American Endurance Ride Conference
BOARD OF DIRECTORS MEETING
held via telephone conference call
September 8, 2008

President Mike Maul called the meeting to order at 6:04 p.m. Also on the line for the call: Vice President Connie Caudill, Treasurer Patti Pizzo, Michael Campbell, Monica Chapman, Joyce Mocilan, Susan Schomburg, Sandy Terp, Tom Noll, Gail Williams, Terry Woolley Howe, John Parke, Joe Schoech, Roger Taylor, Jeff Trinkle, Maryben Stover, Dianna Chapek, John Crandell III, Heidi Smith, Bruce Weary, and Executive Director Kathleen A. Henkel. Absent: Secretary Jan Stevens, Susan Kasemeyer, Randy Eiland, Laura Hayes, Robert Ribley and C. Mike Tomlinson.

Guests on the line for the call: Diane Lesher of Equisure, Olin Balch DVM, Meg Sleeper DVM, and Melissa Ribley DVM, Chair of AERC's Veterinary Committee.

It was moved to excuse Jan Stevens and Susan Kasemeyer from this evening's meeting due to scheduling conflicts. Passed.

Membership report given by Kathleen as follows:

Membership Report

9/8/2008
Membership as of 9/10/07 - 6847
9/8/08 - 6815
Rider fees as of 9/8/07 - $77,500.94
9/8/08 - $68,418.40
Sanction fees as of 9/8/07 - $ 15,364.67
9/8/08 - $ 15,235.00
New members as of 9/10/07 – 1151
New members as of 9/8/08 - 984

Kathleen advised the board the office was in receipt of a donation from the Tri County Arabian Club, Reading PA, in the amount of $1,755.82, to be used toward metabolic research for the endurance horse.

Roger Taylor introduced Diane Lesher of Equisure and discussion with question and answers regarding Control Judge insurance began. The policy is meant to cover liability while judging, not medical malpractice. There is a fine line between the practice of veterinary medicine and judging an event. Education is key to making sure the control judge sticks to judging only and does not get involved in any diagnostics. It was discussed that AERC is covered by the current ride liability policy and the control judge insurance does not cover AERC. Malpractice insurance is specifically excluded from the control judge insurance issue currently before the board. Diane Lesher was disconnected from the call, had difficulty rejoining. Discussion was halted on this subject until Diane Lesher was able to reconnect.

Drs. Olin Balch DVM and Meg Sleeper DVM revisited the research proposal previously presented regarding the Comparison of heart rate variability and echocardiographic measurements in elite and non-elite Arabian endurance horses. After a lengthy question and answer session, the matter was tabled until the next meeting when it will be presented with changes in specifications pertaining to the equines tested and information will be added regarding presenting the findings to the membership at the convention that takes place after the study is completed.

It was moved by Joyce Mocilan and seconded to approve Susan Kasemeyer as the AERC NC ride steward.

Motion from AERC International Committee regarding the nomination of Jennifer Stevens for the USEF Youth Sportsman's Award (motion is below marked *) was presented and passed, with Dianna Chapek voting no.

Susie Schomburg, Chair, Rules Committee, withdrew the motion from committee regarding changes to Rule 15, advising this particular rule requires more work and will be presented for input from the board at a future meeting before being sent to the membership for comment.

Susie Schomburg presented the motion from the Rules Committee regarding the definition of a Control Judge (** below). The motion was reviewed by the board and will be put before the membership for comment.

Motion regarding Rule 4 changes presented by Susie Schomburg (*** below) and reviewed by the board. The changes regarding Rule 4 will be put before the membership for comment. New Rule 4 wording is below, marked ****.

Motion regarding Rule 14 presented by Susie Schomburg for review by the board (#### below). This motion will be put before the membership for comment.

Diane Lesher was able to rejoin the call and the question/answer session continued regarding the control judge professional liability insurance coverage. Diane was asked to describe what the policy covers and she advised it covers **decisions** made as a control judge. Both AERC and the control judge are covered regarding the decisions made by the judge. Diane Lesher advised she would be able to provide policy language to AERC for this policy in 30 days.

It was moved by Sandy Terp and seconded by Maryben Stover to adjourn. Passed.

Meeting adjourned at 7:47 pm.

Respectfully submitted,

Kathleen A. Henkel, Secretary Pro Tem

In the absence of Jan Stevens

*** AERC Board of Directors**
MOTION PROPOSAL

Motion Name: Motion to Nominate Jennifer Stevens for the USEF Youth Sportsman's Award.

Proposing Committee: AERC-I

Date of Motion: September 3, 2008

Classification of Motion Request: New

Proposed Motion: As part of USEF's continued efforts to expand the base of young people contributing to the leadership in, and promotion of, equestrian sports, USEF asks that all discipline clubs nominate a youth from its membership to compete for the USEF Youth Sportsman's Award. AERC-I recommends that AERC nominate Jennifer Stevens for this award.

Background, analysis and benefit: The goal of the USEF Youth Sportsman's Award is to develop youth from all breeds and disciplines into leaders in the equine industry. In so doing, it recognizes youth who demonstrate an ongoing commitment and dedication to both USEF and their national affiliate (AERC) by serving as a role model for their peers and through the promotion of the horse. The AERC nominee will compete against youth from numerous other disciplines including show jumping and dressage.

Budget effect/impact: None.

Benefit and/or Impact to Membership and/or the AERC Organization: Recognizes an outstanding youth endurance rider and helps promote youth to actively participate in endurance in ways other than just riding.

Impact on AERC Office: Minimal impact.

Committees consulted and/or affected: AERC-I, September 2, 2008 minutes

Implementation plan: The office will need to submit Jennifer's name and her nomination packet to USEF no later than October 15th, 2008.

Supporting materials: Attached is Jennifer's nomination packet. A hard copy will be provided to the office.

Supporting approvals: AERC-I September 2nd, 2008 minutes – yet to be approved.

**AERC Board of Directors
MOTION PROPOSAL

Motion Name Control Judge Definition

Proposing Committee Rules committee, Vet committee

Date of Motion (Date to be presented to BOD) August 23, 2008

Classification of Motion Request (new, change, add, delete, by-law, rule, policy) Rule change

Proposed Motion (use exact wording) A motion to include a definition of a veterinary control judge in the AERC rule book and to replace all references to "vet" or "veterinarian" in the rules with the term "control" or "control judge" excluding specific references to treatment or treating veterinarians.

Background, analysis and benefit (describe the problem this motion is solving) In recent years, there has been heightened concern by ride veterinarians over litigation while carrying out their duties at endurance rides. It was recommended by AERC's insurer that a distinction be made between a control judge at an endurance event and a vet involved in a client-patient relationship as a result of treatment. The large majority of AERC ride veterinarians act as control judges and only occasionally move into the role of treatment vet. There is a distinction in liability when this role change occurs. Defining and clarifying the roles in the rules was suggested by the insurer as well as the vet committee.

Budget effect/impact (Attach spreadsheet if appropriate) Printing of a new version of the rule book ($2800)

Benefit and/or Impact to Membership and/or the AERC Organization -Meets the request of AERC's insurer and decreases the liability of veterinarians working AERC rides

Impact on AERC Office (Work load, budget) Rule book re-printing

Committees consulted and/or affected Vet committee

Implementation plan (Schedule, resources, financial) Effective with the 2009 rule book revision

Supporting materials (List of any other documents and/or spreadsheets) see attached

Supporting approvals (proposing committee, participating committees) vet committee

TABLE OF CONTENTS

The following rules and regulations have been adopted by the Board of Directors of the AERC and are binding on AERC sanctioned
rides.
While the AERC assumes that most participants are responsible and caring, it is recognized that a highly competitive and demanding
sport requires regulation. The AERC's concern in establishing rules and regulations is to assure that competition occurs
within standardized parameters considered fair and reasonably safe for equine and rider. The AERC services the requirements of
the competitor by promulgating and establishing rules and regulations, recording and publishing results of events, and providing
awards; but the competitor is ultimately responsible for self and mount before, during and after an endurance ride. AERC Rules
and Regulations provide minimum conditions and directives for managing and competing in AERC sanctioned endurance rides.
Additional measures may be taken by any ride to provide greater safety for equine and rider. However, except in the event of
emergency, these additional measures must be explained to the competitors and made available to them in written form at a preride
meeting. We not only feel it is necessary to regulate our sport, but also to penalize infractions and to provide mechanisms for
addressing grievances and appealing decisions.
All entrants in any distance of a ride know and agree that their entry into the ride is with the stipulation that all activities that
relate to the ride are subject to use by AERC for analysis of ways to improve and educate all concerned be they riders, ride managers, Control judges and
Treatment veterinarians.
The following documents complement and provide additional information for AERC Rules and Regulations: AERC Ride Manager's

Handbook, AERC Veterinarian's Handbook. These publications are available through the AERC office.

ENDURANCE RULES

1. The ride must be at least 50 miles in length per day, up to a maximum distance of 150 miles in three days.

1.1 Rides are sanctioned for a certain number of miles.

1.1.1 Mileage over 50 must be a multiple of five, ending in a 0 or 5, whichever is the nearest whole number to the actual ride mileage (e.g., 52.4 miles = 50, 52.5 miles = 55).

1.2 Endurance rides which are sanctioned for more than one distance (such as a 50 and a 100 held over the same course at the same time) have the option of allowing riders to "elevate" from one ride into the other, subject to the following restrictions: The rider may only elevate from a shorter distance into a longer distance; the rider may elevate only once; upon elevating, the rider is no longer considered to be a starter or a finisher in the shorter ride; and the rules on reduced Bonus Points for rides with fewer than eleven starters apply.

1.2.1 Elevator rides must be indicated on the sanction application and advertised as such.

1.2.2 The rider must state which mileage he will enter if a multiple mileage ride; e.g., 50 mile, 100 mile or 150 mile.

1.2.3 A rider who elevates is eligible for completion only.

1.2.4 If the starting times are not the same, elevating riders must have the time limits of Rule 5 applied to their original rides starting time.

1.3 The sanctioned ride mileage(s) cannot be changed later than 90 days before the ride; points and miles will be awarded according to the mileage for which the ride is sanctioned (see rule 11).

1.3.1 The exception to this policy is the case where an emergency forces a last-minute trail change, in which case points and mileage are awarded according to the actual mileage reported to the AERC.

1.3.2 A change in mileage and/or ride results certified by AERC may be mandated by the Protest and Grievance Committee or the Board.

2. The equines must be under the control of control judges ~~veterinarian(s)~~ experienced with equines or endurance rides. . Control Judges are persons that have graduated with a Degree in Veterinary Medicine from an institution of recognized standing.

2.1 The ride must employ at least one ~~veterinarian~~ control judge whose services will be exclusive to that event, pre-ride, during the ride, and post-ride (at least one ride treatment veterinarian or control judge must be at the ride site for at least one hour after the last equine crosses the finish line or has returned to ride camp).

2.1.1 The most current version of the AERC Ride Manager's Handbook, the AERC Veterinary Handbook, and the AERC Rules and Regulations must be provided by AERC to the Ride Manager. These books must be provided to the control veterinarians by the Ride Manager prior to the ride, and must be available for reference at the ride.

2.1.2 Control ~~veterinarians~~ judges are ~~veterinarians~~ persons employed by ride management to monitor the equines and counsel riders and ride management on equine welfare as well as to uphold the AERC rules. A control judge will provide judgment as to an equines ability to remain in competition. Control judges are not to provide a diagnosis andwill refer equines identified as requiring diagnostics to a veterinarian legally licensed to practice. A control judge who is also a veterinarian legally licensed to practice may perform concurrent duties outside the role of control judge such as providing a diagnosis and/or medical treatment. A control ~~veterinarian~~ judge must be an AERC member, either as a regular member or as a veterinary member. A veterinarian supplying treatment only is not required to be an AERC member.

