



Expert Guide

Step by step guide to canine blood collection

As the UK's trusted pet blood banking charity, we provide quick access to high quality products as well as expert advice and guidance when you need it most.

We hope this guide is useful.
If you have any further queries, please contact our team.



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[petbloodbankuk.org](https://www.petbloodbankuk.org)

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Personnel and equipment

Attire

- Clean scrub top or laboratory coat
- 2 pairs of examination gloves

Persons required

- Phlebotomist
- Assistant to handle and weigh the collection bag
- 2 assistants to hold donor dog

Equipment required

- Clippers
- Local anaesthetic cream
- Diluted warm chlorhexidine or equivalent and sterile swabs
- Surgical spirit or equivalent
- Collection equipment: 450ml single blood collection bag with CPDA-1/CPD (see guidance below on smaller collection bag)
- Electronic weigh scales weighing in grams
- Metal line clamps (optional)
- Line strippers (optional)
- Dressing material (self-cohesive bandage and swabs) for a neck bandage
- Scissors

Donor selection

- Relaxed, friendly, and healthy dog
- 1-8 years old (use breed discretion)
- Minimum of 25kg lean bodyweight for 450ml donation (check weight on the day of donation)
- Never received a blood transfusion
- Vaccinated and current (not within last 14 days)
- Regularly receives prophylactic parasite treatments
- Born and have lived in the UK its entire life. If living with other dogs, they should also have been born and remained in the UK their whole life or had screening for infectious agents.

Screening and local anaesthetic application

- Veterinary surgeon to perform a full physical health check and history review.
- Perform blood typing to determine DEA 1 status and ensure a match to patient (blood typing kits are available from Pet Blood Bank).
- Full haematology and biochemistry analysis (within previous 12 months).
- Packed Cell Volume/Total Solids on the day of donation. A minimum PCV of 35% with a normal TS is required.
- Clip jugular and apply local anaesthetic at time of screening to allow 45 minutes for full effect (if time permits).

Preparation of the donation area

The room

- Locate a donation room to use in a quiet area that will be undisturbed.

The table

- Prepare a table of comfortable working height with a blanket, +/- mattress.

The scales

- Place the weighing scales at the head end, off the floor and on a level surface, but lower than the table (for example, on a clean upturned flat box).

Preparation of the collection bag

Our instruction document on the use of the single collection bag (INF/EQU/18) is available to download on our website.

- Wash hands.
- Remove collection bag from its plastic storage bag.
- Clamp off the two clamps in locations 5 and 6 (Fig. 1).

