2 Hours and 30 Minutes

MID-COURSE REVIEW

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This is an after-normal-class-hours session that students are free to attend or not, but are encouraged to attend. Its principal purpose is to help solidify the knowledge and skills they have begun to acquire, from the Pre-School and from the first four days of the DRE School.

This session must be conducted in a highly interactive fashion. Don't simply present information or conduct demonstrations. Make the students do it. Ask questions, and call upon students to conduct the demonstrations that are required. Try to involve everybody, and convey your gratitude for the fact that they have attended this session.

CONTENT SEGMENTS	LEARNING ACTIVITIES
A. Drugs, Drug Categories and the Drug Influence Evaluation	▪ Instructor / Student Dialogues
B. Eyes and Vital Signs	▪ Student-Led Demonstrations
C. Physiology	
D. Questions and Answers	

I. MID-COURSE REVIEW

Mid Course Review I: Mid-Course Review

A. Drugs, Drug Categories, and the Drug Influence Evaluation

Define the word "drug."

- Any substance that, when taken into the human body, can impair the ability of the person to operate a vehicle safely.

Name the seven drug categories.

- CNS Depressants, CNS Stimulants, Hallucinogens, Dissociative Anesthetics, Narcotic Analgesics, Inhalants, and Cannabis

Name the six subcategories of Depressants.

- Barbiturates, Non-Barbiturates, Anti-Anxiety Tranquilizers, Anti-Depressants, Anti-Psychotic Tranquilizers, and Combinations of the first five

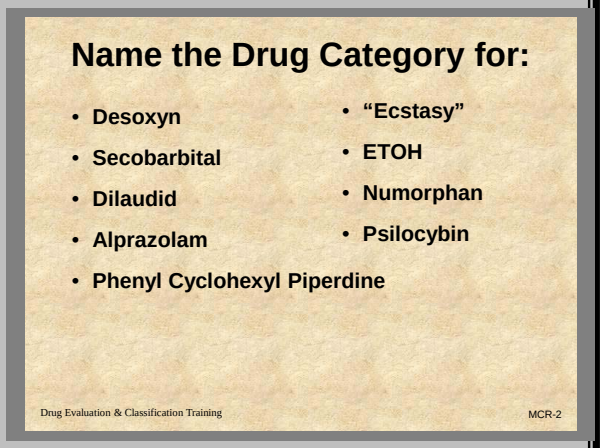
Name three subcategories of CNS Stimulants.

- Cocaine, the Amphetamines, and "Others."

Name two sub-categories of Narcotic Analgesics.

- Opiates and Synthetics

Mid Course Review 2: Name the Drug Category for:



Identify the category for each of the listed drugs:

Desoxyn

- CNS Stimulant

Secobarbital (Seconal)

- CNS Depressant (Barbiturate)

Dilaudid

- Narcotic Analgesic

Alprazolam (Xanax)

- CNS Depressant (Anti-Anxiety)

Phenyl Cyclohexyl Peperdine

- Dissociative Anesthetics

"Ecstasy" (MDMA)

- Hallucinogen

ETOH

- CNS Depressant

Numorphan

- Narcotic Analgesic

Psilocybin

- Hallucinogen

List the twelve components of the Drug Influence Evaluation in the proper sequence.

- Breath Alcohol Test
- Interview of Arresting Officer
- Preliminary Examination
- Eye Examinations
- Divided Attention Tests
- Vital Signs Examinations
- Darkroom Examinations
- Check for Muscle Tone
- Injection Sites Inspection
- Statement of Suspect
- Evaluator's Opinion
- Toxicological Examination

For demonstrations, allow students to refer to the standard Drug Influence Evaluation Form.

Be sure to provide appropriate positive feedback and constructive criticism of the demonstrators' performances.

- Demonstrate the Preliminary Examination.

- Demonstrate the Eye Examinations.

- Demonstrate the Administration of the Divided Attention Tests.

