

# The Literature of Endurance Riding

Compiled and Annotated by Janet Chisman  
1997

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## INTRODUCTION

The following list of over 600 references to the **popular** and **research** literature was compiled during a sabbatical from Washington State University (January - June 1997). I used a variety of methods to gather references: searches of databases, review of references in publications found, scanning publications, and suggested sources from fellow endurance riders.

I want to thank all those who helped me in this review and special thanks to WSU for granting me the time to pursue this topic. If you have any questions or have references to add to this listing, please get in touch. I can be reached at 815 E. 11th St, Palouse, WA 99161 or email [chisman@wsu.edu](mailto:chisman@wsu.edu).

See you on the [trail!](#)

**15898**

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## THE POPULAR LITERATURE

This section includes references to books, videos and articles written specifically for the endurance rider. The references in each section are listed with newest items first.

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## BOOKS AND VIDEOS

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## GENERAL

Hollander, Lewis E, Jr (1996): *Endurance Riding: From Beginning to Winning*. Green Mansions, Inc., Redmond, OR. 263 pages.

This fourth edition contains the text and pictures of the previous edition and adds a Part III. This new part start with a little re-introduction to physics in a section on resonant riding. This is riding your horse at each gait at the most efficient speed for that gate - the resonant speed. There is also a two page chapter on the Pizza Diet, feeding a variety of things to your horse. Additional information is

presented on caring for the rider, the fun of Ride and Tie competitions and a winning strategy. The new section ends with some short vignettes from rides during the "old days," and a final chapter on how endurance riding has helped Hollander realize some other accomplishments.

Wilde,Clare (1996): *Endurance Riding: From First Steps to 100 Miles*. Kenilworth Press, Buckingham. 176 pages.

This book covers the main features of endurance riding for both the novice and accomplished rider. Chapters include selecting a horse, feet and shoeing, basic schooling, conditioning, feeding, equipment, personal preparation, crews, starting to compete, longer rides, and prevention and treatment of injury. The author has been endurance riding from the mid-1980's and edits Country and Distance Rider which is a UK magazine devoted to endurance riding.

University of Guelph. Equine Research Centre (1995): *Focus on Endurance I & II*. Resto Graphics, Mississauga, Ontario. 118 pages.

This book contains the proceedings of two seminars sponsored by the Equine Research Centre located at the University of Guelph and supported by the Canadian equine industry. There are two additional papers on supplementing fluid and ion losses. Many of the papers present an overview of current research along with relevant graphs and tables. Although a bit more "scientifically" oriented than the other endurance books in this section, these papers can be understood by the layman interested in the nutrition, conditioning and welfare of his or her endurance horse. Focus on Endurance I includes six papers dealing with thermoregulation and electrolyte management, nutrition, plasma electrolyte levels of the endurance horse during competition, the vet check, conditioning after a lay off and the heart rate monitor. Focus on Endurance II has four papers covering respiration and running, fluid and ion losses, and aerobic fitness. The two supplemental papers deal with electrolyte losses and replacement. Many of the papers include related reading lists. The information provided can help an endurance rider more closely monitor his or her horse's condition and provide what is needed, when it is needed both during and after the ride.

Hodgson,David R; Rose,RJ (Eds.) (1994): *The Athletic Horse: Principles and Practice of Equine Sports Medicine*. Saunders, Philadelphia,Pennsylvania. xii,497 pages.

This book attempts to provide "an understanding of the major body systems involved in exercise, together with interpretation of the results of various research papers" to help produce fitter athletes less vulnerable to injury. Its audience is the scientist involved in equine exercise physiology, although an interested lay person will find much of value. Chapters are organized into two sections. The first covers the physiology of the horse and the second treats practical aspects such as nutrition, performance evaluation, pathologies and conditioning for various sports. Most chapters are followed by an extensive bibliography to the scientific literature. Diagrams, figures, tables and photographs illustrate the text. The editors and 25 contributors are researchers or practicing veterinarians actively involved in research and/or some aspect of equine sports medicine.

Paulo,Karen (1994): *America's Long Distance Challenge: The Complete Guide to the Sport of Endurance and Competitive Riding*. Balnain Books, Nairn. 166 pages.  
Originally published: Dutton, 1990

Hollander,Lewis Jr; Ingram,Patricia (1993): *Endurance Riding: From Beginning to Winning*. 3rd ed. Green Mansions, Inc., Redmond, OR. 231 pages.

This third edition varies only slightly from the second. There is a different introduction to part II. The section on fat supplementation has a note on a new feed available. There is a recommendation for a specific heart rate monitor in addition to the more general recommendation in the 2nd edition.

Loving,Nancy S (1993): *Veterinary Manual for the Performance Horse*. Equine Research Inc., Grand Prairie, Texas. 588 pages.

his is an excellent, straight-forward, understandable manual that covers all aspects of care of the performance horse. Topics covered include conformation, developing strong bones, improving

muscle performance, feet, respiration, conditioning, nutrition, fitness evaluation, leg swelling, tendon injuries, high-tech therapy for injuries, managing chronic lameness, avoiding digestive disorders, internal parasite control, skin ailments, wound management, injectable medications, non-steroidal anti-inflammatory drugs, restraint, managing the confined horse, safe travel, prepurchase evaluation and breeding. There is also a 41-page glossary, a bibliography of over 250 references to the veterinary literature mainly from the 1980's to the early 1990's and an index. Black and white photographs are used to illustrate various conditions. There is also a 1995 re-publication of this book by Blackwell Scientific, but the content is the same as the Equine Research publication.

Hollander,Lewis; Ingram,Patricia (1991): *Endurance Riding: From Beginning to Winning*. 2nd ed. Green Mansions, Inc., Redmond, OR. 231 pages.

As far as I can tell from a close comparison of this 2nd and the 1st edition, the only difference is an updated listing of endurance ride associations and the deletion of the American Morgan Horse Association from the list of breed associations giving endurance awards.

Warren,Nina (Ed.) (1991): *A.E.R.C. Endurance Riders Handbook*. American Endurance Ride Conference, AERC Education Committee, Auburn, CA. 98 pages.

This is a manual by the Education Committee of the American Endurance Ride Council for beginning endurance riders and those considering entering the sport. It can also serve as a good reminder of basics for the fairly experienced rider. Topics covered the American Endurance Ride Council, attending a ride; selection, feeding, conditioning, trailering your endurance horse; equipment, camping with a horse, rider survival, pacing during the race, being a member of a crew and veterinary considerations. Several appendices provide further useful information with a checklist of supplies, AERC bylaws, a glossary and fairly extensive bibliography. The manual is also available on the internet at [www.aerc.com/AERC/Handbook](http://www.aerc.com/AERC/Handbook).

Paulo,Karen (1990): *America's Long Distance Challenge: The Complete Guide to the Sport of Endurance and Competitive Riding*. Trafalgar Square Publishing, North Pomfret, VT. 166 pages. Karen Paulo is a top U.S. endurance rider and this book offers her view of this challenging sport. It covers all the basics in seven parts, each composed of several short chapters. These parts include: Starting out, care and feeding, conditioning, health, equipment, rider preparation and going on the ride. The book concludes with an eighth part - Beyond the Basic Ride which includes chapters on the winning edge, tips on riding the 100-miler, U.S. pioneer, multiday rides, ride and tie, competitive driving and special and international events. The major emphasis of the entire book is conditioning, for both horse and rider, and pacing to finish in good condition. The style presents the necessary information in an easy-to-read way while conveying the excitement and challenge of the sport.

Hollander,Lewis; Ingram,Patricia (1989): *Endurance Riding from Beginning to Winning*. 1st ed. Green Mansions, Redmond,OR.

This first edition of *Endurance Riding: From Beginning to Winning* is a combination affair. Part I consists of the entire book published in 1981 as *Successful Endurance Riding* by Patricia Ingram and Lewis Hollander. The only change here is the replacement of Sharon Saare's Foreword by one by Cliff Lewis. A second part of about 35 pages written by Hollander alone has been added. (See the annotation for *Successful Endurance Riding* for the coverage of part I.) Part II focuses on new information. It contains a chapter with a sophisticated high fat feeding regimen for the serious competitor, electrolytes reconsidered, brief paragraph on the usefulness of heart rate monitors, care and feeding of the rider, vital signs to measure during the ride, some rules for the trail and the vet check to maximize your chances of winning, plus a chapter on crewing for ride and tie competitions and a "Last Word from Lew."

Hyland,Ann (1989): *Riding Long Distance*. (Allen Rider Guides.) J.A. Allen, London. 104 pages.

This is a short overview of long distance riding with a British focus. It is almost an expanded outline of things to be considered for those interested in and wanting to know more about the sport. The author, Ann Hyland, became involved in long distance riding in the late 60's in the United States.

She remains involved in the sport in Great Britain and offers here brief, basic information on types of long distance rides, British associations, the suitable horse, basic care and schooling, planning the season, basic work plan for conditioning, planning to complete a particular ride, riding the ride, care after the ride, assessing the young horse, budgeting, tack and ride assistance. This is a quick read for those on the go.

Parslow,Sue (1989): *Going the Distance: A Manual of Long Distance Riding*. David & Charles, London. 200 pages.

British journalist and long distance enthusiast, Sue Parslow, presents a book on long distance riding for the beginner. She covers the sport from the British perspective with information on the organization of the sport on a country by country basis for an international overview. Chapters on choosing the right horse, how to get started, feeding, veterinary and farriery care, tack, and traveling. A final chapter gives brief descriptions of various rides in Great Britain plus some detailed diaries by various riders on different rides. This gives a personal flavor and provides the view of the sport from a variety of perspectives. There is a very nice chapter on the right qualities for the long distance rider. This is not often covered in the other books on long distance riding. The appendix of ride results gives information on placing/speed of the horse along with its breed, height, sex and age for five major rides in Great Britain.

Hyland,Ann (1988): *The Endurance Horse: A World Survey from Ancient Civilizations to Modern Competition*. J.A. Allen, London. 286 pages.

This book offers a departure from the information carried in most books on endurance riding. Author, Ann Hyland - and endurance rider with more than 20 years experience, has divided her book into three parts. Part one gives a history of endurance feats by the horse from the siege of Troy to the present. The last account of this section introduces the reader to the over 21,000 km two-year journey by two French riders and their Arabian stallions from France to Saudi Arabia and back in 1982. Part two covers the basics of long distance riding that are found in most books on endurance riding: selection of the horse, conformation, schooling and conditioning, crewing a ride, care and competition tactics, feeding, equipment and veterinary considerations. There is also a chapter on the moral issue that I have not found considered in other books. A final chapter in this section celebrates the Arabian. In Part Three "the growth of many of the endurance riding societies of the world is charted: an outline is given of their activities; types of ride offered; scope of events; general rules, and so on." This part includes sections on endurance riding and prominent horses and riders in Great Britain, Australia, Austria, Belgium, Canada, Europe, France, Germany Holland, Italy, New Zealand, Norway, South Africa, Sweden, Switzerland, and the United States of America. A one and a half page bibliography for those who want to read more completes the book.

Drummond,M (1987): *Long Distance Riding*. Howell Book House, New York. 141 pages.

Mary Drummond, freelance journalist, long distance riding enthusiast, ride organizer and veterinary assistant has written a book covering the basics of long distance riding with a British focus. The thirteen chapters cover the qualities of an ideal endurance horse, general care, nutrition and feeding, care of the feet, health, equipment, schooling the horse, fitness for the rider, horse and rider relationship, planning competitions, completing the distance, veterinary judging. She finishes with description of the courses of some of the major British rides. There is an appendix on organizing a ride with addresses for different riding associations in the world (although it omits the principal American association the American Endurance Ride Conference).

Ingram,Patricia; Hollander,Lewis (1981): *Successful Endurance Riding*. Stephen Greene Press, Brattleboro, VT. 191 pages.

Long-time endurance riders Patricia Ingram and Lewis Hollander share their view of endurance riding. The book covers the topics common to most books on endurance riding: a bit of history, choosing the horse and equipment, feeding, conditioning, the ride itself and ride strategy, care after the ride. It also includes a chapter on campaigning the stallion and another on awards and achievements. There is also information on the Endurance Horse Registry of America founded in

1974. The tone of this book is dead serious - no anecdotal tales of various rides to illustrate some principle. Instead you will find sound basic information plus a sharing of formulas that the authors have found to be winners. For instance, Lew outlines his ideas on high-fat and high-protein diets as well as how to formulate them. The research behind these ideas is also discussed briefly. There is a chapter on ride and tie and a final chapter on combining endurance riding with other horse sports to keep your horse fresh and interested. This is a no-nonsense book for those who want not only to complete but to be first across the finish line. Appendices include the usual addresses of trail organizations (emphasis on the United States) and breed associations that promote endurance riding, Lew's own electrolyte mix formula, an American Endurance Ride Conference Best Condition Evaluation Scoresheet and a ride checklist.

Kydd,Rachael (1979): *Long Distance Riding Explained*. Arco Publishing Company, Inc., New York. 96 pages.

This 79 page book gives a good overview of many aspects of endurance riding from a brief history and discussion of endurance riding in different countries through the selection of a suitable horse, training, care, dangers and making the ride. Discussions are not in-depth but give basic information on points that can be explored further in other publications. The first chapter gives a good explanation of the different types of long distance riding.

Kydd,Rachael (1979): *Long Distance Riding Explained*. Ward Lock, London. 96 pages.  
This is another publication of the book also published by Arco Publishing, New York.

Tellington,W; Tellington-Jones,L (1979): *Endurance and Competitive Trail Riding*. Doubleday, Garden City, NY. 314 pages.

This 1979 book focuses on endurance and competitive trail riding in the United States and is an expansion of a 1967 mimeographed manual prepared by the authors for experienced and novice endurance riders. Both authors were active in endurance riding at its beginnings in the United States and the book contains information based on their experiences plus techniques developed at their Pacific Coast Equestrian Research Farm. The book is divided into four parts. Part one involves the contest including sections on a definition of different types of endurance and competitive trail rides and a history of rides in the United States, plus how to manage and judge a ride. There is a chapter by Kerry Ridgway, a well-known endurance ride veterinarian, on judging the horse beyond just taking temperature, respiration and pulse. Part two deals with the horse, its selection, training and conditioning, feeding, and care of feet and shoes. The third section is for trainers, crews and riders covering physical therapy for the athletic horse with another special chapter by Kerry Ridgway on back problems of distance horses. This section also discusses equipment and traveling with horses. The fourth section treats the ride itself including descriptions of some American rides. An appendix lists some magazines of interest, American organizations, and some sample ride schedules for different parts of the country.

Hyland,Ann (1976): *Endurance Riding*. Wilshire Book Co., Los Angeles, CA. 159 pages.

This is another printing by the Wilshire Book Company of the J.P. Lippincott publication. It is on smaller, newsprint type paper. Published in London in 1974 under title: *Beginner's guide to endurance riding*.

Johnson,VW; Johnson,T (1976): *Distance Riding: From Start to Finish*. Houghton Mifflin, Boston. 187 pages.

The Johnsons, mother and daughter, are experienced horsewomen and active members of the Rocky Mountain Conference. They detail the elements of the sport of endurance and competitive trail riding from horse selection, care and conditioning through equipment options and the ride itself - riding, managing and judging. Much of the information is presented in a story format drawing on actual experiences. This conveys not only the facts, but a feel for the sport and its participants. There are also two chapters which give in-depth information about two long-established American rides. The first is the gentle Virginia Ride and the second the rugged Tevis. In the chapter on the Tevis you

will join Tex Johnson as she and her companions make their try at winning a buckle.

Hyland, Ann (1975): *Endurance Riding*. Lippincott, Philadelphia, Pennsylvania. 159 pages.

This is one of the earlier books on endurance riding written by Ann Hyland, an active participant in the sport. It includes information on the development of the sport, choosing the endurance horse, hooves and shoeing, conditioning, training for competitive trail rides, training for endurance rides, horse care and ride tactics, feeding, tack running a ride, rides available and a miscellany of winners. These last two chapters are of particular interest. The rides available give a snapshot of endurance riding in 1974 for an historical perspective. The miscellany of winners provides word portraits of four horses and three riders and gives an idea of the variety of personalities involved in the sport.

Hyland, A (1974): *Beginner's Guide to Endurance Riding*. Pelham, London. 128 pages.

Published in the US by J.P. Lippincott (1975)

Saare, Sharon (1972): *Endurance Riding and Management*. Appaloosa Horse Club, Moscow, Idaho. 54 pages.

Sharon Saare, whose endurance riding career began in 1965, presents a short overview of the sport. The first half briefly covers the selection of the endurance horse, equipment and training.

Information is based on first-hand experience of the author. The last half of the book covers ride management and procedures. Since Ms. Saare is an Appaloosa enthusiast, many of the photographs are of Appaloosas in competition.

Pacific Coast Equestrian Research Farm (1967): *Endurance and Competitive [Sic] Trail Riding Manual*. Pacific Coast Equestrian Research Farm, Badger, CA.

I was unable to obtain a copy of this manual which is a prelude to the Tellington's book "Endurance and Competitive Trail Riding."

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## CONDITIONING

Pilliner, Sarah (1993): *Getting Horses Fit: Improve Your Horse's Performance*. 2nd ed. Blackwell Scientific Publications, London. 252 pages.

The first 14 chapters the same as the first edition with the exception of a few corrections. There is a new chapter on the utilization of nutrients during exercise covers energy sources for the equine athlete, the energy requirements for work, protein requirements, how nutrients are used during exercise, training and energy expenditure, sources of energy to the muscles, hormonal effects, acidosis and alkalosis and feeding for performance (adds a nutritional component in this edition.) There has been extensive reworking of the chapters on interval training and training methods to produce two new chapters. One is on getting the event horse fit and the other on fitness for other disciplines which includes specific recommendations for training the endurance horse as well as the dressage horse, jumper, racehorse and driving horse. There is no change in the information for the endurance training from the first edition. New chapter on equine sports physiology deals with the new discipline of equine sports physiotherapist and their techniques and role in treating the stressed or injured horse. Glossary is updated.

Clayton, Hilary M (1991): *Conditioning Sport Horses*. Sport Horse Publications, Saskatoon, Saskatchewan. 271 pages.

This book contains sections on exercise physiology, practical aspects of conditioning, and conditioning for specific sports which includes a 16 page chapter on endurance riding. This chapter

covers cardiovascular conditioning, strength training, suppling exercises, peaking and tapering, diet considerations, thermoregulation, ride strategy, veterinary checks, clinical problems and other considerations.

Snow,DH; Vogel,CJ (1987): *Equine Fitness: The Care and Training of the Athletic Horse*. David & Charles Inc., North Pomfret, VT. 271 pages.

This book attempts to present basic information and recent scientific research on the care and training of the athletic horse in an understandable in a style that can be understood by the horse owner. It is written by two well-qualified British scientists. David Snow is an active researcher with many published research articles on the demands of exercise and the causes of fatigue in the athletic horse. Colin Vogel is a practicing veterinarian and has published both popular and scientific articles on equine matters. References to endurance competition are made throughout the work. Information on anatomy and locomotion, energy needs, muscles, blood, respiration, thermoregulation are followed by information on training, nutrition and drugs. The text is supplemented by 42 line drawings and 25 black and white plates.

Pilliner,Sarah (1986): *Getting Horses Fit*. Collins, London. 226 pages.

The first 70% of this book on conditioning presents basic information on the physiology and problems and care of the performance horse. The last part focuses on different training techniques: interval training, speedtest and fartleck system, monitoring and methods. There are six pages on the training of the long-distance horse including a training program, pulse and respiration rate, pleasure rides, competitive trail rides, endurance rides and interval training for endurance rides. There is also a glossary with brief definitions of the more technical terms used in the text.

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## LONG DISTANCE RIDES

Tschiffely,AF (1933): *Tschiffely's Ride:Ten Thousand Miles in the Saddle from Southern Cross to Polar Star*. Grosset & Dunlap, New York.

This is a very interesting book describing Tschiffely's ride in the 1920's from Buenos Aires to New York. He was a school teacher in Argentina and wanted to prove the worth of the Argentine Creollo horse. His ride and observations on his horses, the countries he crossed and the customs of the people are very interesting reading. This is an excellent armchair adventure.

## MULES

Sinfield,Patsie (1985): *"Juanita" the Wonder Mule*. Broomtail Publications, Eaglehawk,Vic. 72 pages.

Join Patsie Sinfield as she describes her awakening interest in mules as endurance animals, to her purchase of Juanita, learning how to deal with a mule after handling horses for years, training and participation in endurance rides from 1983 through 1985. This is a "quick" read (only 68 pages) which gives a great perspective on Australian endurance riding as well as the special relationship between a rider and her mule.

## NUTRITION

Research Staff of Equine Research Inc (1992): *Feeding to Win II*. Equine Research Inc, Grand Prairie, Texas. 529 pages.

This book is written for all horseman who want to provide the best nutrition possible for their horses.

It is well-written and very understandable. Chapters include an overview of the equine digestive system; water; vitamins; minerals; energy sources; grains, high protein concentrates, and other additives; supplements, labels, and feed analysis; commercially prepared horse feeds; forages; feeding management; digestive disturbances; internal parasites; and drugs. A final section contains interviews with opinions and practices of experts in the field and participants/trainers in the various performance sports. Darolyn Butler is interviewed for endurance riding. An appendix contains 15 tables with daily nutrient requirements of horses at various stages of life and exercise and nutrient composition of various feeds. There is also a 13-page glossary and an eight-page bibliography to current research and popular periodical articles.

Jones, William E (Ed.) (1989): *Nutrition for the Equine Athlete*. Equine Sportsmedicine News, Wildomar, CA. 97 pages.

This small book is a series of short articles which explore the development of specialized nutrition for the equine athlete "reporting fact, anecdote, and hearsay." (Preface) The 47 reports on various nutritional supplements and feeding practices are short and refer to research when it is available. This is an interesting book that presents good information on many aspects of equine nutrition as of 1989. Although there are no articles specifically on endurance horses, much of the information presented is applicable to horses undergoing this type of athletic performance. Dr. Jones, the editor, emphasizes the need for much more research and warns the reader to "Take what you read here with a grain of salt, and use it as if you were experimenting." (Preface)

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## **PATHOLOGY**

Porter, Mimi (1990): *Equine Sports Therapy*. Veterinary Data, Wildomar, CA. 148 pages.

This small book is written for both the layman and the specialist and covers the role of the equine sports therapist in the overall treatment of the horse. Chapters include the therapeutic use of electricity, ultrasound, laser, heat and cold, massage, stretching, warm-up and flexibility. Chapters follow a similar format with information on the history of the therapy, the physiological responses, uses, definitions and references. The final chapter outlines what an equine therapist does not do, along with a word to the trainer about the fads to which this area is often subjected. This book presents a good introduction and basic overview of the variety of therapies available. The chapter on stretching, warm-up and flexibility has a very good series of photographs illustrating different stretches which would enable any horseman to use these techniques effectively. The author is a former athletic trainer who decided to apply her skills to horses. She emphasizes working closely with the veterinarian who diagnoses the condition and assists in the decision of which therapies would be beneficial.

## **SPECIFIC RIDES**

Lewis, Curtis L; Underwood, Dennis D (1993): *The Great American Horse Race of 1976: A Photographic Documentary*. Mennonite Press, Inc., Newton, KS. 219 pages.

The Great American Horse Race was an event organized to celebrate the 1976 American bicentennial and to set a new record for the longest horse race. The race was intended to extend about 3000 miles from Herkimer, New York to Sacramento California. Lewis and Underwood, two journalists hired to photograph the event, published this book as their mainly pictorial record of the race. It begins with a description of some of the other long horse races in history and then continues with short written description of the course of the race, both physical and emotional, accompanied by a wonderful array of black and white photographs of the participants, their crews, spectators and the

country. The final series of photographs and entries is of the top twenty. The book also has a list of Race Finishers and an Official Rider List which oddly begins with #2. There is also a bibliography listing the sources used in the introductory chapter on long distance horse races.

Savitt, Sam (1981): *One Horse, One Hundred Miles, One Day*. Dodd, Mead & Company, New York. 90 pages.

Horseman and artist, Sam Savitt, presents a very readable narrative about the Tevis Ride. He intertwines stories of the Pony Express rides that inspired the first Tevis with an account of her first Tevis by Karen Tellington and Dr. Richard Barseleau's conditioning of a Thoroughbred for the ride. Much of the book is devoted to Savitt's black and white illustrations. There is a very nice map of the trail giving elevations.

Anon. (1961): *Jim Shoulders 100-Miles-One Day Endurance Ride*. Moore, Oklahoma Sept. 9, 1961. Moore Trailriders, Inc., Lexington, OK. 18 pages.

This is a program for the 1961 Jim Shoulders 100 miles-One Day Endurance Ride. It contains advertisements, descriptions of the various breeds represented and a bit about Jim Shoulders and the Moore Trailriders, Inc.

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## VETERINARIAN

Anon. (1991): *FEI Rules for Endurance Riding*. 3rd ed.  
. Not seen

Anon. (1991): *Guide for Veterinary Service and Judging of Equestrian Events*. American Association of Equine Practitioners, Lexington, KY.

