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IDITAROD TRAIL COMMITTEE, INC.

CANINE DRUG TESTING MANUAL

The Iditarod Trail Committee exists to preserve the tradition of dog mushing in Alaska by staging the world premier sled dog race along the Iditarod Trail.

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CANINE DRUG TESTING OVERVIEW

In the Iditarod Trail Committee, (**ITC**) mission of testing for any presence of performance enhancing medications, the Iditarod Canine Drug Testing Program has two primary purposes: The first is to protect the health of the dogs from the use of unauthorized medications. The second is to establish a "level playing field," so that all contestants have equal opportunity and are exhibiting innate skills and endurance. For these reasons, drug testing is a high priority for the ITC.

Canine drug testing in a long-distance sled dog race creates unique challenges when compared to human, equine, Greyhound, and even many other types of sled dog competition. Because of the extremely high caloric intake over a period of 9-14 days, Iditarod race dogs consume large volumes of commercial dog food and raw meats, neither of which are typically graded for human consumption and may in fact have "4-D" (diseased, down, dying or dead) livestock components. This creates a high probability of exposure by ingestion to large (farm) animal pharmaceuticals , which are often detected at trace levels in urine.

There are two ways that drug testing results can be assessed: The first is to have 100% zero tolerance for anything, which is the easiest to interpret. However, that is neither fair nor practical in our real world, for the reasons discussed above. The second, is to utilize established protocols and professional analyses in interpreting any findings, which is ITC policy and procedure.

Iditarod 2019 Rule 39 states as follows:

> **Rule 39 -- Drug Use:** No oral or topical drug which may suppress the signs of illness or injury may be used on a dog. No injectable may be used in dogs participating in the Race. No other drugs or other artificial means may be used to drive a dog or cause a dog to perform or attempt to perform beyond its natural ability. The following drugs and procedures are prohibited:
>
> - Anabolic Steroids
> - Analgesics (prescriptive and non-prescriptive)
> - Anesthetics
> - Antihistamines
> - Anti-inflammatory drugs including, but not limited to:
>   - Cortico-steroids (except use on feet is permitted)
>   - Antiprostaglandins
>   - Non-steroidals
>   - Salicylates
>   - DMSO
> - Bronchodilators

- Central Nervous System Stimulants
- Cough Suppressants
- Diuretics
- Muscle Relaxants
- Tranquilizers & Opiates
- Blood doping
- Cheque Drops

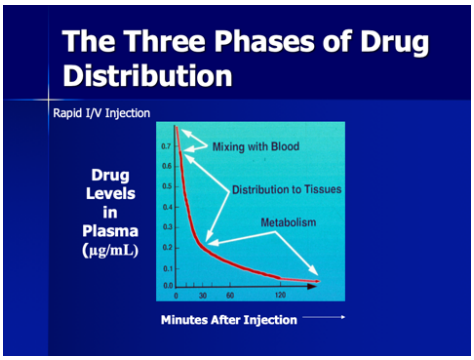
Megesterol acetate (**Ovaban**) is permitted for use as an estrus suppressant. Newer products may become available that are approved for use in the USA and may be allowed by the Race Chief Veterinarian. Race veterinarians may utilize any of the listed drugs or other prohibited drugs necessary to maintain a dog's health; however, such dogs will be withdrawn from the Race.

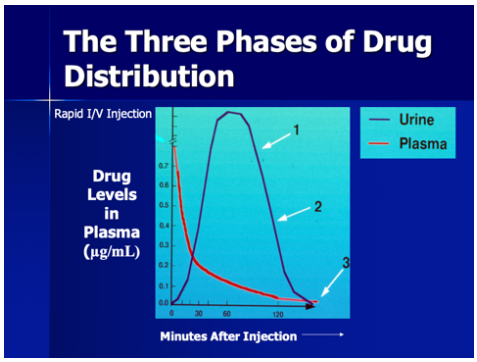
Drug Testing and Disciplinary Sanctions:

