



FTA gene card... Is used in conjunction with a mouth swab with a foam tipped applicator. After a DNA mouth swab sample is collected from a person it is pressed onto the gene card, transferring the cells containing the genetic material onto the surface of the paper.



Links through forensic intelligence

By Senior Sergeant Nick Shanahan, DNA Coordination Unit

Commencing operations in June 2000, the primary focus of the Queensland Police Service (QPS) DNA Unit is research along with designing initiatives and procedures for the successful implementation of DNA legislation in Queensland.

DNA sampling

It was not until June 2001 that Queensland police officers commenced DNA sampling. One of the main undertakings in the 12 months between commencing operations and DNA sampling being implemented was the training of police.

The DNA Coordination Unit, in conjunction with the QPS Legislative Education Unit, developed DNA sampler training which was subsequently delivered around the State to police officers. This training provided the necessary skills and knowledge for all QPS officers to successfully undertake DNA sampling.

From June to November 2001, QPS members collected 8,792 reference samples. Of those samples, 6,940 were

collected from people charged with indictable offences. Through the collection of these samples, the QPS has begun to develop an invaluable database of known offenders for investigating police to scrutinise.

Profiling of samples

In September 2001, the Queensland Health Scientific Section (QHSS) began the bulk profiling of DNA samples. To date more than 3,000 reference samples are being analysed, with more than 1,000 profiled.

At present there are approximately 8,000 crime scene samples on hand at QHSS. Of these samples, 2,518 have been profiled and another 1,000 are currently being analysed. On average 290 crime scene samples are submitted for analysis to QHSS per month.

Since the introduction of DNA legislation, the QHSS has linked 318 crime scenes together using linked unidentified DNA evidence located at two or more crime scenes.

A total of 72 people have been linked to crime scenes through this DNA

Mouth swabbing... This is the preferred method for taking a DNA sample. Allowing the person to be sampled to use the mouth swab as directed by the DNA sampler.

identification. These identifications were made, however, without the benefit of a large database of person samples or the advantage of bulk DNA profiling methods.

With the completion of the current round of bulk profiling, the DNA from crime scenes will be compared with the DNA from the mouth swabs, and based on overseas results, a significant increase in identifications is anticipated.

Identification groups

DNA identifications are made in two groups.

The first identification group, person to scene, links a DNA crime scene sample collected by forensic police to a person known to police. From the DNA Unit this information is directed to investigators via the police crime reporting system (CRISP). Further investigations are undertaken by police to establish any other possible links to the crime scene.

The second group, scene to scene matches, links unidentified DNA evidence located at two or more crime scenes

where the DNA profile is the same but has not been matched to a known person sample. For example, scene to scene links can be made between multiple break and enter crime scenes where the offender used force to gain entry and as a result leaves blood or some other biological sample at the point of entry at the different scenes.

Forensic teamwork

When crime scenes are linked by the DNA of an unknown person, the DNA Unit establishes if any other evidence such as fingerprints can identify anyone at any of the linked scenes. Such evidence provides the means to increase the clear up rate for crime. This function is performed by the results management team (RMT) of the DNA Unit.

The RMT works closely with the Fingerprint Bureau to provide investigating police with a complete forensic intelligence package. There have been a number of recent successes as a result of this forensic teamwork.

A recent DNA hit identified a known offender and linked this offender to an armed robbery. As a result, the offender was identified by fingerprints at an additional three break and enter crime scenes and eight unlawful use of a motor vehicle offences, two of which were linked to armed robberies. Two co-offenders also were uncovered through this forensic intelligence.

Another success was the case of nine linked crime scenes committed between 1992 and 2001 where no offender had been identified, however, the same DNA appeared at all the crime scenes. This information was passed on to the Fingerprint Bureau who then conducted a fingerprint search of the linked offences. As a result, the offender was identified from one of the linked offences, and has since been identified at another nine crime scenes through fingerprint identification.

Staff at the DNA Coordination Unit

The DNA Coordination Unit is located within Police Headquarters in Brisbane.

The unit is currently staffed by a senior sergeant, two sergeants (project officer and QHSS liaison officer) and three database administrators.

