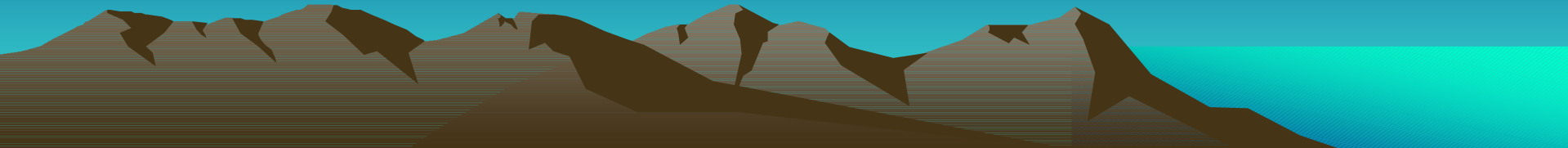


Pennsylvania



STATE HORSE RACING COMMISSION

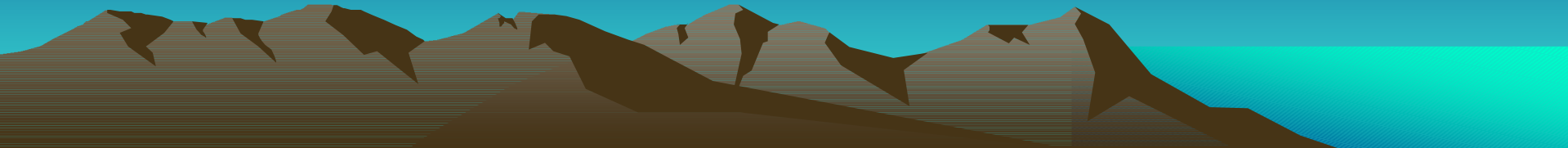


A 10 YEAR RETROSPECTIVE STUDY OF CATASTROPHIC INJURIES AT PENN NATIONAL RACE TRACK

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Penn National

CONVENTION CENTER



01/08/2006



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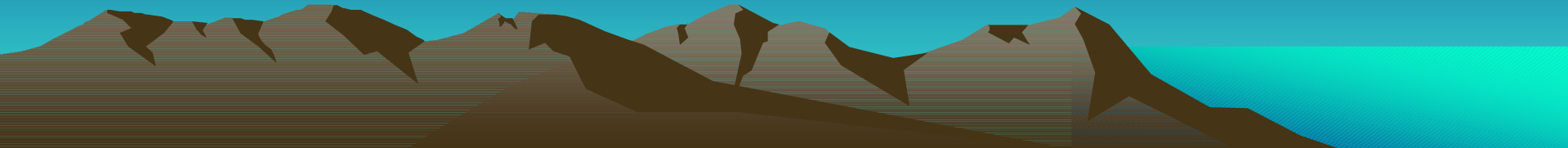
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All horses euthanized due to catastrophic injuries are submitted to the Pa. Department of Agriculture Animal Diagnostic Laboratory

Tissue samples from the necropsy animals are submitted to the Pa. Equine Toxicology and Research Laboratory for medication screening.



\$57,000 to \$76,000

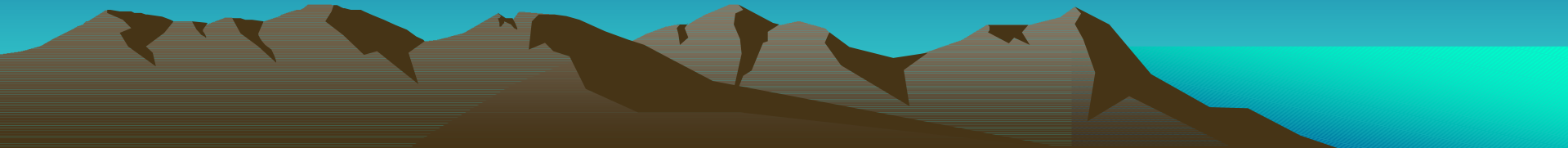
Bottom Maidens \$5,000

Bottom claiming price for winners \$2,500

4 Regulatory Veterinarians

Pre-race inspection not routinely done on resident horses.