- Dogs are subject to the collection of urine or blood samples, at the discretion of the testing veterinarian, at any point from the pre-Race examination until four (4) hours after the team's finish. The musher or a designee will remain with the dogs. All results will be sealed and signed for before the tests are considered complete.
- A musher must assist the veterinarian (Drug Testing personnel) in collecting samples whenever requested. If blood or urine testing of a dog reveals any of the prohibitive drugs in the dog, this rule has been violated regardless of when such drugs were administered to the dog. Blood, urine and other test results will be made available to the musher upon request.
- Mushers are cautioned to ensure that food, meat, snacks and veterinary supplies do not contain prohibited drugs.
- Mushers will be held strictly liable for all positive tests for prohibited drugs and procedures of dogs in their team for purposes of application of and sanctions administered pursuant to this Rule 39 unless they can establish, to the satisfaction of a review panel comprised of the Race Marshall, the Chief Veterinarian, and three independent professionals appointed by the Board President, by clear and convincing evidence, that the positive tests resulted from causes completely beyond their control. The clear and convincing evidence may include polygraph testing offered by the musher or required by the ITC, as well as other types of evidence. The costs of any polygraph evidence shall be borne by the party offering or requiring it. In all cases, the polygraph testing must be conducted by a facility approved by the ITC.
- Any musher who is found to be responsible, either directly or indirectly, for tampering with another musher's dogs, foods, snacks or supplies, or tampering in any other manner, which affects the results of drug testing results of another musher's dogs will be subject to discipline, and sanctions, up to and including disqualification, and/or a permanent ban from the

Race, in the ITC's sole and absolute discretion.

As stated in Rule 39, blood (serum) or urine may be obtained for sampling. Urine, rather than blood, is typically collected: Urine is less precise relative to the time of administration (see graphs below). However, since drugs and their metabolites are concentrated in the urine, the use of urine can result in detections in terms of days after administration. In contrast, drugs in blood are rapidly disseminated to tissues and can only be detected in blood for hours post administration. The amount of a drug that may have been administered combined with the rate of urine production and elimination determines the concentration of the drug in the sample urine cup. Thus, urine has the greater potential for identifying violations during a multi-day event such as the Iditarod and is more precise for ***qualitative*** (content) analyses. For general discussion in this manual, most references to canine drug testing will involve urine sampling.





A brief overview of drug pharmacokinetics is indicated: The term "half-life" or T ½ is a general measurement of the time when an administered drug reaches a blood level of 50% of the original dose. It is often used to determine how fast a drug is metabolized by the body. This is usually a few hours and can vary with hydration status and metabolism. Blood samples are more precise in estimating time of drug administration, if detected. However, blood drug levels fall very rapidly as the drug is distributed to the tissues (see above graph). Half-lives for most pharmaceuticals can range from minutes to a few hours, thus explaining why most medications require at least two to three administrations daily to maintain therapeutic levels. Blood is more precise for ***quantitative*** (amount) analyses.

In addition, newer technology utilizing hair samples is being developed to detect drugs such as anabolic steroids and bronchodilators that may have been administered within the previous three (3) months.

A "confirmed positive" drug test results when a medication (drug) is detected at unacceptable levels by an initial (phase 1) screening test HPLC-MS/MS (liquid chromatography/ mass spectrometry) or ELISA and confirmed by a second test (phase 2) utilizing HPLC-MS/MS, which is necessary for legal standing. The ITC has developed protocols to determine when a "confirmed positive" drug test will be considered a "violation." The chapter entitled *Laboratory Test Results* discusses the protocols in detail.

An effective Drug Testing Program consists of three key components: These will be also be discussed more fully in subsequent chapters, but briefly, the first includes the **Chain of Custody**, also commonly referred to as the **Chain of Evidence**, which involves the collection and identification of samples (urine) in a tamper-proof manner, such that the laboratory receives unadulterated and appropriately bar-coded samples for testing. The second component is the testing **Laboratory**, which is certified to screen and

analyze samples for approximately 400 drugs and verify their identity for potential discipline and/or legal recourse. For 2019, the ITC will utilize the services of Industrial Labs, whose senior chemists have been certified by the Association of Official Racing Chemists (**AORC**). The final component pertains to the **Review and Appeals Process** established by the organizational body (**ITC**) for any test results that are indicative of a violation of the ITC's policies.

