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About OMICS Group Conferences

OMICS Group International is a pioneer and leading science event organizer, which publishes around 400 open access journals and conducts over 300 Medical, Clinical, Engineering, Life Sciences, Phrama scientific conferences all over the globe annually with the support of more than 1000 scientific associations and 30,000 editorial board members and 3.5 million followers

The content of the conte

OMICS Group has organized 500 conferences, workshops and national symposiums across the major cities including San Francisco, Las Vegas, San Antonio, Omaha, Orlando, Raleigh, Santa Clara, Chicago, Philadelphia, Baltimore, United Kingdom, Valencia, Dubai, Beijing, Hyderabad, Bengaluru and Mumbai.







Forensic Anthropology: Multidisciplinary approaches to complex investigations in the UK

Dr Julie Roberts Cellmark Forensic Services

IDENTIFICATION INTERPRETATION INNOVATION

Cellmark Forensic Services

- Established by ICI in 1987
- Specialist DNA analysis for 25 years
- One of Europe's largest paternity testers
- Expanded into general Forensic
 casework 2006, includes anthropology
 and archaeology
- 500+ UK employees
- Owned by Labcorp, one of the world's largest clinical chemistry laboratories (process of 1M tests/day in the US)







Aims of Presentation

- To provide an insight into the work of the forensic anthropologist in the UK
- To demonstrate, using two case studies, how anthropology and related disciplines can contribute to a criminal investigation
- To illustrate how questions raised during casework can generate research that can assist with current and future investigations



WARNING

THIS PRESENTATION CONTAINS IMAGES OF DECOMPOSED HUMAN REMAINS

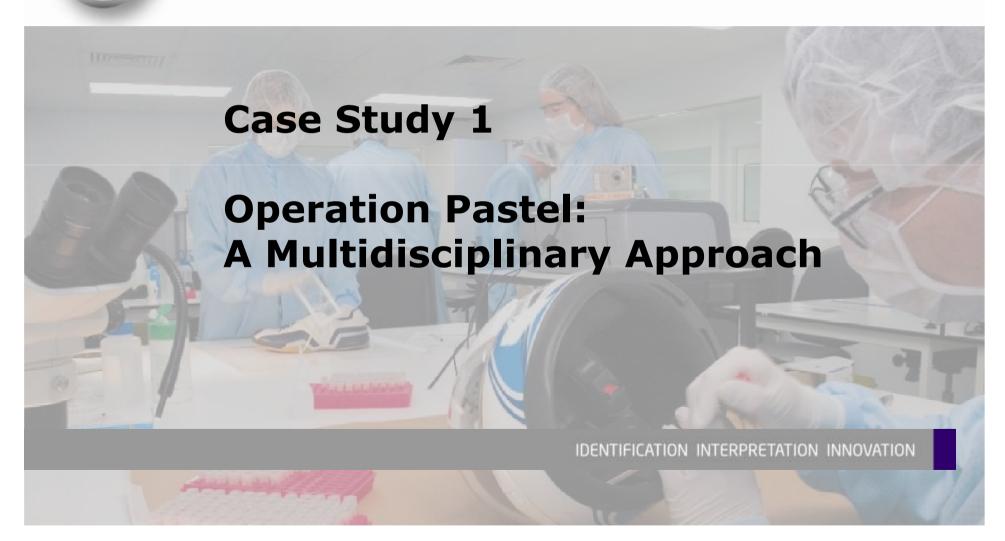


What does the UK Forensic Anthropologist do?









Operation Pastel, West Yorkshire: Background

- PCSO called to 4 Crofton road, Bradford, in response to complaints from neighbour
- Family known to social services; 8 children, alcoholic single mother (Amanda Hutton), previous domestic abuse and truancies
- PCSO refused entry, persisted and eventually gained access
- Requested assistance and search of house conducted





Inside the House





Cellmark)

Remains uncovered in cot in mothers bedroom





Postmortem examinations and strategies

Three examinations in total:

- Initial examination and recommendations re' further analyses and involvement of other experts
- 2. Collection of samples
- 3. Maceration (removal of soft tissue) and final examination







Findings from all Disciplines

- Entomology: Insects identified were those that favour dessicated remains, e.g. moths, carpet beetles. Little evidence of pupae cases of blow-flies etc suggesting body did not go through putrefaction stage and progressed straight to mummification
- Pathology and histology: Cause of death unascertained, severe osteoporosis and significant growth arrest due to malnutrition, deformity of cranium
- Toxicology: Nothing abnormal detected
- Anthropology: Long bones much shorter than normal for chronological age, periods of arrested growth, some delay in skeletal development, deformity of cranium – postmortem deformation or underlying pathology?
- Odontology: Normal dental development
- Isotope and trace element analysis: Nutritionally deficient over long period of time, malnourished and osteoporotic



Anthropology Findings 1: Long bone length and development

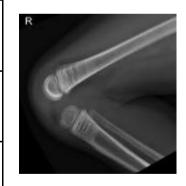
Method	Mean Age	Range	
Dental Development	4.7 yrs	4.5 to 4.9 years	
Skeletal Development (radiographic assessment)	4.5 yrs	3 to 6 years (excluding distal radius)	
	3.5 yrs	1 to 6 years (including distal radius)	
Skeletal Development (examination of macerated bone)	3.5 yrs	1 (or <1) to 6 years	
Long Bone Length (x-ray)	1.5 yrs	1 to 2 years (excluding clavicle)	
Long Bone Length (actual: first post- mortem examination)	1 year	6 months to 1.5 years	
Long Bone Length (actual: following maceration)	1.25 yrs	1 to 1.5 years	



Anthropology Findings 2: Harris Lines – Periods of Arrested Growth

Bone	Harris Line Count Mortuary (JR)	Harris Line Count Lab (JR)	Harris Line Count Lab (NMG)
Left radius, distal end (left wrist)	7	7	Minimum of 7
Left tibia, distal end (left ankle)	3	7 or 8	0 (limited visibility)
Right tibia, proximal end (lower part right knee)	7	7	Minimum of 3
Left tibia, proximal end (lower part left knee)	5	5	Minimum of 4
Right tibia distal end (right ankle)	Not counted	5	0 (limited visibility)









Outcome

Convicted of Manslaughter and sentenced to 15 years in prison

"MOTHER WHO ALLOWED HER FOUR-YEAR-OLD SON TO STARVE TO DEATH AND LEFT HIS DECOMPOSING BODY IN A COT FOR NEARLY TWO YEARS HAS BEEN JAILED FOR 15 YEARS"

http://www.bbc.co.uk/news/uk-england-24401112

"Alcoholic jailed for 15 years for killing tragic Hamzah and leaving his body to rot in 'breathtakingly awful' squalor"

http://www.dailymail.co.uk/news/article-2443626



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