



AVHTM Newsletter

Special Events of Interest:

- American College of Veterinary Emergency and Critical Care – Veterinary Trauma and Critical Care Conference: April 3-5, 2020 (Las Vegas, NV)
- European College of Veterinary Emergency and Critical Care (ECVECC) Congress: June 4-6, 2020 (Ghent, Belgium)
- American College of Veterinary Internal Medicine (ACVIM) Forum: June 11-13, 2020 (Baltimore, MD)
- Congress of the European College of Veterinary Internal Medicine – Companion Animals (ECVIM-CA): September 3-5, 2020 (Barcelona, Spain)
- International Veterinary Emergency and Critical Care Society (IVECCS) Meeting: September 16-20, 2020 (Saint Louis, MO)

A 501(c)(3) nonprofit professional association

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AVHTM at ACVIM

This June the AVHTM will once again be featuring lectures at the American College of Veterinary Internal Medicine Forum. Topics for this year include:

Novel Transfusion Products (Sarah Musulin), Defining Transfusion Reactions - A first report from the AVHTM Consensus Working Group (John Thomason and Adesola Odunayo),



Feline Blood Typing 101 (Marie-Claude Blais), and Controversies and Updates on Immunodiagnosics of IMHA (Urs Giger). A Special Interest Group (SIG) is also planned for June 12th at

6:00 PM EDT at the Pratt Street Ale House in Baltimore. Information can be found here: <https://avhtm.org/event-3448545>. Please RSVP to info@avhtm.org if you plan to attend. The topic of the SIG will be discussing the AVHTM Consensus Working Group on Defining Transfusion Reactions.

AVHTM Updates

Our group is continuing to grow – we have almost 300 members!

Please note that AVHTM membership fees increased on November 1st, 2019.

Here is a breakdown of the new fees: \$45 for veterinarians, residents, technicians, interns, and other people in the blood bank industry;

\$10 for veterinary or technician students (proof of student status may be asked). Also, the AVHTM has decided to sponsor a research grant starting in 2020. As such, you will be asked when you renew your membership if you wish to contribute any funds towards the grant. We encourage people to donate any

amount they choose, which will be used towards a grant for research being completed in the field of hematology or transfusion medicine. Stay tuned for more information!

AVHTM continues to be an active group on social media and within our private email group. Recently, our email group has shared

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Protocol for Whole Blood Centrifugation to Obtain Plasma and Packed RBC Units

Author: Profs. Eva Spada and Daniela Proverbio, Veterinary Transfusion Research Laboratory (REVLab), Department of Veterinary Medicine (DIMEVET), University of Milan, Italy

Variables affecting cell separation and recovery during centrifugation for blood component preparation include rotor size, centrifuge speed, and spin time. Careful procedures such as the one outlined below can produce a clear/hemolysis free plasma and quality packed red blood cell (PRBC) units.

- 1) Turn centrifuge on and cool to between 1 and 6 °C. Early refrigeration allows thermal control during the centrifugation process.
- 2) Load units into a swinging bucket apparatus. Blood bags are placed in centrifuge bucket with the label facing out. Centrifuges with swinging cups allow easier separation of the plasma from the red cells. All tubing should be secured inside the centrifuge bucket. Foam rubber is very useful for this purpose. During loading place tubing between the bags with bag tabs remaining upright (Figure 1).
- 3) Weigh and balance the units to be centrifuged. Compensate for low volume blood bags by using spacers or balance bags. An assortment of rubber weights or silicon spacers is generally used (Figure 2). Use a water-filled blood collection bag as a balance for empty buckets.
- 4) Centrifuge the whole blood unit using a heavy spin: relative centrifugal force (RCF or G-force) of 5000 g for 5-7 minutes. If centrifuge settings are revolutions per minute (RPM), calculate speed using the following formula:



Figure 1

$$\text{RPM} = \sqrt{[\text{RCF (g)} / (28.38 \times \text{R (in)})]} \times 1000 \text{ or } \sqrt{[\text{RCF (g)} / (\text{R cm} \times 1.118 \times 10^{-5})]}$$

R= radius of centrifuge rotor in inches (in) or centimeters (cm).