Only 14% 30 of 272 ever on Vet's List



Total starts

Total starts for the 10 years 143,720

Total dirt starts 134,022

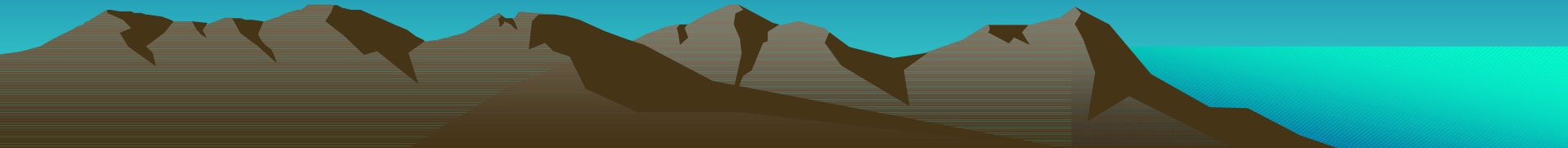
High of 15,862 and the low of 10,009

Average of 1.9 catastrophic injuries per 1000 starts

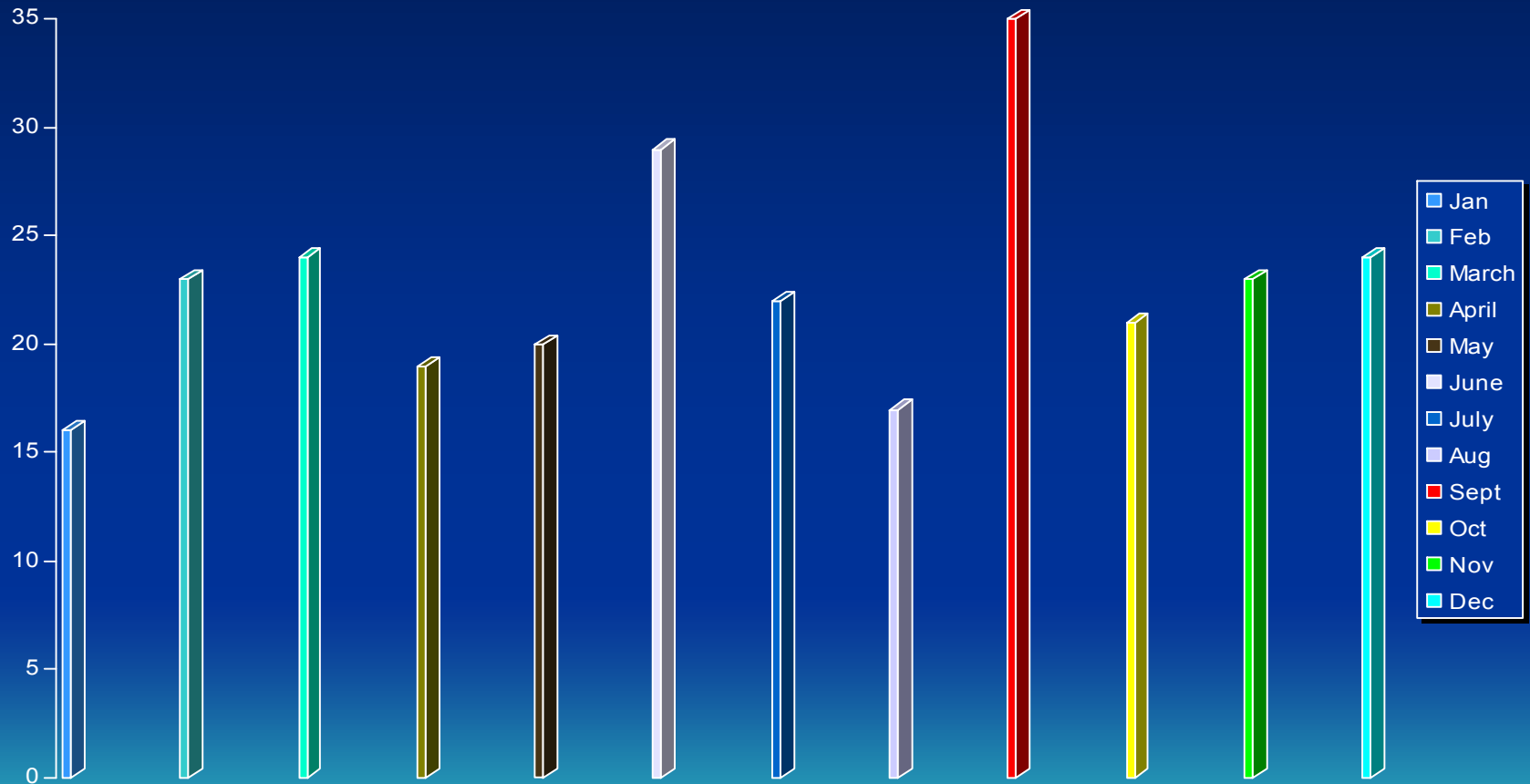
Total turf starts for the 10 years 9722