This is the latest edition of the Guide published by the American Association of Equine Practitioners. The Guide has grown from a 17 page manual in 1917 to this 149 page book which covers all phases of the veterinarian's responsibilities in judging the events covered. Chapter one presents guidelines for endurance and competitive trail rides. This covers all aspects of veterinary responsibilities. Chapter nine deals with veterinary service including qualifications, equipment, duties, preparation, pre-ride veterinary examination, rider briefing, records, control and signs of fatigue. This Guide is mandatory reading for any veterinarian involved in judging endurance rides and is an interesting read for the competitor. Its publication is an invaluable service of the Trail and Events Committee of the American Association of Equine Practitioners.

Ellis, Patricia M (Ed.) (1991): *Guidelines for Veterinary Supervision of Endurance Rides*. Australian Equine Veterinary Association, Artarmon, NSW. 34 pages.

This is the Australian Equine Veterinary Association booklet providing basic professional and practical guidelines for veterinarians with clinical experience to officiate competently at endurance rides.

Anon. (1984): *Guide for Veterinary Service and Judging of Equestrian Events*. American Association of Equine Practitioners. Golden, Colorado. 140 pages.

This is the third edition of this publication for veterinarians.

Anon. (1982): *AERC Veterinarian's Handbook*. American Endurance Ride Conference, Auburn, CA.  
Not seen

British Equine Veterinary Association. Working Party on Equine Endurance Events. (1979): *Veterinary Guidelines on Equine Endurance Competitions: British Equine Veterinary Association Working Party Report*. British Equine Veterinary Assn., [s.l.]. 24 pages.  
These are the 1979 guidelines for the examination of horses, diagnosis and treatment of problems encountered in endurance rides in Great Britain.

Barsaleau, Richard B (Ed.) (1974): *Guide for Veterinary Service and Judging of Equestrian Events*. American Association of Equine Practitioners, Golden, Colorado. 72 pages.  
This is the first edition of the guide which is currently (1997) in its fourth edition.

Barsaleau, Richard B (Ed.) (1971): *A Guide for Veterinary Judges of Competitive Trail and Endurance Rides* recommended by the American Association of Equine Practitioners. 1st ed. American Association of Equine Practitioners, Golden, CO. 17 pages.  
This is the first edition of an official guide to assist veterinarians in vetting rides.

## VIDEOS

I did not specifically look for videos on endurance riding, but list here a few that I came across in my reading.

Winter, Dylan (1996): *The Travelling Horse*. Farmington Press Videos Distributed in North America by Diamond Farm Enterprises, New York, NY.  
This video presents some basics of traveling long distance on a horse, not on an endurance ride but just a long ride over a period of time. Four horsemen talk about their preferences in horses, etc. and about their rides in various European countries.

Jacobs, Robert (Ed.) (1989): *1989 Race of Champions*. Horseman Video, Spring, TX.

Anon. (1985): Appaloosas in endurance video. *Appaloosa News* 42(11, November), 209.  
Announcement about a video "Mile After Mile" featuring Appaloosas on endurance rides.

Butler, Darolyn; French, Pat (Eds.) (1984): *Long Distance Riding: Training Guide for Competitive and Endurance Trail Riding*. Farnam Companies, Inc, Omaha, Nebraska.

Mackay-Smith, M; Frazier, D; Butler, D; French, P (1984): *Long Distance Riding: A Training Guide for Competitive Riding and Endurance Trail Riding*. (1 videocassette: sd., col.; 60 min) Horseman Video Showcase, Humble, Texas.

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## MAGAZINE ARTICLES AND CHAPTERS IN BOOKS

This is not a comprehensive listing of articles since many popular horse magazines are difficult to find in libraries. The majority of the articles listed here are from magazines held by Washington State University. Other references to articles were found via searches of online indexes to the literature that included some horse magazines. I am sure there are many more articles in periodicals that I could not locate for review. This is particularly true of magazines published outside the United States.

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### ENDURANCE RIDING PERIODICALS

There are several magazines that are devoted to endurance riding. I did not index the articles in these. Every issue will contain articles of interest to the endurance rider.

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|-------------------------------------|--------------------------|--|
| <i>AERC Endurance News</i>          | 70 High Street Suite 203 | Auburn, CA 95603                       |
| <i>Distance Rider</i>               | Running Bear Farm        | Kitts Hill OH                          |
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### AMERICAN ENDURANCE RIDE CONFERENCE

Stewart-Spears, Genie (1992): AERC 20th annual convention. *Arabian Horse World* 32(10, July), 148-153.

Details of the 20th AERC conference with listing of the national awards.

Shuler, Lucille (1986): Trail smart: A review of the 1986 AERC convention. *Arabian Horse World* 26(11, August), 358, 376-380.

This review of the 1986 convention focuses on the presentations given, especially those by Dr. Ridgway on nutrition, Courtney Hart on selection of the endurance horse and a veterinarian panel on equine sports medicine. National standings are also given.

Shuler, Lucille (1982): AERC's tenth anniversary. *Arabian Horse World* 22(11, August), 151-153. Photographs of 1981 AERC winners are accompanied with brief descriptions and quotes. The occasion is the tenth anniversary of AERC.

Shuler, Lucille (1982): AERC's tenth anniversary. *Arabian Horse World* 22(10, July), 106, 424.

This is more of a preview of coming events (articles) to be presented in *Arabian Horse World* including a list of interviewees for future articles.

Barieau, Charles (1979): AERC: a photo story of the Seventh Annual Awards presentation January 26-28, 1979 Sparks, Nevada. *Arabian Horse World* 19(7, April), 179-182, 187-189.

Lots of photographs make up this article on the 1979 AERC convention. Photos are by Charles Barrieau who has taken many a picture of endurance riding people, horses and activities.

Clagett, Dave (1979): AERC Convention 1979. *Arabian Horse World* 19(7, April), 164-166, 171-174.

An account of the seventh AERC Conference with complete listings of new 2000 and 1000 mile horses, 1978 top twenty-five juniors and seniors, families with more than 2500 miles and 1978 regional award winners.

Suhr, Julie (1979): American Endurance Ride Conference. *Arabian Horse World* 19(4, January), 754, 759.

An "announcement" of the events to take place at the 1979 AERC conference. Includes the nine requirements to be a sanctioned ride, a bit about AERC and some horses now in the Endurance Hall of Fame.

Arnold, Marion Robie (1977): American Endurance Ride Conference presents national awards. *Arabian Horse World* 17(10, July), 100-102, 108-110, 116-118, 124, 126.

A detailed report on the AERC 1977 conference and the 1976 national awards.

Arnold, Marion (1977): National Convention American Endurance Ride Conference. *Western Horseman* 42(4, April), 184.

Report on the fifth annual AERC convention with a listing of the national top ten and the national top ten junior.

Anon. (1976): American Endurance Ride Conference standings as of July 1, 1976. *Arabian Horse World* 16(12, September), 174-175.

A listing of the AERC standings in July, 1976. Categories include: national top ten for seniors and juniors and regional results.

Anon. (1976): American Endurance Ride Conference. *Arabian Horse World* 16(8, May), 344, 348. A report of the 1976 AERC conference with notes on rule changes, top ten seniors and juniors and 1000 mile horses.

Suhr, Julie (1976): American Endurance Ride Conference. *Western Horseman* 41(5, May), 46, 172-173.

Description of the accomplishments of the winner of the AERC national championship and establishment of the AERC Hall of Fame with a list of the top 5 seniors and juniors.

Anon. (1975): A.E.R.C. national top 25. *Arabian Horse World* 15(9, June), 236.

A listing of the AERC top 25 for 1974 with horse, rider, points and mileages.

Suhr, Julie (1975): 1974 American Endurance Ride Conference summary. *Western Horseman* 40(4, April), 101, 144, 146.

Report on the 1974 American Endurance Ride Conference and the events of the year.

Shuler, L (1974): American Endurance Ride Conference - An idea whose time had come. *Arabian Horse World* 14(9, June), 66-68, 70, 74.

An account of the 1974 AERC conference with details of award winners.

Anon. (1973): Fantastic: Year-end record for Arabian geldings - American Endurance Ride Conference, Inc. *Arabian Horse World* 13(7, April), 200-202.

The top ten high point awards for the 1972 AERC endurance season are given with the achievements of each horse listed.

Warren, Jeanette (1972): American Endurance Ride Conference. *Western Horseman* 37(4, April), 44, 124-126.

An article discussing the newly formed American Endurance Ride Conference and the role it will take.

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## COMPARISON OF COMPETITIVE TRAIL AND ENDURANCE RIDING

Barsaleau, RB; Saare, S (1980): Comparison between endurance riding and competitive trail riding. *Canadian Appaloosa Journal* 17(8, August), 25-28.

Compares 25 different areas of endurance riding and competitive trail riding to show the differences in the two sports. First published in *Western Horseman* in July, 1973.

Galbreath, Jim (1975): Competitive and endurance trail riding: two separate, but equally popular, sports. *Arabian Horse World* 15(9, June), 140, 142.

A 14-point comparison of the differences and similarities between endurance and competitive trail riding.

Barsaleau, Richard B (1973): A comparison between endurance riding and competitive trail riding. *Western Horseman* 38(7, July), 64-67.

Compares endurance and competitive trail riding on 25 points.

Warren, Jeanette (1971): Endurance riding versus competitive trail riding. *Western Horseman* 36(7, July), 44, 149.

Covers a variety of differences between competitive trail riding and endurance riding - time limits, judging, awards, horsemanship and physical demands.

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## CONDITIONING

Paulo, Karen (1994): From leisure to lean. *Appaloosa Journal* 49(8, August), 50-56.

Top endurance rider, Karen Paulo, outlines a general conditioning program emphasizing the need to know your horse to be aware of any problems that might develop.

Ridgway, KJ (1994): Training endurance horses. In: *The Athletic Horse*. (Eds: Hodgson, David R; Rose, Reuben J) W.B. Saunders Company, Philadelphia, Pennsylvania, 409-417.

This chapter covers all aspects of conditioning an endurance horse: selection, conditioning period, records, nutrition, conditioning, fitness measures, different types of training, gait and maintaining performance level.

Essen-Gustavsson,Birgitta (1990): Training effects on skeletal muscle. In: *Proceedings of the International Conference on Equine Sports Medicine*. (Ed: Kallings,Peter) Almqvist & Wiksell Tryckeri, Uppsala, 18-23.

Discusses the effects of training on skeletal muscle in horses. The most common effect of training is an increase in oxidative enzymes and blood flow. Intensity and duration of training are important in influencing the adaptive response in the muscle.

Ridgway,Kerry J (1990): Principles and concepts of conditioning the endurance horse. In. *Proceedings of the International Conference on Equine Sports Medicine* (Ed: Kallings,Peter) Almqvist & Wiksell Tryckeri, Uppsala, 40-42.

This brief paper introduces the goal of a conditioning program and discusses tissue adaptation, selection of the horse, discipline and control and the principles of conditioning.

Ridgway,KJ (1989): Conditioning the endurance horse. In: *Equine Sports Medicine*. (Ed: Jones,WE) Lea & Febiger, Philadelphia, 310-312.

A brief chapter outlining a conditioning program with emphasis on 4 and 5-year-old horses. While more general than some articles, if the general principles are followed the horse will be conditioned safely and be ready for a long career in endurance riding.

Thomas,Heather Smith (1989): Conditioning for endurance. *Horse & Horseman* 17(4, June), 60-62,64-65.

Gives a general overview of how to condition for strenuous exercise without outlining a specific weekly program. Discusses the effects of conditioning on heart, lungs, muscles and the bones and ligaments.

Ridgeway,K (1988): Conditioning your horse. Part IV. Preparing endurance horses. *Practical Horseman* 16(6, June), 54B-54H;57-60;63-66.

An excellent article by an experienced endurance rider and veterinarian for conditioning a horse for 100-mile rides. It takes the horse from the pasture through a detailed three year program to condition heart and muscles, tendons and ligaments and bone. It also gives one a good idea of the dedication needed to be a serious endurance rider with a well-conditioned horse.

Ridgway,KJ (1988): Step by step conditioning your horse. *Practical Horseman* 16(6) .

Not seen

Mackay-Smith,Matthew (1986): Training for a long-distance challenge. *Equus* 102, 94-95.

Dr. Mackay-Smith answers a question about conditioning horses for a 40-50 mile trail ride.

Ridgway,K (1986): Conditioning of the endurance horse. In: *Proceedings of the International Conference on Equine Sports Medicine*. (Ed: Anon.) American Association of Equine Practitioners?; Association for Equine Sports Medicine, San Diego, CA?, 72-74. (Proceedings of the International Conference on Equine Sports Medicine; 2)

A brief paper on conditioning a horse for endurance riding.

Hyland,A (1985): Hundred miling. Part 2. *Equi* 25(December/January), 22-24.

Describes the first three months of a six-month conditioning program for preparing a horse and rider for a 100 mile ride in 24 hours.

Young,John Richard (1985): No secret: interval training works. One horseman that specializes in versatility, explains why. *Horseman* 29(11, June), 52-54;56;58.

Arabian horse racing and endurance horse trainer explains her program for conditioning horses. It involves variety in both distance and gaits.

Greasley,C (1984): Distance riding: Part three. *Horse and Rider* 38(382, February), 21-22.

This article gives some general tips on bringing a horse to the level of competition for enjoyment and briefly discusses the European organizations involved in the sport.

Lieberman,Bobbie (1984): A month in the life/...Three horses, three sports, three programs. *Equus* 79(May), 28-29;33.

Gives some general pointers on setting goals, keeping detailed records and increasing the work load. Compares specific programs for an endurance, event and harness horses.

Hyland,A (1983): Endurance riding: Part two. General conditioning of the long distance horse. *Equi* 18(September/October), 12-13;15.

Not seen

Hyland,A (1983): Endurance riding: Part three. Specific conditioning of the long distance horse. *Equi* 20(January/February), 14-16.

Not seen

Paulo,Karen Rodin (1983): Conditioning for endurance. *Western Horseman* 48(8, August), 26-28;32. An experienced endurance competitor presents a very basic, general program for conditioning an endurance horse. Emphasis is on the variability among horses and the need for a program designed to a specific horse's needs and capabilities.

Rodin,Karen (1981): Building the endurance athlete. *Appaloosa News* 38(9, September), 28-30. An experienced endurance rider presents a very general conditioning program for the horse.

Ingram,Patricia (1980): Conditioning for the long run. *Chronicle of the Horse* 43(30, 25 July), 4-5;48.

This article originally appeared in the March, 1980 issue of *Western Horseman*. It outlines the program used by successful endurance competitors Lew and Hanne Hollander.

Ingram,Patricia (1980): Conditioning for the long run. *Western Horseman* 45(3, March), 40-42;44-46.

Outlines well-known endurance riders Lew and Hanne Hollander's program for producing top endurance horses.

Thomas,Heather Smith (1980): Conditioning for endurance. *Chronicle of the Horse* 43(41, 10 October), 51-53.

General tips on conditioning cover the unfit horse, feed, stress, hills, rider and equipment.

Thorson,Juli Smith (1979): Preparing for distance riding (Conclusion). *Horse & Horseman* 6(11, January), 41-43.

Describes a three-month conditioning program to bring a horse into the right condition for its first endurance ride.

Lewis,Cliff; Trent,Loy Ann (1970): Training the endurance horse - to win! *Horseman* 14(9, April), 48-50,52-54.

Endurance rider, Cliff Lewis, discusses his training methods for producing a top endurance horse that moves at a good steady trot.

Gray,Bob (1968): Condition YOURSELF for the tough endurance rides! *Horseman* 12(7, February), 65-69.

Two-time Tevis winner Ed Johnson emphasizes the importance of rider fitness and pacing to winning the long races.

Tellington,Linda; Tellington,Wentworth (1965): Conditioning the endurance horse. Part III

(continued). *Arabian Horse World* 5(7, April), 22-23,26-27,61-62,66-67.

This article discusses care of the horse at rest stops, offers a 12-month training schedule and discusses ride strategy.

Tellington,Linda; Tellington,Wentworth (1964): Conditioning the endurance horse: Part III Training. *Arabian Horse World* 4(9, June), 52.

A short article on what endurance riding requires in the way of the horse's condition.

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## ENDURANCE RIDING

Lloyd,N (1995): Endurance riding is it for you? *Hoofbeats* 16(6, April/May), 24-25.

Gives a description of the sport in Australia: the season, organizations, types of rides and requirements, description of the Tom Quilty Gold Cup and addresses for the State Endurance Riders Associations.

Anon. (1994): Welcome to endurance riding. *Horse & Horseman* 22(5, July), 18.

Brief description of the sport of endurance riding.

Smith,Deborah (1994): Distance rider procedures. *Appaloosa Journal* 49(6, June), 38-39.

This article discusses how riders can use time during holds to improve the welfare of their horses.

Smith,Deborah (1994): Vet check procedures. *Appaloosa Journal* 49(5, May), 19, 74.

A brief account of the purpose of vet checks and what happens at them.

Hecht,Cheryl (1993): Endurance riding. *Equus* 187(May), 71-76.

Gives an overview of the sport covering such topics as how the sport evolved, what you'll see, riding tactics and strategies, how to get involved, what you'll need and a list of associations to contact for more information.

Russell (1993): Happy trails insurance. *Horse & Horseman* 21(10, December), 18-21,65.

Emphasizes the importance of a sound training program to ensure a reliable and safe horse on the trail.

Stewart-Spears,Genie (1993): A victory gone sour. *Western Horseman* 58(5, May), 110-112,114.

Describes how the U.S. endurance team dealt with the quarantine of three of their six horses after competing in and winning the 1992 World Championship Endurance Race in Spain.

Wheatley,J (1993): Blazing saddles - endurance riding in Australia. *Australian Magazine* (16-17 January), 28-32.

Not seen

Kadash,Kathy (1992): Riding balanced. *Western Horseman* 57(4, April), 26-29.

This is a great article with good descriptions and illustrations on riding balanced for your own benefit and that of your horse.

Russell,Sally (1992): Finishing is winning. *Horse & Horseman* 20(7, September), 18-21,64.

Describes the fun of a 50-mile ride while focusing on a sound conditioning program.

Cochran, Terri; Hays, Sophia F Cadwalader (1991): On the long lonely trail. How to be your own best company. *Practical Horseman* 19(5, May), 38-40;67-68;70.

Terri Cochran describes what is needed and the special joys of riding 100 mile endurance rides without a crew - cavalry style or solo. She includes the equipment and supplies she carries.

Meller, Fiona (1991-1992): Endurance is for everyone. *Australian Horse and Rider* 2(6, December 1991/January 1992), 38-40.

This article answers some basic questions and addresses some concerns about endurance riding for those who know little about the sport: My horse couldn't cope, I couldn't cope, I'll need special equipment, what do I wear, can I afford it, how do I get involved.

Anon. (1989): 1988 year-end trail and distance awards. *Appaloosa Journal* 44(6, June), 117-120. Eight bronze medallions are awarded to endurance riders who completed over 350 miles in 1988.

Jacobs, Don (1988): Little...can go a long way. *Horseman* 34(1, August), 76-77. Some pointers on starting a child on endurance riding.

Anon. (1987): Appaloosas going the distance. *Appaloosa Journal* 42(12, December), 120-125. One thousand mile awards are presented. A photograph of each winner is shown along with a few paragraphs describing their horse and achievement.

Anon. (1986): Appaloosa group initiates first Distance Futurity Program. *Appaloosa News* 41(43)(7, August), 66.

The Distance Appaloosa Breeder's Futurity is formed in May 1986 to promote the use of registered Appaloosas in endurance and competitive trail riding.

Jacobs, Don (1986): Powers of endurance. *Horseman* 31(1, August), 40-43,47.

Dr. Sherode Powers, top endurance competitor, shares his views on what makes a winner - training, pacing and the right horse.

Maggitti, P (1986): Hot sports! *Equus* 107(September), 46-50;52;54;86-87.

Endurance riding gets brief mention in this 1986 article on five hot equine sports - polo, jumping, driving, steeplechase racing are also included and get more space.

Anon. (1985): 1984 Bronze Medallion winners: Endurance winners. *Appaloosa News* 42(8, August), 80-81.

Brief accounts with photographs of the endurance winners of the Appaloosa Horse Club's 6 Bronze Medallion for 1984.

Hyland, A (1985): Hundred miling. Part 3. *Equi* 26(February/March), 9-11.

With initial conditioning completed, it is time to test endurance by consistently competing in formal rides.

Hyland, A (1985): Tackling the terrain. *Horse and Rider* 35(5, September), 42-43.

Focus is on preparing for different types of terrain encountered on endurance rides - roads, heavy going, hills, slippery footing and stony trails.

Jacobs, DT (1985): Ten pacing tactics for endurance riding: the horse that wins the race has the rider who knows the pace. *Horseman* 30(4, November), 40-42;45.

The pacing tactics presented here will help the horse and rider go the distance as efficiently and enjoyable as possible.

Jacobs, DT (1985): The heart & soul...of endurance riding. *Horseman* 29(10), 36-37,39-41.

Offers a general description of the sport and a typical ride with some tips on ride strategy, horse care,

average times, traveling different types of terrain and the satisfaction of a race well-ridden.

Anon. (1984): The distance trail riding program. *Appaloosa News* 41(8, August), 20-21.  
Outlines the rules of the distance trail riding program and gives figures on the number of participants since its inception in 1973.

Anon. (1984): 1983 Bronze Medallion winners: Endurance winners. *Appaloosa News* 41(8, August), 27-31.

Descriptive paragraphs and pictures of the 18 endurance winners of the Appaloosa Horse Club's 1983 Bronze Medallion.

Anon. (1984): 1983 Silver Medallion winners. *Appaloosa News* 41(8, August), 25.  
Brief information and photographs of three winners of the Appaloosa Horse Club's 1983 Silver Medallion.

Greasley,Celia (1984): Distance Riding (last in the series). *Horse and Rider* 34(385, May), 25.  
Offers some basics on shoeing, equipment for the ride, signs of fatigue and some do's and don'ts at the ride.

Hyland,A (1984): Hundred miling. *Equi* 24(October/November), 6-8;10.  
Gives the minimum requirements for a 100 mile ride in 24 hours as held in Great Britain. Discusses the requirements of this distance ride, type of horse and the need for a good rest before the conditioning for a 100 mile ride.

Hyland,A (1984): Endurance riding. Part 4: pre-ride vetting and first events. *Equi* 20 (January/February), 14-16.  
Gives a detailed description of pre-ride vetting on a ride in Great Britain, strategies for riding your first ride, and tips on how to get through it all efficiently with the least amount of stress.

Hyland,A (1984): Endurance riding - Part 5. After-ride care and feeding of the long-distance horse. *Equi* 21(April/May), 10-12.  
Part 5 of this multi-part series focuses on caring for the horse after the ride and feeding.

Hyland,Ann (1984): Endurance Riding - Part 6. *Equi* 22(June/July), 4-6.  
The last article in this series covers duties of the crew and tips on hooves and shoeing.

Paulo,Karen Rodin (1984): What to do after the ride. *Appaloosa News* 41(8, August), 72-73.  
A top endurance rider gives advice on taking care of the horse after the ride.

Stimson,Darleen (1984): Getting started in endurance riding. *Arabian Horse World* 24(10, July), 398-399.  
Focuses on the fun of endurance riding, horse selection and conditioning.

Price,June (1983): Live and learn: an endurance diary. *Horseman* 28(4, November), 56-58.  
An amusing blow-by-blow account of the author's first fifty-mile ride on a former show horse with a friend who is an experienced endurance rider.

Young,K (1983): How to get started in the exciting sport of endurance riding. *Practical Horseman* 11(5, May), 15-21;40-41.  
A good overview of the sport covering starting out, picking a first ride, setting objectives, conditioning, the first ride, and advanced strategy.

Anon. (1982): Here are the details. *Appaloosa News* 39(7, July), 65.  
Details of the Appaloosa Horse Club's distance program in 1982.

Anon. (1982): Yes, but can your horse do this? *Appaloosa News* 39(7, July), 88-89.  
Some details of and people involved in the Appaloosa Horse Club's distance program.

Griffith,PB (1982): Tevis talk and training tips. *Horse & Horseman* 10(7, September), 42-44,60.  
A seasoned endurance and competitive trail rider shares some of the knowledge he has gained after thousands of miles on the trail.

Humphreys,S (1982): Luck plays a part - but success is mostly hard work. *Riding Monthly* (March), 26-27.  
Not seen

Rodin,Karen (1982): The first hundred miles: Pacing is the all-important key to preventing fatigue. *Appaloosa News* 39(12, December), 118-120,140.  
Tips on pacing your horse and yourself to complete a 100-mile ride.

Thorson,Juli Smith (1982): The distance program: On the trail with the ApHC. *Appaloosa News* 39 (7, July), 64,86-87.  
A description of the ApHC distance program as it was in 1982 with comments on its positive aspects for the breed and the individual animals and riders.

Beaumont,J (1981): Long distance horse: an introduction to his selection, preparation and schooling. *Equi* 2(January/February), 14-15.  
Not seen

Chelberg,PT (1981): Old Dominion distance riding and run seminar. *Chronicle of the Horse* 44(17, 24 April), 8-9;44.  
Gives an overview of the topics covered in the Old Dominion Distance Riding and Run Seminar - the physiology of exercise, feed, the role of the veterinarian, winning strategy, trail care, and conditioning the horse and rider.

