



# **Analysis of Greyhound Racing Injuries**

## **1 October 2020 – 31 December 2020**

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## Foreword

Each quarter the NSW Greyhound Welfare & Integrity Commission (the Commission) publishes a report providing data in relation to injuries that have been sustained by greyhounds while racing in NSW. The publication of such data has occurred in NSW since 2016 and is designed to provide transparent, accurate and timely reporting of racing-related injuries.

This report contains both quarterly analysis and trend line analysis of racing injury-related information and provides an important evidence base to assess current and future strategies to minimise the incidence and severity of greyhound racing related injuries. It also includes findings and recommendations of the Race Injury Review Panel (RIRP) for the same period.

Changes to the report's structure and content are sometimes made to enhance the utility of these reports.

This report relates to the second quarter of the 2020-21 financial year, or fourth quarter of 2020 on a calendar year basis.

## Key points

During the quarter, the Commission supervised 292 greyhound race meetings consisting of 2,987 races and 21,528 greyhound starts. A total of 4,046 individual greyhounds started in races over this period, with an average of 5.3 starts per greyhound.

The number of greyhounds found to have sustained an injury this quarter was 580 or 2.7% of all greyhound starts. This represents a total injury rate per 1,000 starts of 26.9. This is the lowest reported summer total injury rate since Q4, 2017 as depicted in Figure 1. The trend observed is for quarters one and four of each year to have a higher injury rate, associated with the hotter months of the year. It is expected that dry soil conditions affecting training and trialing surfaces may account for this.

Some 450 (77.6%) of all injuries were classified as minor or medium, requiring between 1 to 21 days stand down from racing. Serious injuries (Major II) accounted for 11% of all injuries this quarter, an increase from the previous quarter, which is the subject of further on-going analysis by the Race Injury Review Panel (RIRP). Of the 63 serious injuries reported this quarter, the majority (81%) will fully recover, following further veterinary treatment. Twelve seriously injured greyhounds were humanely euthanased by private veterinarians, off-track, following complications associated with their injuries or due to the poor prognosis for full recovery.

The number of greyhounds that suffered a catastrophic injury resulting in euthanasia or death during or after a race was 13, representing a rate of 0.6 per 1,000 starts, a slight increase from the 0.5 per 1000 starts reported in the previous two quarters.

## Data sources and Injury classification

This report is prepared by the Commission's Director Animal Welfare (Chief Veterinary Officer) and details greyhound injuries and fatalities that occurred at race meetings in New South Wales for the respective reporting period.

The information is compiled from data recorded by the Commission's On-Track Veterinarians (OTVs) using the Greyhound Examination Database (GED) managed by the Faculty of Engineering and Information Technology at the University of Technology Sydney (UTS).

Data on the number of race meetings and race starts is drawn from the Commission's business systems (including OzChase and OneGov).

All greyhounds that present at a race meeting are subject to a pre-race veterinary examination by the OTV.

In a post-race context, the OTV undertakes examination of some greyhounds for a variety of reasons including:

- at the request of a steward due to suboptimal or inexplicable performance
- a racing incident (for example, a race collision or race fall or a marring incident)
- where a greyhound fails to finish a race
- at a trainer’s request; and/or
- initiated by the OTV.

All greyhounds injured at the racetrack receive immediate veterinary treatment from an OTV. Trainers may be directed by the OTV to seek follow-up treatment for a greyhound from a veterinarian in private practice.

## Injury classification methodology

Injuries are classified according to the number of days ‘incapacitation’ or stand-down from racing required to recover from the injury diagnosed at the time of the examination by the OTV. The injury classification used by the Commission’s OTVs is detailed in Table 1.

**Table 1: Injury classification and examples of injuries**

<b>Injury category</b>	<b>Incapacitation period (days)</b>	<b>Example of injury</b>
Minor*	1-10	Minor cuts, abrasions, pad injuries, Grade 1 muscle injuries requiring treatment.
Medium	14-21	Moderate cuts and pad/toe injuries, joint sprains, ligament or tendon injuries, Grade 2 muscle injuries.
Major I	28-42	Fractured toes, severe split pads, dislocated joints, simple fractures, Grade 3 muscle injuries.
Major II	43-90	Long bone fractures; severe spinal, pelvic or skull injuries; major fracture dislocations, Achilles tendon ruptures.
Catastrophic		Euthanased or sudden death.

