CUSTODY

Contents

Death in, United Kingdom and Continental Europe

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Introduction

This article makes reference to deaths in police and prison custody in the UK and continental Europe, and illustrates in detail the causes of deaths in police custody within England and Wales and the mechanisms in place to investigate such deaths. The evolution of the process from the previous system of police forces investigating deaths in neighboring forces to the current independence of inquiry will be referred to. Additionally the processes by which attempts are made to reduce the frequency of such deaths will be reviewed. Generally the term "death in police custody" is used to refer to deaths whilst individuals are being held in, or are in transit to or from, the police station whilst being investigated or held prior to court proceedings. The broad principles can be applied to deaths in all types of custody including deaths in long-term detention such as in prison.

Deaths in Prison Custody in Europe

The majority of potentially preventable deaths in prison relate to self-harm. As a result most data referring to prison custody refer to issues of self-harm and suicide.

A recent review of suicide by prisoners in prison custody in the UK showed that almost half were remand (nonconvicted) prisoners, and 32% died within 7 days of arrival in prison. A total of 92% committed suicide by hanging or self-strangulation. The profile of these individuals showed that 72% had a history of mental disorder, 62% a history of drug misuse, 53% a history of self-harm, and 31% a history of alcohol misuse. This profile is very similar to the profile and range of problems of those prisoners arrested and detained short-term in police custody in the UK.

A study of the characteristics and management of inmates of Scottish prisons showed that 4.5% of the total prison population were identified as being at risk of suicidal behavior at the time of reception while 1.9% were at risk at some other time in their detention.

Studies in Switzerland from 1995 to 1998 have identified that suicide rates in custodial institutions are higher than in the general population; however, they are decreased in proportion when compared to the 1970s, and it has been suggested that strategies of concentrating prisoners guilty of serious crimes together may intensify feelings of hopelessness and helplessness. Similar studies in Spain have shown that most violent deaths in a high-security prison psychiatric hospital were suicides. Of these, two-thirds suffered from schizophrenia and one-third had self-harmed previously.

German data show that the suicide rate for people on remand and offenders classified as mentally ill was 231 per million versus 191 per million – eight times the suicide rate in the general population. The suicide rate for sentenced offenders was 80 per million. Data from Italy suggest that the suicide rate in a prison population was of the order of 100 per million, and the risk factors included mental disorder, drug addiction, previous prison sentence, and failure to assess potential risk factors appropriately.

Similar figures in Austria resulted in the recommendations that screening instruments should be applied to assist in the appropriate management of inmates at higher risk.

Studies from the Netherlands suggest that suicidal inmates reported increased episodes of sexual abuse, physical abuse, emotional abuse, and previous suicide attempts.

An interesting statistical assessment attempted: (1) to predict the potential numbers of suicides in UK prisons; and (2) to advise on when an alert should be issued if the number of deaths – which it is accepted are not all preventable – exceeded predefined levels. For Scotland this was suggested to be 12, and 28 in England and Wales. An Austrian study identified the three different most significant periods of

high suicide risk as being immediately after admission, and 2 months thereafter for prisoners on remand. For long-term prisoners the risk increases with the length of the sentence.

A Swedish study over a 4-year period reviewed 74 deaths, of which almost 30% were either lawfully or unlawfully out of prison custody. There were 34 suicides, 22 accidents, three homicides, and 15 cases of natural death. Of 15 natural deaths, 14 were associated with substantial drug or alcohol misuse. The accidental deaths were predominantly related to alcohol or other drugs and advice is given that drug-dependent inmates should be informed about reduced tolerance to drugs prior to leave or release.

Thus the spectrum of deaths in prison custody is particularly weighted toward incidents of self-harm, and these incidents are associated with a number of factors, of which previous self-harm, mental health issues, and drug and alcohol dependence are key factors. These factors are also the same ones with which death in police (short-term) custody are also noted.

Historical Aspects of Investigation of Deaths in Police Custody in England and Wales

In the UK, a number of deaths related to police intervention in the 1970s highlighted the vulnerability of ordinary people when the police chose to use aggressive tactics when enforcing the law. These deaths also identified apparent inadequacies of the internal police inquiry, the coronial system, and public inquiry to address the issues. As a result certain changes in the review of cases were set in motion and in the Administration of Justice Act in 1982 juries were made mandatory where there was reason to suspect "that the death occurred while the deceased was in police custody, or resulted from an injury caused by a police officer in the purported execution of his duty."

One landmark case was the death of Jim Kelly in 1979 aged 53 following being arrested as "drunk and disorderly" in Merseyside, UK. It appeared that the Home Office pathologist was not given information of any struggle: he noted some bruising but recorded heart failure as the cause of death. However, Jim Kelly's brother noted bruising to his head and wrists and also that his tobacco tin from his pocket was badly dented and the lighter inside it smashed. A police investigation was started and the inquest opened and adjourned. The family made a formal complaint to the police. Witnesses at the scene told the family that four officers had given him a beating and dumped him semiconscious in the police van. The family instructed a pathologist who found over 30 injuries, including a double jaw fracture not found by the original pathologist. The second pathologist also gave "heart failure" as the cause of death, stating that Kelly could have died suddenly at any time, but was more likely to die during severe emotional stress or physical exertion. In the conclusion of his report he said that Jim Kelly suffered more injury than can be reasonably expected in a man who resists arrest. Subsequent investigations found eye-witnesses who described police hitting Kelly repeatedly and using a hard weapon and that Jim Kelly had been thrown into the back of the van as though he were an "old bag of bones." Requests for a public inquiry were refused by the Home Secretary William Whitelaw whilst awaiting the outcome of the inquest.

At the coroner's inquest a verdict of "misadventure" was brought in after the coroner had emphasized that the pathologists had given the cause of death as heart failure and that Jim Kelly was drunk and had exerted himself. The question of negligence was not raised. The Home Secretary was satisfied by the inquest and did not think a public inquiry with a wider remit appropriate. The police view was that the officers had been exonerated. It remains true however that if the police had left Jim Kelly to walk home he was unlikely to have died that evening.

The coroner's court was perceived by the public as being an inadequate inquiry as it was selective in the evidence presented and its interpretation. It was not a forum for the role of the arresting officers to be examined critically in order for recommendations to be made about arrests in the future. The general public, having seen the newspaper and television reports, could not feel it was a thorough and adequate legal explanation of the death.

A Home Affairs Select Committee investigation of Deaths in Police Custody in 1980 recommended that the contents of police investigations should be disclosed, but they continued not to be. In 1984 the Police and Criminal Evidence Act set up the Police Complaints Authority (PCA) to replace the Police Complaints Board to improve the investigative procedure.

