3 Hours

SESSION XVII

NARCOTIC ANALGESICS

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Upon successfully completing this session the student will be able to:

- Explain a brief history of the Narcotic Analgesic category of drugs.
- Identify common drug names and terms associated with this category.
- Identify common methods of administration for this category.
- Describe the symptoms, observable signs and other effects associated with this category.
- Describe typical time parameters, i.e. onset and duration of effects, associated with this category.
- List the clues that are likely to emerge when the drug influence evaluation is conducted for a person under the influence of this category of drugs.
- Describe the procedures for examining and determining the ages of injection sites.
- Correctly answer the "topics for study" questions at the end of this session.

CONTENT SEGMENTS

A. Overview of the Category

B. Possible Effects

C. Onset and Duration

D. Overdose Signs and Symptoms

E. Expected Results of the Evaluation

F. Injection Site Examination

G. Expected Location of Injection Marks

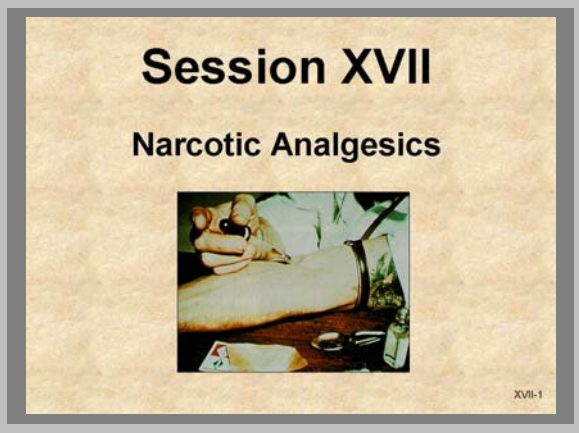
H. Conclusion

LEARNING ACTIVITIES

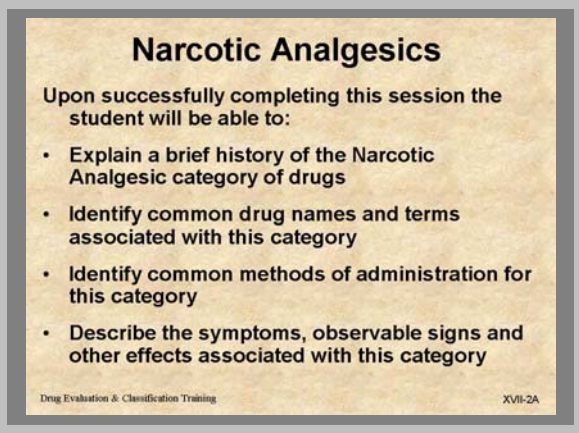
- Instructor-Led Presentations
- Review of Drug Evaluation and Classification Exemplars
- Reading Assignments
- Video Presentations (if available)
- Slide Presentations

I. NARCOTIC ANALGESICS

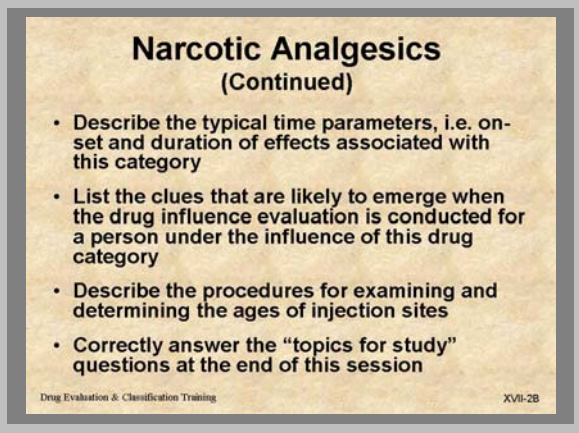
Session 17-1: Narcotic Analgesics



Session 17-2A: Narcotic Analgesics



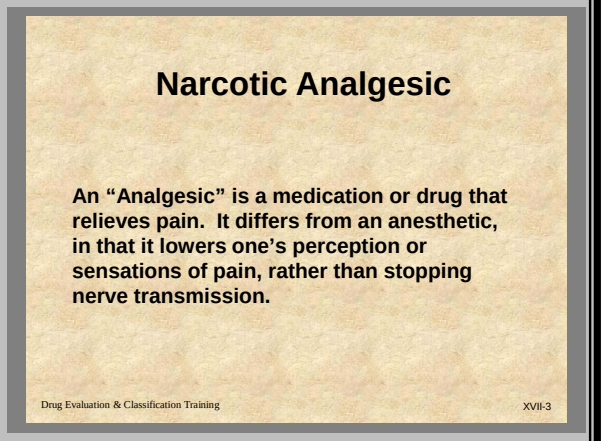
Session 17-2B: Narcotic Analgesics (cont.)



Briefly review the objectives, content and activities of this session.

A. Overview of the Category

Session 17-3: Narcotic Analgesic



<u>*Narcotic Analgesics*</u>

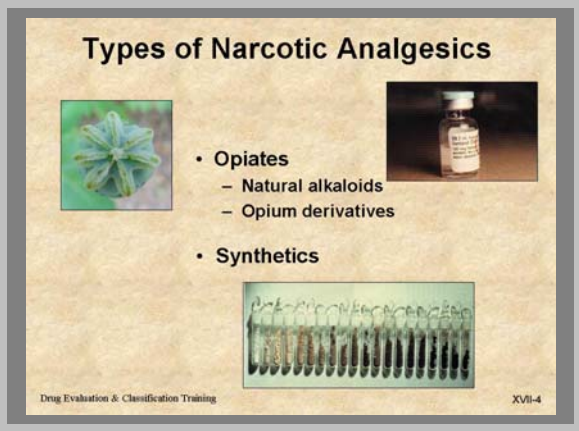
- Point out that this category sometimes is called "The Opioids"; the drugs it contains either are found in Opium, derive chemically from Opium, or produce effects similar to those of the Opium Derivatives.

- The term "Opioid," however, most correctly refers to the synthetic subcategory of Narcotic Analgesics.

Narcotic Analgesic Defined

- A medical term, not a legal or police term.
- An "Analgesic" is a medication or drug that relieves pain. It differs from an anesthetic, in that it lowers one's perception or sensations of pain, rather than stopping nerve transmission.
- Non-Narcotic Analgesics, such as Aspirin, Tylenol, and Motrin, relieve pain, but do NOT produce narcosis, which means numbness or sedation.
    - Clarification: non-Narcotic Analgesics relieve pain, but do not alter mood. Therefore, they, in small amounts, are not psychoactive and are not abused for their mind or mood altering actions.
- A Narcotic is a drug derived from Opium, or produced synthetically that relieves pain, but also induces euphoria, alters mood, and produces sedation.

Session 17-4: Types of Narcotic Analgesics



There are two subcategories of Narcotic Analgesics:

- Opiates: drugs that either contain or are derived from Opium.
- Natural alkaloids of Opium.
    - Point out that a "natural alkaloid" is a substance that is found in another substance, and that can be isolated from it. Morphine, for example, is a natural alkaloid of Opium. Codeine is another example of a natural alkaloid.

- The term “main ingredient” can be used as a synonym for “alkaloid.”

Opium Derivatives

Opium derivatives are obtained by chemically treating the Opium alkaloid. Opium derivatives are therefore derived from Opium.

The Natural Alkaloids

Alkaloids and the Opium derivatives all come from Opium, which is sap from the seed pods of a particular type of poppy.

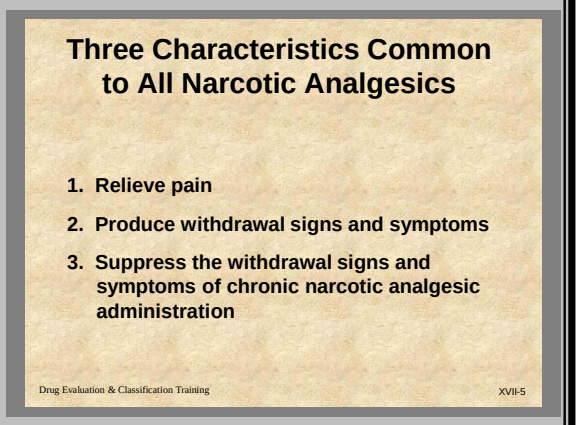
- Note: the Opium poppy, or papaver somniferum (somniferum, Latin for the “carrier of sleep”)

An analogy to help students understand the difference between an alkaloid and a derivative would be to compare opium to wheat. The ‘alkaloid” of the wheat would be whole wheat flour – a derivative of the wheat would be white flour (wheat flour which as been chemically treated).

Synthetics, which do not derive from Opium at all, have similar or identical effects as Opium alkaloids and derivatives.

- Point out that the synthetic Narcotic Analgesics are produced from a variety of non-opiate substances. Again, these are sometimes called “Opioids.”

