Aerosol Subject Restraint Course

Instructed by:
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1. Chemical Agents used in Law Enforcement
2. Legal Issues Pertaining to the use of Chemical Agents
3. Oleoresin Capsicum (OC) and its effects
4. Application and use of Oleoresin Capsicum by Law Enforcement Personnel
Objectives

- At the conclusion of this module of instruction the adult learner will be able to verbally or in writing:
  1. Articulate under what circumstances an officer may use OC spray.
  2. Articulate where in the use of force continuum OC spray may be used.
3. Articulate the actions of an officer if sprayed with OC.
4. Five groups of people that may have a severe reaction to OC Spray
5. Articulate the specific areas on a person that are to be targeted for OC to be effective
6. Decontamination process for persons or areas.
7. Complete a written test with a score greater than 85% on day two.
8. Demonstrate a proficiency in the application of OC according to the standards set by DCJS.
History of Chemical Agents

- 2000 BC - Chinese warriors rolled black paper up into a tube of rice paper and blew it into their opponents' face.
- 1920's - Chemical agents first used by a police agency to quell riots in Paris.
- Scientists began developing an inflammatory made from hot peppers.
Section 1

- History
- Types of Chemical Agents
- Legal Issues
1968- Berkeley, CA, Police discovered that chemical agents *do not always work* on people under the influence of drugs.

1970- Aerosol spray of hot pepper is marketed and fails.

1978- OC is marketed under the brand name “CapStun”.

1989- FBI study of OC spray finds there are no long or short term health risks associated with use.
Major Types of Chemical Agents

- **CN (Chloroacetophenone) a.k.a Tear Gas**
  - Irritates eyes and causes tears to flow
  - Will not work on animals
  - Pure CN can be lethal
  - Evaporates quickly
  - Color code: RED
CS (Orthchlorobenzalmalononitrile)

- Not as lethal as CN
- Subject reacts in 3-7 seconds
- Painful burning of eyes, throat and moist warm areas of the body
- Involuntary closing of eyes
- Color code: Blue
OC (Oleoresin Capsicum)

Defined:

- **Oleoresin** is a mixture of a resin and essential oil occurring naturally in various plants.
- **Capsicum** is any of several varieties of red pepper, including cayenne pepper.
OC (Oleoresin Capsicum)

**Characteristics:**
- Biodegradable, non toxic, non carcinogenic
- Will not evaporate
- Is oil - **STICKY**
- Subject may react in **1-3 seconds**
Major Types of Chemical Agents

**OC (Oleoresin Capsicum)**

*Effects:*
- Involuntary closing of the eyes
- Inflammation of mucous membranes in the eyes, nose and throat
- A burning sensation to exposed skin
- Cough reflex may trigger
- Color code: Orange
In 1991 this was a common reaction of cops in training to OC

- Always works on cops in training
- “We” thought we were doomed if someone disarmed us!
- DPF justified???
…this is a common response from sprayed individuals

- May or may not have instantaneous effect
- Although subject’s have difficulty seeing they can still assault you
**OC (Oleoresin Capsicum)**

😊 MAY BE EFFECTIVE ON DOGS, RACCOONS AND CATS
Each department should identify when officers may use **OC sprays** in their Use of Force Policy:

- An additional tool that does not preclude or diminish another justifiable use of force
- When physical force is reasonable and necessary as per *Article 35* of the **Penal Law**, OC sprays may be a tool that can be used by the officer

**Objective 1**
What are the legal issues associated with this use of OC?
Example of the use of force continuum:
1. Presence
2. Verbal
3. Physical Control
4. OC Spray
5. Impact Weapon
6. Firearm

“Control is a perception based on training and experience.”

*See agency policy regarding the use of less lethal weapons.*
OC Spray is *not* a substitute for a firearm!
Section 2 – Criteria for Selection

- OC Spray Products
- OC Spray Canister Specifications
- Methods of Carrying and Storage
- Electronic Control Devices that may be used along with OC*
Use of Aerosol Subject Restraint
OC Spray product selection should be based upon the following criteria:

- Safety
- Effectiveness
- Delivery System
- Non-persistent
- Type of effectuator button
- Stability
Effects of OC Spray

- Subjects eyes may close within 1-3 seconds
- Exposed skin hit by spray will start to feel very hot
- Mucous membranes in the nose and throat become inflamed, triggers cough reflex
- Hotter the air temperature, the more effective the spray due to skin pore dilation
Exposure to OC Spray

Accidental or deliberate:
If the officer is sprayed with OC by an assailant or another officer:

- Shut your eyes
  - (Consider covering one eye)
- Turn face away/Sidestep
- Try to leave spray area

Suggestion: For your safety, consider carrying a decontamination wipe in your shirt pocket
The Use of OC Spray is considered Physical Force...
Nomenclature

- Cover
- Acuator/Trigger
- Cap
- Valve
- Canister
- Inert Training Unit
Active ingredient - Oleoresin Capsicum expressed as a % of the total concentration e.g. 5.5%, 10% etc.

