



VET CHAT

Keyhole Surgery

FAST RECOVERY AND LESS PAINFUL OPERATIONS

WORDS - Dr John Wilcox - VetMed Randwick

Twenty years ago people would have an operation and be bed bound for weeks. These days we expect to have minimally invasive surgery and be up and about in no time at all. So why not with our pets? The good news is now you can.

Laparoscopic surgery has been growing in use. For the last decade vets have been operating using laparoscopic equipment and have loved the results. Initially seen as a specialist veterinarian procedure, it is being performed by general veterinary practitioners more and more. Our patients have recovered rapidly from their operations and been back to their full activities in next to no time, leading to happy owners and even happier pets.

Lap Spays

The most common procedure vets do using laparoscopy is female desexing, called a lap spay. Desexing is a very common operation to prevent pregnancy as well as unwanted behaviours and some diseases, especially womb infection (pyometra). Being such a common procedure, it tends to be thought of a straight forward operation. In fact it is a major abdominal operation which fortunately has few complications due to the skills of veterinarians. Keyhole surgery makes this operation even safer.

How does a Keyhole spay differ from a routine spay?

Keyhole spays differ from routine spays in a number of ways. When a normal spay is performed an incision is made that varies in length, depending on the size of dog and the vet operating, but is commonly around 10 cm long. With keyhole surgery there are two incisions which are usually 5 mm in length (in big dogs one hole is 10 mm so the ovary can fit through the hole). This is a big advantage, as even if the stitches are pulled out it is likely there will be no problems, as the incisions are too small for anything in the abdomen to fit through.

In keyhole surgery the abdomen is then filled with gas and a scope is placed through the incision so the insides of the dog can be seen in detail (the scope magnifies the operating site helping the surgeon to see even more detail). This allows the ovaries to be visualised and for the vet to see exactly what is happening during every stage of the operation. In a normal spay the ovary and uterus is found by touch alone.

The next part of the operation is one of the biggest advantages of keyhole surgery. In a normal spay the ligament





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attaching the ovary is stretched and torn to enable the blood vessels to be tied. This has been shown to be the most painful part of the operation (often vets will increase the amount of anaesthesia at this point). In a lap spay, however, after the ovary has been stabilised, the ligament and blood vessels are electrically sealed to prevent bleeding and then cut with scissors. There is no need to change the anaesthetic levels. The ovary is then removed and the process is repeated on the ovary on the opposite side. The surgery is then closed, often needing one stitch in each incision.

What are these benefits?

The most significant advantage is a reduction in pain after the surgery. In a normal spay the uterus is also removed. Why doesn't the uterus get removed in a lap spay? The answer is, it can be, but there is no need. The reason the uterus is routinely removed is because that is how Australian vets have been taught. In other parts of the world, such as Scandinavia, only the ovaries are removed. There is absolutely no long term difference between removing the ovaries only (ovariectomy) or removing the ovaries and uterus (ovariohysterectomy). By leaving the uterus in, the incision size is minimised and the time taken to complete the operation is reduced.

Pyometra

People sometimes express a concern about leaving the uterus, especially about pyometra. Pyometra is a potentially fatal disease that occurs in dogs, where the uterus fills with pus. This is a hormonal disease, which will not occur providing the hormone progesterone does not get produced. The possible sources of progesterone are the ovaries (which we have removed) or old types of drugs, which are very rarely used by vets these days.

So are there any down sides to the lap spay operation?

Probably the biggest difference is the need to clip more hair to allow the ovaries to be removed during a lap spay. The hair grows back in no time, but if necessary less hair can be clipped, but it does require an extra incision to be made. As with human laparoscopic surgery there is a potential of needing to convert to a traditional technique, but it happens in less than 1% of operations. Most animals can have a lap spay operation, however there are some limitations: very small animals and very fat animals may not be suitable for laparoscopic procedures.

Lap spays do need special equipment and the vet needs extra training to perform the operation. This means that not all vet practices can perform keyhole surgery. This will mean an extra cost is involved, however it is well worth the money for the benefits that are achieved.

According to one study in 2009, there is a 60% reduction in pain following the surgery. Obviously this is a hard number to assess. However clients will say their dog acted completely normal the day after a lap spay, happily running around the park. A dog was going home three hours after her lap spay and her owner, at first, didn't believe the surgery had been done as the dog was that bouncy and active. Other benefits are that the surgery site in the abdomen can be seen for the entire operation and the incisions are so small that even if the stitches are chewed out there will be no problems.

Can laparoscopic desexing be done on males?

Generally it is not needed, as the operation is not in the abdomen. Occasionally there is an undescended testicle (cryptorchid) and laparoscopic surgery makes this very easy to remove. Instead of trying to feel for the undescended testicle, a scope can be placed in to look for it and then remove the testicle much more rapidly than previous methods of surgery.

Other uses for Laparoscopic Surgery

Desexing is the most common surgery that uses laparoscopic surgery, however there are many other operations that can be done in a minimally invasive way to ease recovery. Deep chested dogs are prone to twisting their stomach, a deadly condition called gastric dilatation and volvulus syndrome (GDV). This can be prevented by using laparoscopy to stitch the stomach to the abdominal wall. Breeds such as Great Danes can benefit from this surgery, called a gastropexy, which is done at the same time as desexing.

Other laparoscopic operations are bladder surgery where the inside of the entire bladder can be seen, which is impossible without laparoscopic surgery. Exploratory surgery and biopsies for liver disease and investigating masses can be done without the need for a massive incision, which is especially beneficial in sick animals that may not heal or recover well from a normal operation. Laparoscopy allows areas of the abdomen to be examined that can't be seen without this equipment and allows magnification with light right on the area in which the operating vet is interested in. Biopsies can then be done on any organs as needed.

In the hands of a well trained general practitioner all these procedures can be done, however there are more advanced specialist surgeries that use laparoscopy. These include removing adrenal glands and gall bladder surgery. Chest surgery normally requires a very painful recovery as bones are often cut to perform the operation. Using minimally invasive surgery certain types of heart surgery and lung operations can be performed with a greatly reduced risk and a recovery of a matter of hours or days not weeks.

So when your dog needs to be spayed, ask yourself if it was me having the operation, what surgery would I choose? The traditional spay with its large incision or keyhole surgery needing two tiny holes and letting me bounce home virtually pain free? Keyhole surgery would be the choice every time.

Ref; 1. Culp, Mayhew & Brown, The Effect of Laparoscopic Versus Open Ovariectomy on Postsurgical Activity in Small Dogs. *Veterinary Surgery* 38:811-817, 2009