Session 17-5: Three Characteristics Common to All Narcotic Analgesics



Narcotic Analgesics all share three characteristics:

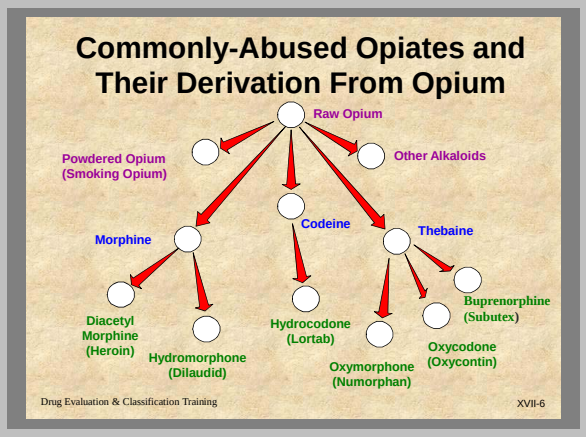
- They all relieve pain.

- Clarification: They produce analgesia.

- They will produce withdrawal signs and symptoms when the user is physically dependent, and drug use is stopped.
  - Clarification: Physical dependence results from "chronic administration." This means that the drug has been taken at fairly regular intervals for a period of time.

- They will suppress the withdrawal signs and symptoms of chronic narcotic analgesic administration.
  - Morphine is typically used as the standard for comparison with other Narcotic Analgesics.
  - Clarification: This means that the various Narcotic Analgesics can be substituted for each other to relieve withdrawal symptoms.

Session 17-6: Commonly-Abused Opiates and Their Derivation



Point out the chart that is located in the student manual.

Some Commonly Abused Opiates

Powdered Opium

Powdered Opium (also known as smoking Opium).

- A simple refinement of raw Opium.

- Used medically to treat diarrhea (administered orally).

- The development of more effective opiates and synthetics has virtually eliminated its use medically. In recent years, there has been little street use of Opium. It is important to realize, however, that drug use trends can and do change.

- Remains popular as a drug of abuse (smoked) among some Asian-American communities.

Morphine

Morphine, the principal natural alkaloid of Opium.

Instructor, FYI: named after Morpheus, the Greek God of dreams.

- Morphine was first isolated from Opium in 1805.

- Used medically to suppress severe pain (e.g., with terminal cancer patients).

- Highly addictive.

- Morphine was widely used during the Civil War. Morphine addiction was termed "Soldier's disease."

- At one time, Morphine was the most commonly abused Narcotic Analgesic.

Codeine

Codeine is another natural alkaloid of Opium.

- Its technical name is Methylmorphine.

- First isolated in 1832.

- Codeine's pain killing ability is much weaker than Morphine's.

- Used medically to suppress coughing or minor pain.

- Clarification: Narcotic Analgesic addicts often turn to Codeine when they cannot get more popular drugs.

- Codeine is definitely an addictive drug.

Heroin

Heroin is the most commonly abused illicit Narcotic Analgesic.

- Point out that the generic, or technical name for heroin is "Diacetyl Morphine."

Write "Diacetyl Morphine" on the dry erase board or flip-chart.

- Derived from Morphine in 1874.
- Heroin was first thought to be a non-addictive substitute for Morphine.
- It was approved for general use by the American Medical Association in 1906.
- By the 1920's it was evident that Heroin was much more addictive than Morphine.
- Importation and manufacture of Heroin have been illegal in this country since 1925.
- Heroin is a Schedule I drug, which means it has no legitimate medical uses in the United States.

Dilaudid

Dilaudid is another derivative from Morphine.

- Technical Name: Hydromorphone Hydrochloride.
- First produced in 1923.
- Sometimes called "drug store Heroin," since it is commercially available from medical and pharmaceutical sources.
- Dilaudid has the same addictive liabilities as does Heroin or Morphine.
- Used medically for short term relief of moderate to severe pain, and to suppress severe, persistent coughs.
- Can be ingested via injection, orally or in suppositories.

- Sometimes abused by addicts who are unable to obtain Morphine or Heroin.

Hydrocodone

Hydrocodone is derived from Codeine but is more closely related to Morphine in its pharmacological profile.

- Point out that Hydrocodone products are the most frequently prescribed pharmaceutical opiate (Narcotic Analgesic) with over 111 million prescriptions dispensed in 2003. (DEA)

Examples include:

- Hycodan
- Vicodin
    - Note: Vicodin is a commonly prescribed pain reliever containing Hydrocodone and Acetaminophen.
- Lortab

Numorphan

- Technical Name: Oxymorphone.
- Used medically for the relief of chronic pain.
- Sold in ampules (injection) and in suppositories.
- Previously (pre-1972) it was sold in tablets, and was a favorite substitute for Heroin among addicts; addicts now generally prefer Dilaudid as a Heroin substitute.

Thebaine

- An opiate alkaloid derived from opium.
- Not used therapeutically.
- Converted into several drugs including oxycodone and oxymorphone.

Oxycodone

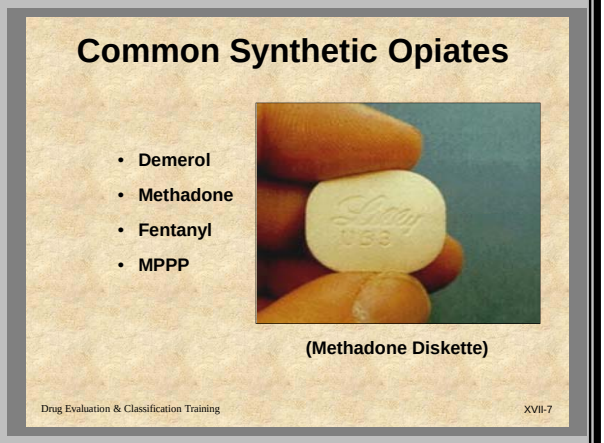
Oxycodone is a semi-synthetic narcotic produced by chemically treating Thebaine. It is somewhat less addictive than Morphine, but more than Codeine. Two examples are:

- Brand Name: OxyContin.
- Percodan is one of the most commonly prescribed Narcotic Analgesics.
- It is also produced under the brand name of "Percocet, which is Percodan combined with Acetaminophen, such as Tylenol.
- OxyContin is a controlled release tablet that contains large amounts of Oxycodone (10-160mg). Abusers learn to circumvent the slow release mechanism.
- Street names: "Oxy"; "OC"; "Killer."

Buprenorphine

- Buprenorphine is a Thebaine derivative with powerful analgesia approximately twenty five to forty times as potent as morphine and its analgesic effect is due to partial agonist activity at u-opioid receptors.
- Depending on the application form, buprenorphine is normally prescribed for the treatment of moderate to severe chronic pain (pain that has outlived its use to prevent injury and after three months.
- Buprenorphine hydrochloride is normally administered by intramuscular injection, intravenous infusion, via a transdermal patch, or as a sublingual tablet.
- It is not administered orally, due to very high first pass metabolism.

Session 17-7: Common Synthetic Opiates



Some Common Synthetic Opiates

Demerol was first produced in 1939.

- Technical Name: Meperidine.
- Demerol is one of the most widely used Synthetic Opiates for relief of pain and for sedation.
- It is also one of the Narcotic Analgesic that is most frequently abused by medical personnel.
- Demerol is widely used as an analgesic in childbirth.
- One medical advantage of Demerol is that it produces less respiratory depression than do other Narcotic Analgesics; thus, a fatal overdose is less likely with Demerol.
- Medical literature sometimes indicates that Demerol does not cause pupillary constriction. Enforcement experience indicates to the contrary.
- Point out that pupillary constriction ordinarily is one of the most reliable indicators of a Narcotic Analgesic.

Methadone was developed in Germany during World War II and first marketed in America in 1947.

- Methadone was developed in Germany because of wartime shortages of Morphine.

- Methadone's effects are similar to Morphine's, although they develop more slowly and last longer than do Morphine's effects.

- Methadone's withdrawal symptoms are slower and milder than are Morphine's.

Ask students: "What is one of the most common medical uses of Methadone in this country?"

- Used extensively in "maintenance programs" as a substitute for Heroin for addicts undergoing therapy and treatment.

- Remind students that one characteristic shared by all Narcotic Analgesics is that they suppress withdrawal symptoms of chronic Morphine administration.

- In theory, the daily dose of Methadone given to a Heroin addict allows the addict to function normally with no physical need for up to 24 hours.

- Methadone's has a much longer duration of effects than Heroin and is not designed to be injected.

- Methadone is also used medically to relieve moderate to severe pain, and to suppress coughing.

The Fentanyls include several hundred "designer drug" analogs of Morphine.

"Sublimaze" is a brand name for Fentanyl. It is a Schedule II drug. It is frequently found in overdose situations. For example, "Tango and Cash" and "Goodfellas," which contained Fentanyl, were sold in New York City in 1990 as Heroin. Many fatal overdoses occurred as a result.

- First developed in 1965 as an intravenous anesthetic.

- Legally produced as a pain killer.

- Principal abused analog is "Three-Methyl Fentanyl."

MPPP is an illegally manufactured analog of Demerol.

- MPPP is a powerfully addictive Synthetic Narcotic Analgesic.

- At times, MPPP has been contaminated with MPTP, a chemical producing paralysis similar to Parkinson's Disease.