\*Formerly named Minor II

## Counting methodology

Where an individual greyhound sustains injuries in more than one injury category, only the highest category is used in reporting.

Injury rates are reported both as injuries per 100 greyhounds raced (where each greyhound will be counted only once irrespective of how many times it raced), and injuries per 1,000 starts (where a greyhound is counted every time it races within the quarter).

## Injuries this quarter

Injuries reported during this quarter are shown in Table 2.

The total injury rate in this quarter (26.9 per 1,000 starts) represents a sustained reduction in the total injury rate reported, comparable to the previous quarter in 2020. The Catastrophic injury rate has maintained its low rate at 0.6 per 1000 starts for this quarter.

The serious injury rate has increased from 1.9 per 1000 starts to 2.9 per 1000 starts this quarter. Strategies to reduce the number of serious injuries sustained on tracks in NSW is an on-going focus of both the Commission's policies and programs as well as GRNSW track maintenance teams and are discussed later in this report.

**Table 2: Injury numbers and rates 1 October – 31 December 2020 (Q4 2020)**

Injury category	Incapacitation period (days)	Number of greyhounds injured	Percentage of greyhounds injured per injury category	Cumulative total per injury category	Injuries per 100 greyhounds raced	Injuries per 1,000 starts
<b>Minor*</b>	1-10	264	46%	46%	6.5%	12.3
<b>Medium</b>	14-21	186	32%	78%	4.6%	8.6
<b>Major I</b>	28-42	54	9%	87%	1.3%	2.5
<b>Major II</b>	43-90	63	11%	98%	1.6%	2.9
<b>Catastrophic</b>	Euthanased/died	13	2%	100%	0.3%	0.6
<b>Total</b>		580	100%	100%	14.3%	26.9

\*Formerly named Minor II

## Injury trends over five quarters

**Table 3: Greyhound injury numbers and rates since Q4 2019:**

Injury category	Quarter 4 2019			Quarter 1 2020			Quarter 2 2020			Quarter 3 2020			Quarter 4 2020		
	Number	Per 100 raced	Per 1000 starts	Number	Per 100 raced	Per 1000 starts	Number	Per 100 raced	Per 1000 starts	Number	Per 100 raced	Per 1000 starts	Number	Per 100 raced	Per 1000 starts
<b>Minor*</b>	320	8.0%	15.7	242	6.6%	13.0	271	7.3%	13.5	242	6.3%	11.2	<b>264</b>	<b>6.5%</b>	<b>12.3</b>
<b>Medium</b>	233	5.9%	11.4	183	5.0%	9.8	167	4.5%	8.3	196	5.1%	9.1	<b>186</b>	<b>4.6%</b>	<b>8.6</b>
<b>Major I</b>	88	2.2%	4.3	73	2.0%	3.9	86	2.3%	4.3	84	2.3%	3.9	<b>54</b>	<b>1.3%</b>	<b>2.5</b>
<b>Major II</b>	41	1.0%	2.0	37	1.0%	2.0	39	1.1%	1.9	42	1.1%	1.9	<b>63</b>	<b>1.6%</b>	<b>2.9</b>
<b>Catastrophic</b>	15	0.4%	0.7	15	0.4%	0.8	10	0.3%	0.5	11	0.3%	0.5	<b>13</b>	<b>0.3%</b>	<b>0.6</b>
<b>Total</b>	697	17.5%	34.2	550	15.0%	29.5	573	15.5%	28.4	575	14.9%	26.6	<b>580</b>	<b>14.3%</b>	<b>26.9</b>