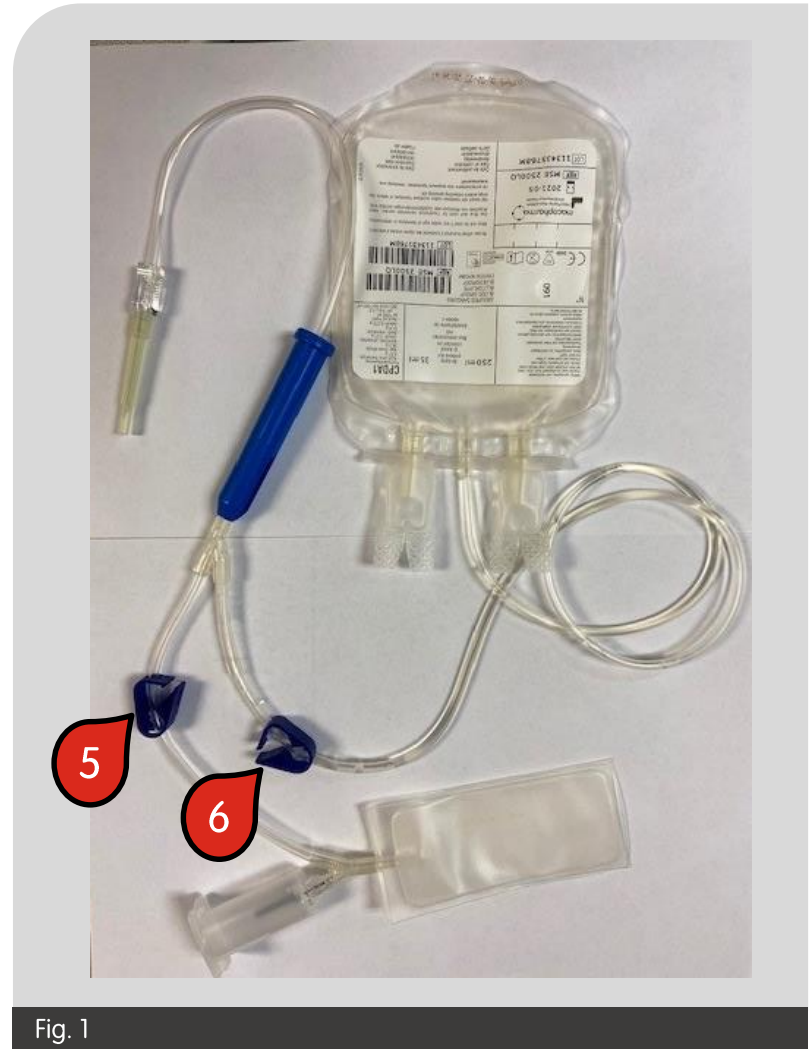


Fig. 1

Preparation of the collection bag

- Snap the in-line white valve in location 7 (Fig. 2).



Fig. 2

Preparation of the collection bag

- Remove the plastic circular cap from the vacutainer port (Fig. 3).
- Place the collection bag on the scales and zero the scales.

NOTE

If the scales are not set to zero, the weight of the collection bag and anticoagulant needs to be accounted for by adding it to the full unit weight given on slide 19.



Fig. 3

Preparation of the donor

- Carefully, with the help of an assistant, lift the donor onto the table and lightly restrain them in lateral recumbency (Fig.4). One assistant should be positioned at the cranial end of the donor to control the head, hold the forelegs, and raise the jugular vein. One assistant is positioned at the caudal end of the donor to control the hind limbs, support the lumbar region, and give tummy tickles.
- Right-handed phlebotomists will need the donor in left lateral recumbency, with the head facing the phlebotomist and the donor's chin pulled slightly forwards and forelegs gently withdrawn caudally at a 40° angle to the body, exposing the jugular furrow. For a left-handed phlebotomist lie the patient in right lateral recumbency.
- Ensure the donor is comfortable and settled.
- Don gloves, wipe off any residual local anaesthetic cream, and perform a surgical scrub of the clipped area.

Donor position



Fig. 4

Blood collection

- Change gloves for a clean pair.
- The assistant who will be managing the collection bag holds the bag below the donor.
- The assistant at the cranial end of the donor should apply pressure at the thoracic inlet to raise the jugular vein.
- Holding the collection needle bevel up, insert it into the jugular vein in a caudal direction (Fig. 5) (cranial stick is permitted too). Try for a clean stick into the vein to avoid loss of platelets and formation of fibrin clots.

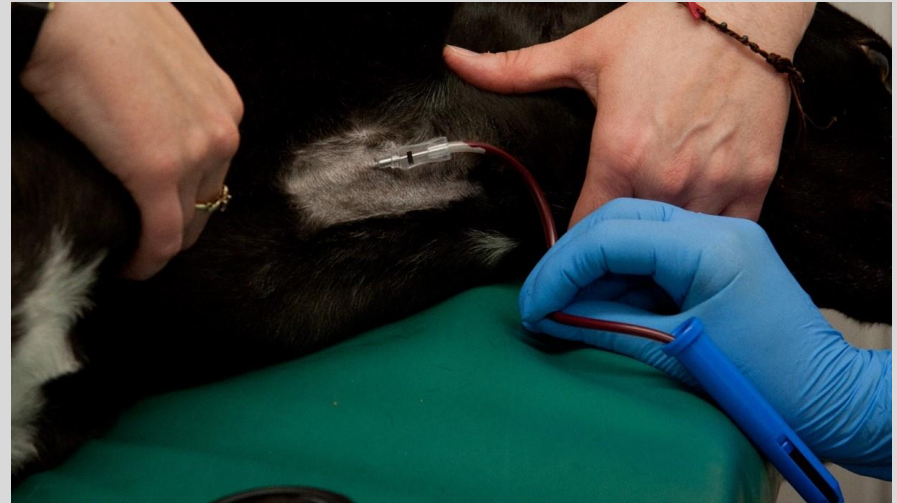


Fig. 5

Blood collection

- Once the needle is in the jugular vein, have the assistant release the clamp at position 6 (Fig.6).
- Blood should flow from the collection line to the bag easily. Flow rate should be approximately 50ml/minute allowing collection of the unit in less than ten minutes.