Ingram,P (1981): Competing in an endurance ride. *Chronicle of the Horse* 44(44, 30 October), 8-9;56.  
Describes a typical endurance ride from first light to finish including tips on ride strategy, horse care and warning signs of fatigue.

Ingram,Patricia (1981): Endurance riding is for everyone. *Appaloosa News* 38(3, March), 52-54.  
Some advice from a top endurance competitor on getting started in the sport - horse selection, conditioning, feeding, pulse and respiration.

Ingram,P (1981): How about endurance. *Chronicle of the Horse* 44(23, 5 June), 8-9.  
A short article covering horse selection, benefits of the sport, conditioning the horse, and interval training.

Ingram,P (1981): Preparing for an endurance ride. *Chronicle of the Horse* 44(37, 11 September), 44-45.  
The focus here is on preparing for an actual ride once the horse is conditioned - shoes, worming, what to do the day before and of the ride, equipment and supplies.

McGill,D (1981): Signs of stress; know them. *Horseman* 26(2, September), 76;78;80;82;84.  
This is a good article with pictures that discusses eight signs of stress to watch for and how to do it.

Rodin,K (1981): Strategic endurance riding. Pacing your horse to conserve his energy is the key to successfully completing an endurance ride. *Western Horseman* 46(9, September), 14-16;18.  
Discusses what to do during a ride to improve the probability of a successful completion.

Branscomb,BL (1980): Common equine endurance-related events. *Proceedings of the Annual Convention of the American Association of Equine Practitioners* 25, 323-327.

This paper presented to the American Association of Equine Practitioners defines the various equestrian events that have an endurance component.

Russell,V (1979): What future for long distance riding? *Riding* (October), 32-34.

Not seen

Thorson,Juli Smith (1978): Preparing for distance riding (Part I). *Horse & Horseman* 6(10, December), 28-30,32.

Gives basic information on getting started in endurance riding.

Thorson,Juli Smith (1978): The P&R's of distance riding. *Appaloosa News* 35(7, July), 29-31.

An informative article with good photographs illustrating how to take pulse, temperature and respiration and what you should look for in the results.

Constance,L (1977): Tips on distance riding. *Riding* 37(6), 21.

Not seen

Hollander,Hanne (1977): What can an Arabian do better than any other horse? *Arabian Horse World* 17(5, February), 184-186.

Analysis of endurance ride results in the Pacific Northwest show that Arabians hold the top 16 positions. Descriptions and wins of those Arabians are presented.

Kydd,R (1977): Endurance riding - the last hundred years. *Riding* 37(7, July), 37-40.

Not seen

Plankers,Patrick (1976): Jericho, an endurance horse. *Western Horseman* 41(7, July), 114-116.

Follow a 1200 lb. 14.2 grade gelding and his 6'3" 200 pound rider on the endurance trail. Yes, endurance is for everyone!

Anon. (1973): Upper Midwest Endurance Ride, Inc. *Arabian Horse World* 13(7, April), 178.

Brief report of the formation of the Upper Midwest Endurance Ride, Inc.

Fitzgerald (1973): Pointers on endurance riding. *Western Horseman* 38(3, March), 47-48, 157-160.

Covers the basics of preparing for an endurance ride - horse selection, conditioning, nutrition - with some quotes from top endurance riders on their preferences.

Houlton,Christine (1973): Endurance back-up teams. *Western Horseman* 38(1, January), 86-88, 102, 104.

Who is likely to become a member of the crew and the responsibilities they share are detailed.

Robie,Marion (1972): Endurance ride winners 1971. *Arabian Horse World* 12(10, July), 126, 128, 130, 132, 134.

A year end report on endurance riding in 1971 accompanied by photographs by Charles Barieau.

Warren,Jeanette (1972): Endurance rides of '72. *Western Horseman* 37(3, March), 60-61, 150-151.

Gives basic information on what endurance riding is and lists the rides for 1972 with descriptions of each.

Barsaleau,Richard B (1971): Short trail...any ol' horse - long trail...the Arabian horse!! *Arabian Horse World* 11(7, April), 66,70.

This is a nine-year analysis by breed of the starters and finishers of the Tevis (1962-1970).

Warren, Jeanette (1971): 1971 endurance season. *Western Horseman* 36(4, April), 28, 146, 148, 150. A springtime description of some of the 1971 rides to whet the appetite of the dedicated and the novice.

Warren, Jeanette (1970): Endurance riding in the west. *Western Horseman* 35(4, April), 54-55, 144. Gives a general overview of endurance riding and characteristics of those who participate. Includes some short descriptions of the best-known rides available in 1970.

LeGate, Al (1966): Training tips for the one hundred mile one day ride. *Arabian Horse World* 6(7, April), 33-37.

A brief description of the Tevis followed by what the rider needs to do to prepare a horse for the ride from worming through conditioning and equipment to use.

Anon. (1962): Endurance riding. *Arabian Horse World* 2(12, August), 33, 47.

A continuation of Kester's comments at the 1961 Horse Management Course focuses on some simple rules for endurance riding.

Anon. (1962): Training for the endurance ride. *Arabian Horse World* 2(11, July), 36.

Very abbreviated excerpts from General Wayne Kester's comments at the 1961 Horse Management Course on the importance of horsemanship, the right equipment, conformation and a brief training schedule.

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## EQUIPMENT

Perreault, Bonnie J (1995): Protective headgear. *Appaloosa Journal* 50(2, February), 52, 54.

This article discusses the need for helmets and lists some articles dealing with the effects of head injuries. There is also a list of helmet manufacturers with addresses and phone numbers.

Ecker, Gayle L (1993): Using the heart rate meter. *Equine Athlete* 6(1, January/February), 22-23.

This article discusses reasons for using a heart monitor, getting started, use in training and getting an accurate signal.

Pollitt, C (1994): Monitoring the heart rate of endurance horses, Part 5. *Equine Athlete* 7(1, 1, January/February), 1, 5-7.

The last in this five-part series discusses how to minimize the effects of heat and lactic acid build-up on the horse and emphasizes the value of using a heart monitor.

Pollitt, C (1993): Monitoring the heart rate of endurance horses, Part 1. *Equine Athlete* 6(2, March/April), 6-9.

This is the first in an excellent five part series. This part deals with the relationship between heart rate and performance and work intensity.

Pollitt, C (1993): Monitoring the heart rates of endurance horses, Part 2. *Equine Athlete* 6(4, July/August), 1, 5-7.

Part 2 of this series uses an example of a specific endurance horse to illustrate the usefulness of continuous heart rate monitoring. The importance of interval training is also discussed.

Pollitt, Chris (1993): Monitoring the heart rates of endurance horses, Part 3. *Equine Athlete* 6(5,

September/October), 7-9.

Part 3 considers the effects of weight and conditioning on heart rates.

Pollitt,C (1993): Monitoring the Heart Rates of Endurance Horses, Part 4. *Equine Athlete* 6(6, November/December), 1,6-8.

Part 4 of this five-part series deals with the effects of pain, stress and fatigue on heart rate.

Ecker,Gayle L (1991): Using the heart rate meter. *Equine Veterinary Data* 12(7), 134-135.

This article discusses reasons for using a heart monitor, getting started, use in training and getting an accurate signal. Reprinted from the Equine Research Centre Newsletter.

Hammett,D (1991): Why wear headgear. *Horse & Horseman* 19(6, August), 18-20.

Some facts and figures on head injuries to horseback riders with two stories of personal tragedy emphasizes the wisdom of wearing helmets. A list of manufacturers of Association of Standards and Testing Materials approved headgear is given.

Stewart-Spears,Genie (1991): In a heartbeat. *Western Horseman* 56(9, September), 38-41.

This article outlines the usefulness of the heart monitor in conditioning the endurance horse and gives descriptions of the four monitors available at the time the article was written.

Stewart-Spears,Genie (1989): Fashions and gear for endurance riding. *Western Horseman* 54(7, July), 14-16, 18-22.

You know the sport has "arrived" when fashion becomes a topic of an article. This article covers saddles, stirrups, bridles, breast plates, cruppers, rider's clothing, footwear, helmets, gear and horseshoes available and in use in 1989.

Dangaard,Colin (1988): Recipe for endurance. *Horse & Horseman* 16(1, March), 27.

Endurance rider, Kathy Ray, extols the virtues of her Australian poley endurance saddle in her Tevis Cup ride. The article gives a brief history of the development of the saddle. (The author is president of the Australian Stock Saddle Co.)

Dangaard,Colin (1987): Victorious in an Aussie stock saddle. *Western Horseman* 52(12, December), 112.

Endurance rider, Kathy Ray, extols the virtues of her Australian poley endurance saddle in her Tevis Cup ride. The article gives a brief history of the development of the saddle. (The author is president of the Australian Stock Saddle Co.)

Tobias,Judi (1987): Distance riding gear. *Western Horseman* 52(5, May), 108-111.

Discusses new tack that is being developed for endurance riding.

Butler,Mike (1974): A cross-country adventure. *Western Horseman* 39(6, June), 17, 182-185.

Some advice from Mike Butler on how to prepare for a 1500 mile horseback ride - horses, saddles and pads, equipment, food and water.

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## HISTORICAL

Moore,Jack (1994): Butch, Sundance and Crockett. *Equus* 197(March), 128.

Preservation and expansion of one of the world's most challenging endurance rides, 265 miles in 5

days, is the mission of a lifelong wilderness advocate, Crockett Dumas.

Stewart-Spears,Genie (1993): Romancing the past. *Western Horseman* 58(3, March), 48-53.

A great description of the Outlaw Trail Historical Endurance Ride. There are details of each day of the 5-day, 265 mile ride.

Byczynski,SJ (1990): Tschiffely's cross-continental solo ride. *Western Horseman* 55(9, September), 130-131.

This is a very brief account of A.F. Tschiffely's 25,000 horseback ride from Buenos Aires to Washington DC. The entire account was published in a 1933 book - Tschiffely's Ride and a paperback edition in 1983 - Southern Cross to Polar Star.

Coldsmith,D (1979): Greatest horse race in history. *Western Horseman* 44(3, March), 74;76;78.

This is an account of a 1,000 mile horse race from Chadron, Nebraska to Chicago run in 1893 to prove the stamina and endurance of the western stock horse. John Berry on Poison rode the distance in 14 days to claim the prize.

Johnson,Virginia Weisel (1979): The early days of endurance riding. *Western Horseman* 44(4, April), 110, 112, 114.

This is an interesting article about the disfavor of early endurance rides in the late 19th century and the rules introduced to protect the horse in the Vermont rides sponsored by the Morgan Horse Club and the cavalry rides in the early 20th century.

Anon. (1978): The 1919 United States Endurance Test. *Arabian Horse World* 18(7, April), 104-106, 119.

From the collection of the Arabian Horse Museum comes this tale of W.R. Brown and the Endurance Test he hoped would make Arabians the choice of the U.S. Cavalry. Details of conditioning, judging and the test itself are given.

Taylor,Eva (1976): Across the country on horseback - 1876. *Western Horseman* 41(7, July), 60, 76. An account of a ride across the U.S. in 1876 with some advice for those contemplating competition in the American Bicentennial ride in 1976.

Edwards,Gladys Brown (1972): Once over lightly... Competitive trail and endurance riding in the U.S.A. *Arabian Horse World* 12(5, February), 148-150, 152, 154, 158, 162, 164, 166, 168.

This article begins with an account of the 1913 endurance competition between Arabians and Morgans and continues with an overview of other endurance contests through brief accounts of present day (1972) rides.

Horning,Nonie F (1968): The great horse race. *Western Horseman* 33(11, November), 52, 139-142. An account of a 500-mile endurance race from Evanston, Wyoming to Denver, Colorado held in 1908.

Anon. (1962): 300 miles in five days. *Arabian Horse World* 3(3, November), 31,43.

Final installment on a General Kester's Endurance Riding lecture contains training and feeding schedules used by the 3rd Cavalry Team of Ft. Meyer Virginia to win the Eastern Endurance Ride of 1924, 1925 and 1926 (300 miles in five days ride).

Huidekoper,Elliott (1957): Arabian endurance feats in the Mid-Twentieth Century. *Western Horseman* 22(11, November), 23, 63-67.

Summarizes many of the Arabian's endurance accomplishments.

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## LONG DISTANCE RIDES

These are not official endurance rides, but I enjoyed reading about them and decided to include them for your enjoyment too.

Kay, Gigi (1988): A ride through Mexico. *Arabian Horse World* 29(1, October), 238-245.  
Mounted on Arabians, Gigi Kay and a friend ride six months through Mexico from Chihuahua to the tropics of the southeast.

Speir, Vicki Ives (1986): Trekking on horseback across South Australia. *Horseman* 31(5, December), 42-45.  
A 600 mile ride across South Australia to celebrate Australia and Texas' 150th birthday.

Eckelberg, Mary Ellen (1980): My adventures with Sahnson. *Horse & Horseman* 7(11, January), 38-41.  
Trouble on a trestle points up the importance of training and the author finds out that a thousand miles teaches many lessons.

Eckelberg, Mary Ellen (1980): My adventures with Sahnson: Day-to-day life on the road has requirements for comfort and traveling ease. *Horse & Horseman* 7(12, February), 66-69.  
This installment gives details of equipment and supplies carried on the way to New Orleans.

Eckelberg, Mary Ellen (1980): My adventures with Sahnson: The ride concludes as the author struggles toward a winter rendezvous - and separation. *Horse & Horseman* 8(1, March), 34-37.  
After a leisurely ride back up the Mississippi, the author outfits in winter gear for her return to St. Cloud, Minnesota and her separation from Sahnson.

Eckelberg, Mary Ellen (1979): My adventures with Sahnson: A 6400-mile ride takes tons of preparation, and you can benefit from the author's findings. *Horse & Horseman* 7(8, October), 18-22.  
A 6400-mile ride down and then up the Mississippi River begins with choice of horse and training.

Eckelberg, Mary Ellen (1979): My Adventures with Sahnson. *Horse & Horseman* 7(9, November), 18-21.  
Detailed discussion of saddle and other equipment.

Eckelberg, Mary Ellen (1979): My Adventures with Sahnson: Voracious mosquitoes are encountered in this third segment, and the author faces choices. *Horse & Horseman* 7(10, December), 46-49.  
The ride begins in Winnipeg in May, 1975 in a cloud of mosquitoes. Author describes the first weeks and the advice, both good and bad, she receives along the trail.

Eckelberg, Mary Ellen (1978): The great river ride. *Arabian Horse World* 18(9, June), 428-430, 436, 438, 444-445.  
Tells of the return up the Mississippi with a focus on Sahnson, his temperament and conformation.

Eckelberg, Mary Ellen (1976): We made it: Mary Ellen Eckelberg and Sahnson on the great river ride. *Arabian Horse World* 16(6, March), 68-70.  
A letter describing the finish of Eckelberg's from Canada to New Orleans down the Mississippi.

Zinberg, Margo (1975): Trailblazing equestrienne embarks on bicentennial Great River Ride.

*Arabian Horse World* 15(10, July), 207.

An introduction to Mary Ellen Eckelberg and Sahnson as they begin their ride down the Mississippi in 1975. Lists her July itinerary.

Schultz, Kyle Ann (1980): Alone on the Santa Fe Trail. *Western Horseman* 45(11, November), 7-9. A two-month thousand mile ride along the old Santa Fe Trail from New Mexico to Missouri by a college student, her horse and dog.

Maybee, Cher; Maybee, Allan (1979): The Santa Fe Trail Part I. *Arabian Horse World* 19(5, February), 312-314, 319.

The ride of the Santa Fe Trail begins with selection of Arabian horses for mounts and a bit of history of the trail itself. This first installment sees the eight horseman begin the adventure.

Maybee, Cher; Maybee, Allan (1979): The Santa Fe Trail Part II. *Arabian Horse World* 19(6, March), 242-247.

The eight riders are joined by a 9th in Kansas, have some horse problems solved by a change in diet, battle insects, cross the half-way point at Dodge City and head ever westward.

Maybee, Cher; Maybee, Allan (1979): The Santa Fe Trail Part III. *Arabian Horse World* 19(8, May), 182-187, 191-192, 194.

The last installment on the 900 mile Santa Fe Trail ride finds the riders crossing into Colorado still to face the desert and 425 more miles of trail. As they enter Santa Fe we find them planning a ride of the Mormon Trail.

Bingham, Rick (1977): The Great American Horse Race- Credit where credit is due. *Arabian Horse World* 17(9, June), 162-164, 166, 168-170.

Rick Bingham who took charge of the race when it seemed to be falling apart gives his view of the people who made it work.

Anon. (1976): The Great American Horse Race New York to California. *Arabian Horse World* 16(8, May), 317-318.

Details some of the planning for the Great American Horse Race to begin on Memorial Day, 1976.

Anon. (1976): The Oregon Trail. *Arabian Horse World* 16(10, July), 326-332, 334-335.

This article outlines the preparation for a 2200 mile bicentennial ride from Missouri to Oregon on the Oregon trail by eight riders on Arabian horses. Brief descriptions of riders and horses are also given.

Anon. (1976): The Oregon Trail Part II. *Arabian Horse World* 16(11, August), 68-70, 75-78, 84.

Mixes historical facts with life on the trail as the riders gear down to a slower pace of life.

Hummel, Cher; Maybee, Allan (1976): The Oregon Trail Part III. *Arabian Horse World* 16(12, September), 35-37, 43-46.

Weary riders continue the journey toward its destination.

Butler, Mike (1974): The Canada-Colorado trail: Part 1. *Horse & Horseman* 2(5, July), 26-28, 30, 59, 64.

Part-time cowboy and student Mike Butler accepts a bet to ride 650 miles in 20 days from Canada to Deadwood, South Dakota. He wins the bet and decides to ride on to Utah after convincing his wife who is afraid of horses to accompany him.

Butler, Mike (1974): The Canada Colorado trail: Part II Wyoming's harsh environment contains both delights and dangers! *Horse & Horseman* 2(6, August), 24-27.

The Butlers continue their ride across Wyoming, run out of money and into the hospitality of strangers.

Butler, Mike (1974): The Canada-Colorado trail: Conclusion. *Horse & Horseman* 2(7), 40-43, 62. After being inundated with rain and trapped in a flash flood, the Butlers' saga ends as suddenly as it began.

Mann, Colin (1974): Lone ride across Australia. *Western Horseman* 39(1, January), 42, 127-129. A 21 year-old Australian rides across his country on a 5300 mile odyssey interrupted by temporary work when the funds run low.

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## MULES

Ribley, Robert (1993): Long-distance long-ears. *Western Horseman* 58(11, November), 190-191. A mule owner and active endurance rider talks about choosing a mule for endurance, equipment, conditioning, feeding, and behavior traits.

Schultz, Sharon (1969): Archie our 100-mile mule. *Western Horseman* 34(9, September), 114-115, 175-176, 178.

Schultz tells of her experiences with her mule Archie as she prepares for and rides the 1968 Tevis - the second mule to do so.

Robie, Wendell (1963): Robie: More on the Tevis Cup 100-miler. *Arabian Horse World* 3(10, July), 38,40.

Robie recounts some adventures of Chongo, an endurance mule.

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## NUTRITION

Hanson, RR; Pugh, DG; Schumacher, J (1996): Feeding equine athletes. *Compendium on Continuing Education for the Practicing Veterinarian* 18(2), 175-182.

An excellent overview for veterinarians (but also for the serious endurance rider) on the nutrition and feeding of adult performance horses is presented, focusing on the use of body condition scoring to evaluate energy balance. Covers requirements of forage, grain, fat and minerals for different performance horses. Includes a good list of references and also some review questions.

Frape, DL (1994): Diet and exercise performance in the horse. *Proceedings of the Nutrition Society* 53(1), 189-206.

Nutritional requirements in relation to physical activity in the horse are reviewed with some mention of endurance racing. There is one section on feeding before endurance exercise that is of interest.

Hintz, HF (1994): Nutrition and equine performance. *Journal of Nutrition*. 124(12s, Supplement, Dec), 2723S-2729S.

This paper gives an overview of the research on energy, protein and vitamin E nutrition of the performance horse including endurance athletes.

Snow,David H (1992): A review of nutritional aids to energy production for athletic performance. *Equine Athlete* 5(5, September/October), 1,6-10.

Discusses the findings published in the research literature on glycogen repletion and loading, fat and carnitine supplementation.

Lawrence,LM (1990): Nutrition and fuel utilization in the athletic horse. *Veterinary Clinics of North America Equine Practice* 6(2, Aug), 393-418.

This is a detailed review article with 143 references covering all aspects of nutrition and fuel utilization in athletic horses involved in all types of competition.

Meyer,H (1986): Nutrition of the equine athlete. In: *Equine Exercise Physiology 2: Proceedings of the Second International Conference on Equine Exercise Physiology*. (Eds: Gillespie,Jerry R; Robinson,N Edward) ICEEP Publications, Davis,California, 644-673.

This review article presents the state of knowledge of nutrition and the athletic horse in 1986. The first part of the paper discusses requirement figures for the exercising horse while the second section gives some practical recommendations about ration calculation and feeding techniques.

Mackay-Smith,Matthew (1988): Energizing the endurance horse. *Equus* 123, 104-105.

Advice from veterinarian and endurance rider Mackay-Smith to a letter of inquiry on feeding the endurance horse.

Drummond,M (1985): Feeding for fitness - a case study. *Riding* 50(7, July), 10-11.

Not seen

Ingram,P (1981): Feeding endurance horses. *Chronicle of the Horse* 44(33, 14 August), 53-54.

Presents one outlook on feeding endurance horses, but notes that this is still more art than science.

O'Sullivan,A (1981): Watering the endurance horse. *Equi* 6(September/October), 26-27.

Not seen

Hinton,M (1978): On the watering of horses: a review. *Equine Veterinary Journal* 10, 27-31.

This author reviews the literature of 150 years on watering horses and finds much conflicting information. He discusses water requirements, quality of the water supply, and advice on watering horses including frequency, in relation to feeding, before work, during work, and after work as well as the consequences of water deprivation. After each section the author presents his conclusions on what is the most reasonable information from that presented.

Tellington,Linda; Tellington,Wentworth (1964): Conditioning the endurance horse. Part II Feeding. *Arabian Horse World* 4(7, April), 57-58,68.

Presents Tellington's views on proper feeding of the endurance horse.

Tellington,Linda; Tellington,Wentworth (1964): Conditioning the endurance horse: Part II (Cont.). *Arabian Horse World* 4(8, May), 56-58.

A continuation of the discussion of diet with presentation of a high efficiency diet to be initiated six months before a horse competes.

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## **PATHOLOGY**

Most of the articles here are written for veterinarians and published in their professional journals. However, they are not research articles per se, are quite understandable and will be of interest to the endurance rider as well as the veterinarian.

Flaminio,MJBF; Gaughan,Earl M; Gillespie,Jerry R (1996): Exercise intolerance in endurance horses. *Veterinary Clinics of North America, Equine Practice* 12(3, December), 565-580.  
Provides an overview of the major problems encountered by endurance horses and the physiological basis for them.

Hines,Melissa Trogdon; Schott II,Harold C; Bauly,Warwick M; Leroux,Annette J (1996): Exercise and immunity: a review with emphasis on the horse. *Journal of Veterinary Internal Medicine* 10(5, September-October), 280-289.

The relationship between exercise and immunity is complex. It is possible that moderate exercise strengthens the immune system, while brief high-intensity and prolonged exhaustive exercise have suppressive effects.

Lynch,Betsy (1995): Distinguishing between tying up and colic. *Western Horseman* 60(4, April), 108,110,113-114.

This article discusses the differences in symptoms and treatment of horses with colic and those experiencing exertional rhabdomyolysis.

Rogers,Allison (1995): The longer road to recovery. *Equus* 215(September), 15-16.

Measures of plasma aldosterone levels 16 hours after an endurance ride show the horse is not recovered and still requires plenty of water and salt.

Sloet van Oldruitenborg-Oosterbaan,Marianne M (1995): The treatment of the exhausted horse under field conditions, Part 1. *Equine Athlete* 8(3, May/June), 1,7-11.

Outlines the treatment of the exhausted horse including metabolic conditions of the endurance horse. (Also published as part of *Equine Practice*. 1994. 16(8):27-31)

Sloet van Oldruitenborgh-Oosterbaan,MM (1995): The treatment of the exhausted horse under field conditions. Part 2. *Equine Athlete* 8(4, July-August), 10-12.

Outlines the treatment of the exhausted horse including problems encountered in the field such as equipment and medication, cannulation of a vein, and estimating requirements.(Also published as part of *Equine Practice*. 1994. 16(8):31-33)

Thomas,Heather Smith (1995): Signs of fatigue. *Appaloosa Journal* 49(8, August), 49-50.

Enumerates the symptoms that indicate a horse is beginning to be fatigued.

Feldman,J (1994): Principles of sports medicine for the endurance and eventing horse. *Journal of Equine Veterinary Science* 14(6), 331-332.

Mills,Cynthia (1994): Overworked. *Equus* 196(February), 46-51.

This article shows how to tell when a horse is moving from peak condition to being overtrained.

