The Roles of the Police Surgeon

Police Surgeon = Forensic Physician = Forensic Medical Examiner
Roles of police surgeon

1. Prisoner examination for FTD
2. Prisoner examination for FTI
3. Collection of Forensic Evidence
4. Examination of Victims of Crime
5. Examination of Sudden Deaths
1. Fitness to be detained FTD (commonest reason)

• **Criminal Procedures & Investigations Act 1996:-**
  1. FMEs are no longer part of the Prosecution team, now independent
  2. All police, chaperones, translators are investigators and must pass any relevant information to Police/CPS (Including sensitive information given in confidence to FMEs)
  3. Need informed consent + results to police but n.b., the GMC Confidentiality booklet & removal from Register
  4. Prisoner’s FME Medical Records NOT transcribed into Custody Record. Police/CPS assume FMEs have relevant materials in their written notes.
Therapeutic Aspects of FME Roles


2. Can be called by police or prisoner. Forensis L. for market place = place of disputes. FMEs independent to Police/prisoner positions.

3. Custody Sergeant; - Safe Guardian of the prisoner:- FME asks re Hx of incident, allegations, charges.


Mental Health Act 1983 (amended MHA 2007)

• Is the prisoner Psychotic? They often are!!

• MHA was passed to protect interests of detained patients with Disabilities/Disorders of the mind, (England/Wales). Psychiatry relatively straightforward only 6 conditions to consider
  • Schizophrenia, A. Nervosa, Depression, Bipolarity, Learning Disability and Personality Disorders.

• MHA can detain and treat people against their wishes.
• s.2 = 28 day assessment order, s.3 = 6 months treatment order
• s.4 = 3 day emergency treatment (one doctor),
• s.136 = 3 day Police removal from a public place to a place of safety

  **Suicide Risk** PNC/Phoenix data base check – safe cell with frequent irregular checks,

• At risk:- mental disorders, addicts, domestic disputes, failed relationships, recent bereavements.
2. Fitness To Be Interviewed, FTI

Prisoner’s physical/mental state must be such that have un-impaired judgement to deal with interview and/or instruct solicitors. If YES, is FTI and interview can go ahead

**Court of Appeal** decisions re’ Birmingham 6 and Guildford 4, CPS need to prove no suffering from questioning in order to eliminate “False Confessions”.

FME d/w C. Sergeant re charges, length of detention, interview time/duration. Involves physical/mental health examination.

In Stevenage, drug withdrawal commonest issue.

If so:- What drug? how much? how often? which route? Last dose?

In a Program or not?

**Symptoms/Signs** not the same!! Addicts exaggerate!! Track marks? sweaty, runny nose/eyes, tachycardia, high BP, restlessness, pallor, cold skin/cold turkey/clucking, Active bowel sounds, slow reacting dilated pupils.
FTI cont’d

• If displaying signs, is NOT FTI. Tell C. Sergeant, treat the condition and tell C. S. when likely to be FTI or if need re-assessment.

• AFP recommend Dihydrocodeine 30mg 1-2 qds,

• Not methadone unless a named bona fide prescription.

• Continue any withdrawal programs, check other health issues, local drugs/alcohol services, Hep B, and C, HIV, venous thrombosis, sepsis, etc etc.

• If intoxicated, take blood for evidence
FTI cont’d

- **Impact of Addiction on Evidence**
  - Addicts may co-operate to get their fix. (might be a lever)
  - They provoke allegations of pushing to finance their habit.
  - Juries are biased against addicts and don’t believe them.
  - May need frequent re-assessments in interview, especially with hallucinogens:- LSD, Cocaine Ecstacy (Methyldioxymetamphetamine)
  - Heroin withdrawal starts 8-10 hrs, max at 48 hrs, recovery by 72 hrs.
  - Beware Benzodiazepine withdrawal may cause fits.
  - Methadone 1mg = 10mg dihydrocodeine = 30mg codeine = 1.5mg Heroin = Pethidine 20mg
Common Misused Drugs

1. Depressants

Opioids such as Heroin, Morphine, Opium, Methadone, Pethidine (less depressant). Are injected, swallowed or smoked (Chasing the dragon).

- Cause euphoria, drowsiness, lost concentration, analgesia. Slow reacting Pin point pupils, (not pethidine), constipation and respiratory depression.
- May become Tolerant in euphoria, analgesia and resp’ depression, so addicts must increase dose, leads to dependence and faecal impaction and other toxic effects as tolerance is variable –
- Common cause of sudden death by respiratory depression
FTI cont’d