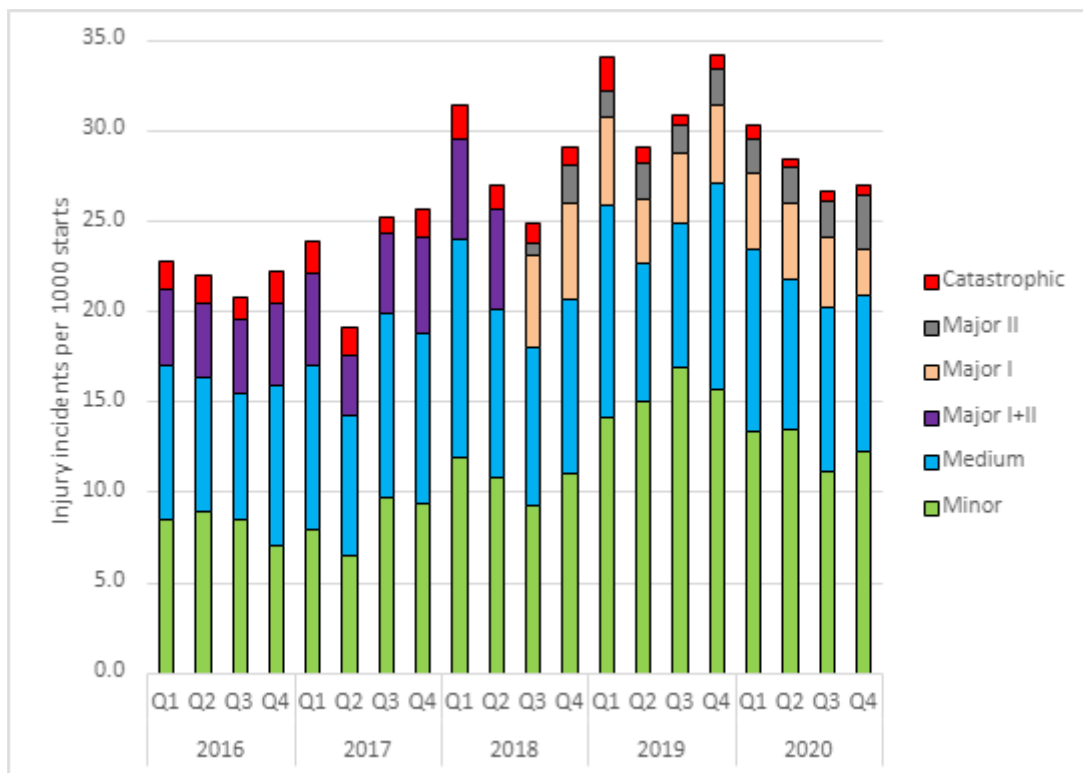
\*Formerly named Minor II- all previous years are adjusted accordingly

## Longer term trends

As shown in Table 3, Q4 2020 demonstrates a decline from the prior quarters in the total injury rate, which continues to decline from 17.5% of all runners in Q4 2019 to 14.3% of all runners in Q4 2020. Most of the decrease in injuries occurred in the Medium category, which incur 14-21 days off racing (5.1% to 4.9%) as well as in the Major I category (2.2% to 1.3%).