High of 1141 and low of 756

Average of .9 catastrophic injuries per 1000 starts



Totals injuries per month



Total turf injuries per month

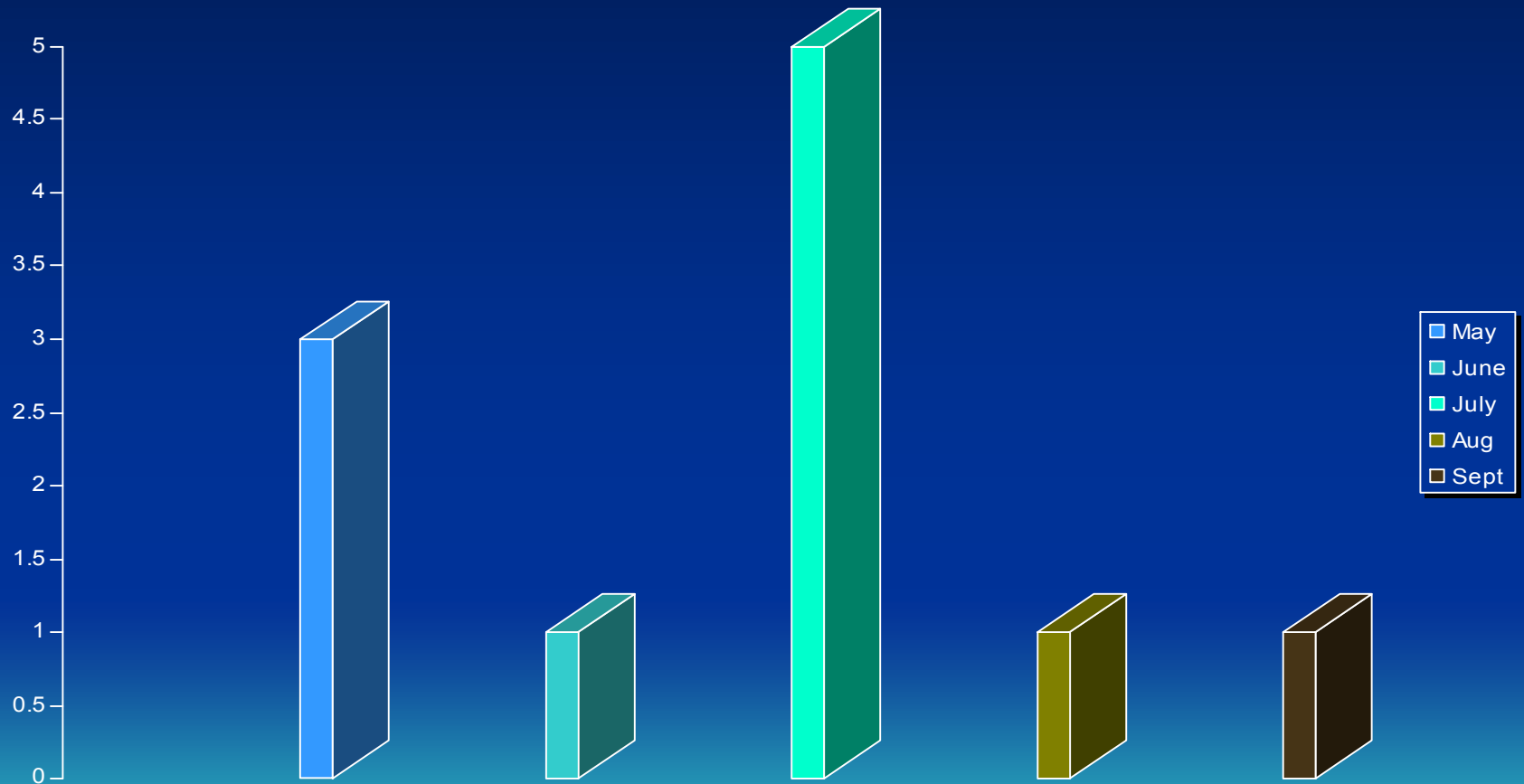


Figure 1: Gender and age

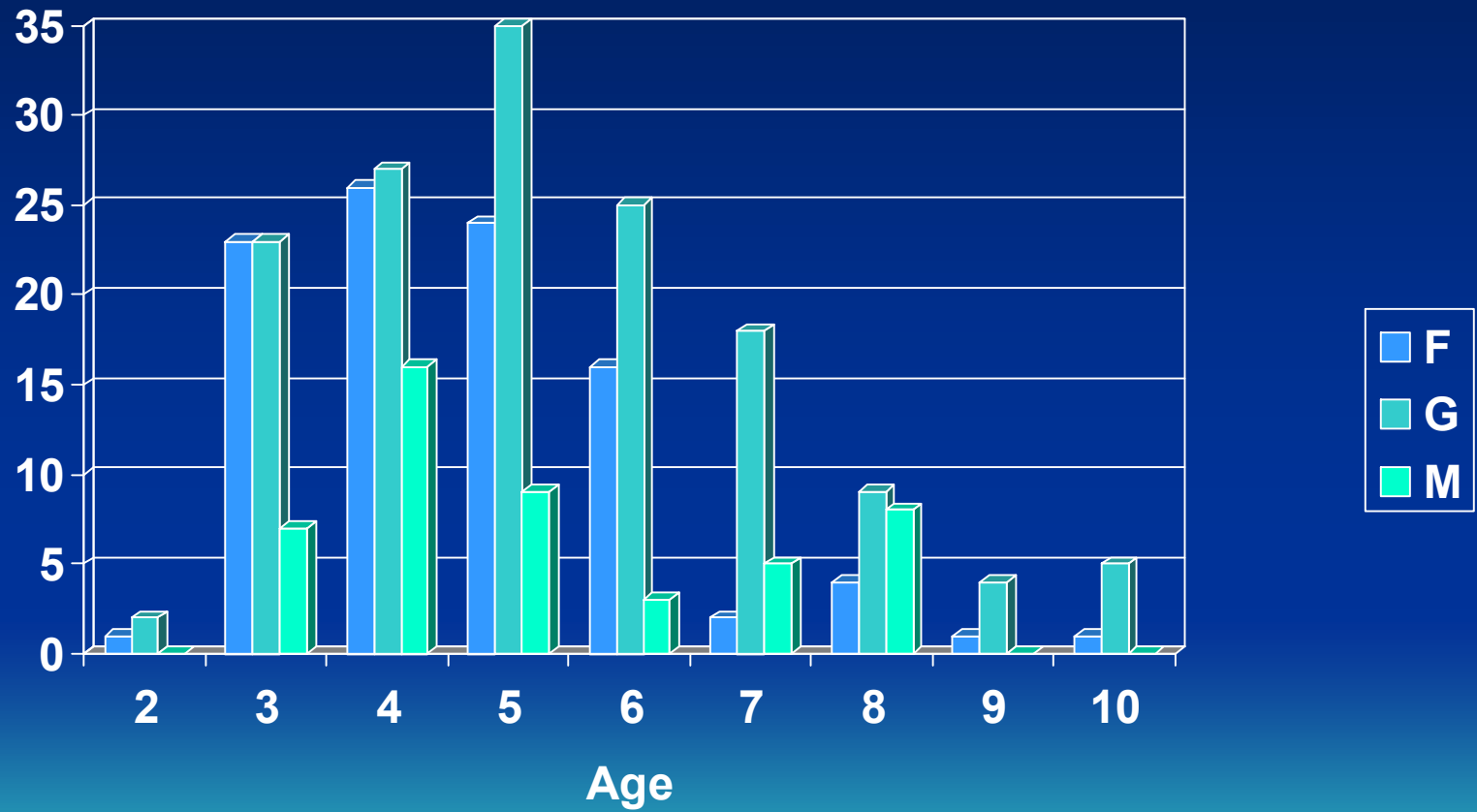
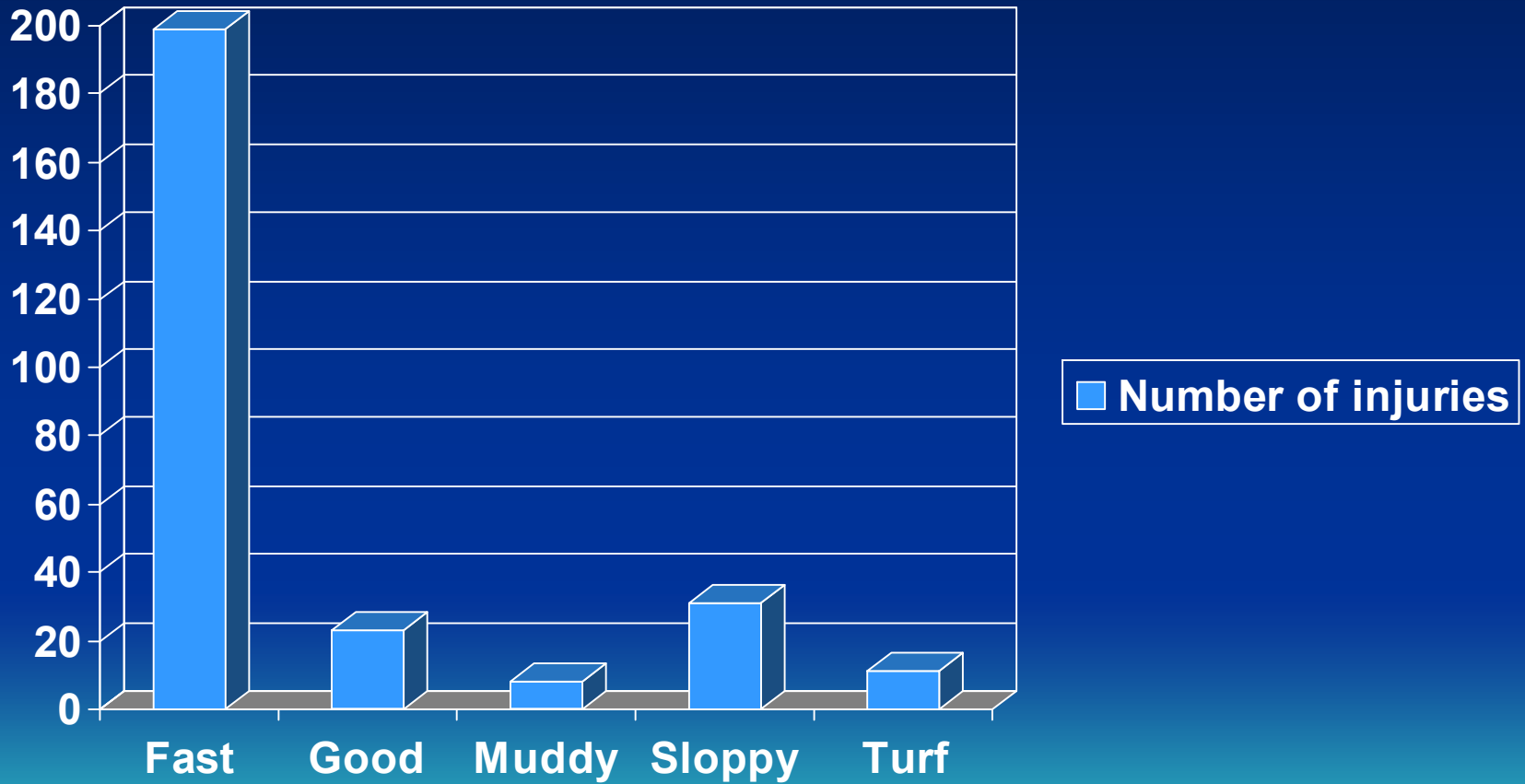


