

# BEECROFT medicalbrief

VETERINARY SPECIALIST & REFERRAL HOSPITAL

★ January 2024 ★

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## ENHANCING MOBILITY

# SOFT TISSUE MOBILISATION



By Corliss Yan, Dip Vet, BSc (Psychology), CCRP  
Veterinary Rehabilitation & Hydrotherapy, Head of Rehabilitation

Soft tissue mobilisation (STM), or massage, is a form of manual therapy in animal rehabilitation which involves hands-on techniques performed to treat a variety of conditions, including musculoskeletal injuries, post-surgical pain, and chronic pain (Goff and Jull, 2007). It is a systemic application of varying intensity of manual pressure and mobilisation to the skin, soft tissues, tendon, ligaments, fascia and muscle. STM aims to aid in pain relief and management, as well as improve joint motion and overall function (Brunk et al., 2021).

### Therapeutic effects of STM

- Reduces pain
- Improves range of motion (ROM)
- Increase blood circulation
- Improves lymphatic drainage
- Enhances tissue healing
- Relaxes muscles
- Reduces stress and anxiety

### Indications of STM

Patients with chronic musculoskeletal conditions may develop secondary problems, resulting in postural abnormalities and gait compensations. This leads to tightness and soreness of the muscles and soft tissues. Over time, changes in soft tissues may lead to potential damage and discomfort to affected joints. STM enhances tissue lengthening which in turn, encourages a wider range of motion, relieving muscle tension and tightness in the affected area.

Patients recovering post-surgery will also benefit greatly from STM to preserve muscle tone and condition. STM aids in the recovery process by promoting blood circulation and reduces the formation of scar tissue. It helps maintain flexibility and mobility in the joints and soft tissues to prevent further loss of function and muscle

atrophy, particularly when cage rest or restricted exercise is necessary for recovery.

Musculoskeletal conditions that may benefit from STM include some of the following:

- Arthritis
- Joint Dysfunction
- Muscular strains (e.g., iliopsoas strain)
- Back pain
- Hip Dysplasia
- Elbow Dysplasia
- Patella luxation
- Cranial Cruciate Ligament Ruptures
- Intervertebral disc disease (IVDD)

*\*Note: STM can help manage these conditions but will not resolve the underlying cause.*

### Contraindications of STM

Conditions that are *not* suitable for manual therapy includes some of the following (Robinson, 2022):

- Acute inflammation
- Infectious diseases including skin conditions (e.g., ringworm)
- Open wounds or infections
- Neoplasia
- Unstable fractures or healing bones
- Severe Osteoarthritis
- Acute hematoma

### Soft tissue assessment

To determine whether STM is suitable for a patient, a thorough evaluation can first be performed to allow identification of any swelling, discomfort, pain and/or inflammation of the soft tissues. Ensure that the patient is on an even surface with adequate lighting. The patient should also be observed from a cranial, caudal, dorsal, and lateral viewpoint.

#### Static Assessment

Static assessment is important to identify lameness in the limbs, and the presence of abnormalities and compensations. When the patient is in a neutral standing position, observe the patient's posture and note for any relevant abnormalities or asymmetries:

From the cranial aspect:

- Mentation and position of head (including head tilt/turn).
- Limb weight bearing and distribution (e.g., neutral, pronation/supination, abduction/adduction, varus/valgus, lateral/medial placement).
- Trunk symmetry.
- Obvious swelling or soreness of the head, body, and limbs.

From the caudal aspect:

- Pelvic and trunk symmetry.
- Height of pelvic bony landmarks.
- Limb weight bearing and distribution.
- Obvious swelling or soreness of the head, body, and limbs.

From the dorsal aspect:



- Spinal curvatures (e.g., kyphotic, lordotic).
- Pelvic and trunk symmetry.
- Alignment of pelvic bony landmarks.

From the lateral aspect:



- Spinal curvatures (e.g., kyphotic, lordotic).
- Limb weight-bearing and distribution (e.g., neutral, varus/valgus, lateral/medial placement, cranial/caudal weight-shifting).
- Obvious swelling or soreness of the head, body, and limbs.
- Angle of scapula, spinal curves/posture.
- Head and pelvic position and carriage.
- Coverage of muscle/other soft tissue (e.g., muscle atrophy).

