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OPTIMIZING SEDATION IN FELINE BLOOD DONATION: THE ROLE OF ORAL GABAPENTIN PREMEDICATION

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INTRODUCTION

Sedation is often necessary to ensure the well-being of the animals and the safety of the blood donation. Oral gabapentin is increasingly used as premedication due to its anxiolytic and mild sedative effects, and also low incidence of adverse effects. However, evidence regarding its impact on IV sedation requirements in feline blood donor programs is limited.

This study aimed to evaluate the relation between gabapentin premedication and the required dose of IV sedation.

METHODOLOGY

Donation events were divided into two groups: cats receiving gabapentin premedication (100 mg/cat, administered 90 minutes before donation; n = 272) and cats not premedicated (n = 1,828). The recorded IV sedative dose in each donation event corresponded to the total administered dose, including any additional boluses when required. Intravenous doses (mg/kg) of ketamine, butorphanol, and diazepam (always used in combination) were compared between the two groups using independent-samples t-tests with Welch's correction. All tests were two-tailed.

DATA *Feb 2025 - Jan 2026*

Retrospective study **2,100 donations** **1,357 sedated cats**

STUDY POPULATION

52% Female

64% Domestic Shorthair

Mean age 4 years

Mean weight 4,9 Kg

PREMEDICATION

With Gabapentin Premedication (n=272, 100mg PO, 90 min before)

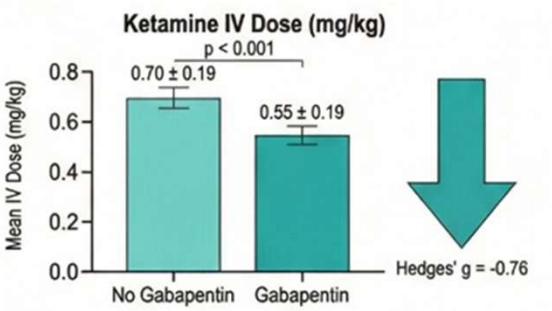
No Gabapentin (n=1,828)

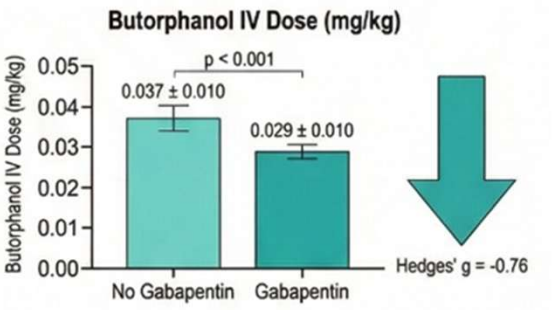
OUTCOME

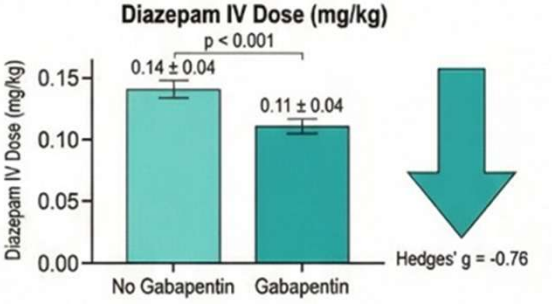
IV Sedative dose (Ketamine, Butorphanol, Diazepam)

compared using t-tests (Welch's correction)

RESULTS







CONCLUSION

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Oral gabapentin premedication was associated with a significant reduction in the required IV doses of all evaluated sedative agents.

CONTEXT & LIMITATIONS

Overall sedation need depends on donor reactivity. The potencial bias of clinician-driven dose adjustments in the gabapentin group is considered unlikely.

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PREVALENCE OF *DIROFILARIA IMMITIS* IN A POPULATION OF FELINE BLOOD DONORS

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INTRODUCTION

Dirofilaria immitis, the primary causative agent of feline heartworm disease, is a zoonotic, mosquito-borne filarioid with a worldwide distribution. While felines contribute to a lesser extent to the transmission of parasites compared to canines, infections do occur and are frequently underdiagnosed due to the low burden of parasites, the transient or absent nature of microfilaremia, and the nonspecific or subclinical nature of clinical signs. The diagnosis is further complicated by delayed or inconsistent antigenemia, particularly in cases of immature or unisex infections. Given the potential for *D. immitis*-infected donors to pose diagnostic, vector, and health risks, screening and prophylaxis are recommended in endemic areas.

