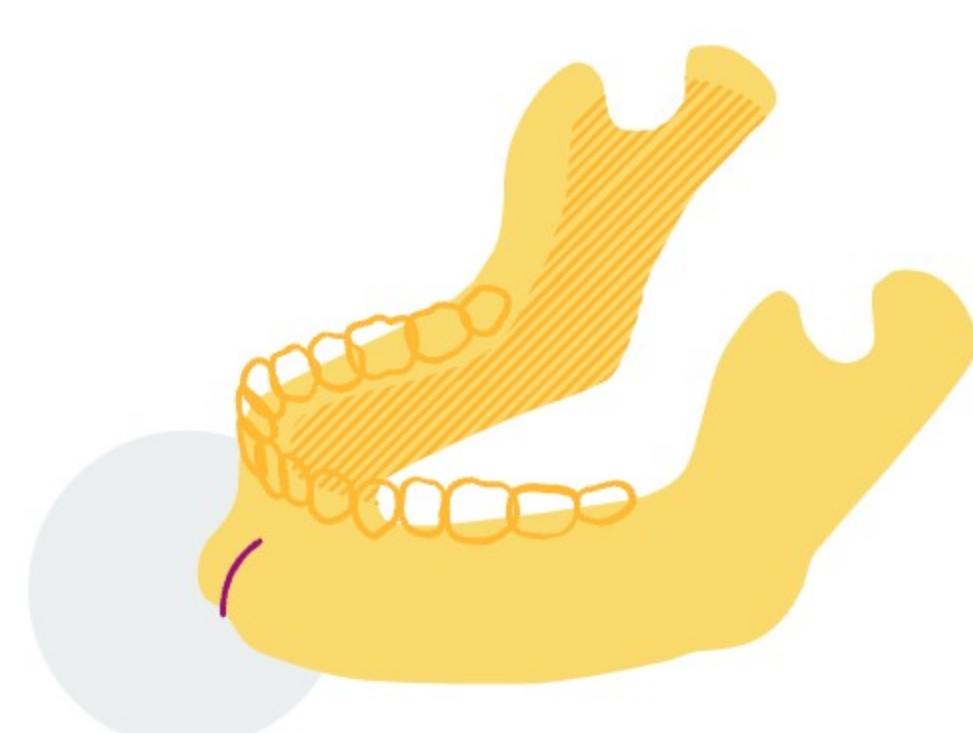


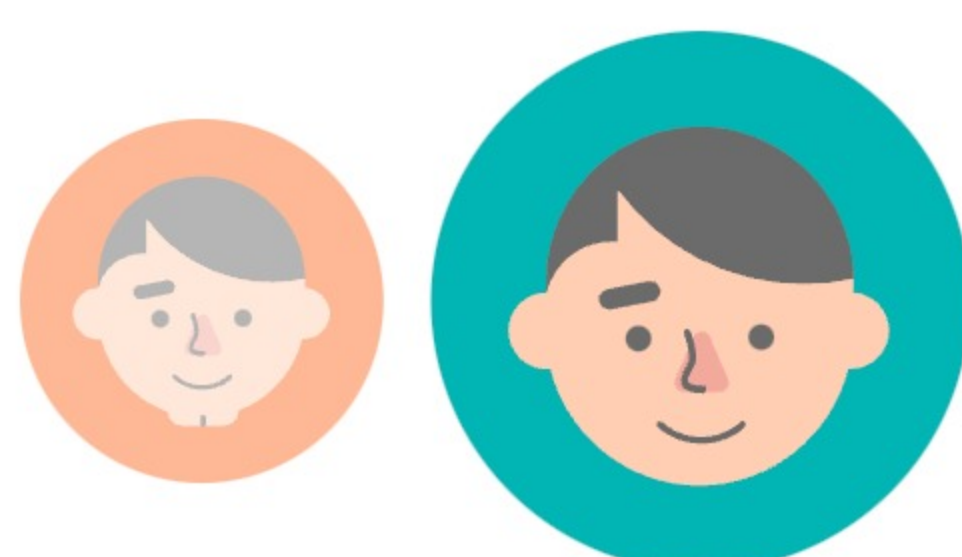
# Cleft Chin

Overview Scientific Details



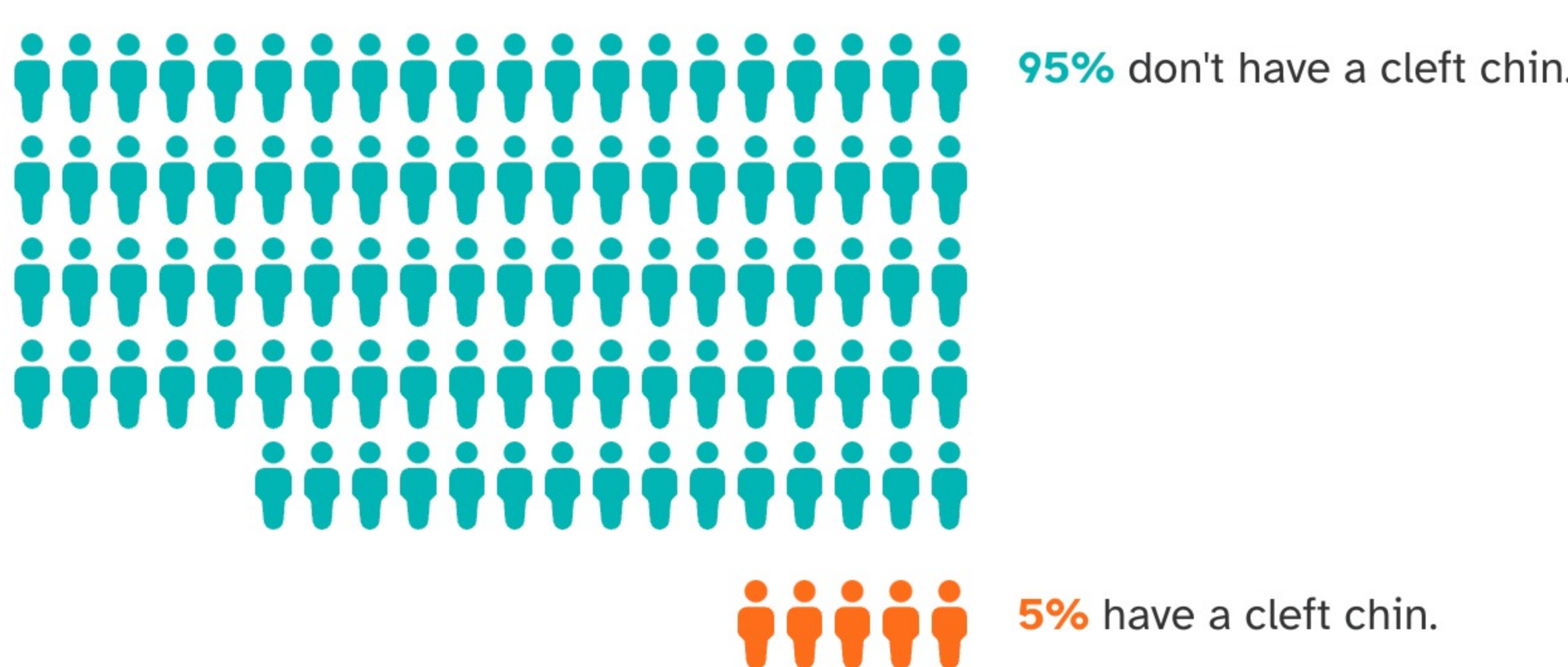
## How did your chin form?

The left and right halves of the lower jaw start out as two bones, then join in infancy. But if you have a cleft chin, your jawbone might still have a little gap in the middle.



