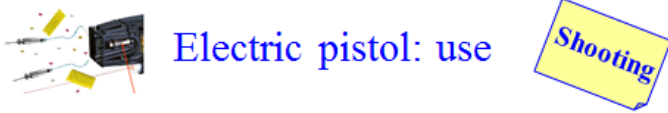
UNLOADING:

1. Verify that the safety switch is in the down (SAFE) position.
2. Point the device in a safe direction.
3. Depress the tabs on the sides of the cartridge and remove.



Slide 30

The electric pistol may be used for dissuasion, for shooting or for contact with the aggressor.



Electric pistol: use

NEUTRALIZATION BY LOSS OF CONTROL OF MOTOR FUNCTIONS

- Interference with Central Nervous System (brain and spinal cord)
- Neuro-Muscular Incapacitation (involuntary muscle contractions = affects the sensory and motor functions of the central nervous system)


ELECTRO-MUSCULAR DISRUPTION (EMD)


Slide 31

The TASER device is to be used only for lawful self-defense or in the defense of others.

- Verify that the TASER Cartridge is installed.
- If a subject approaches in a suspicious or threatening manner, place the safety switch in the up (ARMED) position.
- Aim the laser beam at the centre of the attacker's torso or the attacker's legs.
- Scream and shout verbal commands to "get away," if feasible. It is possible that the subject will flee based on the noise and laser.
- If the subject gets within 15 feet and you have reason to fear for your safety, deploy the TASER X26.
- Pull the trigger three times to ensure a full 30-second cycle.

The effects are described in slides 33 and 34. Shooting with an electric pistol will have direct interference with **Central Nervous System (brain and spinal cord)**.



Electric pistol: use 

NEUTRALIZATION BY PAIN COMPLIANCE

- Electric signal interferes with spinal and brain cord
- Affects Sensory Nervous System only

CONTACT STUN BACKUP CAPABILITY

NOTA: other electroshock weapons such as stun batons, administer an electric shock by direct contact.

Slide 32

Drive-stun capability is available with or without a TASER Cartridge installed. The drive-stun mode will not cause NMI and generally becomes primarily a pain compliance option.

Probe deployment is usually considered more desirable, even at close range. Some of the advantages include:

- Drive-stun is only effective while the device is in contact with the subject or the subject's clothing. As soon as the device is moved away, the energy effect stops. Deploying the probes allows the user to create distance between the user and the subject while maintaining control.
- Due to automatic reflex actions, most subjects will struggle to separate from the TASER device. When the TASER device is used in the drive-stun mode and the subject struggles to get away it may be difficult to maintain contact between the device and the subject.
- If the probes are deployed, even at very close range, the user may be able to use drive-stun to another portion of the body that is farther away from the probes, thereby resulting in enhanced NMI effect. If the drive-stun is not effective, evaluate the location of the drive-stun and consider an additional cycle to a different pressure point.

When using the drive-stun, push (drive) the front of the TASER X26 firmly against the body of the subject. Simply "touching" the X26 against the subject is not sufficient. The subject is likely to recoil and try to get away from the stun electrodes. It is necessary to aggressively drive the front of the X26 into the subject for maximum effect.

The drive-stun works more effectively when aggressively applied to pressure points on nerve bundles. This includes the brachial area, common peroneal, mastoid, and pelvic triangle.

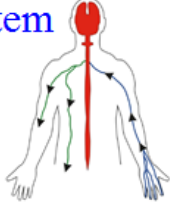
Drive the X26 into the following areas for maximum effectiveness.

- Carotid (sides of neck) (see warning below).
- Brachial plexus tie-in (upper chest).
- Radial (forearm).
- Pelvic triangle (see warning below).
- Common peroneal (Outside of thigh).
- Tibia (calf muscle).

WARNING: Use care when applying a drive-stun to the neck or pelvic triangle. These areas are sensitive to mechanical injury (such as crushing to the trachea or testicles if applied forcefully). However, these areas have proven highly effective targets.

