INJURIES IN RACING GREYHOUNDS

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Welfare concerns

• ‘Wastage’ of greyhounds in the industry
• Standards within kennelling, husbandry and transportation
• Injuries racing greyhounds sustain
Injuries and fatalities

Table 1: Injury and euthanasia data from GBGB tracks

<table>
<thead>
<tr>
<th>Reported Numbers</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>% of all raced dogs</td>
<td>Number of raced dogs</td>
<td>% of all raced dogs</td>
</tr>
<tr>
<td>Euthanasia</td>
<td>0.12</td>
<td>441</td>
<td>0.13</td>
</tr>
<tr>
<td>Hock &amp; Wrist injuries</td>
<td>0.19</td>
<td>687</td>
<td>0.19</td>
</tr>
</tbody>
</table>

Source: Racecourse Promoters Association

(House of Commons Environment, Food and Rural Affairs Committee [1])
• “The above data is not comprehensive as it is taken from 22 of 24 GBGB-licensed tracks, it does not cover all types of injuries, and it does not include injuries to dogs that manifest later away from the track.” [1]

• Significantly lower than “an analysis provided by the welfare organisation Greyt Exploitations, in association with the Sunday Times, of incidents at races over a 10 year period [which] reported that 40,151 dogs were injured and 18,410 did not race again.” [2].
<table>
<thead>
<tr>
<th>Injuries</th>
<th>Injuries as % of 419,385 total runs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hock injuries</td>
<td>843</td>
</tr>
<tr>
<td>Wrist injuries</td>
<td>707</td>
</tr>
<tr>
<td>Foot injuries</td>
<td>833</td>
</tr>
<tr>
<td>Hind long bone</td>
<td>48</td>
</tr>
<tr>
<td>Fore long bone</td>
<td>100</td>
</tr>
<tr>
<td>Fore limb muscle</td>
<td>540</td>
</tr>
<tr>
<td>Hind limb muscle</td>
<td>1,110</td>
</tr>
<tr>
<td>Other</td>
<td>656</td>
</tr>
<tr>
<td>Total injuries</td>
<td>4,837</td>
</tr>
<tr>
<td>Track fatalities</td>
<td>257</td>
</tr>
</tbody>
</table>

Table 2. Injury and fatality data for 2017 [3].
Trackside deaths

• 87 greyhounds (61 male and 26 female) ‘euthanased’ at a GBGB registered track from June 2007 to August 2010 [4]. The three top causes:
  • severe injuries sustained during racing (80)
  • health problems resulting from racing (3)
  • behavioural problems such as aggression (11)

• Some dogs suffered from more than one of these problems
Figure 1. Reasons for ‘euthanasia’ of 87 Greyhounds at a GBGB registered track from June 2007 to August 2010 [4].
Injuries: predisposing factors

• Greyhound factors

• Track and environmental factors
Greyhound factors

Figure 2. Some greyhound anatomical adaptations for speed (Burton, courtesy of Fay Penrose, in Hercock [4]).

• Whilst racing, greyhounds are subjected to high rates of acceleration, speed changes, and – when rounding bends – both centripetal and other ground reaction forces [5-6].
Greyhounds transfer their weight to the left side of their limbs when they corner [7]. Hence their limb bones are loaded asymmetrically, with those nearest to the inside of the track experiencing higher stresses.

“As races are run anti-clockwise, most injuries occur in the left foreleg and right hind leg. When negotiating a bend the left foreleg is used as a pivot, with the claws digging into the ground, whilst the right hind leg, moving in an arc, provides the primary propulsive force. The stresses and strains imposed on these two limbs when entering, negotiating and leaving a bend are the most important contributing factors to the specific injuries associated with racing greyhounds.” [9].
Bony remodelling

• The skeleton seeks to adapt to these increased forces by resorbing calcium from some regions and depositing it in others (remodelling). The likelihood of fracture can increase when bones are temporarily weakened during this process [4].
Greyhound age and weight

- Young greyhounds (6 to 37 months) have a higher prevalence of some fractures [10-12], possibly due to lack of skeletal maturity and strength.

- Males are also more susceptible to these fractures than females [11-13], possibly due to their heavier weights [4].
Track design

- Curved tracks are hazardous, because of the uneven forces they create on greyhounds whilst negotiating bends.