Jamie, the combination of your genetics and other factors makes you **unlikely to have a cleft chin.**

Of 23andMe research participants with results like yours:



Do you have a cleft chin?

## How did we calculate your result?

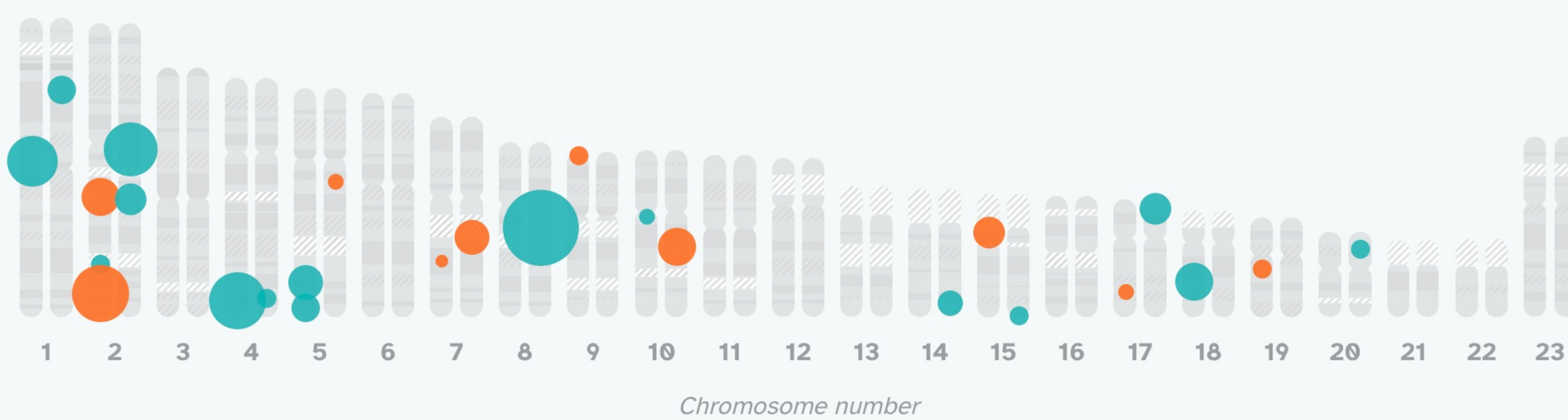
We added up the effect of your genetic variants at 38 places in your DNA (genetic markers) plus the effect of other factors, including your age and sex.

