1/1/2020

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 its mission of testing for the 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, 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, are consumed by an Iditarod dog. This creates a high probability of exposure to large (farm) animal pharmaceuticals through ingestion, which are often detected at trace levels in urine.

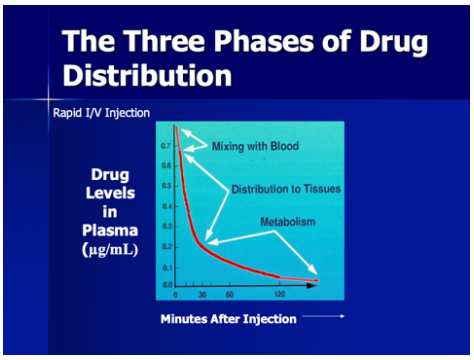
There are two ways that drug testing results can be assessed. The first is to have 100% zero tolerance for anything, which is the easiest to interpret. However, that is neither fair nor practical in our real world, for the reasons discussed in the above paragraph. The second is to utilize established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

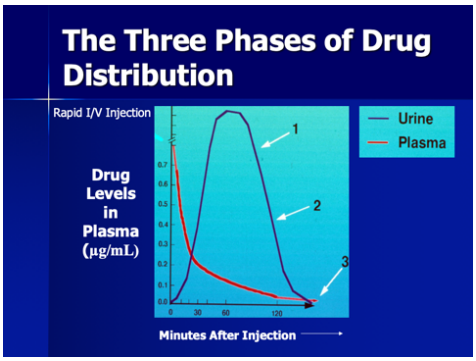
Iditarod 2020 Rule 39 states as follows:

> ***Rule 39 -- Drug Use:*** *A brief overview of canine drug use and canine drug testing is included in these Official Rules 2020. The Canine Drug Testing Manual 2020 has been developed to serve as a support document for Rule 39. Detailed discussions of topics relevant to Rule 39 are included in that manual, including the science of drug testing, definitions of terminology related to drug testing, specifically permitted medications, classification of prohibited substances, a comprehensive list of prohibited substances, the process for determining a violation, the appeals process and potential penalties. Mushers are advised to review Rule 39 and the Canine Drug Testing Manual 2020 in preparation for Iditarod 2020. A copy of the Drug Testing Manual 2020 may be obtained through the ITC.*
>
> *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.*
>
> *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 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:*

- *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 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 effects the results of drug testing results of another musher's dogs will be subject to discipline of disqualification and/or a ban from the Race.*

As stated in Rule 39, blood (serum) or urine may be obtained for sampling. The topic of why urine, rather than blood, is typically collected, needs to be addressed. 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. Protocols have been developed by the ITC to determine when a "confirmed positive" drug test will be considered a "violation". The chapter entitled *Laboratory Test Results* discusses this 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 tamperproof manner, such that the laboratory receives unadulterated and appropriately barcoded 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 legal recourse. For 2020, the ITC will be using 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.

DRUG TESTING VIOLATION PREVENTION MEASURES

A drug testing violation is extremely serious, likely resulting in substantial penalties and career damaging consequences. For many reasons, precautions should be taken to avoid such a scenario. This includes 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 in the kennel environment. 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 from a positive drug test, it is generally recommended that all medications containing prohibited substances be discontinued at least TWO 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 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 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 competition, whether human or animal, the Iditarod is a 1,000-mile event covering vast portions of wilderness. This race will never be within a completely controlled environment, so every effort should be made by mushers to enhance the security of their teams as much as possible. Although mushers are typically with their teams 95% of the time, measures taken during the times when they are not with their dogs include using a video recorder of some type (Go Pro, etc.) and/or asking someone who they can trust to watch their dogs when they are not with them at a checkpoint.

The ITC will be expanding video surveillance at checkpoints and 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 instructed to 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 Canine Urine Collection Teams typically consisting of three people, 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 tamperproof manner, such that the laboratory receives unadulterated and appropriately barcoded samples for testing.

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

Canine Urine Collectors 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.

The following is a description of the Urine Sample Collection protocol, modeled after that established by the International Federation of Sleddog Sports (IFSS):

1. 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 barcode 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 barcode 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.

2. After the urine samples are collected and identified by barcode, 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 barcodes which must match the barcodes on the specimen cups which have been placed in the shipping case. After confirming that all barcodes 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.

3. 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 their 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.

4. Upon completion of testing, the laboratory will report all results to designated ITC representatives (two witnesses). Prior to this point, all laboratory testing samples and results have only been identified by a barcode, 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 barcodes with musher and dog names.

5. All documentation regarding Chain of Custody and Testing will be maintained by the ITC.

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 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 4D (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 through the equine industry, it includes a 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 specific 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 would 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 includes 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.

Currently, well over 400 substances are being tested for utilizing HPLC-MS/MS based target screening analysis. The next chapter of this manual entitled ***Alphbetical List of Prohibited Substances*** includes the most current and all-inclusive listing of prohibited substances. Within the context of this discussion, the following demonstrates general categories of prohibited substances and common examples of substances within those categories:

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.

NSAID's: 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.**

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ALPHABETICAL LIST OF PROHIBITED SUBSTANCES

The previous chapter addresses general classes of pharmaceuticals and prohibited substances. In addition, it identifies specific pharmaceuticals permitted, as well as their methods of use, during the Iditarod.