2.1.3 A control judge ~~veterinarian~~ who is serving as ride manager of an AERC sanctioned event is prohibited from serving that same event as

a ~~veterinary~~ control judge official.
2.1.4 Each equine will be inspected and judged on ~~receive a substantive physical examination of~~ metabolic and mechanical parameters before the ride, at control points within the ride and after the ride. All AERC sanctioned rides must use an AERC approved rider card for the control ~~veterinarian(s)~~ judge to record the results of their ~~examinations~~ inspections.
2.1.5 The ~~veterinarians'~~ control judge's decisions regarding disqualification must be final and ride management must stand behind the ~~veterinarians'~~ control judge's decisions.
2.1.5.1 A Ride Manager may not overrule a ~~vet~~ control judge decision on a ~~veterinary~~ "fit to continue" matter.
2.1.5.2 Equines disqualified by the ~~vets~~ control judges must not continue on. This practice by a rider is considered grounds for barring that rider from future rides.
2.1.5.3 The rider/owner of an equine disqualified by a ride ~~veterinarian~~ control judge should be notified immediately by that ~~veterinarian~~ control judge or the ride manager.
2.1.6 Management must be confident that there is complete understanding with the ~~veterinarian(s)~~ control judge(s) regarding P&R criteria, any other disqualification criteria, and particularly post-ride criteria for completion.
2.1.6.1 The setting of ~~veterinary~~ control judge parameters, including but not limited to pulse and respiration, shall be determined by the head ~~Veterinarian~~ control judge. Since the ambient conditions are of prime concern in the setting of parameters, these parameters should not be finalized more than 24 hours prior to ride start.
2.1.6.2 Any equine not meeting pulse criteria within 30 minutes of arrival at a ~~veterinary~~ control check point other than the post-finish line vet check will be disqualified.
2.1.7 All ~~veterinary~~ control checkpoints must be staffed by a ~~veterinarian~~ control judge who will provide the required control. The type of checkpoint and duration of the hold will, in all cases, be designated by the head ~~veterinarian~~ control judge. It is recommended that all checkpoints be of the "gate into a hold" type.
2.1.8 Equines that are treated or die at rides shall be reported on a form with ride results to be completed by the ride head control judge or the treatment veterinarian and submitted with ride results. This information will be kept permanently on file at the AERC office.
3. The ride must be open to any breed or type of equine.
3.1 The equines entered in the full distances must be at least 60 months old at the time of the ride.
3.1.1 Age is figured from actual date of birth. In cases of no papers on an equine, a ride veterinarian's opinion and discretion must prevail.
3.2 Rides may limit the number of competitors provided that prior publicity states the limitation and that all spaces and vacancies are filled on a first-come, first-served basis.
3.3 An equine which constitutes a clear danger to other equines and/or persons may be disqualified at any time from competition, by the ride manager or ride ~~veterinarian~~ control judge.
4. Entry to a ride may be refused for cause.
4.1 Cause is defined as a specific occurrence, substantiated by direct and corroborated evidence of, including but not limited to, one of the following:
4.1.1 Non-payment of ride fees, such as insufficient funds check not made good.
4.1.2 Abuse of an equine, such as drugging or continuing to ride after being pulled without the specific permission of a ride vet.
4.1.3 Abusive harassment of ride personnel, other riders or crews, such as arguing with the ~~veterinarians~~, control judges, breaking the line at vet gates, or deliberately blocking other riders on the trail.
4.1.4 Removing or altering trails markers.
4.1.5 Cheating, such as deliberate short cuts or deliberately leaving timed holds early.
4.1.6 An equine determined to be unruly or dangerous may be denied entry.
4.2 Cause might also be determined by the Board or one of the committees of the AERC.

5. The ride must provide a specific amount of time (total competition time) which will include all stops and holds,
and within which competitors must complete the ride to qualify for placing or completion.
5.1 There may be no minimum time limit for completion.
5.2 Maximum competition time will be according to the following prescription: 12 hours for 50 miles, 24 hours for 100 miles,
and other distances to be according to the chart in Appendix A. In the case of 2 day 100's, 3 day 150's and similar events, the total
completion time allowed is based on daily mileage.
5.3 Riding time is the time used by the competitors to complete the course, excluding all hold times, and is the time used for
AERC ride results.
5.4 There must be a pre-designated marked finish line perpendicular across the trail.
5.5 All riders must be notified in writing of cut-off times no later than the pre-ride meeting.
6. Completion requires meeting all of the following criteria:
a. All riders and mounts must be present and accounted for at the start of the ride.
b. Properly entered in the ride.
c. Obeying all the rules.
d. Following the prescribed course, and doing multiple loops in the correct order.
e. Passing all control points.
f. Passing ~~vet~~ control check requirements.
g. Finishing within the prescribed maximum time.
h. Not being disqualified.
i. Meeting criteria at post-finish-line check.
j. Meeting any other criteria prescribed by ride management.
k. Not having been paced or prompted by an un-entered, withdrawn, or otherwise unauthorized equine, vehicle, or a person
other than another entrant. This does not preclude the ordinary support services of attendants or pit crews. A crew may accompany
their rider down a public road in a support vehicle (unless there is a ride management prohibition against it) provided they
do not push or haze the equine.
6.1 A competitor must pass all ~~veterinary~~ control criteria for completion; a competitor who fails any of the other completion criteria
should be pulled from Top Ten placing but may be allowed a completion, if in the opinion of ride management, the violation was
not intentional and did not result in making the course easier or shorter.
6.2 Each AERC sanctioned ride must have a post-finish-line ~~vet~~ examination, which the equine must pass for a successful completion,
the criteria to be announced prior to the ride.
6.2.1 The minimum criteria for the post-finish-line ~~vet~~ control check are as follows. Any ride may adopt more stringent criteria, but
these must be provided to competitors before the ride in written form. The post-finish-line ~~vet~~ control check is where the final criteria for
completion must be met; an equine has not completed the ride until he has passed this check. The post-finish-line ~~vet~~ control check also
serves as a safety check to monitor for late-developing problems (so that they can be treated if necessary) as well as extending
veterinary control over the last leg of the ride. Because an equine at the finish line is not, in actuality, going on—and not going
into the wilderness far from veterinary aid—the standards for completion need not be as strict as those on the trail, but they must
meet the minimum standards below. See the Veterinarian's Handbook for more information.
6.2.1.1 All equines must stand a mandatory post-ride evaluation within one hour of finish. Riders may present their equines for
the final examination at a time of their choosing during the one-hour period. An equine that does not meet the established criteria
including pulse criteria within one hour of crossing the finish line shall be disqualified. Once a competing equine has passed
the post-ride examination, it may not be removed from completion for ~~veterinary~~ control judge reasons.
6.2.1.2 The equine must reach a reasonable pulse recovery based on ambient conditions. The maximum pulse criterion is 68

beats per minute; however, the ride ~~veterinarian~~ control judge(s) may allow a higher pulse criteria in documented extreme weather conditions.
Respiration should be evaluated on its own merit. Ambient temperature and humidity effects need to be recognized and their
effects on respiration rate are considered.
6.2.1.3 The equine must be metabolically stable, sufficient to demonstrate fitness to continue.
6.2.1.4 There will be no gait aberration that is consistently observable under all circumstances that results in pain or threatens
immediate athletic performance. This examination will be conducted at a trot, or an equivalent gait, straight out and back,
without prior flexion or palpation. It must be recognized that we are dealing with a risk sport with its inherent wear and tear.
~~Veterinarians~~ control judges must also be flexible enough to evaluate the equine injured after completing the course, etc. This is posed as a very
minimum criterion not designed to disqualify legitimate stiffness and "leg weariness" but to discourage over usage between the
last veterinary checkpoint and the finish line.
6.2.1.5 Soreness, lacerations, and wounds on the limbs and body—including the mouth—must be noted on the ~~veterinary~~ control examination
card. Lesions that are aggravated to a degree that affects the equine's ability to continue may be a cause for failure to
complete the ride. It must be recognized by ~~veterinarians~~ control judges that lesions caused by tack and interference may be from mild to severe
and need to be evaluated on their own merit.
6.2.1.6 Evaluation of other monitoring parameters must indicate the equine is not in need of any medical treatment. It must be
borne in mind that pulse, respiration and soundness are but three of the important parameters considered in the state of condition
evaluation.
6.2.1.7 The equine may not have received medical treatment by veterinarian or layman prior to the final examination. Any
equine that a ride veterinarian advises should be treated for a metabolic or soundness problem, but treatment is refused by the
rider or owner, shall be considered in the same light as a treated equine and will be disallowed completion.
6.3 All riders who successfully complete the ride must receive a completion award.
7. Placements will be determined by the order of finish of those who have met the completion requirements.
7.1 AERC accepts ties. In the case of ties, the points to be awarded shall be the sum of the positions divided by the number of
people who tied. There would never be more than 10 equines in the top ten unless the last place in the top 10 would bring the
total in excess of 10 equines.
8. The AERC will record points and mileage for AERC members.
8.1 Points are calculated on the basis of actual finishing position regardless of whether other competitors are AERC members or
not. Horses that are entered in an AERC sanctioned event must be registered prior to the event with AERC in order for the rider
to receive points and the horse to receive mileage.
8.2 Members whose dues are not paid by February 1st will receive no points or miles for rides held between December 1st and
the date their membership is restored.
8.2.1 These points cannot be recovered, but the miles may be recovered by payment of appropriate Research Fees as established
by the AERC.
8.3 A new member will be able to obtain mileage credit for miles ridden prior to the date of joining by payment of appropriate
research fees as established by the AERC.
8.4 Career mileage credit only for AERC members and equines who participate in FEI rides or endurance rides in a foreign country
at least 50 miles long and sanctioned by an AERC recognized organization.
8.5 Points
8.5.1 The AERC has two divisions (Senior and Junior) based on the age of the rider, independent of any ride management rules

governing junior and senior riders.
8.5.2 There are also weight divisions within the Senior Division. Competitors are recorded in weight divisions as indicated in the
ride results.
8.5.2.1 Heavyweight, consisting of riders whose combined body weight and tack is 211 pounds or more.
8.5.2.2 Middleweight, consisting of riders whose combined body weight and tack is from 186 to 210 pounds.
8.5.2.3 Lightweight, consisting of riders whose combined body weight and tack is from 161 to 185 pounds.
8.5.2.4 Featherweight, consisting of riders whose combined body weight and tack is 160 pounds or below.
8.5.2.5 For a rider to stay within a weight division he/she must meet the minimum requirement but need not stay under the
maximum parameter.
8.5.3 Each rider riding for weight division points may be weighed at any ride.
8.5.3.1 Any other rider has the right to challenge the weight of a competitor and request a weighing.
8.5.3.2 Management must exercise reasonable discretion in making allowances for normal weight loss of rider during competition
and inaccuracy of ride scales. (A 4% allowance applied evenly to all competitors would be reasonable.)
8.5.4 Ride results list all completing riders in order of finish along with their division.
8.5.4.1 The AERC will disqualify any members found to have deliberately given AERC fraudulent information regarding weight,
age or any matter affecting national or regional awards. No points or miles awarded for entire year.
8.5.5 AERC computes points within each division except the Junior division based on the following formula (one point per mile,
plus bonus points per mile for Top Ten, equals total points per mile):

Place	Bonus/Mile	Total Points/Mile
1	2.0	3.0
2	1.5	2.5
3	1.2	2.2
4	1.0	2.0
5	0.8	1.8
6	0.6	1.6
7	0.4	1.4
8	0.3	1.3
9	0.2	1.2
10	0.1	1.1
11 & lower	0.0	1.0

8.5.5.1 Where there are fewer than eleven Senior starters, (all weight divisions added together), all bonus points, (overall and
weight division), are reduced by the following methods.
8.5.5.2 Junior starters for a ride shall not be counted in the overall count for starters.
8.5.5.3 Bonus points that would have been earned by the place equal to the total number of Senior starters are subtracted from
every finisher's points.
8.5.5.4 Points are calculated in the Junior Division based on Top Five placing, according to the following formula:

Place	Bonus	Total Points/Mile
1	2.0	3.0
2	1.2	2.2
3	0.8	1.8
4	0.4	1.4
5	0.2	1.2
6 & lower	0.0	1.0

8.5.5.5 Where there are fewer than six Junior starters, bonus points are reduced by the same method as for the Senior riders.
8.6 Members completing one-day rides of 100 or more sanctioned miles receive 1.5 times the number of points listed above.
8.7 If a member moves to a different AERC Region prior to June 1, all points and mileage will be recorded in the Region to which

that member moves; in a move on or after June 1, all points and mileage remain in the original Region.