Table 1: Median age and starts of injuries

Fracture	Number of Fractures	% of total fractures	Mean starts	Mean age
Cervical Vertebra	3	1.0	18	4.6
Scapula	3	1.0	46	7.7
Humerus	8	3.0	32.9	5.3
Radius	1	.001	24	5.0
Carpal	51	19	15.3	4.0
Metacarpal	31	12	21.7	5
Fetlock	167	61	30.2	5.2
P1	8	3	19	5.3

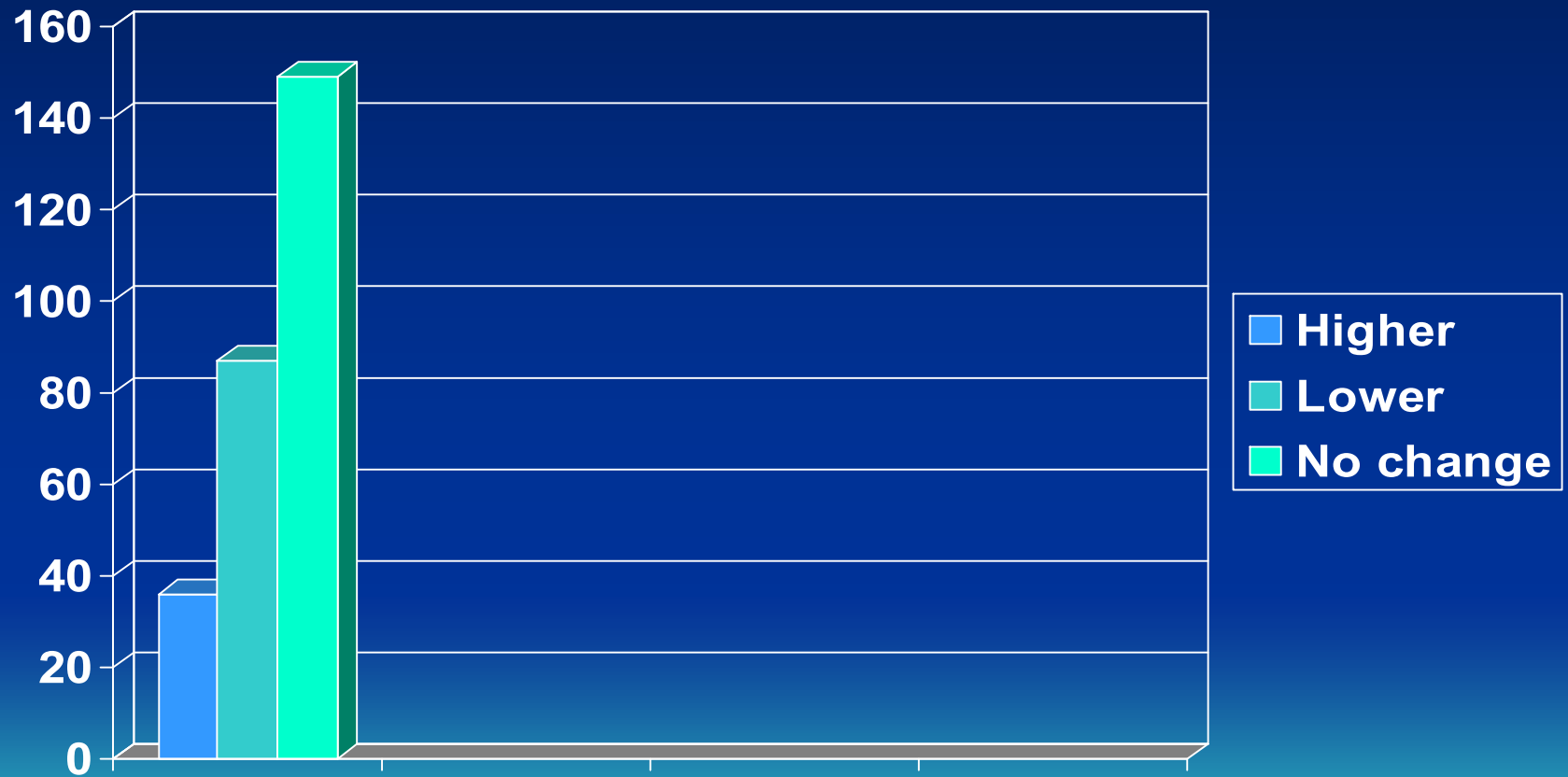
Figure 3: Track condition in relation to catastrophic injuries