- Demonstrate the Vital Signs Examinations.

- Demonstrate the Darkroom Examinations.

- Demonstrate the Check for Muscle Tone and the inspection for Injection Sites.

Mid Course Review 3: Name the Drug Category for: (cont.)

Identify the category for each of the listed drugs:

Demerol

- Narcotic Analgesic

Adderall

- CNS Stimulant

Chlordiazepoxide

- CNS Depressant

Ketamine

- Dissociative Anesthetics

Percodan

- Narcotic Analgesic

Ritalin

- CNS Stimulant

Isopropanol

- CNS Depressant

Bufotenine

- Hallucinogen

Methaqualone

- CNS Depressant

Mid-Course Review 4: Eyes and Vital Signs Review

B. Eyes and Vital Signs

Name the three clues of Horizontal Gaze Nystagmus.

- Lack of smooth pursuit, distinct and sustained nystagmus at maximum deviation, angle of onset

Demonstrate the check for "Lack of smooth pursuit."

Demonstrate the check for "Distinct and sustained nystagmus at maximum deviation."

- Ask the student demonstrator: How long should the eye be held at maximum deviation? (A minimum of four seconds)

Demonstrate the check for "Angle of Onset."

- Ask the student demonstrator: What is the formula that expresses the approximate relationships between BAC and Angle of Onset? (BAC = 50 – Angle of Onset)

Name the categories of drugs that will cause Horizontal Gaze Nystagmus.

- CNS Depressants, Dissociative Anesthetics, Inhalants

Name the categories that will cause Vertical Gaze Nystagmus.

- CNS Depressants, Dissociative Anesthetics, Inhalants

Demonstrate the check for Vertical Gaze Nystagmus.

Name the test that is always administered immediately after Vertical Gaze Nystagmus.

- Lack of Convergence

Demonstrate the test for Lack of Convergence.

Name the categories of drugs that usually will cause Lack of Convergence.

- CNS Depressants, Dissociative Anesthetics, Inhalants, Cannabis

Name the lighting conditions under which we make estimations of pupil size.

- Room light, near-total darkness, direct light

Demonstrate the room light pupil size estimation procedure.

Demonstrate the near total darkness procedure.

Demonstrate the direct light procedure.

- Ask the student demonstrator: How large should the circle of light appear on the subject's face for the direct-light check? (Approximately the same as the eye socket)

- Ask the student demonstrator: How long should the light be shined directly into the subject's eye? (Fifteen seconds)

Name the other things a DRE looks for while shining the light directly into the subject's eye.

- Pupil reaction to light and rebound dilation

How quickly must the pupil start to constrict if it is considered to exhibit normal reaction to light?

- Within one second

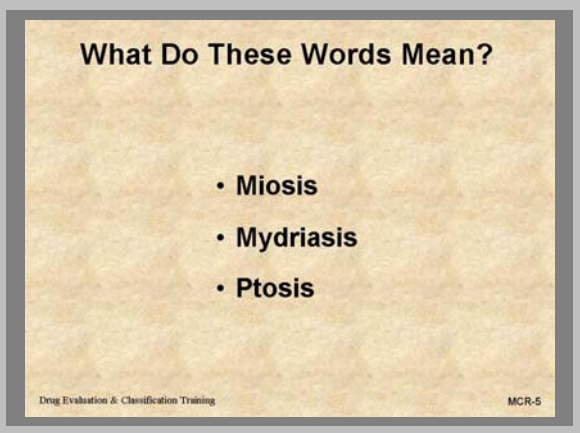
Define Rebound Dilation.

- A period of pupillary constriction followed by a period of pupillary dilation where the pupil steadily increases in size and does not return to its original constricted size.

State the normal ranges of pupil size for the three lighting conditions.

- Room light: 2.5 – 5.0 mm.
- Near Total Darkness: 5.0 – 8.5 mm.
- Direct Light: 2.0 – 4.5 mm.

