

An Introduction to the Use of DNA tests in Legal Practice – The Test of a Relationship

Many family law, inheritance and social services cases are now being resolved by the use of DNA technology in order to determine parentage or other biological relationships.

Thus it is a pleasure to welcome you to a series of articles in which we hope to explain how best to use DNA testing in your practice, but perhaps more importantly, to discuss with you pertinent legal issues arising in the areas such as surrogacy, parental responsibility, multiple parent babies, paternity fraud and transgender rights.

Technology, the law and society sometimes struggle to keep up with each other and this is particularly so with the advent of DNA technology. We will begin this series with an explanation of how the process is undertaken. The majority of cases requiring a DNA test are for paternity, where we are trying to prove that a tested male (the alleged father) is, or is not, the true biological father of a tested child. DNA is essentially a chemical string of code which is unique to an individual, is contained in nearly all the cells of your body and is inherited half from the mother and half from the father. We can examine this code in several ways to look at individual and population characteristics, diseases (prediction and diagnosis), ancestry, to identify individuals in forensic cases and of course, to decipher human relationships. To achieve this, the DNA is extracted from a few cells taken from the buccal cavity, a painless and non-invasive procedure which uses a cotton swab rubbed around the cheek of the mouth. In an identity test, the DNA is then examined for regions of similarity between the tested persons. In the case of a paternity test, the DNA test report will then confirm that the tested man is (usually with a certainty in excess

of 99.999%) or *is not* the biological father of the tested child (with 100% certainty). This is termed an inclusion (he *is* the dad) or an exclusion (he *is not* the dad).

As solicitors, cases may come to you directly from the general public or you may represent one of the parties in for example, a case involving the local authority where cases may involve legal aid. There are two types of test in general use, with the common parlance of a “legal” or “accredited” test or a “peace of mind” test. This is an important distinction, because only a legal/accredited test may be used for a legal purpose, such as changing birth certificate. In an accredited test, the appointed company will take control of the entire sampling and identity verification process, so that there is in effect a chain of custody of the sample from the subject to the laboratory. In a “peace of mind” test, the individuals are allowed to take the samples themselves and then return them to the laboratories; of course, in such cases we then rely on the participants to take the sample from the correct individual. This is unsuitable for any legal purpose.

A common issue relates to Consent and who has Parental Responsibility for the child. For DNA testing we must have “appropriate and qualifying” consent for each sample to be tested¹. Consent is required from each adult party that is to be tested and if the test involves a child under 16, then we must also have consent from a person with Parental Responsibility for that child. This is generally the mother, but may be the father under certain circumstances or indeed some other body (sometimes jointly shared with the parents), such as the local authority. We are

often asked about the participation of the mother in the process, which is in fact required for a legal/accredited test. With the mother's DNA analysed in the test, in the case of an inclusion the percentage probability of paternity is generally much higher. This is because the child's DNA is inherited half from mum and half from dad...but we don't know which half! So by identifying the mum's DNA, we can then see that the remaining DNA must come from the dad.

Sometimes, mum or alleged father(s) are not available for sampling and we then seek to obtain a DNA sample from other close family members so that we can attempt to establish a presumed parentage via DNA from siblings, grandparents or uncles and aunties. While the figures for relatedness will not be as strong as for a direct paternity test, we can often gain useful probabilities which provide helpful supporting data when taken together with other evidence. Cousins are biologically too far removed to be helpful in this process.

These are all of course somewhat complex issues and if you require more detail on any of the points touched upon here, we suggest at this point we redirect you to our office (where our staff will be happy to help) or to our website for more information. Details for both can be found below.

In addition, you may like to join our registered sampler programme (an online test) which would enable you to do the identity checks and to take the clients samples...there are reasonably well established LAA fees for so doing. Please contact us if you would like to add this to your portfolio of services.

DNA profiling is now embedded as a key tool for the legal profession and new applications of this technology are likely to support your activities for several years to come. We hope you enjoy the articles in subsequent publications, which we hope will raise some interesting points of family law for your consideration.

About the author: Neil Sullivan, BSc, MBA (DIC), LL.M, PhD is General Manager, of Complement Genomics Ltd (trading as dadcheck[®]gold).

The latter is a company accredited by the Ministry of Justice as "A body that may carry out parentage tests as directed by the civil courts in England and Wales under section 20 of the Family Law Reform Act 1969" and by virtue of directly running laboratory services which meet the stringent and internationally recognised ISO/IEC 17025 standard.

¹ The Human Tissue Act, 2004