DRUG TESTING VIOLATION PREVENTION MEASURES

A drug testing violation is extremely serious, likely resulting in substantial penalties, career-damaging consequences, including disciplinary sanctions up to, and including, a potential permanent ban from the Race. For many reasons, precautions should be taken to avoid any such scenario. This involves a joint effort by mushers and the ITC. Prevention measures generally include the following: musher knowledge and respect for clearance times of commonly used medications, musher awareness of the types of foods being fed to their dogs, security measures taken by mushers, and security measures taken by the ITC.

Certainly, there is often a need for legitimate medications in the normal routine of dog care.. That is part of being a good steward of one's animals. However, mushers must make every effort to insure their dogs are healthy, and that legitimate medications are discontinued sufficiently before the Race start. "Clearance Times" are defined as the amount of time that a medication must be discontinued prior to the Race to be "cleared" from a dog's system.

Drug testing is a rapidly evolving technology. State of the art instrumentation can now detect substance levels as low as 10^{-12} or even 10^{-15}. Thus, abiding by previously-established Clearance Times utilizing "older" technology, could result in a positive drug test. In this era, for mushers to protect their dogs, and their own reputation and ability to participate in the Race, from a positive drug test, it is generally recommended that all medications containing prohibited substances be discontinued at least TWO (2) WEEKS prior to the Race start, with the exception of 'long-acting' injectable products, *i.e.*, Betasone, DepoMedrol, Vetalog and others, which should be discontinued at least FOUR (4) WEEKS prior to the Race, for sufficient Clearance Times.

In addition, newer technology utilizing hair samples is being developed to detect drugs such as anabolic steroids and bronchodilators that may have been administered within the previous THREE (3) MONTHS.

Be particularly aware of the fact that dog foods, and particularly 4-D meats (diseased, down, dying and dead), **are often contaminated with large (farm) animal medications**. If a musher is including meat in their food drop bags that has been acquired from a local source, inquiries should be made to **MAKE SURE** that the animal was not treated with prohibited substances prior to slaughter. When purchasing non-human graded meats from a commercial source, mushers should determine whether the meat has been tested before feeding it during the race. The safest option is to feed meats graded for human consumption during the Race itself.

Unlike most athletic competitions, whether human or animal, the Iditarod Race is a 1,000-mile event covering vast portions of wilderness. This race will never be within a completely controlled environment, so every possible effort should be made by mushers to enhance the security of their own teams. Although mushers are typically with their teams 95% of the race measures to be taken during the times when they are not with their dogs may include using a video recorder of some type (Go Pro, etc.), and/or asking someone they trust to watch their dogs when they are not with them at a checkpoint.

The ITC will be expanding video surveillance at checkpoints and in Nome. Certainly, as technology advances, more capabilities will be developed which may surpass current protocols. Also, race volunteers are asked to be ever vigilant, and are requested to promptly report any suspicious activities to a Race judge.

For all parties, whether musher, volunteer or other, "if you see something, say something."

CHAIN OF CUSTODY (EVIDENCE) PROTOCOLS

The Chain of Custody, also often referred to as the Chain of Evidence, is accomplished by Drug Testing Teams typically consisting of three persons (**Drug Testers**), i.e. a urine collector, a dog handler and a recorder. The Chain of Custody entails the collection and identification of samples (urine) in a tamper-proof manner, such that the laboratory receives unadulterated and appropriately bar-coded samples for testing. The following is a description of the Urine Sample Collection protocol, modeled after that established by the International Federation of Sleddog Sports (**IFSS**):

1. Dog Team selection for testing may occur in three ways; random, based on established criteria (e.g. from top twenty finishing positions), and/or targeted (e.g. a test required by a Race veterinarian). Within each team, dogs will be selected randomly for testing.

2. Drug Testers will notify a musher of his or her dogs' selection for testing. The selected dogs are identified by name and dog tag number/letter. The musher witnesses the identification process. Mushers are responsible for what they decide to give their dogs to eat and drink to establish normal hydration. They are also responsible for what other people may do to their dogs, meaning that the dogs need to be watched by the musher or someone trusted by the musher pending completion of the collection of samples. The Drug Testing Team and the musher must agree on a time for sample collection, most often when the dogs are standing up to eat or preparing to depart from a checkpoint.