#### Gait Assessment

The patient should be instructed to walk in a straight line, trot in a straight line, and perform clockwise and anticlockwise turns. Observe the patient's gait and movement to identify the presence of abnormalities and compensations. Note the symmetry of the body, ease of limb movement (e.g., limping, head nodding, swing/stance phase of a limb, pronation/supination, abduction/adduction, dragging, buckling, knuckling, ataxia) and spinal posture (e.g., kyphotic/lordotic spinal posture, side flexion).

#### Palpation (spine, forelimbs, hindlimbs)

After gait observation, palpation is performed to assess the patient's musculoskeletal structure and muscle tone. Begin by palpating the paraspinal muscles along the patient's spine, starting from the wings of the atlas, working down to the vertebral bodies of C2-6, thoracic spine, ribs, sternum, lumbosacral junction, wings of the ilium, sacral spine, and the tail. Note for the presence of any skeletal abnormalities, asymmetry, wounds, and lumps. Muscle fasciculations or tension along the spine might indicate soreness and discomfort.



Palpation down the forelimbs can be assessed one limb at a time, or bilaterally to recognise any asymmetry of position and surrounding musculature. Take note of bony landmarks, limb ROM, and joint stability during palpation. Assessment is preferably done with the patient in lateral recumbency to allow a relaxed and neutral position of the limb. However, this can also be performed when the patient is in a neutral standing position.

Start from the dorsal border of the scapula, working distally to the metacarpals of each limb. Palpate the trapezius, deltoids, biceps, triceps, latissimus dorsi, carpal flexors and extensors, and note for any discomfort or increased muscle tone when assessed.

Similarly, palpation down the hindlimbs can be assessed one limb at a time, or bilaterally to recognise any asymmetry of position and surrounding musculature. Begin from the greater trochanter, working distally to the metatarsals or each limb. Palpate the quadriceps, hamstrings, gluteals, sartorius, pectineus, iliopsoas, gastrocnemius, cranial tibial, and digital flexors, and extensors to identify signs of muscle atrophy or fasciculations.

The ROM of all four limbs should also be assessed and this is best evaluated when the patient is in lateral recumbency. The quality of movement and end feel should also be identified when evaluating ROM of the forelimbs, starting from the metacarpus, moving proximally to the carpus, elbows, and shoulders. Assessment of the hindlimbs should also start from the metatarsus, moving proximally to the hocks, stifles, then hips. Resistance and restriction to achieve ROM and end feels should be specified if significant.



### Massage Techniques

Massage comprises numerous techniques which involve a series of hand motions along the body. These are applicable to all muscle groups and at any stage of recovery. The following are some of the more common techniques but are not an exhaustive list.

### Stroking

At the initial stage, stroking is used with the aim to calm and soothe the patient prior to the commencement of the massage treatment itself. This is also commonly carried out at the end of the session. This technique is especially helpful for patients who are anxious or stressed due to pain and discomfort, or being in an unfamiliar environment. In addition, it is particularly useful to identify and evaluate the presence of abnormalities such as swelling, masses, temperature differences between various body areas, and muscle tension.



With the patient in a neutral standing/lying position, glide your hand gently over the animal from neck to tail, and down all four limbs. Stroking should be performed in continuous contact with the body using light pressure for approximately 30-60 seconds.

### Effleurage

This is a gliding technique that is used to commence a massage and consists of long and slow strokes usually performed parallel to the muscle fibres. It is used for relaxation, to reduce swelling and edema, assist in the removal of toxins from the body via the lymphatic system, and to increase blood circulation.

Movement around the body should be performed with a light to medium pressure, and towards the direction of the heart, beginning from the distal aspect of the body (e.g., from the paws) and moving proximally towards the lymph nodes (Fig. 1).



Fig. 1: Effleurage

### Pressure Techniques

#### Petrissage

Petrissage refers to a massage technique which applies deeper pressure to compress and release underlying tissues and muscles. It involves short and brisk strokes parallel or perpendicular to the muscle fibres. This technique is beneficial for mobilisation of soft tissues, relieves muscle tension, muscle spasms, and knots in soft tissues, as well as improves circulation and lymphatic flow.

Types of petrissage includes kneading, picking-up, wringing and skin rolling.

#### Kneading

Muscles are pressed alternately by one or both hands, with the hand/fingers moving in a circular motion.



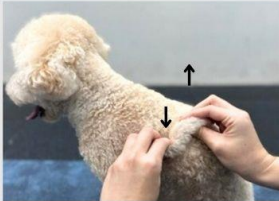
### Picking-up

Muscles are grasped and lifted away from the body, and subsequently squeezed and released.



