



Using DNA For Family History

By Michelle Leonard M.A. PgCert

Top Tips for First Time Testers

- Define your goals as those will inform which test or tests are best for you
- For most people an autosomal test at Ancestry is the best first DNA test
- While waiting for your results concentrate on building your tree out as far, wide and deep as possible!
- Don't overwhelm yourself – take your time learning how to navigate your new testing site!

What are the different types of DNA test you can take?

Autosomal DNA: tests a mix of the DNA you inherited from all of your ancestral lines (50% inherited from each parent); a real all-rounder and the most popular test but limited to the past 5-7 generations due to its inheritance pattern; X-chromosome DNA is included with this test; by far the best test for identifying unknown ancestors and solving mysteries

You can use Autosomal DNA testing to:

- | | | |
|---------------------------------|-----------------------------------|--|
| ➤ Verify your tree | ➤ Break brick walls | ➤ Connect with new cousins |
| ➤ Add new branches to your tree | ➤ Identify mystery ancestors | ➤ Solve adoption and unknown parentage mysteries |
| ➤ Test Hypotheses | ➤ Learn about your ethnic make-up | ➤ X-chromosome DNA is included with this test |

Y-DNA: tests the direct paternal line (father's, father's etc line); only males can take this test as only males inherit a Y-Chromosome; can reach much further back in time than autosomal; only tests one line of your tree but it is the surname line so can be used for surname studies and sometimes provides a surname clue for males with unknown male ancestors on direct paternal lines; often no surname clue will be revealed, however, and even if there is one there is always a chance that there has been a disconnect further back on the line so caution is required

Mitochondrial DNA: tests the direct maternal line (mother's, mother's etc line); again only tests one line of your tree; can also reach much further back in time; least genealogically useful due to slow mutation rate; best for testing hypotheses or for brick walls on direct maternal lines

Where can you test?

AncestryDNA: Only offers an autosomal test but has by far the largest autosomal database with over 21 million testers and growing; does not allow uploads from other sites; testing at Ancestry should be the first port of call for anyone who just want to go on a DNA testing fishing trip or those who have mysteries to solve

23andMe: Offers an autosomal test bundled with Y-DNA and MtDNA haplogroup designations and health reports (optional and at additional cost); over 12 million testers are in the 23andMe database but many test solely for the health information and don't provide ancestral information or reply to contact; the site has a lack of tree provision; does not allow uploads from other sites; this is the second largest database so don't overlook it

MyHeritage: Offers an autosomal test (with optional health reports) and has a fast-growing database of over 5.7 million testers; boasts some of the best tools available; you can transfer results from elsewhere for free but there is a small charge (\$29) to unlock important features such as the essential shared match lists and tools such as the chromosome browser

Family Tree DNA: The only company to offer Y-DNA and MtDNA databases as well as an autosomal one but the autosomal database is much smaller than those of the other big testing companies (currently estimated at 1.7 million) and you can upload Ancestry raw data for the best of both worlds - a small fee of \$19 is required for access to advanced tools such as the chromosome browser and features such as the MyOrigins ethnicity estimate

LivingDNA: Partners with FindMyPast and offers detailed UK & Ireland regional ethnicity estimates; launched a matching database in autumn 2018 but the pool is still extremely small; they do allow raw data transfers from other sites, though, and it's worth doing this just in case you are one of the lucky ones with good matches in the database

Autosomal DNA Testing Strategy

1. Test at Ancestry first as they have the largest database and don't accept uploads
2. Upload your Ancestry raw data to MyHeritage, FTDNA, and LivingDNA to get into the databases that do accept uploads (make sure you are comfortable with all T&Cs before doing so and you may wish to pay the unlock fees to access additional tools and features on MyHeritage and FTDNA)
3. Test at 23andMe to get into all of the different databases (they also don't accept uploads)
4. Look out for sales throughout the year (e.g. DNA Day, Black Friday etc)

(It is also possible to upload raw data to the third party site GEDMatch but again do your due diligence and make sure you are comfortable with the site policy and T&Cs)

A List of My Top Tips!

- First and foremost it's essential to build your own tree out as far, wide and deep as possible – if your third cousin tests neither of you can identify the connection if one

or both of you don't know the names of your shared 2nd great grandparents. Pay particular attention to not only your direct ancestors but also your collateral lines (the lines of the siblings of your direct ancestors) as it is mainly from those relatives that the cousins on your match list will descend. The more collateral lines you work forward to living times, the easier it will be to identify new matches.