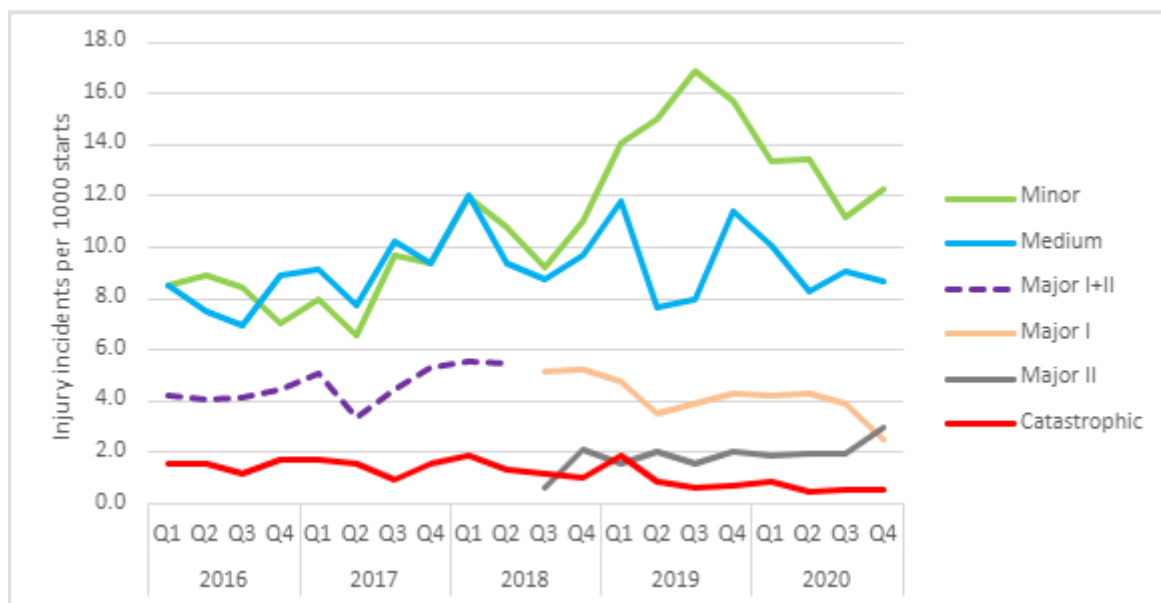
Catastrophic injuries have remained consistently low over the last five quarters and remained stable between the range 0.4 to 0.6 per 1000 starts, except for a slight increase during Q4 2019 and Q1 2020 (0.7 and 0.8 per 1000 starts respectively) which represent the hottest months of the year. It is thought that the influence of heat and low rainfall may have contributed by affecting training, trialing and racing surfaces.

Trends in injury rates since the start of 2016 are shown in Figures 1 and 2.



**Figure 1: Injury trends by year quarters since 2016**

\*Note these figures may vary from previously reported figures to account for the exclusion of the Minor I category. Data before Q3 2018 is from GRNSW reports available at <http://www.grnsw.com.au/welfare/veterinary/injury-report>. Data reported since the Commission commenced on 1 July 2018 contains injuries at both non-TAB and TAB races.



**Figure 2: Trends in injury category by year quarters since 2016**

### Catastrophic injuries

A fatality is defined as a greyhound which is euthanased at a race meeting due to an injury sustained during the meeting, or any sudden death occurring during the race meeting. These fatalities are classified as Catastrophic injuries.

Of the 13 greyhound fatalities during this quarter, 12 were euthanased at the track due to catastrophic injuries sustained during racing. One greyhound died suddenly following a race. A post-mortem was conducted by a private veterinarian, which revealed a fatal internal hemorrhage due to a ruptured artery.

Twelve greyhounds that were categorised by OTVs as having sustained a serious or Major II injury were subsequently reported to the Commission as having been euthanased by a private veterinarian, following further diagnostic tests and treatment. These fatalities are not included in the reported statistics for Catastrophic injuries in this report.

The GRNSW race injury treatment scheme, which was introduced at the end of March 2019, provides financial support for the off-track diagnosis and treatment of serious injuries which occur during racing, thereby eliminating unnecessary euthanasia of injured greyhounds due to the financial commitments associated with surgery and ongoing treatment of greyhounds with serious injuries.

Two greyhounds were reported as having been euthanased due to injuries sustained during unofficial club trials. These fatalities are not included in the reported statistics for Catastrophic injuries reported in this report.

### Contributing factors – RIRP analysis

There are many causes of injuries in racing greyhounds and the relative importance and interactions of causative factors vary. Causative factors can be divided into:

- 1. Greyhound factors:** genetics, nutrition, physical growth and development, fitness, race preparation, racing form and previous injury history
- 2. Track factors:** design and surface characteristics; environmental influences

**3. Race factors:** race distance, racing incidents (collisions) and number of greyhounds in a race.

The Major II and Catastrophic injuries occurring during this quarter were reviewed by the Race Injury Review Panel as it continued its work analysing contributing factors to Major II and Catastrophic race injuries.

The Panel studies all the contributing factors of Major II and Catastrophic injuries and, over time, the data collected will assist in informing prevention strategies and regulatory steps aimed at minimising the incidence of racing injuries.