9. An award will be available for the equine judged to be in the Best Condition.

9.1 The award does not have to be given.

9.1.1 The ~~veterinarian~~ control judges(s) may feel that none of the equines in contention for the award deserve to receive it.

9.2 Use of the AERC Best Condition System is optional with ride management.

9.2.1 Only equines selected as Best Condition using this system (with Best Condition forms returned along with the ride results) are recognized by the AERC.

9.2.2 Rides have the option of giving other Best conditions besides the AERC Best Condition if they wish.

9.2.3 The AERC recognizes only one Best Condition equine at any one ride.

9.3 Under the AERC system, all of the first ten completing equines are eligible for consideration, whether ridden by Junior, Featherweight, Lightweight, Middleweight or Heavyweight riders.

9.3.1 The Ride ~~Veterinarian~~ control judge (s) will be the sole judge of the ~~veterinary~~ horse condition scoring portion of the award.

9.3.2 Ride management determines the weight and time portion of the awards.

9.3.3 Procedure in the event of a tie (best condition score), the equine among those tied with the highest ~~veterinary~~ horse condition score will be the winner. If there is still a tie, the equine among those still tied that finished ahead of the other(s) will be the winner.

9.4 The AERC recognizes a National Regional Best Condition Champion Equine, according to the following system:

9.4.1 Each member owned equine receiving a Best Condition by the ride shall receive one point per mile of sanctioned ride length (in the Best Condition point system – those points do not go into the overall point system).

9.4.1.1 If there are fewer than ten starting equines, the points are reduced by 10% for each starter fewer than ten; that is, if there are nine starters, the points are reduced by 10%, for eight starters, by 20%, and so forth. However if there is only one starting equine, no Best Condition points shall be awarded.

9.4.2 At the end of the ride season, the member owned equine in each Region with the highest number of points in this system, irrespective of the number of different riders which may have ridden the equine, shall be the Regional Best Condition Champion.

The member owned equine with the highest number nationally shall be the National Best Condition Champion.

9.4.2.1 Equines must receive two Best Condition awards or a minimum of 100 Best Condition points during the ride season to qualify for these awards.

LIMITED DISTANCE RULES

The following AERC rules apply to limited distance only.

For rides of 50 miles and over see AERC Endurance Ride Rules.

L1. Limited Distance rides must be at least 25 miles but not exceed 35 miles in length. These rides must be sanctioned into the Limited Distance Program and held in conjunction with or within an adjacent 24 hour time period of an AERC Sanctioned Endurance Ride.

L1.1 Mileage must be a multiple of 5, ending in 0 or 5, whichever is the nearest whole number to the actual ride mileage (e.g. 22.4 = 20 miles, 22.5 = 25 miles.)

L1.2 Limited Distance rides which are sanctioned for more than one distance (such as a 25 and a 35 held over the same course at the same time) have the option of allowing a rider to "elevate" from one ride distance into the other, subject to the following restrictions: The rider may only elevate from a shorter distance to a longer distance; the rider may only elevate once; upon elevating, the rider is no longer considered a starter or a finisher in the shorter ride.

L1.2.1 Elevator rides must be indicated on the sanction application and advertised as such.

L1.2.2 The rider must state which distance he will enter, if a multiple mileage ride; e. g. 25 mile, 20 mile, or 35 mile.

L1.2.3 A rider who elevates is eligible for completion only.
L1.2.4 If starting times are not the same, elevating riders must have the time limits of Rule 5 applied to their original ride's starting time.
L1.2.5 A Limited Distance rider may elevate to the lowest Endurance distance (in sanctioned elevator rides) for completion only, if the equine is 60 months old or older.
L1.2.6 A rider may not elevate from any ride sanctioned for less than 25 miles.
L1.2.7 In order for a rider to elevate, the equine he is riding must meet the age requirements for the distance he is elevating into as stated in rule #3 and L3.
L1.3 The sanctioned ride mileage(s) cannot be changed later than 90 days before the ride: points and miles will be awarded according to the mileage for which the ride is sanctioned (see rule 11).
L1.3.1 An exception to the policy is the case where an emergency forces a last minute trail change, in which case points and mileage are awarded according to the actual mileage reported to the AERC.
L1.3.2 A change in mileage and /or ride results certified by AERC may be mandated by the Protest and Grievance Committee or the Board.
L1.4 Limited Distance rides must be regulated by the AERC Limited Distance Ride Rules.
L1.4.1 Limited Distance competitors must be offered a separate and specific briefing on the special features and requirements of Limited Distance Rides.
L2. The equines must be under the control of ~~veterinarians~~ control judges ~~experienced with equines or endurance rides.~~ Control Judges are persons holding a DMV, VMD or PhD in equine physiology and/or biomechanics of equine locomotion, who have experience with equines and endurance rides.
L2.1 The ride must employ at least one ~~veterinarian~~ control judge whose services will be exclusive to that event pre-ride, during the ride, and post-ride. At least one ride treatment veterinarian or control judge must be at the ride site for at least one hour after the last equine crosses the finish line or has returned to camp.
L2.1.1 The AERC Ride Manager's Handbook and the AERC Veterinarian's Handbook must be provided to the ~~veterinarians~~ control judges prior to the ride.
L2.1.2 Control ~~veterinarians~~ judges are ~~veterinarians persons~~ employed by ride management to monitor the equines and counsel riders and ride management on equine welfare as well as to uphold the AERC rules. A control ~~veterinarian~~ judge must be an AERC member, either as a regular member or as a veterinary member. A veterinarian supplying treatment only is not required to be an AERC member.
L2.1.3 A ~~veterinarian~~ control judge who is serving as a ride manager of an AERC sanctioned event is prohibited from serving that same event as a ~~veterinary~~ control official.
L2.1.4 Each equine will receive a substantive ~~physical~~ examination of metabolic and mechanical parameters before the ride, at a minimum of one veterinary control point located at or near the halfway point of the ride, and after the ride. All control points for limited distance rides must incorporate gate into hold criteria. ~~Veterinary~~ Control points are mandatory during the course of all limited distance rides. All AERC sanctioned rides must use an AERC approved rider card for the control ~~veterinarian~~ control judges(s) to record the results of their examinations.
L2.1.5 The ~~veterinarians~~' control judges decisions regarding disqualification must be final and ride management must stand behind the ~~veterinarians'~~ control judges' decisions.
L2.1.5.1 A Ride Manager may not overrule a ~~vet~~ decision on a ~~veterinary~~ "fit to continue ~~"~~matter.
L2.1.5.2 Equines disqualified by the ~~vets~~ control judges must not continue on. This practice by a rider is considered grounds for barring that rider from future rides.

L2.1.5.3 The rider/owner of an equine disqualified by a ride ~~veterinarian~~ control judge should be notified immediately by that ~~veterinarian~~ control judge or the ride manager.
L2.1.6 Management must be confident that there is complete understanding with the ~~veterinarian~~ control judge(s) regarding P&R criteria, any other disqualification criteria, and particularly post-ride criteria for completion.
L2.1.6.1 The setting of ~~veterinary~~ control parameters, including but not limited to pulse and respiration, shall be determined by the head ~~veterinarian~~ control judge. Since the ambient conditions are of prime concern in the setting of parameters, these parameters should not be finalized more than 24 hours prior to ride start.
L2.1.7 All ~~veterinary~~ control checkpoints must be staffed by a ~~veterinarian~~ control judge who will provide the required control. The type of checkpoint and duration of the hold will, in all cases, be designated by the head ~~veterinarian~~ control judge. It is recommended that all checkpoints be of the "gate into a hold" type.
L2.1.8 Equines that are treated or die at rides shall be reported on a form with ride results to be completed by the ride treatment veterinarian or head control judge~~.~~ and submitted with ride results. This information will be kept permanently on file at the AERC office.
L3. The ride must be open to any breed or type of equine.
L3.1 Equines must be at least 48 months old at the time of the ride.
L3.1.1 Age is figured from actual date of birth. In cases of no papers on an equine, a ride veterinarian's opinion and discretion must prevail.
L3.2 Rides may limit the number of competitors provided that prior publicity states the limitation and that all spaces and vacancies are filled on a first come, first served basis.
L3.3 An equine which constitutes a clear danger to other equines and /or persons may be disqualified at any time from competition by the ride manager or ride ~~veterinarian~~ control judge.
L4. Entry to a ride may be refused for cause.
L4.1 Cause is defined as a specific occurrence, substantiated by direct and corroborated evidence of, including but not limited to, one of the following:
L4.1.1 Non-payment of ride fees, such as insufficient funds check not made good.
L4.1.2 Abuse of an equine, such as drugging or continuing to ride after being pulled without the specific permission of a ride vet.
L4.1.3 Abusive harassment of ride personnel, other riders or crews, such as arguing with the ~~veterinarians~~ control judges, breaking in line at ~~vet~~ control checks ~~gates,~~ or deliberately blocking other riders on trail.
L4.1.4 Removing or altering trails markers.
L4.1.5 Cheating, such as deliberate short cuts or deliberately leaving timed holds early.
L4.1.6 An equine determined to be unruly or dangerous may be denied entry.
L4.2 Cause might also be determined by the Board or one of the committees of AERC.
L5. The ride must provide a specific amount of time (total competition time) which will include all stops and holds, and within which competitors must complete the ride to qualify for placing or completion.
L5.1 There may be no minimum time limit for completion.
L5.2 Completion time will be according to the Limited Distance chart in Appendix A.
L5.3 Riding time is the time used by competitors to complete the course and reach criteria, excluding all hold times. This is the time used for AERC ride results.
L5.4 At the finish ride time of the competitor continues until a preset veterinary criteria of 60 heartbeats per minute or less is met. (Finishing time is recorded as the time at which the rider asks for and subsequently meets this preset criteria.) There is no marked finish line on the course that is used to determine placing or completion time.
L5.5 All riders must be notified in writing of cut-off times no later than the pre-ride meeting.
L6. Completion requires meeting all of the following criteria:
a. All riders and mounts must be present and accounted for at the start of the ride.
b. Properly entered in the ride