Effects on nervous system

- Central Nervous System
 - Command centre (brain and spinal cord) processes information and makes decisions
- Sensory Nervous System
 - Nerves that carry information from the body to the brain. Touch, temperature, etc. Stun systems effect these nerves
- Motor Nervous System
 - Nerves that carry commands from the brain to the muscles to control movement NMI systems affect BOTH the sensory and motor nerves



Slide 33

The use of the TASER is designed to cause incapacitation and involuntary muscle contractions, making secondary injuries a possibility.

These potential injuries include but are not limited to: cuts, bruises, impact injuries, and abrasions caused by falling, and strain-related injuries from muscle contractions such as muscle or tendon tears, or stress fractures. These injuries are secondary in nature and not directly attributable to the electric stimulation of the TASER device, but are possible consequences of the involuntary muscle contractions the TASER device induces to produce incapacitation.

Common effects

- Subject can fall immediately to the ground
- Yell or scream
- Involuntary muscle contractions
- Subject may freeze in place with legs locked
- Subject may feel dazed for several seconds/minutes
- Potential vertigo
- Temporary tingling sensation
- May experience critical stress amnesia
- May not remember any pain

Slide 34

Slide 34 lists the common effects that can follow the use of the TASER. Effects have been already described in the previous slides.

4- Water canon

Water canon

- Water canons are commonly used in crowd and riot control, for dispersal or to prevent movement on a particular position. These water canons are like pressure washers, but not quite as strong
- See lesson notes on “Manoeuvres with vehicles”

Slide 35

The water canon is a device that shoots a high-velocity stream of water.

It is specifically suited for the control of small crowds, to prevent the formation of large crowds and to manage the movement of persons on the flanks of the crowds and the unit.

It is considered as a non-lethal option for crowd control and anti-riot operations.

The most modern versions do not expose the operator to the riot, and are controlled remotely from within the vehicle by a joystick.

The presence of the media at riots has had a significant impact on water canon use. There is much pressure on police departments to avoid bad publicity, and water cannon often play badly in the press. It is considered that this is a likely reason that they are not used more often in certain countries.

Gasses and sprays

Chemical devices: technical considerations

- Types of canisters and composition
- Clear identification on the canister
- Expiry date
- Conditions of storage
- Handlings and transport
- Maintenance (launchers)

Slide 36

Irritant chemical ammunition contains one of three types of irritant which are usually contained within the medium of a fine powder, although they may also come in liquid form: CS (orthochlorobenzamalonitrile) and CN (chloroacetophenone), both known as "tear gas", and OC (oleoresin capsicum) as used in "pepper spray". A synthetic form of pepper is pelargonyl vanillylamide (also known as Nonivamide) which is generally known as PAVA.

Tear Gas

The chemical defensive weapons haven't the reason to kill an aggressor.

Tear gas gives to police forces the possibility to control individuals' actions, while to common citizens gives the opportunity to obtain a way out from an aggressor and the possibility to go away from danger.

The « Lachrymatory agent » designation first appeared in 1915. The general use of lachrymatory agents occurred in the 20s and they were first used to disperse demonstrations in 30s.

The CS was discovered by two Americans Ben Corson and Roger Stoughton in 1928. It was initially used in the fifties to the chemical control of the tumultuous crowds but it was not seriously considered for the police forces use until half of the sixties.

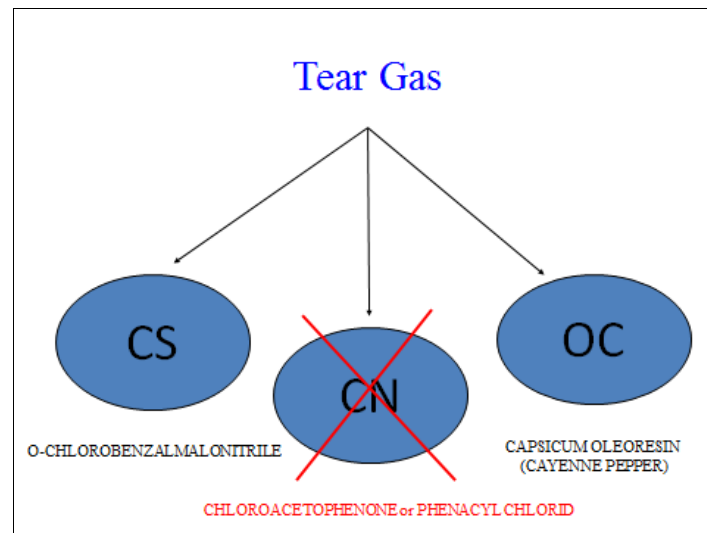
Slide 37

Slide 37 provides some historical information on the discovery and the appearance of the lachrymatory agent.