Carrier/ Vehicle - the solution in which the OC is suspended

Propellant - ingredients used to spray the carrier/ OC solution from the canister
Types of Carriers/ Vehicles

- Water based with a preservative (propylene glycol)
- *Isopropanol* which is used to dilate the capillaries
- *Propriety Solvent Blends* which are solutions used by the manufacturer as suspensions
Types of Propellants

- CFC (Chlorofluorocarbons) & HFC (Halonogenated Chlorofluorocarbons) ozone-depleting elements more commonly used as refrigerants > many banned
- Liquefied Petroleum Gas (iso-butane)
- Nitrogen and CO2
Types of Canisters

- Seamed cans - most popular propellant can leak out through the seam

- Seamless cans - propellant will not leak out of the seam but may leak out through the valve assembly

NOTE: Few OC canisters will spray upside down, watch this failure from an actual arrest
Delivery Systems

- Cone
- Fogger
- Stream
- Splatter Stream
- Foam

5 Different OC Spray Patterns
Types of Delivery Systems

Mist Spray patterns
- Cone shaped
- Covers a wide area
- Easily inhaled
- Optimum for indoor use
- Minimum distance- 24 inches
Types of Delivery Systems

Stream Spray patterns
- Greater range in delivery system
- Requires greater accuracy
- Hits subject with a splash or splatter effect
- Effective from as far as 12 feet
- Target at an individual in a crowd
- Minimum spray distance 24 inches
Foam Spray patterns

- Fast acting foam that coats the face and obstructs vision
- Hits with greater impact
- Better surface adhesion
- Much less cross contamination
- Ideal for courtrooms, hospitals, jails and schools
- Minimum spray distance 24 inches
- Once foam hits the face it liquefies
- Must be a direct facial hit
- Accuracy is essential
Types of Delivery Systems

Fogger Spray patterns
- Full cone spray dispersal system designed to distribute large amounts of OC
- Extended ranges with multiple blasts 15-25 feet
- Excellent for riot conditions, crowd control or raids
Fogger Spray patterns
- Extreme caution when using in small room as can displace oxygen supply
- Minimum spray distance 6 feet
Canister Sizes

- **1 oz.** > 8-10 bursts, maximum distance **10-12 feet** detective use

- **1 to less than 3 oz.** > 14-16 bursts, maximum distance **10-12 feet** patrol use

- **3 oz.** Or more > 35-40 bursts, maximum distance **10-12 feet** detention facilities and large crowds
Wearing and Carrying
Do Not Leave Unattended
Section 3 – Operational Guidelines

- Canister Operation
- Spray Deployment
- Flammability
- Spray Patterns
- Decontamination
- In-Custody Death
- Local Information
- Practical Exercises
- Conclusion & Assignments (Exam)
How and when aerosol sprays are to be used should be outlines in your departments “Use of Force” Policy.
Alcohol based OC should not be used with stun guns or Tasers.
Groups of People that have a Severe reaction to OC spray

- Children under 12
- Senior citizens
- People with chronic emphysema
- People who are asthmatics
- People who are known to have heart disease

Objective 4
The cited medical complications must be known to the officer.

Any question concerning the subjects reaction to OC, he or she should be transported to a medical facility for treatment.
Other Medical Concerns

- Hydraulic Needle- spraying at close proximity, in the eyes there is a possibility to injure the eye
- Positional Asphyxia- death as a result of a body position that interferes with one’s ability to breathe. Where a subject is placed in a position that they are unable to breathe such as laying down or in a hog tie position
Effective range depends on type and manufacturer.

General Rule:
- Minimum of 2 feet
- Maximum of approximately 15 feet (stream)
Because OC sprays are inflammatory agents, they are target specific:

- OC must be applied to the face, in particular the eyes
- A one second burst to the face is usually sufficient
- OC must strike the skin to be effective
- Subjects can effectively cover up

(Re: California gangs and t-shirts)
Reaction Time

Expect a time delay of up to 20 seconds for the spray to take effect.

Note: This is particularly true with non-alcohol based OC & Streams.
Instruct students that they all have the ability to fight through the effects of OC.

Discuss exposure drills conducted to demonstrate the above.
OUTDOORS, MAKE EVERY EFFORT TO HAVE THE WIND AT YOUR BACK!
The Police Officer Does Not Have To Announce The Intention To Use An Aerosol Spray on a Subject! (NYS)

Note: This does not mean that verbalization is not recommended.

- Discuss Tennessee vs. Gardner
- Discuss warning of “Spray” for benefit of fellow officers
Spray Application & Patterns
The primary target is the bridge of the nose where it intersects the eyes.

Note: Improper targeting will cause a failure of the OC to take effect as well as inadvertently spraying others (i.e. partners).

This is the recommended target zone.
What you see coming out of the can is carrier.

It is the invisible atomized caplets 2 feet beyond what you can see that are inhaled/absorbed that make OC effective.
Alternative secondary method

Circular Spray Pattern
ops other methods (not recommended by PSTF)

vertical and/or serpentine spray pattern
OPS other methods (not recommended by PSTF)

Cross Spray Pattern
After Application

- Give specific verbal commands and apply handcuffs A.S.A.P.!
  - “Get down!”
  - “Stop resisting arrest!”
  - “Hands behind your back!”
  - “Comply and we will decontaminate you.”

