

# Chapter 11 : Use of force and restraint

# Use of force and restraint

## Use of force:

- The need at certain times for restraint techniques to control groups of individuals who are violent or suffering from acute behavioral disturbance, requires a sensitive balance between **duty of care** and **safety and security** of those being restrained.
- The term '*use of force continuum*' refers to standards that provide law enforcement or security personnel (e.g. police or prison officers) with clear guidelines as to how much force may be used against a non-compliant subject in a given situation.
- The purpose of this is to clarify for those restraining, those restrained and the public in general, the means by **which control may be properly and appropriately achieved**.
- The policie will define appropriate actions in response to actual or perceived threat (e.g. **verbal or physical violence**) and other factors (e.g. **safety of others, presence of weapons**).
- development of less-lethal weapons that can control with less likelihood of a fatal outcome, such as **baton rounds** and **conducted electrical weapons**.

# Conflict resolution:

- Any law enforcement officer should have an understanding of conflict resolution and the factors that will affect how individuals respond to certain threats or actions.
- It is important that all progression or escalation of force is seen to be **reasonable** in order that any adverse outcome may be justified at a later date.
- The offender behaviour is characterized in a number of ways from that of compliance, to verbal and gestured responses, passive resistance, active resistance, assault and aggression to the most serious category, **aggravated aggression** (which may involve the use of weapons).
- Doctors, particularly **forensic physicians** and **emergency medicine specialists** may become involved in the assessment of the medical consequences of controlling or restraining people
- This may be with respect to medical management and documentation of injuries.
- In some situations there is the potential for serious injury or even death.
- The principles involved in the documentation of any injury should apply as **the techniques used** may become the focus of attention **in criminal or Coroner's court, civil claims or disciplinary hearings**.
- The history from the injured person may need further clarification by direct communication with the restraining personnel concerned.

## Box 11.1 Conflict resolution: factors affecting the behaviour of an individual and how an officer responds

- Presence of an imminent danger
- Comparative ages
- Sex and size
- Strength
- Skills
- Specialist knowledge
- Presence of drugs or alcohol
- Mental state
- Relative position of disadvantage
- Injury
- Number of individual's involved
- Whether weapons are present
- Officer's overall perception of the situation

# 'Empty hands'-

## A)unarmed restraint:

- A variety of arm locks and holds, pressure-point control and knee and elbow strikes may be used.
- If excessive force is used, either directly by the officer or as a result of the restrained person moving, **joints such as the wrist, elbow or shoulder can be strained to varying degrees.**
- Neck hold and neck is believed to be a clear risk of serious injury or fatality from neck compression.
- If an individual is restrained in such a hold the neck **and head should be examined carefully for signs of injury.**
- Examination for **petechial bruising** is mandatory in the skin of the head, neck, face, ears and scalp, the intraoral mucosa and the eyes.
- **Clothing** can be grabbed in a scuffle and the tightening, mock-ligature effect of this can cause **linear or patchy type bruising around the neck.**
- **Restraint asphyxia** occurs as a result of the individual being held down and being **unable to maintain adequate respiratory movement** either because of **the chest and/or the diaphragm being splinted.**
- Risk factors include **lying prone, inability to change position, obesity.**

# B) Armed restraint

## 1- Handcuffs

- **Three main means of handcuffing individuals exist:**

1. traditional handcuffs with two wrist pieces connected by a short chain
  2. rigid cuffs- whereby the two wrist pieces are connected by a bar and cannot move in relation to each other
  3. plasticuffs – in effect larger size cable ties which are easy to store and easy to apply but less secure than the first two types.
- If the individual is non-compliant and continues moving the handcuffs can progressively tighten causing increasing pain and potentially increasing the risk of neurological and skin damage.
  - Soft tissue injuries may be produced by movement of the wrist within the handcuff, movement of the handcuff on the wrist or by the handcuff being too tight.
  - The commonest injuries are blunt force injuries of reddening, abrasions and bruising, particularly to the radial and ulnar borders of the wrists.
  - Superficial cuts, from the edge of the cuff, may be present in the same locations.
  - Numbness or hyperaesthesia in the distribution of the cutaneous nerves distal to the applied cuff are not uncommon.
  - Specific handcuff neuropathies may be caused and single or multiple nerves may be affected, the extent being determined by a number of factors including the tightness of compression, the length of time compression has occurred and the degree of resistance by the detainee.
  - In most cases the damaged nerves fully recover within a few weeks. Persistence of symptoms may require nerve conduction studies.
  - It is rare for handcuffs to cause fractures of the wrists secondary to the use of handcuffs. However, they should be considered when there is marked tenderness, loss of movement or extensive bruising.
  - The most vulnerable parts of the wrist are the styloid processes, particularly on the ulna.

