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Preventive Health Care for Working Dogs 745
Marcella Ridgway

The goal of preventive care is to maintain and optimize health by averting preventable problems. Effective preventive care programs for working dogs must incorporate standard procedures applicable to dogs in general with additional elements pertinent to the more specific characteristics of breed, geographic location, living and working conditions, and physical and mental tasks required of the working dog. This article covers the basic essential preventive health guidelines for all working dogs as well as the specific breed, occupational, and regional considerations to be taken into account.

Anesthetic Considerations for Working Dogs 765
Ashley Mitek and Jacob Johnson

Working dogs pose unique concerns and challenges to the veterinary practitioner. In this article, the authors review the best practices and clinical pearls for anesthetizing working dogs for both routine and emergent procedures.

Working Dog Dentistry 779
Stephen Juriga and Karin Bilyard

Working dogs serve different functions based on their trained purpose. Due to the nature of their work, they are prone to traumatic dentoalveolar injuries (TDIs). TDIs include tooth wear, fracture, discoloration, and displacement. Undiagnosed or untreated TDIs result in pain, which could lead to poor performance. Veterinarians should educate handlers on potential injuries and perform a thorough oral examination and appropriate diagnostics to identify any oral abnormalities and initiate treatment. The primary goal of treatment is to return dogs to normal function so that they can continue to perform their assigned duty at maximum performance.

Nutrition of Working Dogs: Feeding for Optimal Performance and Health 803
Debra L. Zoran

Working dogs are athletes, but have a wide variety of work types and durations that impact their dietary needs. Their basic nutritional needs do not
change: all dogs need a complete and balanced diet, fed in proper proportions to maintain optimal body condition. However, with increasing muscle work and endurance, the amounts of specific nutrients (particularly the macronutrients, protein, fat, and carbohydrates) must be adjusted. This article provides an overview of the key aspects of working canine nutrition and provides the nutritional science behind the recommendations made.

Current Rules and Regulations for Dogs Working in Assistance, Service, and Support Roles

Maureen A. McMichael and Martha Smith-Blackmore

The legal landscape for dogs working in assistance, service, and support roles is complicated and contradictory. Regulations permit access to public places, allow subsets of dogs’ emergency transport and treatment, provide elevated protections for K-9s and assistance animals from criminal acts, and make it a crime to fraudulently represent a service animal. Federal and state agencies provide different regulations for dogs to access public places. Identification and verification of the working animal are not standardized. Working dog legislation is a changing landscape that requires veterinarians to be up to date on laws and regulatory guidance.

Canine Special Senses: Considerations in Olfaction, Vision, and Audition

Melissa Singletary and Lucia Lazarowski

Canine companions have learned to aid in performing tasks and conducting work for decades. Areas where unique capabilities of working dogs are harnessed are growing. This expansion, alongside efforts to increase domestic purpose-bred stock and awareness of the important role working dogs play in society, is increasing the role veterinarians provide. This article provides a brief overview of 3 key sensory systems in working dogs and highlights considerations for care related to each olfaction, audition, and vision.

Sports Medicine and Rehabilitation in Working Dogs

Meghan T. Ramos, Brian D. Farr, and Cynthia M. Otto

Canine sports medicine and rehabilitation recently have evolved to embody the optimization of performance, injury prevention, and mitigation of musculoskeletal degeneration. This article discusses the diverse factors and considerations of working dog wellness and injury prevention and the importance of recognizing normal and abnormal posture and anatomic structure for performance evaluation and early indication of musculoskeletal injury. The importance of a canine physical fitness program is highlighted and the need for a 4-phase recovery plan to determine if a working dog can safely return to work after injury discussed.

