

DNA – The True Test of Any Relationship

Over the last 15 years, the legal profession has taken to the use of DNA testing with alacrity. This is a fine example of the devolution of complex technology into our society – through testing for ancestry (the recent exhumation of Richard III is a good example), to testing for possible criminal activity (the use of DNA technology to identify and quantify horsemeat). But it is the application of DNA testing to the accurate determination of close biological relationships where the technology has found its greatest proponent. Television programmes such as Trisha, The Jeremy Kyle Show, and EastEnders have made DNA testing accessible and acceptable to the general public and many family law, inheritance, and social services cases have been resolved using DNA technology.

Procedure & Practice

The majority of cases requiring a DNA test are those where we are trying to prove that a tested male is, or is not, the true biological father of a tested child. To establish paternity in this way the DNA is extracted from a few cells taken by a cotton swab from the buccal (cheek) cavity, a painless and non-invasive procedure. The DNA is then amplified and examined for regions of similarity between the tested persons. A DNA test report will then confirm that the tested man is (with a certainty in excess of 99.999%) or is not the biological father of the tested child (with 100% certainty). If you are intending to order a DNA test on behalf of a client, for any purpose, then it is strongly recommended that you choose an accredited supplier (see tinted box). These tests, which we call “suitable for legal purposes” are often referred to as “accredited tests” (wrongly in our view) and require the

samples to be taken by an independent third party. The tested persons are not allowed to have contact with the sampling kit, their identities are checked as far as is practicable and the samples are returned directly back to our laboratory in a tamper-proof envelope. The mother’s participation is generally a requirement for section 20 tests.

We also take steps to ensure that we have consent to the test from a person with parental responsibility if the test involves a child under 16 (in England and Wales). This is generally the mother, but can also be the father (under certain circumstances) or some other body, such as the local authority.

Presumed Parentage

DNA technology can be an even more useful tool when it comes to relationships other than paternity testing, however. By using powerful statistical programmes we are able to decipher other biological relationships, eg in cases where parents are not available we can establish presumed parentage via use of grandparents or uncles and aunties. While the figures for relatedness will not be as strong as for a Neil Sullivan provides an update on recent developments in DNA testing direct paternity test, we can often gain probabilities of relatedness of 85% to 95%, which can be a very useful figure when taken with other evidence. We have been finding recently particular application in wills and probate cases and have had several interesting cases in which we have deciphered full sibling / half sibling relationships. In one case we were able to directly link sibling DNA profiles to that of a seven year since deceased male, using whiskers from the inside of his electric razor,

that we established had been left untouched since his death. In certain cases it is possible to perform a test on ante -or postmortem tissue obtained from the deceased male. By using samples direct from the alleged father (deceased), we negate the requirement for the more complex testing of relatives and can perform a direct paternity test. Of course, care needs to be taken to ensure that appropriate consent is in place, eg usually the next-of-kin and/or the executors of the deceased's will, in order to allow DNA profiling of such samples. The use of DNA profiling is now embedded as a key tool in the legal profession and we are still discovering new applications. It is truly a case of watch this space!

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The Ministry of Justice provides a list of companies, such as dadcheck, which it has accredited to carry our parentage tests as directed by the civil courts of England and Wales under s 20 of the Family Law Reform Act 1969 (see www.justice.gov.uk/courts/paternity-testing/paternity-test). This means that these companies run a laboratory which meets the BS IEC ISO 17025 standard.