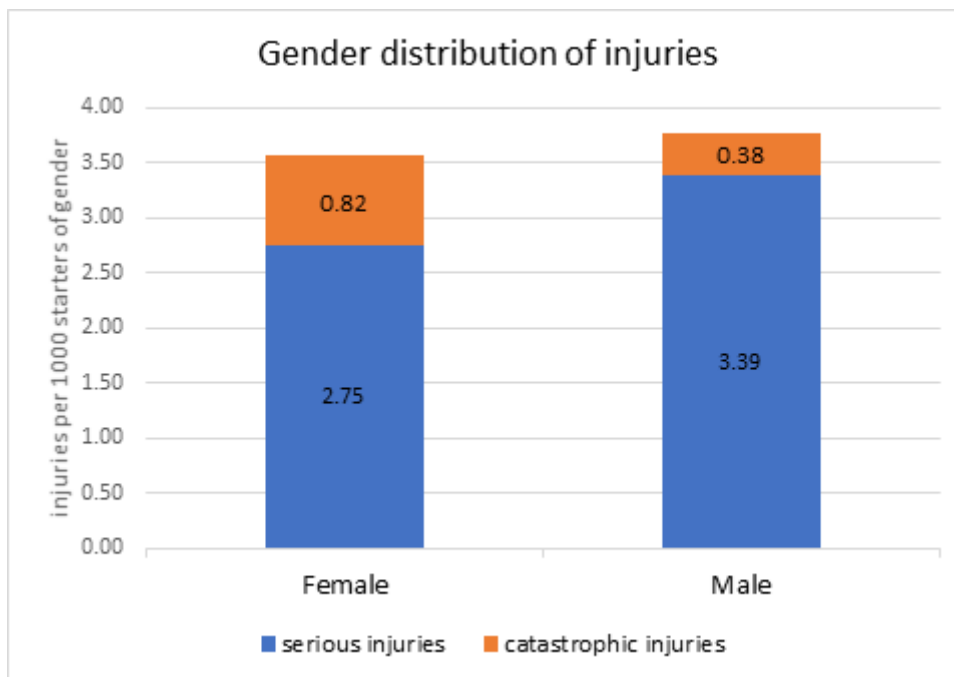
The following table depicts the results of Panel deliberations for this quarter. In some instances, more than one factor contributed to an injury, usually where track factors and racing incidents both contributed to an incident. Catastrophic and serious injuries which occurred in club trials, where insufficient evidence is available for analysis are not considered by the Panel.

**Table 4: RIRP results of contributing factors of injuries 1 October - 31 December 2020**

Injury Type	Racing incident responsible or contributed	Greyhound factors responsible or contributed	Track factors contributed	Unknown
Catastrophic Injury	10 (83.3%)	3 (30.8%)	1 (8.3%)	0
Major II Injury	48 (75%)	10 (16%)	4 (6.3%)	4 (6.3%)

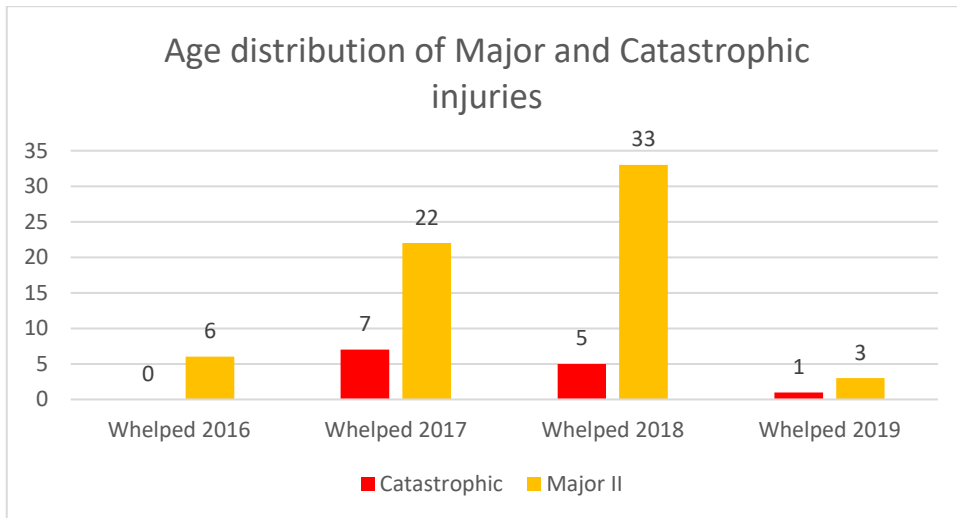
The following figures depict the distribution of injuries according to factors considered by the Panel:

**Figure 3: Catastrophic and Major II injuries by gender:**



Female greyhounds injured this quarter (n=36 greyhounds) had an average weight of 26.4kg compared to male greyhounds (n=38 greyhounds) who had an average weight of 32.8kg.

