

Doing No Harm

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PMVA and Safety

This presentation will be in 3 parts:

- The recent research carried out by Caring Solutions (UK) Ltd on behalf of the Ministry of Justice into restraint related deaths and their causes.
- Training provided by Trusts into PMVA and the Governance arrangements for Trusts
- How NAPICU could become involved in lobbying for change

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Review of the medical theories and research relating to restraint related deaths

Review of the Medical Theories and Research Relating to Restraint Related Deaths

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Aims and objectives of the review

- A review of the medical theories and research relating to restraint related deaths focussing upon those that occurred in the UK from 1st January 1999 to 31st December 2009 with particular reference to positional asphyxia.
- Discussion of other aspects of restraint related deaths including excited delirium, pre-existing congenital conditions e.g. Sickle Cell Disease (SCD) and acquired conditions e.g. Chronic Obstructive Pulmonary Disease (COPD). Discussion of the role of drugs and alcohol in restraint related deaths.
- Identification of any trends particularly in relation to Black and Minority Ethnic (BME) communities and those individuals with mental health issues.

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Methodology

- Ø Establishing baseline dataset from the literature review
- Ø Gap analysis
- Ø Expert reviews
- Ø Expert opinion

Physical restraint is defined here as the lawful use of force involving the restriction of movement by physical holding

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Literature search

Inclusion criteria

- The study involved people, from age 14 yrs upwards, in mental health settings, custodial settings, or whilst the individual was being arrested by officers in the course of their duty, Secure Young People's Estates and Immigration removal services.
- Studies were published between 1st January 1992 and 1st June 2010.
- Cases in the UK were included in the analysis if:
 - Ø there was a report of, or comment on, the reported death relating to physical restraint;
 - Ø death occurred during, or after a short time period, physical restraint/physical interventions was used by those with statutory powers and a duty of care
- Exclusion criteria: intensive care medicine, military, use of Tasers, door security.

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International variations

- Considerable differences have been found across Europe on involvement of control and police, application of involuntary medication, need to transfer to forensic psychiatry, and use of coercive measures. Physical restraint, seclusion, and mechanical restraint each are common in some countries and forbidden or definitely not used in others
- Staff in Finland expressed the highest level of approval of containment including restraint; staff in the UK the least, with those in the Netherlands in between

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Findings of literature review

- There were 21 relevant international studies identified and 7 UK studies.
- There were 38 cases identified through NEXIS, INQUEST and a previous survey (Paterson 2003)

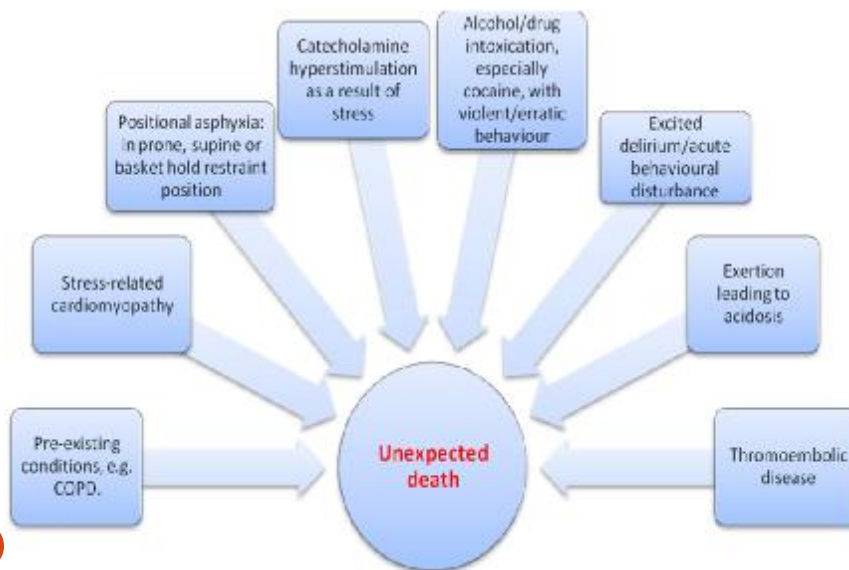
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Vulnerable populations

- Individuals with serious mental illness
- Individuals with learning disabilities
- Black and Minority Ethnic groups
- Individuals with high BMI
- Men 30-40yrs
- Young people