The PCA developed a role in monitoring deaths in custody. It has successfully used the information collected to steer the police forces to change their policies and training practices to reduce the likelihood of individual deaths. In 2004 the Police Reform Act replaced the PCA with a new body, the Independent Police Complaints Commission (IPCC), further distancing investigation of complaints against the police from the police themselves and further increasing public confidence in independence and objectivity (Table 1). The IPCC can investigate independently any complaint or matter referred to it – a role for

Table 1 Independent Police Complaints Commission (IPCC): changes in new system of investigation of police complaints compared with Police Complaints Authority (PCA)

- Most complaints will still be investigated by the local police. However, local police will be required to meet strict IPCC standards
- In certain circumstances a number of investigations will be run by the IPCC's own investigators (e.g., death in custody, police shooting)
- In certain circumstances IPCC investigators will have full police powers and rights of access to premises, documents, and other evidence when requested
- Individuals making a complaint will be able to appeal to the IPCC if they feel they have not been given sufficient information by the police or if they are unhappy with the outcome of an investigation by the police
- People other than victims will be able to make a complaint. Anybody who has been ''adversely affected'' by the incident – which could include a witness – can register a complaint
- There will be a legal obligation to keep complainants informed of the progress of an investigation; this may include giving complainants a copy of the investigating officer's report

which the PCA had neither the statutory power nor the resources.

In its almost two decades of existence, the PCA, by collecting and analyzing the statistics of deaths, has raised awareness of predictable factors and preventive measures: *Lessons From Tragedies* analyzed deaths in the Metropolitan District from 1986 to 1995 and *Deaths in Police Custody; Learning the Lessons* looked at the deaths in England and Wales where data were available from January 1990 to December 1996. Recent publications from the PCA include *The Role of Alcohol in Police Related Deaths, Safer Restraint*, and *Drug-Related Deaths in Police Custody.*

Together with the transition from the PCA to IPCC, a new categorization of deaths of members of the public from police contact was defined in order to differentiate between deaths where there was some real or potential control by the police resulting from the person's contact with them and those where there was not. The latter group will no longer be defined as a "death in custody." The four categories now used for statistical purpose are:

1. category 1: fatal road traffic accidents involving the police ($n = 25$ in 2002–2003)
2. category 2: fatal shootings involving the police (only those who died as a result of being shot by police) ($n = 3$ in 2002–2003)
3. category 3: deaths in custody are one of a group which generally require an inquest with a jury and interested parties, e.g. families, police and prisoners; other appropriate persons or bodies may contribute to the proceedings.
4. category 4: deaths during or following other types of contact with the police that did not amount to detention, and where there is a link between that contact and a death, and that may have occurred in a public place or in the person's home.

Generally this article relates to category 3 deaths.

In addition to the investigation of deaths by the IPCC, all deaths in custody will undergo jurisdictional investigation in England and Wales via a coroner's inquest. Deaths in custody inquests are one of a group, which generally require an inquest with a jury and interested parties, e.g., families, police, prisons. Other appropriate persons or bodies, may contribute to the proceedings. An inquest does not have the power to address issues of criminal or civil liability but is there to confirm who has died and the circumstances of how and when they died. The inquest verdict can result in recommendations to authorities and issues of concern may be raised. Decisions to refer to criminal prosecution services may also be made. In Scotland, such deaths are investigated by means of a fatal accident inquiry.

Deaths in Custody, Causes and Statistics – England and Wales

A large retrospective study was carried out by the Police Research Group (PRG) of the Home Office. A total of 277 deaths over the 6-year period between January 1990 and December 1996 in England and Wales were studied where there was sufficient information available to confirm that the deaths fell within the criteria. The Home Office had received notification of 380 deaths in that period. The coroner's records reveal the causes given at the inquests. The PRG calculated the rate in proportion to notifiable offences for England and Wales, which does not include all who pass through the custody blocks, as 3.2 deaths per 100 000 arrests for notifiable offences. The PRG paper categorized the 277 deaths into three groups according to causal factors. In 63% the deceased's own actions were causal; this group included deliberate self-harm (DSH) and substance misuse. In another 29% their medical condition was causal and in 8% another person's actions may have been associated.

Table 2 Analysis of deaths in, or following, custody[a] in 2002–2003

	Cell or police station	*Public place*	*Police vehicle, not having been in cell*	*Home*	*Other*	*Total*
Medical	5	1	1	0	2	9
Alcohol/and or drugs	5	1	1	0	4	11
Self-harm	2	2	0	0	0	4
Other	2	2	0	0	2	6
Total	14	6	2	0	8	30

[a] These deaths represent category 3 of the Police Complaints Authority *Guidelines for the Reporting of Deaths of Members of the Public During, or Following, Police Contact*. Category 3 is defined as ''deaths in police custody: includes people who died following arrest or detention by police, and deaths that occur while a person is being arrested or taken into custody.''

The most recent analysis of deaths in or following custody is shown in Table 2. This categorization is probably the most helpful in attempting to determine the highest risk areas and means of risk reduction. Each year DSH, alcohol and drug intoxication make up 50% or so of deaths, and it is these that are most likely to be preventable through adequate training and education.

Deliberate Self-Harm

The figures found in the studies for DSH must be taken into the broader context within England and Wales of an increased suicide rate of young males in the general population. The risk factors include low social class, depression, conduct disorders, and substance misuse. Some or all of these factors apply to many young detainees.

The DSH group in the PRG paper included 17 deliberate overdoses taken before arrest and 73 self-hangings in custody. A recent study has shown that one-third of suicides (in prison) occur within a week of entry into prison and 11% occurred within 24 h; suicide is most common by hanging, using bedclothes and window bars; and there is a high rate of mental disorder and drug dependence in this group. Much work has been undertaken to reduce (by careful cell design) the means by which individuals can self-suspend but those with a desire to harm themselves can be very resourceful. It is important for all involved in the healthcare of prisoners (whether short- or long-term) to realize that death by ligature suspension can occur within just a few minutes or even seconds. Older designs of cells, whereby blankets could be attached to the viewing windows (the "wicket"), are now less common (Figure 1A and B).

However, even recessed lighting can be broken and a suspension point identified (Figure 2). Attempts have been made to manufacture bedding and clothing that are not capable of being used as ligatures.