It should be noted that irritant chemical rounds are intended only for policing activities – they may not be legally used on the battlefield as they are covered by international agreements banning chemical weapons. Use of tear gas in warfare (as all other chemical weapons) is prohibited by various international treaties that most states have signed. Police and private self-defense use is not banned in the same manner. Police forces can legally use tear gas for drills (practicing with gas masks) and for riot control.

Just a reminder, tear gas are used to disperse riots or to incapacitate individual rioters.

In riot control situations, FPU's may use a variety of protective equipment, including gas masks. Protesters sometimes use equipment (aside from simple rags or clothing over the mouth) such as swimming goggles and adapted water bottles.




Slide 38


Tear gas, formally known as a **lachrymatory agent** or **lachrymator** (from the Latin, *lacrima* (meaning *tear*), is a chemical weapon that stimulates the nerves of the lachrymal gland in the eyes to cause tears, pain, vomiting, and even blindness. Common lachrymators include pepper spray (OC gas), CS gas and CN gas (phenacyl chloride). CN is not authorized

As with all non-lethal, or less-than-lethal weapons, there is some risk of serious permanent injury or death when tear gas is used. This includes risks from being hit by tear gas cartridges, which include severe bruising, loss of eyesight, skull fracture, and even death. A case of serious vascular injury from tear gas shells has also been reported from Iran, with high rates of associated nerve injury (44%) and amputation (17%), as well as instances of head injuries in young people.

While the medical consequences of the gases themselves are typically limited to minor skin inflammation, delayed complications are also possible: people with pre-existing respiratory conditions such as asthma, who are particularly at risk, are likely to need medical attention and may sometimes require hospitalization or even ventilation support. Skin exposure to CS may cause chemical burns or induce allergic contact dermatitis. When people are hit at close range or are severely exposed, eye injuries involving scarring of the cornea can lead to a permanent loss in visual acuity.



O-CHLOROBENZYLIDENE-MALONONITRILE

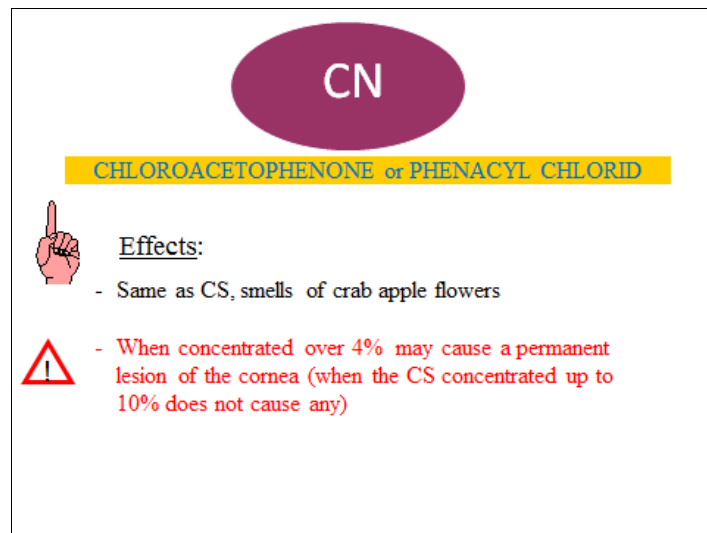
 Effects:

- Toxic when ingested : may cause important damages (diarrhea - spasms - convulsions).
- Irritation of the skin and a burning irritation of the nose, mouth and throat mucous membranes causing profuse coughing, mucous nasal discharge, disorientation, and difficulty breathing, burns and irritation on the contaminated skin.
- After eye contact : irritations - redness - tears - intolerance to light - temporary blindness.

