

# Four Leg News



# OTHER SPORTS

*FLYBALL*

*SLED DOGS*

*CANICROSS*

**FALL 2021 – VOLUME 10 – ISSUE 4**



## **INTRODUCTION:**

This time, Four Leg News continues on the Sporting Dog theme! Now, we dive into **Flyball** injuries, **Sled Dog** injuries, as well as feeding, supplementation, and rehab medical management, and **Canicross** injuries! Cool!

I hope you enjoy this compilation of information!

Cheers!

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**Montalbano, C et al. Internet Survey of Participant Demographics and Risk Factors for Injury in Flyball Dogs. *Frontiers in Veterinary Science*, Vol 6, Article 391, 2019.**

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**Introduction:** Flyball is a team relay sport where teams consisting of 4 dogs and their handlers compete over two courses side-by-side. During the race, dogs travel over four hurdles, retrieve a ball, and return back over the hurdles to the starting line, where the next dog will be released.

**Methods:** A internet survey with 121 questions collected data including dog age, sex, age of neuter, years in competition, training/competition days and hours per week, gear use, turning styles, jump height, presence of dew claws, docking of tail, size of dog, breed, and occurrence and location of injury. More information was collected about veterinary attention and period of recovery.

A trained veterinary interviewer conducted the survey at one of eight flyball events, or respondents could participate online.

Over half of the respondents were from the larger national championships. All respondents were asked to use a single dog for their responses. The data is shown as a percentage of the total population for the distribution of injuries; with specific sites of injuries shown as a percent of the injured population.

**Results:** 413 surveys were submitted, and 375 complete responses were included in the analysis; with 64% completed by the interviewer. The most common pure breed was the Border Collie, followed by the Australian Shepherd, Whippet, Labrador, and Jack Russell Terrier; as well as a variety of other purebreds. Border Collie mixes represented nearly half of the mixed breed population.



- 39% of dogs had at least one injury with 6.7% incurring more than one injury.
- There were a total of 172 injuries reported, with veterinary diagnosis and treatment in 67.4% of these injuries.
- 20.8% of the injuries affected the forelimb, 25.6% affected the hindlimb, 14.5% affected the back or neck, 9.9% affected multiple areas, and 19.2% were non-specific.
- Further localization of the injuries were to the forepaw pad, nail or digit more frequently; followed by shoulder, neck/back/tail, iliopsoas/groin muscles, carpus, and elbow.

Four variables were detected including wraps use, age, neuter age, and years of competition. Further data analysis revealed that dogs less than 6 years old were found to be at greater risk, as well as those that used wraps. Analysis of carpal injuries compared to anatomic location found no difference between elbow, shoulder, and digits.



**Conclusion:** The prevalence rate of injury among flyball dogs was similar to these seen in agility, but may be higher than endurance sports. The prevalence of forelimb compared to hindlimb injury was similar to other sports, with higher occurrence in the digit. The lack of associations between risk factors suggest that flyball is relatively safe. More study is needed to determine the benefit of supportive wraps.

## **Pinto, KR, et al. An Internet survey of risk factors for injury in North American dogs competing in flyball. Can Vet J 2021;62:253–260.**

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**Introduction:** In North America, more than 6500 dogs participate in flyball, a relay race involving hurdles that requires dogs to run down the course, retrieve a ball and turn to run back. Previous surveys of flyball have reported that the most common injuries are seen in the forelimb, muscles, footpads, and dewclaws; with increased risk seen in younger dogs and with the use of protective wraps.

**Materials and methods:** An online survey was developed and distributed to North American Flyball Association (NAFA) representatives. A single response per internet address was accepted, and participants were North America residents and owned at least one dog competing in flyball. All dog specific questions were repeated for each of the owner's dogs that had competed within the previous year. Data collected included demographics, years of competitive experience, number of dogs, their physical characteristics, style of performance, age at training onset, competitive years and number of competitive days per year with number of runs per day, as well as any injuries within the previous year. Training styles and information on prior injuries was also collected.