Start Category



Prior race condition



Type of shoe

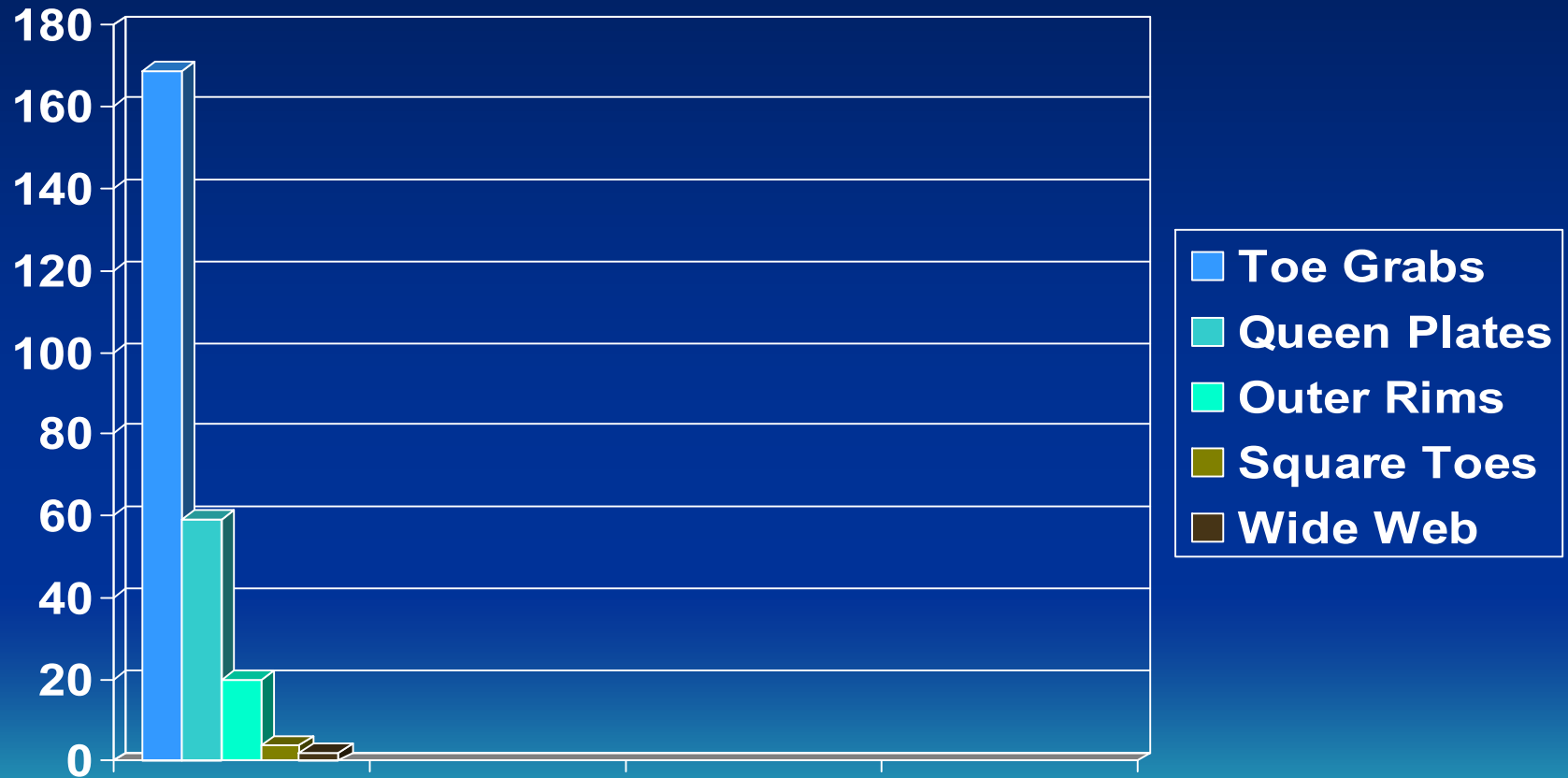