A comprehensive list of *prohibited substances* is included in this chapter. Their pharmaceutical/substance names are identified in the left column, and examples of trade names are shown in the right column, as follows:

PHARMACEUTICAL/SUBSTANCE	TRADE NAME (S)
19-Norandrostenediol	
19-Norandrostenedione	
2-Aminohptane	MDPV, "Bath salts"
3-Methoxytramine	3-MT
4-Hydroxytestosterone	
Acebutolol	Sectral
Acecarbromal	
Acenocoumarol	
Acepromazine	Atrovet, Notensil, PromAce
Acetaminophen (Paracentamol)	Tylenol, Tempra, etc.
Acetanilid	
Acetazolamide	Diamox, Vetamax
Acetazolamide	
Acetophenazine	Tindal
Acetophenetidin (Phenacetin)	
Acetylsalicylic acid (Aspirin)	
a-Cobratoxin	
Adinazolam	
Adrafinil	
Adrenochrome monosemicarbazone salicylate	

Albuterol (Salbuamol)	Proventil, Ventolin
Alclofenac	
Alclometasone	Aclovate
Alcuronium	Alloferin
Aldosterone	Aldocortin, Electrocortin
Alfentanil	Alfenta
Almotriptan	Axert
Alphaprodine	Nisentil
Alpidem	Anaxyl
Alpraxolam	Xanax
Alprenolol	
Althesin	Saffan
Altrenogest	Regumate
Ambenonium	Mytelase, Myeuran
Ambroxol	Ambril, etc
Amcinonide	Cyclocort
Amfepramone	
Amfetamine	
Amfetaminil	
Amiloride	Moduretic; Midamor
Aminocaproic Acid	Amicar, Caprocid
Aminodarone	
Aminopyrine	
Aminorex	Aminoxafen, Aminoxaphen, Apiquel, McN-742, Menocil
Amiophylline	Aminophyllin, etc
Amiphenazole	
Amisulpride	Solian
Amitraz	Mitaban

Amlodipine	Ammivin, Norvasc
Amobarbital	Amytal
Amoxapine	Asendin
Amperozide	
Amphetamine	
Amrinone	
Amyl nitrite	
Amytriptyline	Elavil, Amitril, Endep
Anileridine	Leritine
Anilopam	Anisine
Anisindione	
Anisotropine	Valpin
Antipyrine	
Apazone (Azapropazone)	Rheumax
Apomorphine	
Aprindine	
Aprobarbital	Alurate
Arecoline	
Arformoterol	
Articaine	Septocaine
Atenolol	Tenormin
Atipamazole	
Atomoxetine	Strattera
Atracurium	Tracrium
Atropine	
Azacylonol	Frenque
Azaperone	Stresnil, Suicalm, Fentaz (with Fentanyl)
Baclofen	Lioresal
Barbital	Veronal

Barbituates	
Beclomethasone	Propaderm
Bemegride	Megimide, Mikedimide
Benazepril	Lotrel, Lotensin
Bendroflumethiazide	Naturetin
Benfluorex	
Benoxaprofen	
Benoxinate	Dorsacaine
Benperidol	Anquil
Benphetamine	Didrex
Bentazepam	Tiadipona
Benzactizine	Deprol, Bronchodilett
Benzocaine	
Benzoctamine	
Benzodiazepines	
Benzonatate	Tessalon, Tessalon Perles, Zonatuss
Benzthiazide	
Benztropine	Cogentin
Benzylpiperazine (BZP)	
Bepridil	Bepadin
Betamethasone	Betasone, etc.
Betaxolol	Kerlone
Bethanechol	Urecholine, Duvoid
Bethanidine	Esbatal
bextaxolol	
Biperiden	Akineton
Biriperone	
Bisoprolol	Zebeta, Bisobloc, etc.
Bitolterol	Effectin

Bolasterone	
Boldenone	Equipoise
Boldione	
Brimonidine	Alphagan
Bromantan	
Bromazepam	Lexotan, Lectopam
Bromfenac	Duract
Bromhexine	Oletor, etc.
Bromisovalum	Diffucord, etc.
Bromocriptine	Parlodel
Bromodiphenhydramine	
Bromperidol	Bromidol
Brompheniramine	Dimetane, Disomer
Brotizolam	Brotocol
Budesonide	Pulmacort, Rhinocort
Bufexamac	
Bumetanide	Bumex
Bunolol	
Bupivicaine	Marcaine
Buprenorphine	Temgesic
Bupropion	Wellbutrin
Buspirone	Buspar
Butabarbital (Secbutobarbitone)	Butacaps, Butasol, etc
Butacaine	Butyn
Butalbital (Talbutal)	Fiorinal
Butamben (butyl aminobenzoate)	Butesin
Butaperazine	Repoise
Butoctamide	Listomin
Butorphanol	Stadol, Torbugesic

Butoxycaine	Stadacain
Caffeine	
Calusterone	Methosorb
Camazepam	Paxor
Camphor	
Candesartan	Atcand
Canrenone	
Capsaicin	
Captodiame	Covatine
Captopril	Capolen
Carazolol	Carbacel, Conducton
Carbachol	Lentin, Doryl
Carbamezapine	Tegretol
Carbazochrome	
Carbidopa + Levodopa	Sinemet
Carbinoxamine	Clistin
Carbromol	Mifudorm
Carfentanil	
Carisoprodol	Rela, Soma
Carphenazine	Proketazine
Carprofen	Rimadyl
Carteolol	Cartrol
Carticaine (See articaine)	Septocaine, Ultracaine, etc.
Carvedilol	Coreg
Cathine	
Cathinone	Khat, kat qat, quat, chat, catha, Abyssinian tea, African tea
Celcoxib	Celebrex
Celiprolol	