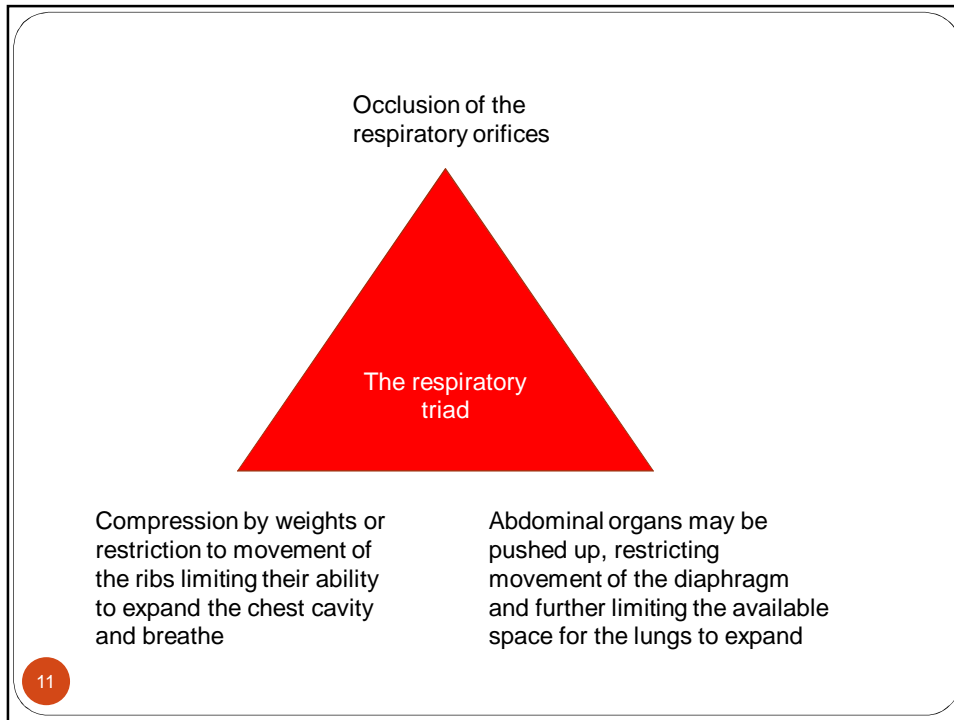
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Medical theories and concepts



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Review of the medical theories and research relating to restraint related deaths



Positional asphyxia

- Simply restraining an individual in a prone position may be seen as restricting the ability to breathe, so lessening the supply of oxygen to meet the body's demands where there is restriction of the neck, chest wall or diaphragm, particularly in those where the head is forced downwards towards the knees
- The 'forceful prone' position is particularly hazardous: pressure is applied to the back, abdomen or hips rather than, or in addition to, the holding of the limbs
- Other restraint positions, besides the prone position, have been implicated in deaths; e.g. hyperflexion

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- Breathing can be reduced by 15% in a face down position and by 23% if the person is bent in a face down position
- Signs of asphyxia are cyanosis, congestion and petechial haemorrhages; on autopsy more than half had petechial haemorrhages. However, in cases of restraint-related deaths, these have not always been noted on autopsy

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- Reports found that the time held prone before collapse ranged from 2 to 12 minutes. It has been claimed that the average time between first application of forceful prone restraint and when full cardiopulmonary arrest was noticed is 5.6 minutes
- Death did not immediately occur after positional restraint but there was more likely to be prolonged, severe struggle before collapse under restraint. Laboured breathing and cessation of resistance may demonstrate this collapse and indicate a medical emergency rather than cooperation from the individual.

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Characteristics of individuals in UK restraint-related deaths 1999-2010

- 16 out of the 38 cases had a history of mental illness, specifically psychosis.
- 3 had a learning disability such as autism.
- 15 were of Black or Minority Ethnic origin.
- 15 were males in the 30-40 yrs age group (only one was female). 1 was a young male.
- 2 were noted as being overweight.
- The deceased who had a history of mental illness may have been receiving neuroleptic medication which can have life-threatening adverse effects.
- 6 of the 38 had pre-existing conditions that may have increased the risk of cardiac arrest: one had ischemic heart disease, one had diabetes and four had epilepsy.

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30 of the 38 therefore fall into one or more of the vulnerable populations.

- 15 cases involved drug/alcohol misuse
- Verdicts of fatal excited delirium were given for 5 deaths.
- Accounts described the individual as being restrained in a prone position, either flat or over a mattress/chair.
- The number of staff involved in the restraint was between 2 and 15 staff; the length of restraint was between 10 mins and 1 hr 40 minutes.
- Police were involved in the restraint incident for 29 of the deaths.

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- **Positional asphyxia appears to be implicated for at least 26 of the 38 deaths (whether or not given as a verdict) because of struggle/physical stressors prior to restraint, number of staff involved and, in particular, because of the length of time of the restraint and position of the individual.**

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Current UK projects

- Researchers retrospectively investigated 40 cases of sudden cardiac death (SCD) in relation to an emotionally stressful event such as physical restraint. There were factors in the 12 restraint histories such as alcohol/substance misuse and obesity.
- Researchers are investigating restraint positions with the null hypothesis that restraint position will not affect the physiological measures of cardiovascular functioning. Positions to be investigated: standing, seated, prone and supine.