c. Obeying all the rules
d. Following the prescribed course, and doing multiple loops in the correct order
e. Passing all control points
f. Passing all ~~vet~~ control requirements
g. Finishing within the prescribed maximum time
h. Not being disqualified
i. Meeting criteria at post finish line check.
j. Meeting any other criteria prescribed by ride management.
k. Not having been paced or prompted by an un-entered, withdrawn, or otherwise unauthorized equine, vehicle or person other
than another entrant. This does not preclude the ordinary support services of attendants or pit crews. A crew may accompany
their rider down a public road in a support vehicle (unless there is a ride management prohibition against it) provided they do not
push or haze the equine.
L6.1 A competitor must pass all ~~veterinary~~ control criteria for completion; a competitor who fails any of the other completion criteria
should be pulled from top ten placing, but may be allowed a completion, if in the opinion of ride management, the violation was
not intentional and did not result in making the course easier or shorter.
L6.2 Each AERC sanctioned ride must have a post-finish-line ~~vet~~ examination which the equine must pass for a successful completion,
the criteria to be announced prior to the ride.
L6.2.1 The minimum criteria for the post finish line ~~vet~~ control check are as follows. Any ride may adopt more stringent criteria but
these must be provided to competitors before the ride in written form. The post-finish-line vet check is where the final criteria for
completion must be met; an equine has not completed the ride until he has passed this check. The post -finish-line ~~vet~~ control check also
serves as a safety check to monitor for late-developing problems (so that they can be treated if necessary) as well as extending
~~veterinary~~ control over the last leg of the ride. Because an equine at the finish line is not in actuality going on - and not going into
the wilderness far from veterinary aid-the standards for completion need not be as strict as those on the trail, but they must meet
the minimum standards below. See the Veterinarian's Handbook for more information.
L6.2.1.1 All equines must stand a mandatory post ride evaluation within one half hour of finishing the course. Riders may present
their equines for the final examination at a time of their choosing during the one half-hour period. An equine that does not
meet the established criteria within one half hour of arrival time shall be disqualified. Once a completed horse has passed the post
ride examination, it may not be removed from completion for ~~veterinary~~ control judge reasons.
L6.2.1.2 The equine must reach a reasonable pulse recovery based on ambient conditions, within 30 minutes of arrival time at
all control points during the ride. The maximum pulse criterion is 60 beats per minute. Respiration should be evaluated on its own
merit. Ambient temperature and humidity effects need to be recognized and there effects considered.
L6.2.1.3 The equine must be metabolically stable, sufficient to demonstrate fitness to continue.
L6.2.1.4 There will be no gait aberration that is consistently observable under all circumstances that results in pain or threatens
immediate athletic performance. This examination will be conducted at a trot, or equivalent gait, straight out and back, without
prior flexion or palpation.
L6.2.1.5 Soreness, lacerations, and wounds on the limbs and body—including the mouth—must be noted on the veterinary examination
card. Lesions that are aggravated to a degree that affects the equine's ability to continue may be a cause for failure to
complete the ride. It must be recognized by ~~veterinarians~~ control judges that lesions caused by tack and interference may be from mild to severe
and need to be evaluated on their own merit.

L6.2.1.6 Evaluation of other monitoring parameters must indicate the equine is not in need of any medical treatment. It must be borne in mind that pulse, respiration, and soundness are but three of the important parameters considered in the state of condition evaluation.

L6.2.1.7 The equine may not have received medical treatment by veterinarian or layman prior to the final examination. Any equine that a ride veterinarian advises should be treated for a metabolic or soundness problem, but treatment is refused by the rider or owner, shall be considered in the same light as a treated equine and will be disallowed a completion.

L6.3 All riders who successfully complete the ride must receive a completion award.

L7. If placements are given, they must be determined using the procedure described in L5.3 and L5.4. The ride results will be posted in this order, but no points for placement or for completion will be awarded.

L8. The AERC shall record Best Condition points and mileage for members in Limited Distance rides. All Best Condition points and all miles remain in the Limited Distance Program and are not transferable. Best Conditions will be published.

L8.1 Members whose dues are not paid by February 1st will receive no points or miles for rides held between December 1st and the date their membership is restored.

L8.1.1 These points cannot be recovered, but the miles may be recovered by payment of appropriate Research Fees as established by the AERC.

L8.2 A new member will be able to obtain mileage credit for miles ridden prior to the date of joining AERC by payment of appropriate research fees as established by the AERC.

L8.3 Ride results list all completing riders in order of finish.

L8.4 If a member moves to a different AERC Region prior to June 1st, all Best Condition points and mileage will be recorded in the region to which that member moves; in a move on or after June 1st, all points and mileage remain in the original region.

L8.5 The AERC has two divisions (Senior and Junior) based on the age of the rider, independent of any ride management rules governing junior and senior riders.

L9. An award may be available for the horse judged to be in the Best Condition.

L9.1 The award does not have to be given.

L9.1.1 The ~~veterinarian~~ control judges(s) may feel that none of the horses in contention for the award deserve to receive it.

L9.2 Use of the AERC Best Condition System is optional with ride management.

L9.2.1 Only horses selected as Best Condition using this system (with Best Condition forms returned along with the results) are recognized by the AERC.

L9.2.2 Rides have the option of giving other Best Conditions besides the AERC Best Condition if they wish.

L9.2.3 The AERC recognizes only one Best Condition horse at any one ride.

L9.3 Under the AERC system, all of the first ten finishing horses are eligible for consideration, whether ridden by a junior, featherweight, lightweight, middleweight or heavyweight riders. Keep in mind that the order of finish for Limited Distance riders is determined using recovery time as described in rule L5.4.

L9.3.1 The Ride ~~Veterinarian~~ control judge (s) will be the sole judge of the ~~veterinary~~ horse score portion of the award.

L9.3.2 Ride management determines the weight and time portion of the awards.

L9.3.3 Procedure in the event of a tie (best condition score), the equine among those tied with the highest ~~veterinary~~ horse score will be the winner. If there is still a tie, the equine among those still tied that finished ahead of the other(s) will be the winner.

L9.4 The AERC recognizes a Regional Best Condition Champion Equine (Limited Distance) according to the following system:

L9.4.1 Each member owned equine receiving a Best Condition by the ride shall receive one point per mile of sanctioned ride
length (in the Best Condition point system—those points do not go into the overall point system).
L9.4.1.1 If there are fewer than ten starting equines, the points are reduced by 10% for each starter fewer than ten; that is, if
there are nine starters, the points are reduced by 10%, for eight starters, by 20%, and so forth. However if there is only one starting
equine, no Best Condition points shall be awarded.
L9.4.2 At the end of the ride season, the member owned equine in each Region with the highest number of points in this system,
irrespective of the number of different riders which may have ridden the equine, shall be the Regional Best Condition Champion
for Limited Distance.
L9.4.2.1 Equines must receive at least two Limited Distance Best Condition awards during the ride season to qualify for this
award.
The following rules 10 through 16 apply to all distances.

ENDURANCE & LIMITED DISTANCE RULES

**10. All Junior riders in both full and Limited Distance rides, whether they are AERC members or not, must be accompanied
by a competent adult (21 years or older) sponsor throughout the competition. Junior and Sponsor must ride
together at all times, including entering and leaving all ~~vet~~ control checks at the same time; the only exception being that
at the finish a Junior may finish within the same minute or within the one minute on either side of the sponsor's
finishing minute.**
10.1 A Junior is a rider who was under the age of 16 as of the first day of the ride season in which the ride is held.
10.1.1 All Juniors, sponsored or un-sponsored, must wear approved safety helmets (Approval by AHSA, PCA, ANSIZ90.4, or
Snell).
10.2 Junior riders may participate in AERC competition only with the written consent of a parent or guardian. This consent shall
imply:
10.2a. Acceptance of all AERC rules, particularly the ability of a Junior to substitute a sponsor during a ride as allowed by AERC
rules and regulations; and,
10.2b. Prior consent to any emergency medical treatment or aid.
10.3 An AERC member 14 years or older who has completed 500 miles or more in the AERC rider mileage program may ride unsponsored,
but will compete in the senior division.
10.3.1 Such un-sponsored young rider must have on file in the AERC office a letter by parent or guardian which consents to and
requests un-sponsored status.
10.3.2 The AERC office will then provide a letter for this un-sponsored young rider verifying 500 miles in AERC rider mileage
program, which letter must be presented to ride management at check-in or earlier.
10.3.3 Management may choose not to honor the "un-sponsored young rider" concept and require all persons under 16 years
of age to have sponsors.
10.4 The sponsor must be a competent adult (21 years or older) and must be duly entered as a competitor in the event and sponsorship
must be documented on the Junior entry form complete with sponsor signature, at the time sponsorship begins.
10.4.1 Junior and/or sponsor normally may suspend their sponsorship agreement only at regular stated checks and then only
with the knowledge and consent of ride management, and management's documentation of the change when it occurs.
10.4.1.1 Sponsorships may change between checks only in the event that either competitor or either competitor's mount is unable
to continue safely to a checkpoint.

10.4.1.2 In the event of an emergency and in order to remain in competition, the Junior who is in last place and whose pre-registered
sponsor is pulled, and there are no other qualified sponsors to follow, the Junior may be sponsored by an un-entered qualified
rider through the completion of the ride, with ride management and ride ~~veterinarian~~ control judge approval. He would receive last place junior
points. This emergency sponsor will receive no credit for mileage or points. The Junior may also be sponsored by an adult on foot
from the last ~~veterinary~~ control check with the approval of ride management.
10.5 Infraction of the sponsorship shall result in either the sponsor and/or the Junior being disqualified.
10.6 AERC points must be submitted and recorded per the above regulations independent of ride management's local ride rules
governing Junior and Senior riders.
**11. Sanction requests for new rides, ride date changes, or changes in the ride length must be received for approval
by the Regional Director at least 120 days before the actual ride date, and received by the AERC Administrative Office
at least 90 days before the ride—so that proper notification of the ride can be made to AERC members. Sanctioning
directors may allow, with the approval of the other regional director and the Executive Committee, sanctioning or
ride change requests that are received after the 120/90 day period for emergency purposes only.**
11.1 A non-refundable fee is required with ride sanction or re-sanction applications.
11.2 Special event rides are series of rides on consecutive days, totaling more than three days or 150 miles. Special Qualification
rides are rides with entry qualifications other than those contained in rule #3. Special event and special qualification rides shall
require approval of the AERC Board of Directors for sanction for the first two years.
11.2.1 A petition for such approval must be sent to the AERC Executive Director for distribution to the Special Events Chairperson
and all Regional Sanctioning Directors where the event is to be held at least 180 days before the ride date. Upon approval
the petition will be distributed to the Board for comments. Such petition must include clear rationale for the qualifications and
justification for this specialty ride. The board will render its decision within 60 days. The equines must be under the control of
veterinarian(s) experienced with equines and endurance rides from pre-ride vet exams through the post-ride final vet exam.
11.3 The Ride Manager must be an AERC member.
11.3.1 An alternate manager must be appointed in the event of incapacity of a ride manager or in the event a ride manager
chooses to ride his/her own ride. An alternate manager must be an AERC member. The ride results must report and name the
alternate manager.
11.4 The AERC ride season runs from December 1st through November 30th.
11.5 The starting time of the ride must be included on the sanctioning/re-sanctioning application.
11.6 Rescheduling rides in an emergency. The ride must meet all 120/90 day deadlines, except that a one-day delay, allowing
those already at the site to stay over, can be used in an emergency with the approval of the Sanctioning Director.
11.7 Ride managers wishing to put on more than four events in one season must first demonstrate the events' quality on four
events (including sufficient number of competitors) to the satisfaction of the sanctioning Director.
11.8 A ride offering any single prize valued in excess of $1,000, with the exception of futurities and other contributory schemes
supported by an organization recognized by the AERC, shall engage an AERC steward to monitor the event and shall pay the
steward's expenses.
11.8.1 Said steward shall not be: a rider in that event, of any familial relationship to any rider, ride management, or veterinary