3. The testing laboratory provides urine sample containers consisting of cups with screwed on lids, all of which must be sealed by the lab. A newly opened baggie (Ziploc, Hefty or equivalent) is suspended under the prepuce (male) or vulva (female) of each dog to be tested. Urine is collected, then the seal is broken on the sample cup to remove the lid, after which the urine (approximately 20ml) is poured into the sample cup. The lid is replaced and screwed on tightly, then a tamper proof seal is applied. The laboratory provides multiple identical bar-code labels which are next applied to both the lid, the bottle, the Sample Card and later, a Submission Form. The Sample Card is the only documentation which correlates the identity of a musher and his/her dog with a bar-code number, which must be signed by both the musher and a witness of the collection. The Sample Card remains under the custody of the Chief of Drug Testing or equivalent position of assigned leadership.

4. After the urine samples are collected and identified by bar-code, they are placed in a closely supervised shipping case. This is followed by the completion of a Submission Form. The Submission Form includes a list of bar-codes which must match the bar-codes on the specimen cups which have been placed in the shipping case. After confirming that all bar-codes match, the Submission Form is signed by a witness from the Drug Testing Team (recorder). The Submission Form is inserted into the shipping case and the case is locked. The urine samples are then frozen inside the shipping case pending overnight delivery via a courier system to the testing laboratory. The Submission Form is the only identification source that the testing laboratory receives. The laboratory, therefore, has no information regarding the identity of the

musher or dog represented by the urine sample being tested. A copy of the Submission Form remains with the Chief of Drug Testing or equivalent position of assigned leadership, who keeps it in a secure place. If there is any problem with the shipping case at the laboratory, then the Chief of Drug Testing or equivalent position of assigned leadership and the laboratory will discuss any concerns.

5. The urine sample cups are packaged for shipping in such a way as to ensure tracking and the security of the samples. They are sent to a certified laboratory. The laboratory will inspect the samples upon their arrival to ensure there is no evidence of tampering. The laboratory will adhere to the international standard for laboratories when processing a sample, ensuring that the Chain of Custody is maintained. All samples will be analyzed for Controlled and Prohibited List substances and be stored by the laboratory. If there are any test result challenges, the laboratory will split the stored sample, and on request from the musher or his/her lawyer, send the split sample to another certified laboratory for repeat testing. This additional cost will be borne by the musher. This sample will be used to reconfirm a "*confirmed positive result*" or an adverse analytical finding.

6. Upon completion of testing, the laboratory will report all results to designated ITC representatives (two (2) witnesses). Prior to this point, all laboratory testing samples and results have only been identified by a bar-code, with no information regarding musher or dog names. Only the Chief of Drug Testing or equivalent position of leadership has control of the Sample Card, which correlates bar-codes with musher and dog names.

GUIDELINES FOR PERFORMANCE ENHANCING SUBSTANCES

Sled dogs competing in a long-distance sled dog race are in a unique category. Different drug classification systems have been established for Greyhound and equine competition.

A simpler three classification system for substance detections is used in Greyhound racing, which has been largely adopted by sled dog racing jurisdictions. This system consists of Performance Altering (**Class I**) Drugs, Legitimate Medications (**Class II**), and Inadvertent (**Class III**) Drugs. Within this system, the classes of drugs are defined as follows:

- **Performance Altering Drugs (Class I)** are those which attempt to directly affect the athletic performance of a dog. These include stimulants, depressants (tranquilizers), narcotics, pain medications, mood enhancers and anabolic steroids, which are all ITC-prohibited substances.
- **Legitimate Medications (Class II)** have therapeutic applications in the day-to-day operation of a kennel, such as NSAIDS and corticosteroids, but must not exceed acceptable levels (if approved for Race use) for the Race period. Most medications in this class, although having legitimate therapeutic uses, are not approved for, and cannot be detectable during the race.
- **Inadvertent Drugs (Class III)** are medications considered to be contaminants, which are most commonly associated with feeding 4-D (diseased, down, dying or dead) meat from livestock, i.e. cattle, that had been medicated prior to death.

A Uniform Classification Guidelines of Foreign Substances has been established by the Racing Commissioners International (**RCI**). Although formulated for the equine industry, it includes the most comprehensive listing and categorization of prohibited pharmacological substances. The Uniform Classification Guidelines are intended to assist race organizations in evaluating the seriousness of alleged violations of medication and prohibited substance rules in racing jurisdictions.