- Remove subject to area of uncontaminated air
What are the training issues that cause this OC failure?
After Application (con’d)

- Realize that when you spray a small amount of OC will land on your dominant hand
- Wiping your eye or going to the bathroom using that hand will make you very unhappy.
- If you see orange on a subject and touch them there is a good chance it will be on your hands
- OC may also end up in your head hair if it is sprayed around you
In - Custody Death

- Mt. Vernon, NY Police Department
  October 13, 1993
- Officers sprayed an emotionally disturbed 34 year old male with OC
- Subject was handcuffed and then collapsed and expired
- Autopsy reported that death occurred from a combination of factors
In - Custody Death

- Concord, North Carolina Police Department  July 11, 1993
- Subject sprayed with OC for disorderly conduct, cuffed and transported to H.Q. (7 minutes)
- Subject expired during transport from asphyxia due to bronchospasm precipitated by the OC Spray
Positional Asphyxia & Sudden Death Video
An FBI review of thirty in custody deaths in which OC was used:

- Found no specific evidence that OC caused or contributed significantly to these deaths
The people who are at particular risk for sudden death, with or without OC exposure. They can exhibit some or all of the following features:

- Male gender, generally in their 30’s
- Obesity
- Large size
Bizarre behavior due to psychotic illusional agitated or stimulant drug induced mental states
Drug or alcohol involvement
Chronic heart disease or pulmonary disease
Fail to be subdued by OC
Are or have been engaged in struggle or are involved in violent activity
Advisement

- Have been placed in restraints in positions of possible respiratory compromise such as prone position, “hog tied” or tightly strapped
- Do not place anyone under arrest in these positions if they have unusually bizarre behavior or fail to be subdued by OC
Danger signs during transport:

- Cessation of conversation
- Change in breathing pattern
- Cessation of movement
- Signs of tranquility
Prior to Decontamination

- Give specific verbal commands and apply handcuffs A.S.A.P.!
  - Remember: Allow the OC to drop.

- Remove subject to area of uncontaminated air
Initial Procedures for Decontamination of Persons

- Provide fresh air and irrigate with copious amounts of water
- A mild, oil free soap may be necessary to remove sticky OC (baby shampoo works best)
- Ice packs or wet towels may be used to reduce inflammation
Suggested Method of Decontamination

1. Wet face with cold water
2. Use baby shampoo and gently wash off surface pepper from face (this will greatly reduce recovery time)
3. Fill a pail with cold water
4. Dunk face in pail and open eyes under water
5. Replace water occasionally
6. Face wind and open eyes
Caution:

1. Do not use showers that have a controlled temperature spray, they do not get cold enough.
2. You must control the amount of spraying for safety’s sake. Always have one safety person per person sprayed.
3. Always be prepared for worse case scenario
Decontamination sprays or towels may be used in remote locations devoid of water

A.S.A.P. check to see if subject is wearing contacts, they must be removed and cleaned as OC has a propensity to stick to contacts
**Initial Procedures for Decontamination of Persons**

- **Under no conditions** should salves, oils or creams be used.
- **Recovery** can generally be expected within 30-60 minutes.

**Note:** Generally, if the effects last more than 45 minutes - seek medical attention. Epidermal burning on fair skinned people will sometimes last longer, however if the effects are as they were at the onset there is something wrong. If someone loses consciousness, vomits or otherwise loses control of bodily functions, seek medical attention.
Procedures for Decontamination of Persons

- Continue monitoring subject who has been exposed to OC spray.
- If unusual discomfort, breathing difficulties or pain become evident, subject requires medical attention immediately.
- Since OC lacks a vapor level, it will remain on the person, clothes and surfaces until it is washed.
Careful!

OC is transferable to any/all officers if they come in physical contact with OC, especially while it is still wet.
Decontamination of Areas

- If OC spray lands on non-personal items (walls, chairs, back seat of patrol vehicle, etc)
- Clean with soap and water
- Remember- fresh air
Why expose officers to OC spray?

- Builds officer confidence
- Develop an awareness for safety when using OC
- Know what the subject will experience and react accordingly
- Court room testimony and civil liability
Suggestion:

- It is the policy of the PSTF that students not be sprayed that have had laser eye surgery within 6 months of exposure. It is our experience that decontamination may take several hours.
- What then is the option for these students?
**Tactical Application**

- Never give up

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*Train To Win and Survive*
People are to be sprayed not hosed!

- Sprayed- is one or two, one second bursts of OC spray
- Hosed- is a burst of OC spray where the subject is saturated or soaked with the OC spray
- It is a common error to get too close to recruits while spraying. Attempt to use the appropriate stance and distance when conducting exposure drills.
Consider types of OC delivery system to be used
- Number of trainees
- Location of exercise
  - Inside or outside
  - Ventilation or wind direction
  - Accessibility to water
Preparation for Exposure

- Advise any trainees that are wearing contacts to remove them
- Emergency medical service should be available
- Trainees should be knowledgeable of decontamination procedures prior to exposure
- Do not conclude training until lead instructor is certain all students are decontaminated and that they are safe to drive home.