

# Congenital Problems & Genetic Defects

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Congenital problems are not necessarily inherited defects. They are structural abnormalities that occur before birth, sometimes caused by viruses or drugs used in the pregnant female. If a female has more than one litter with the same type of defect, and other females that received the same care and treatments while pregnant do not have similarly affected offspring, the defect is probably inherited.

Some common congenital defects are present at birth and cause death of the newborns. For instance, kits born with open eyes (defective eyelids) have other head abnormalities that prevent them from surviving. Occasionally they have only a primitive brain. Because fetal maturation and pituitary hormones are responsible for initiating labor in the jill, head defects in the unborn kits are often associated with failure of the jill to deliver the litter. The whole unborn litter will die a few days after the due date, and the jill will also die unless the dead kits are removed by cesarean section. Some of these defects are associated with recessive color mutations, notably the black-eyed white condition.

Some congenital defects interfere with normal birth, such as necks bent almost double that cannot be straightened. Cesarean delivery is necessary to save the jill's life. Most of the time, we have no idea what induces such abnormalities in the kits, but it is not a big problem and rarely recurs in other litters of the same jill.

There are some inherited harmless defects, for instance, polydactyly, which means having extra toes. The albino color phase is a defect inherited in ferrets as it is in other animals such as rats and rabbits. Albinism is associated with many minor tissue abnormalities that rarely cause problems in animals. Kits with white heads (pandas) may be congenitally deaf, which is hard to assess in ferrets and causes no problem if they are confined to a safe, indoor environment.

Other inherited defects can cause various degrees of disability.

**Cystic Kidneys:** Cystic kidneys have large bubbles of fluid that gradually enlarge and destroy the normal kidney structure. This condition can be palpated, and in a lean ferret, enlarged kidneys are visible when the animal is held up and stretched out. Often only one kidney is affected and when it is removed the ferret can live a normal life, because only one kidney is necessary for survival. If both kidneys are affected the ferret will die when there is not enough normal tissue left to maintain adequate function. Ferrets are often 2 or 3 years old when these problems are diagnosed, but occasionally cystic kidneys are found in kits soon after weaning.

**Brachycephaly:** There are strains of ferrets that have short noses like bulldogs: this is called "brachycephaly" and some people call these ferrets "pugs." If there is not enough room in the short jaw for the ferret's teeth, they come in very crooked. The canine teeth may be pushed forward so that one or more protrudes from the mouth, sometimes making a visible dent in the upper lip. Some people like the short-nosed, pug appearance, because it makes the ferret look less like a weasel or a rat. However, it is not a desirable characteristic because of the associated dental abnormalities. Breeding ferrets with blunt noses will eventually produce pug ferrets.

**Cataracts:** Some ferrets have cataracts at a very young age, not associated with any eye injury. These are called juvenile cataracts, the condition is inherited, and the ferrets are blind. Cataracts that develop in older animals may also be inherited, but a cataract that appears in one eye of a mature ferret might be due to an injury. Blind ferrets adapt well to a familiar area and live otherwise normal lives. To avoid producing more blind ferrets, the parents of kits with cataracts should be spayed or neutered.