For discussion purposes, the Uniform Classifications Guidelines (**UCG**) established by the RCI are the most descriptive of prohibited substances and are more precise in demonstrating the level of offense associated with the presence of specifically-prohibited substances.

Utilizing the UCG model, the ranking of drugs is based on their pharmacology, their ability to influence the outcome of a race, whether they have legitimate therapeutic uses in racing, or other evidence that they may be used improperly. These classes of drugs are intended only as guidelines and should be employed only to assist persons adjudicating facts and opinions in understanding the seriousness of the alleged offenses. The facts of each case are always different, and there may be mitigating circumstances which should always be considered.

The following should also be noted regarding the use of UCG model:

1) Where the use of a drug is specifically permitted by a jurisdiction, then the jurisdiction's rule supersedes all other penalty guidelines.

2) Regulators should be aware that a laboratory report may identify a drug only by the name of its metabolite. The metabolite might not be listed here, but the parent compound may be.

3) These drug classifications will be reviewed periodically. New drugs will be added or some drugs may be reclassified when appropriate.

The UCG are based on 1) pharmacology, 2) drug use patterns, and 3) the appropriateness of a drug. Categorization is decided using the following general criteria:

• Pharmacology: Drugs that are known to be potent stimulants or depressants are placed in higher classes, while those that have (or would be expected to have) little effect on the outcome of a Race are placed in lower classes.

• Drug-Use Patterns: Some consideration is given to placement of drugs based on practical experience with their use and the nature of positive tests. For example, procaine detections have in the past been associated primarily with the presence of procaine penicillin in 4-D meats.

• Appropriateness of Drug Use: Drugs that clearly are intended for use in therapeutics are placed in lower classes. Drugs that clearly are not intended for animal use are placed in higher classes, particularly if they might affect the outcome of a race. Drugs that are recognized as legitimately useful in therapeutics but could affect the outcome of a race are placed in the middle or higher classes. The list includes most drugs that have been reported as detected by racing authority laboratories, but does not include those which seem to have no effect on performance or drug detectability. For example, it does not include anthelmintics, antibiotics, sulfonamides, or vitamins. Most drugs have numerous effects, and each is judged on an individual basis. There are instances where there is a rather fine distinction between drugs in one category and those in the next. This classification system demonstrates a nearly continuous spectrum of effects from the most innocuous drug on the list to the drug that is the most offensive.

An overview of the UCG Classification Definitions of prohibitive substances is as follows:

Class 1: Stimulant and depressant drugs that have the highest potential to affect performance and that have no generally-accepted medical use in racing. Many of these agents are Drug Enforcement Agency (**DEA**) schedule II substances. These include the following drugs and their metabolites: Opiates, opium derivatives, synthetic opioids and psychoactive drugs, amphetamines and amphetamine-like drugs, as well as related drugs, including, but not limited to, apomorphine, nikethamide, mazindol, pemoline, and pentylenetetrazol. Though not used as therapeutic agents, all DEA Schedule 1 (see http://www.deadiversion.usdoj.gov/schedules/#list) agents are included in Class 1 because they are potent stimulant or depressant substances with psychotropic and often habituative actions. This class also includes all erythropoietin stimulating substances and their analogues.

Class 2: Drugs that have a high potential to affect performance, but less of a potential than drugs in Class 1. These drugs are: 1) not generally accepted as therapeutic agents, or 2) they are therapeutic agents that have a high potential for abuse. Drugs in this class include: psychotropic drugs, certain

nervous system and cardiovascular system stimulants, depressants, and neuromuscular blocking agents. Injectable local anesthetics are included in this class because of their high potential for abuse as nerve-blocking agents.

Class 3: Drugs that may or may not have generally accepted medical use in racing, but the pharmacology of which suggests less potential to affect performance than drugs in Class 2. Drugs in this class include bronchodilators, anabolic steroids and other drugs with primary effects on the neuromuscular or autonomic nervous system, antihistamines with sedative properties and the diuretics. With new data, the anabolic steroids and bronchodilators have been identified as having performance-enhancing capabilities at certain dosages. Racing commissions have modified their penalties on these compounds as a result of this new knowledge.