Slide 39

The compound **2-chlorobenzalmalononitrile** (also called o-chlorobenzylidene malononitrile) (chemical formula: $C_{10}H_5ClN_2$), acyanocarbon, is the defining component of a tear gas commonly referred to as **CS gas**, which is used as a riot control agent. Exposure causes a burning sensation and tearing of the eyes to the extent that the subject cannot keep their eyes open, and a burning irritation of the nose, mouth and throat mucous membranes causing profuse coughing, mucous nasal discharge, disorientation, and difficulty breathing, partially incapacitating the subject. CS gas is an aerosol of a volatile solvent (a substance that dissolves other active substances and that easily evaporates) and 2-chlorobenzalmalononitrile, which is a solid compound at room temperature. CS gas is generally accepted as being non-lethal. It was discovered by two Americans, Ben Corson and Roger Stoughton, at Middlebury College in 1928, and the chemical's name is derived from the first letters of the scientists' surnames.

The effects of CS on a person will depend on whether it is packaged as a solution or used as an aerosol. The size of solution droplets and the size of the CS particulates after evaporation are factors determining its effect on the human body. Many types of tear gas and other riot control agents have been produced with effects ranging from mild tearing of the eyes to immediate vomiting and prostration.



CN

CHLOROACETOPHENONE or PHENACYL CHLORID

Effects:

- Same as CS, smells of crab apple flowers
- When concentrated over 4% may cause a permanent lesion of the cornea (when the CS concentrated up to 10% does not cause any)


Slide 40

Phenacyl chloride is a substituted acetophenone. It is a useful building block in organic chemistry. Apart from that, it has been historically used as a riot control agent, where it is designated **CN**.


Because of its significantly greater toxicity, it has largely been supplanted by CS gas. Even though CN is still supplied to paramilitary and police forces in a small pressurized aerosol known as “Mace” or tear gas, its use is falling as pepper spray both works and disperses more quickly than CN.

Like CS gas, this compound irritates the mucous membranes (oral, nasal, conjunctival and tracheobronchial). Sometimes it can give rise to more generalized reactions such as syncope, temporary loss of balance and orientation. More rarely, cutaneous irritating outbreaks have been observed and allergic contact permanent dermatitis.

At high concentrations CN has caused corneal epithelial damage and chemosis. It has also accounted for at least five deaths, which have resulted from pulmonary injury and/or asphyxia.



CAPSICUM OLEORESIN (CAYENNE PEPPER)



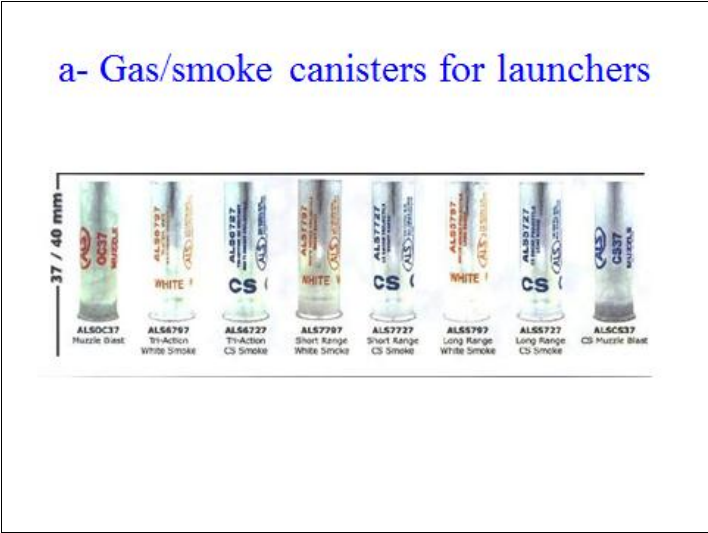
Effects:

- Same as CS, chemical derived from the fruit of plants in the Capsicum genus including chiles.
- Repeated exposure can result in long lasting changes in corneal sensitivity (Journal of Investigative Ophthalmology and Visual Science).
- Risk of death in case of asthma