- Make sure you create a 'DNA compatible' tree – the tree you link to your results should have all of your known direct ancestors on it and not just your maternal side or paternal side
- Once you have a robust tree for reference, make the different systems on the testing sites work for you by attaching/linking your DNA results to the correct entry on your 'DNA compatible' tree. If you are uncomfortable attaching your full tree, create a bare bones skeleton direct ancestors tree with basic information and attach that instead but be aware if you wish to link matches to your tree then you will need to build the lines on which those relatives belong onto the linked tree and make sure your Ancestry linked tree is not 'unsearchable'.
- Familiarise yourself with centiMorgans (cMs) and ranges of sharing; use both Ancestry's 'Possible DNA Relationships' tables and The Shared cM Project to help with determining relationships; don't take company relationship estimates too literally as ranges of centiMorgans for relationships can vary widely
- The Shared cM Project tool on the DNA Painter website will provide the probabilities for the most likely relationships and should be used for all sites other than Ancestry: <https://dnainter.com/tools/sharedcmv4>
- Always study shared matches as they may hold vital clues to narrow down and work out connections; the more matches you can identify, the more helpful shared matches become – shared match lists are the key power tool that can help you narrow down and identify your matches!
- Use the colour-coding groups available on Ancestry and MyHeritage to organise your matches into clusters
- Build out the trees of your matches - you just need a starting point! Even tiny trees can be goldmines if you're willing to put in the work to expand them. Many matches will have minimal trees, wrong trees, no tree at all or linked trees that don't have the tester as the home person – take whatever clues you can and build your own tree for the match to identify the connection
- Don't bypass matches with no tree or matches who don't respond; if they share a decent amount of DNA with you it's always worth trying to identify them via online sleuthing as even if they never reply you may be able to work out the connection and make use of the match going forward
- Use the tools and filters on the sites to help you (e.g. on Ancestry add the side and relationship when you identify a match, build that match into your DNA tree and use the 'Connected DNA Matches' tool to link the DNA match to their spot on your tree)

- Use the search tools at the sites to find matches to work on! Don't fixate on looking for matches with surnames in common; seek out matches with shared surnames and shared locations and location-only searches can prove very useful at times
- Contact your matches; many won't respond and that can be disheartening but those that do could help you in many ways and you may find like-minded cousins with whom you can collaborate
- Test as many older generation relatives as you can to both help with narrowing matches down and to give you more of your ancestors' DNA to work with and therefore more chances of verifying ancestors.
- Test siblings if you have no older generation relatives and test cousins (especially cousins of parents) if no siblings; the more family members with unique DNA from your ancestors who test, the better your chances of finding useful matches
- Aim to get yourself and your family members into all of the major databases especially if you have a mystery to solve: the more DNA ponds you fish in the better chance you have of catching the "big fish" match that can unlock your answers
- If you are an adoptee or have unknown parentage tree-building is challenging but other techniques can be employed; as a starting point examine the trees of your highest matches and try to work out how their shared matches match each other as this should be how they match you too
- Treat the features provided by the companies (ThruLines, Common Ancestor Hints, Theory of Family Relativity hints etc) as clues! Don't take them as fact; always spend time verifying them and seek out documentary evidence to prove or disprove the genealogical links
- Remember outliers exist (matches who share a great deal more or less DNA than the average); always investigate any potential outliers thoroughly and don't assume a known paper trail relationship is an outlier when it's more likely the paper trail is incorrect; confirmation bias has to be avoided in these situations
- Fill in an X-DNA Inheritance table with your X contributing ancestors to help with X-DNA Matches; you can download the tables I use here:
<http://www.genealogyjunkie.net/downloads.html>
- The ISOGG wiki is a great reference source I would advise you to bookmark and use regularly: https://isogg.org/wiki/Wiki_Welcome_Page
- There are many DNA dedicated Facebook groups and these are three of the most active:
<https://www.facebook.com/groups/AncestryUKDNA> (UK-based group)
<https://www.facebook.com/groups/geneticgenealogytipsandtechniques>
<https://www.facebook.com/groups/isogg>
- Watch webinars and read blogs; there is a vast library of DNA talks at Legacy to choose from so take advantage of all the great teaching
- Read, learn, practice, don't be afraid to ask questions or make mistakes and, most of all, have fun with it!