Class 4: This class includes therapeutic medications that would be expected to have less potential to affect performance than those in Class 3. Drugs in this class include less potent diuretics; corticosteroids; antihistamines and skeletal muscle relaxants without prominent central nervous system (**CNS**) effects; expectorants and mucolytics; hemostatics; cardiac glycosides and anti-arrhythmics; topical anesthetics; antidiarrheals and mild analgesics. This class also includes the non-steroidal anti-inflammatory drugs (**NSAIDs**), at concentrations greater than established limits.

Class 5: This class includes those therapeutic medications that have very localized actions only, such as anti-ulcer drugs, and certain anti-allergic drugs. The anticoagulant drugs are also included.

Industrial Labs has submitted the following alphabetical list of drugs groups (prohibited substances) and specific representative drugs covered by its HPLC-MS/MS based target screening analysis, as a demonstration of their testing capabilities for Iditarod dogs. Currently, over 400 substances are being tested for:

Anabolic Steroids: boldenone, nandrolone, testosterone, stanozolol, trenbolone, and others.

Analgesics: buprenorphine, butorphanol, morphine group, codeine, fentanyl, hydromorphone, oxymorphone, oxycodone, pethidine, zomepirac, and others.

Anti-histamines: chlorpheniramine, oxymetazoline, and others.

Anti-depressants: bupropion, citalopram, fluoxetine, nortriptyline, and others.

Beta-agonists: clenbuterol, zilpaterol, ractopamine, and others.

Beta-blockers: acebutolol, carteolol, nadolol, oxprenolol, propranolol, and others.

Bronchodilators: albuterol, salmeterol, theophylline, and others.

Corticosteroids: dexamethasone, betamethasone, methylprednisolone, flumethasone, triamcinolone acetonide, prednisolone, prednisone, isoflupredone, and others.

Diuretics: acetazolamine, amiloride, hydrochlorothiazide, ethacrynic acid, bumetanide, and others.

Local anesthetics: lidocaine, procaine, mepivacaine, benzocaine, bupivacaine, and others.

Muscle relaxants: carisoprodol, methocarbamol, cyclobenzaprine, dantrolene, and others.

NSAIDs: phenylbutazone, flunixin, ketoprofen, firocoxib, celecoxib, carprofen, nabumetone, naproxen, meclofenamic acid, and others.

Stimulants: caffeine, methylphenidate, methamphetamine, amphetamine, cocaine, strychnine, and others.

Tranquillizers/Sedatives/Anesthetics: acepromazine, acetophenazine, alprazolam, chlorpromazine, lorazepam, reserpine, fluphenazine, meprobamate, xylazine, ketamine, detomidine, and others.

Therapeutics: isoxsuprine, pyrilamine, pergolide, and others.

As stated, previously, **where the use of a drug is specifically permitted by a jurisdiction, then the jurisdiction's rule supersedes other penalty guidelines**.

Acceptable (for racing) oral medications to be prescribed by ITC staff veterinarians will include amoxicillin, enrofloxacin (Baytril), cephalexin (Keflex), Clavamox, clindamycin (Antirobe), oral electrolytes (Electramine, K-9 Bluelite), loperamide (Imodium), metronidazole (Flagyl), and tylosin (Tylan Powder).

Other acceptable oral medications for racing include famotidine (Pepcid), omeprazole (Prilosec), and megestrol acetate (Ovaban), but mushers must provide those. If a dog requires any medications other than those listed, contact the Chief Veterinarian.

The ITC also lists the following as approved topical liniments: Absorbine Jr., Alygval, Furacin (nitrofurazone), Musher's First Aid, Turtle Sweat, and Zalox. Other products are available, and innovation is encouraged. **However, liniments containing prohibited substances as listed in the Official 2019 Rules (Rule 39) could result in a positive drug test.**

Historically, the ITC has permitted liniments/ointments containing Oil of Wintergreen (Turtle Sweat and Zalox), for topical applications. Oil of Wintergreen is classified as an essential oil and contains methyl salicylate. Once again, this is for ***topical*** use only and would not show as a drug positive in the urine. Aspirin, which is acetylsalicylic acid, is an oral product which is designed to provide ***systemic*** non-steroidal anti-inflammatory (**NSAID**) benefits. **Oral administrations of aspirin would result in a positive urine drug test.**