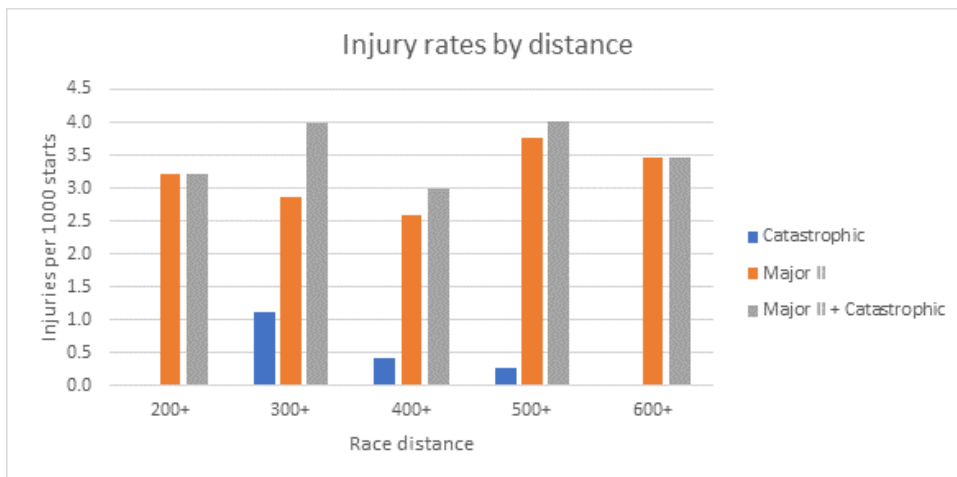
**Figure 4: Catastrophic and Major II injuries by age:**



Master’s greyhounds, or those over four years old made up less of the seriously injured population (n=6 greyhounds) than greyhounds three years old (n=33).

The majority of catastrophic injuries occurred in greyhounds 3-4 years old, followed by the 2-3 year old cohort.

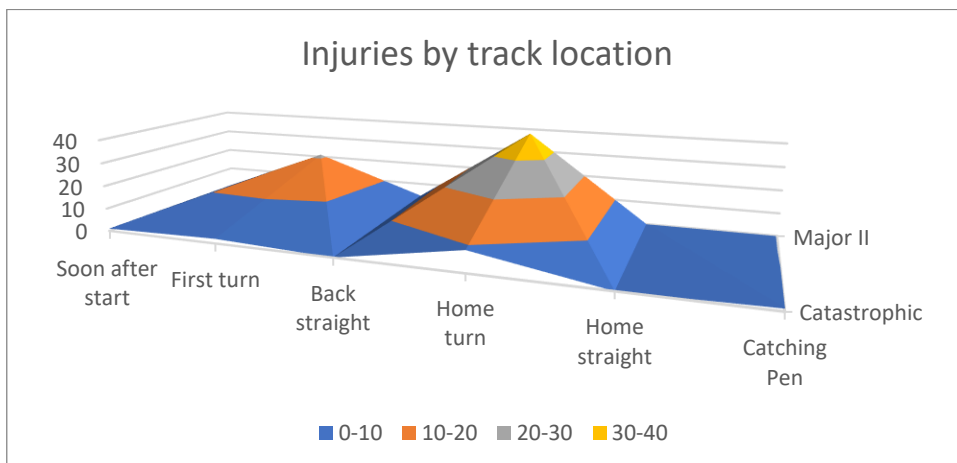
**Figure 5: Catastrophic and major II Injuries by race distance:**



Catastrophic injuries were more frequent over 300m race distances.

Combined Catastrophic and Major II injuries were highest in both 300m+ and 500m+ races due to the increased Major II injuries over 500m+ races.