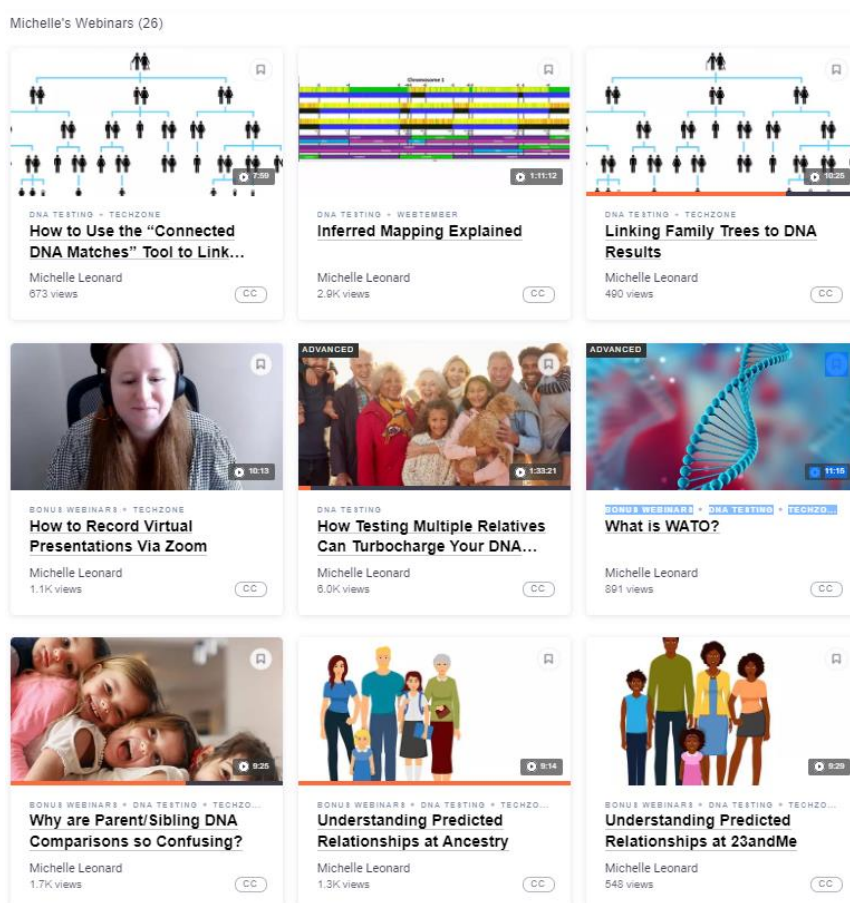
Summing Up

Combining DNA with traditional research is the best pathway to being successful with DNA for genealogy! Seeing your results for the first time can be exciting but also daunting. Try not to let the new concepts like centimorgans overwhelm you – so long as you understand the basics, you can apply your traditional genealogy knowledge to your DNA matches.

It takes work to identify matches and get the most out of DNA testing for family history purposes – while it's perfectly possible to check in and out of your DNA matches and find new easy connections to pick off every so often, if you want to truly supercharge what you get out of your DNA results then you have to put time and commitment into it.

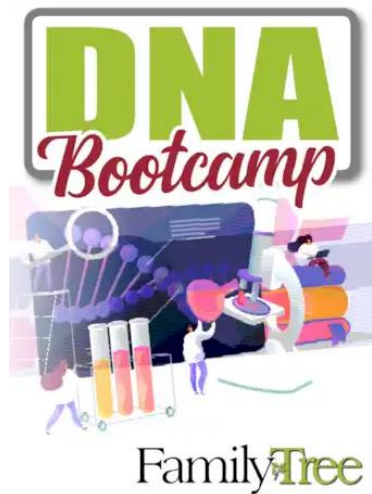
The keys to working out most DNA matches are investigating shared matches, narrowing matches down using confirmed matches and tree-building; lots and lots of tree-building! If you never bypass a match no matter how scant the information provided and you develop the skills to search for living people as well as build trees back in time then you will be successful in making connections and breaking brick walls with DNA.

If you enjoyed my presentation and would like to hear more I have many other educational webinars online including a number of long-form and short form presentations in the Legacy Family Tree Webinars library. You can check them all out here:



<https://familytreewebinars.com/michelleleonard>

I also teach eight week DNA Bootcamp courses for Family Tree Magazine – the next run of my original Bootcamp will be in Sep 2022 while the first run of 'Next Steps' will be in May:

