



Radiograph following placement of a SUBS

What is a SUBS?

A SUBS is a device we place to treat ureteral obstruction. The ureter is the conduit that connects the kidney and bladder. The most common cause of ureteral obstruction in the cat is calcium oxalate stones. These stones lodge in the narrow ureters leading to obstruction of the flow of urine to the bladder. This can cause permanent damage to the kidneys. A SUBS device consists of a catheter placed into the kidney's pelvis as well as the bladder. These two catheters are connected by a special port that is located just under the skin. This device allows urine to bypass the ureteral obstruction.

How do we investigate ureteral obstruction?

Blood tests should be performed to determine the general health status and kidney function of the patient. Urinalysis and urine culture will also be performed. Radiographs of the abdomen can identify the presence of urinary stones. Abdominal ultrasonography aids identification of the urinary stones as well as assessment of the size of the kidney's pelvis (which is critical for consideration of the suitability of placing a SUBS).

How can we treat ureteral obstruction?

Whilst medical management can be successful in a small percentage of cases, the outcome is significantly better with surgery. More historical surgical options include urethrotomy (incising into the ureter), re-implantation of the ureter into the bladder or retrograde flushing of the stones into the kidney pelvis (followed by surgical removal of the stones from the kidney). Due to the high risk of complications associated with these procedures, more non-invasive methods of management of ureteric obstruction have been developed such as stenting, Subcutaneous Ureteral Bypass System (SUBS) and lithotripsy (laser).

What kind of aftercare is required following a SUBS?

Your pet will be hospitalised for 1-2 days. Your pet will be discharged with pain relief. Suture removal will be required 7-10 days post-operatively. The system requires flushing via the subcutaneous port every 3-6 months to maintain patency. This is usually performed under sedation and ultrasound guidance with a special needle. In addition a dietary change may be required to reduce the formation of urinary stones.

What kind of outcome is expected?

A SUBS procedure is much less invasive and quicker than other surgical treatments. Immediate relief of the ureteral obstruction occurs resulting in a rapid clinical response. Complications that can occur include procedural complications such as urine leakage. Long-term complications can include obstruction, dislodgement or infection of the implant. This may require removal/replacement of the device.

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