Total effect of your genetics + other factors



## Breakdown of your genetics

The bigger the circle, the stronger the effect your variants have on your overall chances.



At 16 of the genetic markers we looked at you have variants that make you less likely to have a cleft chin, and at 10 you have variants that make you more likely. At 12 of the markers that we looked at, you have variants with no effect either way (not shown).

See Scientific Details

## More about chin shape

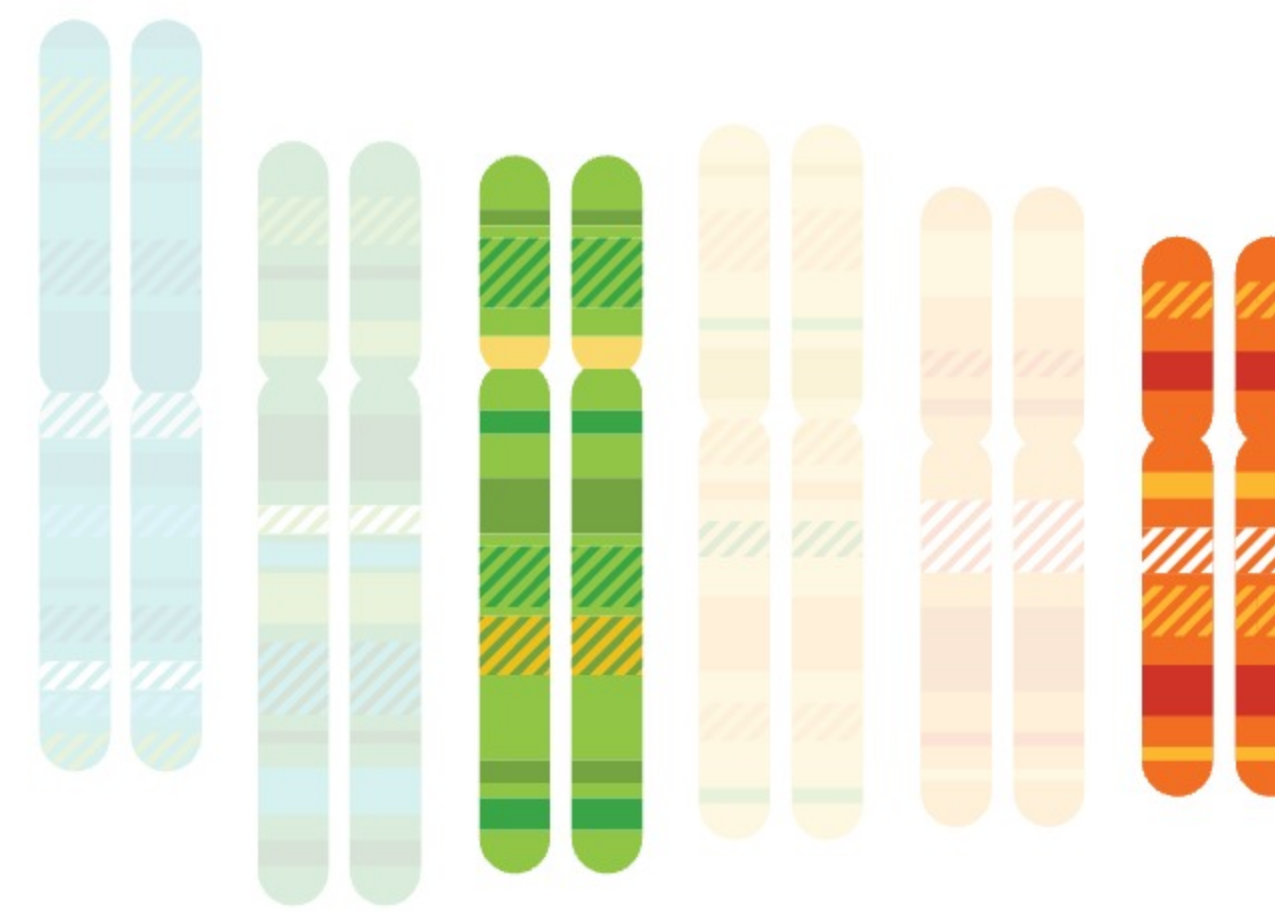
### Why do we have chins anyway?