staff in that event or own or have had any financial interest in an equine entered in the event within two years prior to the event;
and said steward shall not have any additional responsibilities within the event.
11.8.2 Said steward shall be selected at the time of sanctioning by the ride manager from a list of three nominees prepared by
the Regional Directors of the region of the event and approved by the Executive Committee of the Board.
11.8.2.1 Said steward must be a current member of the AERC who has both 1,500 career miles and experience as a key member
in ride management.
11.8.3 Duties shall be, but are not limited to: Said steward shall clearly understand that he/she is not to be involved in the management
or judging of an event, but rather is present to insure that the event is run in accordance with AERC Rules and Regulations.
The steward must be available to competitors and management at all times to clarify the application of rules and investigate
any infractions. The steward must submit a written report to the AERC Executive Committee within five days of the event.
11.9 Sanctioning Directors may withhold or remove sanctioning before or during the competition if a ride does not meet AERC
standards, including but not limited to AERC Rules and Regulations and measures dealing with equine and rider safety.
**12. Ride Results must be submitted to the AERC Administrative Office within two weeks after the ride date and must
be accompanied by a starting rider fee. (Fee subject to change. Check with the AERC office.)**
12.1 There is a minimum starting rider fee equivalent to that of four starting riders.
12.2 Ride results received by AERC more than 30 days after the ride incur a penalty of $50.00 plus $2.00 per day over 30 days.
12.3 Thirty days after the mailing of the AERC Newsletter, the ride results printed therein become official and are not subject to
change, unless intentional fraud is proved.
**13. The integrity of Endurance Competition requires that the equine is not influenced by any drug, medication or
veterinary treatment. Endurance equines must compete entirely on their natural ability. AERC prohibits from competition
equines who contain evidence of the administration of abnormal substances or of normal substances in
abnormal amounts (exogenously administered compounds even if normally found endogenously).**
13.1 General Provisions:
13.1.1 The purpose of this rule against the use of Prohibited Substances or Prohibited Treatments in equines during endurance
rides is both to protect the equines from harm and to ensure fair competition. Endurance equines should compete under their
natural abilities without the influence of any drug, medication or veterinary treatment.
13.1.2 Prohibited Substances or Prohibited Treatments as defined in this Rule shall not be administered to or used in an equine
competing in an endurance ride. No equine in which a Prohibited Substance or its metabolite is present shall compete in an endurance
ride, regardless of when the Prohibited Substance was administered to it.
13.1.3 For purposes of this rule, an equine shall be considered to be competing in an endurance ride from the time it passes its
pre-ride veterinary examination until the time it either has been pulled during a ride or is examined for its post ride veterinary
examination after finishing a ride. If the equine stands for best condition judging, it will be considered to be still competing until
the later of its post ride vet check or the best condition judging. Each day of a multiple day ride shall be considered a separate
ride for purposes of this rule, except that equines competing on consecutive days shall be considered to be competing during the
entire time between the rides on those days.
13.2 Prohibited Substances:
13.2.1 The products identified in Appendix A to this rule are Prohibited Substances.

13.2.2 A substance which is not identified by name in 13.2.1 above is a Prohibited Substance if it falls within the categories identified on Appendix B to this rule.

13.2.3 Notwithstanding any other provision of this rule, the products or categories of substances identified in Appendix C to this rule are not Prohibited Substances.

13.2.4 If a substance is not identifiable as a Prohibited Substance under 13.2.1 or 13.2.2 above or is not specifically allowed under 13.2.3 above, it is a Prohibited Substance if it is (a) either an exogenous substance or an endogenous substance administered in abnormal amounts, and is (b) potentially harmful to the equine or performance enhancing.

13.2.5 The AERC recognizes that trace amounts may be detected of some substances which are commonly used for treating equines and which are considered not to influence horses during competition when present under certain threshold levels. The AERC also recognizes that trace amounts may also be detected of substances which have no legitimate use in equines but which are present at extremely low levels from unintentional and unavoidable exposure to environmental contamination. Accordingly, notwithstanding any other provision of this rule, the following specific substances only are not Prohibited Substances if detected in concentrations below the threshold amount corresponding to the substance in the table shown in Appendix D to this rule.

13.2.6 General guidelines for the length of time selected substances remain in an equine's system are set out in Appendix E to this rule. These detection time guidelines are advisory only and are not a part of this rule governing Prohibited Substances. The detection time for a Prohibited Substance varies with the size and health of the equine, the method of administration, dosage, the testing method and the detection limits used by the testing laboratory, among other factors. Accordingly, these detection time guidelines shall not affect the determination of whether or not there has been a violation of this rule. Reliance on these detection time guidelines does not guarantee compliance with this rule.

13.3 Prohibited Treatments:

13.3.1 The treatments or procedures identified in Appendix F to this rule are Prohibited Treatments if administered to an equine while it is competing in an endurance ride.

13.3.2 Prohibited Treatments while an equine is competing in an endurance ride shall also include any diagnostic procedures involving the use of a needle, syringe or other device or instrument except for a stethoscope, heart rate monitor, rectal or skin temperature thermometer, or syringe for the oral administration of permitted substances. Drawing blood or measuring blood parameters by any means including, but not limited to, transdermal methods from an equine while it is competing in an endurance ride is a Prohibited Treatment unless it is done for diagnostic or research purposes and access to results or other information from measuring blood parameters is withheld from the equine's rider, owner and crew from the time the ride starts until after the equine has finished competing in the ride. The intention to draw blood or measure blood parameters by any means from an equine for diagnostic or research purposes must be declared in writing to the head veterinarian at the time of the equine's pre-ride veterinary examination so that there is no misinterpretation during competition of the purpose for using the needle and syringe necessary for drawing blood or instruments needed to measure blood parameters.

13.3.3 The following veterinary procedures are considered Prohibited Treatments even if performed prior to time the treated equine is competing in an endurance ride:

13.3.3.1 Shockwave therapy is a Prohibited Treatment unless performed more than seven days prior to the time the treated equine is competing in an endurance ride.

13.3.3.2 Surgical or chemical neurectomy, whenever it is performed, is a Prohibited Treatment. No equine which has been the
subject of a neurectomy at any time after the effective date of this rule shall compete in an endurance ride.
13.3.4 Notwithstanding any other provision of this rule, the treatments or procedures identified in Appendix G to this rule are
not Prohibited Treatments even if administered to an equine while it is competing in an endurance ride.
13.4 Revision of Appendices:
13.4.1 The appendices referred to in this rule shall be periodically updated by the AERC upon the advice of its Veterinary Committee
and shall be published on an annual basis with the AERC Rules.
13.5 Enforcement Procedures:
13.5.1 Any equine and rider violating this rule at an endurance ride shall forfeit any completion or placing for the ride. The AERC
may impose additional penalties for violation of this rule on any person responsible for the violation. Normally, the rider of the
equine and its owner shall be considered the persons responsible for its custody and care at a ride. Accordingly the rider of the
equine and its owner shall avoid liability for additional penalties for violation of this rule only by showing by clear and convincing
evidence that: (a) some other person outside of the rider or owner's control was responsible for the violation and (b) the rider or
owner bore no fault for the violation.
13.5.2 Every rider or other person in control of an equine at an endurance ride shall upon request by an AERC approved veterinarian
or governmental testing representative permit a specimen of urine, saliva, blood or other substance to be collected from
the equine for testing. Refusing to allow or co-operate with testing for Prohibited Substances at an endurance ride shall be considered
to be the same as the administration or use of a Prohibited Substance and shall be grounds for immediate disqualification
from the event as well as the imposition of additional penalties by the AERC.
13.5.3 The AERC shall with the advice of the Veterinary Committee establish and publish procedures for the testing for Prohibited
Substances. Upon receipt of a laboratory report from an approved laboratory showing the presence in a test sample from an
equine competing in an endurance ride of a substance which may be a Prohibited Substance under this rule, the Executive Director
shall simultaneously transmit by email or telecopy copies of the laboratory report to the Veterinary Committee and the Legal
Committee. The Veterinary Committee shall submit its comments on the laboratory report and any other matters which bear on
the laboratory report to the Executive Director and the Legal Committee within 15 days of receipt of the laboratory report. The
Veterinary Committee shall not communicate with the accused or any member of the AERC not on the Legal or Protest and Grievance
Committees about the material reviewed by the Veterinary Committee or its findings. Upon advice by the Veterinary Committee
and Legal Committee that the laboratory report shows the presence of a Prohibited Substance within the meaning of this
rule, the Executive Director shall immediately file a protest with the Protest and Grievance Committee and forward the Veterinary
Committee's comments on the laboratory report and related matters to the Protest and Grievance Committee. The filing of a protest
by the Executive Director under this rule shall not be subject to the deadlines otherwise applicable to filing protests.

14. Protests

14.1. Introduction. Any AERC member, other than a single event member as defined in the AERC Bylaws, may bring a protest
with the AERC Protest and Grievance Committee alleging violation of AERC Rules by anyone participating in any manner at an
AERC sanctioned ride, including, but not limited to, a rider, horse owner, crew member, veterinarian, ride manager or other ride

management personnel. Anyone contemplating a protest is encouraged to first attempt to resolve his or her complaint informally
by discussing the alleged violation with the person committing the violation and the ride manager or appropriate regional director.
The Protest and Grievance Committee and, in the case of an appeal, the Board of Directors shall apply the AERC Rules and
Bylaws in deciding the protest.
14.2. Protest Procedures.
14.2.1. Time of Filing. Any person bringing a protest (the "protestor") shall file it with the AERC office no later than 30 days after
the ride in question. If an alleged violation does not come to light until the ride results are printed in Endurance News, the protest
must be filed no later than 30 days after the mailing of Endurance News. The date the AERC office receives the protest shall be
considered the date of filing. The deadline for filing a protest in an individual case may be extended by the AERC President in
his or her sole discretion for good cause shown for a period of no more than 60 days from the original deadline. Any such extension
shall be memorialized by the AERC President in writing and filed with the AERC office. Any protest filed after the applicable
deadline shall be rejected by the AERC and shall not be considered on its merits.
14.2.2. Content of Protest. Every protest must be filed using the complaint form attached as Appendix 14A to the AERC Rules.
The complaint form may be amended from time to time by the AERC Board of Directors. The complaint form shall at a minimum
require the protestor to state:
a. The full name and address of the person accused of the violation of AERC Rules (the "respondent");
b. The name, date, location, and manager of the ride where the alleged violation occurred;
c. A summary of the acts of the respondent which constitute a violation of AERC Rules;
d. The AERC Rules, identified by Rule number, allegedly violated by the respondent.
The complaint form must be fully completed and signed by the protestor. The protestor shall file with the complaint form all
evidence which the protestor believes to support the protest. Evidence must be in written form and may include witness statements
by the protestor or other witnesses, photographs, ride records, maps and other relevant documents. Hearsay evidence will
be accepted, but will be accorded less weight than first-hand evidence.
14.2.3. Filing Fee. A filing fee of $150 must be paid by the protestor to the AERC by check, credit card or cash when the protest
is filed. The AERC shall refund the filing fee if the protest is granted.
14.2.4. Invalid Filing. Any protest filed after the applicable deadline or which fails to include the required complaint form or
filing fee shall be rejected by the AERC and shall not be considered on its merits.
14.2.5. Respondent's Opposition. Upon receipt of a properly initiated protest, the AERC office shall immediately transmit the
complaint form and all supporting evidence to the Protest and Grievance Committee. The AERC office shall also notify the ride
manager and appropriate regional directors of the filing of the protest. The Chairman of the Committee shall serve the respondent
by first class mail with written notice of the filing of the protest and with a copy of the complaint form and all supporting
evidence. The respondent shall have 30 days after the date of mailing of the notice of the protest to file written witness statements
and other documents in opposition to the protest. If no response from the respondent is received by the AERC office within
the 30 day period, the AERC office shall attempt to make contact with the respondent by telephone and email and will report the
results of the attempted contact to the Chairman of the Committee. The Chairman of the Committee shall provide the protestor
with copies of all witness statements and other documents filed by the respondent in opposition to the protest. The Chairman of
the Committee may in his or her sole discretion allow the protestor and respondent to file additional written materials within a

time period selected by the Chairman not to exceed 30 days from the time for filing of the respondent's initial opposing papers.

