

## DNA Analysis

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Sam Casey

[kcgen1970@gmail.com](mailto:kcgen1970@gmail.com)

DNA testing became available to us common folks about 10 years ago with Y dna and mitochondrial dna testing. A few years later, autosomal dna testing became available. Using my website, [sjcjr.com](http://sjcjr.com), I will share some of my dna analysis results, primarily autosomal. Most of the time, the DNA analysis will be near the bottom of an individuals profile page.

Several years ago, about 55 of us Averett descendants shared their dna results. This study helped to confirm relationships with descendants of John Averett and identified two of his daughters where there was not written documentation. Also showed that the early Averetts in Hancock Co GA were related but could not determine exact relationships.

Also a group of about 25 Simmons descendants shared their dna results. This DNA study proved that the different Simmons lines that moved to southeast AL were related but could not identify the parents of the Isaac Simmons who married Elizabeth Fowler. Isaac and Elizabeth are my great great grandparents. However the DNA study did strongly suggest that Isaac was a descendant of Isaac Simmons (1732-1804).

I use the free software G DAT (Genealogical Data Analysis Tool) to analyze dna matches. For my paternal side in particular, I have been able to perform Visual Phasing at the great grandparent level for me, my brother, nephew, 4 first cousins, and 4 first cousins once removed. This means that I know whether a particular DNA segment comes from which great grandparent: Charlie A Casey, Buena Vesta Maund, Julius Edward Cox, or Willie Lorena Averett. With my mother being an only child (no first cousins on our maternal side), some of the Visual Phasing is at the grand parent level and some at the great grandparent level.

My goal is to add a DNA analysis comment at the end of the profile for each of my direct ancestors as far back as practical. I will add a "DNA" icon to those ancestors whose relationships are confirmed by DNA. A DNA icon will be added ancestor's siblings when one of their descendants has matching DNA.

Things I have learned from reading and Visual Phasing:

- Visual Phasing is very, very time consuming.
- 50% of your dna comes from each parent. On average, 25% comes from each grandparent. However, it could be as varied as 17% and 33% from one set of grandparents and 50-50 from the other set.
- My dna is about 25-25-25-25 from grandparents but each chromosome is different. On any chromosome it could be 50-0 or 0-50 from any set of grandparents
- You will have a dna match (> 7 cm) with every 2<sup>nd</sup> cousin. Beyond that, you may not match 3<sup>rd</sup> cousins or 2<sup>nd</sup> cousins once removed.
- Matches > 20 cm are considered reliable. Matches from 20 cm down to 7 cm have an increased possibility of being false positive. For most small dna matches, the common ancestor is too far back to find common ancestors by comparing family trees.

- For people with a lot of Colonial ancestors like me, on average you will probably be related to 25% of your matches by 2 different paths and to 16% of your matches by three or more paths. Examples:
  - My paternal grandparents were 2<sup>nd</sup> cousins once removed. My paternal grandfather's grandmother was a sister to my paternal grandmother's great grandfather.
  - Obviously my paternal first cousins and I share the same great great grandparents. One set of first cousins are related to this couple on their paternal and maternal sides.
  - Some of my small dna matches with other Averett descendants are not Averett dna. My paternal grandmother's mother was an Averett. The common dna from my matches with some of the descendants of Benjamin Averett comes from my paternal grandfather's Kirkland line.
  - The common ancestors for dna matches with some descendants of Drury Averett were not Averetts. Haven't figured out exactly who this dna comes from.
  - Be cautious before accepting suggestion in Ancestry's Thru-lines or My Heritage's Theory of Relativity. The further back in time you go, the more likely that the suggestion is wrong.
  - The result of the above is that I will only perform detailed DNA analysis on DNA kits which have been visually phased or with DNA kits that triangulate with phased DNA kits. That's the only way to accurately determine Common Ancestors.

### The Shared cM Project – Version 4.0 (March 2020)

Blaine T. Bettinger  
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How to read this chart:

Relationship  
Average  
Range (min-max)

Aunt/Uncle  
1741  
1201 - 2282

		Great-Grandparent				Great-Great-Grandparent		GGGG-Grandparent		GGGG-Aunt/Uncle		Other Relationships	
Half GG-Aunt/Uncle	Half GG-Grandparent	Grandparent				Great Aunt/Uncle	Great-Great Aunt/Uncle	GGG-Aunt/Uncle	GGG-Grandparent	GGG-Aunt/Uncle	GGG-Grandparent	GGG-Aunt/Uncle	Other Relationships
Half GG-Aunt/Uncle 205 103 - 284	Half GG-Grandparent 887 483 - 1486	Grandparent 1754 984 - 2482				Great Aunt/Uncle 850 370 - 1487	Great-Great Aunt/Uncle 490 180 - 713	GGG-Aunt/Uncle 317 25 - 438	GGG-Grandparent 31 0 - 134	GGG-Aunt/Uncle 31 0 - 134	GGG-Grandparent 31 0 - 134	GGG-Aunt/Uncle 31 0 - 134	Other Relationships 6C 18 0 - 71
Half 1C2R 425 16 - 259	Half 1C1R 344 0 - 496	Half Aunt/Uncle 871 492 - 1313	Parent 3483 2376 - 3720	Aunt/Uncle 1741 1201 - 2282	1C1R 423 102 - 680	1C2R 423 102 - 680	2C1R 423 102 - 680	3C1R 48 0 - 192	4C1R 28 0 - 106	5C1R 13 0 - 56	6C1R 5 0 - 26	6C 18 0 - 71	
Half 2C 48 0 - 168	Half 2C 120 10 - 225	Half 1C 419 126 - 679	Half-Sibling 779 150 - 1476	Sibling 2653 1043 - 3488	SELF	1C 866 229 - 1507	2C 229 41 - 393	3C 73 0 - 134	4C 35 0 - 139	5C 15 0 - 117	6C 5 0 - 45	6C 18 0 - 71	
Half 3C1R 27 0 - 139	Half 2C1R 66 0 - 399	Half 1C1R 244 51 - 459	Half Niece/Nephew 371 492 - 633	Niece/Nephew 1740 1201 - 2282	Child 2487 2376 - 2720	1C1R 423 102 - 680	2C1R 122 14 - 353	3C1R 48 0 - 192	4C1R 28 0 - 106	5C1R 13 0 - 56	6C1R 5 0 - 26	7C 14 0 - 57	
Half 3C2R 27 0 - 78	Half 2C2R 48 0 - 144	Half 1C2R 153 16 - 269	Half Great Niece/Nephew 421 184 - 668	Great Niece/Nephew 859 330 - 1497	Grandchild 1754 984 - 2482	1C2R 221 33 - 471	2C2R 71 0 - 344	3C2R 36 0 - 156	4C2R 22 0 - 93	5C2R 11 0 - 65	6C2R 5 0 - 30	7C1R 13 0 - 50	
Half 3C3R 50 0 - 131	Half 2C3R 60 0 - 120	Half 1C3R 80 0 - 131	Half GG Niece/Nephew 308 103 - 284	Great-Great Niece/Nephew 421 180 - 713	Great-Grandchild 187 483 - 1486	1C3R 117 23 - 238	2C3R 51 0 - 134	3C3R 27 0 - 98	4C3R 13 0 - 60	5C3R 6 0 - 30	6C3R 3 0 - 13	8C 11 0 - 43	

Minimum was automatically set to 0 cM for relationships more distant than Half 2C, and averages were determined only for submissions in which DNA was shared