

## THE NEW HCM GENE FOUND IN SPHYNX CATS.

The name of this gene is ALMS1.

ALMS1 is not the only gene responsible for HCM in Sphynx cats, but at moment it is the only one identified.

It was identified by Dr.Meurs in 2020, thanks to her amazing work and her staff and thanks to all Sphynx breeders around the world helping with samples and fundraising.

This gene is epigenic, therefore external factors can contribute to HCM .

This DNA test identifies the gene but not the pathology.

A HCM scan identifies the pathology but not the gene.

We have to consider the use of both tools together along with the pedigree history of our cats for breeding.

It is an autosomal dominant gene with incomplete penetrance, what does this mean?

- Only one copy of the gene is required to possibly cause HCM.
- Males and females have an equal possibility of developing HCM.
- The penetrance is incomplete, so this gene does not always penetrate enough to develop HCM. Dr.Meurs thinks the chances of developing HCM in a homozygous Sphynx could be around 40/50%, so in essence half of homozygous cats can develop it and half not.

A ( N/N ) negative cat to this gene has no copy of the gene.  
 A ( P/N ) heterozygous cat has only one copy of the gene.  
 A ( P/P ) homozygous cat has both copies of the gene.

From two negative cats to this gene the offspring should also be born negative to the gene.

From a negative and a heterozygous cats to this gene there is a 50% to have heterozygous kittens and 50% negative kittens to the gene.

From two heterozygous cats to this gene there is a 50% possibility to have heterozygous kittens, 25% to have homozygous and 25% to have negative kittens.

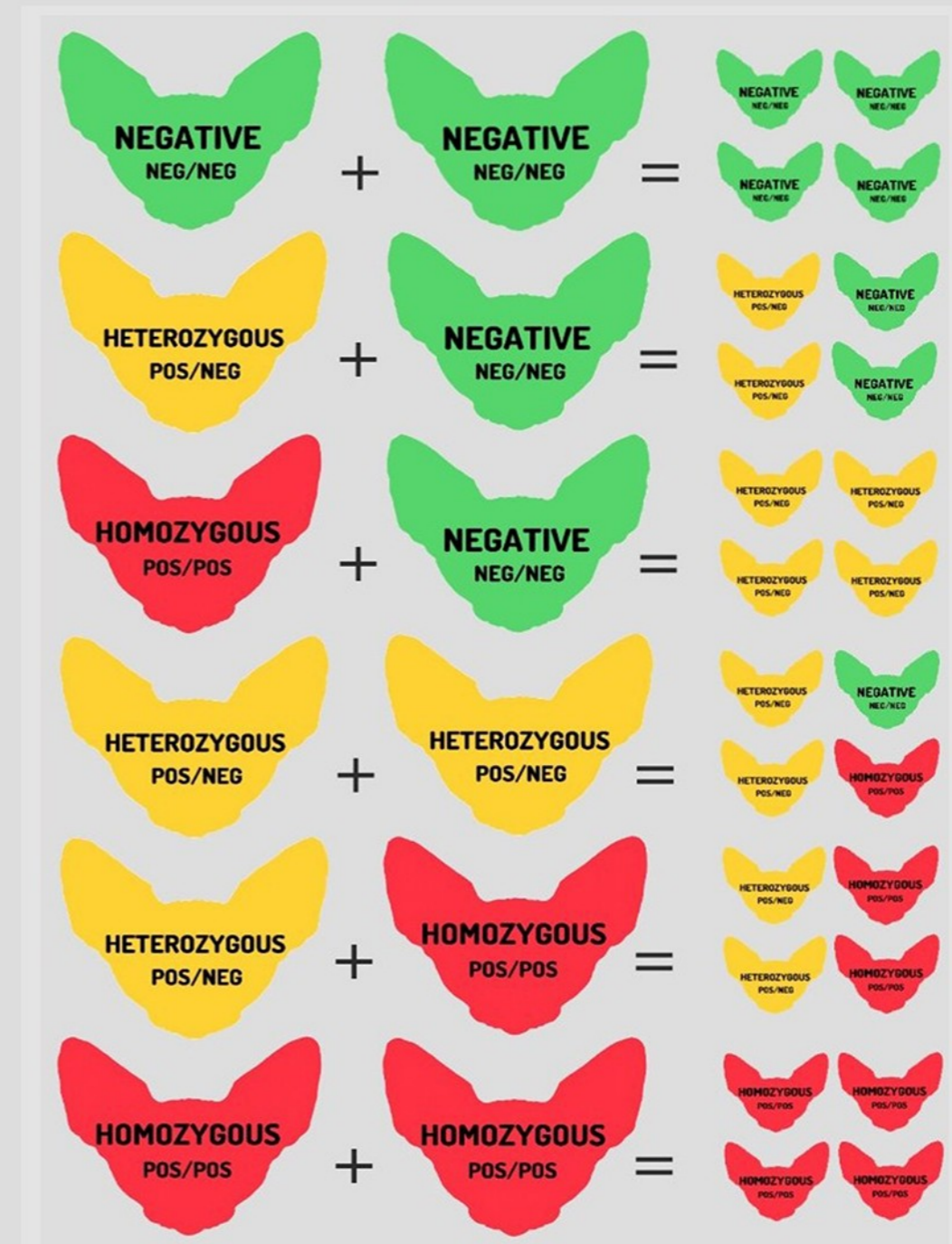
From two homozygous cats to this gene will result in only homozygous kittens being born.

From a homozygous cat to this gene and a heterozygous cat, there is 50% possibility of homozygous kittens and 50% of heterozygous kittens.

From a negative cat to this gene and a homozygous cat, should result in the birth of only heterozygous kittens.



## THE HEREDITARY OF HCM ALMS1 GENE IN SPHYNX CATS.



Reputable Sphynx breeders are working together to mitigate the HCM in this breed.

If you need support or information  
 TICA SPHYNX BREED COMMITTEE is always here for you.

THE STUDY ABOUT HCM GENE FROM MEURS:

[https://ojrd.biomedcentral.com/articles/10.1186/s13023-021-01740-5?fbclid=IwAR3y15rkR5l\\_9XZcOSdesjQk1JCM1MIUvoVIC\\_BSicqrpSdzCAWpRUBk2oEnx\\_cats](https://ojrd.biomedcentral.com/articles/10.1186/s13023-021-01740-5?fbclid=IwAR3y15rkR5l_9XZcOSdesjQk1JCM1MIUvoVIC_BSicqrpSdzCAWpRUBk2oEnx_cats)