

# Canine & Equine Procedures



# Harvesting Equine Bone Marrow

## Equipment required

1 x Transport box (available from Biobest, Tel: +44 (0)131 440 2628)

Transport box includes:

- 1 x styrofoam insulated box validated to keep the sample at +2-8°C for 48 hours
- 2 x gel cooling packs (one to be pre-frozen for at least 24hrs before aspiration, one to be chilled at +4°C)
- 1 x insulating foam insert to protect and stabilise tubes during transport

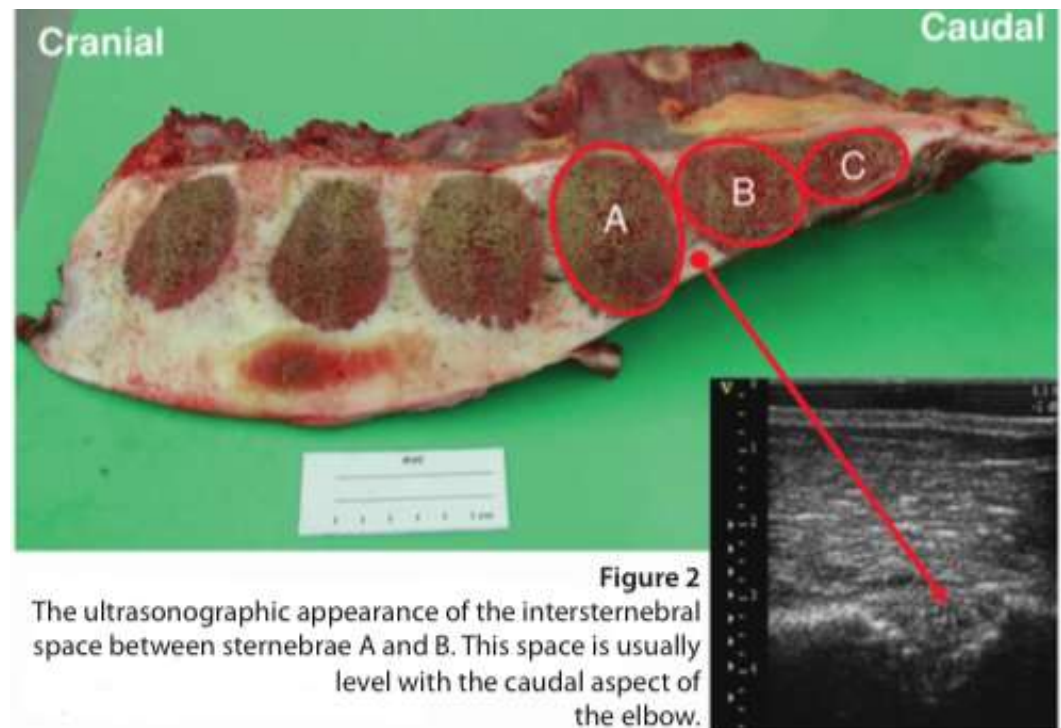
1 x Aspiration kit (available from Biobest, Tel: +44 (0)131 440 2628)

Aspiration kit includes:

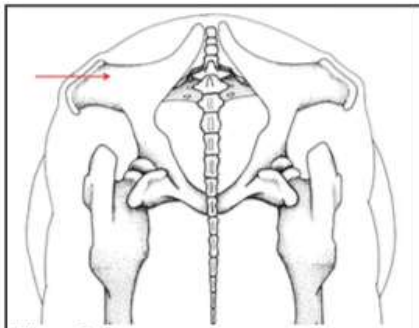
- 1 x 11 Gauge 4" Jamshidi Biopsy Needle (also available separately from Biobest)
- 1ml Heparin (5000iu/ml)
- 2 x 30ml plastic sterile universal containers (white) – for heparinised bone marrow
- 4 x 5ml NaCit vacutainers (blue) (more for larger injuries – see submission form for details)
- 2 x 20ml syringes
- 2 x 10ml syringes
- 1 x No. 11 scalpel blade
- 2 x 21G 1.5" needles
- 2 x packs of 5 sterile swabs
- 1 x polythene sterile drape (60 x 90cm)
- 1 x resealable plastic bag (to surround foam insert)
- Sample submission form (also available at [www.biobest.co.uk](http://www.biobest.co.uk))