Instructor, FYI: Parkinson's Disease is a progressive neurological disorder characterized by resting tremors, shuffling gait, and muscle weakness.

Methods of Administration

Methods of administration of Narcotic Analgesics vary from one drug to another.

- Some are commonly taken orally.
- Some are smoked.
- Some are snorted (taken intra-nasally).
- Users have stated that the fear of contracting diseases, such as AIDS, from shared needles, has prompted them to either snort or smoke Heroin.

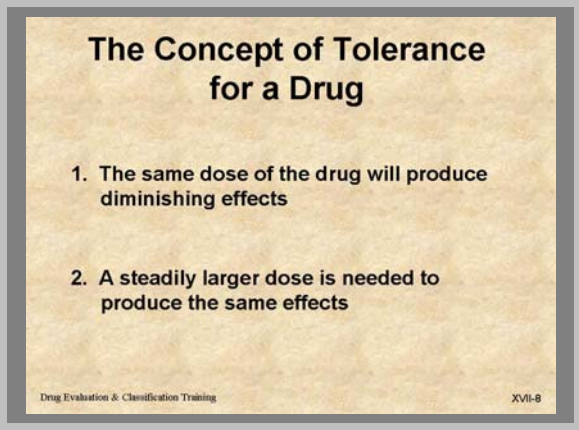
If available, show slides of Heroin injection paraphernalia.

- Some are often administered in suppositories.
- Medically, some Narcotic Analgesics may be administered transdermally or through the skin.
- Fentanyl patches are often used for chronic pain.
- Heroin, and some others usually are taken by injection.

Solicit students' comments and questions concerning this overview of Narcotic Analgesics.

B. Possible Effects

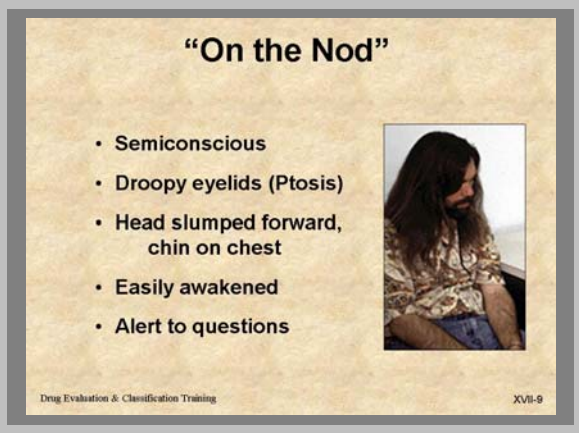
Session 17-8: The Concept of Tolerance for a Drug



As with nearly all drugs of abuse, the effects produced by Heroin or other Narcotic Analgesics depend on the tolerance that the user has developed for the drug.

- People develop tolerance for Narcotic Analgesics fairly rapidly.
- "Tolerance" means that the same dose of the drug will produce diminishing effects or conversely that a steadily larger dose is needed to produce the same effects.
- A Narcotic Analgesic user who has developed tolerance and who is using his or her "normal" dose of the drug may exhibit little or no evidence of intellectual or physical impairment.
- Emphasize: Habitual users of drugs may develop tolerance to the drug. As a result, they may exhibit relatively little evidence of impairment on the psychophysical tests. Even tolerant drug users, when impaired, usually exhibit clinical evidence (i.e. in the vital signs and eye signs).
- Impairment is more evident with new users, and with tolerant users who exceed their "normal" doses.
    - Clarification: the tolerant addict who has injected his or her "normal dose" of Heroin may appear to be much less impaired than an inexperienced user who had taken the same dose.

Session 17-9: "On the Nod"



Observable Effects

Observable effects of Heroin and other Narcotic Analgesics.

- Sedation – "On the Nod."

- The condition known as "on the nod" is a semiconscious state of deep relaxation.

- Point out that "on the nod" occurs most often with new users or with users exceeding normal doses.

- The user's eyelids become very droopy.

- Remind students that the technical term for "droopy eyelids" is Ptosis.

- Their head will slump forward until the chin rests on the chest.

- In this condition, the user usually can be aroused easily and will be sufficiently alert to respond to questions.

Other Effects

Note: these effects may be dose-related, and most often occur with non-tolerant users.

- slowed reflexes
- slow and raspy speech
- slow, deliberate movements
- inability to concentrate
- slowed breathing

Instructor, FYI: Technical terms are Hypopnea or Bradypnea.

- skin cool to the touch
- possible vomiting
- itching of the face, arms or body

Solicit students' comments and questions concerning possible effects of Narcotic Analgesics.

C. Onset and Duration of Effects

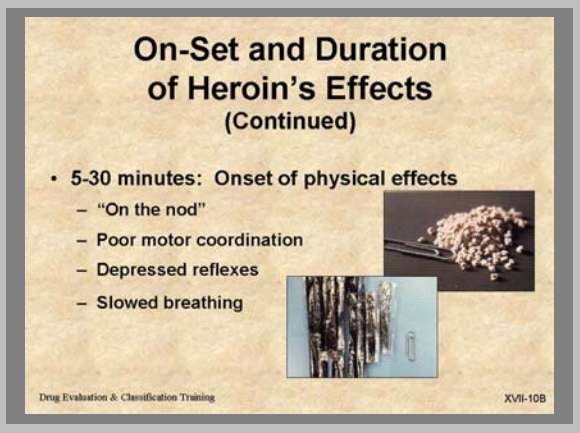
Session 17-10A: On-Set and Duration of Heroin's Effects

Psychological Effects

The psychological effects of Heroin begin immediately after the injection.

- A feeling of pleasure or euphoria.
- Point out that the intensity of the euphoria will depend on a number of factors, one of which is the addict's tolerance. A heavily addicted user who is beginning withdrawal symptoms may experience only mild euphoria.
- Relief from the symptoms of withdrawal.
- Relief from pain.

Session 17-10B: On-Set and Duration of Heroin's Effects (cont.)



Observable Signs

- The observable signs will usually become evident within 5 – 30 minutes after the user has injected.

- Remind students that the physical effects may not be observed at all, if the addict is tolerant and has injected a "normal" or "maintenance" dose.

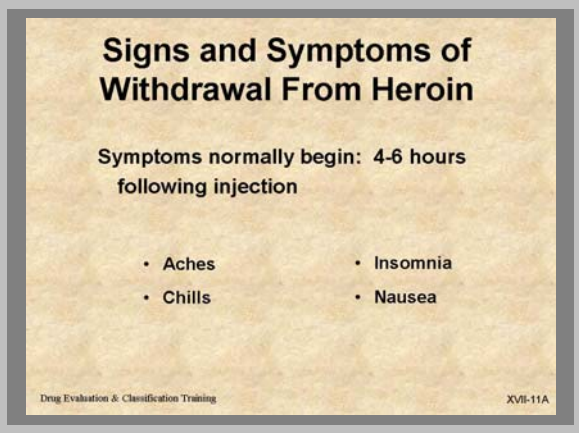
Session 17-10C: On-Set and Duration of Heroin's Effects (cont.)

The effects will usually be observable for up to 4 – 6 hours.

As the drug wears off, withdrawal signs and symptoms start to develop until the addict user injects again.

- Point out that the development of withdrawal symptoms implies that the Heroin has worn off.

Session 17-11A: Signs and Symptoms of Withdrawal from Heroin

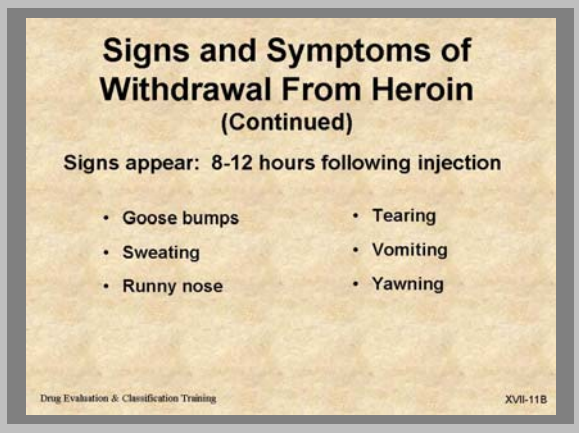


As the effects of Heroin diminish, withdrawal symptoms begin.

- aches
- chills
- insomnia
- nausea

As with nearly all drugs, the withdrawal signs and symptoms are essentially the opposite of the "high" or intoxicated state.

Session 17-11B: Signs and Symptoms of Withdrawal From Heroin



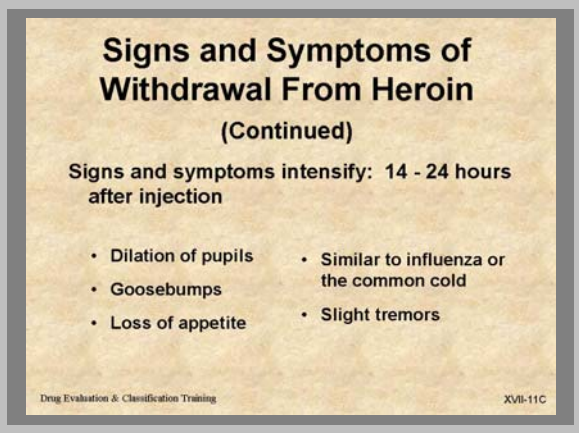
Withdrawal signs start to become observable 8 – 12 hours following injection.