• **2. Stimulants**
  • **Cocaine:** may be sniffed/injected
  • Causes Euphoria, high energy and high alertness, low appetite, insomnia, aggression, hallucinations, (Agitated Delirium) and exhaustion.
  • Signs: - Tachycardia, very high BP, rapid exaggerated reflexes, dilated pupils, sweating and dehydration, BUT dry mouth/nose.
  • Tolerance develops quickly, especially with Crack, (pure form of cocaine), is smoked with very rapid onset and decline - rapidly leads to dependence.
  • **Amphetamines:**- dexamfetamine, Ecstacy are swallowed.
  • May cause hyperthermia and dehydration need safe cells and risk of death in custody.
  • **Cannabis:**- is most commonly used, can be smoked or swallowed, cause euphoria, tachycardia, dilated pupils, ataxia
3. Collection of Forensic Evidence

• **Drink, Drugs and Driving**

• **Alcohol** $\text{C}_2\text{H}_5\text{OH}$(Ethanol) is a small highly soluble molecule, readily diffuses through bodies’ aqueous areas BUT is not Fat soluble. Women, (weight for weight) have approx 25% more body fat that men. Thereby drink for drink have a 25% higher blood plasma alcohol level than men.

• **Brain** Alcohol readily enters the brain, where is a toxic depressant. The higher front of the brain, which controls our sensible behaviour, is highly sensitive to alcohol and quickly depressed, giving rise to lowered inhibitions.

• At higher concentrations, it affects the lower and life supporting hind brain leading to sleep, coma, respiratory depression and death
3. Evidence collection cont’d

- **Alcohol cont’d** (Ethanol C₂H₅OH)
- **Absorption:** Mainly in Duodenum and Jejunum with little absorption across the stomach wall (so a full stomach delays gastric emptying and dilutes the alcohol & its absorption, BUT vice versa, so don’t drink on an empty stomach).

- Carbonated drinks speed up alcohol absorption.

- High alcohol intake irritates gastric mucosa, causes slower gastric peristalsis, by its toxic effect on stomach muscle and pyloric sphincter spasm, delaying gastric emptying and absorption. This facilitates emesis!
3. Evidence Collection cont’d

- **Elimination of alcohol** Mainly by hepatic metabolism, breath exhalation, renal/urinary elimination, sweating and a small amount of cellular metabolism.

- **In Britain Driving Legal limits of Alcohol**  
  - Blood = 80mg/100ml  
  - Breath = 35mcg/100ml  
  - Urine = 107mg/100ml

**Hertfordshire Roadside Breath Test**

If > 50mcg/100ml is prosecuted.
If > 35mcg/100ml but < 50mcg, is arrested and is put on the Lion Intoximeter, where the lower reading of 2 breaths is used.
If breath between 40 and 50mcgs/100ml, C.S. can opt for blood or urine sample. Blood is quicker and better.
If between 30 and 40mcgs/100mls, driver is warned.
Generosity reflects variability in Intoximeters
3. Evidence Collection cont’d

- RTAs increase when blood >50mg/100ml, (legal limit in France and Holland) Research from BMA. Pressure to lower level to this in England.
- USA = 80mg/100ml, In Scandanavia = nil,
- In Germany (where less RTAs). Blood levels between 80mg and 110mg leads to a fine,
- If > 110mg leads to a loss of licence. Why less RTAs?
- **FME Procedure** Request made by Officer. FME decides if there is a reason, NOT to give blood, Haemophilia, genuine phobias. FME decides site of venepuncture, 3 attempts allowed, so don’t drop the sample. Patient can request own doctor, but time limit.
3. Evidence Collection cont’d

- If an impaired driver has a negative breath test, is arrested and FME asked to examine.
- If no Consent obtained, have to record demeanor any unsteadiness, smell of cannabinoids, nasal sores, hand writing on custody sheet.
- If have consent, do above + full exam’n, CVS, RS, CNS & Men State. Decide if illness or not or drugs.
- C.S. can then proceed to blood test for intoxication.
- **Roadside Drug Analysers** of saliva and sweat are already used in USA, Australia and being tested in Scotland and various counties in England
3. Evidence Collection cont’d


Need consent of suspect, (parent if 14 – 18) & S’intendent. Consent unnecessary if dangerous substance. Must be in Surgery or Doctors room in P. Station, ??resuscitation).

Intimate samples:- blood, semen swabs must be taken by FME

Non-Intimate samples:- Need Superintendent authority and reasonable force may be used, (deaths in restraint). SOCOs/nurses may take other tissue fluids, pubic hair, non-oral swabs and dental impressions.
4. Examination of Victims of Crime

- Sexual Assault/Rape, unlawful S. I., Violent assault on Public and Police, (often to exclude them when assault is alleged).

  - Record all injuries contemporaneously, photos by Socos,

- FMEs interpret photos in court.

- Statements for CPS and Defence

- Appropriate medical advice given.

