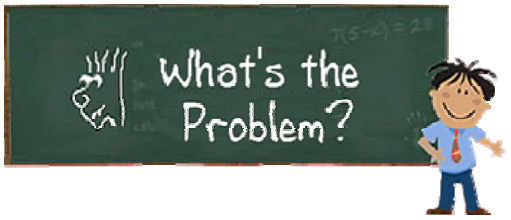

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Cloning Pets

By Mack LeMouse – HealthGuidance Contributor

Will we one day be able to clone our pets? It sounds like a question for science fiction, but actually the answer is quite simply a resounding 'yes' – and in fact we already have. The good news is for those who can't bear the thought of being separated from their pets, that it's actually already possible to clone pets and it's already commercially available – but you need to act now while your pet is still alive if it's something you want to do. Oh and you're going to need quite a hefty amount of money in the bank if you hope to be able to do it.

The History of Cloning

Many people are familiar with 'Dolly the Sheep' – one of the most highly publicized cases of a successfully cloned animal. This seemed amazing at the time (1997), but the thought of this cloning technology being something that's commercially available for anyone who wants it, really does seem even more incredible and is literally straight out of the pages of science fiction (The film *6th Day* with Arnold Schwarzenegger springs to mind).

The first instance of pet cloning occurred in 2004 and was produced by a company called 'Genetic Savings & Clone'. The cat was named 'Little Nicky' and the 'copy cat' was ordered by a North Texas woman for a sum of $50,000. The woman, name July, reports a healthy and well cat with no negative side effects and with similar behavior to its predecessor – down to an aversion to water.

Since then a company named BioArts in 2008 has achieved limited commercial dog cloning via a program called 'Best Friends Again'. This program saw people 'bidding' to have their pets cloned, after the successful 'Missyplicity Project' in which the entrepreneur John Sperling successfully cloned his family border collie/husky mix with the help of 'Genetic Savings & Clone'. The Missyplicity project began in 1998, and produced 'Mira' in 2007 – another successful and healthy clone with striking physical resemblance to Missy. This first attempt took as long as it did due to dogs being more difficult to clone than cats, though the process is now better understood. The challenge reportedly is not technical, but rather related to the number of eggs.

While the 'Best Friends Again' service no longer exists, cloning still continues. In 2008 the Seoul National University created five clones of a dog called Booger for its owner in California. The owner paid $50,000 again, which seems to be the 'going rate' for a clone.

Requirements

If you have hopes of cloning your pet then, you will need to be able to put up the $50,000 costs (at least) as well as being able to find a company willing to perform the job (your best bet is in California). At the same time you will also need to have in-tact cells from your pet which you can get from a tissue sample or mouth swab. These then need to be preserved in order to keep your pet's DNA healthy. A lock of hair won't work as hair doesn't contain DNA – rather it only contains mitochondria which are not sufficient to create animals.

Results

The result of a cloned pet is a genetically identical copy of the pet similar to a twin. However it must be understood that environmental factors as well as genetic are what determine both appearance and behavior. Your dog may be born a different coloring or size simply as a result of the amount of nutrition it received in the womb. Like human twins then, differences between the animals will always prevail.

Controversies and Implications

Of course this is a highly controversial process and there are many activist groups that hold strong beliefs against the use of animal cloning. Religious groups see this as 'playing God', whereas animal rights activists point out that there is no need to clone pets.

The implications of being able to clone animals are huge. While humans would of course be more complicated to clone than animals, it is very much within the realms of possibility now. In fact cloned human embryos have already been created – first by stem cells, but most recently from skin cells. The idea behind this is to be able to extract embryonic stem cells to treat patients without fear of rejection – but of course the implication is that a human clone could be created.

This also makes Jurassic Park-like scenarios far more possible. While it would be highly difficult to find in-tact cells from dinosaurs that could be used for cloning, it is certainly not completely impossible. In fact scientists from Russia's Sakha Republic Mammoth Museum and Kinki University in Japan have pledged to begin research into cloning the first Woolly Mammoth this year using frozen bone marrow recovered from permafrost in Siberia. This would then work by using the DNA in order to inseminate an unfertilized elephant egg which would provide a surrogate for the DNA.

So yeah... wow.

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