Hunting Dogs

Marcella Ridgway

Herding and hunting dogs are intense, high-drive dogs that work, and often live, outdoors and in constant or repeated close contact with domestic and wild animals. These dogs are at increased risk for injury and
exposure to infectious diseases, toxic substances, and environmental threats. The common practice of feeding or allowing access to raw meat from farm or game animals enhances disease transmission risk. These dogs can be affected by infectious diseases and injurious agents that are rarely encountered in other groups of dogs. In addition, their extreme work ethic may lead to delays in diagnosis.

**Breeding Program Management**

Pamela S. Haney and Robyn R. Wilborn

Managing a colony of high-quality, purpose-bred dogs requires strategic organization and planning. Production success should be maximized because the current demand for working dogs exceeds the supply available. Quality should always be emphasized over quantity, especially for the selection of breeding stock. Puppy development plans should take into account the 4 unique phases of puppy development. Many factors influencing breeding decisions are discussed in this article, based on lessons learned from the Canine Performance Sciences program at Auburn University, a medium-sized production colony in its twentieth year that has produced 140 litters of the highest-quality purpose-bred working dogs.

**Production and Reproductive Management**

Robyn R. Wilborn and Pamela S. Haney

Programs breeding high-quality dogs are now able to use newer technologies in order to maximize use of genetic material and improve the efficiency of the production program. Missed estrus cycles and failure to conceive are costly in canine production programs, and parameters should be established to help minimize these failures. This article outlines lessons learned over the last 20 years in a medium-sized production program and also reviews other current production programs. Common pitfalls are discussed, including the implications of each, as well as management strategies to help avoid pitfalls.

**Development and Training for Working Dogs**

Lucia Lazarowski, Melissa Singletary, Bart Rogers, and Paul Waggoner

Individual differences in behavior lead to wide variability in working dog suitability, and are the primary reason for rejection or early release. Behavioral suitability of a working dog is shaped by interactions with its environment during early development and specialized training. Understanding how aspects of development and training affect a working dog’s performance is critical for practitioners to effectively evaluate and treat behavioral concerns in working dogs. This article provides an overview of critical aspects of puppy development that influence future behavior, and reviews important features of training that influence a dog’s ability to learn and perform its designated task.

**Military Working Dogs: An Overview of Veterinary Care of These Formidable Assets**

Andrew L. McGraw and Todd M. Thomas

For the clinician treating military working dogs, an understanding of how they are sourced, preventive medicine policies, and common disease
conditions is paramount in optimizing the delivery of health care. Military personnel rely heavily on the availability of these K-9s, which bring a diverse array of capabilities to myriad operational settings. Anticipating and mitigating common diseases will ensure these dogs continue to serve the needs of US military and allied forces.

Operational Canine

Lee Palmer

Operational K9s encompass a unique population of working dogs that serve as a force multiplier in various civilian law enforcement, force protection, search and rescue, and humanitarian operations. These elite canines do not volunteer to serve, yet they are some of the most faithful and dependable operators in the field. They undoubtedly perform an invaluable service in today’s society and are owed a tremendous debt of gratitude for their selfless service, loyalty, and sacrifices. This article describes the unique characteristics and occupational hazards that pertain to the community of Operational K9s.

Assistance, Service, Emotional Support, and Therapy Dogs

Maureen A. McMichael and Melissa Singletary

This article focuses on the areas where harnessing the canine’s trainability, mobility, and sociability enables their use for aiding and augmenting humans. This area, which is rapidly expanding, has provided life-changing solutions for persons affected by various impairments and disabilities (eg, visual, hearing, physical, mental).

Herding Dogs

Marcella Ridgway

Herding is done predominantly by breeds developed over centuries to millennia specifically for that purpose. Working-level herding breed dogs are intense, high-drive dogs that will work despite severe illness or pain, thereby masking clues that they are ailing or the nature of their problem. The handler should recognize subtle changes that might signal ill health, and veterinarians should take an active role in training handlers on essential skills. Herding dogs typically work entirely outdoors in rural to wilderness environments with continuous exposure to other domestic animals and wildlife and may be affected by trauma, toxin exposure, infectious diseases, and parasitic infections.