- Attend Court (professional/expert witness)
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<th>Date of Offence</th>
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**Injured Party:**

**Location of Offence:**

**Veh:**

**Task:**

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**Photographs Taken:**

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<th>Lifted</th>
<th>Sample</th>
<th>M.O./Circumstances</th>
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4. Examination of Victims of Crime cont’d

• **INJURIES**
• 2. Abrasions/Grazes, tangential force roughly applied to skin. May show size of weapon and direction of force by skin partially attached at final edge.
• 3. Laceration, blunt force by object strong enough to split and tear the skin, with rough irregular edges. Less bleeding as trauma causes vessels to contract
• 4. Slashes/Cuts/Incisions, sharp weapon drawn across the skin, gives smooth edges and vessels bleed a lot,(no vessel spasm).
• **Stab Wounds** are incisions, with depth greater than cut at skin surface. Deeper vessels bigger and bleed most of all.
4. Examination of Victims of Crime cont’d

- **Rape Cases**
  - History decides what evidence to look for
  - Undress on brown paper, (absorbs moisture preserving any samples/debris/body fluids collected for DNA profiling.
  - Bloods for DNA/Alcohol/Drugs/Grouping
  - Semen/Saliva for Grouping, Mouth and Skin swabs.
  - Pubic/Head Hair Combings and swabs for any assailant’s loose hairs or fibres,(no longer plucked as blood DNA better.
  - Vaginal/Anal swabs
  - Relevant photos by Socos.
  - DNA Database replaced grouping/Polymerase Chain Reaction
  - PMRs amplify stretches of DNA
5. Examination of Sudden Deaths

- W.H.O. = death within 24 hours of symptoms, BUT Forensic Medicine deaths may occur without symptoms, are usually unexpected, BUT unexpected deaths are not always sudden.

- Usually, the two occur together.

- FMEs attend as is sudden/unexpected and/or suspicious and/or GP unavailable.

- FMEs examine, pronounce death and advise on mode of death, (suspicious, accident, suicide, homicide or natural) PM and Coroner’s Inquest decide outcome. (Bacon Burger)
5. Examination of Sudden Deaths cont’d

- Approach, (careful/considered/cordoned area EXCEPT if alive then speed ++).

- How was body discovered? (Polish agric workers, Bones under patio, skull in field)

- Is scene dangerous, Bombs, Trains and Traffic. Have they been stopped?

- Discuss Access/Egress with Soco or O.I.C. to preserve Chain of Evidence, (c.f. O.J.Simpson).
5. Examination of Sudden Death cont’d

- Scene photographed first by Socos. Is it appropriate, has body been moved? Is it suspicious? d/w OIC and SOCOs

- Examine body from all sides, (Colonel/FME). Check colour of body, (cherryred = CO, methaemaglobinaemia) Protective clothing, (Contamination & Toxins).

- Advise on preservation of the Scene. Two perimeters, one for public and second inner one to prevent unwitting senior officers from contaminating the scene, (O.J. Simpson).

- Pronounce death, suspicious or not and/or consider putative cause and advise the Coroner when appropriate

Examination of Sudden Death cont’d

- **Old Death:** Mummification in dry draughty heat. Saponification/Adipocere in wet warm conditions, seen in new born sterile babies/ no bacterial putrefaction Fat is hydrolysed to a waxy soap which preserves the tissues below

- **Lividity Mortis/Hypostasis**
  - Earliest sign of circulatory arrest, blood sinks to lowest point with blanching on pressure (3 – 6 hrs), direction can be partially changed, (6 – 12hrs), is fixed >12hrs. (Luton airport/ Bedford Road)

- **Rigor Mortis**
  - Spasticity in large muscles (3-6 Hrs at room temp) due to loss of ATP, Spasticity in whole body (by 12 hours). Gone by 48 hours, due to muscle protein degradation. Low temperatures (BAE-Hitchin)

- **Core Body Temperature** Unreliable! Need long thermometer, ambient temperature, weight + formula
O.J. Simpson

- Nicole Simpson face down in blood pool (2m). Throat cut ear to ear (almost decapitated), Both carotids cut through. Lost consciousness < 10 secs.

- Ron Goldman 3m away lying face up in pool of blood with Left side of neck slashed open with left ext. jugular vein open. Blood had run down left side of body onto left shoe. > 1 minute to lose consciousness. Blood stains and slashes to hands showed he’d been upright struggling with assailant.

- Incompetence at crime scene led to O.J’s acquittal. Photos showed a detective standing in Goldman’s blood. Detectives left bloodstained gloves, with both victim’s blood on them, depositing the blood at irrelevant sites.
O.J. Simpson cont’d

- Defence alleged a bloodstained glove, (allegedly O.J’s) was planted at his house to implicate him and mitigate the incompetence displayed at the crime scene. This was corroborated by detective’s bloodstained shoeprints at O.J’s house.

- Bloodstained shoeprints, (not Nicole’s, Goldman’s or O.J’s), were found at the scene. Defence claimed them to be the murderer’s.

- Goldman’s spectacles were lost by the crime lab.

- Detectives took 10 hours to call the Medical Examiner. Time of death/murder???? Prosecution alleged it was when a neighbour heard Nicole’s dog wailing.

- Vertical blood stains on Nicole’s back, (photographed ), were destroyed when she was laid face up on the trolley on route to the crime lab. Whose blood???