## 2- Batons

- Law enforcement and security agencies commonly use batons to gain control.
- Batons can be used for defensive and offensive activities: **the long portion can be used for a direct strike**, the baton can be held at both grip and long end and used to push back an individual and both ends can be used to the front and back to jab against someone else.
- The **heavier, expandable baton will potentially cause more injury than the lighter standard patrol baton**.
- Batons used in crowd control situations are heavier still and even more likely to cause significant injury.
- When batons are deployed there are certain body targets that are classified into low, medium and high risk of injury areas.
- **Areas of low injury potential (and thus primary targets)** are **legs** (in the areas of the common peroneal, femoral and tibial nerves) and arms (in the areas of the radial and median nerves) → **transitory bruising of the target area and transitory motor dysfunction of the affected limb**.
- **The medium injury potential areas** (and therefore not primary targets) are **knees and ankles, wrist, elbow, hands, upper arms and the clavicles**. → **bone fractures, dislocation and soft tissue damage**.
- **Higher injury potential areas** (and which should not be targeted) are **the head, neck, throat, spine, loins (kidneys) and abdomen (small bowel, stomach, liver, pancreas)** → **serious injury or fatalities**
- Injuries from a baton strike will embrace the range of **blunt force** injury including bruising, in particular tramline bruising.
- **Circular patterned** bruising can occur as a result of someone being struck by the **end of the baton** Lacerations may be caused by baton blows over bony surfaces.
- Fractures are rare but can occur, for example from direct impact to the ulna.

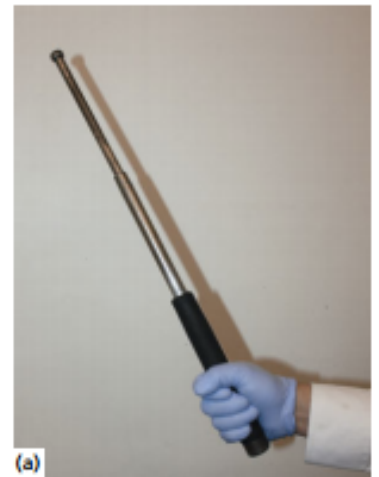


Figure 11.3 ASP baton. (a) Fully extended and (b) non-extended expandable.

# 3- Incapacitant sprays

- Incapacitant sprays use a variety of agents that can make individuals or groups of individuals temporarily incapable of purposeful action.
- In the UK two main incapacitant sprays are used by police services – **CS and PAVA**.
- symptoms are **lacrimation, eye pain, blepharospasm, conjunctival reddening and photophobia; stinging or burning in the mouth; pain in the nose, sneezing, coughing, and rarely asthma attacks**, The skin will experience a **burning sensation and reddening**.
- In most cases the symptoms and signs **resolve within 15–30 minutes**.
- **PAVA spray is the synthetic equivalent of capsaicin (the active ingredient of natural pepper)**. It is intended to be directed towards the eyes where it causes extreme discomfort and closure.
- **PAVA Effects on eyes, respiratory system, mouth or skin that last for > 6 hours should generally be referred for specialist assessment**.
- The **most important action is to stop continued exposure by removal of the effected individual from the contaminated environment to a well-ventilated area, preferably with a free flow of air and removal of contaminated clothing**.
- Each exposed individual should be **fully examined with particular reference to eyes, oral and nasal cavity, respiratory system and skin**.



Figure 11.5 Example of CS spray containers.