Mid-Course Review 5: What Do These Words Mean?



Define each of the listed terms:

Miosis

- Abnormally constricted pupils

Mydriasis

- Abnormally dilated pupils

Ptosis

- Droopy eyelids

What categories of drugs will cause dilation of the pupils?

- CNS Stimulants, Hallucinogens, Cannabis (although sometimes only slight dilation, if any)

What categories of drugs will cause constriction?

- Narcotic Analgesics

Mid-Course Review 6: More Drugs to Categorize

Identify the category for each of the listed drugs:

Oxycodone

- Narcotic Analgesic

Halcion

- CNS Depressant

Librium

- CNS Depressant

Peyote

- Hallucinogen

Diazepam

- CNS Depressant

Dexedrine

- CNS Stimulant

Hycodan

- Narcotic Analgesic

Klonopin

- CNS Depressant

Define "Pulse."

- The expansion and relaxation of an artery, generated by the pumping action of the heart.
    - (Also acceptable: the expansion and relaxation of an artery, caused by the surging flow of blood)

Define "Pulse Rate."

- The number of pulsations in an artery per minute

Define "Artery."

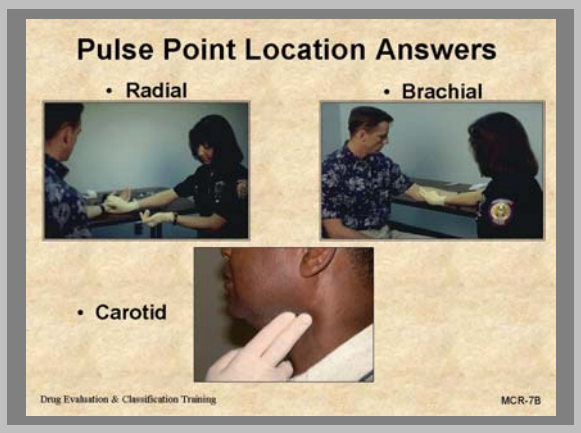
- A strong, elastic blood vessel that carries blood from the heart to the body tissues.

Define "Vein."

- A blood vessel that carries blood back to the heart from the body tissues.

Mid-Course Review 7A: Where Are These Pulse Points Located?

Mid-Course Review 7B: Pulse Point Location Answers



Identify the location of each listed pulse point:

Radial

- In the wrist, at the base of the thumb

Brachial

- In the crook of the arm

Carotid

- In the neck, on either side of the Adam's Apple

Demonstrate a pulse measurement, using the left Radial pulse point.

State the normal range of adult human pulse rate.

60 – 90 beats per minute

Name the drug categories that usually cause elevated pulse rate.

- CNS Stimulants, Hallucinogens, Dissociative Anesthetics, Inhalants, Cannabis

Name the drug categories that usually cause lowered pulse rate.

- CNS Depressants, Narcotic Analgesics

Define "Blood Pressure."

- The force exerted by blood on the walls of the arteries

How often does a person's blood pressure change?

- It is always changing, from instant to instant.

When does the blood pressure reach its highest value?

- When the heart is fully contracted, and blood is sent rushing into the arteries.

When does the blood pressure reach its lowest value?

- When the heart is fully expanded, just before it starts to contract for the next "pumping" action.

Name the two medical instruments that are used to measure blood pressure.

- SPHYGMANOMETER and STETHOSCOPE

Select a student to come to the dry erase board or flip-chart and print "SPHYGMANOMETER" and "STETHOSCOPE."

Name the sounds that we hear through the stethoscope when we make a blood pressure measurement.

- KOROTKOFF SOUNDS

Select a student to come to the dry erase board or flip-chart and print "KOROTKOFF SOUNDS."

What does this "Hg" mean?

- Chemical symbol for the element Mercury; abbreviation for the Latin word Hydrargyrum, meaning "Mercury."

Print "Hg" on the dry erase board or flip-chart

In what units is blood pressure measured?