**Results:** Survey responses were collected from 272 owners with 589 dogs. Most were from USA, with the rest from Canada. The majority had 1 to 3 dogs, and 10% owned 4 or more dogs. Border collie crosses (25.5%) were the most common, followed by purebred border collies (18.7%). There were no more than 4% of the total study population in the rest of the breed categories.

- 23.3% of the dogs had least one injury, while 15.3% of these dogs had two injuries and one had 3 injuries.
- 55% of these dogs also had another injury in prior years.
- Of the 452 dogs without injury within the previous year, 14.2% had experienced an injury in prior years.
- In the total study population, 34.1% of the dogs had at least one injury during their flyball career.
- No significant differences were seen in height or weight between injured and uninjured dogs.

Most injuries were not veterinary diagnosed. The most common sites were the digits, back, shoulder, and iliopsoas muscle/groin. The most common types were sprains/strains, pain, and tears. The right side was more common than the left side, although there was no significant difference seen. There was also non-significant association seen between injury side and turning direction.

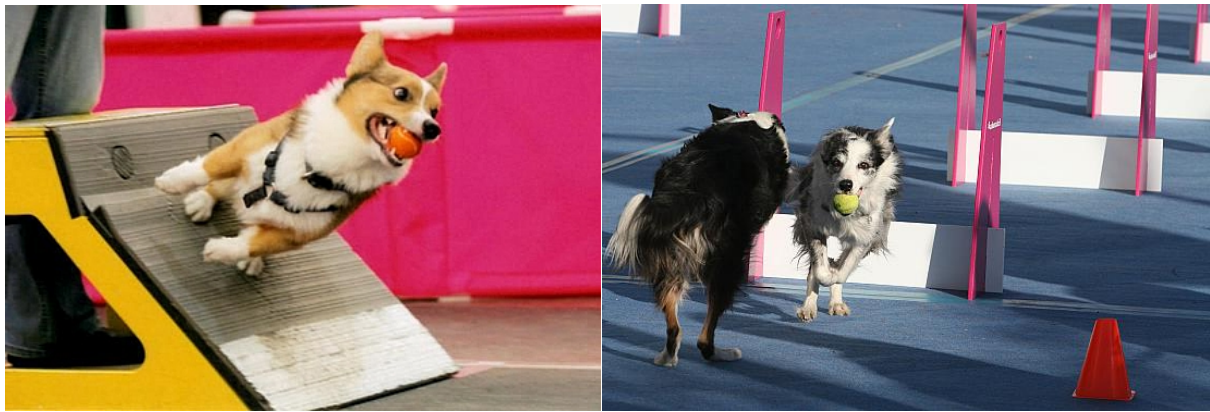
74.8% of the dogs returned to flyball after their injury. 17% required rest or rehabilitation. 7.5% retired from competition, due to intervertebral disc disease, affected backs or necks or other reasons. None were euthanized.

Generally, thinner and heavier dogs had higher risk of injury if they had a prior injury as compared to those with no prior injury. The time in warm-up before competition was significant, although there were no trends observed; with lower risk of injury seen in dogs with 16 to 30 minutes as compared to those with 3 to 5 minutes of warm-up. 28.5% of dogs achieved best times of less than 4 seconds, and these dogs had a higher risk of injury as compared to dogs with best times over 4 seconds. Middle aged and older dogs had a higher risk of injury than dogs 2 years old or younger. 69.8% of the dogs competed in

### Pinto et al – Flyball Injuries Survey con't...

another sport; agility (36.5%), disc (22.4%), diving (21.7%), scent (12.7%), obedience (12.2%), rally (12.1%) and other (6.5%). Canadian dogs that participated in another sport had lower risk of injury than those that did not. American dogs did not have a difference in injury risk.

**Conclusion:** The most common injury sites were the digits, back, shoulder, and groin. There was no increased risk of injury associated with Border Collie breeding. The risk factors for injury were prior injuries, increased age, and best times less than 4 seconds. Canadian dogs generally had increased risk of injury compared to American dogs; however, an interaction existed with participation in other sports, which reduced risk of injury.



### Koh, R et al. Internet survey of feeding, dietary supplement, and rehabilitative medical management use in flyball dogs. *Can Vet J* 2020;61:375–381.

