

Also, because most human populations have migrated many times throughout their history and mixed with nearby groups, ethnicity estimates based on genetic testing may differ from an individual's expectations.

In ethnic groups with a smaller range of genetic variation due to the group's size and history, most members share many SNPs, and it may be difficult to distinguish people who have a relatively recent common ancestor, such as fourth cousins, from the group as a whole.

Genetic ancestry testing is offered by several companies and organizations. Most companies provide online forums and other services to allow people who have been tested to share and discuss their results with others, which may allow them to discover previously unknown relationships.

On a larger scale, combined genetic ancestry test results from many people can be used by scientists to explore the history of populations as they arose, migrated, and mixed with other groups.

Useful links

DNA lectures - 13 presentations from WDYTYA 2017.

International Society of Genetic Genealogy - Useful articles for those new to DNA testing for genealogy, plus in-depth material.

Joel Winston blog - An American consumer rights lawyer reviews the terms of a DNA contract.

Privacy guidelines - Details of privacy policies adopted by some DNA companies.

Also - Privacy Risks - More about the risks

The Guild of One-Name Studies - General DNA information, not just for those thinking of undertaking a surname project.

For links to the sites above go to
[http://
www.lfhhschorleybranch.com/
dna-and-family-history.html](http://www.lfhhschorleybranch.com/dna-and-family-history.html)

A Supporting Article

[http://
www.lfhhschorleybranch.com/
dna.html](http://www.lfhhschorleybranch.com/dna.html)

A Supporting Video

[http://
www.lfhhschorleybranch.com/
videos.html](http://www.lfhhschorleybranch.com/videos.html)

LFHHS Chorley Branch

LFHHS Chorley Family History Research Centre



DNA and Family History

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DNA and Family History

Genetic ancestry testing, or genetic genealogy, is a way for people interested in family history (genealogy) to go beyond what they can learn from relatives or from historical documentation.

Examination of DNA variations can provide clues about where a person's ancestors might have come from and about relationships between families. Certain patterns of genetic variation are often shared among people of particular backgrounds. The more closely related two individuals, families, or populations are, the more patterns of variation they typically share. Three types of genetic ancestry testing are commonly used for genealogy:

Y chromosome testing

Variations in the Y chromosome, passed exclusively from father to son, can be used to explore ancestry in the direct male line.

Y chromosome testing can only be done on males, because females do not have a Y chromosome. However, women interested in this type of genetic testing sometimes recruit a male relative to have the test done.

Because the Y chromosome is passed on in the same pattern as are family names in many cultures, Y chromosome testing is often used to investigate questions such as whether two families with the same surname are related.

Mitochondrial DNA testing

This type of testing identifies genetic variations in mitochondrial DNA. Although most DNA is packaged in chromosomes within the cell nucleus, cell structures called mitochondria also have a small amount of their own DNA (known as mitochondrial DNA). Both males and females have mitochondrial DNA, which is passed on from their mothers, so this type of testing can be used by either sex. It provides information about the direct female ancestral line.

Mitochondrial DNA testing can be useful for genealogy because it preserves information about female ancestors that may be lost from the historical record because of the way surnames are often passed down.

Single nucleotide polymorphism testing

These tests evaluate large numbers of variations (single nucleotide polymorphisms or SNPs) across a person's entire genome. The results are compared with those of others who have taken the tests to provide an estimate of a person's ethnic background. For example, the pattern of SNPs might indicate that a person's ancestry is approximately 50 percent African, 25 percent European, 20 percent Asian, and 5 percent unknown. Genealogists use this type of test because Y chromosome and mitochondrial DNA test results, which represent only single ancestral lines, do not capture the overall ethnic background of an individual.

Genetic ancestry testing has a number of limitations. Test providers compare individuals' test results to different databases of previous tests, so ethnicity estimates may not be consistent from one provider to another.