

# The Lancashire Group

There are eight DNA results, all with a Lancashire origin, which are matches, but mostly not very close, and in a couple of instances quite distant. The situation is complicated because there are two who were tested on DNA Heritage, with the rest tested on Family Tree DNA. One test was a 12 marker test which also tested positive for SNP marker Z343.

The Time to Most Recent Common Ancestor (TMRCA) was calculated for each pair using the tables in the **Mutations Table** document and are shown in the table below:

Origin		Radcliffe	?	Bury	Turton	Haslingden	Utah	Edenfield	Tottington
	<b>Kit</b>	H1584	363975	316620	H1582	225866	416619	408583	211606
Radcliffe	H1584	x	1770	1770	1490	1070	1070	4	825
?	363975	1770	x	1595	1315	1140	1140	4	825
Bury	316620	1770	1595	x	1315	1140	825	4	1000
Turton	H1582	1490	1315	1315	x	1070	545	7	
Haslingden	225866	1070	1140	1140	1070		1280	2	650
Haslingden/Utah	416619	1070	1140	825	545	1280	x	3	650
Edenfield	408583	4	4	4	7	2	3	x	6
Tottington	211606	825	825	1000		650	650	6	x

## Average TMRCA Based on STR Results

### Notes:

1. Edenfield is a 12 marker test, Z343 positive, DYS390=23, DYS392=14 with genetic distances as shown. There was insufficient data to calculate TMRCA so Genetic Distance is shown.
2. Hnnn kits were 43 marker tests from DNA Heritage; 32 markers common with FTDNA 37 marker tests.
3. Bury and Tottington are BigY tested.
4. Bury, Turton and Unknown not yet documented, though Bury is almost complete. The other 5 are documented in clan trees. Edenfield has the earliest ancestor (16th century) with the others dating from the 17th or early 18th century, except Haslingden/Utah which is not know beyond 1823.
5. The Haslingden and Haslingden/Utah tests are closer to each other (and to Edenfield) than to the others. Both these tests are from Utah but whilst the Haslingden clan originated in Haslingden, and is well established there, nothing is known of the ancestor of the Utah clan other than he was born in Haslingden.

### Uncommon Alleles

Although these dates do not look promising the results share some uncommon alleles that suggest the match is real rather than random.

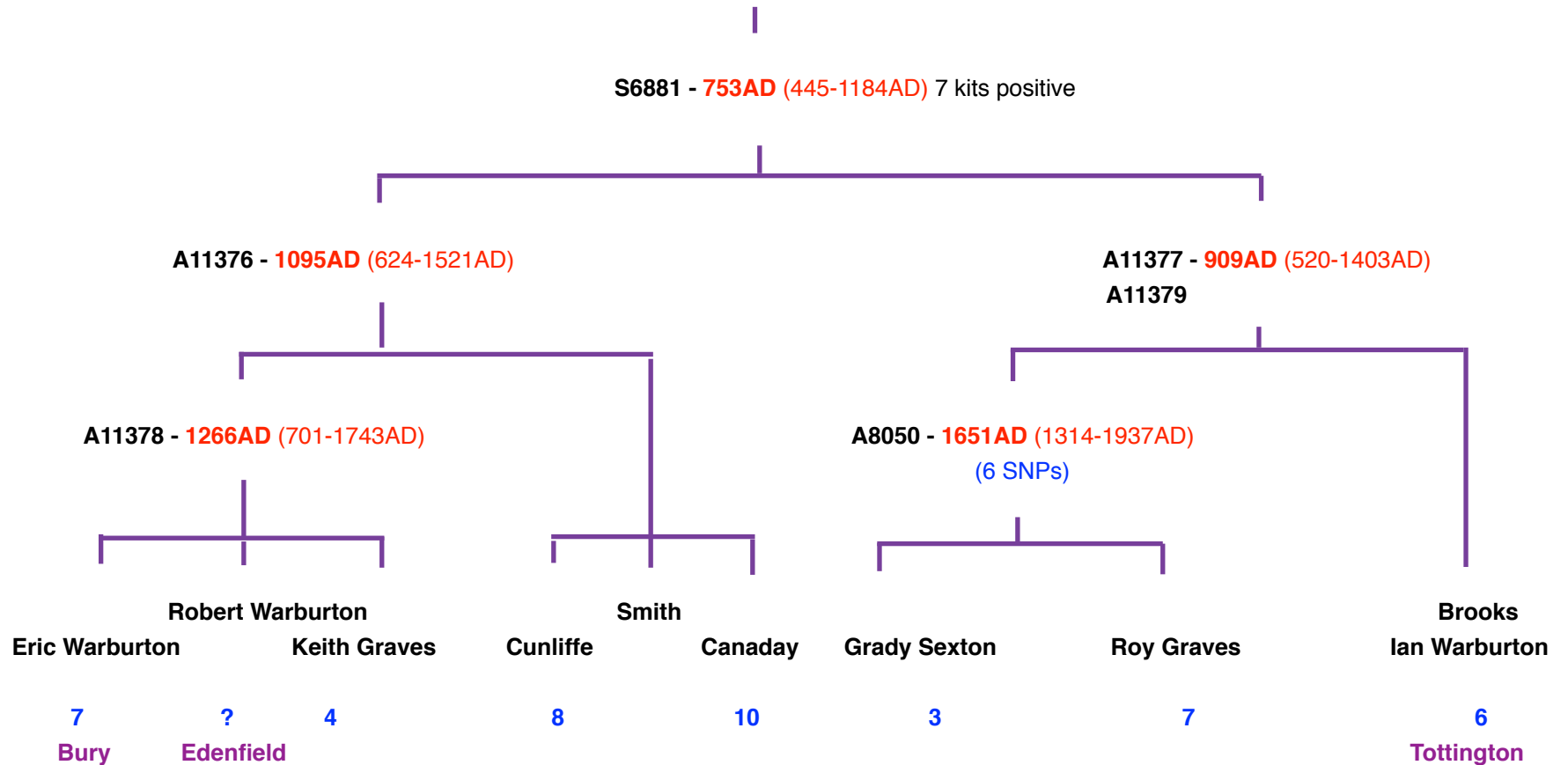
Each marker in a DNA result has a value representing the number of times a short sequence of DNA is repeated at that location. Some values will be more common than others within the population as a whole. Each possible value is known as an allele. The allele distribution is the proportion of the total results found for each allele. For example marker DYD464d has a value of 17 in 49% of people in Haplogroup R-U106.

