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Issues in DNA Profiling
ISSUES IN DNA PROFILING

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Applications

- Intelligence
- Investigation
- Evidence
Intelligence Database

- Crime profiles
- Person profiles as defined by legislation
- Unidentified bodies
Investigation

- Items profiled in connection with particular case
- Suspect(s) profiled
- Exclusion / inclusion
- Possible links between items and named suspect(s)
Evidence

- File
- Book of Evidence
- Written / Oral
DNA Profile in Context

- Accused denies contact / Silent
- Useful
- Accused legitimate access
- CCTV / Witnesses
- Consensual sex
- Questionable
Maximising Resources

• Prioritisation of cases
• Limited information
• Essential / Overkill
Best Evidence

- Exhaustive in all areas?
- Scene
- Repetitive witnesses
- CSI Effect
Laboratory Input

- Fit for Purpose
- Risk assessment
- Unreasonable
- Waste of public resources
Alternatives to One size fits All

- Phased reporting
- Agreed fields
- Second guessing
- Interpretation
Old / Cold Cases

- Handling of case items pre-DNA era
- May not be compatible with modern techniques
- Omagh Bomb
‘LCN’ Issues

- Low Copy Number
  (very little DNA)

- Technique used
  (modified standard methods)
LCN Results

- Sensitivity level: Often >>> 1 source detected
- Variable on re-test
- Inherent
Variable results

Standard Situation

- Guppies and Neons
- Plentiful
- Both
- Represents content of pool
Variable results?

Low Level DNA

- Scarce
- Guppy
- Nothing
- Neon
- Both
- Weed
- Representative?
- Concerns
- Relevance of result
- Why bother?
- Use as Intelligence
Current Endeavours

- Improve Extraction of DNA
- More fish
- Representative
Response

- CPS (Crown) suspended use
- Report commissioned by Regulator
- CPS re-instated before report publication
- Clean Bill of Health
Forensic Science: Public Service or Private Enterprise

- England and Wales
- 2-3 major suppliers
- Pros and Cons
Pros

- Focused submissions
- Streamlined processes
Cons

- Cost reigns
- Inhibits information exchange
  Investigation
  Colleagues
- Contrary to ethos of science
Conflict

- Investigator wants more sensitivity
- Push to limit: loses significance
- Balance to serve CJ system