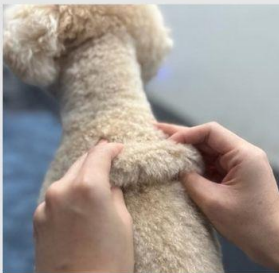
### Wringing

Using both hands, grasp and lift the tissues. Move both hands in opposite directions to stretch the tissues for two to five seconds, and slowly release.



### Skin rolling

Grasp the skin and subcutaneous tissue between both fingers and thumbs. Roll the tissues forwards, then backwards to release any tissue adhesions. Move along the body caudally to cranially along the spine, ventrally to dorsally along the latissimus dorsi, and distally to proximally along the limbs.



### Ischemic compression

Ischemic compression is a technique which applies continuous medium to deep pressure to a localised area of hyperactivity. It intentionally blocks blood flow to a region and release of pressure to the targeted point stimulates a resurgence of blood flow. Ischemic compression helps to restore blood circulation, decreases tension in the muscles, and promotes healing. Pressure can be applied to the affected area for 30-60 seconds, followed by stretching of the muscle for 30 seconds after.



### Deep transverse friction or Cross friction massage

Deep transverse friction massage is a therapeutic technique using cross-grain movements applied to the muscle, tendon, and ligaments of the affected region (Fig. 2). It is beneficial for breaking down adhesions and scar tissue, improving tissue flexibility. When pressure is applied and released on the affected area, increased blood circulation will occur, allowing for more nutrients and oxygen to be transported to the surrounding tissues. Deep transverse friction massage promotes tissue healing and reduces pain, thereby enhancing mobility and function of the muscle.



Fig. 2: Deep transverse massage

Locate the area of concern by palpating for tightness, tenderness, and/or knots. Using the fingers, apply pressure with small deep movements in a transverse direction, perpendicular to the muscle fibers and underlying soft tissues in the targeted region. Deep transverse friction may not be comfortable, hence a gentle massage and stretching can be performed after the session to promote relaxation. Deep transverse friction massage is usually performed for 30 to 60-second repetitions until desensitisation occurs. Tissues should be treated with other forms of modalities should desensitisation not take place after the stipulated amount of time.

### Conclusion

Manual therapy is an important aspect of rehabilitation to identify any form of abnormalities in musculoskeletal function and posture. STM, as a form of a therapeutic technique, consists of various techniques to improve mobility, flexibility, function of soft tissues and muscles. Despite limited evidence on the effectiveness of STM on specific clinical indications, numerous articles have reviewed topics on the benefits of massage which is deemed beneficial on one's physiological effects (Bergh et al., 2022). The application of these manual techniques to the soft tissues and muscles aims to aid in managing our patient's pain and discomfort and can result in a positive influence on their overall quality of life.

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# DR JONATHAN LICHTENBERGER

## Visiting Veterinary Cardiology Specialist at Beecroft.

Beecroft is pleased to announce that Veterinary Cardiology Specialist Dr Jonathan Lichtenberger will be a regular visiting specialist at Beecroft.

Dr Jonathan will be available on a referral basis for consultation, echocardiography, electrocardiography, or Holter monitoring.

For consultations or referrals to Dr Jonathan, please fill out our online referral form by scanning the QR code below.

For surgical interventions or minimally invasive procedures like balloon valvuloplasty or pacemaker placement, a consultation with our Internal Medicine Specialist, Dr Anne-Claire Duchaussoy can be arranged by calling us at 6996 1812, or indicating 'Dr Anne-Claire' on the referral form.

Thank you for considering Beecroft, the only independent referral veterinary hospital in Singapore, as your trusted partner.



To refer a case to Dr Jonathan, please use our online referral form at [beecroft.com.sg/for-veterinarians](https://beecroft.com.sg/for-veterinarians)



### DR JONATHAN'S BIO

Originally from France, Dr Jonathan received his Doctor of Veterinary Medicine degree from the École Nationale Vétérinaire d'Alfort in 2012. He then completed a one-year rotating internship at Oregon State University followed by a 4-year combined Master of Science and residency (specialty training) in Veterinary Cardiology at the Atlantic Veterinary College in Prince Edward Island. During that time, Dr Jonathan received extensive training in multiple aspects of veterinary cardiology, including advanced echocardiography (cardiac imaging), electrocardiography (evaluation of heart rhythm disorders), and interventional cardiology (minimally invasive surgical procedures). He obtained board certification by the American College of Veterinary Internal Medicine in 2017.

