

# A Strategy for DNA

Many people now look to DNA to enhance their knowledge of their ancestry. I have discussed the available tests and what they might reveal in **DNA and its Uses in Genealogy**. In this paper I will discuss the steps you should consider if you want to wish to explore the use of DNA to understand your own ancestry.

If you are thinking of using DNA you should consider the following:

1. What are you trying to discover?
2. Do you need to test yourself?
3. Might you be uncomfortable with the results?
4. How much are you willing to spend?

I will address each of these in turn.

## Your Objectives

There are a number of reasons you might have for taking a test, including:

1. To discover where and when your ancient patrilineal and matrilineal ancestors lived and how they migrated towards your birthplace.
2. To understand your ethnic mix.
3. To prove or enhance your family tree.
4. To find new cousins.

The importance of these objectives will determine which tests are most appropriate to you.

## Do you Need to Test?

Most tests focus on the Y-chromosome or on mitochondria. Your Y-chromosome will be the same as your father's, your brother's, your son's, and any other male relative in your paternal line. Of course ladies don't have a Y-chromosome but if you are studying your father's line through a male relative then the same situation applies.

Similarly your mitochondria will be the same as your mother's, sibling's, daughter's (if you are a lady), or any other relative in your matrilineal line. Remember with mitochondria you can test a male if his mother is part of your maternal line. Richard III was identified by testing a male whose mother was matrilineally descended from Richard's mother.

The first thing you should do is find out if anyone has already tested your Y-chromosome or mitochondria. If they have, how closely related are they? You need to consider the possibility that things are not as they seem and infidelities and illegitimacies might have occurred. This is perhaps less likely with mitochondria, but 'non-paternal events' are always a consideration with the Y-chromosome. The closer your relationship with the person tested the more confidence you can have that your results will be virtually the same.

Even if you can't find someone who has tested it is worth checking how interested your relations are in the results. As they will share the results they might share the costs.

## A Strategy for DNA

### Unwelcome Results

There is a danger you may discover that you don't share results with people you expected to. If your DNA does not match someone you will not share a common ancestor in recent history. It may be better not to test yourself if a close relative has already done so.

The purpose of DNA testing is to find people who have very similar results as this implies similar ancestry. We all have a common ancestor if we go back far enough, but for people who share similar DNA that common ancestor will have lived much more recently.

The **Warburton DNA Project** tests people with the same surname who might therefore be expected to find matches amongst other Warburtons. However about 50% of results so far have no match. There could be many reasons for this, but it must be recognised that an illegitimacy or infidelity, even some hundreds of years ago, will limit the number of Warburton matches. In some cases the illegitimacy is known or suspected. There is also one case where the known family tree says a match should exist, but it doesn't.

Even a small number on 'non-paternal events' in each generation will add up over several generations and many of us will be affected by them. We all have 32 great great great grandparents. Add in parents, grandparents etc. and there are 62 individuals we are directly descended from in a tree that goes back just 200 years. The law of averages says at least one of these will be the result of a 'non-paternal event'. I know I have one illegitimate great grandmother, and a great great grandmother I'm not sure about.

Of course by definition every Warburton line must have started with a 'non-paternal event'. The first Warburton in the line must have had a father whose name wasn't Warburton. We don't know how many people just adopted the name in feudal times. Many lines will have died out, and others could have few descendants today, even though they are old. Other lines will have started later as a result of adoption, illegitimacy, or infidelity, but may still have had time to grow into significant clans. Bancroft Warburton was illegitimate when he was born in 1738 (though his parents did later marry) but his descendants include over 170 Warburtons.

Unmatched profiles could still belong to sizeable clans and have ancient origins so there is a chance they will be matched in the future. There is also the possibility of identifying links to other surnames and uncovering clues as to your true biological origins.

In deciding to take a DNA test, particularly a Y-chromosome test, you should be prepared for an unmatched result and the implications of that.

### Costs

DNA tests cost money, though costs are slowly reducing. I am familiar with the cost of tests at **Family Tree DNA** where the **Warburton DNA Project** is hosted. There are a number of different tests including combined tests. Once **Family Tree DNA** have your sample you can order upgrades and single marker tests.

One test that **Family Tree DNA** no longer offer is the Y-chromosome SNP test. They recommend instead the **Geno 2.0** test from **The Genographic Project** run by **National Geographic**, which also includes a Mitochondria test and an Autosomal test (but not an STR test). Your sample can then be transferred at no cost to **Family Tree DNA** if you should wish to purchase upgrades in the future. As of October 2013 the **Geno 2.0** test costs \$199 plus postage, and is worth considering for males if you want to get involved in comprehensive research into your origins.