- goose bumps (piloerection) on the skin
- "piloerection" means "hair standing up."
- sweating
- runny nose
- tearing
- vomiting
- yawning

Point out that yawning, tearing, runny nose and vomiting usually appear only after marked withdrawal of many hours.

Withdrawal signs and symptoms closely resemble those of Influenza or the common cold.

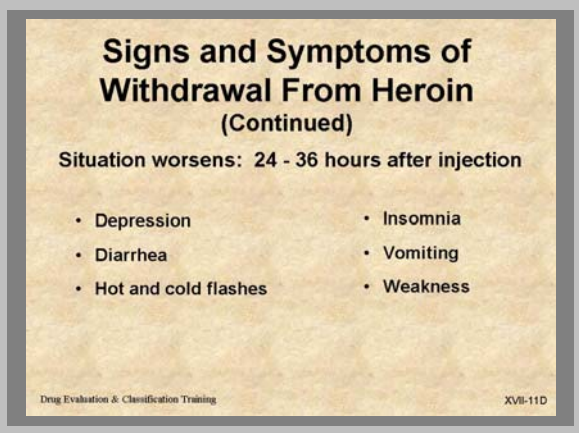
Session 17-11C: Signs and Symptoms of Withdrawal From Heroin



These symptoms begin to intensify from 14 – 24 hours after injection, and may be accompanied by goose bumps (piloerection), slight tremors, loss of appetite and dilation of the pupils.

- Point out that "withdrawal" signs of Narcotic Analgesics are essentially the opposite of their "under the influence" signs.

Session 17-11D: Signs and Symptoms of Withdrawal From Heroin



Approximately 24 – 36 hours after injection, the addicted user experiences insomnia, vomiting, diarrhea, weakness, depression and hot and cold flashes.

Session 17-11E: Signs and Symptoms of Withdrawal From Heroin

Withdrawal symptoms and signs generally reach their peak 2 – 3 days after injection:

- muscular and abdominal cramps
- elevated temperature
- severe tremors and twitching

Point out that the involuntary tremors and twitching of the legs give rise to the expression "kicking the habit."

The addicted user at this point is nauseated, gags, vomits and may lose 10 – 15 pounds within 24 hours.

The withdrawal syndrome continues to decrease in intensity over time, and is usually greatly reduced by the fifth day, disappearing in one week to 10 days.

- A common misconception regarding withdrawal from Narcotic Analgesics is that they may be fatal. In reality, however, although Narcotic withdrawal is extremely uncomfortable, it rarely, if ever proves fatal.

Solicit students' comments or questions concerning onset and duration of the effects of Narcotic Analgesics.

D. Overdose Signs and Symptoms

Narcotic Analgesics depress respiration.

- In overdoses, the user's breathing will become slow and shallow.

- Death can occur from severe respiratory depression.

- The danger of death is heightened by the fact that the addicted user may not know the strength of the drug he or she is taking.

- Clarification: the percentage of pure Heroin in the sample the addict uses may be much higher than what the addict expects and is used to.

- Other signs and symptoms of an overdose of a Narcotic Analgesic include clammy skin, convulsions and coma, blue lips and pale or blue body, extremely constricted pupils (unless there is brain damage, in which pupils may be dilated), recent needle marks, or perhaps a needle still in the user's arm.

- E.g., "Tango and Cash" and "Goodfellas" were sold on the street as high grade heroin. Rather, these contained the much more potent Fentanyl, resulting in many fatalities.

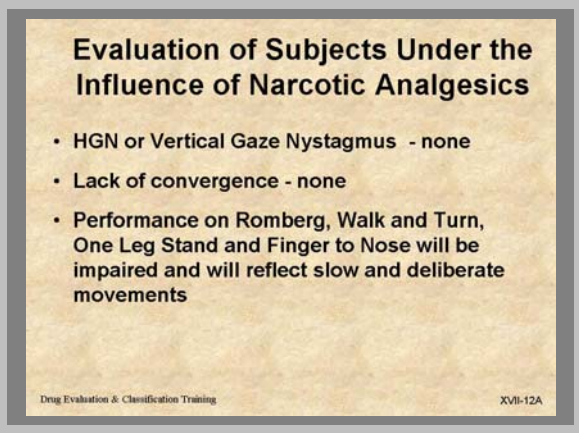
- Point out that a person suffering from Narcotic Analgesic overdose may appear to be in shock.

Narcotic Analgesic overdoses are sometimes treated by the administration of a Narcotic antagonist such as Narcan. A Narcotic antagonist works at neuron receptor sites, blocking or counteracting the effects of Narcotic Analgesics. In effect, these substances precipitate withdrawal. The short duration of effects produced by Narcotic antagonists, however, require continued medical monitoring of the user.

Solicit students' comments and questions concerning signs and symptoms of an overdose of Narcotic Analgesics.

E. Expected Results of the Evaluation

Session 17-12A: Evaluation of Subjects Under the Influence…



Observable Evidence of Impairment

Neither Horizontal Gaze Nystagmus nor Vertical Gaze Nystagmus will be present.

- But remind students that Nystagmus could be present if the user has taken Heroin and a Dissociative Anesthetic, or alcohol or some other CNS Depressant, or an inhalant.

- Eyes will not exhibit Lack of Convergence.

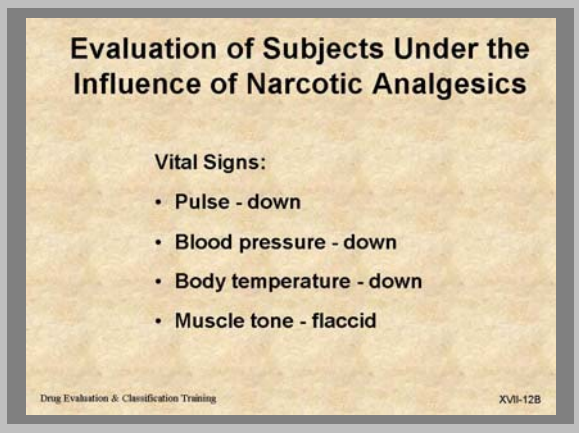
- Performance on the Romberg Balance Test will be impaired. Generally, the subject will appear drowsy, and will have a slow internal clock.

- Point out that, if the user has injected enough Narcotic Analgesic to exceed his or her level of tolerance, his or her performance on the Standardized Field Sobriety Tests will be uncoordinated and "rubber-legged," similar to that caused by CNS Depressants.

Performance on the Walk and Turn and One Leg Stand will be impaired, and will reflect the slow and deliberate movements caused by this category of drugs.

Performance on Finger to Nose will also be impaired. Generally, the subject will appear drowsy, possibly "on the nod," and exhibit slow and deliberate movements.

Session 17-12B: Evaluation of Subjects Under the Influence…



Blood pressure will be down.

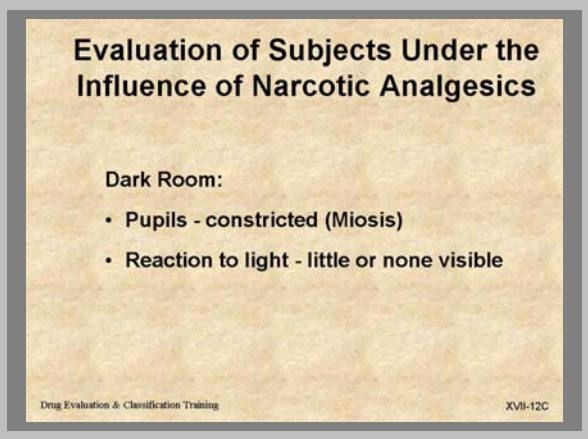
Pulse will be down.

Body temperature will be down.

- Remind students that these cardiovascular indicators may not be present if the subject is a tolerant user who has taken a "normal" dose of the drug.

Muscle tone will be flaccid.

Session 17-12C: Evaluation of Subjects Under the Influence…

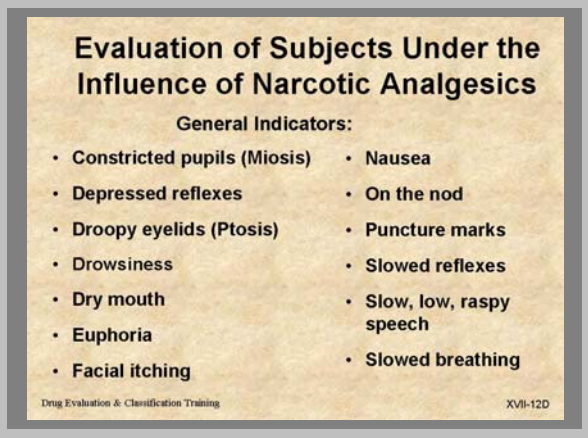


Pupil size generally will be constricted (below 3.0 mm in diameter).

