



Guidelines for Safe Blood Withdrawal in Dogs

Selection of sampling site

- **Cephalic Vein:**
 - Sample volume: $\leq 50 \mu\text{L}$ up to 5 mL, depending on the size of the dog
 - Needle or butterfly cannula size: 21G (0.8 mm x 25 mm) or wider
- **Jugular Vein:**
 - Sample volume: From 2 mL, depending on the size of the dog
 - Needle or butterfly cannula size: 21G (0.8 mm x 25 mm)

Preparation of sampling site

- Clip the hair and thoroughly clean the site with an antiseptic solution, ensuring proper aseptic technique.
- Avoid drawing blood from a vein recently used for intravenous drug administration.
- Post withdrawal remove cannula and apply pressure to the sampling site with sterile gauze for approximately 30 seconds to achieve hemostasis.

Blood volume

Total blood volume of a canine:

- 80 mL/kg of body weight
- 8% of total body weight

Maximum blood collection:

- Should not exceed 1% of body weight, equivalent to 10 mL/kg, within a two-week period
- Example: No more than 100 mL can be collected from a 10 kg dog over a two-week period

Possible side-effects

- Infection <1%
- Swelling/haematoma 1-5%
- Clipper rash

Orthogen's recommendations

- Withdraw blood from fasted dogs in the morning. This helps lower the hematocrit and avoids fatty serum. The ACS yield is thus optimized.
- Use a 21G butterfly cannula with tubing for blood withdrawal.
- One Orthogen® Device is designed to safely withdraw 15 mL of blood from a dog weighing at least 1.5 kg.
- Draw one Orthogen® Device for each joint that requires treatment.

References

1. NC3Rs Blood sampling: Dog. <https://nc3rs.org.uk/3rs-resources/blood-sampling/blood-sampling-dog>
2. UMB Animal Care and Use Program Blood Collection Guidelines: Canine. https://www.umaryland.edu/media/umb/oaa/oac/oawa/guidelines/blood-collection/Blood-Collection-Guidelines_Canine_07.2019.pdf
3. Multiple Blood Draws. Johns Hopkins University Animal Care and Use Committee. <https://animalcare.jhu.edu/wp-content/uploads/sites/5/Multiple-Blood-Draws-8.pdf>
4. Lucas RL et al.: *Collection and preparation of blood products*. Clinical Techniques in Small Animal Practice, Volume 19, Issue 2, 2004, Pages 55-62, ISSN 1096-2867, <https://doi.org/10.1053/j.ctsap.2004.01.007>



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