

## **Biomedical Research, the Key to Quality Life**

Four years ago, my dog, a female toy poodle-schnauzer mix, was lethargic, in constant pain, and having dysuria. (Ward, 2011). Whenever I would take her out on a walk, she would only pace around and hold her rear leg resulting with nothing. This gave my family and I great concern as to why this was suddenly ongoing. Along with these symptoms, she was losing weight rapidly due to little to no nutrition and dehydration. We acknowledge that we had to take her to the vet immediately, later to realize she was diagnosed with kidney stones, specifically calcium oxalate (CaOx) urinary stones, which, as stated by Dr. Eva Furrow, are common in dog breeds such as Shih Tzus, Lhasa Apsos, Pomeranians, poodles, dachshund, terrier, and mixed breeds (2016). Luckily, the veterinarian offered to treat our dog through medication, administered intravenous fluids, and performed surgery. Within a few weeks, she was cleared of this disease. After this gradual treatment, our dog was able to live for another four more years.

The medication to treat the kidney stones was cephalexin. According to the American Kennel Club, cephalexin is an antibiotic that fights infections from bacteria including urinary tract infections (2016). Cephalexin is part of a first-generation cephalosporin. It can be consumed with or without food; however, taking this antibiotic with food may reduce the risk of some common side effects such as nausea, vomiting, and diarrhea in dogs (2016). The medication was given daily and gradually decreasing the dosage weekly or bi-weekly until there was none left. Along with the antibiotic was prescription pain relief medication specifically for dogs because if one were to treat dogs with NSAIDs (non-steroidal anti-inflammatory drugs), then severe health consequences

are to be anticipated since pain relief medications for humans are extremely different to handle compared to dogs. The medications for our dog unequivocally eased the pain and helped our dog to urinate a little bit better.

The IV therapy was performed for several hours due to our dog becoming mildly dehydrated. Debra Primovic stated that IV fluids are usually given to dogs through their common leg into the cephalic vein that is on top of the front leg under the elbow (2015). The jugular vein may be used especially for dogs that are dehydrated. Before administering fluids, the veterinarian and the staff shave and disinfect a small portion of the fur as an insertion point. An IV catheter, which is a small malleable tube inserted through thin openings into the vein. A fluids line is connected to the catheter so that the fluids will be delivered; the catheter is taped and bandaged to the leg so that the dog may not remove it off. Our dog was given about a few milliliters of fluids per hour until the stones would be flushed out from her; however, the stones failed to be flushed out, therefore, a scrotal urethrostomy was required.

This surgery was performed in order to completely remove the kidney stones. During this process, the urethra is surgically opened by a small incision and the lining of the urethra would be stitched up after the stones were safely removed. This surgery was relatively short since it required few incisions and suturing. Our dog was entirely free of the stones.

These types of treatments are very useful and necessary for dogs and cats alike. While some illness' or injuries come in different sizes, the research and experiments conducted ensures the best outcome for most patients. For drugs, it is necessary that pharmacists perform several research experiments with animals such as rodents to understand the effects of drug in animals for very identical situations. Biomedical research has and will continue to produce ways to cure and treat pestilences. Animal testing allows scientists to learn and understand potential outcomes of anything that applies into scientific fields that can be used in the world without risking any human lives. Without the use of animal testing to rid of the many diseases prevalent in our community, many lives will indubitably succumb.

Biomedical research makes a larger impact that some may fail to see. It affects everyone and saves countless numbers of lives in numerous ways; just like my dog when the medication was not effective enough initially so the surgery was done. Research involving animals for treatments and cures to be refined have the needed outcome of an individual. Without animal research, humans and animals would be expected to have a much shorter life expectancy.

## Works Cited

### Entire Website Entry

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