**Figure 6: Catastrophic and Major II injuries by location on the track:**

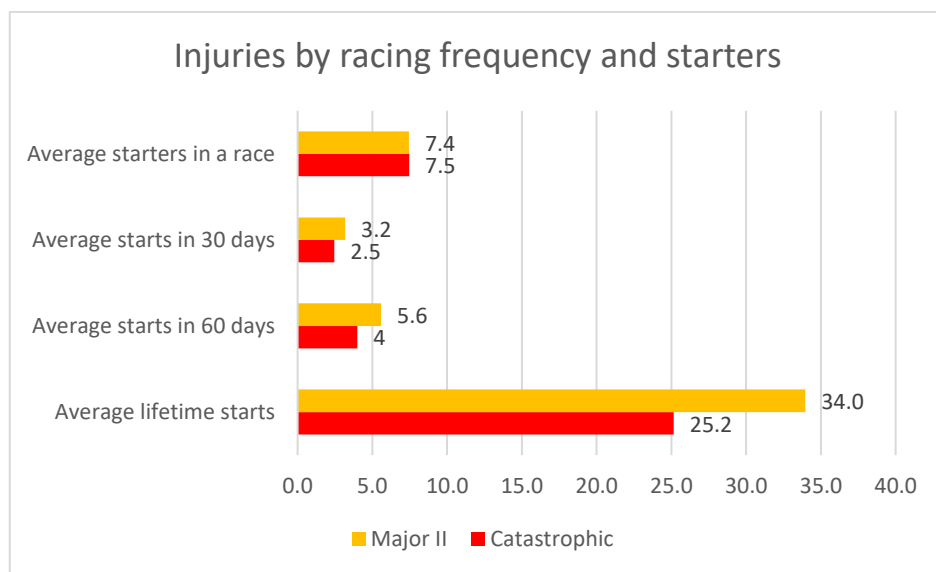


When considering Catastrophic injuries, 10 (83.3%) occurred following a collision with or without a fall on a turn.

When considering serious injuries, 56 (84.8%) occurred in a turn.



**Figure 7: Catastrophic and Major II injuries by average race starters; average starts in 30 and 60 days; and average lifetime starts:**



Starters in a race ranged from 4-8, with average starters depicted in Fig 7.

Average starts in 30 and 60 days= the average number of times a greyhound has started in a race in the previous 30 and 60 days; and is an indication of fitness and an indicator of whether the greyhound has been rested due to injury or other reasons. be better?) and racing frequency.

Catastrophic injuries: the range of lifetime (career to date) starts was 1-52 (mean 25.2 starts).

Major II injuries: the range of lifetime starts was 1-97 (mean 34 starts).

The injuries most likely to be Catastrophic were a complex fracture to the radius/ulna, with or without compounding (50%); followed by severe complicated hock fractures (25%).

The most common Major II injuries which occurred during the quarter were hock (ankle joint) fractures (63.6%), carpal (wrist) fractures (7.5%), simple radius/ulna fractures (6%).

## Race injury prevention strategies

The Commission is committed to reducing the incidence and severity of greyhound injuries and eliminating the unnecessary euthanasia of injured greyhounds.

Various policies, programs and other measures are in place or will be progressively introduced to deliver this outcome including:

- The analyses of all Catastrophic and Major II injuries in racing greyhounds by the Race Injury Review Panel
- Further data analysis and the development of injury modelling capability
- Analysis of racing frequency, racing career length and the influence of race distance and programming on the injury rate
- Obtaining advice from the Greyhound Industry Animal Welfare Committee into greyhound injuries and their causes
- Working with GRNSW on implementation of the track minimum standards in conjunction with safety experts, including from the University of Technology Sydney (UTS), to improve the track-related aspects of racing injuries. The Commission will continue to advocate for priority attention to be given to those tracks that are above the average in relation to rates of Major II or Catastrophic injuries where track and race factors are thought to be the most significant factors contributing to serious injuries
- Further training of OTVs, in collaboration with industry greyhound veterinarians, in injury detection and race factors which cause injuries to improve the consistent detection of injuries post-race
- Ensure greyhounds receive appropriate veterinary treatment, when injured, to prevent future injuries.