You will also need:

- Local anaesthetic (eg. mepivacaine)
- Sedative (eg.  $\alpha 2$  agonist and opiate)
- Ultrasound machine (7.5-10 MHz)
- Clippers
- For larger injuries (see submission form guidelines) you will also need:
  - more 10ml syringes
  - more 5ml NaCit vacutainers



# Tuber Coxae



**Figure 2**  
Caudal view of the tuber coxae indicating the points of palpation and site of entry for the Jamshidi needle



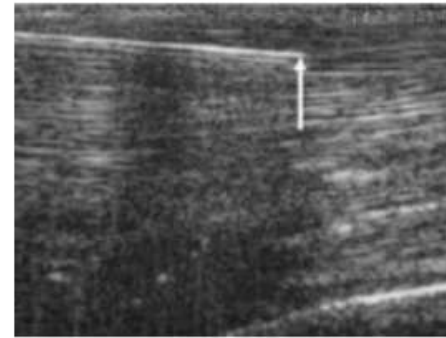
# Equine Tendon Injection

## Equipment required

- 1 x sterile drape
- 2 x 2ml syringes (for stem cells)
- 4 x 2ml syringes (for local analgesia)
- 1 x sterile arthroscopic camera sleeve (or similar)
- 1 x intrasite gel (or other sterile gel)
- 2 x 21G – 2 inch (50mm) needles
- 2 x 23G – 1 inch (25mm) needles
- Sterile swabs
- Local anaesthetic (LA mepivacaine)
- Sedative ( $\alpha 2$  agonist and opiate)
- Neomycin / Penicillin (30ml sid x 3dd)
- Stable support bandage material
- Ultrasound
- Clippers



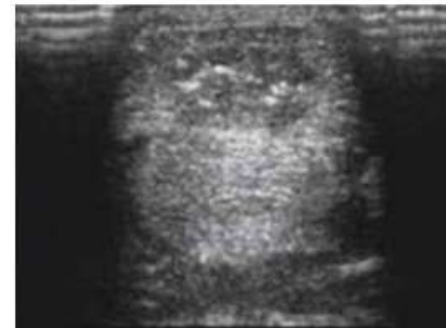
**Figure 1**  
The site for analgesia of the palmar and subcutaneous nerves at the subcarpal site



**Figure 3**  
Visualisation of the needle entering the tendon



**Figure 2**  
Localising needle in core lesion allows good spread of the cells throughout the lesion after implantation.



**Figure 4**  
After injection air bubbles from the injection are present within the core lesion



# Harvesting Canine Adipose

## Equipment required

1 x Transport box (available from Biobest, Tel: +44 (0)131 440 2628)

Transport box includes:

- 1 x styrofoam insulated box validated to keep the sample at +2-8°C for 48 hours
- 2 x gel cooling packs (one to be pre-frozen for at least 24hrs before aspiration, one to be chilled at +4°C)
- 1 x insulating foam insert to protect and stabilise tubes during transport

1 x Harvesting kit (available from Biobest, Tel: +44 (0)131 440 2628)

Harvesting kit includes:

- 2 x 50ml plastic sterile universal containers (white) containing transport medium
- 2 x 8ml Serum Tubes
- 1 x resealable plastic bag (to surround foam insert)
- Sample submission form (also available at [www.biobest.co.uk](http://www.biobest.co.uk))

You will also need:

- Local anaesthetic (eg. mepivacaine)
- Stitch kit
- Sedative
- Clippers
- Harvesting instructions



# Harvesting Canine Bone Marrow

## Equipment required

2 x 30 ml Syringes (1 spare)

1 x 11Ga Jamshidi Needle with blunt stylet

2.5ml heparin (5000iu/ml)