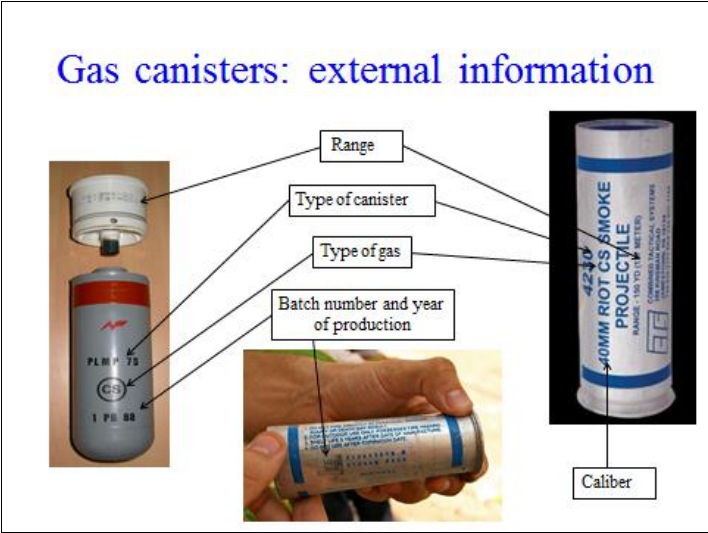
Slide 41

Pepper spray, also known as **OC spray** (from "oleoresin capsicum"), **OC gas**, and **capsicum spray**, is a lachrymatory agent (a chemical compound that irritates the eyes to cause tears, pain, and temporary blindness) used in policing, riot control, crowd control, and personal self-defense, including defense against dogs and bears. Its inflammatory effects cause the eyes to close, taking away vision. This temporary blindness allows officers to more easily restrain subjects and permits people using pepper spray for self-defense an opportunity to escape. Although considered a less-than-lethal agent, it has been deadly in rare cases, and concerns have been raised about a number of deaths, where being pepper sprayed may have been a contributing factor.

Pepper spray is an inflammatory agent. It causes immediate closing of the eyes, difficulty breathing, runny nose, and coughing. The duration of its effects depends on the strength of the spray but the average full effect lasts around thirty to forty-five minutes, with diminished effects lasting for hours.

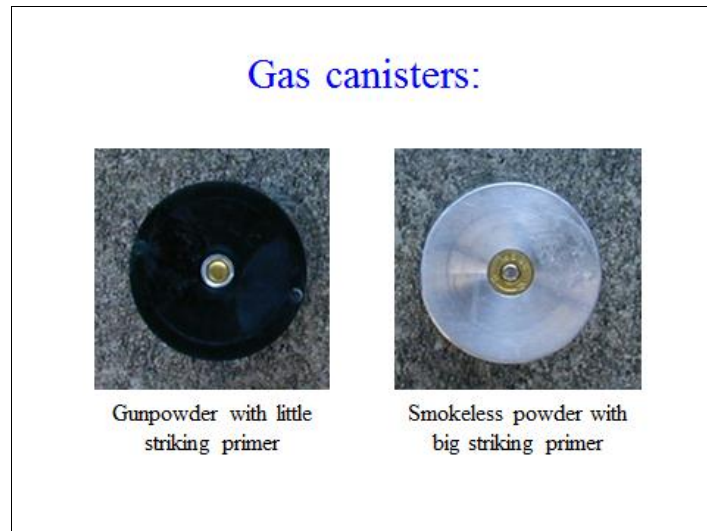


Slide 42



Slide 43



Slide 43 illustrates the external information that can found on the canister frame.



Slide 44

Gas canisters: expected results

- Basic gas canister
- The teargas canister keeps on burning expelling the teargas. Because the canister remains in one piece it can be easily thrown back to police forces, and its cloud covers a small area.

Slide 45

Irritant chemical ammunition is normally for use in crowd control situations since, once released to the air, the spread of the substance cannot be precisely controlled. However, some of the rounds containing these substances are "direct flush", that is the powder is projected directly from the gun and spreads from the muzzle. These are designed for use against individuals at very short range, and when using such ammunition it is clearly advisable for the operator to wear appropriate protection.