**Introduction:** Flyball is a popular team sport that involves two teams of four dogs and handlers competing side by side on a straight course. Dogs are released from the start line, travel over four hurdles to retrieve a ball loaded in a flyball box at one end, and turn to travel back to the start line for the next dog to be released.

**Materials and methods:** A survey of 121 flyball-related questions including gear, activities, history of injury, feeding types, dietary supplements, and rehabilitative medical management, was distributed online. Owners could complete the survey at 1 of 8 flyball events attended by the interviewers, or online on their own time. This study only reports on feeding, dietary supplements and medical management.

Two groups were assigned for feeding types: commercial, home cooked, raw, and freeze-dried; or a mixture of commercial, home cooked, raw and freeze-dried. Feeding management questions included quantities, frequency, duration, restriction on competition days, and change of feeding based on training or activity level. Dietary supplements were categorized into joint, focus, skin/coat, performance, heat stress, stress diarrhea, antioxidants, vitamins, and other. Supplements only used during competitions

were

### Koh et al – Flyball Feeding, Supplements, & Rehab con't...

categorized into electrolytes, glucose, fat, antioxidants, protein, and other. The medical management categories were physical rehabilitation, laser therapy, therapeutic ultrasound, transcutaneous electric nerve stimulation (TENS), electromagnetic field device (PEMF), acupuncture, chiropractic, massage/manual therapy, heat or cold packs, braces or wraps, orthotic or immobilization device, and other.

**Results:** 413 respondents submitted surveys; 394 completed data that could be used for analysis of supplements and medical management, while 392 completed data for feeding management. The majority of the dogs were spayed females (41.1%), and the rest were neutered males (38.8%), intact males (11.9%) and intact females (8.1%). On average, dogs were five years old (youngest was 1 year, oldest was 10 years), and body weight was 15.4 kg (range: 3.6 to 38.1 kg) with a body condition score (BCS) of 4/9. There were 61 breeds represented in this survey, and the majority were mixed or unknown (31.2%), with the most common purebred being the Border Collie (27.9%) followed by Shetland sheepdog (22.6%).

Most of the dogs were fed twice a day (88%) while the rest were fed once a day. 60.5% fed a commercial dry or canned food, 16.8% fed a mixture of commercial and home-cooked or raw food, 12.5% fed non-traditional commercial raw or freeze-dried food, and 10.2% fed home-cooked or raw food. For those who included home-cooked or raw food, only 14.2% got advice from a veterinarian, while 85.8% were using formulas based on internet or book resources, or from colleagues or breeders.



77.7% of the respondents currently gave their dog dietary supplements; 34% gave one type, 27.8% gave two types, 18% gave three types, 11.4% gave four types, 4.6% gave five types, and 4.2% gave more than five but less than eight types of supplements. The most common types were for joints (89.9%), followed by skin/coat (44.1%), performance (30.1%), stress diarrhea (25.5%), antioxidants (19.9%), heat stress (18.3%), vitamins (16%), and focus (12.7%). Owners feeding home-cooked or raw food as well as non-traditional commercial food were more likely to add dietary supplements. 24.4% of owners gave dietary supplements during competitions to enhance performance. Most commonly used were electrolytes (53.1%), protein (20.8%), glucose (10.4%), fat (10.4%), and antioxidants (5.2%).



At least one of the following treatment was administered to 56.6% of the dogs; physical rehabilitation, laser therapy, therapeutic ultrasound, PEMF, acupuncture, chiropractic, massage and manual therapy, heat or cold packing, brace/wrap, orthotic or other immobilization device. Most commonly used were chiropractic (73.1%), massage and manual therapy (56.5%), laser therapy (43%), physical rehabilitation (29.1%), heat or cold packs (20.2%), and acupuncture (12.1%). 30% of the dogs received one treatment modality, 20.9% received two modalities,