- Point out that constricted pupils are one of the most reliable indicators of a Narcotic Analgesic. The technical term for “constricted pupils” is “Miosis.”

Pupil reaction to light will be little or none visible.

Session 17-12D: Evaluation of Subjects Under the Influence…



General Indicators

- constricted pupils
- depressed reflexes
- drowsiness
- droopy eyelids (Ptosis)
- dry mouth
- euphoria
- facial itching
  - Itching – caused by the release of Histamines.
- nausea
- “on the nod”
- puncture marks

If available, show slides of typical addicts' "track" marks.

- slowed reflexes
- slow, low, raspy speech
- slowed breathing

Symptomatology Chart

Session 17-13: Narcotic Analgesic Symptomatology Chart

F. Injection Site Examination

Examination of subject's injection sites can give many clues to their drug habits.

- The slang term for an injection site is a "mark."

Many drugs can be injected.

- The presence of injection sites doesn't ensure the subject is under the influence of drugs. Examination of injection sites is just one of the twelve steps in the evaluation.
- Injection sites are a sign of drug abuse which may or may not be present.
- May be evidence of habitual use.

The trauma to the skin, muscles and the blood is the basic concept of injection sites.

Drugs and medication are injected into the body in three ways:

Legal injections are usually Intramuscular.

- Abbreviated as I/M
- "Intramuscular" is defined as administering by entering a muscle.

Subcutaneous, which means just under the skin.

- Commonly referred to as "skin popping."

For medically drawing of blood or emergency medical procedures, the injection is made into a blood vessel (Intravenous). Veins are usually used. Arteries are deep, thus not lending themselves to injection.

- Abbreviated as I/V
- "Intravenous" defined as entering a vein.

> Instructor: Insulin injections are "Subcutaneous" (S/C) and are not normally I/M or I/V injections.
>
> Insulin is never injected into a blood vessel, because the person could go into a coma.

The primary instrument for injection is the hypodermic syringe.

- It consists of a hollow needle, a tube and a plunger.
- Needles vary in size, with the primary variance being the inside diameter of the needle or the gauge.
- A 26 gauge needle is used by a diabetic.
- The greater the number the larger the gauge, the smaller the inside diameter of the needle.
- Most illegal drug users prefer a larger gauge needle.
- The hypodermic marks are smaller and are therefore, less noticeable making it more difficult for the DRE to see them.

The user's equipment is commonly referred to as a "hype kit" or "works."

- The kit contains a "cooker" which is any device such as a bottle cap, a metal spoon or etc., that is used to heat the drug with water to form an injectable solution. Other parts of the "kit" include:
- A handle to hold the "cooker" over the flames.
- Matches, lighters (primarily disposable, adjustable flame types) used to heat the substance in the "cooker."

- A tourniquet, which can be a rubber tubing, a tie, belt, etc. It is tied around the arm, above the injection site, to cause the vein to bulge or rise, thus making it easier to inject.

"Cottons" are the cotton balls or cigarette filters used to "purify" the drug. The user places the "cottons" into their cooker and draws the drug up through the cottons.

- The cottons are saved for later use since they contain some of the drug.

As a DRE, you may be asked in court to describe the difference between a legal and illegal injection site.

- The legal mark is usually intramuscular. Some exceptions would be in an emergency, blood donation or lab tests.

- There may be multiple injections, if the technician is unable to find a vein during the first try.

- Usually there will be only one mark and it will be larger than the typical illegal injection.

- Legal injections are made with new, sterile needles.

The illegal mark is usually over a vein.

- Abbreviated as O/V

- There will usually be multiple marks in various stages of healing. It takes approximately two weeks for a "mark" to totally heal.

- For example, the Heroin addict will inject approximately four to six times each day (every four to six hours). Therefore, they will inject approximately 2,000 times in one year.

- Users frequently use the same needle over and over again. Thus making it become dull or barbed.

Frequently the needles are carried in pockets or socks and the rubbing against clothing causes them to be dull or barbed.

Since the used needles make it more difficult to pierce the skin and vein, the injection sites may be jagged.

- A barbed needle may tear the skin on the way in and on the way out.

- Use of old, dirty and shared needles cause the spread of infections and diseases such as AIDS.

- ALWAYS WEAR PROTECTIVE GLOVES PRIOR TO CONDUCTING THE EXAMINATION.

Users may frequently use the same spot to inject, as an attempt to reduce their likelihood of detection.

The veins may become hard and thick from continuous injections and makes them difficult to find.

- The technical term is "Thrombosed."

Write "Thrombosed" on the dry erase board or flip-chart.

- After about 10 to 20 injections, a large sore forms causing the site to enlarge and bruise. Upon close examination, the site reveals there are numerous puncture wounds in the same area, overlapping each other.

- This is referred to as "tunnel" or "corn."

Write "tunnel" and "corn" on the dry erase board or flip-chart.

Basic Principles of Puncture Healing

The healing is greatly retarded.

Any needle that punctures the skin leaves a scab. A scab is simply a crust formed by the drying of the discharge from the puncture.

Scab is the dried remains of blood, plasma (a cellular, colorless fluid part of the blood), lymph fluid (a thin fluid that bathes all the tissues of the body) and puss (a thick yellowish/greenish fluid that forms at an injection(s) site).

These dried remains fill the gap caused by the puncture of the skin. As the fluids dry they harden (clot and gel).

There are no exact timetables for wounds to heal, but there are some general guidelines.

- Chronic disease, poor nutrition and etc. retard the puncture healing process.

Scabs develop within about 18 – 24 hours after a puncture.

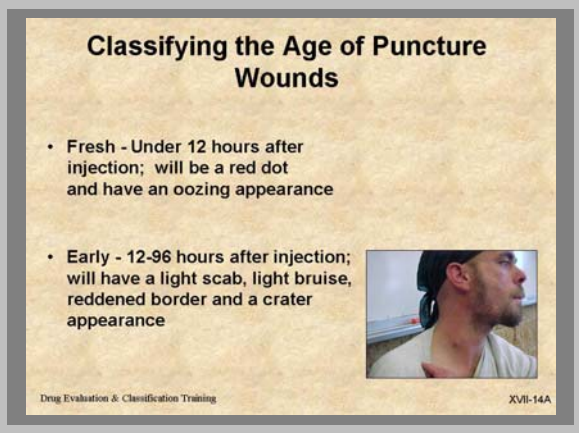
- A general rule: when the scab first forms, it is bright red. With age, the color gets darker and darker.

After about 14 days a scab usually starts to peel or flake and then falls off. The skin under the scab is shriveled and is lighter in color than the surrounding tissue.

- Users sometimes inject under a scab to hide multiple puncture wounds. This is referred to as "trap dooring."

There is no exact science to classifying the age of puncture wounds. Some general guidelines are:

Session 17-14A: Classifying the Age of Puncture Wounds



- Fresh puncture wounds are defined as under 12 hours after injection and will be a red dot and have an oozing appearance or blood crater with no scab formation.

- Early puncture wound is 12 – 96 hours (half day to 4 days) after injection. It will have a light scab, light bruise, reddened border and a crater appearance.

Session 17-14B: Classifying the Age of Puncture Wounds

- Late puncture wound is 5 – 14 days old and will have a dark scab, dark bruise and the crater will flatten.

- Healing puncture wound is over 14 days. The scab will be flaking and falling off with shriveled light colored skin underneath.

<u>*Other Indicators of Injection Sites*</u>

In an attempt to hide puncture wounds, users may inject into tattoos.

Tattoos that are designed to hide puncture wounds are frequently colored and found on the inner arms.

- Tattooing also refers to dark carbon deposits that result from using a flame to "sterilize" a needle. Carbon deposits on the needle are then injected into the skin, causing a tattoo effect.

- A "track" is a hardened part of a vein where numerous injections have been administered. The entire vein becomes scarred and hardened and with time may no longer be able to inject into. The area becomes silvery-blue in color and raised. This is referred to as "silver streaks."

- AS A GENERAL RULE: one inch of tracks indicates that approximately 50 – 100 separate injections have been administered in this area.

G. Expected Location of Injection Marks

Prior to conducting the injection site examination, always remember to wear gloves.

Injection sites may be located anywhere on the subject's body.

Conduct a thorough, slow, methodical examination of the subject's arms beginning with the left.

- Using a magnifying light or "ski light" examine the inner arm as it is extended with the palm facing you.
- Point out that "ski light" is short for schematic light. An ideal light is a 10 power magnification light.
- Beginning at the bicep slowly examine the arm. Document the findings of your examination.
- Ask the subject to contract the arm, grasping their shoulder. Starting at the wrist, slowly examine the arm to the elbow documenting the results.
- This forces the individual's veins to protrude.
- Next examine the outer arm as it is extended palm facing downward. Start the examination at the shoulder moving to the wrist.
- Subject should extend and spread his/her fingers when examining the hands. Examine both sides of the hands, with particular attention to the areas between the fingers, under watch bands and rings.

Conduct the entire procedure for the right side.

Ankles are the next most common injection area.