For each self-harm attempt that ends in death there are calculated to be 200 nonfatal attempts. These can cause significant morbidity. Figure 3A and 3B shows a police cell where a prisoner was able to conceal himself by the toilet and (nonfatally) severely self-harm by cutting wrists.

Attempts to reduce self-harm from implements such as knives and forks used for food have been addressed by using rubberized eating implements. Figure 4A shows rubberized knives and forks, which prevent self-harm from cutting; however, Figure 4B shows a rubberized knife which a prisoner chewed and then thrust down into his throat, causing airway obstruction (serious harm was prevented as the incident was observed on a closed-circuit television (CCTV) monitor).

Additional safety measures, for example, the avoidance of standard crockery and the provision of meals in plastic containers, may also be helpful. However, even microwave containers can be fashioned into implements of self-harm and an incident has been documented when part of the plastic container shown in Figure 5 was torn off and its sharp edge used to create cuts that required suturing.

It is important to recognize and take into account a variety of warning signs for risk of self-harm. Those who have previously been arrested may have a "risk of suicide" marker on the Police National Computer (PNC) and information on the "exceptional risk" transfer forms that are completed. These data however tend to ensure closer observation of those with warnings, at the expense of those without. Expressions of intent, hopelessness, and signs of previous attempts can give warning but in the vast majority this may not be present or identified. In one-third of the in-custody DSH episodes a forensic physician (forensic medical examiner/police surgeon) had seen the detainee and in eight cases warning signs were apparent. Review by a doctor cannot guarantee safety. In one study a doctor was called to assess half of the cases: one died before his arrival, four were assessed as "fit to detain," and one was evaluated as needing admission to a psychiatric hospital.

In response, methods for trying to identify and reduce the risk can be applied. Use of trained civilian staff for the custody care role is appropriate; a

Figure 1 (A) The view of the ''wicket,'' which had previously been left open for a prisoner. The blue is a blanket that has been wrapped around the wicket, which was then pulled shut from within the cell. (B) The view from within the cell, demonstrating how the prisoner had used the cell blanket in an attempt to self-harm, by twisting it around his neck, and allowing suspension from the wicket.

friendly supportive attitude by people unconnected to the arrest helps detainees to calm down and feel less isolated. Allowing the permitted phone calls and giving drinks, food, magazines, and (untearable) bedding may tip the balance and prevent a suicide bid. Not all police forces or all stations within police forces have the financial resources to do this. If prisoners indicate that they will self-harm or they have suicidal thoughts, constant surveillance may be needed. A medical assessment may be carried out, if necessary followed by a full mental health assessment. The medical consultation may be therapeutic in itself; medication may be given or sometimes a mental illness diagnosis may lead to psychiatric hospital admission or arrangement for outpatient care.

Within the Metropolitan Police Service (London, UK) and some other UK forces all detainees in police custody are now specifically asked on arrival at the police station whether they have ever self-harmed. This allows identification (of some, but not all) of potential higher-risk detainees. The use of CCTV monitoring of some police cells for detainees who are at higher risk is another development to assist care, but CCTV monitors need to be placed so they are not obscured from view and are constantly in an observer's sight line (Figure 6).

Alcohol and Drug Misuse

The PRG paper refers to deaths due to substance abuse (drugs and alcohol) under the category of "the deceased's own actions," these deaths being thought to be directly related to consumption of a substance (alcohol, drugs, or both) prior to arrest. Medical conditions not due to the consumption of substances prior to death were classified as "medical conditions." Sixty-nine (25%) of the deaths were attributable to substance misuse. In 45 cases the deceased had consumed alcohol alone; in 16 drugs were thought to be the cause, whether an overdose, the mixing of drugs, or connected to the withdrawal from drugs. In a further eight cases, the combination of drugs and alcohol was the given cause of death. This total does not include the relevant contribution made to the other causes of death by the longer-term use of substances, for example, heart damage (alcohol and cocaine in particular). Also it was known that two-thirds of the detainees included in the study had

Figure 2 Broken recessed lighting panel; the sharp edges were used to cut the cell blanket into strips, and the light surround was used as a suspension point.

consumed some alcohol before they died, but the alcohol was not thought to be a direct cause of death.

The massive and explosive increase in drug misuse, particularly heroin and cocaine (as crack), and to a lesser degree, other substances such as ecstasy and γ-hydroxybutyrate, has in recent years brought a new problem to custodial situations. Since 1992 the number of police detainees with significant drug problems has increased threefold from 11%. Many of the users have codependencies. In addition to drug intake for drug effects, the dangers of drug concealment (e.g., swallowing rocks of crack to avoid being charged with possession or supply of drugs) are great. There have now been a number of deaths in custody due to drug swallowing. The Metropolitan Police Service has issued orders to all officers that, if drug swallowing is witnessed or suspected, the prisoner must be taken immediately to hospital for assessment, as the absorption of crack from even one rock that leaks into the gastrointestinal tract can be enough to cause death.

Excited delirium is recognized as a potential cause of death and police and healthcare professionals assessing prisoners have been made increasingly aware of this syndrome in those who may have ingested stimulants and who may have been involved in chases, been violent, required restraint, or otherwise have behavior patterns of concern.

Drug intoxication can be mistaken for drunkenness. The study revealed that nearly half of those dying from drug abuse were arrested for being "drunk," despite most of them not having consumed

Figure 3 (A) View from the door of the cell; the toilet is obscured for privacy behind a low wall. (B) View of the toilet in the same cell showing blood following a successful (and hidden) self-harm attempt; there had been no warnings or previous history.

alcohol. The physical appearance and behavior characteristics of "drunkenness" in these cases are due to a dangerous effect of drugs.

A recent review of the role of alcohol in police-related deaths (a total of 58 in 2000–2001) concluded that those with gross alcohol intoxication are not adequately cared for in police custody, and when medical crises occur in this population, police officers do not have the support, resources, skills, or training to provide the emergency interventions required.

Lessons from Tragedies recommended three main measures: (1) the use of CCTV for those known to be at risk in the cells and also in vehicles used to transport high-risk detainees; (2) that under no circumstance should a person arrested for being "drunk and disorderly" or "drunk and incapable" be placed in a cell with another person; and (3) that custody in a police cell is clearly not an appropriate place for someone who has had to be detained on account of "drunkenness."

Figure 4 (A) Rubberized knife (blade is flexible and will not cut skin). (B) Close-up of rubberized knife blade after chewing.