Cetirizine	Zyrtec
Chloradiazepoxide	Librium
Chloral betaine	Beta-Chlor
Chloral hydrate	Nactec, Oridrate, etc.
Chloraldehyde (chloral)	
Chloralose (Alpha-Chloralose)	
Chlorhexidol	
Chlormerodrin	Neohydrin
Chlormezanone	Trancopal
Chloroform	
Chlorophenesin	Maolate
Chloroprocaine	Nesacaine
Chlorothiazide	Diuril
Chlorpheniramine	Chloratriemton, etc
Chlorproethazine	Newiplege
Chlorpromazine	Thorazine, Largactil
Chlorprothixene	Taractan
Chlortalidone	
Chlorthalidone	Hydroton
Chlorzoxazone	Paraflex
Ciclesonide	
Cilostazol	Pletal
Cimeterol	
Cimetidine	Tagemet
Cinchocaine	Nupercaine
Citalopram	Celex
Clanobutin	
Clemastine	Tavist
Clenbuterol	Ventipulmin

Clibucaine	Batrax
Clindinium	Quarezan, Clindex, etc
Clobazam	Urbanyl
Clobenzorex	
Clobetasol	Temovate
Clocapramine	
Clocortolone	Cloderm
Clomethiazole (Chlormethiazole)	
Clomipramine	Anafranil
Clonazepam	Klonopin
Clonidine	Catapres
Clorazepate	Tranxene
Clormecaine	Placacid
Clostebol	
Closthiapine	Entermin
Clotiazepam	Trecalmo, Rize
Cloxazolam	Enadel, Sepazon, Tolestan
Clozapine	Clozaril, Leponex
Cobalt	
Cocaine	
Cocaine	
Codeine	
Colchicine	
Conorphone	
Corticaine	Ultracain
Cortisone	Cortone, etc.
Cromolyn	Intel
Cropropamide	
Crotetamide	

Crotetamide	
Cyamemazine	Tercian
Cyclandelate	Cyclospasmol
Cyclizine	Merazine
Cyclobarbitol	Phanodorm
Cyclodenzaprine	Flexeril
Cyclomethycaine	Surfacaine
Cyclothiazide	Anhydron, Renazide
Cycrimine	Pagitane
Cyproheptadine	Periactin
Danazol	Danocrine
Dantrolene	Dantrium
Darbepoetin	Aranesp
Dehydropchloromethyltestoterone	
delta-1-androstene-3, 17-diol	
delta-1-androstene-3, 17-dione	
delta-1dihydrostestosterone	
Dembroxol (Dembrexine)	Sputolysin
Demoxepam	
Deoxycorticosterone	Percortin, DOCA, Descotone, Dorcostrin
Dercoxib	Deremaxx
Dermorphin	
Desipramine	Norpromine, Pertofrane
Desmopressin	
Desonide	Des Owen
Desoximetasone	Topicort
Desoxymethyltestosterone	
Detomidine	Dormosedan
Dexamethasone	Azium, etc

Dexgtromethorphan	
Dextromoramide	Palfium, Narcolo
Dextropropoxyphene	Darvon
Dezocine	Dalgan
Diamorphine	
Diamorphine (Heroin)	
Diazepam	Valuim
Diazoxide	Proglycem
Dibucaine	Nuprecainol, Cinchocaine
Dichloralphenazone	Febenol, Isocom
Dichlorphenamide	Daramide
Diclofenac	Voltaren, Voltarol
Dicumarol	Dicumarol
Diethylpropion	Tepanil, etc.
Diethylthiambutene	Themalon
Diflorasone	Florone, Maxiflor
Diflucortolone	Flu-Cortinest, etc
Diflunisal	
Digitoxin	Crystodigin
Digoxin	Lanoxin
Dihydrocodeine	Parcodin
Dihydroergotamine	
Dilorazepam	Briantum
Diltiazem	Cardizem
Dimefline	
Dimetafetamine	
Dimethisoquin	Quotane
Dimethylsulfoxide (DMSO)	Domoso
Diphenadione	

Diphenhydramine	Benadryl
Diphenoxylate	Difenoxin, Lomotil
Diprenorphine	M50/50
Dipyridamole	Persantine
Dipyrone	Novin, Methampyrone
Disopyramide	Norpace
Divalproex	Depakote
Dixyrazine	Esucos
Dobutamine	Dobutrex
Donepezil	Aricept
Dopamine	Intropin
Doxacurium	Nuromax
Doxapram	Dopram
Doxazosin	
Doxefazepam	Doxans
Doxepin	Adapin, Sinequan
Doxylamine	Decapryn
Dromostanolone	Drolban
Droperidol	Inapsine, Droleptan, Innovar-Vet (with Fentanyl)
Dyclonine	Dyclone
Dyphylline	
Edrophonium	Tensilon
Elenac	
Eletripan	Relpax
Enalapril (Metabolite enaloprilat)	Vasotec
Enciprazine	
Endorphins	
Enkephalins	