Humans are the only species that have chins — and no one knows why. But one possibility is that the chin is a holdover from ancient human ancestors that had larger jaws. When pre-humans began cooking with fire around a million years ago, their food became easier to chew, and they evolved smaller teeth and mouths to match. The bottom of the jawbone didn't shrink as much, leaving us with a chin that sticks out from the rest of the face.



### DNA differences could affect jawbone growth

We discovered the genetic variants in this report by looking for differences in the DNA of 23andMe research participants with and without cleft chins. Because these DNA differences are recent discoveries, we don't yet know much about them. But our analysis suggests that many are in or near genes that play a role in the growth of bones in the face and skull. If genetic variants affect the function of these genes, they could make it more or less likely that the left and right jawbones will stop short of fusing all the way, leaving a cleft.



### Spread the love, and the chins

Modern humans have some Neanderthal genetic variants because our ancestors interbred with Neanderthals over 40,000 years ago. But the sharing went both ways. In some Neanderthal fossils, you can see a hint of a chin. Scientists think they could have inherited this trait from their human ancestors.



## Keep exploring your Traits results.



Contribute

Join the research effort and contribute to new discoveries.



Compare

Compare your results to your family and friends.



Discuss

Join the discussion with other 23andMe customers interested in Traits.

Did you find this interesting?

Yes

No



Give the gift of DNA discovery.

Gift a kit

Refer friends, earn rewards.

Get reward

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# Cleft Chin

[Overview](#)
[Scientific Details](#)

We use one of two different methods to calculate your trait results.

## Statistical Model

Most traits are influenced by many different factors, including genetics, lifestyle, and environment. Usually, a statistical model using many factors provides better predictions than looking at single factors by themselves. To develop our models, we first identify genetic markers associated with a trait using data from tens of thousands of 23andMe customers who have consented to research. Then, we use statistical methods to generate a "score" for that trait using your genotype at the relevant genetic markers as well as your age and sex. We predict your likelihood of having different versions of the trait based on the survey responses of 23andMe customers with similar scores. These predictions apply best to customers who are of the same ethnicity as the people whose data contributed to the model. The accuracy of these predictions varies from trait to trait.

[Read more about our statistical methodology](#)

## Curated Model

For some traits, just a few genetic markers can strongly predict whether a person will have a particular version of the trait. For curated models, we first evaluate published scientific studies to identify genetic markers with well-established associations with the trait. Then, we look at genetic and survey data from tens of thousands of 23andMe customers who have consented to research. We estimate your likelihood of having different versions of the trait based on survey responses from customers who are genetically similar to you at those markers. These results apply best to customers who are of the same ethnicity as the people whose data contributed to the predictions.

## About your Cleft Chin result

Your result for this trait was calculated using a **statistical model**.

### About the Cleft Chin model

Created based on customers of ethnicity: **European**

Number of customers used to create: **60,000**

Number of markers: **38**

Area Under Curve (AUC): **0.663**

Non-genetic factors: **Age, Sex**

Bin #	No cleft chin	Cleft chin
<b>JW</b> 1	95.49%	4.51%
2	93.42%	6.58%
3	91.87%	8.13%
4	90.56%	9.44%
5	89.60%	10.40%
6	88.40%	11.60%
7	86.97%	13.03%
8	86.58%	13.42%
9	85.18%	14.82%
10	83.05%	16.95%
11	83.50%	16.50%
12	82.64%	17.36%
13	81.29%	18.71%
14	78.36%	21.64%
15	77.32%	22.68%
16	74.99%	25.01%
17	74.21%	25.79%
18	70.50%	29.50%
19	67.89%	32.11%
20	61.52%	38.48%
<b>Overall European</b>	82.17%	17.83%

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## Change Log

Your report may occasionally be updated based on new information. This Change Log describes updates and revisions to this report.

Date	Change
<b>Dec. 15, 2017</b>	Cleft Chin report updated with revised content and design.
<b>June 22, 2017</b>	Cleft Chin report separated from the Facial Features report.
<b>Oct. 21, 2015</b>	Facial Features report created.



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