Medical Conditions (Including Head Injury)

Of those separately categorized in the PRG study as deceased due to severe or chronic medical conditions, 81 (29%) were recorded. The average age of this group was the oldest; many had been transferred to hospital before they died. The commonest five causes of death were: (1) heart problems (39%); (2) head injury (33%); (3) lung problems (10%); (4) epilepsy (5%); and (5) liver problems (4%). The head-injury group were often not recognized as such at booking in. Often the term "head injury" is misunderstood and it needs to be emphasized that any blow to any part of the head with any implement is technically a head injury. Alcohol predisposes to falls and may

Figure 5 Microwave meal container documented as having been used as a cutting implement by tearing a strip of the plastic container.

Figure 6 Closed-circuit television monitor with screen for a cell under observation has been obscured by a plastic container.

prevent the person giving an account, but also head injury alone may cause behavior that is like alcohol intoxication. The National Institute for Clinical Excellence (NICE) has issued guidelines for medical care, stating that the presence of all but a superficial (undefined) head injury in the presence of alcohol and/or drugs requires hospital assessment. It must be accepted that care given during detention may not always affect outcome. However, in the preventive sense, establishing the correct diagnosis and management can save some individuals sent to hospital appropriately, for example, head-injury victims who are hospitalized in time for life-saving treatment. Failure to recognize or act on problems once identified are areas which rightly cause the public much concern.

Deaths Associated with Other People's Actions, Including Police Restraint

Arrests, of necessity, sometimes involve force but it should be the minimum. A definition of "excessive force" is any force that a police officer of the highest skill might find a way to avoid. No figure is available for the restraint rate at arrest of all arrestees. In the PRG study, 16 deaths were associated with restraint at arrest or in the custody block, giving an estimated figure of 1.4 deaths for every million people arrested for notifiable offences. Of these 16, in three cases coroner's verdicts of "unlawful killing" were returned. In others substance misuse or medical factors contributed to the deaths. Key features common to many of the 16 where restraint was a factor included: resisting arrest and "struggling"; physical restraint and equipment combined; and generally a quick reaction to the deterioration in condition of the arrestee, with attempts at resuscitation and calling for an ambulance. But three were "carried" into the custody block, indicating a failure to recognize the severity of the problem at this stage.

The risks associated with neck holds, that may be used in an attempt to restrain, or to prevent swallowing of drugs, are now widely recognized, and basic training emphasizes to police officers the dangers inherent in such practices.

Minimizing the Risks

Protocols for custody care have changed in response to the recognition of risk factors for suicide, whereas previously cell hatches were often deliberately opened for distressed individuals, they are now kept shut to reduce the risk of hangings. New cell designs attempt to minimize obvious suspension points. Other measures used include more frequent cell checks, CCTV, nontear blankets, and clothing removal.

A risk assessment booking-in form is completed by custody officers, in which specific questions are asked about both medical conditions and self-harm, and this forms part of the custody record. A new prisoner escort record (PER) and improved standards of information transfer are currently being introduced. The PNC is being used for basic health information and is routinely checked in custody.

Training must be a high priority for all those involved in the care of prisoners – gaolers, custody officers (those tasked by the police with the welfare of prisoners), forensic physicians, and custody nurses. Likewise, arresting officers must be trained to recognize medical emergencies. This training must be undertaken at a high level and reinforced on a regular basis and applicable to local needs.

It is important to emphasize that, although many deaths in custody are potentially preventable, a number are not. As well as unpredictable deaths from illness, a determined self-harmer may achieve success despite the best efforts of those responsible for his/her care and an individual may conceal drugs, use the drugs in a cell, or suffer the effects of hidden drugs leaking from wrapping within the body and subsequently die. All such deaths are tragic. It is perhaps important to remember that the spectrum of individuals passing through police custody are those that are most vulnerable. Many have multiple problems encompassing drugs, mental health issues, social isolation, and deprivation. Deaths are inevitable, but it is up to those tasked with aspects of their care to try and ensure that deaths are not due to ignorance, omission, or negligence. It is surely the responsibility of any state to have systems by which such deaths can be independently investigated. The system in England and Wales is far from perfect, but at least a system is in place, and one that continues to evolve.

See Also

Custody: Death in, United States of America; **Detainees:** Care in Police Custody, United Kingdom; Care in Prison Custody, United Kingdom; **Restraint Techniques, Injuries and Death**

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Death in, United States of America

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Introduction

Changing social norms and innovative technologies determine current law-enforcement tactics and policies of arrest, incarceration, and interrogation. The serve-and-protect role of the police requires them to ensure the safety and well-being of those in their custody. A death in police custody, therefore, initiates a public inquiry into the adequacy, appropriateness, and safety of any established policies and procedures. This public inquiry is most intense when the death is accompanied by violence, particularly when there is the application of lethal force. A death in custody is always "high-profile," regardless of any attention afforded by the news media.

The term "in-custody death" may include a wide variety of cases, such as death within 24 h of being released from police custody, or death in state-run long-term care or mental health facility. For the purposes of this discussion, "in-custody death" in the USA refers to any individual who dies while incarcerated, or who dies during the attempt to arrest, transport, or interrogate the subject. Deaths in custody may be divided into three groups: (1) nonviolent (e.g., from natural disease, drug overdose, or drug withdrawal); (2) controlled violence (e.g., suicide, judicial electrocution); and (3) uncontrolled violence, when police attempt to restrain an agitated or violent subject and progress through a use of force continuum up to and including the application of lethal force (e.g., police use of chemical sprays, electrical stun devices, neck holds, and firearm discharge). However, for purposes of this discussion, "police" refers to all law-enforcement and correctional officers.

General Consideration for In-Custody Deaths

In-custody deaths almost invariably raise questions and allegations that can only be addressed by a complete autopsy, including toxicologic analysis, appropriate chemical studies, and histologic confirmation. No matter how obvious the cause of death, questions and allegations often concern other issues such as maltreatment of the prisoner, the role of alcohol and drugs, and timely attention to medical needs. Some community groups have a deep mistrust of the police and an in-custody death automatically heightens suspicion of "police brutality." A government pathologist is frequently considered to be a part of the law-enforcement establishment and therefore viewed as someone prone to "cover up" for the police. Hence, the necessity of good photographic documentation of not only what is present but also what is not found at autopsy (e.g., presence or absence of neck injury, conjunctival petechiae, rib fractures). Although somewhat controversial, having another pathologist (representing the family or a segment of the community) witness the autopsy may go far towards alleviating suspicions of a cover-up. Police and prosecutors are often reluctant to allow an outside pathologist, particularly if chosen by the family, to witness this autopsy. However, it should be realized that a pathologist hired by the family would do a second autopsy (often in a funeral home) where misinterpretation of postmortem and postautopsy artifact is quite possible or even likely. In general, it may be wiser to have the second pathologist observe the first autopsy rather than misinterpret postautopsy artifact. It is nonetheless acknowledged that some circumstances may prohibit any first-hand observation by an outside pathologist.