14.2.6. Independent Investigation. The Chairman of the Committee may in his or her sole discretion decide to perform, or direct other members of the Committee to perform, independent investigation of the alleged Rules' violation by interviewing the ride manager or other relevant witnesses. The Chairman of the Committee shall decide how to share the information from any such investigation with the protestor and respondent so that they will have an opportunity to respond.

14.3. Mediation. The Chairman of the Committee shall refer every protest to non binding mediation to provide the protestor and respondent an opportunity to voluntarily settle the matters in dispute, unless the Protest and Grievance Committee decides that mediation of the protest would be futile or inappropriate. The Chairman of the Committee shall select the time during the protest process to refer the protest to mediation. The mediation shall be conducted by a mediator from a panel of mediators approved by the AERC Board of Directors. The mediation shall be conducted telephonically unless the protestor and respondent make arrangements to meet personally with the mediator. The mediation will be conducted in confidence and no position taken or statement made by anyone at the mediation shall be submitted or considered as evidence in any following protest proceedings.

Once a protest has been referred to mediation by the Chairman of the Committee, all time periods for filing written materials will be suspended for 30 days to allow the mediation to occur. If a settlement is reached through the mediation, the protest shall be considered to have been withdrawn and the filing fee paid by the protestor shall be refunded by the AERC office. If the protest is not resolved through mediation, the protest proceeding shall resume after the termination of the 30 day suspension of proceedings.

14.4. Decision. After each of the members of the Committee has reviewed all of the evidence timely submitted by the protestor and respondent, the Committee shall prepare a written decision no later than 60 days after receipt by the Chairman of the final written materials submitted under this Rule. The decision shall summarize the Committee's findings, state whether the protest is granted or denied in whole or in part, assess any penalties and direct any required amendment of the ride results, standings, and rider and horse records or other actions by the AERC necessary to implement the decision. The Chairman of the Committee shall serve the written decision upon the protestor, the respondent and the AERC by first class mail. The AERC office shall copy each member of the Board of Directors with the written decision by email. The President of the AERC may in his or her sole discretion extend in writing the deadline for preparation of the written decision by no more than 60 days for good cause shown. Any failure of the Protest and Grievance Committee to meet the deadline for preparation of the written decision shall result in referral of the protest to the Board of the Directors to decide the protest acting in substitution for the Protest and Grievance Committee.

14.5. Appeal.

14.5.1. Initiation of Appeal. The protestor or respondent may appeal the decision of the Protest and Grievance Committee to the AERC Board of Directors by filing with the AERC office a notice of appeal within 30 days after the date of mailing of the written decision by the Chairman of the Committee. Every appeal must be filed using the notice of appeal form attached as Appendix 14B to the AERC Rules. The notice of appeal form may be amended from time to time by the AERC Board of Directors. The notice of appeal form must be fully completed and signed by the party filing the appeal. The notice of appeal must include the following:

a. A filing fee of $250 paid to the AERC by check, credit card or cash.

b. A written statement of the grounds for the appeal.
A notice of appeal which is not timely filed or fails to include any of the above described items shall be rejected and shall not be considered by the AERC Board of Directors.

14.5.2. Submittals to the Board. Upon receipt of a valid notice of appeal, the AERC office shall serve the protestor, respondent, and the Chairman of the Protest and Grievance Committee by first class mail with a copy of the notice of appeal and the written statement of the grounds for appeal. Any party to the protest who chooses to oppose the appeal may file with the AERC office a statement of opposition to the appeal within 30 days following the date of mailing of the copy of the notice of appeal by the AERC office. After the time to file a statement of opposition to the appeal has expired, the AERC office shall transmit to each member of the Board of Directors a copy of the complete record of the protest, including the original complaint form, all witness statements and other written materials submitted by the protestor and the respondent, all correspondence from the Chairman of the Committee, any written extensions of time periods for filing, any record of investigation or hearing by the Committee and the written decision of the Protest and Grievance Committee, together with all documents timely filed by either party to initiate the appeal or to oppose the appeal.

14.5.3. Record on Appeal. The appeal shall be based only upon the information contained in the record of the protest considered by the Protest and Grievance Committee. The statements of the parties in support of or in opposition to the appeal shall only comment on the record of the protest and shall not contain any new factual information. No additional witness statements or new factual information shall be considered by the members of the Board of Directors in deciding the appeal. The Board may seek an explanation of the Protest and Grievance Committee's decision from the Chairman of the Committee to respond to any points raised in support or in opposition to the appeal.

14.5.4. Decision by Board. The members of the Board of Directors shall have at least 15 days after the complete record of the protest is transmitted by the AERC office to consider the appeal. The Board of Directors shall decide the appeal at the earliest convenient special or regular meeting after the consideration period. The action of the Board of Directors shall be reflected in its minutes. The AERC office shall serve notice of the Board of Director's action by first class mail to the protestor, the respondent and the Chairman of the Protest and Grievance Committee. There shall be no appeal from the Board of Director's decision.

14.6. Official Record. The AERC office will maintain a complete record of the protest, including but not limited to, the complaint form, all written materials submitted by all parties to a protest, correspondence from the Chairman of the Protest and Grievance Committee, any written extensions of time for filing, any record of investigation or hearing by the Protest and Grievance Committee, and the written decision of the Committee as well as any action by the Board of Directors on any appeal. The AERC office will publish a brief summary of the Protest and Grievance Committee's decision and any action by the Board on appeal, including a description of any penalties assessed, in the next two issues of Endurance News following the expiration of the time to appeal the Protest and Grievance Committee's decision or, if there is an appeal, following the Board of Director's action on the appeal.
The AERC Office will correct ride results, standings, and horse and rider records to correspond with the protest decision.

15. Violations and Penalties
When assigning penalties, the Protest and Grievance Committee and the Board will take into consideration such things as severity of the infractions, intentional infractions, repeated infractions, and multiple infractions.

15.1 Individual violations. Violations include, but are not limited to the following:
a. Infraction(s) of AERC Rules and Regulations.
b. Acting, or inciting any other to act, in a manner contrary to the rules of the AERC, or in a manner considered otherwise illegal
or un-sportsmanlike.
c. Physical assault upon a person and/or cruelty to an equine.
d. Failure to obey any penalty imposed by the AERC.
15.2 Individual penalties. If found guilty, the party will be subject to such penalty as the Protest and Grievance Committee, or the
Board, may determine, including but not limited to (more than one penalty may be applied to an infraction):
a. Send a letter to the accused which may contain a warning without further penalty.
b. Censure. A censure penalty makes the reprimand public information and serves to warn the guilty party that further violations
will subject the defendant to heavier penalties.
c. Forfeiture of completion and/or placement in a competition and/or forfeiture of any awards or prizes won in connection with
the offense committed.
d. Suspension of such person for any period from competing. A suspended person is forbidden for the time specified in the decision
from: holding or exercising any office in the AERC; participating in any way whatsoever in any AERC sanctioned ride.
e. Suspension from membership in the AERC.
15.3 Ride Violations. A sanctioned ride is subject to penalty for, including but not limited to the following:
a. Failure to conduct a ride in accordance with AERC Rules and Regulations.
b. Failure of a ride to pay its indebtedness in the AERC or to report ride results within 30 days of ride date.
c. Failure to honor agreements with any ride officials or employees.
d. Knowingly permitting a suspended person to participate in any manner.
e. Permitting acts which are contrary to the rules of the AERC.
15.4 Ride Penalties. A sanctioned ride found guilty of a violation will be subject to such penalties as the Protest and Grievance
Committee, or the Board, may determine, including but not limited to the following:
a. Censure. A censure penalty makes the reprimand public information and serves to warn the ride and its management that further
infractions will subject the ride and its management to heavier penalties.
b. Fine(s).
c. Suspension for any period from the privilege of being sanctioned. This may be applied to the ride and/or ride management.

INTRODUCTORY RIDES

AERC ride managers may elect to host rides sanctioned for less than 25 miles. These rides are designated as "Introductory Rides."
These rides must be included on the sanction form and held in conjunction with an AERC endurance ride.
Introductory rides are subject to Limited Distance Rules with the following exceptions:
1. *No ~~veterinary~~* control point is required during rides sanctioned for 15 miles or less. This does not preclude the pre-ride or postride
exam.
2. Riders may not elevate from an Introductory Ride.
3. No ride longer than 22.4 miles may be run as an introductory ride.
4. No points or miles are recorded for horse or owner and no sanctioning or rider fees assessed.
5. Ride results for these distances should not be reported to AERC, and will not be published.

Appendix

Charts

Limited Distance Maximum Ride Time

Hours : Minutes
Including all Holds and Checks

Ride Length, Miles	25	30	35
Maximum Time:	6:00	7:15	8:30

Endurance Maximum Ride Time

Hours: Minutes
Including All Holds and Checks

Ride Length, Miles 50 55 60 65 70 75
Maximum Time: 12:00 13:15 14:30 15:30 16:45 18:00
Ride Length, Miles: 80 85 90 95 100 105
Maximum Time: 19:15 20:30 21:30 22:45 24:00 25:15
Ride Length, Miles: 110 115 120 125 130 135
Maximum Time: 26:30 27:30 28:45 30:00 31:15 32:30
Ride Length, Miles: 140 145 150
Maximum Time: 33:30 34:45 36:00

Points Per Mile

Senior Division

Place 11+ 10 9 8 7 6 5 4 3 2 1

1 3.0 2.9 2.8 2.7 2.6 2.4 2.2 2.0 1.8 1.5 1.0
2 2.5 2.4 2.3 2.2 2.1 1.9 1.7 1.5 1.3 1.0
3 2.2 2.1 2.0 1.9 1.8 1.6 1.4 1.2 1.0
4 2.0 1.9 1.8 1.7 1.6 1.4 1.2 1.0
5 1.8 1.7 1.6 1.5 1.4 1.2 1.0
6 1.6 1.5 1.4 1.3 1.2 1.0
7 1.4 1.3 1.2 1.1 1.0
8 1.3 1.2 1.1 1.0
9 1.2 1.1 1.0
10 1.1 1.0
11+ 1.0

Junior Division

Place 6+ 5 4 3 2 1

1 3.0 2.8 2.6 2.2 1.8 1.0
2 2.2 2.0 1.8 1.4 1.0
3 1.8 1.6 1.4 1.0
4 1.4 1.2 1.0
5 1.2 1.0
6+ 1.0

Points for Common Ride Lengths

50 Mile

Number of Starters

Place 11+ 10 9 8 7 6 5 4 3 2 1

1 150.0 145.0 140.0 135.0 130.0 120.0 110.0 100.0 90.0 75.0 50.0
2 125.0 120.0 115.0 110.0 105.0 95.0 85.0 75.0 65.0 50.0
3 110.0 105.0 100.0 95.0 90.0 80.0 70.0 60.0 50.
4 100.0 95.0 90.0 85.0 80.0 70.0 60.0 50.0
5 90.0 85.0 80.0 75.0 70.0 60.0 50.0
6 80.0 75.0 70.0 65.0 60.0 50.0
7 70.0 65.0 60.0 55.0 50.0
8 65.0 60.0 55.0 50.0
9 60.0 55.0 50.0
10 55.0 50.0
11+ 50.0