### Koh et al – Flyball Feeding, Supplements, & Rehab con't...

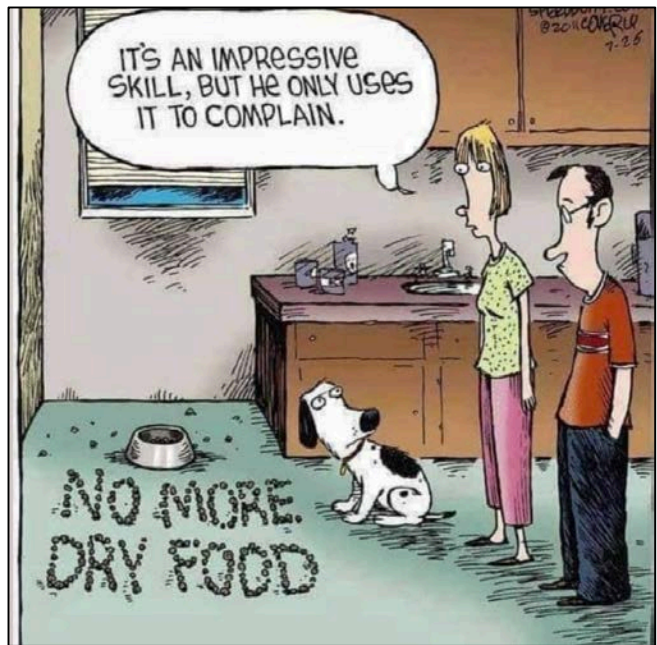
17.5% received three modalities, 10.3% received four modalities, while 11.2% received more than five (less than eight) modalities.



38.8% of the dogs experienced an injury; 69.3% had one, 16.3% had two, 6.5% had three, and 7.8% had more than three injuries. 68.6% of these injuries were acute while 31.4% were chronic injuries. 70.6% of the injuries received veterinary attention, and 20.9% were removed from competition. Owners of dogs with one or more injuries were more likely to use medical management and dietary supplements, and dogs who had more than one injury were more

likely to receive rehabilitative modalities and greater supplement use.

**Conclusion:** This survey showed that rehabilitative medical management modalities are often used by owners to manage sporting injuries in their dogs; and those with more injuries are often treated with more modalities. The results also showed a trend in feeding home-cooked or raw diet with a high use of supplements among flyball dog owners.



*"Everything I know, I learned from dogs."*

~ Nora Roberts

## **von Pfeil, D et al. A survey on orthopedic injuries during a marathon sled dog race. *Veterinary Medicine: Research and Reports* 2015;6 329–339.**

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**Introduction:** The Iditarod is a 1,600 km long dog sled race in Alaska. All mushers are required to qualify through completing other races and undergo extensive training that often begin 9 months before the event. Teams have a maximum of 16 dogs, and most finish the race in 8 to 14 days, with 21 to 24 checkpoints. The fastest teams travel an average of 180 km per day. Volunteer veterinarians perform evaluations and treatments as needed at each checkpoint, and record information in a Dog Team Dairy. Dogs are dropped from competition when needed, and taken care of at the checkpoints then flown back to the team's handlers. Dropping dogs from the team prevents overexertion and major injuries. They can return to racing after recovery but cannot participate in the same race. Dogs also cannot be added to the team after starting the race, and teams must finish the race with at least six dogs. The most common reasons for dropped dogs (DD) are due to orthopedic injuries (OI) although there has only been one study done to classify injuries in sled dog racing. The current study aimed to describe the frequency of lesions and associated risk factors, as well as to gather information related to care and training from mushers through a survey.

**Materials and Methods:** A basic questionnaire was developed that would understand common practices that may relate to dogs dropping from races, and the data collected included before, during and after the Iditarod Sled Dog Race. All mushers attached Global Positioning System (GPS) units to their sleds and GPS data was logged every 15 minutes throughout the race. Rest time and transportation was excluded, so only the time that the sled was on the trail was used to calculate speed. Records of veterinary medical abnormalities were submitted to the researchers after the race. Although there was additional information collected in the survey, only OI for DD were analyzed in this study.

**Results:** 62 teams started the race; one had 15 dogs, one had 14 dogs, and the rest had 16 dogs.

Of the entire field, 38.3% of dogs were dropped, with OI being the reason for 50.6% of these cases, mostly seen in the shoulder and carpus. This study found that increased speed was associated with less dogs being dropped due to shoulder injuries. Carpal injuries causing a dog to be dropped were more often seen in dogs with more pre-race training and racing distance which may have resulted in overuse injuries.