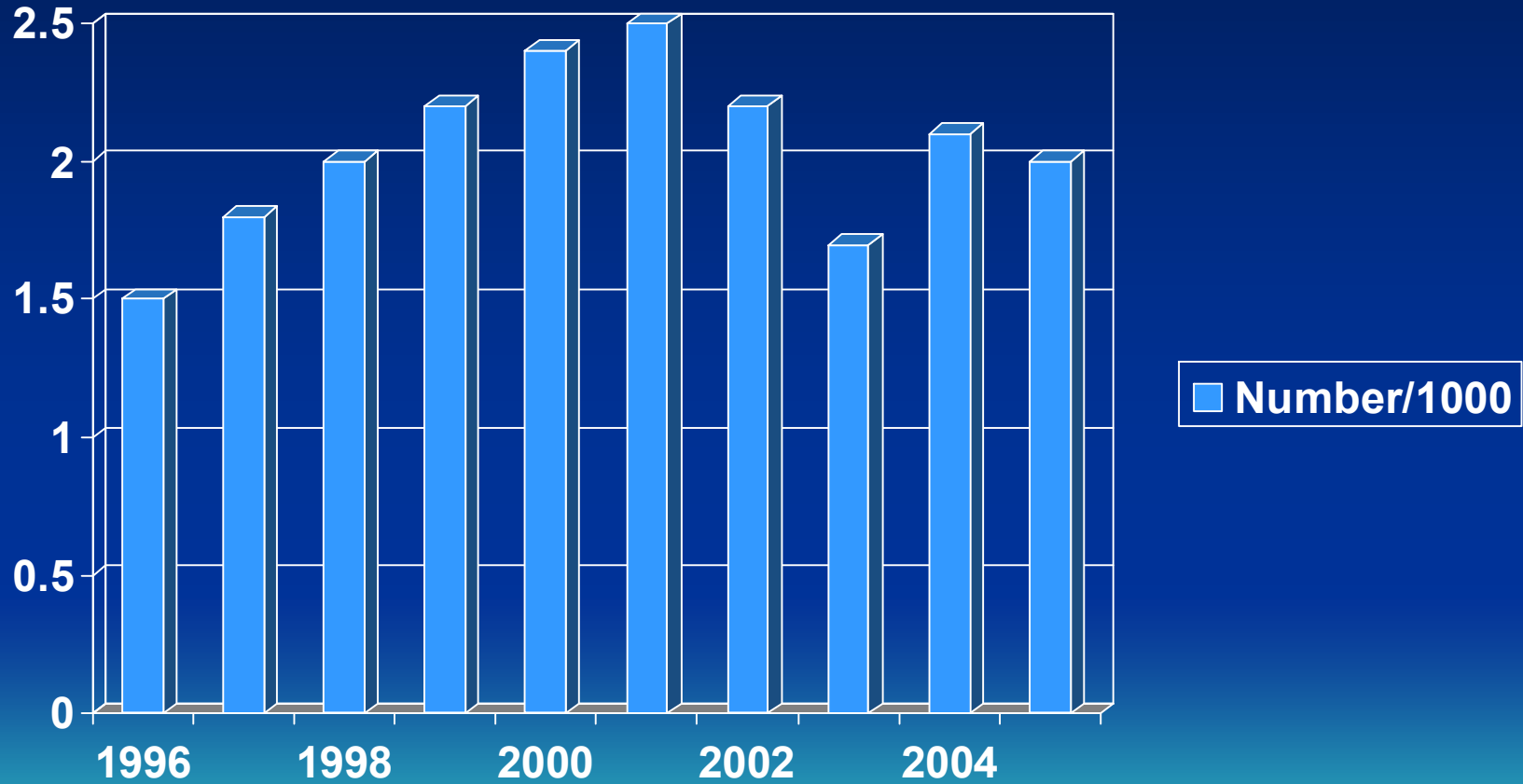
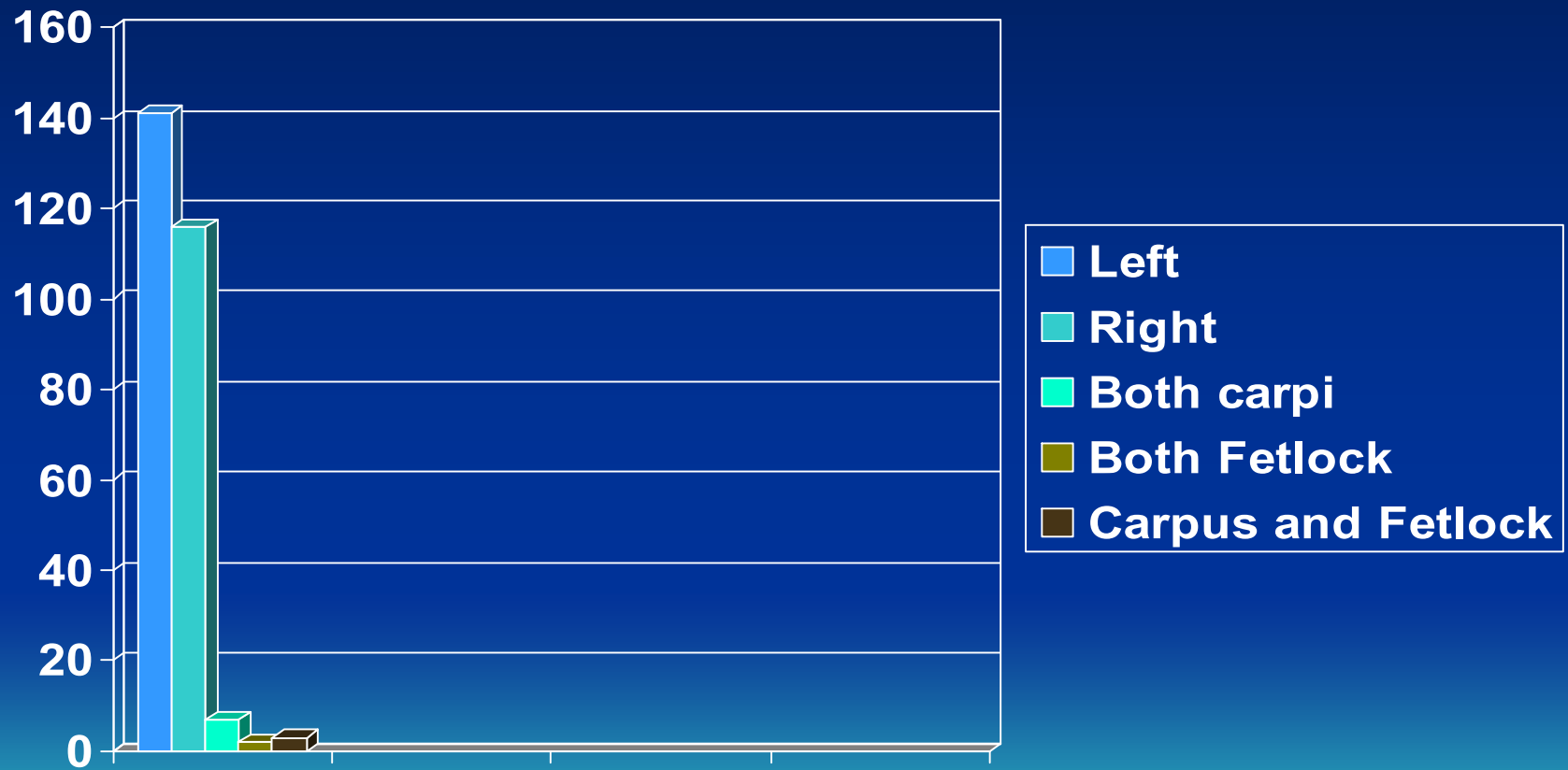