- Subject should be instructed to remove their shoes and socks to allow the DRE to examine them for puncture wounds.
- The most common area is on the back of the foot.

Subject's sometimes hide hypodermic needles in their socks, shoes and the heel compartments of their shoes.

On a case by case basis, the DRE may need to examine other parts of the body for marks.

- ALWAYS follow your agencies rules, policies and procedures and laws regarding invasive type searches.

H. Conclusion

The injection site examination may reveal evidence of recent use.

- Point out that DREs may want to photograph new or recent injection marks for evidential purposes.

The presence of marks, however, doesn't mean drug influence or impairment at the time of the evaluation.

Conducting an injection mark examination is a skill. As with all skills, such as taking blood pressure, competency improves with practice.

Demonstrations

Video Demonstrations

- Relate behavior/observations to the Symptomatology Chart.

Show video of subject(s) under the influence of Narcotic Analgesics

Drug Evaluations and Classification Exemplar Demonstrations

Refer students to the exemplars found at the end of Section XVII of their manuals.

Point out that the one-page narrative in the example exemplars are not to be construed as the recommended or approved report. The actual narrative report submitted by DREs will be more detailed.

Solicit students' comments or questions concerning Expected Results of the Evaluation.

Session 17-15: Questions

Solicit students' comments and questions concerning the injection site examination.

DRUG INFLUENCE EVALUATION

Evaluator: Karl Nieberlein, Sparks Police Department	DRE #: 6176	Rolling Log #: 10-08-014	**Session XVII-#1**
Recorder/Witness: Sgt. Mac Venzon, Reno PD	Crash: ☒ None ☐ Fatal ☐ Injury ☐ Property		Case # 10-44745
Arrestee's Name (Last, First, Middle): Vaughn, Gerald T.	Date of Birth: 5/14/80	Sex: M / Race: B	Arresting Officer (Name, ID#): Officer Rich Gamwell, Sparks PD #1844
Date Examined / Time /Location: 08/24/10 1805 Washoe Co. Jail	Breath Results: Results: 0.00	Test Refused ☐ Instrument #: 15344	Chemical Test: Urine ☐ Blood ☒ Test or tests refused ☐

Miranda Warning Given: Given By: Ofc. Gamwell	☒ Yes ☐ No	What have you eaten today? When? Nothing N/A	What have you been drinking? How much? Dr. Pepper N/A	Time of last drink? N/A
Time now/ Actual: 7:00 PM/1810	When did you last sleep? How long: Last night 4 hrs.	Are you sick or injured? ☐ Yes ☒ No	Are you diabetic or epileptic? ☐ Yes ☒ No	
Do you take insulin? ☐ Yes ☒ No	Do you have any physical defects? ☐ Yes ☒ No	Are you under the care of a doctor or dentist? ☐ Yes ☒ No		
Are you taking any medication or drugs? ☒ Yes ☐ No "Methadone"	Attitude: Cooperative, passive	Coordination: Relaxed, slow, unstable		
Speech: Low, raspy	Breath Odor: Normal	Face: Normal		
Corrective Lenses: ☒ None ☐ Glasses ☐ Contacts, if so ☐ Hard ☐ Soft	Eyes: ☐ Reddened Conjunctiva ☒ Normal ☐ Bloodshot ☐ Watery	Blindness: ☒ None ☐ Left ☐ Right	Tracking: ☒ Equal ☐ Unequal	
Pupil Size: ☒ Equal ☐ Unequal (explain)	Vertical Nystagmus ☐ Yes ☒ No	Able to follow stimulus ☒ Yes ☐ No	Eyelids ☐ Normal ☒ Droopy	

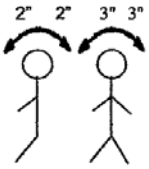
Pulse and time	HGN	Left Eye	Right Eye
1. 56 / 1817	Lack of Smooth Pursuit	No	No
2. 58 / 1825	Maximum Deviation	No	No
3. 58 / 1832	Angle of Onset	None	None

Convergence: Right eye → ← Left eye

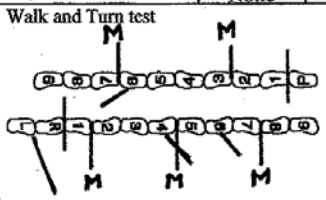
36 ONE LEG STAND 35

	L	R
Sways while balancing	✓	✓
Uses arms to balance	✓	✓
Hopping	☐	☐
Puts foot down	✓	✓

Romberg Balance



Walk and Turn test

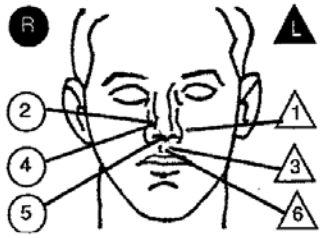


Slow, deliberate steps

	1st Nine	2nd Nine
Cannot keep balance	✓	
Starts too soon		
Stops walking		
Misses heel-toe	✓✓✓	✓✓
Steps off line	✓✓	✓
Raises arms	✓✓	✓
Actual steps taken	9	9

Internal clock: 44 estimated as 30 seconds	Describe Turn: Slow, deliberate	Cannot do test (explain): N/A	Type of footwear: Lace-up boots

Draw lines to spots touched



Slow movements

PUPIL SIZE	Room light 2.5 – 5.0	Darkness 5.0 – 8.5	Direct 2.0 – 4.5
Left Eye	2.0	2.0	2.0
Right Eye	2.0	2.0	2.0

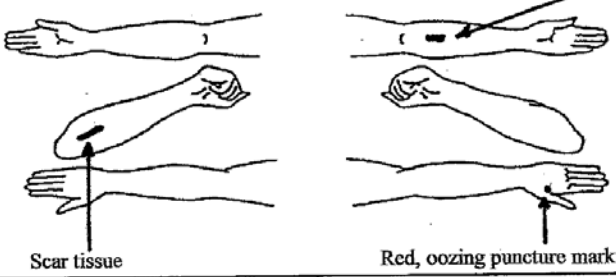
Nasal area: Clear

Oral cavity: Clear

REBOUND DILATION: ☐ Yes ☒ No

REACTION TO LIGHT: None

RIGHT ARM **LEFT ARM**



Blood pressure: 110/64	Temperature: 98.0

Muscle tone: ☐ Normal ☒ Flaccid ☐ Rigid

Comments:

What drugs or medications have you been using? "Just methadone, man"	How much? "The normal"	Time of use? 3PM	Where were the drugs used? (Location) "The clinic
Date / Time of arrest: 08/24/10 1720	Time DRE was notified: 1745	Evaluation start time: 1805	Evaluation completion time: 1900 / Precinct/Station:
Officer's Signature:	DRE #: 6176	Reviewed/approved by / date:	

Opinion of Evaluator: ☐ Rule Out ☐ Alcohol ☐ CNS Stimulant ☐ Dissociative Anesthetic ☐ Inhalant ☐ Medical ☐ CNS Depressant ☐ Hallucinogen ■ Narcotic Analgesic ☐ Cannabis

DRUG INFLUENCE EVALUATION NARRATIVE

Suspect**:** Vaughn, Gerald T.

1. **LOCATION:** The evaluation was conducted at the Washoe County Jail.

2. **WITNESSES:** Sergeant Mac Venzon of the Reno P.D witnessed the evaluation.

3. **BREATH ALCOHOL TEST:** Vaughn's breath test was 0.00%.

4. **NOTIFICATION AND INTERVIEW OF THE ARRESTING OFFICER:** Writer was contacted and requested to contact Officer Gamwell at the Washoe County Jail for a drug evaluation. Officer Gamwell advised the suspect was operating a vehicle reported stolen earlier in the day by Reno PD. After stopping the suspect, Officer Gamwell noted that suspect's speech was slow, slurred and raspy. His coordination was poor and he was licking his lips repeatedly. His pupils were constricted and he performed poorly on the SFST's.

5. **INITIAL OBSERVATION OF SUSPECT:** Writer first observed the suspect in the interview room at the Washoe County Jail. He appeared to be asleep. His eyes were closed, his head kept nodding forward and his breathing was slow. The suspect responded to questions and became more alert as time passed. His voice was raspy and his pupils appeared constricted. He was licking his lips and his movements were slow and deliberate.

6. **MEDICAL PROBLEMS AND TREATMENT:** None noted or stated.

7. **PSYCHOPHYSICAL TESTS:** Romberg Balance: Suspect swayed approximately 2" front to back and 3" side to side. He estimated 30 seconds in 44 seconds. Walk and Turn: Suspect lost his balance during the instructions, missed heel to toe three times on the first nine steps and twice on the return. He also stepped off the line three times and used his arms for balance. One Leg Stand: Suspect counted slowly, swayed and used his arms for balance. He put his foot down once while standing on the left foot and twice when standing on the right foot. Finger to Nose: Suspect missed the tip of his nose with five of the six attempts.

8. **CLINICAL INDICATORS:** Suspect's pulse and blood pressure were below the normal range. His pupils were constricted with no visible reaction to light. His eyelids were droopy.