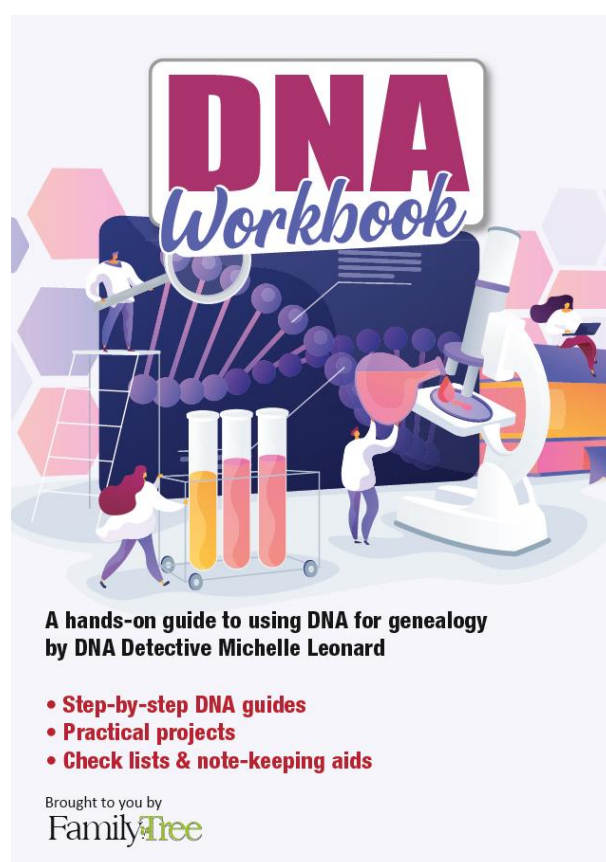


You can find out more at the following links:

<https://www.family-tree.co.uk/store/downloads/family-tree-magazine/dna-bootcamp>

<https://www.family-tree.co.uk/store/downloads/family-tree-magazine/dna-bootcamp-next-steps>

I have also created a 52-page DNA Workbook guide to accompany my original DNA Bootcamp which can also be used as a standalone aid to DNA research:



<https://www.family-tree.co.uk/store/genealogy-tools/family-tree-magazine/dna-workbook>

I will also be speaking at the Sleuthability conference on 23rd and 24th April – this is a fun virtual Irish genealogy, history and DNA conference that has taken place for the past two years. I will be giving two presentations as follows:



23
Sat

Apr
2022

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Michelle Leonard
Genes & Genealogy

A Guide To Shared Match Lists - DNA's Most Powerful Tool!

Sleuthability

2 days, 13 speakers

Uncover a mystery, discover your history at Sleuthability, the virtual conference highlighting Ir...

<https://sleuthability.heysummit.com>



24
Sun

Apr
2022

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AM

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Michelle Leonard
Genes & Genealogy

Understanding Predicted Relationships at the Testing Sites

Sleuthability

2 days, 13 speakers

Uncover a mystery, discover your history at Sleuthability, the virtual conference highlighting Ir...

<https://sleuthability.heysummit.com>

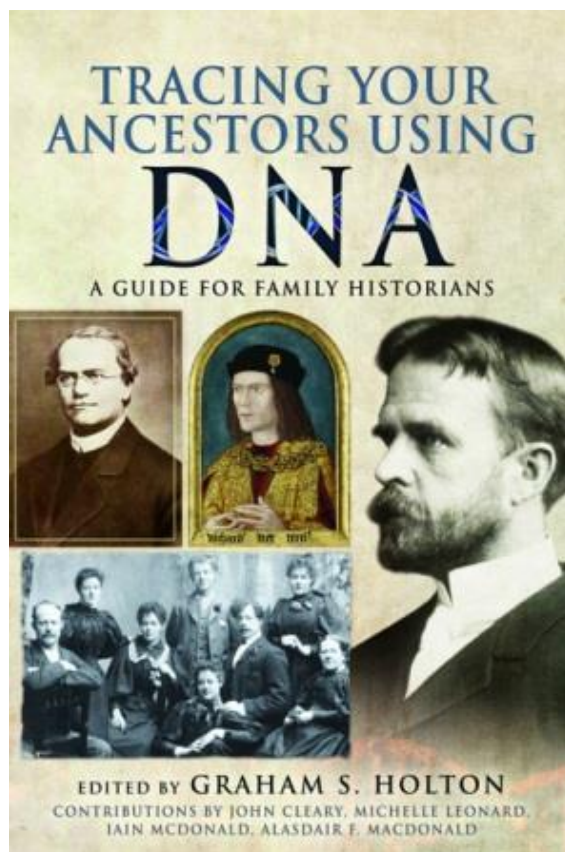
I will also be taking part in Q&A sessions and offering discounted taster DNA consultations!

To learn more about the event, visit the website and please use the **below link** if you decide to buy tickets:

<https://sleuthability.heysummit.com/?sc=PnuYJgaz&ac=7Vc28xVe>

(This is my affiliate link; if it is used to buy a ticket then a proportion of that ticket price is allocated to me as payment for my participation in the event)

Finally the book I have co-authored on using DNA for family history, "[Tracing Your Ancestors Using DNA: A Guide For Family Historians](#)", is available for purchase:



(Pen & Sword, 2019, ISBN: 1526733099
available both in paperback and Kindle formats)

As the official genetic genealogist of #AncestryHour I am on hand most weeks to answer #DNA queries during #AncestryHour's live Twitter chats each Tuesday evening 7-8pm (GMT)

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APG: <https://www.apgen.org/profiles/michelle-leonard>
Ancestry Hour: <http://www.ancestryhour.co.uk/michelle-leonard.html>



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