Glossary

Certain terminology will appear in documentation and discussions. We provide herein some explanation of said terms. Further information can be found on the FAQs page of our website (www.dadcheckgold.com).

If you require further clarification or information, please call/e-mail the company and one of our specialists will endeavor to help you.

Likelihood Ratio or Combined Paternity Index

This is a calculation made from the frequency that given alleles appear in the general population. It tells us how many times more likely it is that the tested male is the father of the child, compared to an unrelated individual.

Probability of Paternity

This is derived from the likelihood ratio, but this time it is expressed as a percentage.

Prior Probability

In calculating the statistics, e.g. for a paternity test, we make a mathematical assumption it is equally likely that man is, and is not the biological father. This we refer to as equal prior odds of 0.5 or 50%. This then allows us to calculate the Probability of Paternity.

Close Male Relative

This means that a first degree relative of the tested male could be the biological father. This means the alleged father's own father or brother.

Marker/Locus/Allele

Our body is in part comprised of cells, most of which contain the DNA molecule, which gives us our uniqueness as individuals. Certain parts of this molecule have been shown to contain specific regions that vary considerably between people who are not related and conversely, that exhibit a high degree of sharing between individuals who are related. These regions are referred to as 'markers' or 'loci' (singular: locus). Variant forms of these DNA markers are called 'alleles'. There are two alleles found at each locus. We use 15 or so markers to determine if people are related to each other or not. This is robust science, which has been tested over thousands of cases, both for human identity testing and forensic purposes.

DNA profile

Once we have determined which alleles are present in all of these markers, we bring them together in a special format known as the DNA profile. In each DNA profiling experiment, we will see two alleles at each marker tested i.e. one which has been inherited from the individual's biological father and one which has been inherited from their biological mother.

Each person's cells contain DNA; half of which comes from the biological mother and half of which comes from the biological father. The problem is, we do not know which half !

In tests involving the child's biological mother, our analysis is able to identify the half of the DNA (alleles) in the tested child that comes from the mother. As such, the remaining alleles must have come from the biological father. If we get a match across all of the remaining 15 alleles, then the tested man is the biological father of the child and we can then go ahead and calculate a 'probability of paternity'. Conversely, if there are three or more mis-matches between the tested man and child, then we can conclude, with 100% certainty, that the tested man cannot be the biological father of the child.

For a positive result, we expect a match with the tested child at all or in rare cases, all but one of the biological father's DNA markers. Rarely, we may observe a small genetic change (mutation), which shows itself as a mismatch between the tested man and child in one of the markers examined. Sometimes this appears as an allele that does not occur in either parent. This genetic change is a normal, albeit in the wider context a rare, event in human evolution and if we observe this, we make allowances in our calculations. Please note however that this scenario is also observed in those cases where the tested man is shown not to be related to the child as its biological father but as a close male relative i.e. the true biological father of the child is in fact a brother or the biological father of the tested man.

For immigration purposes, we are often asked to prove maternity. For example, in some parts of the world, it is common for a child to be brought up by an aunt from birth and to consider her to be her mother.

Surrogacy

There are two types of surrogacy which present different legal implications:
The first, "traditional" surrogacy, or artificial insemination, involves insertion of sperm into the fallopian tube of the surrogate mother, who will consequently be the biological mother of the child. As a result, the surrogate mother must agree to a series of legal obligations and transfer her rights as the parent of the child to the individual(s) who have opted for surrogacy.

The second, "gestational" surrogacy, more commonly known as *in vitro* fertilisation (IVF), involves implantation of an externally fertilised embryo where the biological parents do not involve the participation of the surrogate mother; therefore the child and the surrogate mother are biologically independent of one another.

Whilst the embryo may have one, both, or neither parents as participants in the surrogacy, under UK law the mother and father of the child is the woman who gives birth to the child and the man she is married to at the time of conception.

Therefore, if the overseas surrogate mother is married, although the prospective parents' names should be on the child's birth certificate, the child is not necessarily recognised as automatically eligible for British nationality. The parents must apply to the Home Office for registration of said child as a British citizen before applying for a UK passport.

On the other hand, if the surrogate mother is single, such an application to the Home Office is unnecessary provided that the father has provided evidence that he is genetically related to the child.

Pre-natal Testing

Technology exists to determine the parentage of a foetus. We will not carry out this kind of testing. There are other companies, which can be found on the internet, who are prepared to do this.