Gas canisters: expected results

- Multipot Gas Canisters (Mp7, Cm6)
- The fact that the Multipot canisters expel several lachrymatory elements (from 4 to 7) makes them hard to be thrown back to police forces, their cloud is also bigger than canisters.



Slide 46

This type of canisters contains multiple projectiles which release the chemicals on arrival; the multiple types usually have a shorter range but are more difficult for rioters to throw back.

Gas canisters: expected results

- The Random Submunition Canister
- After they have been expelled, submunitions keep on bouncing and burning, making them even more difficult to be thrown back to police forces



Slide 47

In some cases the chemicals are expelled with sufficient force to cause the projectile to skitter randomly over the ground, making it very difficult for rioters to get hold of.

Gas canisters: expected results

- The Stun Canister
- These grenades contain powerful military explosives, combined with lacrymatory agents. These devices may cause permanent injuries or death. Their working principle is a pyrotechnic chain that ignitiates a fuze, a detonator and a military explosive



Slide 48

Flash/bang rounds are useful in crowd control operations, to disorient or stun demonstrators/aggressors for a few seconds to allow them to be overpowered. They may generate a sound of 140-170 dB and a brilliant flash of light of 3-6 million candelas (not always the case). Stun canisters are used to carry out a sudden exit from the cordon by the arrest teams.

They must be employed with precaution and in tensed situations in order to impress and not injure.

Example: during presidential elections when a voting centre was surrounded by demonstrators, the use of a stun canister in the evening was sufficient to release completely the pressure of the crowd

b- Hand Gas/smoke canisters



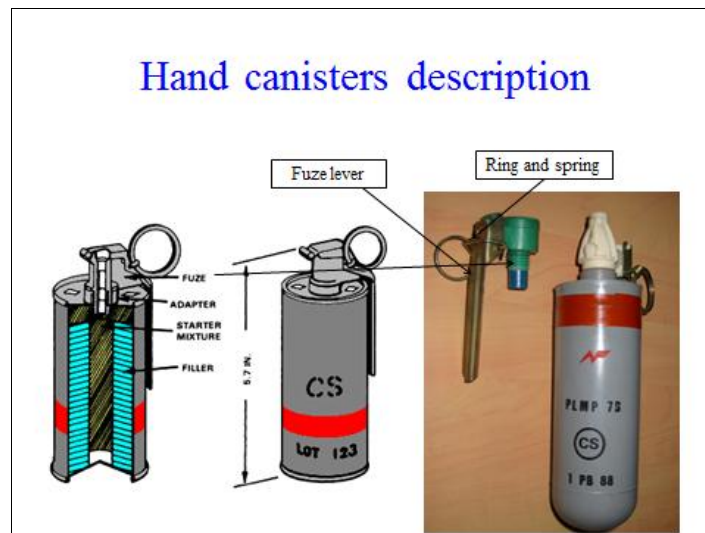
Hand Gas/smoke canisters

- The hand gas/smoke canisters work with an « overpressure » system. After the fuze lever has been ejected a flame sets light to a fuzing paste and to the lachrymatory agent.
- In the case of teargas canister, the combustion will go on while the smoke escape through holes.
- In the case of multipot or random bounds sub munition canisters, pots and sub munitions will be expelled by the gas pressure.

Slides 49 and 50

Chemical and gas canisters include smoke grenades and incendiary canisters. Unlike explosive devices, chemical and gas canisters are designed to burn or to release a gas, not to explode.

The classic hand canister design has a safety handle or lever (known in the US as the *spoon*) and a removable safety pin that prevents the handle from being released: the safety lever is spring-loaded, and once the safety pin is removed, the lever will release and ignite the detonator, then fall off. Thus to use a canister, the lever is grasped (to prevent release), then the pin is removed, and then the canister is thrown, which releases the lever and ignites the detonator, triggering explosion. Some grenade types also have a safety clip to further prevent the handle from coming off in transit.



Slide 51

Slide 51 describes the different parts composing a hand canister.