Following his residency, Dr Jonathan practiced in Toronto where he became Head of the Cardiology Service in a large multispecialty hospital. In October 2022, he moved to Victoria and founded Pacific Coast Veterinary Cardiology.

Dr Jonathan is passionate about all facets of cardiology, including the management of chronic congestive heart failure. He recognises that heart failure, while a serious condition, it is not a death sentence anymore, as many patients can be stabilised and live for an extended period of time with a good quality of life.

Aside from clinical practice, Dr Jonathan has been involved in several research projects and publications, and he is currently writing two book chapters in veterinary textbooks. He also has a strong interest in cardiology in wild animals and has had the chance to volunteer his expertise at the Toronto Zoo for several years.





# Neurology Services at Beecroft

We have expanded our services to include a specialist in neurology. This will further broaden our neurosurgical offerings and provide new avenues of diagnosis and treatment for a broader array of neurological conditions.

A specialist neurologist can assist in the diagnosis and treatment of conditions of the central and peripheral nervous systems. With an exclusive focus on neurology/neurosurgery, a neurology specialist is best positioned to tackle the broad range of neurological cases that can be encountered in practice.

Examples of conditions applicable for neurologist referral include:

1. Suspected intracranial disease with options for tumour removal, ventriculo-peritoneal shunt placements or trauma management, as well as diagnosis and management of epilepsy and meningoencephalitis of unknown origins.
2. Neuromuscular diseases: from myasthenia gravis to polyneuropathies,
3. Spinal pathology including cases requiring hemilaminectomies, ventral slots, corpectomies, fenestration, foraminotomy, and spinal stabilisation procedures.

Specialisation, extensive training, and years of experience allow a neurologist to provide a targeted diagnostic approach to potentially maximise efficiency within budget constraints and optimise outcomes.

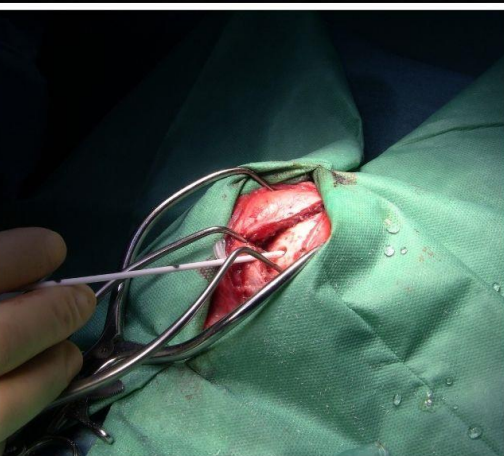
**For consultations or referrals, please fill out our online referral form by scanning the QR code below or contact us at 6996 1812.**

We look forward to the opportunity to collaborate and provide exceptional care for your patients.



Referrals

For consultations or referrals, please fill out our online referral form by scanning the QR code, or contact us at 6996 1812.



# STORM FEARS AND PHOBIAS IN DOGS

By Dr Daphne Ang, BPharm, BVSc (Hons),  
MANZCVS ( Veterinary Behaviour),  
Clinical Resident Veterinary Behavior (ACVB)



Noise and thunderstorm sensitivity are amongst the most common emotional disorders of dogs, with a reported prevalence ranging between 17-50% of the pet dog population.

Noise aversion is a term coined in behaviour medicine to describe a negative emotional state that is experienced by the animal in a noise event that elicits an undesirable behavioural response.

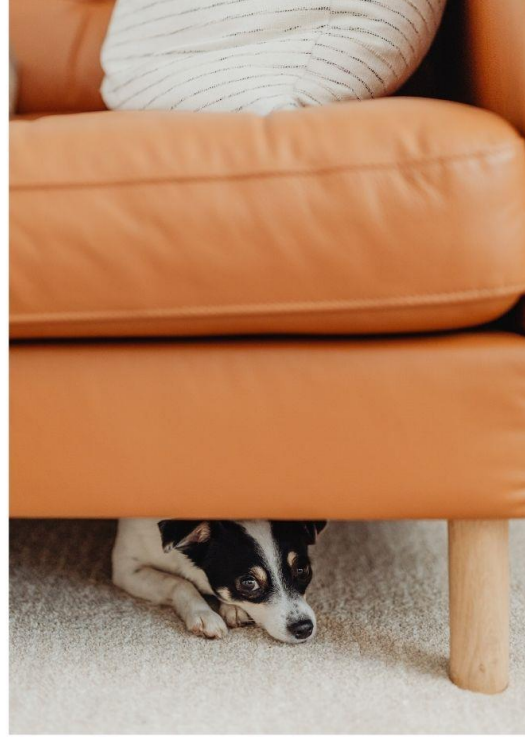
Genetics, trauma associated with noise, lack of socialisation, and poor maternal care are contributing factors to the development and progression of this problem.