**The Warburton DNA Project** uses the 37 marker Y-chromosome STR test which normally costs \$169 but can be had for \$149 as part of the project, and even cheaper during promotions which are normally held twice a year, at Christmas, and in the summer. There is

## A Strategy for DNA

an entry level STP test with 12 markers costing \$59 (no promotions). I will discuss shortly how this might be used.

There is also a mitochondrial SNP test called mtDNAPlus at \$59 (I think I paid about £400 in 2006), and an autosomal test called Family Finder at \$99.

If you are interested in the mitochondrial or autosomal tests but do not need a Y-chromosome SNP test then I would recommend you order these individually from **Family Tree DNA** or some other supplier. This applies to any females taking a test, and to males who already have access to an STR result from a relative. As we have seen, if you do need the Y-chromosome SNP test then the **Geno 2.0** test is the best choice.

### First Steps

If you are thinking of joining the **Warburton DNA Project** your first step is to determine whether you can be linked to a Warburton clan tree that is associated with an existing triangulated DNA profile. There are four such profiles that have been identified by the project so far:

1. The largest group (the one which I belong to) is the one I term the Cheshire group and it includes about 30% of results to date, and several Warburton clan trees.
2. The Lancashire group includes 4 DNA results and two clan trees.
3. The Garryhinch clan has an Irish origin and a unique DNA profile.
4. One section of the Warburton Village clan has been triangulated by two matched DNA results.

If you are not sure if you are linked please contact me as I might be able to help. A link would make a test unnecessary unless you wish to check for a 'non-paternal event' in the part of the tree unique to you.

There are several Warburton clans that have a single, un-triangulated DNA result. A result only becomes really valuable when it is matched, so if you are linked to such a clan you may be able to triangulate that result and so add significantly to the project. I am always keen to find such people and encourage them to be tested.

If you are not linked to anyone who has already tested then your result could link you, and your known Warburton ancestors, to any of the previous results, or to none of them. About half the results so far are unmatched so there is a chance your result will be also, even if you think you have a link to someone whose profile is known.

### Cost Saving Strategies

If you are unsure of purchasing the 37 marker STR test when there is a 50% chance of finding no match, you could consider the much cheaper 12 marker test. This test is not detailed enough to determine a match, but it can indicate if a match is possible. Therefore it provides a low entry price to determine if it is worth testing further.

For example, although my 12 marker result matches the Western Atlantic Modal Haplotype, which means it is very common in Western Europe, anyone who matched on 11 or 12 of these markers might belong to the Cheshire group. Similarly a 12 marker match with one of the other triangulated profiles will indicate a match is possible. Conversely if there isn't a match at this level there will not be a match at 37 markers either.

Once you have determined a match is possible you can upgrade the 12 marker result to 37 markers for \$99 so no additional cost is incurred by taking this 2 step approach.

However if you are still looking to save money it is possible to get a reasonable confidence of a match by choosing to test just 2 or 3 additional markers that are known to have

## A Strategy for DNA

unusual values for other group members. For example there are 3 markers beyond the first 12 where everyone in the Cheshire group has a less common result. At marker DYS437 we have a value of 12 which is shared by only 12% of members of our haplotype. At DYS449 we have a result of 30, shared by 32%, and at DYS464d we have 16 which is shared by 8%. To have all three of these values would strongly indicate a match, and maybe just 2 of them would suffice. Most individual markers cost \$20 to test.

The Lancashire group has some similarly uncommon results at certain markers (I wrote an article on these in issue 6 of **The Button Files** newsletter). Whenever you are looking for a specific match the above approach can be considered, though each situation would have to be researched to find if there are suitable markers to test.

Another cost reduction strategy is to share costs. All the male Warburtons in your family will share the same Y-chromosome profile, and many of the females may also be interested in their paternal ancestry. Maybe some of them will share the costs.

Finally there is a **Warburton DNA Project** General Fund at **Family Tree DNA**. Assuming donations are available these can be used to support tests, particularly where the result would be of particular interest to the project. There are links to the General Fund on **The Warburton Website**, and on the **Warburton DNA Project** website at **Family Tree DNA** (see the links in the sidebar on each page of the website).

### Summary

Knowing what DNA says about your origins can enrich your family tree, and your knowledge of yourself. However to be fully informative it is a group exercise where information is pooled and matches found. It should also be viewed as a component of traditional family history research. Each can enhance the other. **The Warburton DNA Project** is intended to facilitate this process. I am using it to enhance my understanding of the history of the Warburtons and my place in that history, and I am happy share everything I learn.

If you are a Warburton and have an interest in your origins then I encourage you to get involved. Even if you are linked to someone who has tested previously and so don't need to test I am interested to hear from you.