An increase of the dog's age was associated with decreased risk of being dropped for any reason. 1 year old dogs were more likely to be dropped. Sled dog training usually starts between 7 to 9 months of age, and they are generally considered experienced at 3 to 4 years old. It is likely that skill acquisition and increase in experience could result in decreased risk of injury. However, mushers often drop young dogs early on in the race due to a common strategy of using young dogs for only a short part, allowing them to maintain a positive experience of the race.

**Conclusion:** Orthopedic injuries in the shoulder and carpus are common in racing sled dogs. Injury risk may be related with speed and decreases with the age of the dog.



## **Lafuente, P and Whyte, C. A Retrospective Survey of Injuries Occurring in Dogs and Handlers Participating in Canicross. Veterinary and Comparative Orthopaedics and Traumatology Vol. 31 No. 5/2018.**

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**Introduction:** Canicross is a sport that involves human handlers running cross-country with dogs wearing a pulling harness attached to the runner's waistbelt by a shock absorbing lead. Distances can range between 1 to 45 km. In this type of sport, training and conditioning is important along with using physiotherapy and other treatments to enhance performance and decrease risk of injuries.

**Materials and Methods:** A survey including demographics about dogs and handlers, frequency of competition and training and type of injuries was distributed to handlers of dogs involved in canicross. The injuries were classified as mild if the dog recovered in less than a month and severe if it took more than a month to recover



**Results:** 160 surveys were received, some including multiple dogs, of which answers were separated for each dog. The average age was 4.2 years old and 42.5% were male neutered dogs. The majority (92.5%) competed in canicross events in the United Kingdom. 67.5% of the dogs ran alone with their handler. The most common breeds were mixed Collies or Labradors (36.7%) followed by the Siberian Husky, Border Collie, German Shepherd, and Labrador Retriever.

42.5% of the dogs participated in other canine sports, with a total of 19 sports; the most common was agility, bikejor (running with a bike), and scootering (running with a scooter).

33.8% of dogs had received one or more treatments, more commonly massage therapy, hydrotherapy, and chiropractic.

27.7% of the dogs had been running canicross for less than a year. Of these that trained at least once a week, the average number of training days per week was 3.2. The average of races entered per year was 7, with the most common being 3 races per year. The average distance was 8.5 km, with the most common distance being 5 km (46%), followed by 10 km (22.7%).



### Lafluyente & Whyte – Canicross Injuries con't...

70% did warm up exercises before a race and 49.4% did cool down exercises after an event. The majority of handlers were female with an average age of 38.3 years. Handlers' experience ranged from 1 to 20 years, and the majority had been running with their dogs for less than two years.

8.1% of the dogs had been reported with an orthopaedic, neurological or systematic disease; the most common being hip dysplasia and epilepsy. Only three reported interference with their dog's activity. Of all the dogs, 21.9% had injuries since they started canicross. Out of the reported injuries, the most common type was lacerations, abrasions and punctures, followed by muscle and tendon injuries. The most common areas of injury were to the footpads of the forelimb. 77.5% of the dogs recovered back to full performance after injury, with 66.7% taking less than a month to recover.

Purebred Labradors were most likely to be injured than other breeds; and all were lacerations, abrasions and punctures or nail tears, and all occurred while training for canicross

**Discussion:** This study showed that 22% of canicross dogs were injured, with 38% occurring during training or competition.

The footpads of the forelimbs were more commonly injured site; usually lacerations, abrasions and punctures

47% of the humans participating in canicross were injured. A study assessing agility also found a higher injury occurrence in the handlers than in the dogs.

Dogs that also participated in agility were more likely to have two or more injuries.

Dogs that ran with another dog were more likely to be injured when compared with those that ran alone with a handler. It is speculated that two dogs running together may cause deviation from a steady running pace which increases risk of injury.



**Conclusion:** After injury, the return to competition rate was high in this survey population with 77% of dogs having recovered to athletic performance. The results of this study also suggest that risk factors for injury in canicross for dogs may include breed, number of dogs running together, and additional participation in agility.

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*Did you know there are over 300 words for LOVE in canine?*

~ Gabriel Zevin

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