



## **DNA Policy**

**Policy #96: Adopted March 2023; Modified April 2024**

DNA testing for genealogy has become immensely popular and has been accepted as valuable in researching Mayflower families as evidenced by the adoption of the Mayflower DNA policy in 2016. There have been many advances in DNA research and analysis tools. The current Mayflower DNA policy was revised in 2023 and requires clarification and updating today.

### **Overview of the Mayflower DNA Project**

The Y-DNA and mitochondrial DNA (mtDNA) Project of the General Society of Mayflower Descendants exists to help members and prospective members discover information that may resolve research issues, help bridge gaps in the paper trail, and to preserve DNA results for future research, along with other stated goals. More can be learned at <https://www.familytreedna.com/groups/mayflowersociety/about>

### **Basics of DNA Testing**

Deoxyribonucleic acid (DNA) is the molecule that carries genetic information for the development and metabolism of human cells. There are 23 pairs of chromosomes in the nucleus of most human cells. The first 22 pairs are called autosomal DNA. The 23rd pair of chromosomes are called the sex chromosomes; females receive an X chromosome from their mother and X chromosome from their father. Males receive an X chromosome from their mother and a Y chromosome from their father. Only males have the Y chromosome. It is passed down from father to son in each successive generation. Mitochondrial DNA (mtDNA) is found in the mitochondria of the cell and is inherited only from the mother and passed down to both her male and female children. Only females pass the mtDNA on to their children.

### **What is an Autosomal test?**

An autosomal DNA test samples genes from each of the first 22 pairs of chromosomes. Unlike mtDNA tests or Y-DNA tests which are of a narrow focus on the direct matrilineal and patrilineal lines, autosomal DNA tests focus on both your parents and their parents and their parents, back in time. Unfortunately, this test is not as useful for genealogical purposes because you may not inherit any autosomal DNA from ancestors beyond five or six generations.

### **Who can take an Autosomal test?**

All persons, male or female, can take an autosomal test.

### **Where can I see these Autosomal results?**

The test provider should have an opportunity to view results. The Mayflower Society DNA project is presently hosted by FamilyTreeDNA (FTDNA) and can be viewed at:

<https://www.familytreedna.com/groups/mayflowersociety/about>

If you have taken an autosomal test or transferred your autosomal test results to FTDNA you should be able to see the individuals who match you in your personal reports. Due to confidentiality restrictions, only mtDNA and Y-DNA test results are displayed on the Mayflower Society Project results pages. Testers are encouraged to add family information (pedigree trees) to their profiles at FTDNA which can be viewed privately by others who are matches to you.

Note: you are not required to use FTDNA.

### **Can Autosomal results be used to prove a connection?**

Autosomal results, as part of a proof statement, may be accepted as evidence to support the parent-child and/or proof of same connection for one generation to the next, within the first three generations beginning with the applicant, the parents of the applicant, the applicant's grandparents and the applicant's great-grandparents. Beyond the applicant's great-grandparents, autosomal results become too unreliable to help in proving parent-child relationships.

### **What is a Y-DNA test?**

There are two types of Y-DNA tests: Short Tandem Repeat (Y-STR) tests and Single Nucleotide Polymorphisms (Y-SNPs). Y-STR tests give you a count of repeats of marker values on the Y-chromosome which can be compared to the marker values of other testers. The closer the number of matches on the marker values, the more likely two males may share a common ancestor within a specified genealogical timeframe. FamilyTreeDNA has the largest Y-Chromosome database and offers tests at the 37 and the 111-marker level and now the BigY700 test. The BigY700 test will identify SNPs or mutations on the Y-Chromosome shared with other male testers. This test will also provide 111 STR markers and at least 589 additional STR markers. This test can be used in some cases to identify direct male ancestors and is more stable than STRs in determining the Time to Most Recent Common Ancestor (TMRCA).

### **Who can take a Y-DNA test?**

Only biological men can take a Y-DNA test. If you are female, you would need to rely on a male member of your family to take the test.

### **Where can I see these Y-DNA results?**

The Mayflower Society DNA project is presently hosted by FamilyTreeDNA and can be viewed at <https://www.familytreedna.com/groups/mayflowersociety/about>

### **Can Y-DNA results be used to prove a connection?**

The Mayflower Society will accept Y-DNA results as part of the proof argument along with other supporting genealogical evidence for **one generation** where traditional documentation is missing or unavailable.

Where traditional documentation is missing or unavailable, as in the case of sealed adoptions, for example, autosomal or Y-DNA evidence may be a part of an in-depth research report that:

- Follows the Genealogical Proof Standard by having:
  - Performed a reasonably exhaustive research
  - Complete and accurate source citations
  - Thorough analysis and correlation
  - Resolution of conflicting evidence
  - A soundly written conclusion based on the strongest evidence found
  
- Has a clear introduction, body, and conclusion:
  - The body of the report should include an explanation of traditional research methods utilized (besides DNA) attempting to locate evidence to prove the connection, including what record types were sought, what repositories and databases were examined, and what was found or not found.
  - An effort should be made to place the parents of the generation needing a DNA analysis in the same geographic area around the time of conception of their child.
  
