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Q&A Session

QUESTION: What is a veterinarian-client-patient-relationship?

ANSWER: A veterinarian-client-patient-relationship (VCPR) is defined by the American Veterinary Medical Association as the basis for interaction among veterinarians, their clients, and their patients and is critical to the health of your animal. A VCPR means that all of the following are required:

1. The veterinarian has assumed the responsibility for making clinical judgments regarding the health of the patient and the client has agreed to follow the veterinarians' instructions.
2. The veterinarian has sufficient knowledge of the patient to initiate at least a general or preliminary diagnosis of the medical condition of the patient. This means that the veterinarian is personally acquainted with the keeping and care of the patient by virtue of a timely examination of the patient by the veterinarian, or medically appropriate and timely visits by the veterinarian to the operation where the patient is managed.
3. The veterinarian is readily available for follow-up evaluation or has arranged for the following: veterinary emergency coverage, and continuing care and treatment.
4. The veterinarian provides oversight of treatment, compliance, and outcome.
5. Patient records are maintained.

The practical explanation is that it is a formal relationship that you have with a veterinarian who serves as your primary contact for all veterinary services and is familiar with you, your livestock/animals, and your farm operation. This veterinarian is referred to as your Veterinarian of Record (VoR), and both the VoR and the client should sign a form to document this relationship. You can download a VCPR template developed by the Ohio Veterinary Medical Association Drug Use Task Force at:

<https://vet.osu.edu/extension/general-food-fiber-animal-resources>

This can be thought of as similar to having a primary "family doctor" where that individual is the one whom you consult with regarding prescription needs, changes in health status, or specialized services. Because the VoR somewhat regularly provides veterinary services to you, they may be able to approve prescriptions and provide consultation over the telephone. Having an established VCPR is important to help protect consumers and avoid residues in meat and milk. This becomes even more crucial to a farm operation with the changes regarding the purchase of antibiotics and the veterinary feed directive

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Location

[Department of Veterinary Preventive Medicine](#)

Interim Chair:
Dr. Thomas E. Wittum
A100S Sisson Hall
1920 Coffey Road
Columbus, Ohio 43210
wittum.1@osu.edu
614-292-1206

Subscribe

Contact:
Jeffrey D. Workman, PhD
Extension Program Coord.
workman.45@osu.edu
614-292-9453

<http://vet.osu.edu/extension>

(VFD).

<http://www.fda.gov/AnimalVeterinary/DevelopmentApprovalProcess/ucm071807.htm>

Research

Tavares, K. C., Carneiro, I. S., Rios, D. B., Feltrin, C., Ribeiro, A. K., Gaudêncio-Neto, S., ...Bertolini, L. R. (2016). **A fast and simple method for the polymerase chain reaction-based sexing of livestock embryos.** *Genetics and Molecular Research*, 15(1). doi: 10.4238/gmr.15017476

BACKGROUND: Embryo sexing is a powerful tool for livestock producers because it allows them to manage their breeding stocks more effectively; however, the cost of supplies and reagents, and the need for trained professionals to biopsy embryos by micromanipulation restrict the worldwide use of the technology to a limited number of specialized groups.

PURPOSE: The purpose was to couple a fast and inexpensive DNA extraction protocol with a practical biopsy approach to create a simple, quick, effective, and dependable embryo sexing procedure.

RESULTS: From a total of 1,847 sheep and cattle whole embryos or embryo biopsies, the sexing efficiency was 100% for embryo biopsies, 98% for sheep embryos, and 90.2% for cattle embryos. They used a primer pair that was common to both species and only 10% of the total extracted DNA. The whole protocol takes only 2 hours to perform, which suggests that the proposed procedure can be readily applied to field conditions.

CONCLUSIONS: The combination of the modified HotShot alkaline lysis DNA extraction procedure and amelogenin-directed primers allowed the rapid and low-cost sexing of 1,847 bovine and ovine embryos and embryo biopsies in approximately 2 hours. In addition to sex determination prior to embryo transfer, this procedure could potentially be used for the preimplantation genetic diagnosis of other gene sequences or alleles. It could become a useful tool for producers who wish to select and transfer only embryos of the desired sex or produce disease-resistant traits.

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Cook, N. B., Hess, J. P., Foy, M. R., Bennett, T. B., & Brotzman, R. L. (2016). **Management characteristics, lameness, and body injuries of dairy cattle housed in high-performance dairy herds in Wisconsin.** *Journal of Dairy Science*. Advanced online publication. doi: 10.3168/jds.2016-10956

BACKGROUND: The question has been raised as to whether or not lameness, injury, and poor physical well-being are an inevitable consequence of higher milk production and herd size expansion in confinement freestall facilities, or whether they are a consequence of the decisions being made in the construction and management of these larger dairies.