Figure 4: Number of Injuries per 1000 Starts



Left and Right Distribution



Location of injuries and distance of race

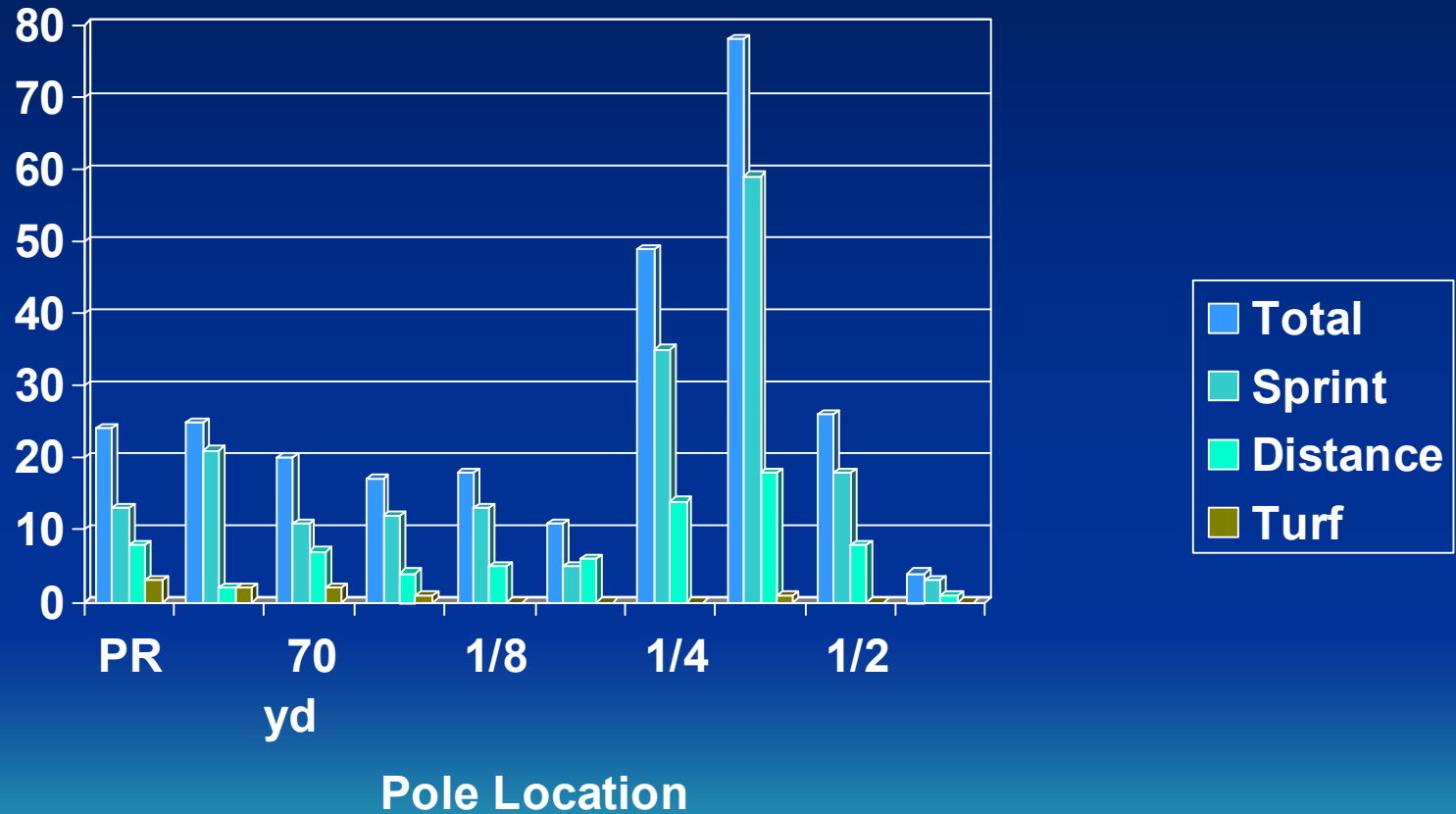
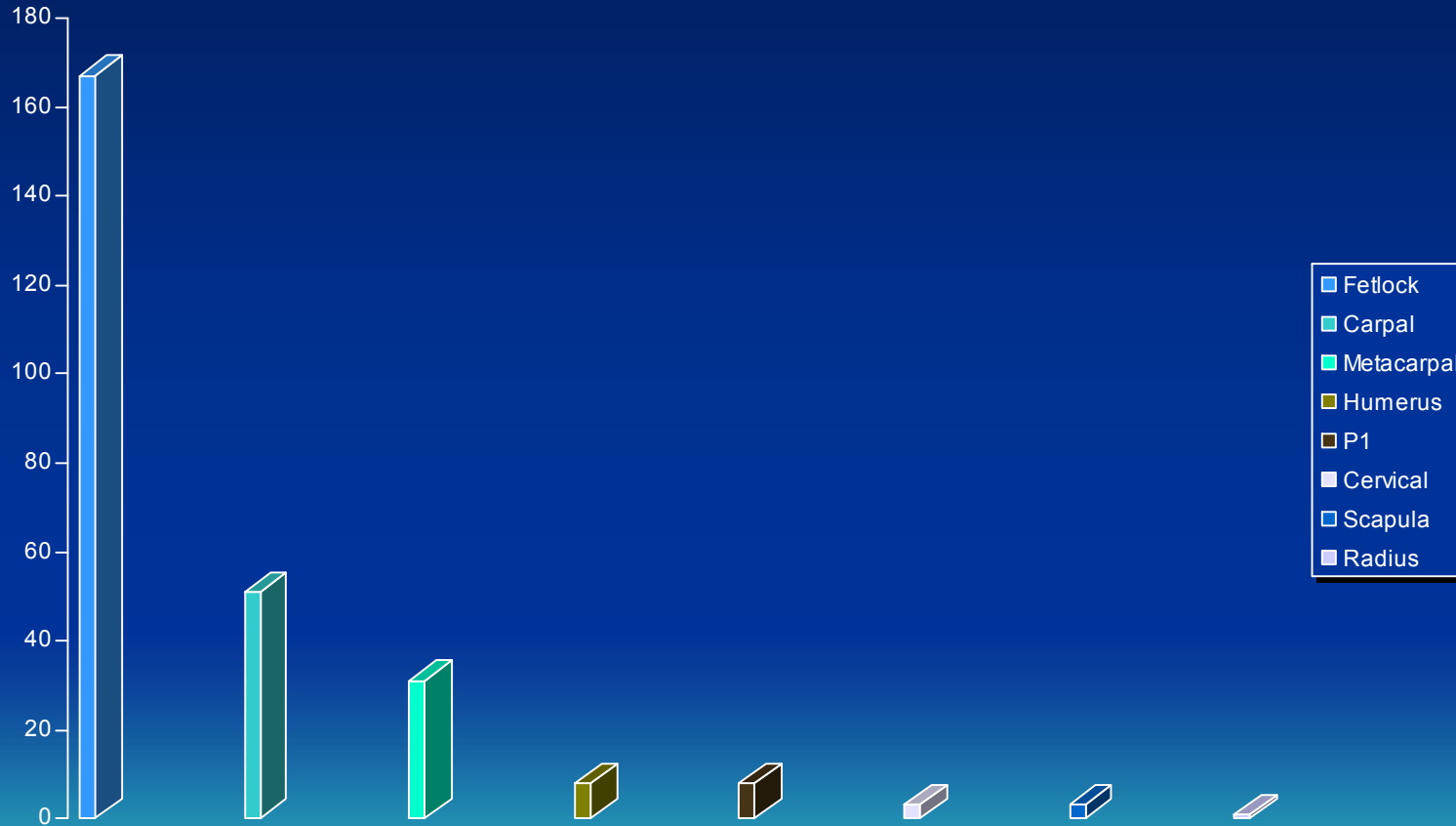


