

'Ethnicity testing' before adoption: a help or hindrance?

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Several different companies now sell 'DNA ancestry' or 'ethnicity' testing kits via the internet. A small sample of a person's blood or saliva can be sent via the post, its DNA extracted and a panel of polymorphic genetic markers can be analysed. This information is then used to provide a breakdown of a person's 'racial origins' by categorising someone as a percentage of their ancestry that is African, East Asian, Native American or European. While these kits have proved very popular with adults interested in genealogy, we have recently become aware of their use in adoption and fostering cases in attempts to determine a child's ethnicity. We believe such use is inappropriate and indicates a misunderstanding of the concept of ethnicity and the technical limitations of such genetic tests. It is recommended that extreme caution must be exercised in their use for any adoption and fostering decisions.

The last few years have seen an explosion of companies offering 'DNA ancestry' or 'ethnicity' testing using a variety of polymorphic genetic markers. Several different companies offer to analyse a person's DNA from a blood or saliva sample and offer to provide a breakdown of 'racial origins' by categorising someone as a percentage of their ancestry that is African, East Asian, Native American or European. These tests have proved popular with those interested in genealogy and sales in the order of several tens of thousands in the UK and nearly half a million in the USA make this a profitable commercial exercise. More recently, several authors have urged caution in the interpretation and use of these tests, and an editorial in the journal *Science*¹ called for others to make position statements

outlining the potential disadvantages of such testing.

In 2007, the British Association of Adoption and Fostering became aware of a growing practice among social care workers in adoption and fostering placement decisions to use such tests to determine the ethnic origin of looked-after children in whom these origins were uncertain. For example, a common scenario is where a child's paternity is not known to the adoption workers.² A joint position statement with the British Society of Human Genetics was issued, urging caution.³ Despite this, the annual health group conference of the British Association of Adoption and Fostering in October 2008 revealed that the practice continues.^{4,5} Examples were cited of children born to white mothers being labelled by clinicians as 'looking Asian' or 'having unusual pigmentation' and that DNA tests were ordered to determine their ancestry so that the children could then be placed with adoptive parents who were 'ethnically' matched. While such practice is most likely well intentioned, we believe it is misinformed and inappropriate, and we wish to add our voices to the side of caution in using these tests. This is particularly relevant in the adoption setting for several reasons. First, such tests are being requested on minors who unlike adults cannot be counselled of the test's limitations. Second, they are being requested by adoption workers who themselves may be insufficiently informed of the utility of such tests. Finally and most critically, the interpretation of such tests and the value that is placed on the results may fundamentally influence that child's chance of achieving a permanent adoptive home or determine a choice of a permanent home that in the long term might prove to be inappropriate. Recent research has demonstrated that children who are perceived by social workers to be of mixed race are conceived as 'hard to place' and that excessive emphasis on the child's 'ethnic' needs in placement took precedence over other relevant factors such as the child's health and developmental needs.⁶

The motivation for seeking such tests can perhaps be understood: adoption services recognise that it is in the child's best interests to be placed in a family environment that reflects as fully as possible their ethnic background, culture, language and religion. Where a child's background is uncertain, most commonly because paternity is not known, a test that promises to reveal this very background is of course appealing. However, there are several limitations to such tests that mean these answers are unlikely to be forthcoming; more likely in this setting, they are an example of political correctness gone awry.

First, these tests can determine certain aspects of one's DNA ancestry but they cannot hope to determine a child's ethnic background. Ethnicity is a social construct: a grouping whose members identify with each other, either on the basis of a presumed common ancestry or by common cultural, linguistic, religious or physical traits. DNA variation can tell us very little about cultural or linguistic traits particularly in a modern multicultural society. As the Equality and Human Rights Commission puts it: 'Membership of any ethnic group is something that is subjectively meaningful to the person concerned and the terminology used to describe ethnic groups has changed markedly over time. As a result, ethnic groups, however defined or measured, will tend to evolve depending on social and political attitudes or developments. Therefore, we do not believe that basing ethnic identification on an objective and rigid classification of ethnic groups is practicable.'⁷

We also do not believe that these tests determine race (people who are believed to belong to the same genetic stock) with any great accuracy. Although certain DNA variants are seen more commonly in peoples from certain parts of the globe, there is in fact very little evidence that four biologically distinct groups of humans ever existed; to some extent, we are all admixtures of different races; a complex imprint of thousands of generations of ancestors migrating across the globe. A DNA ancestry test may give us a summary of this migration but gives little information about our immediate ancestors, and there appears to be little correlation between, for example, the degree of skin pigmentation and the race breakdowns provided by the test results. In the examples described, the results received by adoption workers left them as non-plussed as at the outset. For example, a child who is '95% European'

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would include ancestry of peoples from Europe and the Middle Eastern and South Asian populations from the Indian sub-continent, including India, Pakistan and Sri Lanka, and thus tells us very little about their likely ethnic backgrounds.

The genetic markers used for these tests are selected on the basis of the biggest differences seen between groups; however, it is still quite possible to inherit a marker from a group in which it is less frequent so that erroneous conclusions could be reached. Furthermore, different populations may share the same genetic markers not because they are closely genetically related to each other but rather because they have (independently) had the same selective pressures on their genetic codes. For example, the effect of sunlight on skin pigmentation in different geographical locations.⁸

Most of the companies offering such testing acknowledge in their small print that race is not genetically determined; for example; 'because you inherit a unique random assortment of DNA from your mother and father your results can be different from a family member's—even a sibling's'; nevertheless, the website "front pages" and marketing imply a different message.⁹ It is not clear from

the information provided by these companies what level of background variation is inherent to the test. For example, to what extent could full siblings be found to have different DNA ancestries. Finally, although costs for such tests are likely to decrease as technologies improve, the current sums of £300–600 per test also raise ethical issues about the use of scarce resources.

In summary, DNA ancestry tests base their results on a series of probabilities, each with a margin of confidence, and can therefore reach incorrect conclusions. Even where they accurately indicate that relatives once roamed certain parts of the globe, they may say very little about recent ancestors. Those searching for the ethnic identity of a child who is to be adopted or fostered are unlikely to be helped by the results of a DNA ancestry test. Such tests can only give very indirect and vague hints about culture, religion and language; thus, their use for determination of ethnicity should be strongly discouraged. They may be of interest to adults undertaking recreational genealogy but at present have no place in management decisions within the health and social care systems of the UK.

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