Ephdrine	
Ephedrine	
Epibatidine	
Epinephrine	
Ergotamine	Gynergen, Cafergot, etc
Erogonovine	Ergotrate
Eroloid mesylates (dihydroergocornine meslate)	
Erthrityl tetranitrate	Cardilate
Erythropoietin (EPO)	Epogen, procrit, etc
Esmolol	Brevibloc
Esomeprazole	Nexium
Estazolam	Domnamid, Eurodin, Nuctalon
Eszopiclone	
Etacrynic acid	
Etamiphylline	
Etamivan	
Etanercept	Enbrel
Ethacrynic acid	Edecrin
Ethamivan	
Ethanol	
Ethchlorvynol	Placidyl
Ethinamate	Valmid
Ethoheptazine	Zactane
Ethopropazine	Parsidol
Ethosuximide	Zarontin
Ethotoin	Peganone
Ethoxzolamide	Cardrase, Ethamide
Ethylaminobenzoate (Benzocaine)	Semets, etc

Ethylestrenol	Maxibolin, Organon
Ethylisobutrazine	Diquel
Ethylmorphine	Dionin
Ethylphenidate	
Ethynoepinephrine	Bronkephrine
Etidocaine	Duranest
Etifoxin	Stresam
Etilamfetamine	
Etilfrine	
Etizolam	Depas, Pasaden
Etodolac	Lodine
Etodroxizine	Indunox
Etomidate	
Etrophine HCl	M99
Famotidine	Gaster, etc.
Famprofazone	
Felbamate	Felbatol
Felodipine	Plendil
Fenarbamate	Tymium
Fenbufen	Cincopal
Fenbutrazate	
Fencamfamin	
Fencamide	
Fencamine	
Fenclozic acid	Myalex
Fenetylline	
Fenfluramine	Pondimin
Fenoldopam	Corlopam
Fenoprofen	Nalfon

Fenproporex	
Fenspiride	Respiride, Respan, etc
Fentanyl	Sublimaze
Fentiazac	
Fentoeral	Berotec
Fexofenadine	Allegra
Firocoxib	
Flecainide	Idalon
Floctafenine	Idalon, Idarac
Fludiazepam	Erispam
Fludrandrenolide	Cordran
Fludrocortisone	Alforone, etc
Flufenamic	
Flumethasone	Flucort, etc
Flumethiazide	Ademol
Flunariazine	Sibelium
Flunisolide	Bronilide, etc
Flunitrazepam	Rohypnol, Narcozep, Darkene, Hypnoddrom
Flunixin	Banamine
Fluocinolone	Synalar
Fluocinonide	Licon, Lidex
Fluopromazine	Psyquil, Siquil
Fluoresone	Caducid
Fluorometholone	FML
Fluoroprenisolone	
Fluoxetine	Prozac
Fluoxymesterone	Halotestin
Flupenthixol	Depixol, Fluanxol
Fluphenazine	Prolixin, Permitil, Anatensol

Flupirtine	Katadolone
Fluprednisolone	Alphadrol
Flurazepam	Dalmane
Flurbiprofen	Froben
Fluspirilene	Imap, Redeptin
Fluticasone	Flixonase, Flutide
Flutoprazepam	Restas
Fluvoxamine	Dumirox, Faverin, etc
Fontruacetam	
Formebolone	
Formoterol	Altram
Fosinopril	Monopril
Fosphenytoin	Cerebyx
Furazabol	
Furfenorex	
Furosemide	Lasix
Gabapentin	Neurontin
Galantamine	Reminyl
Gallamine	Flaxedil
Gamma Aminobutryic Acid (GABA)	Carolina Gold
Gepirone	
Gestrinone	
Glutethimide	Doriden
Guaifenesin (Glycerol guiacolate)	Gecolate
Guanabenz	Wytensin
Guanadrel	Hylorel
Guanethidine	Ismelin
Halazepam	Paxipam
Halcinonide	Halog

Halobetasol	Ultravate
Haloperidol	Haldol
Haloxazolam	Somelin
Hemoglobin glutamers	Oxyglobin Hemopure
Heptaminol	Corofundol
Heroin	
Hexafluorenium	Myalexen
Hexobarbital	Evipal
Hexocyclium	Tral
Hexylcaine	Cyclaine
Higenamine	
Homatropine	Homapin
Homophenazine	Pelvichthol
Hydralazine	Apresoline
Hydrochlorthiazide	Hydrodiuril
Hydrocodone (dihydrocodienone)	Hycodan
Hydrocortisone (Cortisol)	Cortef, etc
Hydroflumethiazide	Saluron
Hydromorphone	Dilaudid
Hydroxyfetamine	
Hydroxyzine	Atarax
Ibomal	Noctal
Ibuprofen	Motrin, Advil, Nurpin, etc
Ibutilide	Corvert
Iloprost	Ventavis
Imipramine	Imavate, Presamine, Tofranil
Indacaterol	
Indapamide	
Indomethacin	Indocin

Infliximab	Remicade
Ipratropium	
Irbesarten	Avapro
Isapirone	
Isocarboxazid	Marplan
Isoflupredone	Predef 2x
Isomethadone	
Isometheptene	Octin, Octon
Isopropamide	Darbid
Isoproterenol	Isoprel
Isosorbide dinitrate	Isordil
Isotharine	Bronkosol
Isoxicam	Maxicam
Isoxsuprine	Vasodilan
Kebuzone	
Ketamine	Ketalar, Ketaset, Vetalar
Ketazolam	Anxon, Laftram, Solatran, Loftran
Ketoprofen	Orudis
Ketorolac	Toradol
Labetalol	Normodyne
Lamotrigine	Lamictal
Lansoprazole	
Lenperone	Elanone-V
Letosteine	Viscotiol, Visiotal
Letrozole	
Levamisole	
Levmetafetamine	
Levobunolol	Betagan
Levomethorphan	

