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Prevention and Treatment of Injuries

Westfield High School
Houston, Texas

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Pharmacology in Sports

- Pharmacology is the branch of science that deals with the actions of drugs on biological systems, especially drugs that are used in medicine for diagnostic and therapeutic purposes.

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Pharmacology in Sports

- A drug is a chemical agent used in the prevention, treatment, or diagnosis of disease.
- Drug vehicle is a therapeutically inactive substance that transports a drug. A drug is housed in a vehicle that may either a solid or a liquid.

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Drug Half Life




- The rate in which a drug disappears from the body, either through metabolism or excretion or a combination of the two. This rate is the amount of time required for half the drug in the body to be eliminated.

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Prescription Drugs




- At no time should an athletic trainer or a coach dispense prescription drugs to athletes. This can only be done by a licensed physician.

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OTC Drugs (Over the Counter)



- An athletic trainer MAY be allowed to administer a single dose of OTCs.
- Some state laws will not allow an athletic trainer to dispense ANY OTC drug to any athlete.
- School policy will also dictate the athletic trainer and if he/she is allowed to dispense OTC drugs to students.

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OTC Drugs (Over the Counter)



- Check with school attorney and also look into school board policy.
- Work to change policy to what is comfortable with your standards, better to be able and not, then not able and do.
- Parent permission and allergy information will be needed!

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Record Keeping



- As with treatment information, all medication dispensed in the athletic setting **MUST** be recorded! Do not let time become a factor in dictating whether medications are recorded.
- Must have on file if a parent believes that you are being negligent.

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OTC Drugs (Over the Counter)



- The best way to purchase and dispense is to buy medications in small, individually wrapped packages. Two Advil in a single foil wrapper mean that you eliminate the labeling process.
- Also look into the price of labels and packaging for generic form of OTCs.

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Buying OTC Medications



- Work with a pharmacist and team physician to understand the medications that will help each possible situation.
- Generics may be cheaper than the name brand, and are made of the same chemical compounds.

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Know your athletes!



- Know what athletes are allergic to which drugs. Some are allergic to Aspirin, while others may be allergic to codeine.
- Drugs allergies can be fatal.
- Keep a list of all athletes with allergies with you on all occasions.

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NSAIDs



- Nonsteroidal Anti-inflammatory Drugs
 - Fewer side effects and longer duration
 - Work on the swelling of an injury

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Active Ingredient

- Look on the label for the active ingredient.
 - Notice how many milligrams
 - Notice the name of the active ingredient
 - Ibuprofen = Advil, etc.
 - Acetaminophen = Tylenol
 - Acetylsalicylic Acid = Aspirin

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Use of Certain OTC Drugs

- Tylenol – safe for allergic athletes, overuse could lead to liver damage
- Ibuprofen – Anti-inflammatory properties, Decrease pain with decreased swelling
- Aspirin – Reduces pain, fever and inflammation.

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Use of Certain OTC Drugs

- Afrin / Neosenephrin Nasal Spray:
 - Vasoconstrictors, can be addictive is used improperly.
 - Great for nose bleed and cuts.

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Blood Doping




- Take your blood out and when blood volume has increased, add your own blood back to your system.
- Increase the number of red blood cells in the body.
- Improves endurance
- Can be deadly, with blood overload which can result in circulatory and metabolic shock.

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Drug Testing in Athletics




- Performed at many levels.
- At high school, need parent permission.
- Urine test is most frequently used.
- Give athlete a reason to say no to drugs
- No matter what test, some athletes will do what they want to anyhow

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Drug Testing in Athletics



- Associated cost can limit amount of athletes tested
- Do not use for punishment, use for prevention
- Positive tests should be informed to only one person to avoid confidentiality problems.
- Positive tests need to be used as a sign for obtaining help for the athlete

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