Noise aversions typically develop around one to two years of age with severity and prevalence increasing with age.

Fearful dogs were also found to be more likely to have greater noise sensitivity than non-fearful ones.

It is also noted that this aversion can generalise to the location of where the noise was experienced and/or the conditions that occurred with the noise. This means that dogs can exhibit signs of distress when exposed to these stimuli without the noise.

Fear of loud noises is normally an innate and adaptive response. Similarly, a startle response is instinctive and normal.



This reaction becomes maladaptive when the individual fails to habituate to the sound and panic ensues. This is when a true phobia may potentially develop. A phobia is an irrational, excessive, out-of-context response that occurs out of proportion to the threat. Phobias are a serious welfare concern especially when the safety of the individual is compromised.

The degree of phobia seems to escalate with age, with females being more likely to develop this phobia. Patients who experience a phobia to salient sounds like thunder were more likely to also show a phobia to a different salient sound like fireworks. This finding suggests that patients are more likely to generalise the phobia.

In some cases, thunder phobias can have dire consequences. In April 2021, there was an unfortunate case of a dog who fell eight floors to her death after escaping during a thunderstorm. In that same year, another dog bolted out of the house after being spooked by the storm.

## Diagnosis and clinical signs

Diagnosis is straightforward when one is present to witness the pet's response during a storm. Clinical signs (in response to the noise or throughout the duration of the event) include trembling, hiding, vocalising, attention seeking, crouching, pacing, hypersalivation, destruction, urination, defecation, aggression, and escape attempts.

The intensity varies from mild to intense panic. It has been reported that 12% of dogs take three to seven days and 3% of dogs take weeks to months to recover from other noise events. It would not be unreasonable to expect that the numbers might be similar for thunderstorms.

It is interesting to note that in one study, 40-50% of owners report noise sensitivities in their pets. However, less than 20% of owners are likely to seek help.

Storm fears are challenging to treat as there are variants in which patients respond to thunder. Apart from sound, patients can respond to other indicators of storms such as changes in barometric pressure, static electricity, wind, and changes in ambient light. This means you are less likely to be able to predict accurately when your dog starts to react and the only variables that you can reasonably try to desensitise are lightning and thunder.

Ideally, the best way to prevent any noise fears and phobias, including thunder, is to carefully expose the pet to as many different stimuli as possible while they are young. Puppies can be exposed to a variety of mild stimuli as early as two weeks of age. This should continue through the first year of life. The idea is to habituate the pet to these stimuli. Counterconditioning exercises using the pet's motivation should begin as soon as possible.

It is crucial to note that the manner in which we expose the pet matters. Not being cognizant of the emotional state of the pet during exposure can potentially sensitise them instead. If you ignore a dog's fear of any noise, it will likely get worse.

A multimodal approach is used when addressing storm fear and phobia. However, it is also necessary to realise that there is not one treatment that will work every time in every dog.

### Management

Any further exposure to triggers generally worsens the problem. In addition, the well-being, welfare, and quality of life is often affected during an episode of exposure. Therefore, the initial step in treatment is to minimise or avoid all encounters of the trigger(s) until behavioural modification can be effectively implemented. The aim is also to shift the emotional state of the pet to the trigger(s).

What you can do:

- Avoidance, masking, muting, or reducing the sights and sounds (e.g., using a white noise machine, playing music closing the windows and curtains).
- Remove the pet to an area where the pet feels more comfortable, i.e., a sanctuary space (see next section).
- Engage the pet in a pleasant activity (e.g., games or interactive food toy).
- Provide comfort to the terrified pet.
- Use of pressure wraps, thunder jackets, noise cancelling earphones.

What you should not do:

1. Ignore the pet when it is showing signs of fear and panic. You cannot positively reinforce fear. This means providing comfort is not going to make the pet more fearful.
2. Punish the pet, which includes yelling or using scare tactics to stop the dog from performing the undesirable behaviours.

### Sanctuary space

A sanctuary space is:

- a room, a crate or a safe area of the home where the pet can get away from the frightening sound.
- commonly a spot that most pets have chosen.
- comfortable and has all the necessary items that the pet needs including water and bedding.
- preferably one that has no windows or windows that can be blocked or closed so that the visual aspect of a thunderstorm is avoided.
- not a space to be used for time out/punishment.