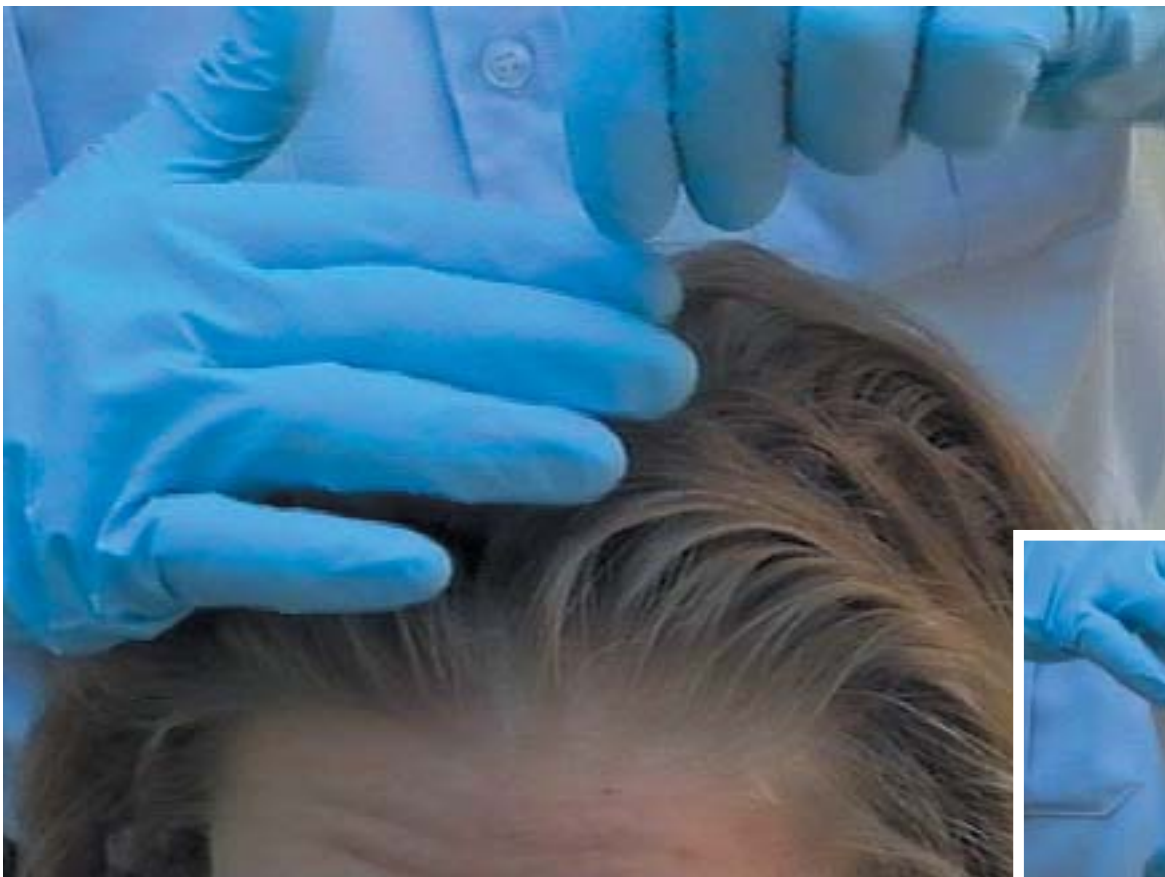
A further two results management staff, a sergeant and an administration officer, are employed to analyse and manage DNA identifications. The unit also has a Prison Sampling Team, comprising of a sergeant and three constables, who are responsible for the DNA sampling of sentenced prisoners.

The Officer-in-Charge oversees the unit's operations and monitors the interaction with other stakeholders such as the Department of Corrective Services and Queensland Health.

The unit's project officer, a sergeant is responsible for monitoring the quality of crime and person samples and the retention or destruction of samples depending on the circumstances.

The future

Throughout Australia, other police services are in the process of implementing their DNA strategies. Once the states have collected DNA profiles from offenders these will be uploaded to a central database, the National Criminal Investigation DNA database (NCIDD) to enable cross-jurisdictional matching of DNA profiles.



Hair pulling... If a mouth swab is unable to be obtained, officers can collect hair from the person being sampled. Approximately 10 hairs with roots are required.