Schott,HC; Naylor,JRJ; Hodgson,DR (1990): Aspects of heat production, dissipation and exhaustion in the exercising horse. Part 3 - Heat exhaustion. *Equine Athlete* 4(2, March/April), 16-19.

Reviews the clinical signs, preventive measures and management of heat exhaustion in the exercising horse.

Frazier,Dane L (1991): Synchronous diaphragmatic flutter. *Proceedings of the Annual Convention of the American Association of Equine Practitioners* 36, 833-834.

Discusses SDF - its causes, treatment and prevention.

Monreal,L; Lavin,S; Vinas,L (1991): Physiopathology of exercise in horses. II. Prolonged exertion on endurance rides. (Fisiopatologia del ejercicio en el caballo. II. El esfuerzo prolognado o de resistencia). *Medicina Veterinaria* 8(1), 7-24.

This review considers exercise physiology and the clinicopathologic changes due to heat stress and thermoregulation in endurance horses. These changes produce electrolyte and acid-base disturbances that induce some clinical diseases in the horse.

Tomlinson,C Mike (1991): Exhausted horse syndrome. *Proceedings of the Annual Convention of the American Association of Equine Practitioners* 36, 835-837.

Schott,HC; Hodgson,DR; Naylor,JRJ; Bayly,WM (1990): Thermoregulation and heat exhaustion in the exercising horse. *Proceedings of the Annual Convention of the American Association of Equine Practitioners* 36, 505-513.

Explains the generation of heat in the horse during exercise, the mechanisms of heat dissipation, and heat exhaustion as a consequence of exercise hyperthermia.

Snow,David H (1990): Fatigue and exhaustion in the horse. In: *Proceedings of the International Conference on Equine Sports Medicine*. (Ed: Kallings,Peter) Almqvist & Wiksell Tryckeri, Uppsala, 24-27.

Discusses the difference between fatigue and exhaustion and various strategies to take to avoid fatigue. The exhausted horse syndrome is briefly discussed.

Dwyer,RM (1986): The practical diagnosis and treatment of metabolic conditions in endurance horses. *Equine Practice* 8(8, September), 21, 24-25, 28, 31-33.

This is an overview article for the veterinarian that presents clinical signs, pathophysiology, and treatment for the four most commonly occurring conditions in endurance horses: dehydration, synchronous diaphragmatic flutter, exertional rhabdomyolysis and exhausted horse syndrome

Harris,P; Snow,DH (1986): Tying up the loose ends of equine rhabdomyolysis. *Equine Veterinary Journal* 18(5), 346-348.

Reviews the literature on equine rhabdomyolysis.

Dwyer,RM; Thompson,LS (1985): The practical diagnosis and treatment of metabolic conditions in endurance horses. *Iowa State University Veterinarian* 47(1), 15-21.

This is an overview article for the veterinarian that presents clinical signs, pathophysiology, and treatment for the four most commonly occurring conditions in endurance horses: dehydration, synchronous diaphragmatic flutter, exertional rhabdomyolysis and exhausted horse syndrome. (Also published in 1986 in *Equine Practice* 8(8):21-33)

Hodgson,David R (1985): Myopathies in the athletic horse. *Compendium on Continuing Education for the Practicing Veterinarian* 7(10), S551-S556.

This article covers the available methods for laboratory assessment of muscular diseases and discusses exertional rhabdomyolysis in detail with clinical signs, laboratory findings, pathophysiology, treatment and prophylaxis.

Smith,CA; Wagner,PC (1985): Electrolyte imbalances and metabolic disturbances in endurance horses. *Compendium on Continuing Education for the Practicing Veterinarian* 7(10), S575-S582, S584-S585.

This continuing education article for veterinarians reviews the current research and literature on the pathophysiology, diagnosis and treatment of metabolic disturbances leading to a variety of pathologies in endurance horses.

Mackay-Smith,Matthew (1982): Getting rid of the thumps. *Equus* 55, 14.

Four suggestions on how to avoid synchronous diaphragmatic flutter.

Carlson,GP; Nelson,T; FJ-Milne (1977): Exercise-related muscle problems in endurance horses. *Proceedings of the Annual Convention of the American Association of Equine Practitioners* 22, 223-228.

Discusses exertional rhabdomyolysis covering pathogenesis, laboratory evaluation, presence in endurance horses, and possible metabolic causes.

Carlson,Gary P; Harrold,Doris; Ocen,Patrick O (1975): Field laboratory evaluation of the effects of heat and work stress in horses. *Proceedings of the Annual Convention of the American Association of Equine Practitioners* 21, 314-319.

This paper briefly discusses several procedures for use in the field to evaluate the extent of stress in horses. Conditions discussed are hydration, electrolytes, acid-base status, glucose concentration and evaluation of dark urine.

Steere,JH (1975): Emergency treatment of endurance horses. *Modern Veterinary Practice* 56(3), 202-204.

Presents very succinct information for veterinarians in recognizing and treating various metabolic disorders associated with horse on endurance rides.

O'Connor,JT (1971): The treatment of fatigue in trail ride horses. *Proceedings of the American Association of Equine Practitioners*, 39-43.

Gives an overview of the author's suggested treatments for a number of problems associated with fatigue in the trail horse: colic, laminitis, synchronous diaphragmatic flutter, heat exhaustion.

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## PEOPLE AND HORSES

Although individuals and their horses are mentioned in many articles, these that follow have the horse and/or the rider as their main focus.

Hart,Becky; Long,Bill; Bredahl,Charlotte; Cardwell,Suzan (1995): All-star horse care. *Equus* 211 (May), 88,90-92,94-100.

Handlers of equine standouts offer tips and advice on caring for your high-performance horse. Becky Hart speaks for the sport of endurance riding.

Stewart-Spears,Genie (1995): Cash is as good as gold. *Arabian Horse World* 35(5, February), 252-259.

A tale of what makes Valerie Kanavy and Cash world endurance champions - from purchase, through conditioning and the ride itself.

Stewart-Spears,Genie (1993): Beating the odds. *Western Horseman* 58(3, March), 115-117.

A seasoned endurance horse develops a tumor near the kidney, is declared hopeless and returns to race again.

Stewart-Spears,Genie (1993): Gold rush in Canada: The North American Endurance Championship. *Arabian Horse World* 34(3, December), 260-264.

Rio wins the race at 16 years of age.

Stewart-Spears,Genie (1992): Charles Barieau chronicles Tevis history. *Arabian Horse World* 33(2, November), 100-101.

A tribute to 76 year old Charles Barieau who has photographed participants in the Tevis since its first running in 1955. His photographs are seen in many of the articles listed in this bibliography.

Stewart-Spears,Genie (1992): Mustangs- Horsepower for the long run. *Western Horseman* 57(8, August), 58-59,61-62,65.

Survival skills learned in the wild make mustangs endurance naturals. This article gives a little history and details the achievements of some mustang endurance horses.

Bailey,Patti (1990): Riding the Tevis: When the going gets tough. *Arabian Horse World* 30(10, July), 224-235.

Wonderful article about conditioning a U.S. and Canadian Top Ten Arabian stallion for the Tevis while maintaining his breeding and show schedule. Follow the ride itself and the subsequent shows with unclipped and ungreased face and well-trimmed feet without hoof paint or grease.

Paulo,Karen (1990): A true test. *Western Horseman* 55(6, June), 110-114.

Karen Paulo recounts her second riding of the Oregon-150 on Moka's Pat-a-Dott aka Speedy.

Arlen,Caroline (1989): Profile of the 1989 Tevis Cup winner. *Western Horseman* 54(12, December), 44,47.

On her first 100-miler, Lari Shea rides a troublesome Arabian to victory.

Hart,B (1989): It's just another ride. *Equus* 144(October), 36-40;98-100.

Becky Hart gives an account of her ride in the second World Championship Endurance Ride in September, 1988 in Virginia. The article begins with the preparations for shipping Rio to Virginia from California through the end of the ride.

Jacobs,Don T (1989): Olympics bound: Endurance horses go for the gold in 1992. *Horseman* 34(7, February), 24-26.

Assesses the chances of endurance riding becoming an Olympic event in 1992 and presents the results of the 2nd 100 mile Endurance Ride World Championships held in Front Royal, Virginia in September, 1988.

Jacobs,Don T (1989): 5005 miles in one year. *Horseman* 34(11, July), 30-32,34.

The regimen that allowed Les Carr and Astro to cover 5005 miles in one year is presented.

Anon. (1987): A study in endurance. *Horse & Horseman* 15(5, July), 45,52.

Describes the accomplishments of Karen Paulo's Appaloosa Moka's Pat - A - Dott from first rides in 1984 through 1986.

Jacobs,Don T (1987): Shoeing the endurance horse. *Horseman* 31(10, May), 34-36.

An interview with veterinarian Bob Lantis, a California shoer who specializes in endurance horses. He was farrier to the 1986 World Champion Endurance Horse.

Jacobs,Don T (1987): Smokey and the Bandit. *Horseman* 32(1, August), 46-48.

Some history on Smoky Killen and his horse Bandit who has completed 15,000 endurance miles.

Jacobs,Don T (1987): Shoeing the endurance horse. *Horseman* 31(10, May), 34-36.

An interview with veterinarian Bob Lantis, a California shoer who specializes in endurance horses. He was farrier to the 1986 World Champion Endurance Horse.

Anon. (1986): Trail World: Endurance champion, Becky Hart. *Arabian Horse World* 26(5, February), 130-131, 443.

Some of the accomplishments, feeding and conditioning techniques of Becky Hart are featured along with information on her great horse Rio.

Bulkley,Gail (1986): First ride, first win. *Western Horseman* 51(1, January), 24.  
A short account of a 10-year-old competitor with perseverance.

Kilby,Emily (1986): Anatomy of a winner. *Equus* 106(August), 37-40, 42,44,47-50,52-54,56,58-59,62-64,66,69-74,76,100-104.

This is a very informative article giving a detailed analysis of what makes a top endurance horse, Dana's North Lite, a winner. Includes sections on the horse, the owner, the horse's record and the results of a series of laboratory tests run to measure various physiological characteristics of this champion horse.

Wright,Lynn (1986): Trail World - Our heroes have always been cowboys: Jefferson Spivey. *Arabian Horse World* 26(4, January), 784-785, 1052.

Some background on Jefferson Spivey who champions a national trail system and the Freedom Trail and has ridden the country north to south and west to east.

Shuler,Lucille (1985): An interview with Pat Fitzgerald. *Arabian Horse World* 24(10, July), 418-423.

Meet this very interesting AERC Hall of Fame rider who began his endurance riding career in 1958 on, what else, the Western States Ride.

Windows,Lori (1985): Land O'Lincoln distance riders. *Western Horseman* 50(6, June), 77-78, 80.  
A portrait of a the distance riders on the Ramsey/Worthington farm in Illinois.

Stimson,Darleen; Hearst,Denise P (1984): A few of the competitors. *Arabian Horse World* 25(2, November), 459-463.

The focus here is background information on and quotes from participants in the 1984 Tevis.

Anon. (1983): An interview with Dave Nicholson. *Arabian Horse World* 23(4, January), 348-350, 479.

This is an entertaining interview with Dave Nicholson, second in the 1981 AERC Senior Division.

Paulo,Karen Rodin (1983): A monumental win. *Appaloosa News* 40(5, May), 80-84.

Background information and some highlights of Ser Well and Lurina Dancer's endurance careers as they become 1982 PNER champions.

Shuler,Lucille (1983): An interview with Ron and Ruth Waltenspiel. *Arabian Horse World* 23(11, August), 382-384.

An interview of the 1982 AERC National Champion Husband/Wife team.

Anon. (1982): An interview with Marney Nance. *Arabian Horse World* 22(11, August), 154, 472-474, 479.

An interesting interview of the 1981 AERC National Senior Champion with questions ranging from a description of her horse (lazy) to the effect endurance riding has had on her family.

Rodin,Karen (1982): Sunny - Endurance is his thing. *Western Horseman* 47(11, November), 120, 122, 124, 126, 128, 130-133.

A horse used for ponying racehorses enters the endurance riding scene and makes an impression. Karen takes us along on her rides on Sunny from 1977 through 1981.

Rodin,Karen (1982): Rugged people: Sturdy horses. *Appaloosa News* 39(5, May), 46-47.

Some remarkable accomplishments of a junior endurance rider.

Rodin,K (1982): Winning is a family affair. This foursome, a pair of Arabs and a mother and son, took two national championships in the American Endurance Ride Conference. *Western Horseman*

47(6, June), 41-42;44;47-48.

This article tells of the partnership of eight-year-old Jonathan Nance and his mother, Marney, as they train and ride to win the AERC junior championship.

Arnold,Marion (1981): AERC awards 1981 convention report. *Arabian Horse World* 21(10, July), 127-130, 357.

Details of the 1981 AERC convention and the awards with a lengthier item on Khazen, the 1980 AERC National Champion.

DeMasters,Babala (1980): Trail - Endurance: The Hollander Family. *Arabian Horse World* 20(10, July), 220-221.

An account of the Hollander family, deeply immersed in endurance riding.

Koler,Rena (1980): It takes more than endurance to keep on top. *Appaloosa News* 37(5, May), 84-88. Some events along the way as Karen Rodin becomes a top regional and national endurance rider.

Raihala,Nancy J (1980): What ever happened to Sahnson? *Horse & Horseman* 8(2, April), 26-28. Sahnson "retires" with the Raihala family in Floodwood, Minnesota.

Beckner,Carol Ann (1979): One-eyed app goes endurance. *Western Horseman* 44(4, April), 84, 86. Meet Pee Wee, a one-eyed Appaloosa, who loves endurance riding.

Arnold,Marion Robie (1979): An interview with Wendell Robie. *Arabian Horse World* 19(5, February), 304-306, 322, 611, 613, 615-616.

A very interesting interview of Wendell Robie, founder of the Western States Endurance Ride, by his granddaughter.

Hollander,Hanne (1978): Can 1000 mile endurance horses still win? *Arabian Horse World* 18(10, July), 240-242, 330.

Short descriptions of Hollander's sixteen horses who have each completed 1000 miles and are going strong. Hollander makes a strong point for breeding horses with good conformation.

Hollander,Hanne (1976): 1,000 mile endurance horses in the Northwest. *Arabian Horse World* 16(7, April), 322-324.

Brief accounts of the three 1000-mile horses in the Northwest.

Madsen,Cheri (1976): Miss Fit: 1975 A.E.R.C. National Champion Endurance Horse. *Arabian Horse World* 16(5, February), 289-290.

The many achievements of the 1975 AERC national champion endurance horse are presented.

Arnold,Marion Robie (1975): 9-year-old Jimmie Perry wins 1974 American River Ride. *Arabian Horse World* 15(9, June), 162-164,166,168,170.

Junior rider bests 202 starters. Details on Jimmie Perry and his horse Bandi.

Daniels,ReNae (1974): The Daniels family rides the Wyoming 50-miler. *Arabian Horse World* 14(8, May), 122, 124, 126.

ReNae Daniels describes her family's horses and their conditioning for the 50-miler.

Arnold,Marion Robie (1974): Eight-year-old wins endurance ride. *Arabian Horse World* 14(10, July), 214-216.

Junior rider wins two rides in a row.

Anon. (1972): 15-year-old first timer wins 50-mile endurance ride. *Arabian Horse World* 12(7, April), 192.

Three firsts mark this junior's debut.

Robie, Marion (1972): Witezarif wins Tevis Cup again. *Arabian Horse World* 13(1, October), 268-272, 274, 276.

Witezarif is the focus of this article after he wins the Tevis Cup for the third time in a row in 1972.

Schultz, Sharon (1970): Marion Robie... WOW. *Arabian Horse World* 10(9, June), 184-186.

Biography of Marion Robie, granddaughter of Wendell Robie, founder of the Western States Trail Ride.

Suhr, Juliette (1970): A first in American endurance ride history. *Arabian Horse World* 10(9, June), 192-193.

Witezarif wins both the race and best condition in the Nevada 100-Mile One-Day Endurance Ride. Some details on the horse's history.

Trent, Loy Ann (1970): Cliff Lewis - Endurance rider. *Western Horseman* 35(6, June), 106, 108, 110. Tells how Cliff got interested in endurance riding, chose his horse and lists his accomplishments.

Robie, Wendell T (1963): Bandos Blood - 34 Successful 100-milers. *Arabian Horse World* 3(5, January), 63, 86.

This contains excerpts from a letter by Wendell Robie describing how he acquired Bandos and some of that stallions excellent offspring.

Tellington, Wentworth (1963): When you wish upon a star. *Arabian Horse World* 4(2, November), 37-39, 58.

Follow along as Wentworth Tellington describes his wife Linda's summer on the endurance trail in 1963.

Tellington, Wellington (1963): When you wish upon a star (continued). *Arabian Horse World* 4(3, December), 54-55, 70.

A continuation of the Tellington's endurance summer.

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## PHYSIOLOGY

Many of the articles here are written for veterinarians and published in their professional journals. However, they are not research articles per se, are quite understandable and will be of interest to the endurance rider as well as the veterinarian.

Ecker, GL (1995): Fluid and ion regulation: a primer on water and ion losses during exercise. *Equine Veterinary Education* 7(4), 210-215.

This tutorial article for veterinarians gives a brief review of thermoregulation, fluid compartments in the resting horse, ion balance at rest, sweating, water losses and ion losses.

Harper, Frederick (1995): Electrolytes for horses. *Appaloosa Journal* 49(7, July), 60.

This article explains the reasons why horses may need electrolyte supplementation and the correct ratio of electrolytes that should be provided.

Rivero, Jose'-Luis L (1995): Can endurance be prognostized with muscle biopsies. In: *Basis- und*

*Praxiswissen uber Pferde.* (Ed: Lindner,Arno) Druckerei Chris Wienands, Bonn, 32-36.  
This paper was presented at a meeting of sports medicine professionals in 1995. It presents data from muscle biopsies of 36 endurance horses competing at the national and international level. A significant difference in muscles was identified between successfully and unsuccessfully raced endurance horses.

Ecker,Gayle L; Lindinger,Michael I (1994): Fluid and electrolytes: In short supply? Part 1. *Equine Athlete* 4(3, May/June), 15-17.

This article discusses the effects of endurance exercise on the horse.

Ecker,Gayle L; Lindinger,Michael I (1994): Fluid and electrolytes: In short supply? Part 2. *Equine Athlete* 7(4, July/August), 1,7-9.

This article presents the data collected from endurance rides in the Ontario area during 1991. It discusses effects of the ride on electrolytes and plasma proteins.

Bakke,SH; Michell,AR (1993): Endurance and performance in horses and other athletes. In: *The Advancement of Veterinary Science. The Bicentenary Symposium Series. Volume 4. Veterinary Science - Growth Points and Comparative Medicine.* (Ed: Michell,AR) CAB International, Wallingford, 103-113.

This is a short review which considers the horse as an athlete. It covers equine performance, muscles, oxygen delivery and energy costs.

Campanella,Ann Williams (1993): Does your horse need more electrolytes? *Western Horseman* 58 (6, June), 88,90-92.

Schott II,Harold C; Hinchcliff,Kenneth W (1993): Fluids, electrolytes, and bicarbonate. *Veterinary Clinics of North America, Equine Practice* 9(3), 577-604.

This article reviews the changes in fluid and electrolytes caused by exercise and training, discusses supplemental fluid and electrolyte treatment and discusses the effects of various agents that affect fluid and electrolyte concentrations during exercise.

Carlson,Gary P (1990): Electrolytes, acid-base and water balance during exercise. In: *Proceedings of the International Conference on Equine Sports Medicine.* (Ed: Kallings,Peter) Almqvist & Wiksell Tryckeri, Uppsala, 67-69.

This informative article briefly covers physiologic responses to exercise in the horse, factors altering performance, muscle disorders, overheating and the exhausted horse syndrome.

Schott,HC; Naylor,JRJ; Hodgson,DR (1990): Aspects of heat production, dissipation and exhaustion in the exercising horse. Part 2 - Heat dissipation. *Equine Athlete* 4, 7-10.

Reviews the major avenues for heat dissipation in the exercising horse: evaporation via skin and respiratory tract.

Schott,HC; Naylor,JRJ; Hodgson,DR (1990): Aspects of heat production, dissipation and exhaustion in the exercising horse. Part I - Heat production. *Equine Athlete* 3, 15-19.

Discusses the physiological mechanisms involved in heat production during exercise.

Adams,D (1986): The results: Aerobic advantages add up to endurance excellence. *Equus* 106 (August), 62;64;66;69-74;76;103-104.

The results of studies on the heart, blood and muscles of Diamond, a champion endurance horse, are discussed. It appears that being equal or a little better in most areas studied and exceptional in one or two is the formula for success.

Rose,RJ; Evans,DL (1986): Cardiovascular and respiratory function in the athletic horse. In: *Equine Exercise Physiology 2: Proceedings of the Second International Conference on Equine Exercise*

*Physiology*. (Eds: Gillespie, Jerry R; Robinson, N Edward) ICEEP Publications, Davis, California, 1-24.

This review covers selected aspects of cardiorespiratory function in the athletic horse: distribution of blood flow, training associated bradycardia, maximal heart rate, problems in assessing respiratory function, hyperpnea, arterial hypoxemia, kinetics of gas exchange and maximal oxygen consumption.

Carlson, Gary P (1975): Effects of exercise and heat stress on endurance horses. *Arabian Horse World* 15(9, June), 172, 174.

Describes the results of a controlled, 25-mile ride conducted by Dr. Carlson and associates to examine the effects of heat and stress on endurance horses.

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## PUZZLES AND POETRY

Ingram, Patti (1979): Endurance puzzle. *Western Horseman* 44(5, May), 126.

This is a word puzzle requiring location of various terms connected with endurance riding.

Shuler, Jan (1979): The ABC's of endurance riding. *Arabian Horse World* 19(5, February), 272-274. Charles Barieau's photographs enhance this endurance riding "poem" with a line for each letter of the alphabet from A to Z.

Boswell, Virginia (1975): Endurance ride puzzle. *Western Horseman* 40(7, July), 88.

A word puzzle using words familiar to endurance riders.

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## RIDE MANAGEMENT

Cortese, Victor S (1990): Endurance ride practice management. *Equine Athlete* 3(4, July/August), 1,7-11.

The title of this article is misleading. It actually offers a general overview of endurance riding and the physiological characteristics of a good endurance horse. It then discusses the physiological changes that occur during the ride and how to assess recovery.

Rodin, Karen (1982): How to manage an endurance ride. *Western Horseman* 47(4, April), 21-23.

This article covers the many things to consider in putting on an endurance ride: the trail, trail marking, length, insurance, awards, veterinarians, entry fees, sanctioning, help, camp and awards.

Hill, Lin (1978): Inside a 50-miler. *Western Horseman* 43(12, December), 31-32.

This is a first-hand account of what it is like to assist with a 50-mile endurance ride.

Anon. (1974): On these two pages (typical post-ride record American River Ride 1973). *Arabian Horse World* 15(2, November), 202-203.

This is a reproduction of a sample 1974 post-record sheet furnished to every entrant by the ride

management.

Lewis,Cliff; Trent,Loy Ann (1972): Organizing an endurance ride. *Western Horseman* 37(1, January), 7, 120-122.

This is an account of organizing a ride by the Nevada All-State Trail Riders organization.

Scannell,Audrey (1969): Setting up an E-n-d-u-r-a-n-c-e ride. *Western Horseman* 34(1, January), 54-55, 136, 138.

Enumerates the points to consider for those wishing to put on an endurance ride.

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## SELECTING THE ENDURANCE HORSE

Bennett,Deb (1996): The power to endure. *Equus* 219(January), 52.

This article lists the conformation to look for in an Arabian to be used in endurance rides.

Kadash,Kathy (1995): Picking the perfect horse. Part two. Distance riding. *Western Horseman* 60 (12, December), 42-50.

Veteran endurance riders - Bill Hinkebein, Valerie Kanavy, Kathy Morris and Bazy Tankersley-share their ideas on choosing the ideal endurance horse. Topics covered include conformation, disposition and breeding.

Sellnow,Les (1994): You gotta have heart. *Western Horseman* 59(6, June), 123-128.

The use of ultrasound to measure the size of a horse's heart may be an important tool in helping in the selection of an endurance horse.

Smith,Deborah (1994): Breeding/selecting for endurance. *Appaloosa Journal* 49(2, February), 19. Two Appaloosa breeders comment on the qualities needed for a good endurance horse.

Anon. (1990): The selection and evaluation of endurance horses. *Equine Athlete* 3(5, September/October), 18-20.

This is an American Equine Sports Medicine feature article interviewing Drs. Kerry Ridgway and James Bryant. Both of these veterinarians are deeply involved in endurance riding both as competitors and veterinarians. Topics covered include selection, temperament, and conformation.

Hart,Courtney; Close,Pat (1989): Selecting endurance prospects. *Western Horseman* 54(10, October), 100-103,104-105.

This engineer, part-time endurance consultant and husband of Becky Hart tells what qualities he looks for in an endurance horse. The points covered include feet, pasterns, cannon bones, legs, hindquarters, head, neck, shoulder, heart girth, back, temperament, mileage vs. speed, and breed.

Ridgway,KJ (1989): Selecting the endurance horse. In: *Equine Sports Medicine*. (Ed: Jones,William E) Lea & Febiger, Philadelphia, PA, 290-293.