Levorphanol	Levo-Dremoran
Lidocaine	Xylocaine
Lisdexamfetamine	
Lisinopril	Prinivil, Zestril
Lithium	Lithizine, Duralith, etc
Lofentanil	
Loflazepate, Ethyl	Victan
Loperamide	Imodium
Loprazolam	Dormonort, Havlane
Loratidine	Claritin
Lorazepam	Ativan
Lormetazepam	Noctamid
Losartan	Hyzaar
Loxapine	Laxitane
Mabuterol	
Maprotiline	Ludiomil
Mazindol	Sanorex
Mebutamate	Axiten, Dormate, Capia
Mecamylamine	Inversine
Meclinzine	Antivert, Bonine
Meclofecoxate	Lucidiril, etc
Meclofenamic acid	Arquel
Meclofenoxate	
Medazepam	Nobrium, etc
Medetomidine	Domitor
Medrysone	Medriusar, etc
Mefenamic acid	Ponstel
Mefenorex	
Meldonium	Mildronate, etc

Meloxicam	Mobic
Melperone	Eunerpan
Memantine	Namenda
Meparfynol	Oblivon
Mepazine	Pacatal
Mepenzolate	Cantil
Meperidine	Demerol
Mephenesin	Tolserol
Mephenoxalone	Control, etc
Mephentermine	Wyamine
Mephenytoin	Mesantoin
Mephobarbital (Methylpheobarbital)	Mebaral
Mepivacaine	Carbocaine
Meprobamate	Equanil, Miltown
Meralluride	Mercuhydrin
Merbaphen	Novasural
Mercaptomerin	Thiomerin
Mercumatilin	Cumertilin
Mersalyl	Salyrgan
Mesalamine	Asacol
Mesocarb	
Mesoridiazine	Serentil
Mesterolone	
Metaclazepam	Talis
Metamfetamine (d-)	
Metaproterenol	Alupent, Metaprel
Metaraminol	Aramine
Metaxalone	Skelaxin
Metazocine	

Metformin	
Methacholine	
Methadone	Dolophine
Methamphetamine	Desoxyn
Methandriol (Methylandrostenediol)	Probolic
Methandrostenolone	Dianobal
Methantheline	Banthine
Methapyrilene	Histadyl, etc
Methaqualone	Quaalude
Metharbital	Gemonil
Methasterone	
Methazolamide	Naptazane
Methcathinone	
Methdilazine	Tacaryl
Methenolone	Primobolan
Methixene	Trest
Methocarbamol	Robaxin
Methotrexate	Folex, Nexate, etc
Methotrimeprazine	Levoprome, Neurocil, etc
Methoxamine	Vasoxyl
Methoxyphenamine	Orthoxide
Methscopolamine	Pamine
Methsuximide	Celontin
Methyclothiazide	Enduron
Methyl-1-testosterone	
Methylatropine	
Methyldienolone	
Methyldopa	Aldomet
Methylenedioxymthamphetamine	

Methylephedrine	
Methylergonovine	Methergine
Methylhexanamine	Geranamine
Methylnortestosterone (Trestolone)	
Methylphenidate	
Methylprednisolone	Medrol
Methyltestosterone	Metandren
Methyphenidate	Ritalin
Methyprylon	Noludar
Methysergide	Sansert
Metiamide	
Metipranolol	
Metoclopramide	Reglan
Metocurine	Metubine
Metolazone	
Metomidate	Hypnodil
Metopan (Methydromorphinone)	
Metoprolol	
Metroprolol	Lopressor
Mexazolam	Melex
Mexiletine	Mexitil
Mibefradil	Posicor
Mibolerone	
Midazolam	Versed
Midodrine	Pro-Amiline
Milrinon	
Minoxidil	Loniten
Mirtazepine	Remeron
Misoprostol	Cytotec

Mitragynine	Kratom
Mivacurium	Mivacron
Modafinil	Provigil
Moexipril (Metabolite, moexiprilat)	Uniretic
Molindone	Moban
Momestasone	Elocon
Montelukast	Singulair
Moperone	Luvatren
Morphine	
Mosaprimine	
Muscarine	
myo-inositol trispyrophosphate	
Nabumetone	Anthraxan, Relafen, Reliflex
Nadol	Corgard
Nadolol	
Naepaine	Amylsine
Nalbuphine	Nubain
Nalorphine	Nalline, Lethidrone
Naloxone	Narcan
Naltrexone	Revia
Nandrolone	Nandrolin, Laurabolin, Durabolin
Naphazoline	Privine
Naproxen	Equiproxen, Naprosyn
Naratriptan	Amerge
N-Butylscopolamine	
Nebivolol	
Nedocromil	Tilade
Nefopam	
Neostigmine	Prostigmine

Nicardipine	Cardine
Nifedipine	Procardia
Niflumic acid	Nifluril
Nikethamide	Coramine
Nimesulide	
Nimetazepam	Erimin
Nimodipine	Nemotop
Nitrazepam	Mogadon
Nitroglycerin	
Nizatidine	Axid
Norbolethone/Norboletone	
Norclostebol	
Nordiazepam	Calmday, Nordaz, etc
Norepinephrine	
Norethandrolone	
Norfenefrine	
Norfenfuramine	
Nortestosterone	
Nortriptyline	Aventyl, Pamelor
Nylidrine	Arlidin
Octopamine	
Olanzepine	Zyprexa
Olaslazine	Dipentum
Olodaterol	
Omeprazole	Prilosec, Losec
Orphenadrine	Norlfex
Oxabolone	
Oxandrolone	Anavar
Oxaprozin	Daypro, Deflam