The objective of this study was to ascertain the prevalence of heartworm antigen in clinically healthy cats enrolled in a feline blood donor program.

CONCLUSION

During the study period, no evidence of circulating *Dirofilaria immitis* antigen was detected among clinically healthy cats enrolled in this feline blood donor program.

Notwithstanding the 90.2% test sensitivity, the present study indicates an exceedingly low prevalence of detectable heartworm infection within the specified population.

However, given the known limitations of antigen testing in cats, particularly in cases of low parasite burden or immature infections, the absence of positive results should be interpreted with caution.

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METHODOLOGY

A retrospective observational analysis was conducted using data from a feline blood donor program.

FELINE BLOOD DONOR PROGRAM	1,210 SAMPLES	SNAP Feline Triple Test (IDEXX) ®	DIROFILARIA IMMITIS
978 healthy cats	*Feb-Jul 2025*	*Sensitivity 90,0%, Specificity 100%*	*Antigen detection*

RESULTS

Of the 1,210 samples that were examined, none exhibited a positive result for the presence of *Dirofilaria immitis* antigen.

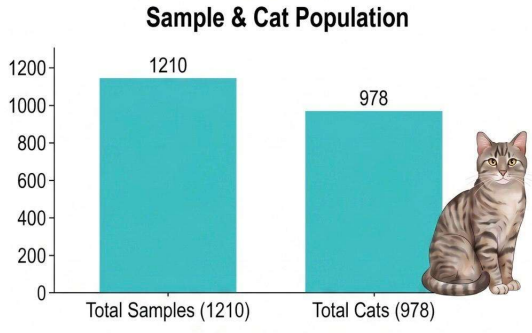

Figure 1. Sample & Cat Population

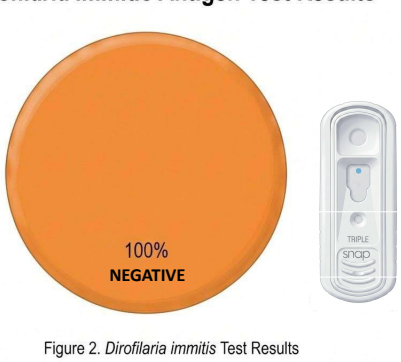

Figure 2. *Dirofilaria immitis* Test Results

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QUALITY CONTROL OF CANINE PLATELET CONCENTRATE PREPARED USING THE BUFFY COAT METHOD

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INTRODUCTION

The buffy coat (BC) method for canine platelet concentrate (PC) is widely used in human medicine but less reported in veterinary medicine. It involves initial high-speed centrifugation to isolate the buffy coat layer, followed by low-speed centrifugation to separate platelets from residual RBCs. Only limited canine studies exist, with no specific guidelines. Human AABB guidelines require PLT > 5.5 × 10^{10}/unit.

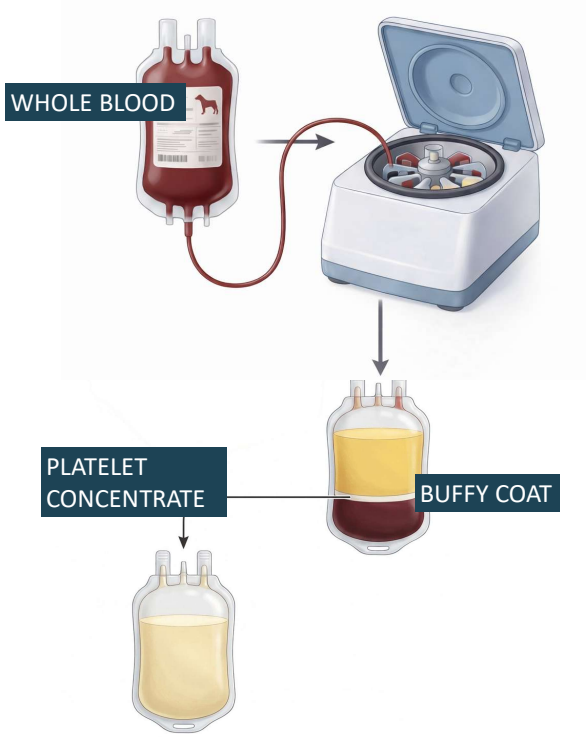
This study describes the BC method for producing canine PC units and reports quality control results, comparing them with relevant current bibliography.