Presents points to consider in selecting the endurance horse by a veterinarian with many years of experience in endurance riding. Topics covered include: type, body size, way of going, attitude, heart size, heart scores, conformation, and veterinarian pre-purchase examination.

Swan,Karen (1984): Will he go the distance? *Appaloosa News* 41(8, August), 66-68.

Elements to look for in your trail horse if you are thinking of switching to endurance riding.

Humphreys,S (1982): Finding the endurance horse - Part 1. Get it right for success. *Riding Monthly* (February), 22-23.  
Not seen

Barsaleau,Richard B (1968): Horses for trail and endurance riding. *Western Horseman* 33(9, September), 56-57, 142-144.  
A basic article that covers what to look for in an endurance horse: selection, training and special considerations for endurance competition.

Tellington,Linda; Tellington,Wentworth (1963): Conditioning the endurance horse: Part I Introduction. *Arabian Horse World* 3(11, August), 51-52.  
Covers a basic description of what endurance riding is and selection of the endurance horse with focus on head and neck.

Tellington,Linda; Tellington,Wentworth (1963): Conditioning the endurance horse: Part I (Cont.) Selecting the endurance horse. *Arabian Horse World* 3(12, September), 37-38.  
Discusses the desirable body and legs for an endurance horse and talks about its way of going.

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## SPECIFIC ENDURANCE RIDES

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### Miscellaneous rides

Mackay-Smith,Matthew (1994): On the outlaw trail. *Equus* 197(March), 47-53.  
A seasoned endurance competitor finds inspiration and exhilaration in the land of the Long Riders. An account of Dr. Mackay-Smith's ride on the 1993 Outlaw Trail Historical Endurance Ride of five days and 265 miles.

Smith,Don Ian (1987): Riding with ghosts on the terrible trail. *Western Horseman* 52(7, July), 110-113.  
An account of the first (1986) Lost Wagon Train Ride in eastern Oregon. The ride of 306 miles combines history and endurance for a great time.

Anon. (1986): Appaloosa wins Horse Ridge 100. *Appaloosa News* 41(43)(7, August), 66.  
Short account of the winning of the Horse Ridge 100.

Anon. (1986): Slow and steady reaps its rewards. *Appaloosa News* 41(43)(5, October), 84.  
A slow and steady rider finds that her horse can also race. (Fort Valley 50-Mile Ride)

O'Connor (1985): Appaloosas do well in national rides. *Appaloosa News* 42(11, November), 207-208.

Brief account of the 1985 National Appaloosa Endurance Ride held near Los Alamos, New Mexico.

Paulo, Karen (1985): The Oregon 100. *Appaloosa News* 42(11, November), 209.

A brief account of the 1985 Oregon 100 and the placing of Appaloosas entered.

Stimson, Darlene (1984): The endurance ride. *Arabian Horse World* 25(1, October), 224, 560-561.

A nice description of an actual 50-mile ride (Castle Rock) with information on how to intelligently handle the miles.

Barieau, Charles (1979): IAHA Championship 50-mile Arabian and half-Arabian endurance rides. *Arabian Horse World* 19(5, February), 267-269.

Charles Barieau photographs accompany the prose coverage of the 1978 IAHA Championship 50-Mile Arabian and Half-Arabian Endurance Rides.

Schorzman, Diane (1979): Endurance on the Diamondfield Jack. *Western Horseman* 44(2, February), 82-83.

Gives the history of the Diamondfield Jack ride - how it got its name and some of the contestants over the years.

Hollander, Hanne (1978): Elevator endurance ride. *Arabian Horse World* 18(5, February), 456-458.

Describes the first ride to use the "elevator concept" where riders completing the first 50 and 75 miles can choose to stop or go on and still get credit for what they have completed. Lists the top 10 winners for the 50 and 100 mile rides and the top 5 for the 75 mile ride.

Madill, Barbara (1978): 1977 New Jersey 100-Mile ride. *Arabian Horse World* 18(5, February), 440-442.

Twenty-five of 33 horses complete the 1977 New Jersey 100-Mile Ride. The ride was noted for the hot temperatures and the miles of sand which made extremely hard going.

Blazer, Don (1976): The challenge of endurance riding. *Horse & Horseman* 4(1), 22-26, 66, 72-73.

A writer for *Horse and Horseman* tells of his first endurance ride on a horse used to pony race horses at the track.

Galbreath, Jim; Barieau, Charles (1975): First International Arabian Horse Association 100-mile and 50-mile National Championship Endurance Rides, 1975. *Arabian Horse World* 16(2, November), 156-162.

Photographs of ride participants by Jim Galbreath and Charles Barieau with captions.

Nelson, Heidi (1975): 1974 Alabama 50-miler: Icy winds and cold rain. *Arabian Horse World* 15(9, June), 210, 212.

Thirty-five horses and riders endure miserable weather. Gives ride results.

Nelson, Heidi (1974): The Alabama 50-miler. *Arabian Horse World* 14(10, July), 124-126.

A novice rider describes her experiences on the 1973 Alabama 50-Miler.

Riley, Margaret H (1974): Second Annual Palisades Endurance and Competitive Trail Ride. *Arabian Horse World* 14(8, May), 82, 84, 86.

Heavy weather before the ride alters the course. The article include a list of winners.

Anon. (1973): Southeast Minnesota Endurance Ride. *Arabian Horse World* 13(7, April), 178.

Results of the ride are listed.

Anon. (1973): Arabian wins lightweight division on Missouri ride. *Arabian Horse World* 13(7, April), 177.

Brief report of Arabian success in Missouri ride.

Anon. (1973): Kamin Ku wins again (New Jersey 100-Mile Ride). *Arabian Horse World* 13(7, April), 190.

Arabians dominate the New Jersey ride in 1972.

Barsaleau, Richard B (1973): Wasatch Mountain endurance ride. *Western Horseman* 38(8, August), 48-49.

This is a nice folksy account of the 1972 third annual Wasatch Mountain Endurance Ride.

Handy, George B (1973): Pioneer Endurance Ride, Utah. *Arabian Horse World* 13(7, April), 174.

Brief description and top three finishers of the 1972 Pioneer Endurance Ride in Utah.

Hyland, Ann (1973): Britain's top endurance ride. *Western Horseman* 38(2, February), 74, 76, 78, 89. Hyland compares American endurance rides with the Golden Horseshoe and gives an account of her ride of the GH in 1972.

Kline, Marsha (1973): Julie Suhr sets record with Arabian gelding. *Arabian Horse World* 13(7, April), 168, 170, 172.

Julie Suhr and H.M.R. Rumadi cover the 50 miles in less than five hours on the Castle Rock Challenge. List of top 14 finishers is included.

McKnight, Lenore (1973): An ancient endurance ride. *Western Horseman* 38(11, November), 48, 118, 120, 122.

Ride along in Scotland for a different kind of endurance riding.

Riley, Margaret H (1973): First annual Palisades Endurance and Competitive Trail Ride. *Arabian Horse World* 13(7, April), 176-177.

A new ride in 1973 joins the growing numbers of endurance rides across the United States.

Anon. (1972): Trail riding 1971 in eastern Canada (Canucks Fifty-Mile Ride; Rockwood Endurance Ride). *Arabian Horse World* 12(7, April), 158-159.

This is an overview of the trail rides in Canada in 1971 including the Rockwood Endurance Ride and the Riding Canucks Fifty-Mile Ride.

Robie, Marion (1972): 100% completion on 1971 Derby Ditch 50-mile endurance ride. *Arabian Horse World* 12(4, January), 338, 340.

All riders complete this running of the Derby Ditch.

Suhr, Juliette (1972): Arabians dominate Castle Rock Ride. *Arabian Horse World* 12(6, April), 154.

The winners of the May 1971 Castle Rock Challenge Ride with ride times are given. This is a 50 mile endurance ride in the Santa Cruz Mountains of California.

Anon. (1971): 1970 Blue Mountain 50-mile endurance ride. *Arabian Horse World* 11(9, June), 114, 116.

Specifics of the second annual Blue Mountain ride are given.

Anon. (1970): Blue Mountain Endurance Ride. *Arabian Horse World* 10(7, April), 150-151.

Announcement of the upcoming second Blue Mountain Ride with description of the trail and winners of the first ride in 1969.

Schulz, Madge (1970): Third annual Kettle Moraine 100-Mile Endurance Ride and 50-Mile

Competitive Trail Ride October 4-5, 1969. *Arabian Horse World* 10(7, April), 44-46,48.  
Details of this Wisconsin endurance ride.

Suhr,Juliette (1970): 50-mile Castle Rock Challenge Ride, 1970. *Arabian Horse World* 10(11, August), 96, 98.

Pat Fitzgerald wins by a few seconds plus other details of the race.

Tankersley,Bazy (1965): Bazy rides again! *Arabian Horse World* 5(9, June), 42,46,50,54.  
Description of Bazy's ride on a 100-mile three day ride in Asheville, North Carolina.

Tankersley,Bazy (1963): Bazy T. on the Green Mountain 100-Miler. *Arabian Horse World* 4(1, October), 29-31,43-45.

Three busy mothers condition horses for and compete in the Green Mountain 100-Miler.

Anon. (1961): Endurance: Tevis, Jim Shoulders, Green Mountain, Mt. Diablo. *Arabian Horse World* 2(5, November), 13-14.

The results of four endurance rides in 1961 with Arabians at the top.

Tellington,Linda; Tellington,Went (1961): Winning the Jim Shoulders Endurance Ride. *Arabian Horse World* 2(5, November), 15-16,18.

Linda and Went tell of their decision to enter a 100-mile in one day ride and the work that went into preparation.

Tellington,Linda; Tellington,Went (1961): Winning the Jim Shoulders Endurance Ride. Part II. *Arabian Horse World* 2(6, December), 30-31.

Linda and Went continue their story with an account of the ride itself.

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## **Nevada All-State Trail Ride**

Bruns,Ursula; Brown,Bud (1973): A European tackles a 100-miler (Nevada All-State Endurance Ride). *Western Horseman* 38(6, June), 44-46, 48, 179-180, 182-183.

This is a fun article as a German woman describes her first 100-miler on the Nevada All-State Endurance ride.

Anon. (1972): Diane Clagett on the part-Arab "Cricket" wins Nevada 100-mile one-day ride. *Arabian Horse World* 12(7, April), 160-162.

A brief account of the 1971 Nevada Ride (Nevada All-State Trail Ride).

Robie,Marion (1971): Nevada 100-miler. *Western Horseman* 36(5, May), 116, 118.

A short account of the third annual Nevada All-State 100 Mile Endurance Ride held in 1970.

Robie,Marion (1971): Endurance riding in Nevada. *Arabian Horse World* 11(9, June), 58, 62, 64.  
An account of the third annual Nevada All-State 100-Mile One Day Endurance Ride.

Warren,Jeanette (1970): Desert e-n-d-u-r-a-n-c-e: Nevada All-State Trail Ride. *Western Horseman* 35(7, July), 6-7, 112.

An account of the 1969 Nevada All-State Trail Ride with a tie finish by American Cliff Lewis and Australian Sue Scantlebury.

Barsaleau, Richard B (1969): The toughest endurance ride? *Western Horseman* 34(9, September), 72-74, 154, 156.

Veterinarian Barsaleau recounts his riding of the first Nevada 100-Mile-One Day Ride.

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### North American Endurance Championship

Stewart-Spears, Genie (1996): U.S.A. Pacific North dominates North American Endurance Championship. *Western Horseman* 61(1, January), 100, 102-103.

Discusses the 1995 North American Endurance Championship ride and winner strategies held near Flagstaff, Arizona.

Stewart-Spears, Genie (1992): International endurance competition: The 1991 FEI North American Championship One-Day One-Hundred Mile Race. *Arabian Horse World* 32(5, February), 232-235. Ride along on the 1991 North American Championship endurance ride held in Nevada. This was an international event with teams from Canada, Australia, Denmark, Greece, New Zealand, Sweden and Switzerland joining those from the U.S.

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### Old Dominion

Stewart-Spears, Genie (1993): Annual Old Dominion: revives tradition. *Arabian Horse World* 34(3, December), 264-268.

History and management of the ride along with details of the ride strategies of the top two riders.

Mackay-Smith, Matthew (1975): Old Dominion endurance ride. *Western Horseman* 40(11, November), 7, 84, 86, 88, 90, 92.

Relive the winning of the 1975 Old Dominion with veterinarian Mackay-Smith and his thoroughbred gelding, Vertain.

Church, Vicky (1974): Old Dominion takes its place among the classic 100-mile endurance rides. *Arabian Horse World* 15(3, December), 72, 74.

Gives some interesting details of the first Old Dominion in 1974.

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### Race of Champions

Anon. (1994): They came, they rode, they conquered. *Equus* 204(October), 69.

Particulars of the win of the Italian International Team at the 1994 Race of Champions.

Russell,Sally (1994): Race of 100 champions. *Horse & Horseman* 22(8, October), 35-37,39.  
Brief overview of the history of endurance riding and the Race of Champions with a detailed account of the 1994 ROC.

Stewart-Spears,Genie (1993): Tennessee twosome win ROC. *Western Horseman* 58(11, November), 122, 124, 126.  
Report on the 1993 Race of Champions in South Dakota.

Stewart-Spears,Genie (1993): Race of Champions: Southeast rider gallops to 100-mile ride win. *Arabian Horse World* 34(3, December), 268-271.  
Bad weather in South Dakota marks the 10th running of the Race of Champions.

Stewart-Spears,Genie (1991): Champions race in Montana. *Western Horseman* 56(10, October), 121, 124-125.  
Information on the winners and other contestants of the 1991 Race of Champions.

Stewart-Spears,Genie (1991): The longest race of champions. *Western Horseman* 56(1, January), 66-68.  
An account of the trail and the riders on the 1990 Race of Champions in Tennessee.

Stewart-Spears,Genie (1991): The 1991 Race of Champions. *Arabian Horse World* 32(1, October), 144-151.  
With a 35% completion rate predicted, 1991 was a very tough Race of Champions. The article is dedicated to AA Omner who was pulled and later diagnosed with cancer. See the article about his fate in this bibliography.

Stewart-Spears,Genie (1990): Endurance classic changes format. *Equus* 156(October), 24, 26-27.  
The seventh running of the Race of Champions moves east and becomes two-day, 150-mile challenge. This article describes the course and some of the competitors.

Stewart-Spears,Genie (1989): Experience and luck win the Race of Champions. *Western Horseman* 54(10, October), 96-99.  
Eighty-two riders compete in the 1989 Race of Champions.

Close,Pat (1988): A race to the finish. *Western Horseman* 53(9, September), 92-94.  
Highlights of the 1988 Race of Champions where the top four riders finished within 38 seconds of each other. Also includes background on the top three winners and the prizes awarded.

Hawkins (1987): Racing with the champions. *Horse & Horseman* 15(10, December), 32-35,59.  
Sixteen riders of 88 starters complete the 1987 ROC. This article contains lots of quotes and vignettes by and about the riders and their ride strategies.

Stewart-Spears,Genie (1987): The ROC challenge. *Western Horseman* 52(10, October), 144-145.  
Some details of the 1987 Race of Champions and the winners.

Anon. (1986): Race of Champions. *Arabian Horse World* 27(1, October), 144.  
Short account and results of the third (1986) Race of Champions.

Paulo,Karen (1986): Out after dark. *Appaloosa News* 41(43)(10, October), 97-98.  
A tough 1986 Race of Champions finds Karen Paulo finishing after sunset.

Close,Pat (1985): From runner-up to champion. *Western Horseman* 50(9, September), 99-100,127.  
An account of the ride and the winners of the second Race of Champions in 1985.

Studley,Sheryl (1984): An endurance race of champions. *Horseman* 29(5, December), 66-68.  
Describes the first Purina Race of Champions in the Big Horn Mountains of northern Wyoming.

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### Summer Solstice

Hyland,Ann (1984): Britain's premier hundred miler. *Equi* 24(October/November), 8,10.  
This is a report on the sixth Summer Solstice sponsored by the Endurance Horse and Pony Society of Great Britain held on June 23, 1984.

Hyland,Ann (1976): The Summer Solstice 100. *Western Horseman* 41(2, February), 25, 98-100.  
Description of Britain's first 100-in-24-hours endurance ride in 1975.

### Tom Quilty

Howe, Frank (1969): A globetrotter rides in the Quilty. *Western Horseman* 34(8, August), 22-24, 148-149.

Account of four American riders in the 1969 Quilty, Australia's best known endurance ride.

Anon. (1967): Australian endurance ride. *Western Horseman* 32(5, May), 28.  
Brief account with listing of winners of the Tom Quilty Endurance Ride in Australia in 1966 near Windsor, New South Wales.

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### Western States Trail Ride (Tevis)

Christie,Sarah (1996): Tevis Cup '95. *Arabian Horse World* 36(4, January), 216-221.  
Sixty-three year old Dr. Mackay-Smith and Fred (WC Freiheit) win by a nose over Chris Knoch and Saxx (NV Fifth Avenue) in the 1995 Tevis.

Christy,Sarah (1995): 1994 Tevis Cup ride. *Arabian Horse World* 35(5, February), 242-249.  
The winner and best condition horses of the 1993 Tevis repeat in 1994 and a new perpetual trophy is introduced to bear the names of the junior riders who complete the ride. This account of the ride is accompanied by lists of all winners of the Tevis and Haggin cups.

Lapp,Barbara Mayhew (1994): The Tevis Cup. *Horse & Horseman* 22(4, June), 50-55.  
Detailed account of the 1993 Tevis Cup.

Christie,Sarah (1993): Tevis Cup. *Arabian Horse World* 34(3, December), 272-277.  
The 39th Tevis was a well-organized ride with "only" 157 starters (there is room for 250). List of top twenty finishers is concluded.

Stewart-Spears,Genie (1992): Tevis Cup Race ends in tie. *Western Horseman* 57(11, November), 202-204.

A description of the 38th Tevis Cup with vignettes of the riders from the two who tied for first to the 76 year-old finalist who finished with 7 minutes to spare.

Stewart-Spears,Genie (1992): 1992 Tevis: Tradition and Horsemanship. *Arabian Horse World* 33(2, November), 94-99.

The 38th Tevis with 211 competitors is described.

Cote,Karen (1988): Connemara endurance pony. *Horse & Horseman* 14(4), 7-8.

Karen Cote describes her Tevis Cup completion in 1985 on a Connemara mare.

Shuler,Lucille (1988): The long, long trails. *Arabian Horse World* 28(6, March), 306-315.

A bit of history, a bit on the regulations, a bit of description of the ride and lots on the winners of the 1987 Tevis with a list of the finishers. The article also gives accounts and results of the North American Championship Ride and the Old Dominion.

Stimson,Darleen (1985): A Tevis retrospective. *Arabian Horse World* 25(11, August), 238-249.

A history of the Tevis ride, its route, the people and horses with lots of photographs by Charles Barieau, noted photographer of endurance rides. Also has some interesting statistics on horses and riders.

Stimson,Darleen (1985): The 1985 Tevis Cup. *Arabian Horse World* 26(3, December), 96, 464-465.

270 starters and 121 finishers mark the 1985 Tevis. This tells the story of the ride with details on some of the top finishers, including a listing of the top ten.

Hall,Ann Starrs (1984): The 1983 Tevis Cup ride. *Arabian Horse World* 24(4, January), 391-393.

Details of the 1983 Tevis Ride including the breeding of winning horses.

Stimson,Darleen (1984): The Tevis. *Arabian Horse World* 25(2, November), 454-458.

Darleen's account of her third Tevis ride in 1984.

Anon. (1980): The Tevis Cup: 26th anniversary Western States 100-mile one day endurance ride July 26, 1980. *Arabian Horse World* 21(1, October), 396-398, 632.

An account of the 1980 Tevis with the awarding of the first Frontiersman award for the first solo (no crew) rider to cross the finish line to Hal Hall.

Wax,Sarah (1980): They said it...Quotes from the 1980 Tevis Cup ride. *Arabian Horse World* 21(1, October), 394-395.

Memorable quotes from the 1980 Tevis starting with Wendell Robie's matter of fact - "Nobody's ever been lost for more than two days."

Barieau,Charles (1979): The Tevis Cup ride - 24th Annual Western States 100-mile-One Day Ride July 22, 1978 Squaw Valley to Auburn, California. *Arabian Horse World* 19(5, February), 291-294, 298.

A photo essay of the 1978 Tevis.

Mulder,Carol W (1979): Some Tevis Cup legs and other observations. *Arabian Horse World* 19(5, February), 275-278, 283-285.

This article combines a narrative of the race with a close look at the legs of some of the horses on the 1978 Tevis ride by a horsewoman from the show ring world. She saw every type of defect except "round, mushy bone" but no matter what the defect all had good flat bone and good-sized joints. She also noted that the feet were of consistently good quality no matter what the other faults. The pedigrees of the top three horses are included.

Arnold,Marion (1976): 1976 Western States Trail Ride. *Arabian Horse World* 17(1, October), 298,

302, 304.

Information on a variety of riders on the 1976 Tevis ride.

Anon. (1971): Tevis Ride 1970. *Arabian Horse World* 11(9, June), 112.

Five photographs by Charles Barieau with a brief paragraph about the Arabians on the 1970 Tevis.

Galbreath,Jim W (1971): Arabian gelding wins Tevis Cup. *Arabian Horse World* 12(1, October), 54.

A short account of the 1971 Tevis won by Donna Fitzgerald and Witezarif.

Barner,Drusilla (1970): Tevis Cup event - 1969. *Arabian Horse World* 10(5, February), 28, 30, 32.

Details of the 1969 Tevis.

Albright,Verne R (1969): A history of The Tevis Cup. *Western Horseman* 34(7, July), 22-23, 106-107.

A brief history of the Tevis Cup with vignettes of notable events and "first evers."

Barner,Drucilla (1969): 1969 Tevis Cup Ride. *Western Horseman* 34(1, November), 36, 188-189.

A newsy account of the 1969 Tevis with information on winners and veterinarians.

Barsaleau,RB (1967): The 100-miler. *Western Horseman* 32(7, July), 32, 101-102, 104-105.

Discussion of the winners of the 1965 and 1966 Tevis and Haggin Cups.

Anon. (1965): This noble breed - the Arabian endurance horse. *Arabian Horse World* 6(1, October), 12.

A one-page photo display of 1965 Tevis entrants.

Barsaleau,Richard (1965): Endurance horses. *Western Horseman* 30(8, August), 30-31,103-107.

Veterinarian Barsaleau's account of his 1964 Western States ride on his five-year old, 14.2 hand Arabian Savvy. He also praises the abilities of small horses for endurance riding.

Walpole,Carol (1965): The Tevis Cup and the amateur. *Western Horseman* 30(6, June), 44-45, 98-100.

Practical advice for the amateur rider who wants to complete, not win, the Western states ride.

Advice covers crews, horse gear, rider clothing, pre-ride inspection.

Robie,Wendell (1964): Arabs dominate Western States 100 Miles One Day Ride: Both Tevis and

Haggin Cups won by Arabians. *Arabian Horse World* 5(3, December), 50-54.

Winners and awards at the 10th Western States Trail Ride.

Robie,Wendell (1962): Paige Harper wins Tevis Cup. *Arabian Horse World* 2(12, August), 32-33.

Winners of the eighth Tevis along with a copy of the Veterinarian's Record Chart.

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## **World Championship Endurance Ride**

Ruiz,Kathy (1995): The World Championship Endurance Ride. *Arabian Horse World* 35(5, February), 250-251.

The 1994 World Championship Endurance Ride is won by U.S. rider Valerie Kanavy in unseasonably hot and humid weather.

Stewart-Spears,Genie (1989): U.S. wins gold in endurance racing. *Western Horseman* 54(1, January), 72,74.

Results of the second World Championship Endurance Ride are given along with numbers of participants from each country.

Schofler,Patti (1987): World endurance riding championship. *Arabian Horse World* 27(4, January), 464, 750.

An account of the first FEI sanctioned World Endurance Riding Championship.

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## VETERINARIAN

These articles focus on the role of the veterinarian at the ride. While written mainly for the veterinarian, any serious endurance rider will gain valuable information from them also.

Ecker,GL (1996): Management of horses participating in endurance rides. *Compendium on Continuing Education for the Practicing Veterinarian* 18(5, May), 566-567.

This very brief report emphasizes the importance of constant monitoring of the horse's condition before, during and after the ride.

Sloet van Oldruitenborgh-Oosterbaan,Marianne M; Arts,Frans; Bryant,James (1996): Evaluation of the endurance ride. *Equine Athlete* 9(5, September/October), 1,7-9.

This is an account of the veterinary care given to participants in the 1994 World Equestrian Games endurance ride.

Hyyppa,S (1995): The role of the veterinarian at endurance riding competitions. (Elainlaakarin tehtavat matkaratsastuskilpailussa). *Suomen Elainlaakarilehti* 101(6), 383-392.

Guidelines for veterinary duties and performance of medical check-ups for horses in endurance racing competitions are given. The most important complications associated with endurance riding (heat stroke, dehydration, exhaustion and metabolic disorders) are listed along with first aid and treatment guidelines. The legal and animal welfare issues are discussed.