- Millimeters of Mercury

Print “mm” on the dry erase board or flip-chart, right in front of the “Hg.”

Suppose that, at some particular instant, a person has a blood pressure of 120 mmHg. What does that “120 mmHg” mean?

- It means the pressure would be strong enough to push a column of liquid Mercury up a glass tube to a height of 120 millimeters.
    - If one is available, display a Sphygmanometer that has a liquid mercury pressure gauge.

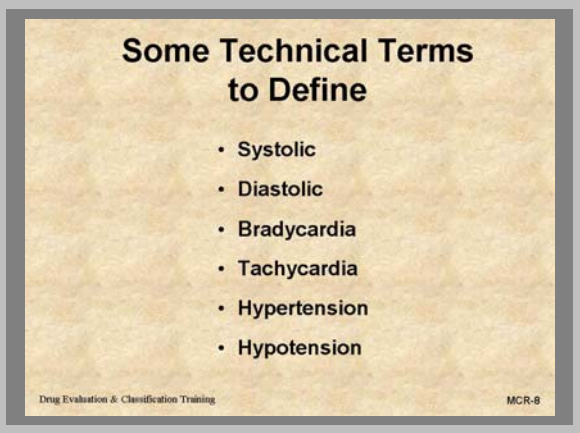
Name the drug categories that usually cause a lowered blood pressure.

- CNS Depressants, Narcotic Analgesics, and the Anesthetic Gases subcategory of Inhalants

Name the drug categories that elevate blood pressure.

- CNS Stimulants, Hallucinogens, Dissociative Anesthetics, Cannabis, and the other two subcategories (Volatile Solvents and Aerosols) of Inhalants

Mid-Course Review 8: Some Technical Terms to Define



State the meaning of each of the listed terms:

Systolic

- The highest value of blood pressure

Diastolic

- The lowest value of blood pressure

Bradycardia

- Abnormally slow heart rate, pulse rate below the normal range

Tachycardia

- Abnormally rapid heart rate, pulse rate above the normal range

Hypertension

- Abnormally high blood pressure

Hypotension

- Abnormally low blood pressure

State the normal range of systolic blood pressure.

- 120 – 140 mmHg

State the normal range of diastolic blood pressure.

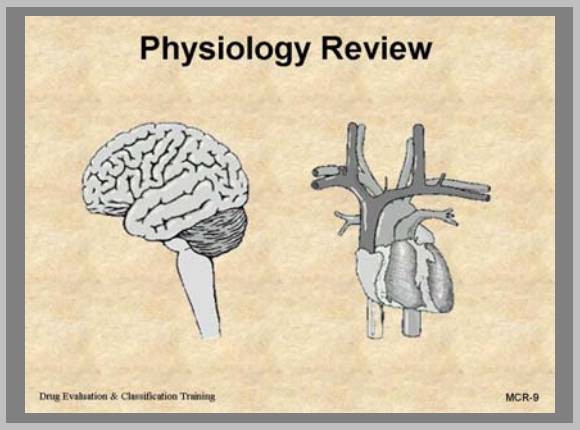
- 70 – 90 mmHg

Demonstrate the measurement of blood pressure.

- Tell the student demonstrator to explain out loud everything he or she does to take blood pressure measurement.

C. Physiology

Mid-Course Review 9: Physiology Review



Define "Physiology."

- Physiology is the branch of biology dealing with the functions and activities of life or living matter and the physical and chemical phenomena involved.

What is the expression we use to remember the names of the ten major body systems.

- MURDERS INC

Select a student to come to the dry erase board of flip-chart, and print "MURDERS INC" vertically.

What is M for?

- Muscular (have a student print out each name)

What is U for?

- Urinary

What is R for?

- Respiratory (or, reproductive)

What is D for?

- Digestive

What is E for?

- Endocrine

What is R for?

- Reproductive (or, respiratory)

What is S for?