Formal guidelines for the investigation and postmortem examination of in-custody deaths have not been established in the USA. Nonetheless, special consideration should be given to certain dissection techniques (Figures 1–3) that are generally not performed in routine autopsies. Every death in police custody should include a layerwise anterior neck dissection (after organ evisceration to eliminate artifacts), and a back dissection (to demonstrate contusions). Consideration should be given to a posterior neck dissection, facial dissection, and stripping of the parietal pleura to identify or exclude rib fractures. Examination of the scrotal sac for testicular contusion and paratesticular hematoma should not be overlooked. Consideration should also be given to examining the entire spinal cord whenever the terminal event was of a violent nature. Hemoglobin electrophoresis should be requested to identify or exclude a sickle-cell hemoglobinopathy if the subject is of African descent.

When the terminal event required an escalation of the "use of force continuum," up to and including the use of maximum restraint ("hog-tying"), or the application of lethal force, two subsequent procedures are quite useful. One is a scene reenactment, preferably with the involved police officer(s). Both videographic and photographic documentation should be done. The second procedure involves a conference with all those involved in the death investigation:

Figure 1 Facial dissection. Facial fractures may not be visualized by radiologic imaging techniques. In this case it was important to document or exclude blunt facial trauma. Reflecting the face revealed a fracture of the mandibular ramus not related to the gunshot wound of the maxilla. Note also that the projectile (anterior and deep to the mandibular ramus) is easily accessible with this approach. (The dissection technique allows for easy facial reconstruction and subsequent viewing of the body at the funeral home.)

homicide detectives, officers from internal review, crime-scene personnel, appropriate crime/laboratory personnel, toxicologist, and pathologist. The meeting is generally held about 2 weeks after the death, and each discusses the case from his/her perspective. The purpose is to share information, identify areas for further testing and investigation, and to ensure the proper preservation and disposal of evidence. Often with in-custody deaths, the investigation is equally important as the autopsy findings.

When the custody death is, or is perceived to be, the consequence of police action, there will likely be judicial proceedings in the not too distant future. There may be an inquest, grand jury inquiry, criminal trial, or civil litigation. In addition, in the USA, there may also be federal civil rights charges against the police. Therefore, it is imperative that all notes, meetings, and proceedings be carefully and completely documented. To help ensure quality, it is recommended that the autopsy report also be proofread by another pathologist for clarity and accuracy. In deaths where there are multiple injuries, attaching a clarification diagram will greatly assist the reader of the autopsy report to understand the location of the injuries and pathways of projectiles (in cases of police shootings). Because of the scrutiny associated with in-custody deaths, it is important to preserve all original notes and drafts.

When a prisoner is found dead in a jail cell, the question of time of death invariably arises. Although determinations of time of death are hazardous, a reasonable estimate may be given provided close observation of the body at the scene is followed up several hours later. Hence, observing rigor in the jaw, little lividity, and cutis anserina, with more pronounced rigor and lividity 5 h later, could suggest death occurred 1–3 h before the body was discovered. Alternatively, the detection of fully developed rigor mortis would not be compatible with a guard's statement that the subject was asleep and breathing 1 h before being found dead.

Nonviolent In-Custody Death

Expected Natural Death

Prisoners dying outside the conventional hospital setting from acquired immunodeficiency syndrome (AIDS), cancer, or other previously diagnosed terminal illness are generally the least problematic of the in-custody deaths. Nonetheless, there may be allegations of the timeliness or adequacy of treatment. Since these questions or concerns may not surface for some time, and since an in-custody death is always the subject of official and public scrutiny, an autopsy should be considered in anticipation of these potential concerns. Documentation of the extent of the disease process as well as the lack of any evidence of maltreatment will prevent much needless speculation. The same reasoning applies to toxicologic testing in that the presence of appropriate drugs in sufficient concentrations is documented. Likewise, the detection or absence of contraband drugs such as heroin or cocaine is of great significance.

Sudden Unexpected Natural Death

When sudden in-custody death occurs from natural causes in the absence of any medical history, allegations frequently emerge that the police ignored signs, symptoms, or other indicia of medical distress. Furthermore, it will be alleged that this failure deprived the subject of adequate and life-saving medical treatment. Autopsy and toxicologic studies are of obvious benefit in addressing these issues. Also, documentation of lack of injuries (or their presence) is of crucial importance. When a medical condition is known to the police and sudden death occurs, there is invariably the allegation that police failed to administer the drugs appropriately.