Link to calculate RCF or RPM: http://insilico.ehu.es/mini_tools/rcf_rpm.php

If centrifuge has a set RPM or a max RPM insufficient to achieve 5000 g, calculate the corresponding heavy spin in RCF (g) using the following formula:

$$\text{RCF (in g)} = 28.38 \times \text{R (in)} \times (\text{rpm}/1000)^2 \text{ or}$$

$$\text{RCF (in g)} = (\text{RPM})^2 \times (1.118 \times 10^{-5}) \times \text{R [cm]}$$

Then find the equivalent time for centrifugation to achieve an equivalent RCF as in hard spin, using the following formula:

$$\text{Time in min} = (5000 \text{ g} / \text{resulting g in centrifuge}) \times 7 \text{ min}$$

- 5) When centrifugation has ceased, allow the centrifuge to stop spinning without assistance, selecting a spontaneous deceleration.
- 6) When the centrifuge has stopped completely, place the unit carefully onto an expressor and release the spring to express the plasma into the attached satellite bag. Follow the manufacturer's instructions for adding the attached additive solution to the PRBC bag.
- 7) Immediately refrigerate PRBC units between 1°C and 6°C. Plasma should be stored at -18°C or colder.

Useful References:

- Fung, MK, Grossman BJ, Hillyer CD, Westhoff CM, 2014. AABB Technical manual, 18th ed.
- Harmening DM, 2012. Modern Blood Banking & Transfusion, 6th ed.
- Sink CA, 2017. Practical Transfusion Medicine for the Small Animal Practitioner, 2nd ed.
- Yagi K, Holowaychuk MK, 2016. Manual of Veterinary Transfusion Medicine and Blood Banking.



Figure 2

Recently Published Articles

This segment will return in our next newsletter—stay tuned!

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AVHTM

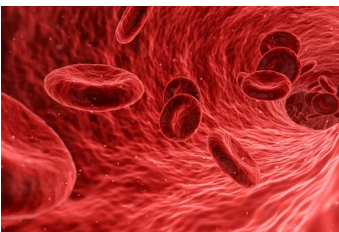
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We're on the web!

www.avhtm.org



AVHTM is an IRS approved 501(c)(3) nonprofit professional association composed of veterinarians, hematologists, academics, veterinary technicians, blood bankers, and interested public who desire to further scientific advances in transfusion medicine and veterinary hematology.

We engage in veterinary research, promote industry standards, develop guidelines for canine and feline blood collection and processing, and publish scientific research in peer-reviewed publications.

Visit us online to learn more about AVHTM!

AVHTM Updates (continued from page 1)

discussions on several topics including equipment preferences (mixing scales, centrifuge settings), infectious disease screening, and setting up a specialty for veterinary technicians interested in transfusion medicine and blood banking. We encourage AVHTM members to continue using this fantastic resource by emailing questions or sharing ongoing research endeavors with the group. Please note that access to the Google Group is only for those with membership fees in good standing. Previous discussions can be accessed online by signing into your Google account at <https://groups.google.com/>. Please note that the email address used for your Google account must be the same as the one registered with AVHTM for the Google Group.

We also have more than 1,000 followers on Facebook and have good engagement with our posts in terms of people liking or sharing them. Please 'like' or 'follow' us on Facebook (www.facebook.com/AVHTM/) and feel welcome to post links, images, and questions pertinent to veterinary hematology and transfusion medicine.

MEMBERSHIP BENEFITS

As an AVHTM member, you are eligible for the following:

- Reduced IVECCS registration fee (veterinarians save \$100 and technicians save \$25!)
- Access the a "Members Only" section of the AVHTM website, which includes access to:
 - o Other AVHTM profiles
 - o PubMed articles
 - o Forum for posting questions, cases, and research
- Ability to ask and answer questions posted to the AVHTM members-only email group.

Please feel welcome to share this newsletter with interested colleagues and encourage them to become an AVHTM member!