In a timed fuse canister, the fuse is ignited upon release of the safety lever, and detonation occurs following a timed delay. Timed fuse canisters are generally preferred to hand-thrown percussion canisters because their fusing mechanisms are safer and more robust than those used in percussion devices.



Slide 52

Tear gas canister is similar to smoke canister in terms of shape and operation. In a tear gas canister, the filler is generally 80 to 120 grams of CS gas combined with a pyrotechnic composition which burns to generate an aerosol of CS-laden smoke. This causes extreme irritation to the eyes and, if inhaled, to the nose and throat.

See also comments on slide 54.

Hand stun canisters: expected results



- The stun canister (flash bang) will normally cause disorientation from several seconds up to several minutes. When detonated, the explosive produces a brilliant flash.
- This device was developed as a stun device for use in a variety of tactical applications such as hostage rescue

Slide 53

A stun canister, also known as a *flash grenade* or a *flash bang*, is a non-lethal weapon. The first devices like this were created in the 1960s at the order of the British Special Air Service as an incapacitant.

It is designed to produce a blinding flash of light and loud noise without causing permanent injury. The flash produced momentarily activates all light sensitive cells in the eye, making vision impossible for approximately five seconds, until the eye restores itself to its normal, unstimulated state. The loud blast causes temporary loss of hearing, and also disturbs the fluid in the ear, causing loss of balance.

These grenades are designed to temporarily neutralize violent demonstrators by disorienting their senses.

The explosion does not cause shrapnel injury, but can still burn. The concussive blast of the detonation can injure and the heat created can ignite flammable materials such as fuel.

Hand smoke canisters: expected results

- The smoke canisters produce a thick cloud that can be used as a defensive screen by police forces.
- Smoke canisters can be associated to tear gas canisters in order to sustain the psychological effect on the crowd.
- The FPU will first use smoke canisters when it will have to cross the area where the canisters were launched.



Slide 54

Smoke grenades are used as ground-to-ground or ground-to-air signalling devices, target or landing zone marking devices, and screening devices for unit movement. The body is a sheet-steel cylinder with emission holes in the top and bottom. These allow the smoke to be released when the grenade is ignited. Two main types exist: coloured smoke (for signalling) and screening smoke.

In coloured smoke grenades, the filler consists of 250 to 350 grams of coloured smoke mixture (mostly potassium chlorate, lactose and a dye). Smoke grenades usually aim at screening the movements/manoeuvres of a FPU that has to apply a tactic. It offers the same psychological effect on the crowd without the disadvantages of tear gas, especially when the wind is going towards the unit. HC smoke is harmful to breathe, since it contains hydrochloric acid. Whilst not intended as a primary effect, these grenades can generate enough heat to scald or burn unprotected skin, and the spent casing should not be touched until it has cooled.

Canisters: after use

- Consider that empty canisters can be used again against the unit
- Collect them when possible



Slide 55

It is recommended to collect the empty canisters as they may be used as projectiles by the demonstrators against the police unit.

Hand canisters: throwing techniques



- Remove it from the pouch
- Hold it in throwing hand with your thumb holding down the spoon
- Remove the safety clip
- Bend the ends of the pin together
- Pull the pin
- Throw the canister

Hand canisters: throwing techniques



- At the ground level, rectilinear trajectory



- At higher level, curved trajectory

Slides 56 and 57

Slide 56 explains how to release the pin of the hand canister. Some FPU members are not familiar with this necessary action on the pin and may fear the explosion of the canister in their hands.

To use a smoke/gas canister, the police officer grips it with the throwing hand, ensuring that his thumb holds the safety/fuse lever in place; if there is a safety clip/pin, it is removed prior to use. Left-handers are advised to invert the canister, so the thumb is still the digit that holds the safety lever. The police officer then grabs the safety pin's pull ring with the index or middle finger of the other hand and removes it. He then throws the canister towards the target. FPU members should be trained to throw hand canisters in standing, kneeling and prone-to-kneeling. If the canister is thrown from a standing position, the thrower should consider to seek immediately cover or to be behind a shield, as he may be directly targeted by the crowd.

c- Various incapacitating sprays

- At the individual level



Slide 58

All police officers should carry their own individual incapacitating sprays as they represent a valid option to the use of physical force against a person/people getting in direct contact with police officers. Their capacity usually varies from 25 to 75 ml.



