Guidelines on Withdrawal Times for the Administration of Therapeutic Medicines to Racing Greyhounds

The welfare of the greyhound is always uppermost in the mind of those who care for them on a daily basis. Thus, great care is taken with matters such as food and exercise. Concern for the greyhound is probably at its highest during periods of injury or sickness. Every effort is made to administer the best medicines. However, it is important to allow an adequate withdrawal time between administration of such therapeutic medications and competition. Withdrawal times, however, are affected by a large number of factors. Any guideline, therefore, is unlikely to be inclusive of all the possible variations that can affect a withdrawal time in any *individual* dog.

The Board has prepared this document to help increase awareness among owners and trainers of the considerations involved in administering therapeutic substances to the racing greyhound. For the purposes of this document, a withdrawal time is a suggested period, before an event, to cease administration of a medication so as to minimize the risk of post-race detection of the original medication or its residues. All withdrawal time guidelines are "best estimates". Adherence to a withdrawal time guideline merely serves to reduce the risk of inadvertently producing a positive finding. It never guarantees that such a positive will not occur. Furthermore, the owner/trainer is always responsible for any prohibited substance residues present in a greyhound's urine or other body fluid. It should also be noted that compliance with any published detection period will not constitute a defence to the presence of a prohibited substance in a sample.

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The following, in approximate order of their importance, is a list of factors that influence withdrawal times and over which the owner/trainer may have some control.

1. **Dose**
Medications administered at high doses – say hundreds of milligrams (or even grams) - are more likely to be detectable for longer periods than medications administered at low milligram doses.

*Precaution:*
Be aware of the actual quantity, in grams, milligrams, or micrograms per administration, of the medications you administer; always follow the manufacturer’s directions and the advice of your prescribing veterinarian.

2. **Route of Administration**
Oral administration can greatly prolong withdrawal times. It may take several days for pills or tablets to pass through the intestinal tract of a dog; a pill or tablet that breaks down slowly in the intestinal tract can potentially release medication into a dog's system for several days.

*Precaution:*
Avoid oral administrations close to race time. Therapeutic medications that are so administered should, where appropriate, be administered intravenously by your prescribing veterinarian.

3. **Frequency of Medication Use**
Repeated or long-term administrations of some medications, especially repeated oral administrations, can greatly extend withdrawal times.

*Precaution:*
Where possible, avoid repeated or prolonged schedules of administration.

4. **Time of Last Meal**
If medications are administered orally, recent food intake is likely to reduce the peak blood concentration attained and delay the time at which peak blood concentration is reached, as food may interfere with absorption of the medication into the bloodstream.
5. Release Times of the Medication Preparation
Sustained-release preparations for either oral or intramuscular use may be specifically formulated to delay release of the medication into the dog's system, thereby extending withdrawal times.

Precaution:
Where possible, avoid sustained-release preparations, for example “Depot Medrol” (active ingredient: methyl prednisolone) and “Voren” (active ingredient: dexamethasone nicotinate) preparations.

6. Medication Formulation
For any dosage form other than simple intravenous (IV) administration, variations in the formulation of a medication may result in substantially different withdrawal times. These variations can be quite significant among different oral formulations.

Precaution:
Never assume that seemingly similar products from different manufacturers will have the same withdrawal times.

7. Contamination of the Dog's Environment
A kennel (including the food and water bowls) that a dog inhabits during a course of therapy may become contaminated with the medication in question. This may occur even if the medication is administered parenterally (other than orally). Contamination is obviously much more likely to occur if the medication is administered orally or in the feed at relatively large doses.

Precaution:
Care should be taken with orally-administered medication to ensure that the kennel does not become contaminated or that other dogs in the kennel do not become exposed to the medication. Move a treated dog to a fresh kennel during the withdrawal period prior to competition in order to eliminate the possibility of kennel or environmental contamination extending the withdrawal time.

8. Other Factors
Individual variation between animals (e.g., amount of body fat), the gender of the dog, co-administration of other medications, the health of the dog (especially liver function), and the amount of stress that the dog is subjected to are some additional factors that may affect drug metabolism and withdrawal times.
Non-Steroidal Anti-inflammatory Drug (NSAID) Withdrawal Times

NSAIDs are generally used to treat mild to moderate pain, especially pain that has a component of inflammation. They reduce pain and inflammation arising from injured tissue. A list of suggested clearance times for legitimate medications in the USA has been produced by researchers in that country. The list has been derived from surveys of greyhound veterinarians and other sources, including a large two-year drug administration study. The study developed a protocol in which drugs were administered to greyhounds with at least five dogs receiving each individual drug. Urine was collected from each greyhound at zero hour (i.e. prior to drug administration) and at intervals post administration. NSAID results were as follows:

<table>
<thead>
<tr>
<th>I. Drug</th>
<th>II. Study Dose</th>
<th>Clearance Time (Hours)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ibuprofen</td>
<td>200mg, oral ingestion</td>
<td>48</td>
</tr>
<tr>
<td>Ketoprofen</td>
<td>25mg, oral ingestion</td>
<td>Greater than 96</td>
</tr>
</tbody>
</table>
| Phenylbutazone     | 500mg, oral ingestion          | Approx. 72 (single dose)  
Approx. 96 (multiple doses) |

The authors stress that all suggested clearance times are only guidelines for veterinarian and owner/trainer use and that the owner/trainer is always responsible for any drug residues present in a greyhound's urine.

Bibliography