Sloet van Oldruitenborgh-Oosterbaan,MM (1994): The treatment of the exhausted horse under field conditions. *Equine Practice* 16(8), 27-33.

Discusses the responsibilities of the ride veterinarian and the metabolic problems that endurance horses may experience. Reviews the clinical signs and treatments for these problems. Also covers the problems of treating such conditions under field conditions. (Also published in *Equine Athlete*. 1995. 8(3):1,7-8,10-11)

Benson,M (1993): The evolution of veterinary control of endurance rides. *Journal of Equine Veterinary Science* 13(5), 272-273.

This article traces the history of veterinary participation in endurance from the 1950's to the present.

Mackay-Smith,M; Blake-Caddel,L (1992): Preride examination of horse entered for endurance competition. *Proceedings of the Annual Convention of the American Association of Equine Practitioners* 37, 807-809.

This article focuses on what the veterinarian should do for a preride examination - preparation, details of the examination, and recording observations.

Slusher,SH; Mackay-Smith,MP; Blake-Caddel,L (1992): Endurance ride veterinary control. *Proceedings of the Annual Convention of the American Association of Equine Practitioners* 37, 793-805.

This article covers what a veterinarian should do if vetting a ride: qualifications and preparation, control principles and philosophy, heart-rate recovery index, lameness, grading system, how control is applied, records, preride examination, rider briefing, vet checks and completion.

Swanson,TD (1992): The veterinarian's responsibilities at trail rides. In: *Current Therapy in Equine Medicine* 3. (Ed: Robinson,NE) W.B. Saunders, Philadelphia, 80-83.

Discusses the veterinarian role at trail rides (both competitive and endurance) with a list of equipment and medications.

Wright,Andrea (1992): The role of veterinarians at endurance rides. *Horsin' Around* (May), 21-24.

This article by a veterinarian in Canada explains what exams are held during an endurance event and the metabolic problems that are most frequently seen in horses.

Frazier,Dane L (1991): Preride briefing for endurance rides. *Proceedings of the Annual Convention of the American Association of Equine Practitioners* 36, 811-813.

The author discusses what to cover in the preride briefing at endurance rides.

Harman,Joyce (1991): What the veterinarian requires of ride management. *Proceedings of the Annual Convention of the American Association of Equine Practitioners* 36, 827-830.

Ridgway,Kerry J (1991): Inride veterinary examination, postride examination, and judging of best condition. *Proceedings of the Annual Convention of the American Association of Equine Practitioners* 36, 815-826.

This article discusses the criteria to use during the various examinations, emphasizes the importance of each horse receiving a through examination and the best-condition evaluation. Advice on the pitfalls of scoring is emphasized.

Bryant,James C (1990): Veterinary checks at endurance rides. In: *Proceedings of the International Conference on Equine Sports Medicine*. (Ed: Kallings,Peter) Almqvist & Wiksell Tryckeri, Uppsala, 43-46.

This gives an overview of the reasons for veterinary checks and what should be covered at each one.

Sheaham,BF (1990): Endurance rides - pain or pleasure. *Australian Equine Veterinarian* 8(2), 82-86. This paper briefly discusses the horse (type, training, physiological response to endurance exercise), medical problems that occur during rides, and veterinary supervision and checkpoint procedures.

Warren,J (1990): Endurance racing. What does the veterinarian need to know? *Large Animal Veterinarian* 45(6), 12-15.

This article is for the veterinarian who is not familiar with endurance ride veterinary participation. It covers what to monitor before, during and after the ride.

Ridgway,Kerry (1985): Distance rides and the endurance racehorse. In: *Dynamics of Equine Athletic Performance*. (Ed: Association for Equine Sports Medicine) Veterinary Learning Systems Co.,Inc, Lawrenceville,NJ, 113-145.

This chapter is divided into a series of sections covering various aspects of veterinarian responsibilities at endurance. Sections include: The distance ride vetcheck by Kerry Ridgway, the successful endurance ride by James H. Steere, changes in skeletal muscle during endurance exercise by David R. Hodgson, clinical problems associated with endurance rides by Reuben J. Rose, and field treatment of exhaustion/shock syndrome by Mortimer Cohen.

Bauman,HD (1983): Endurance riding-"the horse at his limit". [Abstract]. *XXII World Veterinary*

*Congress, Abstracts Booklet 22*, 160.

This is an abstract of a paper presented at the World Veterinary Congress. It outlines veterinarian responsibilities at an endurance ride.

Commission equine de la S.N.G.T.V (1983): Introduction to the veterinary supervision of endurance and harness trials. (Introduction a la surveillance veterinaires des epreuves d'endurance et d'attelage). *Bulletin des Groupements Techniques Veterinaires 2*, 5-16.

This article presents veterinarian responsibilities in French endurance rides in 1983.

Granier,P (1978): The role of the veterinarian in the control of endurance rides. (L'attitude du Veterinaire dans les controles des raids d'endurance). *Pratique Veterinaire Equine 10*(3), 123-126. This article in French covers the role of the veterinarian in examining the horse at endurance ride checkpoints.

Kelly,CM (1977): Endurance riding and "scoring" endurance rides. *New Zealand Veterinary Journal 25*(12), 393-394.

Branscomb,BL (1975): Veterinary problems on endurance rides. *Proceedings of the Annual Convention of the American Association of Equine Practitioners 20*, 282-286.

The problems discussed here cover dealing with the stressed horse, public relations for dealing with the owner, and the necessity of defining requirements for awards before the ride.

Barsaleau,RB (1974): The role of the veterinarian in endurance and trial rides. *Proceedings of the Annual Convention of the American Association of Equine Practitioners 19*, 381-383.

Discusses problems that might arise during endurance rides.

Barsaleau,RB (1974): Endurance and trail rides. *Journal of the American Veterinary Medical Association 164*(4), 367.

O'Connor,JT (1974): The role of the veterinarian in trail and endurance rides. *Proceedings of the Annual Convention of the American Association of Equine Practitioners 19*, 379-380.

This article outlines the importance of veterinarians in the judging of endurance rides.

Saare,Sharon (1974): Spot checks on endurance rides. *Western Horseman 39*(7, July), 10, 116, 118.

A listing of 10 procedures suggested by the appaloosa horse club, inc. pertaining to veterinary checks on endurance rides with focus on spot checks - the horse can continue when it reaches criteria set by the ride management.

Barsaleau,RB (1966): Clinical observation of endurance horses. *Proceedings of the Annual Convention of the American Association of Equine Practitioners 12*, 13-17.

This is an early article covering the basis of evaluation and judging requirements on endurance rides.

Anon. (1962): Veterinary controls for the Tevis Cup 100 miler. *Western Horseman 27*(3, March), 42.

Describes the pre-ride veterinary exam and the other five veterinary exams during the Tevis ride.

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## WELFARE

Sloet van Oldruitenborgh-Oosterbaan,Marianne M (1995): How can health impairment of endurance

horses be avoided? In: *Basis- und Praxiswissen uber Pferde*. (Ed: Lindner,Arno) Druckerei Chris Wienands, Bonn, 37-51.

This article focuses on the welfare of endurance while outlining metabolic problems and the responsibilities of veterinarians, ride managers, and riders.

Atock,MA; Williams,RB (1994): Welfare of competition horses. *Revue Science et Technique Serie Sciences Agronomiques et Zootechniques* 13(1, Mar), 217-232.

This article discusses the role of the Federation Equestre Internationale in protecting the welfare of competition horses and presents current areas of research by various organizations.

Higgins,AJ (1994): 'I gave him some bute to pass the veterinary inspection' [editorial]. *British Veterinary Journal* 150(5, Sep-Oct), 401-402.

This editorial discusses the history of the Federation Equestre Internationale's role in limiting and monitoring the use of drugs on competition horses.

Australia,Parliament Senate Select Committee on Animal Welfare (1991): Endurance Riding. In: *Equine Welfare in Competitive Events Other Than Racing*. (Ed: Australia,Parliament Senate Select Committee on Animal Welfare) Senate Printing Unit, Canberra, 87-103.

This Australian government report includes a section on endurance riding which describes the unacceptability of equine deaths in the sport and lays out reforms to improve veterinary control for the welfare of the horse.

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## RESEARCH LITERATURE

This section presents a thorough review of the research literature from 1986 through 1996.

Most of the pre-1986 literature, especially dealing with physiology, is cited in a two-part review of the literature by Reuben J Rose. References from these reviews comprise the first part of this section with abstracts for the articles dealing directly with endurance horses. Following this is a listing of the 1986-1996 articles. I have also included some references to the pre-1986 literature that were not included in Rose's review.

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## REUBEN ROSE'S 1986 REVIEW ARTICLES

Rose,RJ (1986): Endurance exercise in the horse--a review. Part I. *British Veterinary Journal* 142(6, Nov-Dec), 532-541.

Rose,RJ (1986): Endurance exercise in the horse--a review. Part II. *British Veterinary Journal* 142(6, Nov-Dec), 542-552.

**REFERENCES AT THE END OF REUBEN ROSE'S REVIEW ARTICLES**

- Adams,WC; Fox,RH; Fry,AJ; MacDonald,IC (1975): Thermoregulation during marathon running in cool, moderate, and hot environments. *Journal of Applied Physiology* 38(6), 1030-1037.
- Ahlborg,Gunvor; Felig,Philip (1976): Influence of glucose ingestion on fuel-hormone response in prolonged exercise. *Journal of Applied Physiology* 41(5, November), 683-688.
- Ahlborg,Gunvor; Felig,Philip; Hagenfeldt,Lars; Hendler,Rosa; Wahren,John (1974): Splanchnic and leg metabolism of glucose, free fatty acids, and amino acids. *Journal of Clinical Investigation* 53 (April), 1080-1090.
- Alyea,Edwin P; Parish,Havner H (1958): Renal response to exercise-urinary findings. *Journal of the American Medical Association* 167(6), 807-813.
- Anderson,MG (1975): The influence of exercise on serum enzyme levels in the horse. *Equine Veterinary Journal* 7(3), 160-165.
- Baum,E; Bruck,K; Schwennicke,HP (1976): Adaptive modifications in the thermoregulatory system of long-distance runners. *Journal of Applied Physiology* 40(3), 404-410.
- Bayly,WM; Grant,BD; Breeze,RG; Kramer,JW (1983): The effects of maximal exercise on acid-base balance and arterial blood gas tension in Thoroughbred horses. In: *Equine Exercise Physiology*. (Eds: Snow,DH; Persson,SGB; Rose,RJ) Granta Editions, Cambridge, 400-407.
- Brownlow,Margaret A; Hutchins,DR (1982): The concept of osmolality: Its use in the evaluation of "dehydration" in the horse. *Equine Veterinary Journal* 14(2), 106-110.
- Cain,DF; Davies,RE (1962): Breakdown of adenosine triphosphate during a single contraction of working muscle. *Biochemical and Biophysical Research Communications* 8(5), 361-366.
- Cardinet,George H; Littrell,JF; Freedland,RA (1967): Comparative investigations of serum creatine phosphokinase and glutamic-oxaloacetic transaminase activities in equine paralytic myoglobinuria. *Research in Veterinary Science* 8, 219-226.
- Carlson,GP (1979): Physiologic responses to endurance exercise. *Proceedings of the Annual Convention of the American Association of Equine Practitioners* 25, 459-468.  
This article discusses the fluid and electrolyte alterations that occur during endurance rides.
- Carlson,GP (1983): Thermoregulation, fluid and electrolyte balance. In: *Equine Exercise Physiology*. (Eds: Snow,DH; Persson,SGB; Rose,RJ) Granta, Cambridge, 291-309.
- Carlson,GP; Mansmann,RA (1974): Serum electrolyte and plasma protein alterations in horses used in endurance rides. *Journal of the American Veterinary Medical Association* 165(3), 262-264.  
Serum electrolyte concentrations were determined in 19 horses before, during, and after a 100-mile endurance trial ride. The most consistent finding was the marked decrease in chloride concentration suggesting that electrolyte supplementation is warranted for horses used in endurance rides.
- Carlson,GP; Ocen,P (1979): Composition of equine sweat following exercise in high environmental temperatures and in response to intravenous epinephrine administration. *Journal of Equine Medicine and Surgery* 3(1), 27-32.
- Carlson,GP; Ocen,PO; Harrold,D (1976): Clinicopathologic alterations in normal and exhausted

endurance horses. *Theriogenology* 6(2-3), 93-104.

Horses competing in a 100 mile endurance ride were divided at the midpoint rest stop into normal and unfit to proceed. Blood analysis showed that the exhausted group had significant changes in acid-base status.

Cohen,I; Zimmerman,AL (1978): Changes in serum electrolyte levels during marathon running. *South African Medical Journal* 53(12, 25 March), 449-453.

Costill,DL (1972): Physiology of marathon running. *Journal of the American Medical Association* 221(9, 28 August), 1024-1029.

Costill,DL; Daniels,J; Evans,W; Fink,W; Krahenbuhl,G; Saltin,B (1976): Skeletal muscle enzymes and fiber composition in male and female track athletes. *Journal of Applied Physiology* 40(2), 149-154.

Deldar,A; Fregin,FG; Bloom,JC; Davanipour,Z (1982): Changes in selected biochemical constituents of blood collected from horses participating in a 50-mile endurance ride. *American Journal of Veterinary Research* 43(12), 2239-2243.

Blood samples were collected from 13 horses participating in the Old Dominion Endurance Ride in 1980. These samples were analyzed for serum concentrations of chloride, potassium, phosphorus, calcium, sodium, glucose and pyruvate. Haematocrit and the total protein concentration, free fatty acids, serum enzymes and lactate were also measured. Investigators concluded that the changes in serum electrolytes, enzymes, and blood metabolites reflect the sweating, muscle damage, and increased dependence on anaerobic glycolysis and lipid mobilization.

Dybdal,NO; Gribble,D; Madigan,JE; Stabenfeldt,GH (1980): Alterations in plasma corticosteroids, insulin and selected metabolites in horses used in endurance rides. *Equine Veterinary Journal* 12(3), 137-140

. This study of entrants in the Western States Trail Ride (160 km) describes changes in plasma levels of corticosteroids, insulin, glucose, lactate and beta-hydroxybutyrate in those that successfully finished and in those that failed to complete the ride.

Essen,B; Hagenfeldt,L; Kaijser,L (1977): Utilization of blood-borne and intramuscular substrates during continuous and intermittent exercise in man. *Journal of Physiology* 265(2), 489-506.

Essen,B; Lindholm,A; Thornton,J (1980): Histochemical properties of muscle fibre types and enzyme activities in skeletal muscles of Standardbred trotters of different ages. *Equine Veterinary Journal* 12(4), 175-180.

Essen-Gustavsson,B; Karlstrom,K; Lindholm,A (1984): Fibre types, enzyme activities and substrate utilisation in skeletal muscles of horses competing in endurance rides. *Equine Veterinary Journal* 16 (3), 197-202.

Venous blood samples and mid gluteal muscle biopsies were taken from 21 horses competing in 100 km or 50 km rides. Results show that oxidative metabolism plays an important role utilizing both carbohydrate and lipids derived from intra- and extra-muscular sources. The level of liver and muscle substrate stores before an endurance ride may therefore have an effect on performance.

Fowler,ME (1979): Veterinary problems during endurance trail rides. *Proceedings of the Annual Convention of the American Association of Equine Practitioners* 25, 469-478.

This paper discusses the various pathologies that a veterinarian might encounter while vetting a ride. It presents predisposing factors, clinical signs and therapy for each.

Fowler,Murray E (1979): The exhausted horse syndrome. *Proceedings of the Annual Convention of the American Association of Equine Practitioners* 25, 479-482.

Covers the following aspects of the exhausted horse syndrome: clinical signs, predisposing factors, pathophysiology, therapy and prevention.

Fowler,ME (1980): Veterinary management of endurance trail rides. *Journal of the South African Veterinary Association* 51(2, June), 81-83.

This is paper discusses veterinarian responsibilities at rides: preride, preride examination, briefing riders, checkpoint evaluations.

Fowler,Murray E (1980): Veterinary problems during endurance trail rides. *Journal of the South African Veterinary Association* 51(2, June), 87-91.

Gives an overview of medical problems most often found on endurance rides: hyperthermia, dehydration, synchronous diaphragmatic flutter, muscle problems, laminitis, colic, and saddle and cinch sores.

Fregin,GF (1979): General discussion of physiologic observations recorded on 117 horses during 100-mile endurance rides. *Proceedings of the Annual Convention of the American Association of Equine Practitioners* 25, 315-321.

Measurements of packed cell volume, total plasma protein, blood glucose, free fatty acids blood lactates, creatinine phosphokinase, chloride, calcium, potassium and phosphorus were taken. Changes in these factors during the ride are discussed.

Galbo,Henrik (1983): *Hormonal and Metabolic Adaptation to Exercise*. Georg Thieme Verlag, Stuttgart. 116 pages.

Galbo,H; Holst,JJ; Christensen,NJ (1975): Glucagon and plasma catecholamine responses to graded and prolonged exercise in man. *Journal of Applied Physiology* 38(1, January), 70-76.

Gerber,H (1969): Serum enzyme determination in equine medicine. *Equine Veterinary Journal* 1(3), 129-139.

Gillespie,JR; Kauffman,A; Steere,J; White,L (1975): Arterial blood gases and pH during long distance running in the horse. *Proceedings of the International Symposium on Equine Hematology* 1, 450-468.

Two endurance-trained horses were studied through five trials over the same 31 km trail. The ambient temperature was low for two of the rides and high for the other three. Temperature had a significant effect on blood gases and pH.

Gollnick,PD (1982): Relationship of strength and endurance with skeletal muscle structure and metabolic potential. *International Journal of Sports Medicine* 3(Suppl. 1, February), 26-32.

Gollnick,PD; Saltin,B (1982): Significance of skeletal muscle oxidative enzyme enhancement with endurance training. *Clinical Physiology* 2(1, February), 1-12.

Haggendal,J; Hartley,LH; Saltin,B (1970): Arterial noradrenaline concentration during exercise in relation to the relative workloads. *Scandinavian Journal of Clinical Laboratory Investigation* 26, 337-342.

Hall,GM; Adrian,TE; Bloom,SR; Lucke,Jn (1982): Changes in circulating gut hormones in the horse during long distance exercise. *Equine Veterinary Journal* 14(3, July), 209-212.

This study analysed pre- and post-ride blood samples from horses participating in an 80 km and a 42 km ride. Results suggest that changes in circulating gut peptides are part of the endocrine response to exercise. The authors discuss the possible physiological role of these changes.

Hall-Patch,PK; Orton,RG; Sampson,JH (1977): Competitive trail and endurance riding in the UK.

*Veterinary Record* 100(10), 192-194.

A description is given of trail and endurance riding in the UK as controlled by the Endurance Horse and Pony Society. Veterinary involvement and responsibility are described and measures for their satisfactory execution discussed. Opportunities and need for research into the problems arising are mentioned.

Harton,M; Havel,RJ; Copinschi,JM Earll; Ritchie,BC (1967): The relationship between changes in serum levels of growth hormone and mobilization of fat during exercise in man. *Quarterly Journal of Experimental Physiology* 52, 86-96.

Henckel,P (1983): Training and growth induced changes in the middle gluteal muscle of young standardbred trotters. *Equine Veterinary Journal* 15(2), 134-140.

Hinton,M (1977): Long distance horse riding and the problem of dehydration and rhabdomyolysis. *Veterinary Annual* 17, 136-141.

This article describes a case of a horse on an endurance ride being pulled for exhaustion and dehydration. It discusses the causes and suggests a simple solution for prevention.

Hinton,MH (1978): The biochemical and clinical aspects of exhaustion in the horse. *Veterinary Annual* 18, 169-172.

Discusses the complex of metabolic problems associated with the exhausted horse. Includes clinical signs and treatment.

Hinton,M; Yeats,JJ; Hastie,PS; McGuiness,A; Constance,L (1976): Diaphragmatic flutter in horses. *Veterinary Record* 99, 402.

Hodgson,DR; Rose,RJ; Allen,JR; Snow,DH; Persson,SGB (1983): Muscle glycogen depletion and repletion patterns in horses performing various distances of endurance exercise. In: *Equine Exercise Physiology. Proceedings of the First International Conference*. (Eds: Snow,DH; Persson,S; Rose,RJ) Granta Editions, Cambridge, 229-236.

Muscle biopsy samples from horses participating in three endurance rides showed a wide variety of muscle fiber types. The variability was such that it appeared to limit the predictive value of muscle biopsy in choosing successful endurance horses.

Issekutz,B,Jr; Miller,HI; Rodahl,K (1966): Lipid and carbohydrate metabolism during exercise. *Federation Proceedings* 25, 1415-1420.

Kachadorian,William A; Johnson,Robert E (1970): Renal responses to various rates of exercise. *Journal of Applied Physiology* 28(6, June), 748-752.

Kerr,MG; Snow,DH (1983): Composition of sweat of the horse during prolonged epinephrine (adrenaline) infusion, heat exposure, and exercise. *American Journal of Veterinary Research* 44(8), 1571-1577.

Kerr,MG; Snow,DH; Persson,SGB (1983): Plasma enzyme activities in endurance horses. In: *Equine Exercise Physiology. Proceedings of the First International Conference*. (Eds: Snow,DH; Persson,S; Rose,RJ) Granta Editions, Cambridge, 432-440.

This study examines plasma creatinine kinase and aspartate aminotransferase levels in 70 horses competing in endurance rides and relates these findings to a subjective assessment of the horses' performance.

Kindermann,W; Simon,G; Keul,J (1979): The significance of the aerobic-anaerobic transition for the determination of work load intensities during endurance training. *European Journal of Applied Physiology and Occupational Physiology* 42, 25-34.

Koterba,A; Carlson,GP (1982): Acid-base and electrolyte alterations in horses with exertional rhabdomyolysis. *Journal of the American Veterinary Medical Association* 180, 303-306.

Leaf,Alexander (1962): The clinical and physiologic significance of the serum sodium concentration (Concluded). *New England Journal of Medicine* 267(2), 77-83.

Lindholm,A; Bjerneld,H; Saltin,B (1974): Glycogen depletion pattern in muscle fibres of trotting horses. *Acta Physiologica Scandinavica* 90(2), 475-484.

Lindholm,A; Piehl,K (1974): Fibre composition, enzyme activity and concentrations of metabolites and electrolytes in muscles of standardbred horses. *Acta Veterinaria Scandinavica* 15(3), 287-309.

Lindner,A; Schmidt,M; Meyer,H (1983): Investigations on sodium metabolism in exercised Shetland ponies fed a diet marginal in sodium. In: *Equine Exercise Physiology*. (Eds: Snow,DH; Persson,SGB; Rose,RJ) Granta Editions, Cambridge, 310-317.

Lucke,JN (1982): Factors contributing to the exhaustion in the long distance riding horse. *Proceedings of the Association of Veterinary Anaesthetists of Great Britain and Ireland* 9, 140-152. This long-term study of horses competing in the British Golden Horseshoe ride examines oxidative capacity and availability of energy, hormonal responses, dehydration and electrolyte changes, environmental temperature and thermoregulation, myocardial function. It also discusses the exhausted horse syndrome.

Lucke,JN; Hall,GM (1978): Biochemical changes in horses during a 50-mile endurance ride. *Veterinary Record* 102(16), 356-358.

Blood samples from 15 horses before and after a 50-mile ride were examined for changes in some biochemical constituents. These changes are discussed in relation to exhaustion in horses during endurance rides.

Lucke,JN; Hall,GM (1980): Long distance exercise in the horse: Golden Horseshoe Ride 1978. *Veterinary Record* 106(18-19-20), 405-407.

Biochemical analysis of blood samples taken from 12 horses before, immediately after and one hour after an 80 km ride are reported.

Lucke,JN; Hall,GM (1980): Biochemical study of the Arab Horse Society's marathon race. *Veterinary Record* 107(23, 6 December), 523-525.

Analysis of blood samples from horses in the Arab Society's marathon 42 km race are compared to those taken in the Golden Horseshoe Ride.

Lucke,JN; Hall,GM (1980): Further studies on the metabolic effects of long distance riding: Golden Horseshoe Ride 1979. *Equine Veterinary Journal* 12, 189-192.

MacDougall,J Duncan; Reddan,WG; Layton,CR; Dempsey,JA (1974): Effects of metabolic hyperthermia on performance during heavy prolonged exercise. *Journal of Applied Physiology* 36(5, May), 538-544.

Magazanik,Abraham; Shapiro,Yair; Meytes,Dina; Meytes,Ilan (1974): Enzyme blood levels and water balance during a marathon race. *Journal of Applied Physiology* 36(2), 214-217.

Mansmann,RA; Carlson,GP; White,NA; Milne,DW (1974): Synchronous diaphragmatic flutter in horses. *Journal of the American Veterinary Medical Association* 165(3), 265-270.

Synchronous diaphragmatic flutter occurred in six horses trained for endurance riding and in five horses with other clinical disorders. Hypokalaemia, hypocalcaemia, and alkalosis were related to the diaphragmatic flutter in these horses.

McMiken,DF (1983): An energetic basis of equine performance. *Equine Veterinary Journal* 15(2), 123-133.

Milne,DW (1974): Blood gases, acid-base balance and electrolyte and enzyme changes in exercising horses. *Journal of the South African Veterinary Association* 45(4), 345-353.