- Includes copies of supporting documentation. Supporting documentation for the application includes:
  - Research report. (.pdf or .doc)
  - Cited documents. (.jpeg)
  - Evidence of informed consent from any living parties (or their legal representatives) whose DNA results are presented. (.pdf or .doc)

### **What is a Mitochondrial test?**

A mitochondrial DNA (mtDNA) test traces a person's matrilineal or mother-line ancestry using the DNA in her mitochondria. MtDNA is passed down by the mother, to all her children, both male and female. However, only the female children are able to pass it down to their children.

### **Who can take a Mitochondrial test?**

All persons, male or female, can take a mitochondrial test.

### **Where can I see these Mitochondrial test results?**

The Mayflower Society DNA project is presently hosted by FamilyTreeDNA and can be viewed at <https://www.familytreedna.com/groups/mayflowersociety/about>

If you have taken a full mitochondrial sequence (FMS) test and opted into sharing your results, you should be able to see individuals who match you in your personal reports. Testers are encouraged to add family information (pedigree tree) to their profiles at FTDNA which can be viewed privately by others who are matches to you.

### **Can mitochondrial results be used to prove a connection?**

MtDNA can pass from mother to daughter unaltered for many, many generations and thus has less application for lineage research, generally speaking. There are specific circumstances where mtDNA might be used to help prove a connection when there is also circumstantial evidence in the paper trail. If an applicant is considering using mtDNA, it is recommended they contact the Member Society Historian

who will contact GSMD to determine if mtDNA is appropriate. Use of mtDNA will be determined on a case-by-case basis.

**Can a combination of DNA tests be used to prove a connection?**

If two individuals are related within the first three generations, they may match on the autosomal test if they share the same mother or are a sibling of the mother. If two individuals are related within the first three generations, they may match on the Y-DNA as well as the autosomal test if they share the same father or are a male sibling of the father. DNA evidence alone will not be sufficient without a well-documented paper trail.

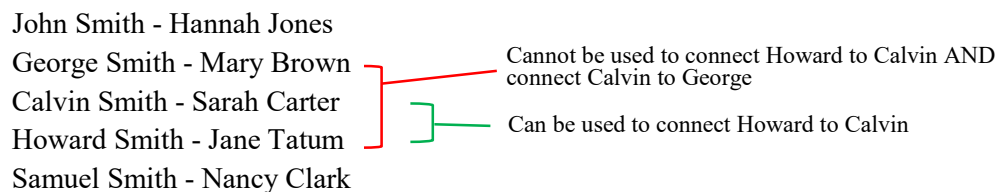
**Guidelines for using DNA evidence for proof of lineage.**

Where living persons are referenced in an application utilizing DNA evidence, informed consent from all testers (or their legal representatives) to use their DNA results in an application is required. Additionally, documentation proving the lineage of the test taker, who matches with the applicant, is required.

Applicants incorporating DNA evidence in their application to join must demonstrate that a relatively exhaustive search has been completed to find missing genealogical documentation before DNA evidence may be used. An analysis of all the DNA evidence is required to be submitted with the lineage application. If an applicant applies with inappropriate use of DNA evidence in trying to prove a lineage, the Mayflower Society will reject the application, just as they would with the inappropriate use of any other type of evidence.

To reiterate,

- A full standard paper trail for all generations not using DNA must be provided as part of the application.
- DNA may be used to support the parent-child and/or proof of same connection for **only one** successive generation within the lineage. For example:



- DNA evidence alone cannot be used to prove a connection. It may be combined with other evidence and a part of a report that follows the Genealogical Proof Standard.
- Informed consent must be obtained from any living parties (or their legal representatives) whose DNA results are submitted.

**GSMD DNA Committee**

The DNA Committee, as appointed by the Governor General, shall be responsible for managing the Mayflower DNA Project and informing various Mayflower Society stakeholders on the evolving science of DNA and what implications those changes may have in the preparation of new member applications.

## References:

- Mayflower DNA Project - Y-DNA Colorized Chart  
<https://www.familytreedna.com/public/mayflowersociety?iframe=ycolorized>
- Mayflower DNA Project - mtDNA Test Results for Members  
<https://www.familytreedna.com/public/mayflowersociety?iframe=mtresults>
- International Society of Genetic Genealogy (ISOGG)
  - Genetic Genealogy [https://isogg.org/wiki/genetic\\_genealogy](https://isogg.org/wiki/genetic_genealogy)
  - Glossary [https://isogg.org/wiki/Genetics\\_Glossary](https://isogg.org/wiki/Genetics_Glossary)
  - Autosomal DNA [https://isogg.org/wiki/Autosomal\\_DNA](https://isogg.org/wiki/Autosomal_DNA)
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