- Skeletal

What is I for?

- Integumentary

What is N for?

- Nervous

What is C for?

- Circulatory

State the word that means "dynamic balance involving levels of salts, water, sugars and other materials in the body's fluids."

- Homeostasis

Which artery carries blood from the heart to the lungs?

- Pulmonary

What is unique about the Pulmonary artery, compared to all other arteries?

- It is the only artery that takes blood from the right side of the heart
- It is the only artery that carries deoxygenated blood (i.e., blood that is depleted of oxygen)

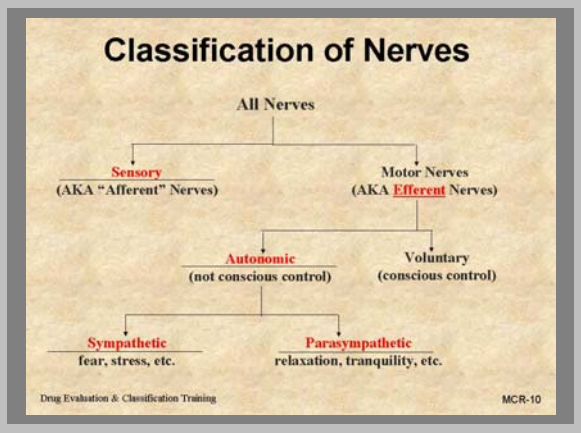
What are the Pulmonary veins?

- The veins that carry blood back to the heart from the lungs

What is unique about the Pulmonary veins?

- They are the only veins that bring blood to the left side of the heart
- They are the only veins that carry oxygenated blood

Mid-Course Review 10: Classification of Nerves



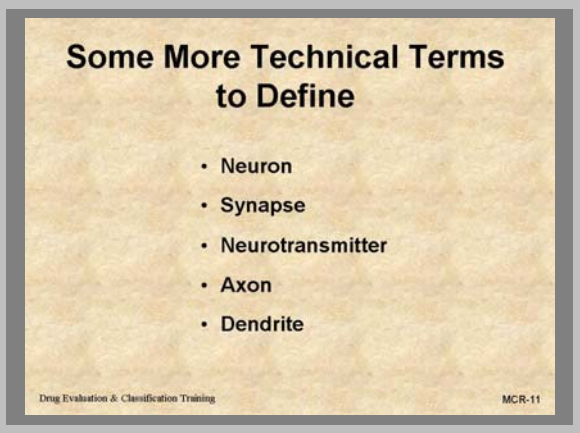
Name the various types of nerves:

Ask students to "fill in" the missing names

- Sensory nerves, carry messages to the brain.
    - Also known as Afferent Nerves
- Motor nerves, carry messages from the brain.
    - Also known as Efferent Nerves
- Voluntary nerves are motor nerves that carry messages to the muscles that we consciously control.
- Autonomic nerves are motor nerves that carry messages to the muscles and organs we do not consciously control.
- Sympathetic nerves are autonomic nerves that carry messages commanding the body to react to fear, stress, excitement, etc.
    - Clarification: Sympathetic nerves carry the brain's "fire alarms" and "wake up calls"

- Parasympathetic nerves are autonomic nerves that carry messages to produce relaxed and tranquil activities.
    - Clarification: Parasympathetic nerves carry the brain's "all clear" and "at ease" messages

Mid-Course Review 11: Some More Technical Terms to Define



Define each of the listed terms:

Neuron

- A nerve cell, the basic "building block" of a nerve

Synapse

- The gap or space between two nerve cells

Neurotransmitter

- A chemical that flows across the synapse, to carry a message from one neuron to the next

Axon

- The end of a neuron that sends out the neurotransmitter

Dendrite

- The end of a neuron that receives the neurotransmitter

D. Questions and Answers

Segment D can last as long as necessary.

Mid-Course Review 12: Questions?

Solicit and answer students' questions about anything covered thus far in their training.