The third experiment in this study measured different metabolic parameters in blood samples drawn from 16 horses before, during and after an 80 km ride.

Murakami,M; Takagi,S (1974): Effects of continuous long distance running exercise on plasma enzyme levels in horses. *Experimental Reports of Equine Health Laboratory* 11, 106-118.

Blood samples from three horses exercised the same distance each day for five consecutive days suggest that creatine kinase may be used as an indicator for the severity of the exercise and that aspartate aminotransferase may be an index for over-training.

Newsholme,Eric A (1983): Control of metabolism and the integration of fuel supply for the marathon runner. In: *Biochemistry of Exercise*. (Eds: Knuttgen,Howard G; Vogel,James A; Poortmans,Jacques) (International series of sport sciences, 13.) Human Kinetics Publishers, Inc., Champaign, IL, 144-150.

Persson,SGB; Lydin,G (1973): Circulatory effects of splenectomy in the horse. III. Effect on pulse-work relationship. *Zentralblatt fur Veterinarmedizin A* 20(7), 521-530.

Robertson,S; Lucke,JN; Hall,GM (1983): Further study of the Arab Horse Society's marathon race. *Equine Veterinary Journal* 15(3), 280-282.

Robinson,S; Robinson,AH (1954): Chemical composition of sweat. *Physiological Reviews* 34(2), 202-204.

Rose,RJ (1981): A physiological approach to fluid and electrolyte therapy in the horse. *Equine Veterinary Journal* 13(1), 7-14.

Rose,RJ (1982): Haematological changes associated with endurance exercise. *Veterinary Record* 110(8), 175-177.

Blood count and noradrenaline estimations were performed in 14 horses competing in the 1980 Tom Quilty 160 km endurance ride. Comparisons are made between fast and slow horses.

Rose,RJ; Arnold,KS; Church,S; Paris,R (1980): Plasma and sweat electrolyte concentrations in the horse during long distance exercise. *Equine Veterinary Journal* 12(1), 19-22.

Blood samples were taken from 20 horses competing in a 100 km endurance ride and plasma concentrations of sodium, potassium, chloride, bicarbonate and protein were measured. Substantial losses of electrolytes were found.

Rose,RJ; Hodgson,DR; Sampson,D; Chan,W (1983): Changes in plasma biochemistry in horses competing in a 160 km endurance ride. *Australian Veterinary Journal* 60(4), 101-105.

Plasma biochemical values were measured in 14 horses competing in the 1980 Tom Quilty 160 km endurance ride. Estimations were made of sodium, potassium, chloride, bicarbonate, glucose, creatinine, urea, bilirubin, iron, total protein, albumin, calcium, phosphate, cholesterol, alkaline phosphatase, gammaglutamyl transferase, lactate dehydrogenase, alpha -hydroxybutyrate dehydrogenase, aspartate aminotransferase, alanine aminotransferase, creatine kinase, cortisol and insulin. Disturbances in biochemical values associated with endurance exercise reflected dehydration, hepatic dysfunction, reduced renal function and muscle damage. The faster the speed of exercise, the greater was the stress as reflected by cortisol values.

Rose,RJ; Ilkiw,JE; Martin,ICA (1979): Blood-gas, acid-base and haematological values in horses

during an endurance ride. *Equine Veterinary Journal* 11(1), 56-59.

This research studied the effects of prolonged strenuous exercise on arterial and venous oxygen tension, carbon dioxide tension, pH, bicarbonate, standard bicarbonate, base excess, hemoglobin, packed cell volume and total plasma protein in 36 horses during a 100 km endurance ride. There were significant changes between the different samplings.

Rose,RJ; Paris,R (1980): Changes in certain plasma enzyme values in horses during endurance exercise. *Australian Veterinary Practitioner* 10(2), 123-124.

This study analysed plasma enzymes in venous blood samples from 20 horses after the 1979 Northside Endurance Ride in Australia.

Rose,RJ; Purdue,RA; Hensley,W (1977): Plasma biochemistry alterations in horses during an endurance ride. *Equine Veterinary Journal* 9(3), 122-126.

The effects of prolonged strenuous exercise on the plasma concentrations of sodium, potassium, calcium, chloride, bicarbonate, phosphate, albumin, cholesterol, glucose, creatinine, bilirubin, alkaline phosphatase, creatine phosphokinase, lactic dehydrogenase and aspartate amino transferase were studied in a group of 26 horses competing in an endurance ride.

Rose,RJ; Sampson,D (1982): Changes in certain metabolic parameters in horses associated with food deprivation and endurance exercise. *Research in Veterinary Science* 32(2), 198-202.

This study investigated the role of ketones and certain other metabolic parameters during endurance exercise and food deprivation to determine their roles in the mobilization and provision of energy.

Rossdale,PD; Burguez,PN; Cash,RSG (1982): Changes in blood neutrophil/lymphocyte ratio related to adrenocortical function in the horse. *Equine Veterinary Journal* 14(4), 293-298.

Rumbaugh,GE; Carlson,GP; Harrold,D (1982): Urinary production in the healthy horse and in horses deprived of feed and water. *American Journal of Veterinary Research* 43(4), 735-737.

Scheele,K; Herzog,W; Ritthaler,G; Wirth,A; Weicker,H (1979): Metabolic adaptation to prolonged exercise. *European Journal of Applied Physiology and Occupational Physiology* 41, 101-108.

Snow,DH (1983): Skeletal muscle adaptations: A review. In: *Equine Exercise Physiology*. (Eds: Snow,DH; Persson,SGB; Rose,RJ) Granta Editions, Cambridge, 160-183.

Snow,DH; Baxter,P; Rose,RJ (1981): Muscle fibre composition and glycogen depletion in horses competing in an endurance ride. *Veterinary Record* 108(17), 374-378.

This research investigates the muscle fibre composition and glycogen depletion pattern within the middle gluteal of 16 horses participating in an 80 km endurance ride. Results indicated that horses with a high proportion of slow twitch fibers and sufficient muscle glycogen are most likely to be successful.

Snow,DH; Fixter,LM; Kerr,MG; Cutmore,CMM (1983): Alterations in composition of venous plasma FFA pool during prolonged and sprint exercises in the horse. In: *Biochemistry of Exercise*. (Eds: Knuttgen,Howard G; Vogel,James A; Poortmans,Jacques) Human Kinetics Publishers, Inc., Champaign, IL, 336-342.

This study was conducted to investigate changes in plasma FFA in response to prolonged and sprint exercise in the horse.

Snow,DH; Guy,PS (1976): Percutaneous needle muscle biopsy in the horse. *Equine Veterinary Journal* 8(4), 150-155.

Snow,DH; Kerr,MG; Nimmo,MA; Abbott,EM (1982): Alterations in blood, sweat, urine and muscle composition during prolonged exercise in the horse. *Veterinary Record* 110(16), 377-384.

Snow,DH; Ricketts,SW; Mason,DK (1983): Haematological response to racing and training exercise in thoroughbred horses, with particular reference to leucocyte response. *Equine Veterinary Journal* 15(2), 149-154.

Snow,DH; Rose,RJ (1981): Hormonal changes associated with long distance exercise. *Equine Veterinary Journal* 13(3, July), 195-197.

Blood samples from seventeen horses participating in an 80 km were analyzed for hormonal changes.

Stewart,GA; Riddle,CA; Salmon,PW (1977): Hematology of the racehorse. A recent study of Thoroughbreds in Victoria. *Australian Veterinary Journal* 53(8), 353-359.

Taylor,CR; Caldwell,SL; Rowntree,VJ (1972): Running up and down hills: some consequences of size. *Science* 178(65, 8 December), 1096-1097.

Welt,LG; Hollander,W; Blythe,WB (1960): The consequences of potassium depletion. *Journal of Chronic Diseases* 11, 213-254.

White,KK; Short,CE; Hintz,HF; Ross,MW; Lesser,FR; Leids,PF; Lowe,JE; Schryver,HF (1978): The value of dietary fat for working horses. II. Physical evaluation. *Journal of Equine Medicine and Surgery* 2(12), 525-530.

Physical evaluation of horses subjected to endurance exercise shows no difference between horses receiving fat-supplementation and those receiving no supplementation in their feed.

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## BEHAVIOR

McGreevy,PD; French,NP; Nicol,CJ (1995): The prevalence of abnormal behaviours in dressage, eventing and endurance horses in relation to stabling. *Veterinary Record* 137(2), 36-37.

This study found that box-walking was relatively common among endurance horses. However, since most endurance horses are Arabian or have Arabian blood, it is possible that breed characteristics are also a factor.

## CONDITIONING

Bruin,G; Kuipers,H; Keizer,HA; Vander Vusse,GJ (1994): Adaptation and overtraining in horses subjected to increasing training loads. *Journal of Applied Physiology* 76(5), 1908-1913.

This study on seven male race horses subjected to endurance and interval training concluded that: as long as exhaustive training is alternated by light exercise, overtraining is unlikely to occur.

Furthermore, no single parameter can be used to detect early overtraining."

McCollum,DE; Miller-Graber,P; Kolterman,T; Martinez,T; Sharp,R (1993): The metabolic response to exercise and conditioning: A comparison between Arabians and Quarter Horses. *Proceedings of the Equine Nutrition and Physiology Symposium* 13, 205-210.

Although the exercise involved here is high-intensity rather than endurance, the results show that there are breed differences in response to exercise. Therefore, one must recognize breed differences when designing a conditioning program.

Rose,RJ (1984): *Changes in Haematology and Plasma Biochemistry of Horses in Response to*

*Training and Endurance Exercise*. Master's Thesis, Royal College of Veterinary Surgeons, London. 195 p. 4 reprints; 18pp of ref.

Rose,RJ; Hodgson,DR (1982): Haematological and plasma biochemical parameters in endurance horses during training. *Equine Veterinary Journal* 14(2), 144-148.

This study of 11 horses on a 12 week training schedule concluded that routine haematological and biochemical screening has no useful role in assessing the fitness of horses under these conditions.

Snow,DH; Mackenzie,G (1977): Effect of training on some metabolic changes associated with submaximal endurance exercise in the horse. *Equine Veterinary Journal* 9(4), 226-230.

The effects of prolonged cantering before and after a 10-week training programme were studied in six horses. Training caused no significant difference in blood changes measured following submaximal training.

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## EQUIPMENT

Lindner,A; Guhl,A; Mallison,J (1995): Measurement of blood lactate concentration in horses during endurance rides using Accusport pocket analyser. *Pferdeheilkunde* 11(6, November-December), 393-396.

Twenty five horses were continually sampled during and at completion of rides using the Accusport analyser, a dry chemistry pocket analyser for lactate. The study showed that the Accusport analyzer is suitable for quickly measuring blood lactate concentrations without technical problems.

Nelson,DE; Rivara,FP; Condie,C (1994): Helmets and horseback riders. *American Journal of Preventive Medicine* 10(1, Jan-Feb), 15-19.

This article reports the results of a survey of helmet use by a randomly selected sample of horseback riders.

Condie,C; Rivara,FP; Bergman,AB (1993): Strategies of a successful campaign to promote the use of equestrian helmets. *Public Health Reports* 108(1, Jan-Feb), 121-126.

Presents results of a survey of riders on why they do not use helmets and then outlines the program established to increase helmet use.

de-Waal,A; Potgieter,FJ (1991): Evaluation of an electronic device used as a quick screening method to detect changes in the red cell content of the blood in horses participating in endurance trail rides. *Veterinary Research Communications* 15(4), 309-314.

This study compared the accuracy of the electrometer with conventional methods of determining blood cell counts on samples of 16 horses in 5 different endurance events. The results showed that the electrometer was accurate and much faster than standard techniques.

Sloet Van Oldruitenborgh Oosterbaan,MM; Van Den Hoven,R; Breukink,HJ (1988): The accuracy of three different heart rate meters used for studies in the exercising horse. *Zentralblatt fur Veterinarmedizin . A.* 35(9, Nov), 665-672.

Three different heart rate meters (Respironics, Horse Tester and Elbos) were tested for accuracy under laboratory and field conditions. Horse Tester was found to be best under field conditions.

Physick-Sheard,PW; Harman,JC; Snow,DH; Woakes,AJ (1987): Evaluation of factors influencing the performance of four equine heart rate meters. In: *Equine Exercise Physiology 2: Proceedings of*

*the Second International Conference on Equine Exercise Physiology* San Diego, California August 7-11, 1986. (Eds: Gillespie, Jerry R; Robinson, N Edward) ICEEP Publications, Davis, CA, 102-116. This study tested the accuracy of the PEH 100, H/R-7, PEH 200 and TTJ heart rate monitors available in 1986. While other monitors have become available in the last 10 years, the authors emphasize that the "user should avoid placing undue emphasis upon a single set of observations." This is as valid today as it was in 1986.

Erickson, Howard H (1986): Heart rate monitoring. *Equine Veterinary Data* 7(11), 171-173. This article describes a research program to determine the value of a heart-rate computer in reducing injury and disease in a conditioning program for horses. (Reprinted from the *Quarter Horse Journal*)

Evans, DL; Rose, RJ (1986): Method of investigation of the accuracy of four digitally-displaying heart rate meters suitable for use in the exercising horse. *Equine Veterinary Journal* 18(2, Mar), 129-132.

The accuracy of four heart rate meters (PEH 100, PU 10, HR 14 and HRM-7) was assessed by comparison with heart rate determined by simultaneous telemetry electrocardiography (ECG) using a rapid incremental exercise test on a treadmill. Heart rate displayed by all four meters showed significant correlations with the ECG heart rate, but only two meters (PEH 100 and HRM-7) had correlation coefficients of 0.98 or greater.

Physick-Sheard, Peter W (1986): Practical application of equine heart rate meters. In: *Proceedings of the International Conference for Equine Sports Medicine*. (Ed: Anon.) American Association of Equine Practitioners?; Association for Equine Sports Medicine, San Diego, CA?, 30-36. Presents some of the uses of the heart monitor along with a list and description of those available in 1986.

Foreman, Jonathan H; Rabin, Douglas (1984): Determination of accuracy of a digitally displaying equine heart rate meter. *Journal of Equine Veterinary Science* 4(4), 161-163. The equine heart rate meter was found to be accurate. With this capability of accurately monitoring heart rate during exercise it is possible to evaluate new conditioning methods.

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## FITNESS

Castej'on, F; Rubio, D; Tovar, P; Vinuesa, M; Riber, C (1994): A comparative study of aerobic capacity and fitness in three different horse breeds (Andalusian, Arabian and Anglo-Arabian). *Zentralblatt für Veterinärmedizin A* 41(9, Nov), 645-652.

Andalusian horses exhibited higher lactate levels, lower resting heart rates, and perhaps more suitable for anaerobic exercise. There was no significant difference in heart rate recovery among the breeds.

Noel-de-Burlin, A; Art, T; Amory, H; Votion, D; Lekeux, P (1994): Routine standardized tests to assess fitness in endurance horses. *Pratique Veterinaire Equine* 26(1), 25-30.

The purpose of this study was to try to assess the fitness of endurance horses by using a simple routine standardized treadmill exercise test performed before and after a training period. It was concluded that the test is simple, safe, suitable for horses unfamiliar with the treadmill and that heart rate during and after exercise was the most reliable indicator of fitness.

Szarska, E (1994): Tentative assessment of fitness in endurance horses on the basis of selected blood

indices and ride results. *Advances in Agricultural Sciences* 3(1), 25-30.

Blood samples of fourteen horses taking part in a 120 km mountain ride were collected and analyzed for changes in hematocrit and total proteins which indicate the degree of dehydration. The best parameters for fitness assessment were post exercise measurements of glucose and phosphocreatine kinase.

Lawrence,L; Jackson,S; Kline,K; Moser,L; Powell,D; Biel,M (1992): Observations on body weight and condition of horses in a 150-mile endurance ride. *Journal of Equine Veterinary Science* 12(5), 320-324.

This study of entrants in the 1990 Race of Champions (a 150-mile, 2-day endurance ride) was undertaken to determine if there is a relationship between body condition and performance. The most competitive horses (finishers in the top 7) tended to have lower condition scores and less rump fat than non-competitive horses eliminated for metabolic criteria.

Barrey,E; Valette,JP; Wolter,R (1989): Multicomponent analysis of exercise fitness in saddle horses. *Annales de Zootechnie* 38(2-3), 157-169.

The exercise performance capacity of 16 horses was determined by measuring cardiac, haematological, energetic and gait parameters. Multivariate statistical methods such as principal component analysis and discriminant analysis were used to describe the relationships between variables and to compare the exercise fitness of each horse. It was concluded that multivariate analysis was very suitable for the analysis of exercise fitness.

Poggenpoel,RG (1988): Measurements of heart rate and riding speed on a horse during a training programme for endurance rides. *Equine Veterinary Journal* 20(3), 3, 224.

This clinical study on one horse concludes that the heart rate recovery can give an indication of increasing fitness with training. The general applicability of this study is unknown.

Gysin,J; Isler,R; Straub,R (1987): Evaluation of performance capacity and definition of training intensity in sport horses using heart rate and plasma lactate measurements. *Pferdeheilkunde* 3(4), 193-196, 199-200.

A multistep test for evaluating performance capacity of horses is described. When determining training intensity it was recommended that heart rate at V4 and V2 (velocity at 4 mmol and 2 mmol lactate/liter plasma), rather than V4 and V2 alone, be measured, and that heart rate be monitored during training.

Straub,R; Isler,R; Gysin,J (1984): Measures for evaluating endurance capacity in the horse. *Tierärztliche Praxis* 12(4), 499-504.

This study indicates that two traits are useful in evaluating the endurance capacity of the horse. These are the V150 score (speed consistent with a constant heart rate of 150 per min) and the V4 score (constant speed over 1200-1600 m consistent with a blood lactic acid concentration of 4mMol per litre).

Rose,RJ (1983): An evaluation of heart rate and respiratory rate recovery for assessment of fitness during endurance rides. In: *Equine Exercise Physiology. Proceedings of the First International Conference*, Oxford, September 22nd-24th, 1982. (Eds: Snow,David H; Persson,Sune GB; Rose,Reuben J) Granta Editions, Cambridge, 505-509.

Analysis of blood samples taken before and after a 100 km ride and a 160 km ride showed that heart rate recovery provided a good objective criterion of the degree of fatigue suffered by a horse during endurance exercise.

Huguet,JM; Braun,JP; Benard,P; Burgat-Sacaze,V; Rico,AG (1981): Assessment of the fitness of horses for endurance rides. *Recueil de Medecine Veterinaire* 157(5), 407-413.

Fitness of horses can be determined by hematocrit and heart and respiratory rates.

Electrocardiograms and analysis of certain biochemical factors may also be of interest.

Cardinet,GH; Fowler,ME; Tyler,WS (1963): Heart rates and respiratory rates for evaluating performance in horses during endurance trail ride competition. *Journal of the American Veterinary Medical Association* 143(12), 1303-1309.

This is a pioneering study of 35 horses on an endurance ride to provide veterinarians with a fitness measure that can be used to evaluate the ability of a horse to continue. It is concluded that measurements of heart and respiratory rates are good objective criteria to use in this evaluation.

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## MUSCLES

Rivero,JLL; Henckel,P (1996): Muscle biopsy index for discriminating between endurance horses with different performance records. *Research in Veterinary Science* 61(1), 49-54.

This study used muscle biopsy samples from 36 endurance horses along with rigorous statistical analysis to determine the best procedures to use to determine a horse's ability to perform. Increased precision is obtained when multiple biopsies from different depths of the gluteus medius muscle are used.

Rivero,JLL; Ruz,MC; Serrano,AL; Diz,AM (1995): Effects of a 3 month endurance training programme on skeletal muscle histochemistry in Andalusian, Arabian and Anglo-Arabian horses. *Equine Veterinary Journal* 27(1), 51-59.

This study of twenty adult sedentary stallions before and after three months of endurance training revealed few significant changes in muscle fibre type composition, an increase in the size of the fibers and no noticeable change in muscle fibre type composition and capillary density.

Rivero,JLL; Serrano,AL; Henckel,P (1995): Activities of selected aerobic and anaerobic enzymes in the gluteus medius muscle of endurance horses with different performance records. *Veterinary Record* 137(8), 187-192.

This study compared the activities of three enzymes in muscle biopsies from a group of 20 horses with excellent endurance records to a group of 16 horses with moderate performance records. Based on this enzymatic activity, it showed that the endurance horses with the better performance record had a greater aerobic capacity and a relatively lower anaerobic capacity in the gluteus medius muscle than the horses with a poorer record.

Rivero,JLL; Diz,AM; Aguera,E; Serrano,AL (1993): Endurance training and muscle-fiber types in Andalusian and Arabian horses. *Equine Practice* 15(4), 13-20.

A study of 68 stallions (52 Andalusians and 10 Arabians) evaluated the effects of endurance training on skeletal muscle-fibre types and size in these 2 breeds. The ratio of slow- to fast-twitch fibres is not influenced by training while fiber size increases in Type 1 and Type 2B fibers. There was no change Type 2A fiber size.

Rivero,JLL; Serrano,AL; Henckel,P; Aquera,E (1993): Muscle fiber type composition and fiber size in successfully and unsuccessfully endurance-raced horses. *Journal of Applied Physiology* 75(4), 1758-1766.

Measurements of muscle fibers in 36 endurance horses, 20 with excellent records, revealed a significant difference. Horses with excellent records had higher percentage and larger size of type I and type IIa fibers and a lower percentage of type IIb fibers.

Lopez-Rivero,JL; Aguera,E; Monterde,JG; Vivo,J; Rodriguez-Barbudo,MV (1992): Skeletal muscle fiber size in untrained and endurance-trained horses. *American Journal of Veterinary Research* 53

(5), 847-850.

This study found little variation in muscle fiber size among untrained, moderately and strongly endurance trained Andalusian and Arabian stallions. There was a slight increase in fiber size of Type 1 and 2b myofibers in endurance-trained Andalusians.

Lopez-Rivero, JL; Morales-Lopez, JL; Galisteo, AM; Aguera, E (1991): Muscle fibre type composition in untrained and endurance-trained Andalusian and Arab horses. *Equine Veterinary Journal* 23(2), 91-93.

This study of 68 stallions found that there was no change in muscle fiber type between untrained and endurance-trained horses. However, given sufficient training, type II subtypes can increase their oxidative capacity.

Hodgson, DR; Rose, RJ (1987): Effects of a nine-month endurance training programme on muscle composition in the horse. *Veterinary Record* 121(12), 271-274.

Muscle biopsy samples were collected from seven horses undergoing a nine-month endurance training program before the program began and again after three, six and nine months of training and three months after training ceased. The study found an increase in the percentage of type IIB fibers and in the number of capillaries adjacent to type IIB fibers. There were increases in the activities of citrate synthase and 3-hydroxy acyl CoA dehydrogenase. The muscular changes reverted to pre-training levels after three months.

Valberg, Stephanie (1986): The effect of training on skeletal muscle. In: *Proceedings of the International Conference for Equine Sports Medicine*. (Ed: Anon.) American Association of Equine Practitioners?; Association for Equine Sports Medicine, San Diego, CA?, 20-22.

Reviews the research to date on the muscle adaptations of horses under different training regimes.

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## NUTRITION

Danielsen, Kristin (1995): *The Effect of Dietary Fiber Level and Fiber Type on Physiological Response to Dehydration in the Horse*. Ph.D. Dissertation, University of Kentucky. 193 p.

This dissertation presents the results of five experiments on horses during endurance exercise to examine the importance of dietary fiber level and fiber type on dehydration.

Danielsen, Kristin; Lawrence, LM; Siciliano, P; Powell, Debbie; Thompson, K (1995): Effect of diet on weight and plasma variables in endurance exercised horses. In: *Equine Exercise Physiology 4*. (Ed: Robinson, NE) (Equine Veterinary Journal Supplement, 18.) Equine Veterinary Journal Limited, Newmarket, Suffolk, UK, 372-377.

This research indicates that the amount of roughage intake has an effect on horses involved in endurance type exercise.

Wolter, R (1995): Aptitudes to sport and nutrition of horse. *Comptes Rendus de l'Academie d'Agriculture de France* 81(8), 13-29.

The competitive horse requires a well-balanced diet, specifically adapted to its athletic needs. Long distance sprinters, horses particularly, by nature burn glycogen both aerobically and anaerobically, the latter giving rise to an accumulation of lactic acid which can thus lead to complications such as myositis and metabolic acidosis.

Kronfeld, DS; Ferrante, PL; Grandjean, D (1994): Optimal nutrition for athletic performance, with

emphasis on fat adaptation in dogs and horses. *Journal of Nutrition* 124(12s, Suppl, Dec), 2745S-2753S.

This paper finds that fat adaptation improves aerobic performance in horses and spares glycogen utilization and reduces lactate accumulation.

Krusic,LI; Dolinar,J; Sallmann,HP; Haready,MS (1990): Changes in the serum concentrations of vitamin A and E in exercising horses. *Acta Veterinaria Beograd* 40(1), 11-20.

This study subjected six endurance horses to standard exercise tests to estimate the nutritional status of vitamin A and E of the exercising horse under a defined feeding program.