Figure : Injury Distribution



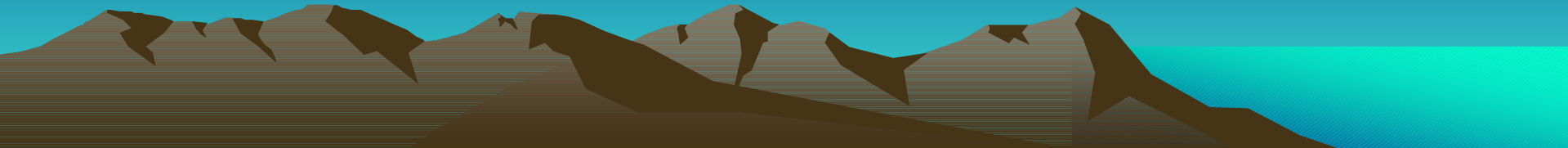
Conclusion

Because the circumstances at each track are to some extent unique, it is worthwhile for individual tracks to collect their own statistics.

With standardized criteria used, the data could easily be compared to those collected in previous years, and /or with other tracks.

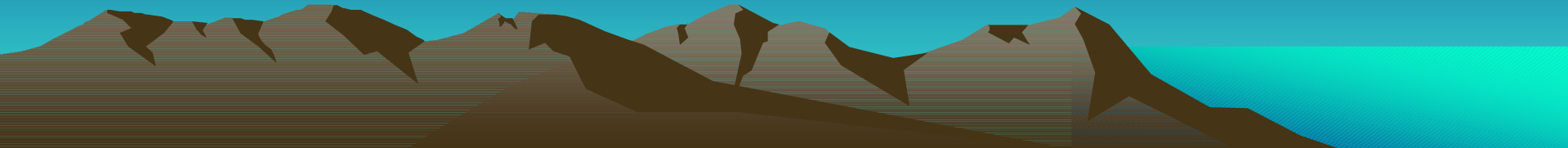
While we certainly appreciate the value of pre-race inspection, we have found no demonstrable relationship between these inspections and catastrophic injuries.

We believe that pre-existing injuries and changes in lameness can be predisposing factors, we have not found this to be an accurate predictor of catastrophic injuries.



One might think that horses on the Veterinarian's List would represent a population at greater risk for catastrophic injuries. Ironically, we have found a much smaller proportion of these horses are involved than we would have believed. Therefore, we have concluded that this list is not a great predictor of injuries.

Although poor quality of the participants does not necessarily equate with lameness issues, popular opinion might lead one to believe that this is indeed a fact and that these horses are at greater risk for injury. However, rates of injury reported by jurisdictions with better quality horses are within the range of the data from Penn National Race Course.

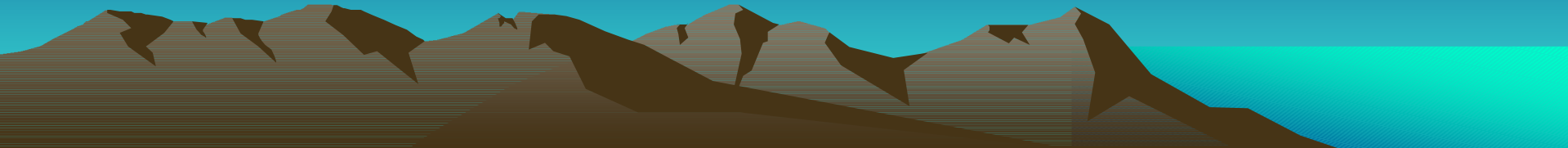


We are unable to relate track conditions to the incidence of injury. Anecdotally, we seem to see an increased incidence of injuries related to the condition of the track (not track condition).

One conclusion that may be reached, without reservation, is that at Penn National Race Course turf is inherently safer than dirt.

The high number of injuries that occur in the area from the 3/8 pole (603 meters) to the 1/4 pole (402 meters) would indicate that running on turns and changing leads may be a factor.

Fatigue is frequently considered to be a factor leading to injuries, especially at the finish line and when pulling up after the race.

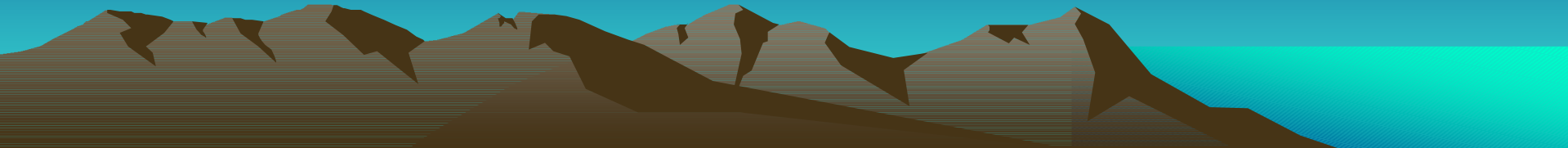


From the data we have collected the type of shoes wore is a possible factor, as well as the number of starts, frequency of starts, age, and sex.

We have found a large variation in rates among trainers, and in most cases, our successful trainers have a relatively low rate of injury.

The factors we identified were of no surprise. However, we feel there still may be some unidentified factors , which are less obvious.

It is our opinion from all the data we have collected that catastrophic injuries are not reliably predictable.



Acknowledgments

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