



December 2008

Eurofins Forensic Services Aids Forensic Science Service in Shannon Mathews Case.

Eurofins Forensic Services worked in close partnership with the Forensic Science Services for the examination of toxicology evidence throughout the investigation into the disappearance of schoolgirl Shannon Mathews between 19 February and 14 March 2008.

On 14 March upon finding Shannon Mathews, Forensic samples were taken straight away, which, from examination at the FSS laboratory, showed no scientific indication that Shannon had been assaulted.

Further samples, including urine and hair, which were taken from proved key to the criminal case against Michael Donovan and Karen Matthews, Shannon's mother.

The urine sample provided by Shannon shortly after she had been located was submitted to and analysed for a wide range of medicinal, prescription and illicit drugs and traces of the hypnotic sedative drug Temazepam was detected. Examination of Michael Donovan's medical notes revealed that this drug formed part of his prescription medication.

Traces of Meclozine, an ingredient commonly found in the travel sickness tablet Traveleeze, were also identified. Police had recovered a half empty box of the tablets from the address where she was found and the test results provided valuable corroborative evidence.

The findings indicated Shannon must have ingested a quantity of both of these drugs in the 72 hours leading up to her discovery.

Following the results, toxicologist Craig Chatterton recommended that a one-centimetre hair sample should be taken from Shannon for further tests. In all, three one-centimetre samples were taken at one month intervals to allow for the time it takes drug ingestion to show up in hair. These samples were submitted to ChemTox, an internationally recognized laboratory specialising in drug analysis in hair that falls within the Eurofins partnership. They utilized the very latest technology to carry out their tests.

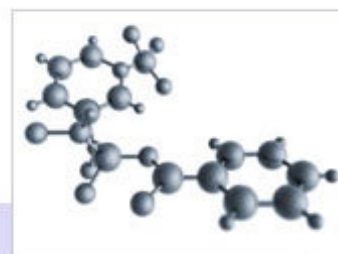
The detection of many pharmaceuticals requires the use of some of the very latest technologies as they are only present in extremely low concentrations. Consequently, there are only a small number of laboratories around the World capable of this type of analysis

The results of these after expert interpretation showed all of the hair samples were positive for Meclozine and Temazepam, demonstrating that Shannon had ingested drugs even before her imprisonment.

"The distribution of drugs in the hair demonstrated that Shannon must have ingested these before she was kidnapped and this intelligence was passed on to police. The decision was then taken to analyse a longer strand of Shannon's hair and help provide a higher level of interpretation."

A 20cm strand of Shannon's hair was then taken and again sent for analysis by to the Eurofins laboratory, the analytical results confirming that drugs were present in the entire length of Shannon's hair.

"Detailed study indicated there were apparent peaks corresponding to approximate time periods, between January to April 2007 and between May and August 2006. It was impossible to say exactly how frequently these drugs would have been ingested, but it certainly pointed towards some level of the drugs being in Shannon's body at those times.





Craig's findings were submitted to police and formed a central plank in the prosecution case against Karen Matthews and Mick Donovan. Both were found guilty of kidnap, false imprisonment and perverting the course of justice on December 4 2008.

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Notes for the editor:

Eurofins Forensic Services – Specialist Analysis

Drugs, chemicals, and biological substances when ingested, smoked, inhaled or injected into the body, enter the blood stream to exert an effect. Within a few hours the drugs can be detected in the saliva, blood itself & the urine but only for a limited period of time, for most drugs around 3 or 4 days. However, as the blood travels round the body it circulates the drugs and they can become incorporated into keratinised tissue such as hair and nails. With their slow growth rate and the prolonged persistence of drugs and chemicals within them, both hair and nails afford an opportunity to investigate any long-term or persistent administration and an extended window of time to permit the detection of a one-off ingestion.

Analysis for drugs in hair or nails has already been used in a wide range of criminal investigations including the following:

- Possession of drugs with intent to supply
- Drugs facilitated sexual assaults
- Munchausen syndrome by proxy
- Administration of a noxious substance
- Manslaughter and Murder
- Abduction
- Robbery

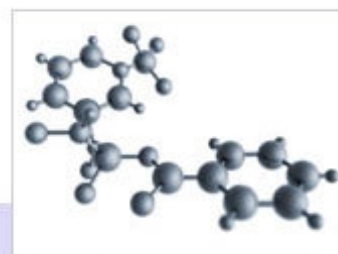
In addition to the commonly abused drugs (Heroin, cocaine, etc), less common drugs such as GHB and pethidine can be detected as well as a wide range of pharmaceutical drugs (including temazepam and meclozine).

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About the FSS

The FSS is one of the world's leading providers of forensic science services, and is the market leader in the UK. Its principal activities include an unrivalled range of services for forensic casework, consultancy and training (including development of new forensic establishments abroad), paternity testing, and the supply of high quality evidence recovery kits and packaging (Scenesafe).

Customers include the 43 police forces in England and Wales, public sector organisations and commercial companies, defence solicitors, and more than 60 overseas governments and law enforcement agencies.

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