Krusic,LI; Haready,MS; Schramel,P; Dolinar,J (1990): Urine and hair analysis as potential indicators of some macro and microelements in performing horses. *Acta Veterinaria Beograd* 40(2-3), 65-75.

This is a study of the analysis of hair and urine samples of six endurance horses to assess current nutritional status.

Meyers,MC; Potter,GD; Evans,JW (1989): Physiologic and metabolic response of exercising horses to added dietary fat. *Journal of Equine Veterinary Science* 9(4), 218-223.

Ralston,SL (1988): Nutritional management of horses competing in 160 km races. *Cornell Veterinarian* 78(1), 53-61.

This article presents the results of a survey of the feeding and training of 54 horses competing in two 160 km endurance races. Differences between practices of owners of successful and unsuccessful horses are noted. Horses developing metabolic problems were ridden further each week, were fed more protein and less fiber. Feeding practices immediately before and during the races are also reported.

Meyer,H (1987): Feeding of horses for eventing and endurance riding. (Futterung von Vielseitigkeits- und Distanzpferden). *Praktische Tierarzt* 68(2), 16-21, 24, 26-28.

This article in German presents energy and nutrient requirements, quality and quantity of feedstuffs supplied and feeding and watering methods.

Wolter,R; Valette,JP; Ezzaouia,N; Henry,N; Grandjean,R; Jouglin,M (1987): Influence of excess minerals and/or vitamins on sporting performance of horses. (Influence de surcharge en minéraux et/ou vitamines sur les aptitudes sportives du poney). In: *Quoi de neuf en matière d'études et de recherches sur le cheval? 13<sup>eme</sup> journée de la recherche chevaline, 11 mars 1987*. (Ed: Anonymous) CEREOPA, Paris, 111-121.

A fat and magnesium supplemented diet did not improve endurance fitness in ponies.

Wolter,R; Valette,JP (1985): Experimental study of the effect of high-fat diets on sporting performance of horses under endurance conditions. (Etude expérimentale de l'influence de régimes hyperlipiques sur les aptitudes sportives d'équidés en effort d'endurance). In: *Quoi de neuf en matière d'études et de recherches sur le cheval? 11<sup>e</sup> Journée de la recherche chevaline, 6 Mars 1985*. (Ed: Anonymous) CEREOPA, Paris, 122-136.

Presents the results of feeding high fat diet to six ponies subjected to a regimen of endurance exercise.

Wolter,R; Grandjean,D; Valette,JP (1984): Nutrition and sporting performance. Methodology of experimental study in animals during endurance tests. (Relations nutrition-aptitudes sportives: Methodologie de l'étude expérimentale chez l'animal en effort d'endurance). *Recueil de Médecine Vétérinaire* 160(7-8), 657-668.

Describes a successful research method to determine the best feeds for endurance events for horses and dogs. The methodology has proved efficient and reliable for assessing performance.

Wolter,R; Grandjean,D; Valette,JP (1983): Lipid nutrition and aptitude for endurance sports.

(Nutrition lipidique et aptitudes sportives en effort d'endurance). *Sciences Veterinaires Medecine Comparee* 85(4-5), 183-193.

Hambleton,PL; Slade,LM; Hamar,DW; Keinholz,EW; Lewis,LD (1980): Dietary fat and exercise conditioning effect on metabolic parameters in the horse. *Journal of Animal Science* 51(6), 1330-1339.

This research concluded that "feeding four levels of dietary fat in the form of soybean oil had no adverse effects and proved a safe and efficient method of providing concentrated energy to working horses."

Hintz,HF; White,KK; Short,CE; Lowe,JE; Ross,M (1980): Effect of diet on endurance horses. *Modern Veterinary Practice* 61(5), 415-416.

A short report that finds no effect of different amounts of protein or fat on the performance of endurance horses on a 50 mile and a 37 mile ride.

Hintz,HF; White,KK; Short,CE; Lowe,JE; Ross,M (1980): Effects of protein levels on endurance horses. *Journal of Animal Science* 51(Suppl. 1), 202-203.

This is an abstract presenting the results of a study of eight Arabian horses fed on diets with 12 or 24% protein and ridden on four rides of 84 km each (15 km/h). Blood was sampled every 21 km. The only variable influenced significantly by diet was blood urea nitrogen.

Hintz,HF; Ross,MW; Lesser,FR; Leids,PF; White,KK; Lowe,JE; Short,CE; Schryver,HF (1978): The value of dietary fat for working horses. I. Biochemical and hematological evaluations. *Journal of Equine Medicine and Surgery* 2, 483-488.

This article reports the possibility of a beneficial effect of feeding fat to endurance horses. The endurance exercise in the test animals was moderate. The authors suggest that more studies under more severe conditions may show greater benefits.

Slade,LM; Lewis,L; Quinn,CR; Chandler,ML (1975): Nutritional adaptation of horses for endurance performance. *Proceedings of the Equine Nutrition and Physiology Symposium* 4, 114-128.

Presents the results of starch, protein or fat supplemented diets on the blood chemistry of three endurance horses. Results indicate that diets with fairly high fat levels may be beneficial and those with fairly high protein levels detrimental to horses used in endurance riding. Indicates that much more work with more subjects should be undertaken.

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## PATHOLOGY

Schott II,HC; McGlade,KS; Molander,ha; Leroux,AJ; Hines,MT (1995): Recovery from endurance exercise is not complete by the morning after the ride. *Journal of Veterinary Internal Medicine* 9, 224.

This abstract of a paper discusses time of a recovery from an endurance ride.

Wilson,M; Deuel,NR; Huffstutler,K; Drevemo,S; van den Bogert,AJ (1993): Effects of fatigue on limb contacts of world-class endurance horses. *Proceedings of the Equine Nutrition and Physiology Symposium* 13, 211-212.

This research uses photographic analysis to measure the effects of fatigue on stride velocity, length, duration and frequency.

Bosch,Luis Monreal (1991): *Clinical and Blood Changes in Endurance Horses*. (Valoracion clinica y biopatologica del esfuerzo prolongado tipo Raid en el caballo). Ph.D. Dissertation, Universitat Autonoma de Barcelona (Bellaterra).

This research studied clinical, hematological and biochemical changes in horses on endurance rides. The study concluded that pathological conditions in endurance horses relate to dehydration and electrolyte loss.

Carlson,Gary P (1986): Fluid and electrolyte aspects of the exhausted horse syndrome. In: *Proceedings of the International Conference for Equine Sports Medicine*. (Ed: Anon.) American Association of Equine Practitioners?; Association for Equine Sports Medicine, San Diego, CA?, 57-59.

Discusses metabolic changes which accompany the exhausted horse syndrome.

Hodgson,David R (1986): "The exhausted horse" - muscle changes. In: *Proceedings of the International Conference for Equine Sports Medicine*. (Ed: Anon.) American Association of Equine Practitioners?; Association for Equine Sports Medicine, San Diego, CA?, 60-61.

Describes the metabolic effects on muscles associated with the exhausted horse syndrome and exertional rhabdomyolysis.

Sweeney,CR; Soma,LR (1983): Exercise-induced pulmonary hemorrhage in horses after different competitive exercises. In: *Equine Exercise Physiology*. (Eds: Snow,David H; Persson,Sune GB; Rose,Reuben J) Granta, Cambridge, 51-61.

This article examines six groups of horses for the occurrence of exercise-induced pulmonary hemorrhage. No occurrence was found among horses on a 100-mile endurance ride.

O'Connor,JT (1971): The treatment of fatigue in trail ride horses. *Proceedings of the American Association of Equine Practitioners*, 39-43.

Gives an overview of the author's suggested treatments for a number of problems associated with fatigue in the trail horse: colic, laminitis, synchronous diaphragmatic flutter, heat exhaustion.

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## PHYSIOLOGY

Desmecht,D; Linden,A; Amory,H; Art,T; Lekeux,P (1996): Relationship of plasma lactate production to cortisol release following completion of different types of sporting events in horses. *Veterinary Research Communications* 20(4, August), 371-379.

Plasma cortisol and lactate levels were measured from venous blood samples from horses involved in different types of sporting events. Eight of the horses were involved in endurance rides. The endurance ride induced the most post-exercise cortisol levels of all events.

Escribano,BM; Riber,C; Munoz,A; Tovar,P; Aguera,EI; Rubio,MD (1996): Blood changes in horses subjected to endurance trials. *Journal of Physiology* 493(P), 142S-143S.

Results of blood analysis of 11 horses before and after a 30 km endurance ride are compared to values found in other research studies reported in the literature.

Lassourd,V; Gayrard,V; Laroute,V; Alvinerie,M; Benard,P; Courtot,D; Toutain,PL (1996): Cortisol disposition and production rate in horses during rest and exercise. *American Journal of Physiology* 271(1, Pt 2, Jul), R25-R33.

The influence of a 56 km endurance exercise on cortisol kinetics and production rate was evaluated

in six horses administered [3H] cortisol.

Ecker, Gayle L; Lindinger, MI (1995): Effects of terrain, speed, temperature and distance on water and ion losses. In: *Equine Exercise Physiology 4*. (Ed: Robinson, NE) (Equine Veterinary Journal Supplement, 18.) Equine Veterinary Journal Limited, Newmarket, Suffolk, UK, 298-305.

This study examined water and ion losses in 243 horses competing in endurance rides and reviewed them in relation to terrain, speed, temperature and distance. Several practical suggestions to help maintain water and ion balance are given.

Lindinger, MI; Ecker, Gayle L (1995): Ion and water losses from body fluids during a 163 km endurance ride. In: *Equine Exercise Physiology 4*. (Ed: Robinson, NE) (Equine Veterinary Journal Supplement, 18.) Equine Veterinary Journal Limited, Newmarket, Suffolk, UK, 314-322.

This study measured the magnitude of extracellular and intracellular fluid losses and plasma and extracellular fluid losses in 39 competitors in the 1993 204 km Race of Champions. Results indicate that current electrolyte supplementation techniques are inadequate for maintaining extracellular fluid ion content during the course of a long ride.

Monreal, L; Angles, Anna M; Monreal, M; Espada, Yvonne; Monasterio, J (1995): Changes in haemostasis in endurance horses: detection by highly sensitive ELISA tests. In: *Equine Exercise Physiology 4*. (Ed: Robinson, NE) (Equine Veterinary Journal Supplement, 18.) Equine Veterinary Journal Limited, Newmarket, Suffolk, UK, 120-123.

Variations in coagulation and fibrinolytic activities were discovered after evaluation samples from 25 endurance horses competing in a 80 km ride.

Ecker, Gayle Louise (1994): *Fluid and Ion Balance During Prolonged Exercise and Recovery in Endurance Horses*. Masters Thesis, University of Guelph. 321 p.

This dissertation presents data on extracellular fluid and ion losses on 219 horses from 13 rides. The study concludes that losses of water and ions occur early in the ride, and these losses are increased with increased temperature, speed and muddy terrain.

Ecker, Gayle L; Lindinger, Michael I (1994): Fluid and electrolytes: In short supply? Part 2. *Equine Athlete* 7(4, July/August), 1,7-9.

This article presents the data collected from endurance rides in the Ontario area during 1991. It discusses effects of the ride on electrolytes and plasma proteins.

Ferro, E; Barelli, A (1994): Echocardiographic studies on endurance horses. (Indagine ecocardiografica in cavalli da endurance). *Ippologia* 5(2), 73-75.

Echocardiographs of 20 endurance horse were compared to those from other race horses. Endurance activity/conditioning results in left heart hypertrophy.

Szarska, E; Cuber, A (1994): Comparison of selected blood indices in the blood of Arabian horses trained for races and long distance rides. *Advances in Agricultural Sciences* 3(1), 31-35.

Hematocrit, total protein, glucose and lactic acid levels were measured in ten race and six endurance horses before and after a race or ride. The greatest difference between the two groups was the higher levels of lactic acid in the race horse group.

Ecker, GL; Lindinger, MI (1993): Fluid and electrolyte losses in a 60 mile endurance ride.

*Proceedings of the Meeting for Equine Sports Medicine* 12, 19-24.

This study quantified fluid and ion losses from the extracellular fluid compartment in 17 endurance horses before, during and after an endurance ride. It concludes that current fluid and ion replacement techniques are inadequate and that detailed controlled studies are needed.

Greppi, GF; Casini, L; Gatta, D; Marina, P; Orlandi, M; Colombani, B; Monetti, PG (1993): Blood biochemistry and performance of horses competing in ten 90 km endurance races. *Congresso*

*Nazionale, Associazione Scientifica di Produzione Animale* 10, 427-432.

Not seen

Bernardini,D; Miliani,A; Menozzi,R; Giordani,L; Cavalli,L (1992): Blood chemical variations in horses during endurance events. (Variazioni ematochimiche nei cavalli sottoposti a gare "endurance"). *Ippologia* 3(1, 59-64), 67-73.

Sloet van Oldruitenborgh-Oosterbaan,MM; Wensing,T; Barneveld,A; Breukink,HJ (1991): Heart rate, blood biochemistry and performance of horses competing in a 100 km endurance ride. *Veterinary Record* 128(8), 175-179.

This study of 23 endurance horses monitored before during and after an 87 to 100 km endurance ride was undertaken to determine what factors can be used to measure fitness. Results indicate that heart rate is a reliable indicator of metabolic status.

Duren,Stephen E (1990): *Blood Flow Distribution in Fasted and Fed Ponies at Rest and During Endurance Exercise*. Ph.D. Dissertation, University of Kentucky (Lexington). 140 p.

This research found that both at rest and during exercise ponies fed before exercise had increased heart rate, cardiac output and stroke volume thus delivering an increased amount of blood to the digestive tract and working muscles. It surmises that fed ponies worked harder during exercise due to increased gut fill.

Linden,A; Art,T; Amory,H; Desmecht,D; Lekeux,P (1990): Effect of 5 different types of exercise, transportation and ACTH administration on plasma cortisol concentration in sport horses. In: *Equine Exercise Physiology 3: Proceedings of the Third International Conference on Equine Exercise Physiology*. (Eds: Persson,Sune GB; Lindholm,Arne; Jeffcott,LeoB) ICEEP Publications, Davis, California, 391-396.

This study concludes that there are significant effects on plasma cortisol among the five disciplines compared and that transportation has an important effect on plasma cortisol levels. Endurance riding has the greatest effect among the five disciplines.

Ralston,SL; Larson,K (1989): The effect of oral electrolyte supplementation during a 96 kilometer endurance race for horses. *Journal of Equine Veterinary Science* 9(1), 13-19.

This study compares serum electrolyte concentrations and chemistries between 14 horses competing with and 3 horses without electrolyte supplementation in a 96 km endurance race. It suggests that oral electrolyte supplementation at approximately 20 km intervals under the conditions of this race may help to maintain serum concentrations of electrolytes.

Hambitzer,R; Bent,Evelin (1988): Effect of long distance exercise on free fatty acids in blood plasma of Arab horses. *Zentralblatt fur Veterinarmedizin . A.* 35(8, September), 622-625.

This study was undertaken to evaluate use of lipids for energy supply. It was concluded that the turnover rates of free fatty acids reflect an adaptation of Arab horses to long distance stress.

Serrano,S-Eduardo; Armendariz,F-Raul; Rosiles,M-Rene (1988): Changes in haematological and electrolyte values in horses submitted to a 100 kilometre endurance ride. (Cambios hematocitos y electroliticos en caballos sometidos a la prueba de resistencia de los 100 kilometros). *Veterinaria Mexico* 19(1), 19-23.

Blood samples taken before and after a 100 km endurance ride show statistically significant changes in hematocrit, hemoglobin, plasma proteins, sodium, potassium, magnesium and calcium.

Bertone,Joseph J; Paull,Kimberly S; Wingfield,Wayne E; Boon,June A (1987): M-mode echocardiographs of endurance horses in the recovery phase of long-distance competition. *American Journal of Veterinary Research* 48(12), 1708-1712.

This study compares the M-mode echocardiographic structures, and cardiac function indices, hematocrit and total plasma protein values of 34 endurance racehorses taken before (base line) and

after a 161-km endurance competition.

Carlson,Gary P (1987): Exercise physiology of body fluids. *Proceedings of the Annual Convention of the American Association of Equine Practitioners* 33, 271-277.

Discusses the effects of short-term high intensity and long-term low intensity exercise on electrolytes and body fluids.

Erickson,HH; Erickson,BK; Landgren,GL; Hopper,MK; Butler,HC; Gillespie,JR (1987): Physiological characteristics of a champion endurance horse. *Proceedings of the Equine Nutrition and Physiology Symposium* 10, 493-498.

Presents the extensive study of the winner of the 1985 Race of champions. Gives the results of electrocardiograms, echocardiogram and treadmill studies.

Illera,JC; Illera,M (1987): Electrocardiography and heart score of horses competing in an endurance ride. *Australian Veterinary Journal* 64(3), 88-89.

Electrocardiographic measurements were made on 15 horses aged between 7 and 12 years old both before and during an endurance ride to determine if there was any correlation between heart score and performance. It is suggested that the use of horses with a heart score of less than 100 ms should be avoided in endurance exercises.

Paull,KS; Wingfield,WE; Bertone,JJ; Boon,JA (1987): Echocardiographic changes with endurance training. In: *Equine Exercise Physiology 2. Proceedings of the Second International Conference on Equine Exercise Physiology* (Eds: Gillespie,Jerry R; Robinson,NE) ICEEP Publications, Davis, CA, 34-40.

This study compares 53 endurance horses from the Race of Champions 32 normal sedentary horses. The endurance horse appears to have important functional advantages for increased oxygen delivery during exercise.

Carlson,GP (1986): Hematology and body fluids in the equine athlete: a review. In: *Equine Exercise Physiology 2: Proceedings of the Second International Conference on Equine Exercise Physiology*. (Eds: Gillespie,Jerry R; Robinson,N Edward) ICEEP Publications, Davis,California, 393-425.

This is an extensive review of the studies of various blood components in equine athletes. It focuses on areas of controversy and confusion and suggests the best areas for further research.

Corbella,E; Martelli,P; Quintavalla,F (1986): Metabolic diseases of endurance horses. *Obiettivi e Documenti Veterinari* 7(10), 13-18.

Not seen

Paull,Kim; Wingfield,Wayne; Bertone,Joe; Boon,June (1986): Echocardiographic assessment of the equine endurance athlete. In: *Proceedings of the International Conference for Equine Sports Medicine*. (Ed: Anon.) American Association of Equine Practitioners?; Association for Equine Sports Medicine, San Diego, CA?, 27-29.

Fifty-three horses from the 1985 Race of Champions were evaluated with echocardiography and compared to thirty-two unconditioned horses. Differences are discussed.

Kerr,Morag Graham (1985): *Biochemical and Physiological Aspects of Endurance Exercise in the Horse*. Ph.D. Dissertation, University of Glasgow. 433 p.

This dissertation provides a detailed analysis of biochemical and hematological changes occurring in 50 horses used in competitive trail rides and in four horses undergoing two 80 km rides.

Michaux,JM; Riou,C; Robinet,D; Wolter,R; Demonceau,T; Francois,B (1985): Biochemical and endocrine tests for monitoring horses during endurance events. In: *Quoi de neuf en matiere d'etudes et de recherches sur le cheval? 11e journee d'etude, 6 mars 1985*. (Ed: Anonymous) CEREOA, Paris, 96-121.

Blood samples were taken from thirty horses during two different endurance rides (160 km and 100 km). Biochemical and hormonal variations were analyzed. The authors draw on theory, statistics and practice to comment on levels of lactate, creatine kinase, free fatty acids, cortisol and aldosterone.

Tourreilles,F; Bernardeau,P; Begaud,J (1985): Equestrian endurance trials (Le raid d'endurance equestre). *Pratique Veterinaire Equine* 17(1), 27, 30-35.

This article in French discusses the importance of hematocrit, potassium and sodium in endurance exercise. It presents data on these factors from several French rides in 1983 and 1984.

Zannetti,G; Ubaldi,A; Quintavalla,F; Corbella,E (1984): Biochemical and clinical modifications in saddle horses before, during, after a non-competitive long endurance raid. (Modificazioni biochimiche-cliniche in cavalli da sella sottoposti a prove di lavoro long endurance non competitiva). *Atti della Societa Italiana delle Scienze Veterinarie* 38, 356-358.

Hall,GM; Lucke,JN; Adrian,TE; Bloom,SR (1983): Changes in plasma gut hormones during exercise in the horse. In: *Biochemistry of Exercise*. (Ed: Knuttgen,HG) (International Symposium on the Biochemistry of Exercise (5th:1982:Boston)) Human Kinetics Publishers, Champaign, Illinois, 652-656.

This study of horses entered in the Golden Horseshoe Ride and the Arab Horse Society's Marathon Race concludes that there are significant changes in circulating gut peptides between horses competing in these two very different events.

Grosskopf,JF; Van Resburg,J (1982): Haematology and blood biochemistry of horse during a 210 km endurance ride. In: *Equine Exercise Physiology*. (Eds: Snow,DH; Persson,Sune GB; Rose,Reuben J) Granta Editions, Cambridge, 416-424.

Blood samples were taken from 20 horses participating in a multi-day 210 km ride. They were analysed for hematocrit, plasma protein, blood glucose, lactate, urea, creatine kinase, cortisol and electrolytes. No general agreement on the amount of changes noted could be found between this study and others.

Grosskopf,JF; Van Resburg,J (1982): Some observations on the haematology and blood biochemistry of horse competing in 80 km endurance rides. In: *Equine Exercise Physiology*. (Eds: Snow,DH; Persson,Sune GB; Rose,Reuben J) Granta Editions, Cambridge, 425-431.

Blood samples from horses competing in two different endurance rides were analysed in an attempt to find other measures of fitness of endurance horses. Results suggest that although blood analysis cannot be used to measure fitness during a ride, results may be used by riders for subsequent rides.

Ferguson,EW; Bernier,LL; Shaughness,GP; Boucher,JH (1981): Fibrinolytic activity without fibrinogenolysis during long-distance racing in horses. *Journal of Applied Physiology: Respiratory, Environmental and Exercise Physiology* 50(2), 245-249.

Studies of the fibrinolytic enzyme system in 14 horses during a 157-km endurance ride indicated that horses may be useful as models in the study of exercise-induced fibrinolysis.

Hall,GM; Lucke,JN; Mashiter,K; Bloom,S (1981): Metabolic and hormonal changes during prolonged exercise in the horse. In: *Biochemistry of Exercise IV-A*. (Eds: Poortmans,J; Niset,G) (International Symposium on Biochemistry of Exercise, 4.) University Park Press, Baltimore, MD, 88-92.

Sixteen poststride and 10 recovery venous blood samples were collected from horses competing in the 1978 64 km Golden Horseshoe Ride. The study found that there is an increase in fat metabolism together with a decrease in blood glucose.

Lescure,F (1980): Electrocardiographic examination of horses taking part in an endurance trial of 105 km in one day. (Examen electrocardiographique de chevaux participant a une course d'endurance de 105 km en une journee)*Revue de Medecine Veterinaire* 131(11), 787-789.

Lescure,F (1980): Equine electrocardiography and the supervision of endurance tests. *Electrocardiographie du cheval et surveillance des epreuves d'endurance*. *Revue de Medecine Veterinaire* 131(7), 531-544.

A study of 126 electrocardiograms taken in horses undergoing endurance trials suggests that the electrocardiogram is a useful tool for evaluating the training program and performance during the ride.

Rose,RJ; Ilkiw,JE; Hodgson,D (1979): Electrocardiography, heart score and haematology of horses competing in an endurance ride. *Australian Veterinary Journal* 55(6), 247-250.  
Results of electrocardiograms and blood analysis on thirty-one horses competing in a 100 kilometre endurance ride are presented. It appears that heart rate recovery is a good indicator of the biochemical status of endurance trained horses.

Orton,RG (1978): Biochemical changes in horses during endurance rides. *Veterinary Record* 102 (21), 469.

Presentation of blood analysis data collected during a 100 mile ride and a 75 mile ride.

Carlson,GP (1977): Fluid and electrolyte alterations in endurance-trained horses. In: *Proceedings of the First International Symposium on Equine Hematology*, 28th-30th May 1975. (Eds: Krehbiel,JD; Kitchen,H) American Association of Equine Practitioners, Golden, 473-480.

This investigation on endurance horses on traile rides and also in controlled conditions attempts to evaluate the interrelationships of hydration, electrolyte and acid-base status of normal endurance horses and horses eliminated from the race for medical reasons.

Carlson,GP (1977): Hematologic alterations in endurance-trained horses. In: *Proceedings of the First International Symposium on Equine Hematology*, 28th-30th May 1975. (Ed: Anonymous) American Associaton of Equine Practitioners, Golden, Colorado, 444-449.

This study presents normal values of packed cell volume and total plasma proteins of endurance-trained horses, alterations in these values during training and hematological changes during training.

Mansmann,RA; Carlson,GP; White,NA; Hoffsis,GF (1973): Electrolyte alterations in endurance horses. *Proceedings of the Equine Nutrition and Physiological Symposium* 3, 35-42.

This is an early study on endurance horses participating in the 1971 and 1972 160 km Western States Trail Ride. Blood samples taken before, during and after the rides in 42 horses and analysed for packed cell volume, plasma proteins, and electrolytes. Values in normal horses were also compared to those who developed synchronous diaphragmatic flutter.

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