

How to identify individuals using DNA from families of missing people

You have been given this document because a close relative of yours is missing.

Your DNA may assist police to identify your relative. It is intended to help you understand what happens when DNA is used to identify people or bodies, and how your DNA is used in this process.

You do not have to provide a DNA sample, it is entirely voluntary. You may also request that your DNA is removed from the Missing Persons DNA Database at any time. This document explains why the police are asking for a DNA sample from you and what will happen to it.

Q1. What is DNA?

The human body is composed of millions of cells. The majority of these cells contain a substance called deoxyribonucleic acid (DNA). This substance carries a code that determines the inherited characteristics that make up our bodies. DNA can be isolated from very small amounts of blood, saliva, cheek scrapings or tissue etc.

Some areas of the DNA make up the code that determines a person's characteristics. There are other areas of the DNA that do not provide any information about an individual's characteristics or medical conditions. It is these areas that are used in DNA profiling as they differ widely between individuals.

Q2. What is DNA analysis?

DNA analysis is a method of removing the DNA from the cells and targeting the variable areas that can be used to distinguish between individuals. The result of the DNA analysis is called a DNA profile.

Q3. How does DNA analysis help identification?

DNA can be extracted from human remains or an unidentified person and compared to the DNA profile of the missing person. A person's DNA profile may be obtained from medical specimens taken from the individual before they went missing, for example cervical smears, blood samples or tissue biopsy.

DNA can also be obtained from personal items belonging to the missing person, for example a toothbrush, hairbrush or razor. However it is very important these items were **only** used by the missing person - a hairbrush used by numerous members of the family for example would not be a good source.

Q4. How can I help identify my loved one?

Medical samples are not available for all missing people, and there may be concern as to whether the DNA found upon the personal items originated solely from the missing person. In these cases, the DNA from close relatives can assist in determining a DNA profile for the missing person, as DNA is passed from parents to their children.

DNA analysis can only assist this process if samples are available from blood relatives. The DNA from adoptive parents, adoptive children, step-parents or other non blood relatives cannot provide the required information. DNA profiles from the missing person's children can be used. In these cases, it is useful to also obtain a DNA profile from the other biological parent of the children in order to determine which parts of the children's DNA profile were passed from the missing person.

The most useful DNA samples are those from close blood relatives such as biological mother, father, brothers, sisters or children. This is because the DNA of close relatives is more similar than the DNA of more distant relatives.

The DNA profiles from relatives are used in one of two ways: firstly, they may be used to confirm that a profile obtained from a personal item, such as a toothbrush, actually belongs to the missing person. Alternatively, they will be used to establish the likely DNA profile for the missing person, known as an inferred profile.

Q5. What type of sample will I be asked to provide?

Most DNA sampling is undertaken by rubbing the inside of the cheek with a sterile cotton swab. This collects cells from the lining of the cheek and is a quick painless method of collecting a DNA sample. This is done by trained police staff, and can be completed within a person's home.

Q6. What will happen to my sample?

The DNA sample will be sent to an accredited forensic service provider for DNA analysis. The DNA will be removed from the cells in the sample and a DNA profile created. This process may take up to several weeks to complete.

Q7. What will happen to my DNA profile?

This is stored electronically as numerical information. If a profile is also available from a missing person's personal items,

the family profiles will be compared to this profile. If they confirm the profile from the belongings is that of the missing person, the family profiles will be deleted. The profile from the belongings will then be put on the Missing Persons DNA Database to be compared against DNA profiles from human remains and unidentified people.

If no personal belongings are available, or the family profiles show that the profile does not belong to the missing person, they will then be used to create an 'inferred' profile. The family profiles and this inferred profile will be put on the Missing Persons DNA Database for comparison against profiles from unidentified people/remains.

This comparison will be completed when the profile is sent to the database. Profiles obtained for this reason, and submitted to the Missing Persons DNA Database will not be used for any other purpose.

Q8. What is the Missing Person DNA Database?

The database is a collection of DNA profiles from:

- missing people
- their close relatives
- unidentified people or human remains

It is separate from the National DNA Database. These DNA profiles are **only** used to identify people or human remains and are not used for any other purpose. Once a missing person's whereabouts are known or an unidentified person or human remains are identified, the DNA profiles are deleted.

In some cases, incomplete human remains are found and then the DNA profile of the remains will be retained on the Missing Persons DNA Database until all of the remains have been found when the profile will be removed. The process of record keeping is managed by the Missing Persons Bureau.

Q9. How long will it take to identify my loved one?

It is dependent on whether the missing person or their remains have been located. Once located, it may also take several weeks to obtain a DNA profile and confirm a match due to the processes involved.

If no match is identified and the person has not been found, the DNA profiles will be kept on the Missing Persons DNA Database for comparison against individuals or remains found in the future. Any new profiles for unidentified individuals or remains submitted to the database will be compared against the profile for the missing person when they are submitted. The profile will be retained until the missing person is located or consent to store the DNA profile is withdrawn.

Q10. Who will inform me if a match is found?

The police force investigating the case will contact you if a match is found between the DNA of the missing person and a profile from an unidentified person or remains. However, this may take some time as efforts will be taken to ensure the match is confirmed prior to contacting you, in order to avoid causing additional distress at such a difficult time.

Q11. What personal information of mine will be stored on the Missing Persons DNA Database and who has access to this information?

Your name, date of birth, gender and relationship to the missing person will be stored against your DNA profile. Under the Data Protection Act 1998, you may request access to the information stored at any time by completing a Subject Access Request with the police force who obtained your DNA sample. You may have to pay a small fee for this.

The Missing Persons DNA Database is restricted to a small number of security cleared scientific staff undertaking searching and matching of DNA profiles on

the database. The police will be informed of any matches to take appropriate action and notify relatives as appropriate

Q12. Can DNA samples from relatives always assist in missing person cases?

DNA analysis may not assist in the identification of a loved one if the remains are never found or there is no usable DNA in the recovered remains. However as DNA analysis techniques become more advanced there are fewer occasions where usable DNA is not located.

Q13. How can I get my DNA profile removed from the Missing Persons DNA Database?

If you wish to have your profile removed, please contact the police force investigating the case, and ask them to inform the Missing Persons Bureau that you wish this to be removed. You will receive confirmation when your profile has been removed.

Q14. What if I am a child or a vulnerable adult?

The process is the same, but your parent or legal guardian will be asked to consent on your behalf to the sample being taken. You or your parent/legal guardian can ask for the profile to be removed from the database at any point.

If you have any further questions about this process, please contact us, the UK Missing Persons Bureau on:

0845 000 5481

or at:

missingpersons bureau@nca.x.gsi.gov.uk

We are happy to answer your questions about this or any other aspects of the missing person investigation.

www.missingpersons.police.uk