Slide 59

The aerosol delivery system is a good tool in order to release the pressure of an aggressive crowd against a unit or a unit formation without having to use physical force against demonstrators.

It is efficient up to 7 metres and allows keeping distance between the user and the aggressors.

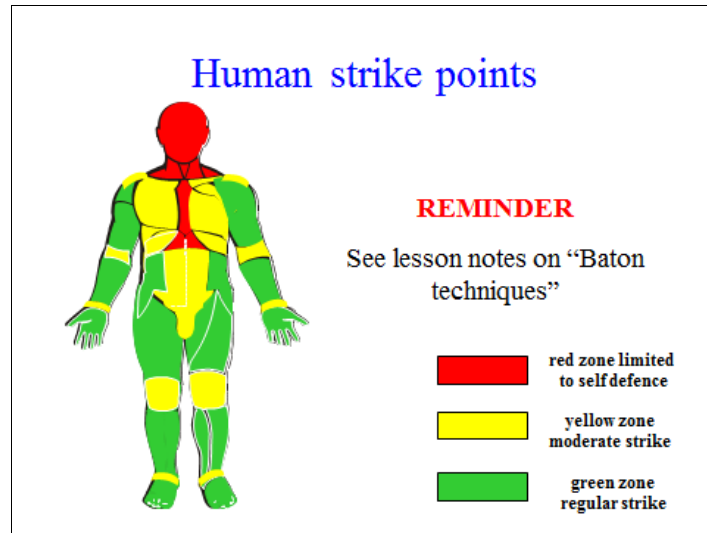
The safety pin can be removed for use and put back after use.



Slide 60

In UN missions, police officers are using different types of batons, wood, rubber or metal expandable batons. FPU members must be trained to the use of the specific baton they will employ in their duties.

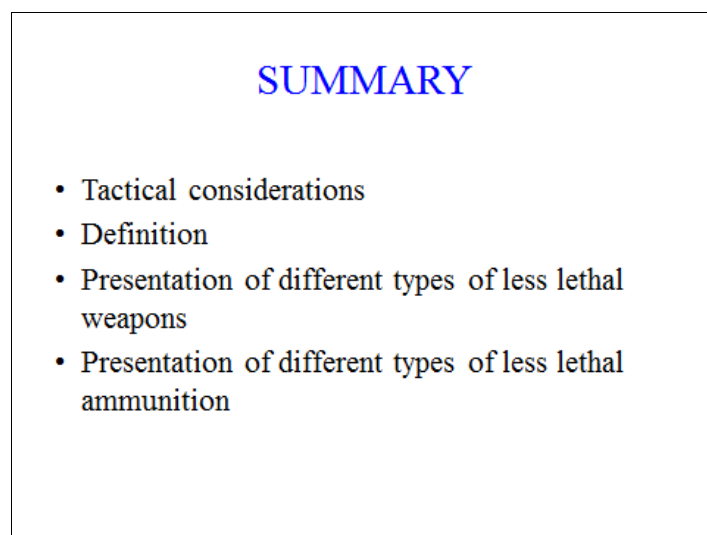
As for the basic techniques to be applied, please refer to the Lesson Plan on PTT.



Slide 61

Although not marked in the slide, please note that the genital areas are to be considered as red zone too.

As for the rest of the information reported in this slide, please refer to the Lesson Plan on PTT and Baton Techniques.



Slide 62

The officers should be given a summary of the key points of the lesson before being asked if they have any questions.



Questions

UN Peacekeeping PDT Standards for Formed Police Units, 1st edition 2015

Slide 63

Lesson 2 – Less than lethal Weapons (practical element)

There are two and half hours of practice recommended for these subjects which should be carried out at the discretion of the instructor. The practice should be in a realistic situation such as a public order village or 'ghost town' and a 'mob' crowd should be available to act in an appropriate manner where necessary armed with soft balls or similar projectiles with the adequate equipment (less-lethal weapons and ammunition).