Oxazepam	Serax
Oxazolam	Serenal
Oxcarbazepine	Trileptal
Oxilofrine (Hydroxyephedrine)	
Oxilofrine (methysynephrine)	
Oxprenolol	Trasicar
Oxycodone	Percodan
Oxymesterone	
Oxymetazoline	Afrin
Oxymetholone	Adroyd, Anadrol
Oxymorphone	Numorphan
Oxypertine	Forit, Integrin
Oxyphenbutazone	Tandearil
Oxyphencyclimine	Daricon
Oxyphenonium	Antrenyl
Paliperidone	
Pancuronium	Pavulon
Paperverine	Pavagen, etc
Paraldehyde	Paral
Paramethadione	Paradione
Paramethasone	Haldrone
Pargyline	Eutonyl
Paroxetine	Paxil, Seroxat
Pemoline	Cylert
Penbutolol	Levatol
Penfluridol	Cyperon
Pentaerythritol tetranitrate	Duotrate
Pentazocine	Talwin
Pentetrazol	

Pentobarbital	Nembutal
Pentoxyfylline	Trental, Vazofirin
Pentylenetetrazol	Metrazol, Nioric
Perazine	Taxilan
Perfluorocarbons	
Perfluorodechydronophthalene	
Perfluorodecolin	
Perfluoroocylbromide	
Perfluorotripropylamine	
Pergolide	Permax
Periciazine	Alodept, etc
Perindopril	Birprel
Perphenazine	Trilafon
Phenacemide	Phenurone
Phenaglycodol	Acalo, Alcamid, etc
Phenazocine	Narphen
Phencyclidine (PCP)	Sernylan
Phendimetrazine	Bontril, etc
Phenelzine	Nardelzine, Nardil
Phenethylamine (and its derivatives)	
Phenidndione	Hedulin
Phenmetrazine	Preludin
Phenobarbital	Luninal
Phenoxybenzamine	Dibenzyline
Phenprocoumon	Liquamar
Phenpromethamine	
Phensuximide	Milontin
Phentermine	Iomamin
Phentermine	

Phentolamine	Regitine
Phenylbutazone	Butazolidin
Phenylephrine	Isophrin, Neo-synephrine
Phenylpropanolamine	Propadrine
Phenytoin	Dilantin
Physostigmine	Eserine
Picrotoxin	
Pimobendan	
Pimozide	Orap
Pinazepam	Domar
Pindolol	Viskin
Pipamperone	Dipiperon
Pipecuronium	Arduan
Pipequaline	
Piperacetazine	Psymod, Quide
Piperocaine	Metycaine
Pipotiazine	Lonseren, Piportil
Pipradrol	Dataril, Gerondyl, etc
Pirbuterol	Maxair
Pirenzepine	Gastrozepin
Piretanide	Arelix, Tauliz
Piritramide	
Piroxicam	Feldene
Plasma Expanders	
P-methylamfetamine	
Polyethylene Glycol	
Polythiazide	Renese
Pramoxine	Tronothaine
Prazepam	Verstran, Centrax

Prednisolone	Delta-Cortef, etc
Prenisone	Meticorten, etc
Prenylamine	
Prilocaine	Citanest
Primidone	Mysoline
Probenecid	
Procainamide	Pronestyl
Procaine	
Procaterol	Pro Air
Prochlorperazine	Darbazine, Compazine
Procyclidine	Kemadrin
Prolintane	
Prolionylpromazine	Tranvet
Promazine	Sparine
Promethazine	Phenergan
Propafenone	Rythmol
Propanidid	
Propantheline	Pro-Banthine
Proparacaine	Ophthaine
Propentophylline	Karsivan
Propiram	
Proplomazine	Largon
Propofol	Diprivan, Disoprivan
Propoxycaine	Ravocaine
Propylhexedrine	Benzedrex
Prostanazol	
Prothipendyl	Dominal
Protokylol	Ventaire
Protriptyline	Concordin, Triptil

Proxibarbital	Axeen, Centralgol
Psudeoephedrine	Cenafed, Novafed
Pyridostigmine	Mestinon, Regonol
Pyrilamine	Neoantergan, Equihist
Pyrithyldione	Hybersulfan, Sonodor
Quazipam	Doral
Quetiapine	Seroquel
Quinapril, Quinaprilat	Accupril
Quinbolone	
Quinidine	Quinidex, Quinicardine
Rabeprazole	Aciphex
Racemethorphan	
Racemorphan	
Raclopride	
Ractopamine	Pavlean
Ranitidine	Zantac
Remifentanil	Ultiva
Remoxipride	Roxiam
Reproterol	
Reserpine	Serpasil
Rilmazafone	
Risperidone	
Ritanserin	
Ritodrine	Yutopar
Rivastigmine	Exelon
Rizatriptan	Maxalt
Rocuronium	Zemuron
Rofecoxib	Vioxx
Romifidine	Sedivet