Fig. 6

Blood collection

- Mix the anticoagulant with the incoming blood with a gentle rocking motion at fifteen second intervals.
- Once the bag starts to look moderately full, start checking the weight on the scales (Fig. 7), which have already been set to zero to account for the weight of the bag and anticoagulant.
- Once the full collection volume has been reached, the assistant managing the collection bag informs the phlebotomist and the clamp at position 6 (Fig. 8) must be closed to prevent over collection of blood, and pressure on the jugular released.



Fig. 7

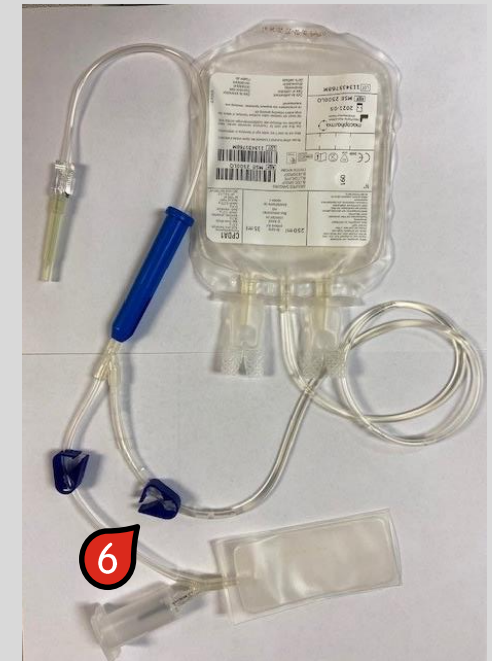
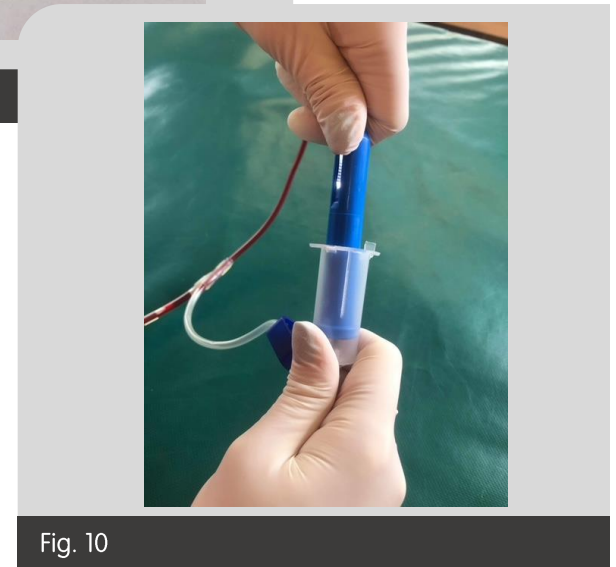
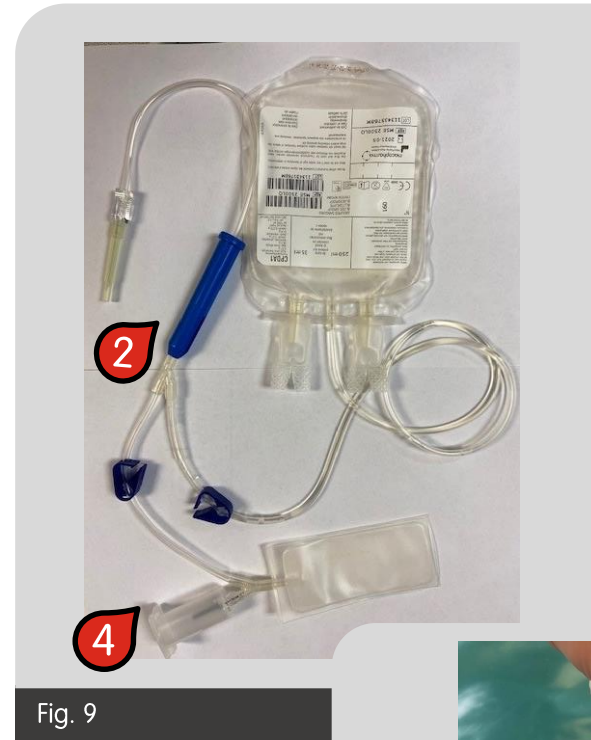