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Expert opinion

- Experts were invited by the Independent Advisory Panel to a seminar. The objectives for the seminar were to test out the findings of the review to date and to gain insights and raise any further issues around the already identified medical theories
- There was consensus amongst the participants who attended that there was a gap in reporting restraint-related deaths in verdicts in courts

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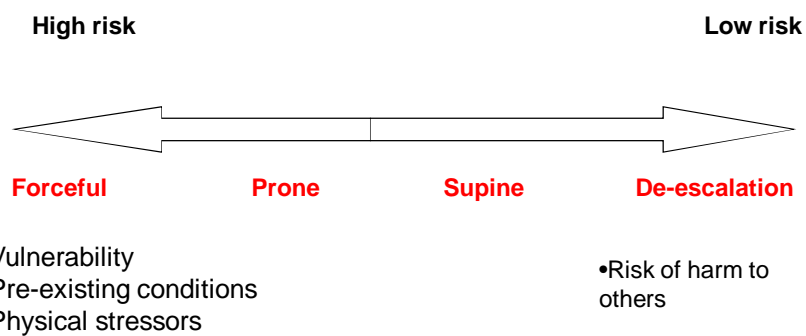
- There was also consensus that environmental and interpersonal factors need to be taken into account, e.g. how certain occupational groups behave; attitudes/behaviours, such as depersonalising, stereotyping and institutional cultures.
- There was consensus that the time factor in management of medical emergencies as a result of acute behavioural disturbances was critical
- Early warning predictors and markers should be noted by staff for those who are becoming unwell with a pre-existing condition before potential collapse

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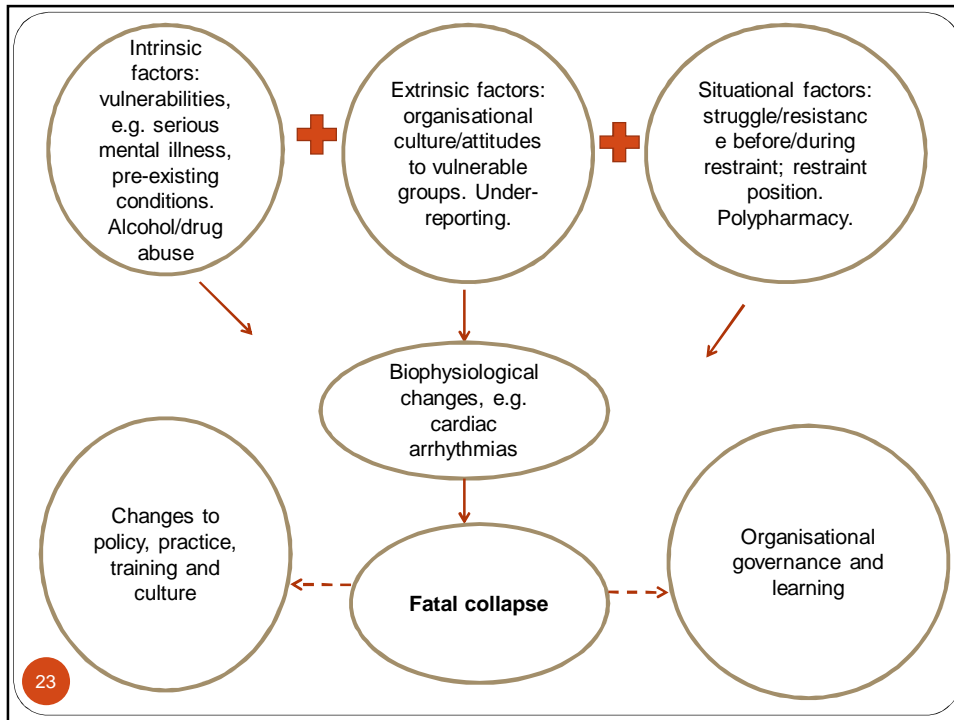
Overall concerns were raised as to whether direct cause and effect can be determined in deaths as they often involve a mixture of complex factors and situations. The general view was that it should be assumed that everyone is at a potential risk rather than try to profile individuals only medically at risk.

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Continuum of risk in managing violence or aggression



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You Don't Know What You're Doing!

Are you clear about what specific training is being provided for PMVA

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Assurance

- How do you currently get assurance that PMVA in use in your organisation is fit for purpose?

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- Performance monitoring of incidents; complaints; restraint and seclusion.
- Numbers of restraint incidents and injuries received by service users and staff
- Benchmarking with other services with adjustment for populations and severity.
- Senior Staff Undertaking training
- Seeking service user feedback
- Analysis of specific techniques
- Trainer attendance at 'approved' update training

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- Who ‘indemnifies’ the training. i.e. if a serious injury was to occur in using PMVA who would be to blame?
- The Staff ?
- The Trainers ?
- The Scheme of Training ?
- The Trust ?

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Problems

- Staff retention and recall of techniques
- Trainers adapt techniques or pick and mix from different system’s of training
- The Trust leave it to the ‘experts’
- There is an over-emphasis on restraint and less so on prevention and de-escalation
- Staff responding to incidents from other clinical areas

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NAPICU – an agent for change?

- If the current situation is unsafe/unacceptable what should NAPICU do?
- Should NAPICU act alone or seek to partner with other organisations?
- Should there be a policy statement from NAPICU on PMVA?
- Should there be mention of PMVA in PICU standards?

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