METHODOLOGY

DATA
- 646 Platelet Units
- Retrospective study
- Feb 2025 - Jan 2026

DONORS
- Healthy
- Mixed breed
- 1-8 yrs
- >20 kg
- Vaccinated/ dewormed
- Never transfused
- PCR/ELISA negative

BC METHOD
- 1st High-speed centrifugation (to isolate BF) *2485g, 17 min, acc 210s, dec 720s*
- 2nd BC collection
- 3rd Low-speed centrifugation (to remove RBC) *100g, 10 min, acc 30s, dec 300s*



RESULTS

n=646	All units presented POSITIVE SWIRLING
Mean (SD) results	Volume 48 (±5) mL
	PLT 3.6×10^{10}/unit (±1×10^{10}/unit)
	WBC 0.08x10^3/µL (±0.16x10^3/µL)
	RBC 0.06×10^6/µL (±0.11×10^6/µL)
Blood Culture	**4 units with positive result (0.59%)** Identified microorganisms: *Staphylococcus pseudintermedius, Streptococcus canis, Streptococcus dysgalactiae, Pasteurella canis, Streptococcus halichoeri.*

CONCLUSION

The BC method produces safe canine PC with low bacterial contamination and acceptable residual WBC and RBC levels, indicating improved leukoreduction and RBC removal compared to Hoareau *et al*. (2014).

Platelet counts were higher than Hoareau *et al*. but below human standards (AABB), emphasizing the need for canine-specific guidelines that reflect the difficulty of achieving human standards.

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QUALITY CONTROL OF CANINE PLATELET CONCENTRATE PREPARED USING THE BUFFY COAT METHOD

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Introduction:
The buffy coat (BC) method to produce canine platelet concentrate (PC) units is widely used in human medicine but less reported in veterinary medicine. It involves initial high-speed centrifugation to isolate the buffy coat layer (containing leukocytes and platelets), followed by low-speed centrifugation to precipitate contaminated red blood cells (RBC), separating them from platelets (PLT) in suspension. Only one small canine study has been reported on PC preparation by BC, and no guidelines are yet available. Human AABB guidelines require PLT > 5.5 × 10^{10}/unit. This study aimed to describe the BC method for producing canine PC units, and report the obtained quality control results, comparing with the current bibliography.

Methods:
Data were obtained retrospectively from a blood bank program between February 2025 and January 2026. Donors were healthy mixed breed dogs, between 1 and 8 years old, weighing > 20 kg, vaccinated, dewormed, never transfused and PCR/ELISA negative according to the ACVIM donor screening consensus. Mean (SD) pre-donation PLT count was 221x10^3 /µL (±71x10^3 /µL). A total of 646 canine units of non-leukodepleted whole blood were processed, using the BC method: 2485g, 17 minutes, acceleration 210s and deceleration 720s, followed by 100g, 10 minutes, acceleration 30s and deceleration 300s. Quality control parameters included swirling evaluation, volume, bacteriological culture (Bact/Alert® 3D240), PLT count, residual WBC and RBC count (Sysmex XN-1000V).

Results:
Of the 646 PC units, four were discarded due to positive bacterial cultures (0.59%). The identified microorganisms were *Staphylococcus pseudintermedius, Streptococcus canis, Streptococcus dysgalactiae, Pasteurella canis*, and *Streptococcus halichoeri.* All units had positive swirling and presented the following mean (SD) results: volume 48 (±5) mL; PLT 3.6×10^{10}/unit (±1×10^{10}/unit); WBC 0.08x10^3 /µL (±0.16x10^3 /µL); and RBC 0.06×10^6/µL (±0.11×10^6/µL).

Conclusion:
The BC method produces safe canine PC with low bacterial contamination and acceptable residual WBC and RBC levels. Platelet counts were higher than those reported by Hoareau *et al.* (2014), but below human standards. Lower residual WBC and RBC levels indicate improved leukoreduction and RBC removal, which is in line with AABB guidelines. Guidelines for canine PC are warranted and should reflect the difficulty of achieving human standards.