9. **SIGNS OF INGESTION:** Subject had scar tissue on both his left and right forearms and a fresh oozing puncture wound on the back his left hand. (Photographed).

10. **SUSPECT'S STATEMENTS:** Suspect admitted using Methadone earlier in the day.

11. **DRE'S OPINION:** In my opinion Vaughn is under the influence of a ***Narcotic Analgesic*** and unable to operate a vehicle safely.

12. **TOXICOLOGICAL SAMPLE:** The suspect provided a blood sample.

13. **MISCELLANEOUS:** Rev. 10/10

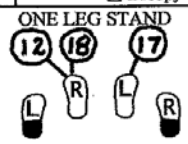
DRUG INFLUENCE EVALUATION

Evaluator: Sr. Trooper Jim Pierce, Oregon State Police	DRE #: 004600	Rolling Log #: 10-017	**Session XVII- #2**
Recorder/Witness: Sgt. Mike Iwai, Oregon State Police	Crash: ☐ None ☐ Fatal ☒ Injury ☐ Property		Case # 10-25250
Arrestee's Name (Last, First, Middle): Bursten, David L	Date of Birth: 4/20/80	Sex: M / Race: W	Arresting Officer (Name, ID#): Officer Darke Hull, Portland Police Bureau #12581
Date Examined / Time /Location: 06/01/10 8:40 pm Central Precinct	Breath Results: Results: 0.00	Test Refused ☐ Instrument #: 21250	Chemical Test: Urine ☒ Blood ☐ Test or tests refused ☐
Miranda Warning Given: ☒ Yes ☐ No Given By: Ofc. Hull	What have you eaten today? Nothing	When? N/A	What have you been drinking? Nothing / How much? N/A / Time of last drink? N/A
Time now/ Actual: Don't know	When did you last sleep? How long: Last night "a few hours"	Are you sick or injured? ☐ Yes ☒ No	Are you diabetic or epileptic? ☐ Yes ☒ No
Do you take insulin? ☐ Yes ☒ No	Do you have any physical defects? ☐ Yes ☒ No		Are you under the care of a doctor or dentist? ☐ Yes ☒ No
Are you taking any medication or drugs? ☐ Yes ☒ No	Attitude: Cooperative		Coordination: Poor, sluggish, stumbling
Speech: Slow and deliberate	Breath Odor: Normal		Face: Normal
Corrective Lenses: ☒ None ☐ Glasses ☐ Contacts, if so ☐ Hard ☐ Soft	Eyes: ☐ Reddened Conjunctiva ☒ Normal ☐ Bloodshot ☐ Watery		Blindness: ☒ None ☐ Left ☐ Right / Tracking: ☒ Equal ☐ Unequal
Pupil Size: ☒ Equal ☐ Unequal (explain)	Vertical Nystagmus ☐ Yes ☒ No		Able to follow stimulus ☒ Yes ☐ No / Eyelids ☐ Normal ☒ Droopy

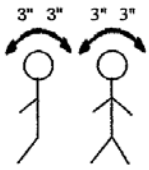
Pulse and time	HGN	Left Eye	Right Eye
1. 58 / 8:50	Lack of Smooth Pursuit	No	No
2. 56 / 9:05	Maximum Deviation	No	No
3. 54 / 9:20	Angle of Onset	None	None

Convergence: Right eye → / Left eye ←

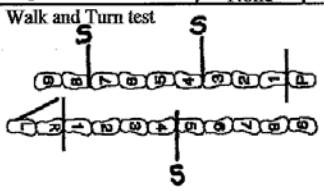
20 ONE LEG STAND 22



Romberg Balance



Walk and Turn test



Walked slowly

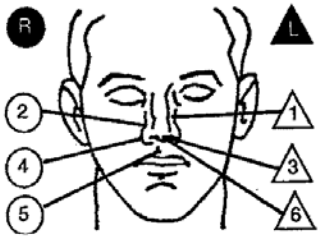
	1st Nine	2nd Nine
Cannot keep balance	✓	
Starts too soon		
Stops walking	✓	✓✓
Misses heel-toe		
Steps off line		
Raises arms	✓✓	✓✓✓
Actual steps taken	9	9

L	R	
✓✓	✓✓	Sways while balancing
☑	✓✓	Uses arms to balance
☐	☐	Hopping
✓✓	☑	Puts foot down

Counted slowly

Internal clock	Describe Turn	Cannot do test (explain)	Type of footwear:
58 estimated as 30 seconds	Lost balance, staggered to the left	N/A	Loafers

Draw lines to spots touched



Slow movements

PUPIL SIZE	Room light 2.5 – 5.0	Darkness 5.0 – 8.5	Direct 2.0 – 4.5
Left Eye	2.0	2.0	2.0
Right Eye	2.0	2.0	2.0

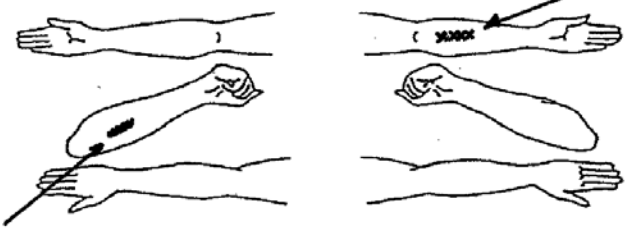
Nasal area: Clear

Oral cavity: Clear

REBOUND DILATION ☐ Yes ☒ No

REACTION TO LIGHT: None visible

RIGHT ARM **LEFT ARM** 4 puncture wounds



Scar tissue

Blood pressure	Temperature
108/60	97.0

Muscle tone: ☐ Normal ☒ Flaccid ☐ Rigid

Comments: Arms and neck very relaxed

What drugs or medications have you been using?	How much?	Time of use?	Where were the drugs used? (Location)
None	Refused	Refused	Refused

Date / Time of arrest:	Time DRE was notified:	Evaluation start time:	Evaluation completion time:	Precinct/Station:
06/01/10 8:05 pm	8:20 pm	8:40 pm	9:50 pm	Central

Officer's Signature: | DRE #: 004600 | Reviewed/approved by / date:

Opinion of Evaluator: ☐ Rule Out ☐ Medical ☐ Alcohol ☐ CNS Depressant ☐ CNS Stimulant ☐ Hallucinogen ☐ Dissociative Anesthetic ■ Narcotic Analgesic ☐ Inhalant ☐ Cannabis

DRUG INFLUENCE EVALUATION NARRATIVE

Suspect**:** Bursten, David L.

1. **LOCATION:** The evaluation was conducted at the PPB Central Traffic Precinct.

2. **WITNESSES:** Sgt Niiya of the Portland Police Bureau witnessed the evaluation.

3. **BREATH ALCOHOL TEST:** Bursten's breath test was 0.00%.

4. **NOTIFICATION AND INTERVIEW OF THE ARRESTING OFFICER:** Writer was contacted and advised to contact Sgt. Niiya and Officer Darke Hull for a drug evaluation. Officer Hull advised the suspect had failed to stop at a red light on N.E. Burnside and struck a pedestrian in the crosswalk. The pedestrian was transported to the hospital in serious condition. Officer Hull noted that the suspect had slow and deliberate movements and his speech was slow, slurred and raspy. He was unable to perform the SFST's as directed and was arrested for DUI.

5. **INITIAL OBSERVATION OF SUSPECT:** Writer first observed the suspect in the interview room at the Central Precinct. He was repeatedly scratching his face and neck. His head kept nodding forward and he appeared to be "on the nod." His voice was raspy, his pupils appeared to be constricted and his eyelids were droopy.

6. **MEDICAL PROBLEMS AND TREATMENT:** None noted or stated.

7. **PSYCHOPHYSICAL TESTS:** Romberg Balance: Suspect swayed approximately 3" in a circular motion and he estimated 30 seconds in 58 seconds. Walk & Turn: Suspect lost his balance during the instructions, stopped while walking once on the first nine steps and twice on the return. He walked very slowly and used his arms for balance. One Leg Stand: Suspect counted slowly, swayed, used his arms for balance and put his foot down. Finger to Nose: Suspect missed the tip of his nose on four of the six attempts.

8. **CLINICAL INDICATORS:** Suspect's blood pressure and temperature were below the normal ranges. His pupils were constricted in two of the three lighting levels.

9. **SIGNS OF INGESTION:** Suspect had scars on his right forearm and fresh puncture wounds on the inside of his left arm. The puncture wounds were photographed.

10. **SUSPECT'S STATEMENTS:** The suspect refused to answer questions about drug use.

11. **DRE'S OPINION:** In my opinion Bursten is under the influence of a ***Narcotic Analgesic*** and unable to operate a vehicle safely.

12. **TOXICOLOGICAL SAMPLE:** The suspect provided a urine sample.