100 Mile One-Day

Number of Starters

Place 11+ 10 9 8 7 6 5 4 3 2 1

1 450.0 435.0 420.0 405.0 390.0 360.0 330.0 300.0 270.0 225.0 150.0
2 375.0 360.0 345.0 330.0 315.0 285.0 255.0 225.0 195.0 150.0
3 330.0 315.0 300.0 285.0 270.0 240.0 210.0 180.0 150.0
4 300.0 285.0 270.0 255.0 240.0 210.0 180.0 150.0
5 270.0 255.0 240.0 225.0 210.0 180.0 150.0
6 240.0 225.0 210.0 195.0 180.0 150.0
7 210.0 195.0 180.0 165.0 150.0
8 195.0 180.0 165.0 150.0
9 180.0 165.0 150.0
10 165.0 150.0
11+ 150.0

***** AERC Board of Directors**
MOTION PROPOSAL

Motion Name Revision of Rule 4

Proposing Committee Rules Committee

Date of Motion (Date to be presented to BOD) August 23, 2008

Classification of Motion Request (new, change, add, delete, by-law, rule, policy) Rule change

Proposed Motion (use exact wording) A motion to adopt the proposed changes to Rule 4 (Denial of Entry)

Background, analysis and benefit (describe the problem this motion is solving) There has been increasing concern by ride managers regarding "Badly Behaving Riders". The current rule gives a "laundry list" of causes for the denial of entry. Anecdotal evidence suggested that the list is not broad enough or inconclusive enough to meet the needs or ride managers and members (who also suffer at the hands of BBR's) Current legal precedent allows individuals or private groups to set reasonable standards for behavior and to deny participation "for cause". The new definition/rule is in keeping with this principle.

Budget effect/impact (Attach spreadsheet if appropriate) None

Benefit and/or Impact to Membership and/or the AERC Organization -Clarifies the rule and helps protect ride managers from the liability posed by BBR's.

Impact on AERC Office (Work load, budget) None other than as part of a larger rule book revision

Committees consulted and/or affected Ride Managers Committee

Implementation plan (Schedule, resources, financial) Effective with the start of the 2009 ride season

Supporting materials (List of any other documents and/or spreadsheets) See attached additions and changes

Supporting approvals (proposing committee, participating committees)

******Rule 4**

4. Entry to a ride may be refused for cause, however

4.1 Entry may not be denied if to do so would violate Federal and State civil rights laws

4.2 Entry may not be denied, if the sole purpose is to intentionally, provide an unfair competitive advantage to one rider over another.

AERC Board of Directors
MOTION PROPOSAL

Motion Name Revision of Rule 14

Proposing Committee Rules Committee

Date of Motion (Date to be presented to BOD) August 23, 2008

Classification of Motion Request (new, change, add, delete, by-law, rule, policy) Rule change

Proposed Motion (use exact wording) Move that the BOD adopt the changes to rule 14 that have been recommended by the P & G committee.

Background, analysis and benefit (describe the problem this motion is solving) Rule 14 was revised and adopted by the BOD in 2007. After working under the new rule, the P & G Committee requested some changes in the newly revised rule particularly in regard to deadlines and the mediation process.

Budget effect/impact (Attach spreadsheet if appropriate) The cost of a new printing of the rule book is roughly $2800.

Benefit and/or Impact to Membership and/or the AERC Organization - The changes should decrease the workload for the P & G and simplifiy the process particularly in regard to the early stages of the protest.

Impact on AERC Office (Work load, budget) Decreases the workload on the AERC office by eliminating some procedures in the protest process. Neither the current version of Rule 14 (or 13A) are in the current rule book. A new version of the rule book with all changes would need to be printed and disseminated to members.

Committees consulted and/or affected - P & G

Implementation plan (Schedule, resources, financial) To be implemented with the start of the 2009 ride season

Supporting materials (List of any other documents and/or spreadsheets) See attached changes and rationale from P & G committee

Supporting approvals (proposing committee, participating committees) P & G

******* Comparison of heart rate variability and echocardiographic measurements in elite and non-elite Arabian endurance horses: predictive value for performance ability and readiness to compete.**

Abstract (Scientific):

The purpose of this study is to determine if fitness status determined by heart rate variability (HRV) in Arabian endurance horses is associated with treatment requirements or failure to finish during competition, and if performance ability and completion rate are related to cardiac dimensions or other echocardiographic indices of cardiac function.

Training and individual fitness most certainly play an important role in all athletic performance. It is difficult to objectively measure “fitness”, however it is assumed as animals become more fit their vagal, or parasympathetic input increases. This is a natural process, and is thought to contribute to the lower heart rates and vagally-mediated dysrhythmias commonly seen in certain fit, athletic breeds of horses such as Thoroughbreds and Arabians. HRV is a non-invasive method of estimating the relative contributions of sympathetic and parasympathetic input, and has been used in people to assess fitness, as well as fatigue, pain, stress and severity of disease. We hypothesize that horses that are able to complete rides (not eliminated for medical treatment), and those that perform better and recover more quickly will have different HRV, more consistent with higher parasympathetic input, than those that are less successful or do not compete in endurance rides. We further hypothesize that HRV should allow recognition of horses that are over-conditioned, which may result in fatigue and physical ailments preventing completion of rides. Over-conditioning has been linked to poor performance, but is very difficult to recognize.

In addition, in Thoroughbred racehorses there is an association between caliber of racehorse, maximal oxygen consumption and certain echocardiographic variables, in the longer distance, more aerobic types of races. Because of the aerobic nature of the sport of endurance racing, we postulate that elite, endurance Arabian horses will have larger left ventricular mass (heart sizes) and better cardiac function than less successful competitors.

We will measure HRV in elite and non-elite Arabian endurance horses, as well as Arabians not used for endurance competition, with a 30 minute ambulatory ECG. We will also evaluate cardiac dimensions and function echocardiographically with a portable ultrasound machine, in these same horses. In order to minimize the effect of excitement from new surroundings and competition, or dehydration associated with travel, all examinations will be performed at the horse's home environment while they are at rest, at a specific time of day.

We will compare heart rate variability indices and echocardiographic findings between the groups to determine if there are significant differences.

Abstract (Lay):

The goal of this study is to see if fitness and appropriate conditioning, assessed by the beat-to-beat variation in heart rate (heart rate variability - HRV), are correlated with ability to finish, performance ability, or metabolic derangements that necessitate treatment. In addition, we wish to determine if endurance horses that perform better have larger heart size and better function, as measured by echocardiography.

Adequate fitness without overtraining and associated fatigue is a critical component of the successful competitor. There are several ways that horses can be evaluated for fitness, such as measuring training heart rates and lactate concentrations, however recently, HRV has been used in human athletes to more sensitively assess fitness and conditioning. It has also been used to assess physical and emotional stress, pain and mortality risk. Fit horses are thought to have a relatively greater parasympathetic nervous system input, and less of a sympathetic component than unfit horses. This contributes to their slow resting heart rates and quicker recovery times in the veterinary holds, during and after a ride. This parasympathetic and sympathetic input can be estimated with HRV. We postulate that those horses that perform better and recover more quickly will have different HRV, with evidence of greater parasympathetic input than those that are less successful. We further hypothesize that HRV may allow recognition of over-conditioned horses that are more likely to be eliminated from competition, or suffer from physical ailments.

Results from studies performed in Thoroughbred and Standardbred racehorses suggest that larger heart size is correlated with superior aerobic (long distance) capacity. Heart size can be estimated with reasonable accuracy from ultrasound of the heart. Since endurance competition is such a highly aerobic sport, we postulated that larger heart size and superior cardiac function would be selected for in elite endurance horses.

We will measure HRV in elite and non-elite Arabian endurance horses, along with Arabians not used for endurance competition, by collecting an electrocardiogram for 30 minutes. We will also compare ultrasonographic findings of the heart in these same horses. We will use a portable ultrasound machine and travel to the individual horses, to examine them in their home surroundings, while in a resting state.

The data obtained from the HRV and ultrasounds will be compared between the groups for significant differences.

Hypothesis and Objectives:

Hypothesis: Elite Arabian endurance horses will have increased heart rate variability and electrocardiographic (ECG) evidence suggesting increased parasympathetic tone than non-elite Arabian endurance horses or non-endurance Arabian horses. In addition, elite Arabian horses will have a larger heart size and mass and better cardiac function, when compared with the other two groups.

Specific Aim 1: To determine if there are differences in heart rate variability between these groups of horses (elite, non-elite, pulled and non-competing Arabian horses), and if this correlates with endurance competition performance data and completion rates.

Specific Aim 2: To determine if there are differences in heart rate variability associated with training/conditioning programs suggestive of over-conditioning in some horses.

Specific Aim 3: To evaluate heart size and function echocardiographically in Arabian horses used for endurance racing, and to compare elite horses with less successful competitors and non-endurance Arabians.

A. Introduction and Rationale:

Endurance horses must be fit to complete rides and compete successfully. The better conditioned they are, the more successful they are likely to be. Arabian horses competing at the highest level in endurance races most likely have superior physical fitness to those that are less successful or cannot complete a ride, and horses completing a ride most likely have either superior physical fitness or fewer physical problems than those unable to finish. However there is a fine line between optimal fitness and overtraining, and horses that have been worked too strenuously before competing can develop fatigue, injury and decrements in performance. Both over-training and inadequate fitness could lead to inability to complete rides by excessively stressing the horse, leading to metabolic or lameness problems in strenuous competition.

In general, fit athletic horses have a remarkable heart rate capacity, ranging from 26-30 BPM at rest to 220-240 BPM during maximal exercise. These ranges are controlled by the influence of the autonomic nervous system on the heart (sympathetic and parasympathetic input). In addition, heart rate variability (HRV), which is the beat-to-beat variation in heart rate, is also a reflection of the influence of the autonomic (sympathetic and parasympathetic) nervous system on the heart[8, 9]. While sinus rhythm is regarded as regular, in normal mammals there are subtle variations in beat-to-beat intervals. These variations are a mechanism allowing the animal to adapt to its environment, which is critical for survival. Loss of this variability, along with other changes in the frequency pattern of the HR can be a sensitive indicator of stress or illness. Therefore, although HRV directly indicates the health and fitness of the cardiovascular system, it may also indicate the health of other body systems and their effect on the heart, and dysfunction in other body systems may be reflected in abnormal HRV patterns. Although labor intensive and mathematically difficult to compute, advances in computer technology have allowed easier assessment of HRV.

HRV has been used in people to evaluate athletic training, overtraining, and fatigue[10, 11]. It has also been used in people and farm animals to assess pain[12, 13], stress[14], severity of disease[15] and mortality risk[16, 17]. A few studies have been conducted to characterize HRV in horses, and to determine the effects of sympathetic and parasympathetic blockade[18]. The effect of training on HRV in Thoroughbred and Standardbred horses has also been evaluated, and these horses were found to have changes in certain HRV patterns as training progressed[19]. A recent study evaluated the effect of long distance transport, which is known to be stressful, on HR and HRV in horses. HRV was a more sensitive indicator of transport stress than HR alone, and may be useful to predict other forms of stress or pain[20]. More recently, HRV has been the subject of evaluation in racehorses residing at racetracks in southern California[a]. These authors found that "the horse's physical well-being was reflected in its HRV pattern."