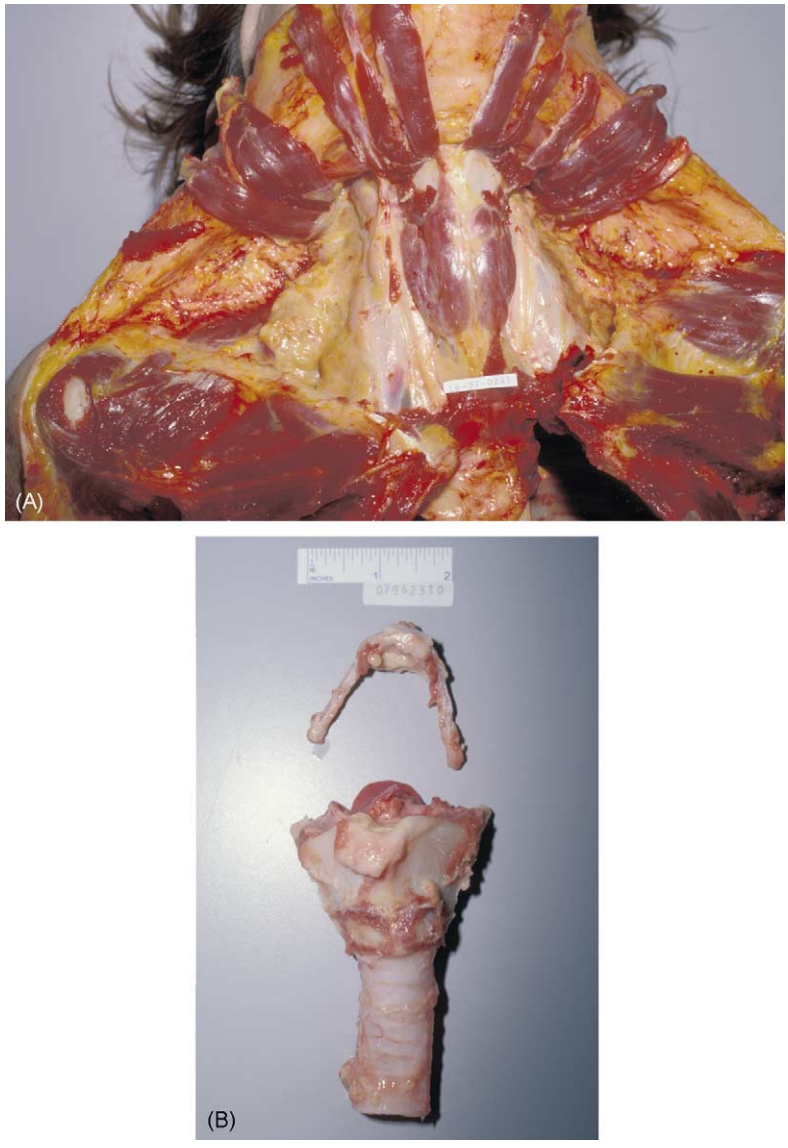


Figure 2 Layerwise neck dissection. This technique provides clear documentation of the location, or absence, of any neck injury. (A) The strap muscles are reflected to demonstrate the absence of any injury; (B) the hyoid bone and laryngeal cartilages (including the cricoid cartilage) are exposed and demonstrated to be free of injury.

However, since a subject may refuse treatment, a genuine conundrum develops when the subject refuses medication (e.g., insulin) or medical treatment (e.g., dialysis for chronic renal failure). Although criminal charges are unlikely in such a circumstance, civil litigation should be anticipated.

Death from Drug Overdose

Surreptitious ingestion of drugs shortly before police apprehension may take one of three forms: (1) a suicidal ingestion of drugs (or a poison) followed by some behavior that attracts the police; (2) swallowing of a drug or drug packet to elude police detection ("minipackers"); and (3) delayed death from having swallowed drug packets for smuggling purposes ("body packers"). In any of these categories there will be questions as to whether the police knew or should have known about the ingestion. In some cases subjects may actually tell the police about their suicidal ingestion. Ignoring the statement by assuming it was made to manipulate the system may have obvious dire consequences.

Both drug dealers and drug users may swallow a drug or drug packet to hide the contraband from police, thinking they will not die of a drug overdose. At autopsy, there may be no evidence for this ingestion unless remnants of the packet are found, usually

Figure 3 Subcutaneous dissection. Reflecting the skin of both the front and the back provides for ready identification and localization of contusions. This is particularly important since many contusions may not be externally evident, especially in dark-skinned individuals.

in the stomach (or, rarely, obstructing the upper airway). Body packers usually ingest many large packets, which can be seen on an abdominal radiograph and may be found throughout the gastrointestinal tract. Also, it may be that all but one packet was passed before arrest and incarceration. At autopsy, fragments of the packaging material will be found in the colon, particularly the cecum (which is larger, contains more water, and is less muscular than the left side of the colon). Sudden unexpected death in police custody shortly after arrest or incarceration should always prompt consideration of drug ingestion, and the intestinal contents should be carefully searched for drug packets and packaging material.

It is important to remember that drugs may be purchased in jail from corrupt guards or others with direct or indirect access to prisoners. Loss of drug tolerance during incarceration may well predispose heroin addicts to a fatal narcotic overdose. Individuals with hypertensive or arteriosclerotic cardiovascular disease may succumb to stimulant drugs such as cocaine or methamphetamine.

Finally, it is important to note that death may occur from narcotic withdrawal. Today, this is rare and highly unlikely because of access to medical care in the jail setting. Nonetheless, the possibility must be given consideration.

Toxicological sampling should include blood, urine, bile, and vitreous fluid as well as liver and brain to evaluate levels of drugs and medications in tissues and fluids, and perhaps to estimate the approximate time of ingestion.

Controlled Violence

Suicide

Most jail suicides result from hanging. The usual ligature is a belt, or item of clothing, shoelace, or bed linen. If prisoners are perceived as a suicide risk, the clothing is taken from them and they are checked frequently (e.g., every 15 min). Without anything to fashion a ligature and nothing sharp available (toilets are stainless steel) the likelihood for a successful suicide is greatly diminished. Nonetheless, other methods such as jumping, prescription drug overdose, and even suicidal drowning in a toilet bowl have successfully occurred.

The investigation will attempt to assess how the person could have actually committed suicide with other prisoners and guards nearby. The autopsy is needed to confirm the cause of death (i.e., that hanging was indeed the cause of death), that there is no evidence for it being a homicide made to look like a suicide, and the role of drugs or alcohol. Neck compression in a kneeling or sitting position, as well as partial suspension, results in atypical findings that are not characteristic for classic hanging. Hence it is crucial to compare injuries with body position.

Capital Punishment

Judicial executions, at least in the USA, are witnessed by a number of public officials, often a victim's family, and representatives of the news media. Despite all the preparations and the witnesses, and an obvious cause and manner of death, an autopsy is required to ensure the procedure was effective and humane, and that the prisoner was not drugged or mistreated prior to the execution itself. A judicial hanging, for example, should result in a clear hangman's fracture of the high cervical spine to cause instantaneous death. Likewise, death by firing squad or electrocution should have evidence of near instantaneous death as demonstrated by the autopsy.

Medical ethics dictates that physicians must not participate in an execution. It has further been alleged that performance of an autopsy and certification of death is unethical because it makes the pathologist a participant in capital punishment. However, the executed prisoner is not the patient of the forensic pathologist – society is, and the autopsy is the last quality-control check on the handling of that

prisoner. To avoid the allegation or appearance of impropriety, the physician should not pronounce death, and the autopsy should be done some hours after the execution and at a site removed from the facility where the execution took place.

Torture

Lethal injuries may occur during interrogation accompanied by beatings or other physical trauma. When a fatal injury is obvious (e.g., closed-head trauma, lacerated spleen), it must be correlated with the terminal event. Also, the body must be carefully examined for other, often subtle, evidence of injury, which may be associated with severe pain but is far from lethal. There could be small punctate lesions from repeated application of a stun gun, inflamed paranasal sinus membranes from aspiration of carbonated beverages, irregular patellar scars or abrasions from forced crawling on gravel, and anogenital injury from sexual assault. Pathologists should be familiar with pattern injuries resulting from the use of batons, flashlights, and other objects commonly carried by law-enforcement personnel. The possibilities are endless, and the pathologist is left to document the injuries and scars with the hope of correlating these at some future date when and if the interrogation methods are revealed. Death certification in such cases may be problematic if the medical examiner is pressurized to accept a terminal scenario that does not easily correlate with the lethal injury or other injuries observed on the body. At worst, the medical examiner deliberately falsifies the cause and manner of death and covers up the evidence of torture.