Similarly, the ITC has for over two decades provided a foot ointment for use during the race containing low levels of a corticosteroid. Once again, this product is designed for ***topica***l application only. There are many oral and injectable corticosteroids produced specifically for their ***systemic*** anti-inflammatory actions. **As in the case of aspirin, use of the latter products in oral or injectable forms would also be detected in drug-testing protocols.**

Because of the reality that topical use of the products discussed above have no systemic benefit, it has been the policy of the ITC to allow their use**. However, it must be emphasized that a positive drug test for salicylates or corticosteroids would indicate injectable and/or use and is a violation of Rule 39.**

LABORATORY TEST RESULTS

In review, the three-class system utilized by the Iditarod consists of Performance Altering (**Class I**) Drugs, Legitimate Medications (**Class II**), and Inadvertent (**Class III**) Drugs. Within this system, the classes of drugs are defined as follows:

- **Performance Altering Drugs (Class I)** are those which attempt to directly affect the athletic performance of a dog. These include stimulants, depressants (tranquilizers), narcotics, pain medications, mood enhancers and anabolic steroids, which are prohibited substances.
- **Legitimate Medications (Class II)** have therapeutic applications in the day-to-day operation of a kennel, such as NSAIDS and corticosteroids, but must not exceed acceptable levels (if approved for Race use) for the Race period. Most medications in this class, although having legitimate therapeutic uses, are not approved for racing.
- **Inadvertent Drugs (Class III)** are medications considered to be contaminants, which are most commonly associated with feeding 4-D (diseased, down, dying or dead) meat from livestock that had been medicated prior to death.

Upon receiving the urine samples, the laboratory will commence with its testing protocol. Initial screening for over 400 substances will be performed using HPLC-MS/MS based target screening analysis. ELISA testing may also be used when screening for certain drugs. If the initial screening demonstrates any detections, a second "*confirming test*" utilizing HPLC-MS/MS technology will be used. HPLC-MS/MS is able to identify over 600,000 chemical compounds. Confirmation by HPLC-MS/MS is the accepted test that withstands legal scrutiny, and is the definitive "fingerprint" in a court of law.

Terms may be used interchangeably between individual chemists and labs: "Detection," "suspicion," "trace," or "pending positive" may all refer to a finding from the initial screening. However, depending on the substance, multiple possibilities may be represented by a detection in the initial screening, thus requiring the second HPLC-MS/MS confirmation testing for a specific drug identification, referred to as a "confirmed positive." It is important to note that even a confirmed positive does not necessarily indicate a violation. A drug may be confirmed by HPLC-MS/MS, but depending on the substance and the level, a violation may not have occurred.

Drug=testing technology is an evolving process. For the past 25 years, testing detection capabilities have increased from 175 to over 400 drugs. The technology continues to improve for detecting new drugs, especially synthetic compounds, as well as for enhancing the sensitivity of detection. There are multiple factors in making the correct assessment of the significance of substance detection, with every effort being made to make the right decision. Significant factors that must be considered include what the substance is, at what levels it is detected in the urine, and the capability of testing itself. State of the art instrumentation can now detect levels as low as 10^{-12} or even 10^{-15}. Such levels are so low that there can be no possible physiological or therapeutic effect, but would detect the use of Performance-Altering Drugs. Any level of a confirmed positive Performance-Altering Drug would be considered a violation, in contrast to certain approved Legitimate Medications and Inadvertent Drugs.

Threshold values have been established for some of the more common pharmaceuticals found in 4-D meats, but certainly not for the complete spectrum of possible medications.