If the chosen space is less ideal or not a safe space, an alternative location can be picked. The pet can be taught to go there when they are stressed.

### Behavioural Modification

Desensitisation and Counterconditioning (DSCC) is a term used to describe the method used to treat noise/storm aversion.

DSCC differs from obedience training. It is an intentional exercise that exposes the pet to increasing doses (intensity) of the trigger in a controlled and positive manner (using treats or games) so that the pet eventually feels more comfortable about the situations that the pet finds challenging.

Sound recordings are commonly used with the aim to expose an increasing intensity of fear-inducing (recorded) storms while the pet is relaxed. It is hoped that a positive emotional response to the recorded sounds might transfer to the actual storm. However, as explained above, not all dogs respond to this method because the nuances of a storm are hard to replicate.

While DSCC can be a planned training session, counter conditioning should be used whenever possible during the actual storm event.

The DCSS process can be paired with a relaxation protocol where the pet is taught to relax on cue.

### Pharmacological interventions

Dogs with moderate or severe thunderstorm phobia, anti-anxiety medication is required to manage safety and, in some cases, can be lifesaving. In a state of panic, dogs can damage homes and injure themselves in the process.



#### DRUG CLASSES

<b>Alpha-2-agonist</b>	Sileo	Oromucosal dexmedetomidine is FDA approved for treatment of noise aversions in dogs administered 30-60 minutes prior to fear-evoking response.
	Tasipimidine	Approved in Europe for alleviation of situational anxiety and fear triggered by noise or owner departures given 1 hour in advance.
	Clonidine	0.01-0.05mg/kg, 90 minutes prior to event.
<b>Anti-epileptics</b>	Imepitoin (Pexion)	10-30mg/kg bid, 2 hours before storms.  FDA approved for treatment of noise aversion in dogs administered twice daily from 2 days before an anticipated event.
	Gabapentin	10-30 mg/kg up to every 8 hours given at least 2 hours before event.
<b>Benzodiazepines</b>	E.g., alprazolam, lorazepam, diazepam	Given as needed 1-2 hours before event.
<b>Antidepressants</b>	Selective Serotonin Reuptake Inhibitors (e.g., fluoxetine, sertraline)	These are used in combination with situational anxiolytics in cases where other comorbidities such as separation related disorders are present or when there are frequent noise events/ storms or if a patient suffers from severe noise aversions.
	Tricyclic antidepressants (e.g. clomipramine)	
<b>Natural therapeutics and/or supplements</b>	Adaptil	Adaptil, a natural dog appeasing hormone.
	Solliquin, Anxitane	Containing L-theanine.
	Zylkene	Alpha-casozepine.

*Note: Doses used are subject to individual assessment.*

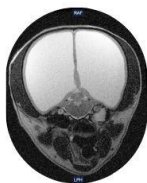
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# MRI AVAILABLE VIA SPECIALIST REFERRAL

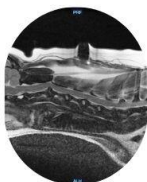
Our new high-field MRI (GE Signa, 1.5T) is a game-changer for diagnosing complex neurological and orthopaedic and soft tissue conditions of pets. MRI services are now available at Beecroft via medicine, surgical, neurology and exotics referrals.

The MRI complements our existing 32 slice CT scanner and adds superior soft tissue imaging capabilities to our diagnostic offerings. Alongside fluoroscopy, ultrasonography, radiology, and endoscopy, our MRI allows for detailed soft tissue resolution where other modalities cannot. For conditions such as seizures, encephalopathies, or spinal cord diseases, our high-field MRI provides profound diagnostic improvements. Aside from clear advantages for parenchymal lesions, extradural spinal compressions can be evaluated more safely by avoiding the need for myelography. On-site MRI will improve our diagnostic sensitivity and open avenues for focused treatment and surgical planning.



## ENHANCED COMFORT AND SAFETY

An MRI-safe anaesthetic machine, ventilator and multiparameter monitor are integrated into the MRI suite, eliminating the requirement for total intravenous anaesthesia (TIVA), extended breathing circuits, or poor monitoring traditionally associated with veterinary MRI.



## FOR CONSULTATIONS AND REFERRALS

Due to the complexity of MRI as a diagnostic modality, patients to be seen at Beecroft for MRI imaging will first be assessed by one of our referral services, who will help coordinate the imaging.

Please continue to utilise our online referral form ([beecroft.com.sg/for-veterinarians](https://beecroft.com.sg/for-veterinarians)) and indicate the relevant referral department and state your interest in an MRI.