Uncontrolled Violence

Violent subjects always pose a very real threat to themselves and others. Consequently, police must utilize techniques to control and contain the subject while simultaneously protecting innocent people and preventing injuries to the responding police officers. Ideally, the subject is quickly controlled and removed from the scene uninjured and before any harm has come to others. Various techniques and instruments have been devised to incapacitate a subject safely for a brief period that will allow the police to handcuff and hobble the subject safely. The methods are regarded as nonlethal when properly utilized. That assumption comes under question when death occurs during or shortly after the struggle (*post hoc ergo propter hoc*). Methods, techniques, and instruments often change for a variety of reasons. The methods more commonly used today that provoke controversy and stimulate lawsuits include the lateral vascular neck restraint (also referred to as LVNR, carotid sleeper hold, or upper-body control hold), electrical stun device (stun guns, tasers), pepper spray, and maximal restraint ("hog-tying").

Lateral Vascular Neck Restraint

This technique, when properly applied, is supposed to render the subject unconscious for a few seconds to allow the police officer to place handcuffs on the subject. The basic technique consists of standing behind the subject and placing the upper extremity around the subject's neck with the elbow pointing forward in the midline. The arm compresses one side of the neck, the forearm compresses the other side, and the larynx is protected by the flexion of the elbow. Since only the sides of the neck are compressed, this is not a "choke hold," and the airway is not compressed or injured. The theory is that the carotid arteries are compressed, thereby causing cerebral hypoxia, and the carotid bodies are stimulated and reduce the heart rate. However, the mechanism is probably more complex since the carotid arteries are probably not completely occluded and the jugular veins are obstructed. Prevention of blood flow from the brain while blood is still flowing to the brain via the vertebral arteries (at least) rapidly increases cerebral blood volume and results in hyperacute cerebral swelling, which also results in a rapid loss of consciousness. Release of the pressure allows for rapid recovery. Most police agencies require the hold to be released after 30 s. The obvious physical danger of this technique is that during the struggle the LVNR could turn into a forearm bar-hold (forearm going across to the front of the neck), which will compress the airway.

Use of the LVNR is very controversial. Although some agree it is effective and safe when properly applied with appropriate safeguards, its use is banned by many police departments and in many countries, because of the perception that it is a choke hold, and because it will be the alleged cause of death should the subject die during or shortly after the struggle. In the absence of other findings it would be very difficult to disprove.

Electrical Stun Guns

These devices are designed to deliver many thousands of volts of electricity at very low amperage. The subject becomes incapacitated from pain and localized muscular contraction. One device requires the electrodes of the unit (about the size of a standard deck of playing cards) be placed against the subject's body. Another, referred to as a taser (an acronym for "Thomas A. Swift's electric rifle"), shoots darts

attached to wires. Both leave small red marks on the skin. These devices are uniformly regarded as safe and effective, and they do not cause cardiac rhythm disturbances. It must be noted that these electrical stun devices may be used as a torture instrument.

Pepper Spray

The active ingredient is an extract of pepper, oleoresin capsicum (OC), a severe mucosal irritant that creates a burning sensation of the eyes and mucous membranes of the mouth. It may also irritate the upper airway and cause some coughing. It is not known to cause any life-threatening incapacitation or lasting harm. Only one death has been reported where pepper spray probably contributed to the death and this occurred in a person with an inflammatory lung disease. Other deaths temporally related to the use of OC spray have been shown to be due to other causes, despite plaintiff allegations to the contrary. It should be noted that pepper-spray canisters are designed to release short bursts, not a continuous stream. At autopsy, no objective signs (such as redness or swelling of oropharyngeal mucosa) have been observed except, perhaps, for scleral injection. Aside from specious allegations that it was the cause of death, the major concern about pepper spray is that it caused incapacitation and yet the police continued to act. That, of course, is to be determined by investigation, not the autopsy. However, it is not infrequent that, although OC spray was discharged, it failed to hit the subject. Therefore, if OC spray has been used, swabs of the clothes, face, nose, eyes, and mouth should be taken to confirm its presence, or provide some evidence that it did not reach the intended target. Since the substance is highly volatile, the swab should be taken and analyzed as soon as possible.

Maximum Restraint (“Hog-Tying”)

Violent individuals who continue to kick and thrash about before being handcuffed behind their back may be further secured by hobble restraints placed on their ankles, and these in turn are then connected to the handcuffs by another strap or cord. It has been hypothesized that the bowed position, particularly while prone (and obese), interferes with the bellows action of the chest and diaphragm and causes death by asphyxiation. The term “positional asphyxia” or “restraint asphyxia” has been applied to this proposed phenomenon. Thus far, there is no direct evidence to fully support this hypothesis of positional or restraint asphyxia, and recent studies indicate these cases of sudden death are primarily cardiac and associated with a severe metabolic acidosis.

Additional experiments on healthy volunteers reveal there is no significant compromise of respiration from being restrained in this fashion after physical exertion. The postmortem examination should, nonetheless, specifically mention the presence or absence of petechiae in the conjunctivae, upper airway (epiglottis), lining membrane of the sphenoid sinus, and lingual tonsils. Documentation of rib, chest, and back injuries, or their absence, is also of paramount importance.

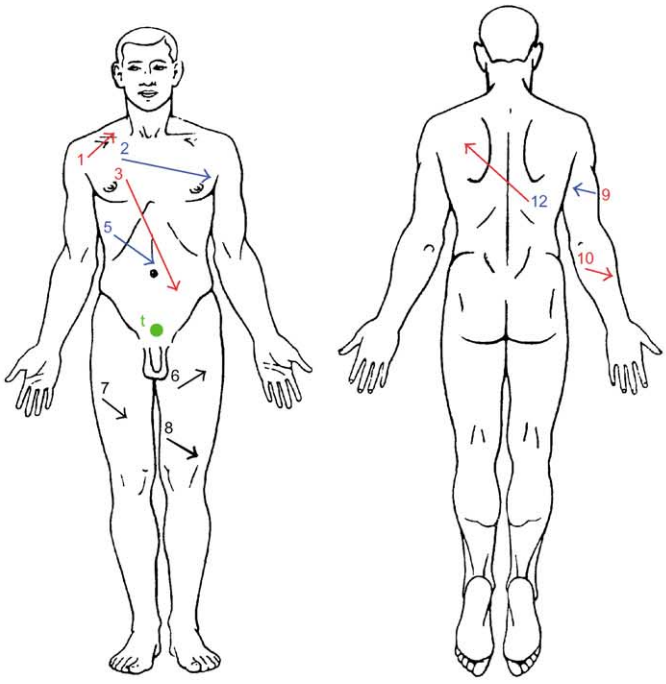
When maximum restraint is necessary, police are instructed to place the subject on his/her side and continually monitor vital signs until the subject is taken to a medical facility or jail.