- Also create areas of congestion - significantly increase risks of high speed collisions with other greyhounds, the rail or track surface.

Figure 4: Zone of congestion during cornering (after Bloomberg [5], in Eager et al [8]).
Collisions

• An inquiry undertaken by New Zealand’s Racing Integrity Unit [14] concluded that 68 per cent of injuries, and 75 per cent of fatalities, occurred from accidents at or approaching the first bend, when congestion is often at a maximum.

Figure 5. Bends result in congestion, increasing risks of serious collisions
Track composition

• For greyhounds to run with a smooth gait, the track surface should provide sufficient, uniform friction, without being so hard that injury risk is increased [5].

• Also key: Moisture consistency, drainage and ambient temperatures
Injuries sustained

- Fractures
- Muscle injuries
- Tendon and ligament injuries
Fractures

- Fractures and other injuries may result from trauma, as a direct and immediate consequence of high speed collisions with other greyhounds, the rail or track, particularly within congestion zones on bends.

- Stress or fatigue fractures may also result without any external trauma. They are much more common than direct, traumatic fractures [4].
• Risks increase when locomotory forces increase, e.g. when rounding bends, or when biomechanical limits are lowered, e.g. in young bones, or following bony remodelling.

• Most injuries that occur in racing are minor injuries that may not be recorded, and continued racing with such injuries can also cause major injuries to occur [15].
Common fractures

• central tarsal and adjacent tarsal bones [17-19]

• metacarpal and metatarsal bones [13, 20]

• acetabulum (the socket of the hip bone, into which the head of the femur fits) [21].

Figure 6: Greyhound forelimb with metacarpal bones shown in the middle (purple) [16].
Figure 7. Metatarsal fractures [22].
Muscle injuries
• Muscle injuries ranging from sprains to tears are also common in racing greyhounds [23].

Tendon and ligament injuries
• Also common; vary from sprains to full disruptions [23].
Recommendations

*Straightened tracks*
- Congestion, mostly within bends, results in approximately 80 per cent of catastrophic and major injuries [8].
- Stress fracture risks are increased by severe and asymmetric forces applied to limb bones, with characteristic injuries resulting.

*Shortened races*
- Races below 300 m in length have injury rates significantly lower than longer races [24].
**Optimised surfaces**

- The superficial absorptive and deeper traction layers of tracks should be of uniform depth, with both of an optimal composition, matched to weather conditions which may vary seasonally, e.g. by use of sprinkler and drainage systems.

**Lure extensions**

- Positioning the lure towards the middle of the track may reduce congestion, and increase the useful field of vision for greyhounds [8].
Starting box design

• Immediately prior to gate opening, greyhounds hear the distinct whirr of the lure and typically lower their heads in an attempt to observe its approach. This awkward pre-start crouching position is a contributing factor within a family of non-congestion related injuries. Accordingly, box gates should be of sufficient height to minimise this [21].

Delayed opening

• Delaying opening to allow the lure to increase from 50 km/h to 70 km/h would result in greyhounds observing it some 40 per cent further along the rail. This would expand their useful visual fields [8].
Starting box positioning
• The position of starting boxes should be examined, and repositioned when judged to be too close to the first corner [24].

Safety pads
• In New Zealand, fitted safety pads have been installed on the outside fencing on all racing tracks to absorb impact when greyhounds collide with the rail [25].
Veterinary presence and inspections

• GBGB requirements [26] state that a licenced track veterinarian may be provided with only 45-60 minutes to examine multiple relevant bodily systems of 90 greyhounds.
• Trackside medical supplies and facilities should be sufficient to ensure prompt and medically appropriate attention to any injuries or other veterinary medical problems.
Conclusions

• It is entirely unacceptable that many thousands of greyhounds continue to be seriously injured whilst racing, and that many of these are killed.

• Accordingly, such modifications to track design and procedures are immediately warranted to reduce injury risks.

• Should be deployed at all tracks uniformly, so that standardisation of equipment and procedures provide consistent (rather than confusing) messages to greyhounds, wherever they race. This will result in reinforcement of injury reducing behaviour over time [8].
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References