We greatly appreciate you working with us as your referral partner and giving us the opportunity to care for your patients. Please direct any general enquiries regarding our MRI services to [info@beecroft.com.sg](mailto:info@beecroft.com.sg) or 6996 1812.

## CONDITIONS BEST SUITED FOR MRI

- Diagnosis of epilepsy
- Identification of brain tumours
- Diagnosis of brain malformations
- Identification of inflammatory diseases of the central nervous system
- Inflammatory conditions of the cranial nerves
- Intervertebral disk protrusion
- Acute Non-compressive Nucleus Pulposus Extrusion (ANNPE)
- Identification of oedema/gliosis in the spinal cord
- Diagnosis of spinal cord tumours
- Diagnosis of subarachnoid diverticulum (cysts; in the brain or spinal cord)
- Degenerative lumbo-sacral stenosis
- Biceps tendinopathy, supraspinatus and infraspinatus pathology
- Medial shoulder injuries involving the glenohumeral ligament and subscapularis
- Medial epicondylitis/primary flexor enthesopathies
- Carpal soft tissue pathology
- Iliopsoas pathology
- Non-invasive evaluation of meniscal pathology and, as indicated, cruciate pathology
- Common calcaneal tendinopathy and extensor tendon pathologies
- Soft tissue neoplastic margin evaluation
- Draining tract assessment
- Nasal and paranasal sinus evaluation
- Variety of orbital and ophthalmic conditions

# TOTAL HIP REPLACEMENT

## BioMedtrix Hip Replacement System

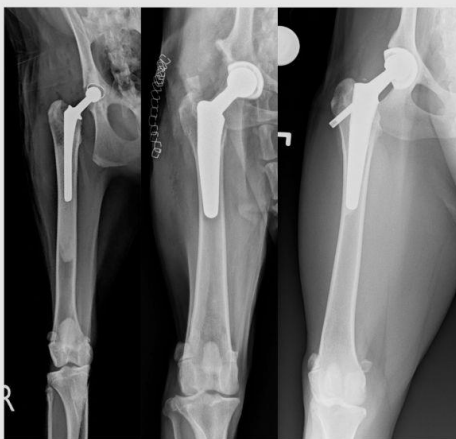
At Beecroft, we use the BioMedtrix system. BioMedtrix introduced the CFX® (Cemented Fixation) Total Hip System in 1990 and the BFX® (Biologic Fixation) system in 2003. Globally, over 60,000 procedures have been performed.

Available in a broad range of sizes, the implants in each system are interchangeable. The polyethylene articular surfaces are manufactured from Poly-XVE, increasing wear resistance up to 95% over standard UHMWPE. Even when performed at a young age, it is expected that a BioMedtrix hip replacement will last a lifetime. Titanium alloy provides improved biocompatibility and is used in the BFX stem.

## Procedure

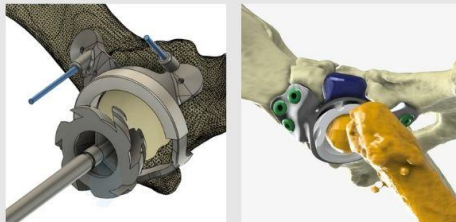
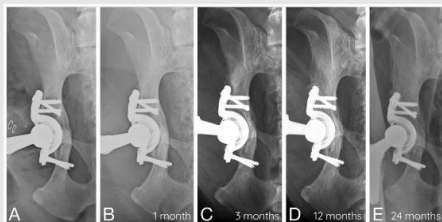
Total hip replacement represents the preferred option for dogs and cats afflicted with end stage hip pathology. Conditions which may qualify an animal for surgery include hip dysplasia, end stage osteoarthritis, joint luxation, and non-reducible femoral or acetabular fractures.

A hip replacement represents the gold standard to restore normal joint kinematics and provide pain free function to the end-stage hip. Hip replacement provides the potential for full orthopaedic recovery. Restoration of hip integrity will provide mechanical benefits both in weight bearing and movement over an FHO or FHNE as well as improved comfort at the limits of range of motion. This holds true especially in larger and active animals where stable joint mechanics and range of motion are of paramount importance.



Images on page 14: Dr Antonio Pozzi, Director of the Clinic of Small Animal Surgery at the University of Zurich, Diplomate of the American College of Veterinary Surgeons.