PURPOSE: The objective was to assess the prevalence of lameness and body injuries in the identified high-performance, larger freestall-housed dairy herds, to determine whether this management approach was compatible with high standards of physical well-being and provide benchmarks for animal observations included in animal welfare audits.

RESULTS: Prevalence of clinical lameness (5-point scale, locomotion score ≥ 3) and severe lameness (locomotion score ≥ 4) averaged 13.2 ± 7.3 and $2.5 \pm 2.7\%$, respectively. The prevalence of all hock and knee injuries, including hair loss, swelling, and ulceration, was similar at 50.3 ± 28.3 and $53.0 \pm 24.0\%$, respectively. Severe (swelling and ulceration) hock and knee injury prevalence were 12.2 ± 15.3 and $6.2 \pm 5.5\%$, respectively. The prevalence of all neck injuries (including hair loss, swelling and ulceration) was $8.6 \pm 16.3\%$; whereas the prevalence of swollen or abraded necks was

low, averaging $2.0 \pm 4.1\%$. Back injuries (proportion of cows with missing or abraded spinous processes, hooks, or pins) followed a similar trend with a low mean prevalence of $3.6 \pm 3.4\%$.

CONCLUSIONS: The authors concluded that, overall, lameness and body injury characteristics of this selection of high-producing, freestall-housed dairy herds provide evidence that poor welfare is not an inevitable consequence of the confinement housing of large numbers of dairy cattle. In particular, lameness prevalence rivals that of lower-production grazing systems. However, hock and other injury risk remains a concern that can be addressed through a choice in stall surface type. Use of deep, loose bedding rather than a mat or mattress-type surface yielded significant advantages in terms of lameness, hock and knee injury, and udder hygiene. The lameness and injury benchmarks achieved by these herds may be used to set standards by which similarly managed herds may be judged using welfare audit tools.

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Venjakob, P. L., Borchardt, S., Thiele, G., & Heuwieser, W. (2016). **Evaluation of ear skin temperature as a cow-side test to predict postpartum calcium status in dairy cows.** *Journal of Dairy Science*. Advanced online publication. doi: 10.3168/jds.2015-10734

BACKGROUND: Without a cow-side test, it is difficult to identify hypocalcemic cows. Previous studies have shown that decreased temperature of the ear and skin are clinical symptoms indicative of hypocalcemia in periparturient dairy cows. It is also common practice for veterinarians and farmers to use ear temperature determined by manual palpation as an estimate for the presence or absence of milk fever (i.e., calcium status) of a periparturient cow. To our knowledge, however, temperature of the ear skin has never been validated as a potential predictor of calcium status.

PURPOSE: The objective was to evaluate the diagnostic performance of ear skin temperature in identifying cows with hypocalcemia.

RESULTS: A decrease in ear temperature of 0.39°C [95% confidence interval (CI): $0.25\text{--}0.54$] was associated with a decrease of 0.1 mmol/L in serum calcium concentration. Ambient temperature, however, was a major confounder for ear temperature. With an increase in ambient temperature of 1°C , STEar rose by 0.78°C (95% CI: $0.67\text{--}0.90$). Hypothermia was more pronounced in clinical milk fever (median 21.8°C ; interquartile range $14.7\text{--}27.0^{\circ}\text{C}$) compared with subclinical hypocalcemia (median 27.6°C , interquartile range $22.1\text{--}30.8^{\circ}\text{C}$). All temperature estimates had only accurate test characteristics based on their area under the curve for prediction of subclinical hypocalcemia (area under the curve for STEar, STCox, and rectal temperature were 0.641 , 0.668 , and 0.606 , respectively) when cows with clinical milk fever were excluded.

CONCLUSIONS: The authors concluded that ear skin temperature cannot be recommended as a diagnostic test for subclinical hypocalcemia. In the absence of a validated cow-side blood test for hypocalcemia, further development and research approaches are warranted to improve the current concept of using risk factors as decision criteria for individual calcium supplementation in fresh cows.

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Calendar



A full calendar of all upcoming events and continuing education opportunities offered by the College of Veterinary Medicine is available on the website at <http://vet.osu.edu/>

Dairy Cattle Welfare Symposium

Intersection of Best Practices and Sustainability
May 20-21, 2016
Ohio Union, Columbus, Ohio
(limited to 265 attendees; 30 spots available to students)

Ohio Dairy Health and Management Certificate Program

Module 8 – Organic Animal Health Workshop
Tentative Dates: Aug 25-26, 2016
Columbus, Ohio
Spots are always available for specific module plan.

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Roger Rennekamp, Ph.D., Director, Ohio State University Extension.

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