Ropivacaine	Naropin
Salbutamol	
Salicylamide	
Salicylate	
Salmeterol	
Scopolamine (Hyoscine)	Triptone
Secobarbital (Quinalbarbitone)	Seconal
Selegiline	Eldpryl, Jumex, etc
Sertraline	Lustral, Zoloft
Sibutramine	Meridia
Sildenafil	Viagra
Somatrem	Protropin
Somatropin	Nutropin
Sotalol	Betapace, Sotacor
Spiclomazine	
Spiperone	
Spirapril, metabolite Spiraprilat	Renomax
Spironalactone	Aldactone
Spironolactone	
Stanozolol	Winstrol-V
Stenbolone	
Strychnine	
Succinylcholine	Sucostrin, Quelin, etc
Sufentanil	Sufenta
Sulfasalazine	Azulfidine, Azaline
Sulfondiethylmethane	
Sulfonmethane	
Sulforidazine	Inofal
Sulinadac	Clinoril

Sulpiride	Aiglonyl, Sulpitil
Sultopride	Barnetil
Sumatriptan	Imitrex
Synthetic Cannabis	Spice, K2, Kronic
Talbutal	Lotusate
Tandospirone	
TCO2	
Teimisartin	Micardis
Temazepam	Restoril
Tenamfetamine (methylenedioxyamphetamine)	
Tenoxicam	Alganex, etc
Tepoxalin	
Terazosin	Hytrin
Terbutaline	Brethine, Bricanyl
Terfenadine	Seldane, Triludan
Tertabenazine	Nitoman
Testolactone	Teslac
Testosterone	
Tetracaine	Pontocaine
Tetrahydrogestrinone	
Tetrahydrozoline	Tyzine
Tetrazepam	Musaril, Myolastin
Thebaine	
Theobromine	
Theophylline	Aqualphyllin, etc
Thiabarbital	Kemithal
Thiamylal	Surital
Thiopental	Pentothal

Thiopropazate	Dartal
Thioproperazine	Majeptil
Thioridazine	Mellaril
Thiosalicylate	
Thiothixene	Navane
Thiphenamil	Trocinate
Tiapride	Italprid, Luxoben, etc
Tiaprofenic acid	Surgam
Tiletamine	Component of Telazol
Timiperone	Tolopelon
Timolol	Blocardrin
Tocainide	Tonocard
Tofisopam	Grandaxain, Seriel
Tolazoline	Priscoline
Tolfenamic Acid	
Tolmetin	Tolectin
Topirimate	Topamax
Torsemide (Torasemide)	Demadex
Tramadol	Ultram
Tranexamic acid	
Tranolapril (and metabolite, Trandolaprilat)	Tarka
Trazodone	Desryel
Trenbolone	Finoplix
Tretoquinol	Inolin
Triamcinolone	Vetalog, etc
Triamterene	Dyrenium
Triazolam	Halcion
Tribromethanol	
Tricaine methanesulfonate	Finquel

Trichlormthiazide	Noqua, Naquasone
Trichloroethanol	
Tricholoethylene	Trilene, Trimar
Triclofos	Triclos
Tridihexethyl	Pathilon
Trifluomeprazine	Nortran
Trifluoperazine	Stelazine
Trifluperidol	Triperidol
Triflupromazine	Vetame, Vesprin
Triheylphenidyl	Artane
Trimeprazine	Temaril
Trimethadione	Tridione
Trimethaphan	Arfonad
Trimipramine	Surmontil
Triprolidine	Actidil
Tuaminoheptane	
Tubocurarine (Curare)	Metubin
Tulobuterol	
Tybamate	Benvil, Nospan, etc
Urethane	
Valdecoxib	
Valerenic acid	
Valnoctamide	Nirvanyl
Valsartan	Diovan
Vardenafil	Levitra
Vedaprofen	
Venlafaxine	Efflexor
Veralipride	Accional, Veralipril
Verapamil	Calan, Isoptin

Vercuronium	Norcuron
Vilanterol	
Viloxazine	Catatrol, Vivalan, etc
Vinbarbital	Delvinol
Vinylbital	Optanox, Speda
Warfarin	Coumadin, Coufarin
Xylazine	Rompun, Bay Va 1470
Xylometazoline	Otrivin
Zafirlukast	Accolate
Zaleplon	Sonata
Zeranol	Ralgro
Ziconotide	
Zileuton	Zyflo
Zilpaterol hydrochloride	Zilpaterol
Ziprasidone	Geoden
Zolazepam	
Zolmitriptan	Zomig
Zolpidem	Ambien, Stilnox
Zomepirac	Zomax
Zonisamide	Zonegran
Zopiclone	Imovan
Zotepine	Lodopin
Zuclopenthixol	Ciatyl, Cesordinol

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 their 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 the 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 well 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 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 someone using Performance Altering Drugs. Any level of a "confirmed positive" Performance Altering Drug would be investigated as a violation in contrast to certain race approved Legitimate Medications and Inadvertent Drugs.

Specific 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 ("confirmed positive") 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 ("confirmed positive") of a Class III substance below a threshold value, resulting in no violation
4) Presence ("confirmed positive") of an approved for race use Class II **topica**l medication at levels equal to or exceeding a threshold value would be a potential violation
5) Presence ("confirmed positive") of a Class III substance for which a threshold value has been exceeded would be a potential violation
6) Presence ("confirmed positive") 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 potential violation had occurred
7) Presence ("confirmed positive") at any level of a Class I or not approved for race use Class II medication would be a potential violation

The testing laboratory will report all results to ITC representatives (two designated toxicologists) upon completion. In each case of a "confirmed positive" result, the designated toxicologists will review the findings.