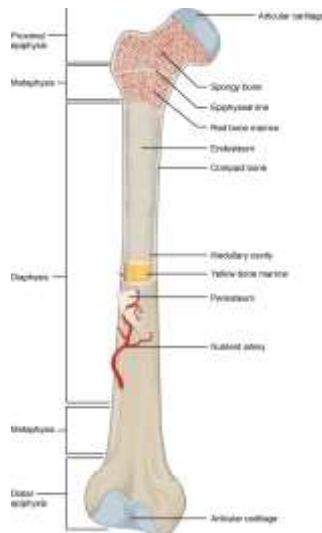


Figure 1

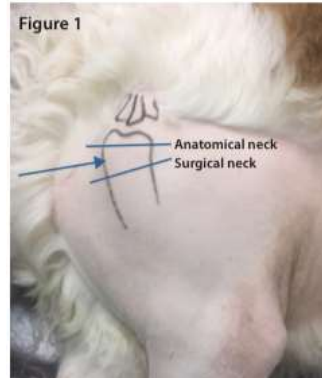
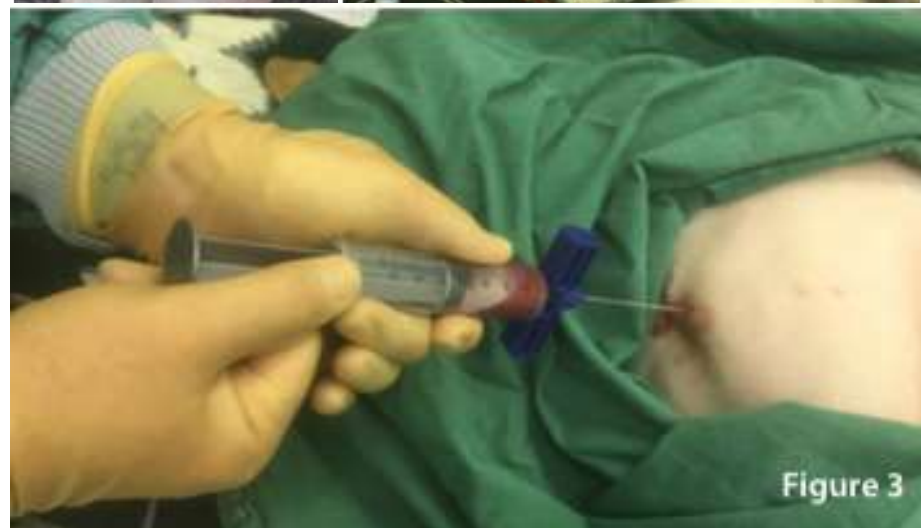


Figure 2



# Canine Elbow Injection

**Elbow**  
• Osteoarthritis

Total Injection Volume For Dog Size	
Miniature <5kg	0.25 - 0.5 ml
Small 5-12kg	0.5 - 1 ml
Medium 12-25kg	1 - 1.5 ml
Large 25-50kg	1.5 - 2 ml
Giant >50kg	2 - 2.5 ml



**Landmark**  
Medial Epicondyle Humerus

Radius

Ulna

**Landmark for Blind Injection:**  
Medial Epicondyle Process

**Recommended Needle:**  
22 gauge, 1.5"

# Canine Hock Injection

## Hock

• Osteoarthritis

### Total Injection Volume For Dog Size

Miniature <5kg	0.25 ml
Small 5-12kg	0.25 - 0.5 ml
Medium 12-25kg	0.25 - 1 ml
Large 25-50kg	0.75 - 1 ml
Giant >50kg	1 ml





# Canine Carpus Injection

## Carpus • Osteoarthritis

### Total Injection Volume For Dog Size

Miniature <5kg	<0.25 ml
Small 5-12kg	0.25 - 0.5 ml
Medium 12-25kg	0.25 - 1 ml
Large 25-50kg	0.75 - 1 ml
Giant >50kg	1 ml