Images on page 15: Dr Patrick Maguire, Co-founder of Beecroft Animal Specialist & Emergency Hospital, Diplomate of the American College of Veterinary Surgeons



### Recovery Times

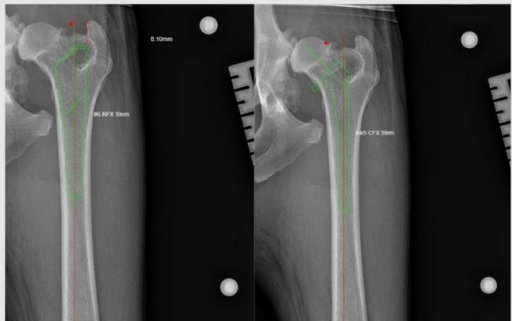
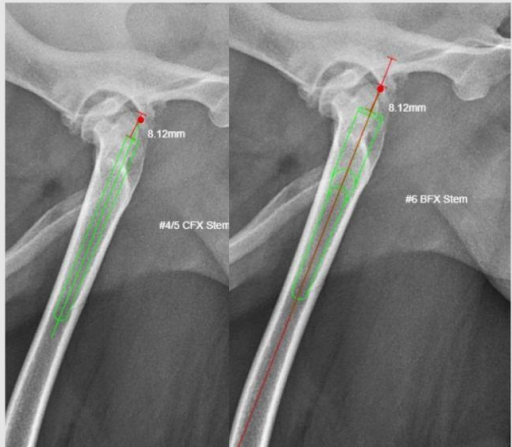
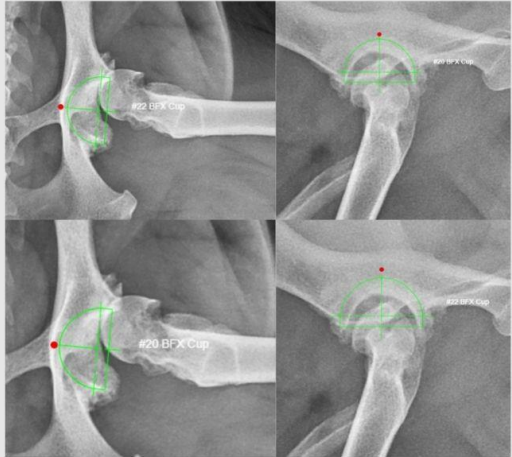
Hospitalisation following surgery is usually between one and three days. Activity should be supervised and limited to leash walks for approximately six weeks after surgery. Full recovery is expected within two to three months and post-operative requirements will be clearly communicated to the client. Post-operative management and follow-up imaging will be performed at Beecroft Animal Specialist & Emergency Hospital.

### Complications

In the hands of an experienced hip surgeon, complication rate in routine hip replacements is less than 5%, equivalent to or lower than complication rates for most orthopaedic procedures. This may increase for more complex cases. Risks and expectations will be discussed with the client on an individual basis.

### Financial Quotation

We strive to provide competitive pricing for hip replacement, and clients will be quoted based on specifics of their pet and complexity of the procedure. Financial quotations will be given at the time of consultation and may be revised ahead of the procedure following imaging and implant templating.





# UPDATES & announcements



## VETERINARY CONTINUING EDUCATION LUNCHEON

Beecroft's upcoming Vets' Continuing Education Luncheon will continue in the last quarter of 2024. More details will be sent to you via an email invitation and shared on our website and social media. We look forward to sharing knowledge and fostering collaboration with you.



## REHABILITATION BOOTH @ PET EXPO 2024

The Veterinary Rehabilitation & Hydrotherapy (VRH) team will be offering complimentary soft tissue mobilisation massages for animals at PetExpo, Booth 6H-46, from 15 to 17 March 2024, at Singapore Expo Hall 5-6. Bring your pets or share this information with clients whom you believe may benefit from this free service.



## SVA LOCAL CONFERENCE 2024

Beecroft's surgical specialist Dr Patrick Maguire, exotic companion mammal specialist Rina Maguire, and internal medicine specialist Anne-Claire Duchaussoy, as well as veterinary technicians from surgery, internal medicine, and anaesthesia will be presenting at the conference held on 12 and 13 April 2024. Registration can be found in [www.sva.org.sg](http://www.sva.org.sg).



## EMERGENCY & CRITICAL CARE (ECC)

Beecroft's ECC department is available 24/7, equipped with modern facilities, and an experienced team of veterinarians and nurses. As a veterinarian-owned referral hospital, we value fostering trusted partnerships to offer collaborative opportunities and deliver exceptional care for your patients.



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