Differences in fitness, health and exercise capacity in endurance horses may be manifested by alterations in parasympathetic and sympathetic tone controlling the heart, allowing them to recover from strenuous activity more quickly and efficiently. This enhanced recovery should make them less likely to have metabolic failures during a ride (i.e. compete successfully). Abnormalities or extremes in HRV may indicate horses that are not at their peak for competition, and either not perform up to expected ability, or be unable to finish the ride. HRV may be useful to determine readiness to compete and fitness in horses. In addition, it may aid in picking out those horses that should not compete due to risk of injury.

In addition, competitive, elite endurance horses require a superior aerobic ability to successfully complete long distances at a relatively fast pace. Heart size has long been considered a measure of aerobic capacity, as superior equine athletes have been found to have larger hearts and greater maximal oxygen consumptions than their less competitive counterparts[1, 2]. Heart size has been estimated by both electrocardiography (ECG)[3] and echocardiography[4]. While the data surrounding ECG-derived hearts scores are controversial[5], recent studies have suggested a link between echocardiographically-measured parameters and performance in long distance National Hunt horses in the UK[6]. In addition, a study conducted in Standardbred racehorses found that those that performed better had larger hearts[7]. Because a better correlation existed in the horses performing longer distance, more aerobically-demanding races, we

hypothesized that performance of endurance horses, the ultimate aerobic equine sport, would be correlated with echocardiographic parameters predicting heart size and function.

B. Benefits to the equine endurance community

We believe the results of this study should help the endurance community by potentially identifying methods to optimize training strategies based on HRV and cardiac function. This should help to assess if the horse is ready to compete, and potentially to define superior athletic prospects. Perhaps most importantly, we believe HRV may prove to be a marker for horses at risk of serious metabolic problems prior to beginning competition. In short, it may detect problems before they are clinically-apparent.

Proper conditioning, to insure the horse is adequately fit to compete at its best without being over-trained is critical to both success and completion of an event without injury to the horse. Animals without enough training are likely to be unable to finish an event safely or at all; certainly they won't compete at their highest potential. Conversely, if fatigued from overtraining they also may be more prone to metabolic problems or musculoskeletal injury.

Studies have suggested that horses engaged in equine sports demanding increased cardiovascular ability may be superior athletes if they have larger hearts. Larger heart size is considered one of several factors important to better performance by equine athletes, and an association between heart size, the amount of oxygen consumed (aerobic capacity) and performance has recently been shown in National Hunt horses (a type of steeplechase racing in the U.K.). This study estimated heart size with echocardiography, which allows a reasonable estimation of cardiac mass. A recent study in Standardbred racehorses also found that the more successful competitors had larger heart sizes, and that the Standardbreds regularly racing had larger hearts than age matched individuals that had not yet raced.

Equine endurance is one of the premier aerobic sports likely to require greater cardiovascular ability, by nature of the distances raced and the type of competition. Therefore, we hypothesize that elite endurance horses will have echocardiographic evidence of larger hearts and/or better function than either their less successful counterparts or those not used for endurance competition.

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C. Methods:

For this pilot study, a total of 40 horses, divided into 4 groups will be studied. To be included in this study, all horses in Groups 1-4 must be between the ages of 7 and 16 years old.

All horses in Groups 1-3 will have been competing in AERC-sanctioned rides for at least 3 years, and participated in at least 2 100-mile rides in the past year.

Group 1 will consist of 10 elite, competitive endurance Arabian horses. For the purposes of this study, elite horses will be defined as those horses winning or finishing within 30 minutes of the winner in any of the 2008 USEF qualification, ranking rides (100-miles).

Group 2 will consist of 10 endurance Arabian horses, actively competing in endurance rides, but not completing in the top 25% of the competitors nor within 10% of the winning time in any previous rides in spite of having competed for 3 years. However all horses in this group will have completed their most recent 3 rides, and have a < 25% pull rate, overall.

Group 3 will also consist of 10 endurance Arabian horses, actively competing in endurance rides. Horses in this group will have had an incomplete in their most recent 100-mile ride, occurring within the last month. In addition, these horses will have a > 25% pull rate, overall. The incomplete will have been due to elimination for metabolic, cardiac or lameness reasons, not due to rider option or overtime.

In order to be included in groups 1-3, all horses will have competed within the previous month or be in active training, to insure deconditioning has not taken place.

Group 4 will consist of 10 Arabian horses that are not or have not been used for endurance competition or in competitive trail rides.

Each horse will be examined in its home environment, to minimize the influence of travel and ride stress, in order to obtain true resting values. Examination will consist of a physical exam, with specific emphasis on the cardiovascular system, electrocardiograms to assess heart rate variability and a complete echocardiogram. Body weight will be recorded for each horse, based on either weight tape or recent ride records.

Prior to ultrasound, each horse will have an ambulatory electrocardiogram (Holter monitor) placed, and be returned to its regular environment for recording of electrocardiograms (ECG). Horses will have their ECG digitally recorded for 30 minutes before ultrasound begins. All recordings will take place at a specific time of day, to remove potential diurnal variation[21]. Recordings will be performed as close to noon as possible, but always between 10 am and 4pm. These data will be recorded on a computer for later analysis of heart rate variability (HRV). One investigator, blinded to horse identity, will calculate HRV parameters. In addition, heart rate and the presence of any dysrhythmias will be recorded.

Heart rate variability is the beat-to-beat variation in heart rate and is influenced by relative autonomic nervous system control of the heart. It can be calculated over both the time domain and the frequency domain (power spectral analysis). The time domain calculates the R-R interval for each beat in milliseconds, from which various mathematical calculations, such as standard deviations, square root of the mean of R-R intervals, and other manipulations can be performed[8]. The frequency domain requires fast Fourier transformation of the data, to describe the low and high frequency patterns of the heart rate[8]. The ratios of these frequencies are related to sympathetic and parasympathetic input. Although the mathematics are complex and time consuming, there are now sophisticated computer software programs that are capable of performing these calculations. The Holter monitor we will use (Del Mar Reynolds) includes this software.

We will perform both time domain and power spectral analyses of the ECG for each horse over a 20-minute period. We will then compare differences in the mathematical calculations of the time and frequency domain between the different groups of horses, to determine if there are differences between the elite, non-elite, non-completing and non-competing groups. We will also evaluate relationships between completion of rides over the past 3 years, best condition scores, rankings, and rider card data from the most recent competition. In particular we plan to measure the recovery time to compare with parasympathetic tone as suggested by HRV, in the groups that are competing. These groups will also be compared with heart rate and number of dysrhythmias, to determine whether heart rate and rhythm are related to completion data or performance results.

Echocardiographic examination will take place after ECG data has been collected, and will include standard 2-dimensional, M-mode and Doppler assessment from the right and left sides. Two-dimensional images will be standard right parasternal long and short axis views, with M-modes derived from the short axis views[22]. Each valve will be evaluated with color flow Doppler, for the presence of valvular regurgitation. Flow velocity of any valvular regurgitation as well as aortic and pulmonic outflows will be measured with spectral Doppler. Horses will also be evaluated with 2-dimensional, spectral and color flow Doppler from the left parasternal approach. Images will be digitized and recorded on a computer for 2-D and M-mode measurements and grading of any regurgitation off-line, at a later time. Regurgitation will be graded as insignificant (encompassing <10% of the chamber), mild (10-25% of the chamber), moderate (25-50% of the chamber) and severe (> 50% of the chamber). All measurements and analyses will be performed by one investigator, blinded to the specific identity of the horse.

Echocardiographic parameters suggesting larger cardiac mass and better function derived from M-mode, 2-D and spectral Doppler studies will be compared between the groups of horses. We will also evaluate if there are relationships between completion of rides, best condition scores, and recovery time with echocardiographic parameters. In addition, approximate severity of valvular regurgitation as assessed by color flow Doppler will be compared between the 4 groups of horses.

For each horse, their AERC records will be obtained from the AERC website. These records will allow comparisons of ride placement and finish times, completion rates and reason for non-completions. When available, ride card data from all rides in which the horse has competed in the preceding 12 months will be obtained. When possible, we will also obtain information from the owner/trainer regarding conditioning schedule and a copy of the most recent competition vet card.

Echocardiographic measurements will be compared between groups using an analysis of variance (ANOVA). Comparisons of severity of regurgitation will be done using non-parametric tests. Time and frequency domain analyses will be compared between groups using ANOVA. In addition, HRV, ECG and

echocardiographic parameters will be correlated with recovery time using linear regression analysis for the groups competing in endurance races. For all comparisons, $P<0.05$ will be considered significant.

Budget Justification:
Dr. Mary Durando: Principal investigator. Organizing study, help in collection of data, performing HRV analysis, help in analyzing and interpreting data.
Dr. Meg Sleeper, cardiologist from the University of Pennsylvania, School of Veterinary Medicine and Dr. Todd Holbrook, internist from Oklahoma State University College of Veterinary Medicine: Both are collaborators, assisting with organization, recruiting of horses, collection of data, and analyzing and interpreting data.

The majority of the cost we are requesting is for travel and equipment expenses. This study does not entail diagnostic tests to be run, thus there are no charges for clinical laboratory tests. All equipment is currently available, therefore there are no equipment purchase charges; however there are equipment usage fees to help defray University costs for maintenance and repair of the equipment. Ordinarily, a complete echocardiogram would cost the client $300, and an ambulatory ECG would cost the client $275. For research purposes, a $60 fee applies for each of these 80 tests. Other than the 3 main investigators, no technical or student help are required, as we will perform our own examinations, data entry and analysis.

However travel to the individual horses' barns is essential, as in order for these studies to be valid, the horses must be in their home environment. Echocardiographic parameters would be influenced by travel to a ride, because the horses would be excited by new surroundings and the impending competition. It is also likely that they would become somewhat dehydrated after transport, as most horses do not eat or drink normally during travel. The competitors are not at the ride site long enough for horses to become acclimated to their new surroundings before or after competition, and undoubtedly have many physiologic factors affecting their heart and blood volume during this time.

Since the basis of the heart rate variability measurements is evaluation of the autonomic nervous system (parasympathetic and sympathetic input to the heart), this evaluation is also influenced by stress of transport, new surroundings and competition. In direct support of this, one group showed that HRV was a sensitive indicator of transport stress. We wished to minimize the effect of outside stresses on the nervous control of cardiac function.

We believe that the only way to minimize unwanted influences on the heart is to examine the horses' in their own environment, and therefore are requesting travel expenses for this purpose. We should be able to acquire data from multiple horses per barn, and would organize data collection in a way to make the least number of trips to examine a sufficient number of horses in each group. We anticipate that in order to collect data from a sufficient number of horses, two of the investigators will be required to fly to the individual locations, and that travel to a maximum of 8 barns may be required to fulfill the needs of the study. Therefore, airfare of $5,500 should cover 8 trips for two investigators. The car rental, gas and hotel expenses are to cover the cost associated with traveling to these barns, and are expected to cost a total of approximately $1500.

D. Budget:

	Name	Time/% Effort
Salaries/Wages:		
Principal Investigator:	Mary Durando	1 %
Subtotal		**$0**
Expendable Supplies & Equipment:		
Equipment usage (echocardiogram and ECG):		80 x $60 = $4,800
Ultrasound coupling/ECG gel		
Alcohol, Batteries other disposables		$200
Subtotal		**$5,000**

Travel Expenses (average 10 trips required):	
airfare:	$5,500
hotel:	$500
car rental:	$500
gas:	$500
Subtotal	**$7,000**

TOTAL BUDGET REQUEST **$12,000**

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E. We, the investigators, agree that all information obtained through this study will be available to the AERC Committee and members, and, additionally, that publication in a refereed veterinary journal will be sought.

Respectfully submitted,

Mary M Durando