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PROTOCOLS FOR A POTENTIAL DRUG TESTING VIOLATION

If in their review of a "confirmed positive" it is determined by the toxicologists that a potential violation has occurred, the ITC established Drug Testing Review Panel (DTRP) will commence an investigation to establish whether there has been an anti-doping rule (Rule 39) violation. The DTRP 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 barcode, with no information regarding the identification of the musher or dog. After the DTRP has been informed of a "confirmed positive" result requiring an investigation, 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 barcodes with the musher and dog(s) identification. The DTRP will then notify the musher of the investigation within **seven days** of the DTRP receiving a "confirmed positive" test result as described above. The DTRP will maintain the confidentiality of all information related to the investigation throughout the investigative process, sharing information only as necessary for the investigation. The musher may designate representatives to whom the DTRP can provide information.

The DTRP will gather all necessary information to make their determination. As required by ITC Rule 39, the musher must fully cooperate with the DTRP's investigative process. . If a musher fails to cooperate with the DTRP's investigation, the DTRP can draw inferences adverse to the musher regarding any matter about which the musher's cooperation was requested. The musher is also welcome to submit any additional information s/he believes to be relevant or helpful to the investigation, and the DTRP will give due consideration to all such information. It is the ITC policy that all investigations performed by the DTRP be concluded by no later than June 1 of that same year.

During the investigation, a musher has the option of asking that a split sample be sent to another certified laboratory, to be chosen by the Drug Testing Review Panel, to confirm the drug identification. The split sample will be derived from any remaining sample from the original specimen cup. The results of this analysis will be given due consideration in the investigation by the DTRP.

The purpose of the investigation is for the DTRP to determine whether the evidence meets the burden of establishing that an anti-doping rule (Rule 39) violation has occurred. The standard of proof shall be whether the evidence has established an anti-doping rule (Rule 39) violation to the comfortable satisfaction of the Drug Testing Review Panel, bearing in mind the seriousness of the allegation. This standard of proof in all cases is greater than a mere balance of probability but less than proof beyond a reasonable doubt. Where this code places the burden of proof upon the Athlete or other Person alleged to have committed an anti-doping rule (Rule 39) violation to rebut a presumption or establish specified facts or circumstances, the standard of proof shall be by a balance of probability.

Upon conclusion of the investigation the DTRP shall make one of the following conclusions: (1) Insufficient evidence to support a finding of a violation, or; (2) a finding that a violation has occurred.

Upon determining that there is insufficient evidence to support a finding of a violation, the DTRP will inform the ITC Board and the musher and close the investigation with no further action.

Upon determining that a violation has occurred, the DTRP will prepare a report of its findings and a recommendation for action to the ITC Board. At this time, the DTRP will also notify the musher and will provide the musher with the Report and Recommendation for action that it provides for the ITC Board.

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DRUG TESTING VIOLATION APPEAL AND HEARING PROCESS

Upon notification of a finding of violation by the Drug Testing Review Panel (DTRP), the musher may either: (1) decide not to contest the results of the investigation, or (2) request an appeal and hearing regarding the results of the investigation.

If the musher decides not to contest a finding of violation, the matter will be submitted to the ITC Board for action, pursuant to the Report and Recommendation submitted by the DTRP.

A request for appeal and hearing must be made within **seven days** after notification of a finding of violation. The appeal and hearing will be conducted by and within the discretion of the DTRP.

Through the course of any appeal and hearing process, the process will remain confidential unless otherwise requested by the musher.

As required by ITC Rule 39, mushers will be held strictly liable for all violations of ITC's anti-doping rules. The results of the investigation are controlling unless the musher can establish, to the satisfaction of the DTRP, by clear and convincing evidence that the positive tests resulted from causes completely beyond their control.

If the musher has not previously requested it, a musher has the option of asking 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.

No later than thirty (30) days prior to any hearing the musher will provide the DTRP with any documents or other physical evidence s/he intends to provide at the hearing. This includes personal and expert witness testimony, video footage, audio recordings, and (as stated in Rule 39) polygraph testing as potential sources of information that may be submitted for the hearing, 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.

All documents generated through the investigation process that are not subject to any legal privilege will be provided to the musher no later than thirty (30) days prior to any hearing. Documents to be provided include:

- Chain of custody documentation
- Laboratory testing documentation
- Any additional toxicology reports
- The investigation report prepared for the ITC Board

As noted above, the hearing is to be conducted by and within the discretion of the DTRP. The DTRP may appoint a qualified individual to act as hearing officer and to manage the appeal and hearing process.

The DTRP is responsible for maintaining an accurate record of the proceedings by electronic or other appropriate means. The DTRP or the hearing officer may refer to the rules established for hearings by the World Anti-Doping Agency ("WADA") or other similar bodies for the conduct of the hearing. A recommended decision as to whether the musher has or has not met his/her burden of proof must be provided to the ITC Board made within 30 days after the conclusion of the hearing. The DTRP may also at that time amend its recommendation for action to the ITC Board based on the evidence presented at the hearing.

The ITC Board has the sole discretion and authority to make any final determination regarding any anti-doping rule violation and regarding the imposition of any sanction for such violation. The ITC Board will, in the exercise of its authority, give due consideration to the Report and Recommendation made by the DTRP, the musher's explanation of events and acceptance of responsibility, the record and results of any appeal and hearing, the severity of the violation, any previous record of rule violations or disciplinary action, and the effect of the violation on the health and welfare of the dogs and on the fairness of the competition.

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