# 4- Baton rounds and plastic bullets

- assorted devices that are intended to incapacitate but **not kill**.
- Baton rounds have two roles: **public order** and **as another option to the use of conventional firearms** against individuals armed with bladed weapons.
- For use in public order role, the normal operating range is 20–40 m. For use as a less lethal alternative to firearms, it may be used at 1 m range.
- **Deaths** from baton rounds are very uncommon and principally result from **head and chest trauma**.
- Impact to the lower torso and limbs results in **bruising, abrasions and occasionally skin lacerations**.
- There is a very low reported frequency of intra-abdominal trauma.
- **Fractures to limbs do occur occasionally**.
- **The chest is regarded as a vulnerable area** and although the system has been designed to avoid impact to this region, these may occasionally occur in operational practice; **rib fracture and pulmonary contusion may occur**.
- In order to minimize serious complications guidelines on firing must be adhered to.
- Bean bag (flexible baton) projectiles have also been deployed.



Figure 11.6 Examples of baton rounds.



Figure 11.7 Bean bag round.



# 5- Conducted electrical weapons

- Conducted electrical weapons (or conducted energy devices) have been developed and are part of the use of force continuum with a specific aim of providing a less lethal option of incapacitation.
- The most widely used by law enforcement agencies is the **Taser (Thomas A Swift's Electrical Rifle)** developed around three decades ago.
- These pulses are delivered to the body either by two propelled barbs (which embed in clothing or skin but remain connected to the handset by conductive wire) or by direct contact of the handset's electrodes (drivestun).
- Because of the small separation of the electrodes in drive-stun mode, the principal action of the Taser® is to induce pain.
- When the barbs are propelled, the greater barb separation allows the discharge to **induce involuntary (and painful) contraction of skeletal muscle that results in temporary immobilization**.
- Such effects are almost instantaneous with only a slightly slower recovery.
- **The neuromuscular stimulation caused by the electrical current is painful and fatiguing.**
- The **barbs can penetrate bare skin to a maximum depth of 0.6 cm** and are easily removed by supporting the skin around the barb and applying gentle traction.
- A case has been reported which shows that a Taser® barb **can penetrate the skull and injure the meninges and underlying brain.**

- A Taser® injury around the orbits should raise the suspicion of a penetrating ocular injury.
- Any suspicion of such an injury requires referral to an ophthalmic surgeon as a matter of urgency.
- In such cases, removal of the Taser® barb may be required in an operating theatre under general anaesthesia.
- ‘Electrical’ cataract has been documented following use of Tasers.
- Secondary injury may result if a Tasered individual falls in a semi-controlled fashion as a result of their generalized involuntary muscular contractions.
- This can lead to soft tissue injuries, such as bruising or abrasions, but an uncontrolled fall from other situations or onto other objects has caused more serious injuries, including fatal head injuries.
- Rhabdomyolysis has been reported.
- Vertebral compression fractures have been documented following Taser discharge, caused by either muscle contraction or fall.
- it is important that any current and new technologies being introduced as less lethal options are tested and scrutinized in a scientifically credible manner to reassure a sometimes appropriately cynical and sceptical general public.