13. **MISCELLANEOUS:**

Rev. 10/10

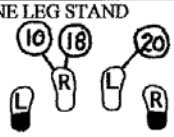
DRUG INFLUENCE EVALUATION

Evaluator: Lt. Tim Tomczak, Raleigh P.D.	DRE #: 9139	Rolling Log #: 10-031	**Session XVII - #3**
Recorder/Witness: Brian Smith, NC DRE State Coordinator	Crash: ☒ None ☐ Fatal ☐ Injury ☐ Property		Case # 10-35125
Arrestee's Name (Last, First, Middle): Sheehan, Thomas	Date of Birth: 5/16/76	Sex: M / Race: W	Arresting Officer (Name, ID#): Sgt. Brandon Craft, North Carolina H.P. #7745
Date Examined / Time /Location: 03/17/10 2210 Raleigh PD Intake	Breath Results: Results: 0.00	Test Refused ☐ Instrument #: 4200	Chemical Test: Urine ☒ Blood ☐ Test or tests refused ☐
Miranda Warning Given: ☒ Yes ☐ No Given By: Sgt. Craft	What have you eaten today? When? "Nothing" "Don't know"	What have you been drinking? How much? "I don't drink"	Time of last drink? N/A
Time now/ Actual: 8 PM/2215 hours	When did you last sleep? How long: This morning 4 hrs.	Are you sick or injured? ☐ Yes ☒ No	Are you diabetic or epileptic? ☐ Yes ☒ No
Do you take insulin? ☐ Yes ☒ No	Do you have any physical defects? ☐ Yes ☒ No	Are you under the care of a doctor or dentist? ☐ Yes ☒ No	
Are you taking any medication or drugs? ☐ Yes ☒ No "I don't take drugs"	Attitude: Sarcastic	Coordination: Slow, stumbling, staggering	
Speech: Slow, raspy	Breath Odor: Normal	Face: Pale	
Corrective Lenses: ☐ None (removed glasses) ☒ Glasses ☐ Contacts, if so ☐ Hard ☐ Soft	Eyes: ☐ Reddened Conjunctiva ☒ Normal ☐ Bloodshot ☐ Watery	Blindness: ☒ None ☐ Left ☐ Right	Tracking: ☒ Equal ☐ Unequal
Pupil Size: ☒ Equal ☐ Unequal (explain)	Vertical Nystagmus ☐ Yes ☒ No	Able to follow stimulus ☒ Yes ☐ No	Eyelids ☐ Normal ☒ Droopy very

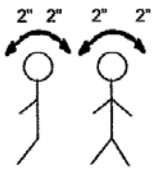
Pulse and time	HGN	Left Eye	Right Eye
1. 60 / 2220	Lack of Smooth Pursuit	No	No
2. 58 / 2235	Maximum Deviation	No	No
3. 58 / 2258	Angle of Onset	None	None

Convergence: Right eye → ← Left eye

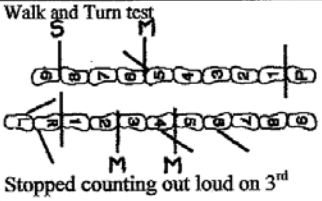
24 ONE LEG STAND 26



Romberg Balance



Walk and Turn test



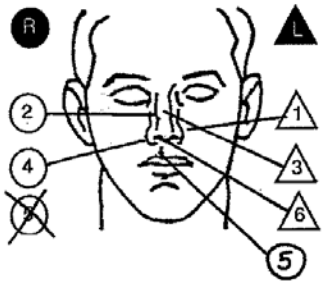
Stopped counting out loud on 3rd step

	1st Nine	2nd Nine
Cannot keep balance	✓✓	
Starts too soon		
Stops walking		✓
Misses heel-toe	✓✓	✓
Steps off line	✓✓	✓
Raises arms	✓	✓✓✓
Actual steps taken	9	9

L	R	
✓✓	☑	Sways while balancing
✓✓	☑	Uses arms to balance
☐	☐	Hopping
✓✓	☑	Puts foot down

Internal clock	Describe Turn	Cannot do test (explain)	Type of footwear:
55 estimated as 30 seconds	As instructed, slow	N/A	Dress shoes

Draw lines to spots touched



PUPIL SIZE	Room light 2.5 – 5.0	Darkness 5.0 – 8.5	Direct 2.0 – 4.5
Left Eye	2.5	3.0	1.5
Right Eye	2.5	3.0	1.5

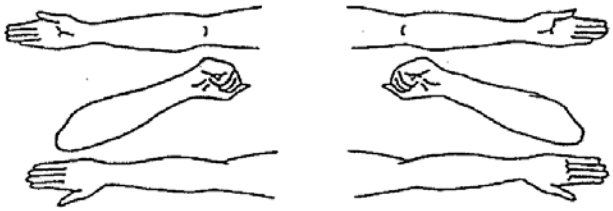
Nasal area: Clear

Oral cavity: Clear

REBOUND DILATION: ☐ Yes ☒ No

REACTION TO LIGHT: Little to none visible

RIGHT ARM / LEFT ARM



None observed

Blood pressure	Temperature
112/64	97.7

Muscle tone: ☐ Normal ☒ Flaccid ☐ Rigid

Comments:

What drugs or medications have you been using?	How much?	Time of use?	Where were the drugs used? (Location)
"Nothing"	"I don't do drugs"	"I didn't"	No answer

Date / Time of arrest:	Time DRE was notified:	Evaluation start time:	Evaluation completion time:	Precinct/Station:
03/17/10 2105	2130	2210	2315	

Officer's Signature: DRE # 9139 Reviewed/approved by / date:

Opinion of Evaluator: ☐ Rule Out ☐ Medical ☐ Alcohol ☐ CNS Depressant ☐ CNS Stimulant ☐ Hallucinogen ☐ Dissociative Anesthetic ■ Narcotic Analgesic ☐ Inhalant ☐ Cannabis

DRUG INFLUENCE EVALUATION NARRATIVE

Suspect**:** Sheehan, Thomas

1. **LOCATION:** The evaluation was conducted at the Raleigh Police Department.

2. **WITNESSES:** The A/O; Sgt. Brandon Craft of the North Carolina Highway Patrol recorded the evaluation. Brian Smith, the N.C. DRE State Coordinator witnessed.

3. **BREATH ALCOHOL TEST:** Sheehan had a 0.00% breath test result.

4. **NOTIFICATION AND INTERVIEW OF THE ARRESTING OFFICER:** Writer was requested to contact Sergeant Craft for a drug evaluation. Sergeant Craft advised the suspect was observed drifting in and out of his traffic lane and driving 20 mph under the posted speed on Highway 64. Sergeant Craft noted the suspect had poor coordination and had slow and deliberate movements. His speech was slow and slurred. His pupils were constricted. He performed poorly on the SFST's and was arrested for DUI.

5. **INITIAL OBSERVATION OF SUSPECT:** Writer first observed the suspect in the interview room at the Raleigh Police Department. He was sitting at the interview table scratching his face and appeared to be "on the nod." His voice was low, slow and raspy. His pupils were constricted and his eyelids were droopy. He stated he was cold.

6. **MEDICAL PROBLEMS AND TREATMENT:** None noted or stated.

7. **PSYCHOPHYSICAL TESTS:** Romberg Balance: Suspect swayed approximately 2" front to back and side to side and estimated 30 seconds in 55 seconds. Walk & Turn: Suspect lost his balance during the instructions, missed heel to toe, stopped walking and used his arms for balance. One Leg Stand: Suspect counted slowly, swayed, used his arms for balance and put his foot down. Finger to Nose: Suspect missed the tip of his nose on five of the six attempts and used the incorrect order as directed

8. **CLINICAL INDICATORS:** Two of the suspect's three pulse rates were below the normal range. His blood pressure was below the normal range. His pupils were constricted in two of the three lighting levels. He had no visible reaction to light.

9. **SIGNS OF INGESTION:** None evident.

10. **SUSPECT'S STATEMENTS:** The suspect denied drug use.

11. **DRE'S OPINION:** In my opinion Sheehan is under the influence of a ***Narcotic Analgesic*** and unable to operate a vehicle safely.

12. **TOXICOLOGICAL SAMPLE:** The suspect provided a urine sample.

13. **MISCELLANEOUS:** An empty container of Vicodin was located in the suspect's vehicle.

Rev. 10/10

TOPICS FOR STUDY

1. What are the two subcategories of Narcotic Analgesics?

   Natural Opiates and Synthetic Opiates

2. What three distinguishing characteristics do all Narcotic Analgesics share?

   They relieve pain, they will produce withdrawal signs and symptoms, and their use will suppress the withdrawal signs and symptoms of chronic morphine administration.

3. Consider this situation: A heroin addict injects what is, for him, a "normal" dose of the drug. One hour later a DRE examines the addict and finds that he is not impaired. What is the most likely explanation for this?

   The addict has developed a tolerance and is using his/her "normal" dose of the drug.

4. What is another, more common, name for the drug called Diacetyl Morphine?

   Heroin

5. What is Methadone?

   A drug used extensively in maintenance programs as a substitute for heroin.

6. An analgesic is a drug that _____?

   Relieves pain

7. What is MPPP?

   Illegally manufactured synthetic analog of Demerol

8. What is Oxycodone?

   A semi-synthetic narcotic prescribed for chronic or long-lasting pain.