Fig. 8

Blood collection

- Holding a sterile swab over the venipuncture site, remove the needle and have an assistant apply direct digital pressure for two minutes.
- Referring to Fig. 9, slide the needle guard at position 2 along the collection line and over the needle and plug the needle guard into the vacutainer port at position 4, as shown in Fig.10.



Post blood collection: the blood

Strip and Seal

- If using a line stripper, strip the blood sitting in the collection line into the bag stopping around 5cm from the bag.
- Fold the collection line at this point and, if available, place several metal line clamps over the folded line and clamp to seal (Fig.11). Alternatively, tie several knots in the collection line at this location (NB using knots is not a permanent seal and has potential for blood to be contaminated).



Fig. 11

Post blood collection: the blood

Separate and label

- Cut through the tubing on the needle-side of the metal clamps/knot and discard the needle with tubing into a sharps bin.
- The blood collection bag should be labelled with the donor's ID or name, date, time of collection, phlebotomist initials, and blood type, then kept at room temperature prior to transfusion.

Store

- To ensure some platelet activity, the Fresh Whole Blood must be stored at room temperature and administered 4-6 hours from collection.
- If the transfusion is delayed, blood can be refrigerated at 2-6°C, although platelet activity will then be minimal.
- Storing blood collected into a closed system as Stored Whole Blood for a longer period of up to 35 days CPDA-1 or 21 days CPD at 2-6°C can be considered if the collection was performed in a sterile manner and the collection line has a permanent seal.

Blood unit weights

- Please note, the blood volume collected must be within the recommended 10%. Volumes under this amount present a risk of citrate-toxicity to the recipient due to excessive anticoagulant, while volumes greater than 10% present a risk of clot formation due to insufficient anticoagulant.
- Pet Blood Bank also supplies a 250ml collection bag for collecting smaller volumes of blood from smaller donors weighing 15kg or more.
- A maximum of 20% blood volume can be taken from a single canine donor.

Full unit weight (excluding bag and CPD)

477 grams (450ml)

+/- 10%

429-524 grams (405-495 ml)

Blood collection weights: STANDARD
Calculations based on 1ml blood = 1.06grams

Full unit weight (excluding bag and CPD)

265 grams (250ml)

+/- 10%

238-291 grams (225-275ml)

Blood collection weights: LOWER VOLUME
Calculations based on 1ml blood = 1.06 grams

Post donation: the donor

Dressing

- Apply a dressing on the donor's neck around the venipuncture site (Fig. 12), ensuring it is not too tight, and leave on for 30-60 minutes.

Monitor

- Check and record the donor's demeanour, pulse rate, mucous membrane colour, and pulse quality.
- Allow the donor to sit up slowly and gently lift them to the floor.
- Continue to observe the donor for 10-15 minutes and offer a drink of water and a small amount of food.

Discharge

- If vital signs are all within normal limits after this time, the donor can be discharged with their owner who can remove the neck bandage at home.
- We recommend that the donor is lead walked only for 24 hours following blood donation and that the owner uses a harness instead of a neck collar.



Fig. 12

Additional notes

- Pet Blood Bank provides a 24 hour blood service and can dispatch blood (and consumables) within 60-90 minutes to be couriered directly to the practice for urgent cases.
- Alternatively, we facilitate a local Blood Sharing Scheme where practices who store blood make their blood units available to other local practices in an emergency. Collection is arranged between the practices and Pet Blood Bank dispatches replacement product to the loaning practice on notification that sharing has taken place. To find the closest blood sharing practice to you, please visit www.petbloodbankuk.org/sharingscheme

**Thank you for using this guide.
We hope you found it useful.**

To make transfusion medicine as easy for you as possible, we also provide:

- Blood deliveries around the clock
- Quality tested products that reduce the risk of complications
- Advice on cross matching and selecting blood products
- Administrative equipment

For more information about our blood products,
or to get further advice, please contact us



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