The chances of randomly sharing several uncommon alleles can be very low. The Lancashire group all share 3 allele values which are less common. These are DYS447 value 24 which has a 31% probability, DYS464d value 19 which has a 4% probability, and DYS442 value 13 which has a 15% probability. When I first explored this there was a fourth uncommon allele, the value 23 at DYS390. However within U106 the frequency of this allele has been found to be 59%. Multiplying just these 4 values gives a probability of any two people at random having all four values of about 0.01%. This gives added confidence that the Lancashire group share a common ancestor.

The **Mutation Table** includes allele frequencies within the R1b-U106 haplogroup for a number of markers.

# A Section of the U106 Haplotree - Based on BigY733

FGC11784 - **25AD** (387BC - 370AD) 8 kits positive



3 close matches: Radcliffe      2 older matches: Haslingden  
1315-1770AD      Turton      Utah  
Unknown

Clan documented / undocumented

## Big Y Tests

Two of the eight members of the Lancashire Group have taken a Big Y test. They were Eric of the Bury and Massachusetts clan and Ian of the Tottington clan. Their positions in the Haplotree are close, but not close enough to indicate a common Warburton ancestor. Their most recent shared SNP is S6881 which is dated at 753 AD with a 95% probability it falls between 445 AD and 1184 AD. This compares with a TMRCA calculation from the STR results of 1000 AD.

The village of Warburton was founded in the 10th century as a fortified Mercian (Saxon) settlement near a ford on the river Mersey. It was probably established with a handful of families, and either one of these founders carried the S6881 mutation, or it occurred in the village soon after. Some 3-400 years later when surnames were being adopted, many villagers would be descended from the initial carrier of the S6881 SNP. In particular the males would stay in the village, although wives might come from neighbouring villages. It would seem that two carriers of the S6881 SNP moved away and took the village name as their own. Although they both became Warburtons their common ancestor had lived, possibly centuries earlier.

The STR results, combined with geography, would suggest that Eric's earliest Warburton ancestor was also the ancestor of three of the other members of the Lancashire Group, and possibly five. No other member of the group seems to share Ian's earliest Warburton ancestor.

The Edenfield result is particularly perplexing. It was an attempt to prove group membership via a qualifying 12 marker STR test followed by a verifying SNP test. The 12 marker result was marginal but did share the more uncommon alleles. A Z343 SNP test then proved positive. However Z343 is dated to 219 BC so he could have split from the other members of the group any time after that. It is intriguing however that all the group all have origins in a small area of Lancashire, between Bury and Haslingden.

## A Lancashire Group Testing Strategy

A future Y-chromosome testing strategy depends on the desired objective. There are three possible objectives for any future testing:

**To test if new Clans or families belong to the Lancashire Group.** For anyone wishing to determine if their clan is part of the Lancashire Group, a 37 marker STR test would suffice in most cases. Alternatively a 12 marker qualifying test followed by a confirming S6881 SNP test would achieve the same result, at slightly less cost.

**To establish a position on the Haplotree.** A test of SNPs FGC11784, S6881, 15227518, 17011572, 23999089, 19162443, and AB050 would place someone pretty well on the above Lancashire Group haplotree. Such tests can be constructed relatively cheaply at YSEQ where a request to create a test for a single SNP costs \$1, and a request for a Panel of SNPs costs \$2. The 7 SNP test would then typically cost \$115. Of course the more SNPs there are the greater the cost is. The results from the Edenfield, Utah, and Haslingden clans should be upgraded in this way.

**To extend the Haplotree to lower levels.** Eric Warburton has three close matches. It would be interesting to extend the Haplotree to show how the four clans relate to each other. Eric has 7 unique SNPs. It is likely that his three matches share some of these, but perhaps not all. A SNP panel test on those 7 SNPs might do the trick. However his three matches may also have some extra SNPs of their own, either individually, or shared between 2 or 3 of them. New SNPs can only be discovered by tests like Big Y, or one of the more comprehensive tests that identifies even more SNPs. Three more such tests would produce the most detailed result, but it would be extremely expensive, and would the result be that much better to justify it. The solution is probably to try a SNP panel test based on Eric's unique SNPs, and if that is inconclusive then use BigY to add to the SNP pool. I would also guess that a larger SNP pool would improve dating.