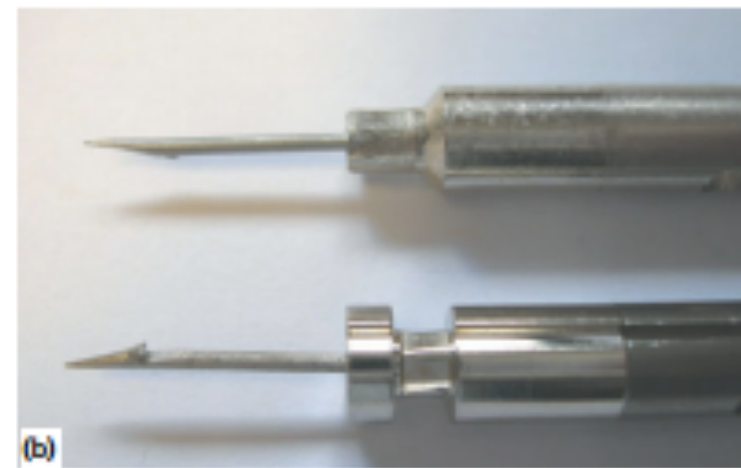
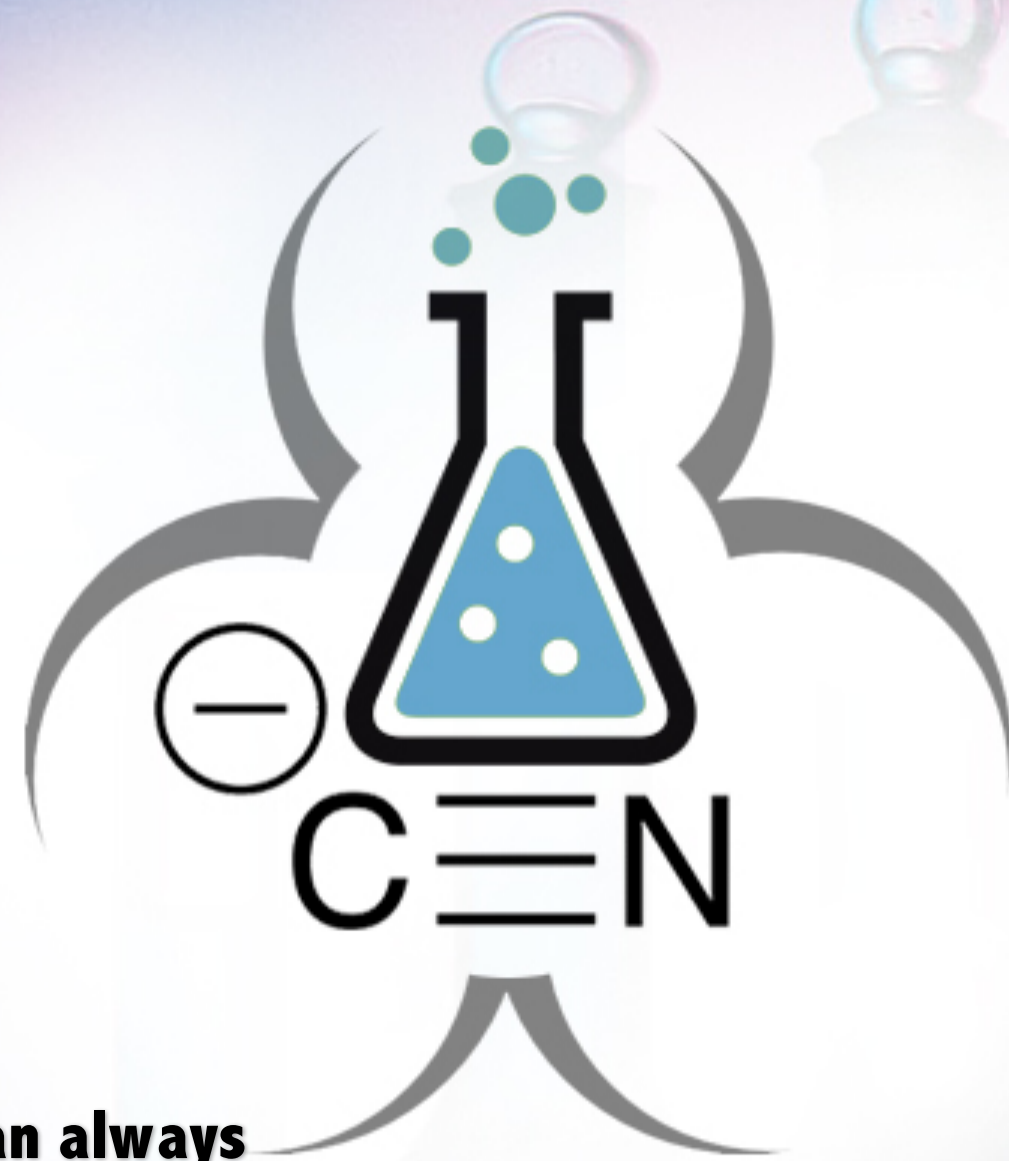


Figure 11.8 (a) Taser® X26™ and (b) barbs.

## 6- Dogs

- Trained dogs from law enforcement agencies are capable of restraining and detaining individuals who need to be controlled.
- In some cases dogs can bite, These all require medical assessment as there may be, dependent on the site and degree of injury, **risk of infection, neurological or vascular injury.**
- In some circumstances bites may be of such a degree that soft tissue defects requiring surgical intervention may be created.
- If we are not sure about the source of the bite injury a **forensic odontologist** may be required to provide a definitive opinion.





**If you have any questions You can always  
contact us at : [forensic433@gmail.com](mailto:forensic433@gmail.com)**

**Done By: Reem Almassoud**

**Revised by : Nawal Asiri**