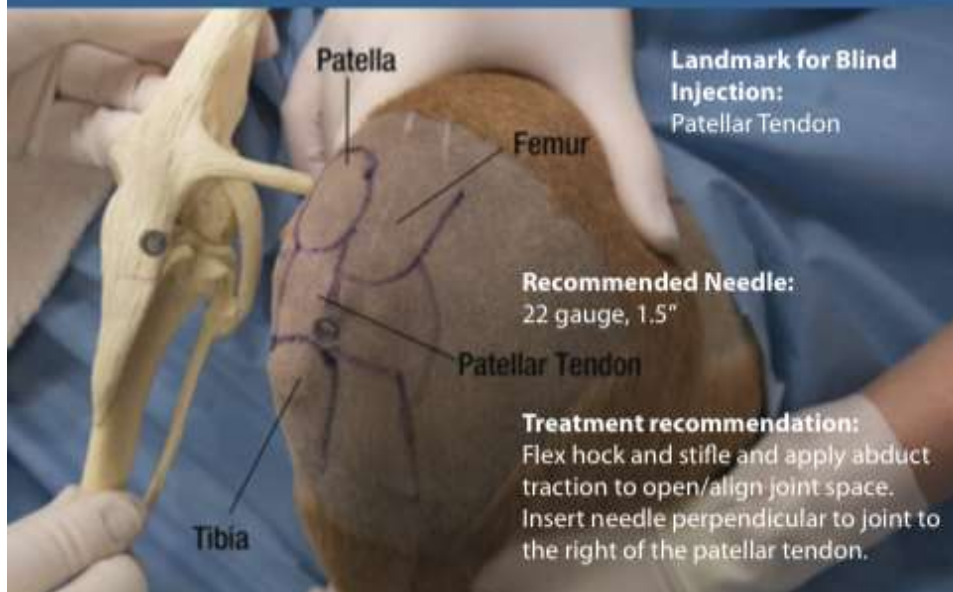
# Canine Stifle Injection

## Stifle

- Osteoarthritis
- Meniscal Injury
- Early Partial Tears

### Total Injection Volume For Dog Size

Miniature <5kg	0.5 ml
Small 5-12kg	0.5 - 1 ml
Medium 12-25kg	1 - 1.5 ml
Large 25-50kg	1.5 - 2 ml
Giant >50kg	2 - 3 ml



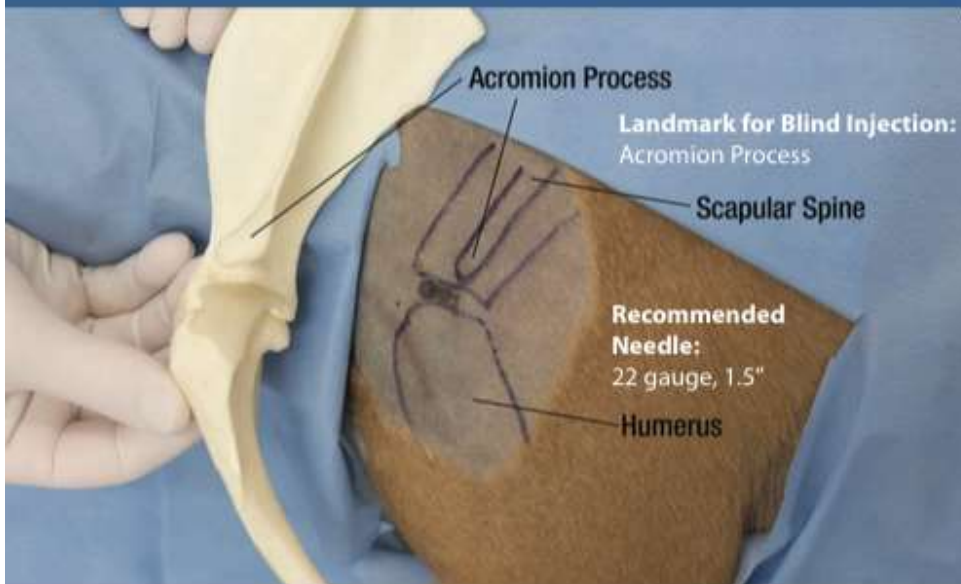
# Canine Shoulder Injection

## Shoulder

- Osteoarthritis
- OCD
- Medial Shoulder Syndrome
- Bicep Tenosynovitis

### Total Injection Volume For Dog Size

Miniature <5kg	0.5 ml
Small 5-12kg	0.5 - 1 ml
Medium 12-25kg	1 - 1.5 ml
Large 25-50kg	1.5 - 2 ml
Giant >50kg	2 - 3 ml



# Canine Hip Injection

## Hip

• Osteoarthritis

### Total Injection Volume For Dog Size

Miniature <5kg	0.5 ml
Small 5-12kg	0.5 - 1 ml
Medium 12-25kg	1 - 1.5 ml
Large 25-50kg	1.5 - 2 ml
Giant >50kg	2 - 3 ml

#### Recommended Needle:

22 gauge, 1.5" or 2.5-3" spinal needle for larger breeds

#### Greater Trochanter

Landmark for Blind Injection:  
Greater Trochanter

#### Treatment recommendation:

Apply traction and external rotation to open joint space.

#### Femur