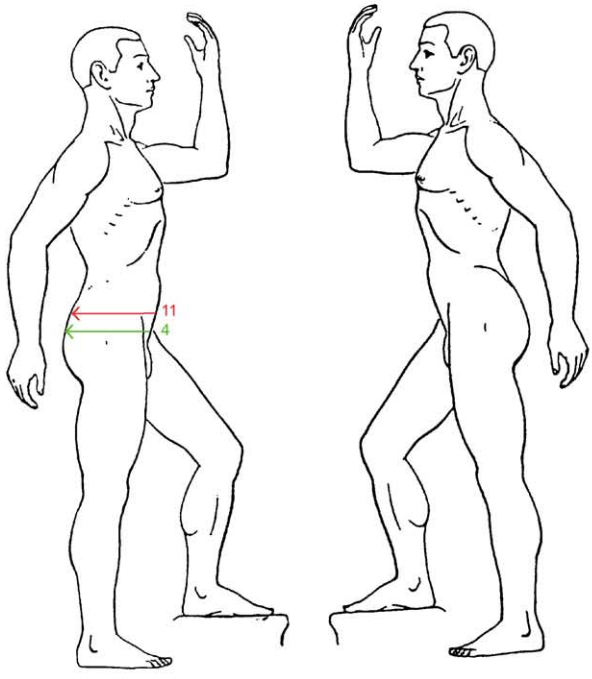
Police Shootings

The police are the only civilian segment of US society authorized to use lethal force. When such force is used, there is invariably an intense investigation as to whether the use of lethal force was, in fact, justified. Frequently, the autopsy contributes important information to this investigation by documenting projectile pathways and providing evidence of range of fire.

One characteristic of police shootings is that there are frequently multiple shooters. Knowing where they were located and what type of ammunition was being fired frequently allows for a reconstruction of the movements and position of the subject. All projectile pathways must be accurately traced and recorded. In addition, more important perhaps than all the photographs taken are clarification diagrams which reveal projectile pathways and allow for good correlation of the scene and the terminal events. The following is illustrative.

A man was shot 11 times by four police officers. The police fired when the subject was about to strike one of the officers with a hammer. The plaintiff allegation was that the subject was incapacitated with pepper spray and he was unnecessarily executed by the police. Evaluation of the bullet pathways supported the police scenario. In the clarification diagram (Figure 4), note bullet wounds #9 and #2. The photographs revealed that this is one projectile pathway #9, entering the right arm laterally, exiting medially, and re-entering the body at #2. The only way this could align is if the arm is raised above the head, consistent with swinging a hammer as the police indicated. Knowing the position of the shooting officers further indicated, with the use of this diagram, that the subject continued to move his arm down and twist toward the left before dropping the hammer and taking a few steps until he collapsed.





OFFICER	GSW	COLOR DESIGNATION	COMMENT
A	1,3,10,11,12	Red	11 is a graze
B	4	Green	----------
C	2,5,9	Blue	2 is re-entry from 9
D	6,7,8	Black	----------

Figure 4 Clarification diagram. Delineation of the pathways greatly aids in determining the likely sequence of shots. In this case, #9 and #2 are one wound that could only occur if the arm is raised, consistent with attacking, with a hammer. As the subject swung the hammer down and twisted towards the left, he sustained wounds #9/#2, #1, #4 and #11, then #3 and #5 as he twisted left and bends forward, and finally sustained #10 and #12. It is uncertain in the scenario when the lower-extremity wounds occurred.

When confronted by police, a subject may attempt suicide in such a way as to precipitate a barrage of police fire. Two scenarios are likely. One is where the subject shoots him/herself. The police, thinking they were the targets, open ("return") fire. The autopsy will reveal the suicidal gunshot wound and that the police actually shot a dead or dying person. The other scenario is termed "suicide by cop" whereby the subject forces the police to shoot him/herself fatally. One example is where a subject threatens police or a hostage with a realistic-appearing toy gun, forcing the police to shoot and kill the subject.

Excited Delirium

Agitated or excited delirium is an acute confusional state marked by intense paranoia, hallucinations, and violence toward objects and people. The most common causes seen today are toxicity from stimulant drugs, especially cocaine and methamphetamine, and psychiatric patients who stop taking their medication. The bizarre and threatening behavior of these individuals invariably leads to a police response. The subject violently resists any attempts at being restrained by the police and displays a surprising amount of strength. Several police officers are needed to handcuff and ankle-cuff the individual. Sudden death occurs within a very short time of being restrained in most cases.

The violent nature of this syndrome often results in the police application of a variety of techniques to restrain the subject. These include baton strikes, LVNR, OC spray, stun guns, and maximum restraint. The effects of all these techniques must be carefully evaluated by both investigation and autopsy. Thus far, available evidence indicates that there are sudden cardiac deaths associated with a severe metabolic (lactic) acidosis. Nonetheless, civil litigation nearly always alleges so-called positional or restraint asphyxia as a cause of death, with or without the contribution of the other instruments used by the police (i.e., pepper spray, LVNR, stun gun).

Summary

Deaths in police custody invite intense scrutiny. The autopsy and related studies (such as toxicology) must be complete and thorough, anticipating questions that will eventually arise. Dissection must demonstrate both what is present and what is not present. Thorough documentation by photographs and diagrams is of paramount importance. Finally, the medical examiner must observe the reenactments and be included in sharing information with other investigative agencies. Since in-custody deaths frequently involve physiologic processes, or chemical and drug reactions, there may well remain legitimate differences in interpreting the objective findings.

See Also

Custody: Death in, United Kingdom and Continental Europe; **Detainees:** Care in Police Custody, United Kingdom; Care in Prison Custody, United Kingdom; **Excited Delirium**; **Injuries and Deaths During Police Operations:** Shootings During Police Stops and Arrests; Special Weapons and Training Teams

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