Ultimately, one of the following scenarios will apply to a given laboratory test report:

1) No detections of any substances, resulting in no violation
2) Presence of an approved for Race use Class II **topical** medication at levels below a threshold value and/or presence of an approved for Race use Class II **oral** medication, resulting in no violation
3) Presence of a Class III substance below a threshold value, resulting in no violation
4) Presence of an approved for Race use Class II **topica**l medication at levels equal to or exceeding a threshold value would be a violation
5) Presence of a Class III substance for which a threshold value has been exceeded would be a violation
6) Presence of a Class III substance for which no threshold value was established would require that the ITC contracted toxicologist be consulted for determining if a violation had occurred
7) Presence at any level of a Class I or not approved for Race use Class II medication would be a violation

The testing laboratory will report all results to ITC representatives (two designated witnesses) upon completion. In each case of a "confirmed positive" result, an ITC contracted toxicologist will review the findings. If it is determined that a violation has occurred, the ITC established Drug Testing Review Panel will commence an investigation. The Drug Testing Review Panel is comprised of three professionals with experience in drug testing and/or law enforcement, and the Race Marshal and Chief Veterinarian, who serve as consultants. Prior to this point, all laboratory results have only been identified by a bar-code, with no information regarding the identification of the musher or dog. After the Drug Testing Review Panel has been informed of a violation, the Chief of Drug Testing or equivalent position of leadership will be asked to reveal the musher and dog identities recorded on the Sample Card, which correlates bar-codes with the musher and dog(s) identification. The Drug Testing Review Panel will then notify the musher of any violation.

PROTOCOLS FOR A DRUG TESTING VIOLATION

Extensive protocols have been established by the World Anti-Doping Agency (**WADA**) for addressing drug testing violations, including the appeals process. In addition, the Racing Chemists International (**RCI**) has also established protocols in its Guidelines for Foreign Substances. Although long-distance sled dog racing is unique, using the above organizations' protocols as guidelines, the following discussion will address the ITC policy for a canine drug testing violation.

All laboratory "confirmed positives" will be assessed for violations, following the process discussed in the previous chapter. As stated in Rule 39:

- Mushers will be held **strictly liable** for all positive tests for prohibited drugs and procedures of dogs in their team for purposes of application of and sanctions administered pursuant to this Rule 39, unless they can establish, to the satisfaction of a review panel (**Drug Testing Review Panel**) comprised of the Race Marshall, the Chief Veterinarian and three independent professionals appointed by the Board President, by clear and convincing evidence that the positive tests resulted from causes completely beyond their control.
- The clear and convincing evidence may include polygraph testing offered by the musher or required by the ITC, as well as other types of evidence in the ITC's reasonable discretion. The costs of any polygraph evidence or other testing shall be borne by the party offering or requiring it. In all cases, the polygraph testing must be conducted by a facility approved by the ITC.

Within **seven** (7) days of the ITC Drug Testing Review Panel (**DTRP**) having received and assessed the report of a violation from the consulting toxicologist, the musher will be notified by the chairperson of the DTRP. At that point, the musher has two (2) options: First, he/she may opt to accept the results with no contest. The second option would be to request an appeal and hearing. From the time of being informed by the DTRP of a violation, **a musher will have another seven (7) days to request that appeal, which will commence a full investigation by the DTRP**. Any request for appeal shall be addressed to the ITC at: 2100 S Knik-Goosebay Road, Wasilla, Alaska 99654, sent via U. S. Mail, certified, return receipt requested.

At this point, a musher has the option to ask that a split sample be sent to another certified laboratory to confirm the drug identification. The split sample will be derived from any remaining sample from the original specimen cup.

In addition, personal and expert witness testimony, video footage, audio recordings, and as stated in Rule 39, polygraph testing, are potential sources of information that may be submitted for the investigation.

It is the ITC policy that all investigations performed by the DTRP be concluded by June 1 of that same year. Upon completion of an investigation by the DTRP, the decision will be finalized regarding whether a violation has occurred.

During any appeal process, the identity of the musher and dog(s) will remain anonymous to the public. If it is determined by the DTRP that the musher is innocent, public anonymity will prevail, unless the musher specifically requests that their information be released to the public.

Whether by "no contest" or through an investigative process conducted by the DTRP, a final determination of a violation will result in release to the public of the musher's name and to forfeiture of any monetary winnings and awards gained during the event. Additional penalties and sanctions may be pursued by the ITC Board of Directors, in its sole and absolute discretion, depending on such factors as, but not limited to, the offending drug, the total number of infractions past and present, the approximate levels found by testing (urine), and the location of the race where the test was conducted.

Any questions regarding ITC Rule 39 – Drug Use, or this Canine Drug Testing Manual may be sent to: itcdrugtesting@iditarod.com