SESSION IX

CENTRAL NERVOUS SYSTEM DEPRESSANTS

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

- Explain a brief history of the CNS Depressant 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 the 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.
- Correctly answer the "topics for study" questions at the end of this session.

A. Overview of CNS Depressants

Central Nervous System Depressants slow down the operations of the brain. They first affect those areas of the brain that control a person's conscious, voluntary actions. As dosage increases, depressants begin to affect the parts of the brain controlling the body's automatic, unconscious processes, such as heartbeat and respiration.

Alcohol is the model for the CNS Depressant category of drugs. Alcohol is the most familiar, and most widely abused, depressant. With some exceptions, all depressants affect people in much the same way as does alcohol.

Some major subcategories of CNS Depressants other than alcohol include:

- Barbiturates
  (Derivatives of Barbiturate Acid)

- Non-Barbiturates
  (Synthetic compounds with a variety of chemical structures)

- Anti-Anxiety Tranquilizers
  (Frequently prescribed and frequently abused)

- Anti-Depressants
  (It may seem to be a contradiction in terms to call a subcategory of Depressants the Anti-Depressants; but in this case, we simply mean that these drugs are prescribed to combat psychological depression. For that reason, the Anti-Depressants are sometimes known as the "mood elevators".)

- Anti-Psychotic Tranquilizers
  (Also known as the "major tranquilizers", to distinguish them from the Anti-Anxiety tranquilizers, or "Minor Tranquilizers".)

- Combinations of the other five subcategories.

Some examples of specific drugs included in each subcategory are given in the table on pages IX-4 and IX-5.

Most users of CNS Depressants ingest these drugs orally. However, although the practice is not common, some Barbiturate abusers inject their drugs intravenously. The injection paraphernalia used by Barbiturate abusers are similar to those used by Heroin addicts, although a larger hypodermic needle is used, because the Barbiturate solution is thicker than the Heroin solution. The injection sites on the skin of a Barbiturate abuser exhibit large swellings, and may develop ulcerations. Necrosis may occur, i.e., a decaying of the body's tissue at the injection site.

EXAMPLES OF CNS DEPRESSANTS

BARBITURATES

Amobarbital
Common trade name: "Amytal"
Common street names: "blues"; "blue heavens"

Amosecobarbital
A combination of amobarbital and secobarbital.
Common trade name: "Tuinal"
Common street names: "rainbows"; "Christmas trees"

Pentobarbital
Common trade name: "Nembutal"
Common street names: "yellows"; "yellow jackets"

Phenobarbital
Many trade names including Luminal
Common street name: "pink ladies"

Secobarbital
Common trade name: "Seconal"
Common street names: "reds"; "red devils"; "RDs"; "fender benders"; "F-40s"

NON-BARBITURATES

Carisoprodol
Trade name: "Soma"

Chloral Hydrate
Common trade names: “Aquachloral”; "Noctec"
Common street names: "Mickey Finn"; "Knock-out Drops"

Diphenhydramine Hydrochloride (DPH)
Common trade names: "Benadryl"; "Sominex"; “Dramamine”

Diphenylhydantoin Sodium
Trade name: "Dilantin", "Phenytoin"

Eszopiclone
Trade name: “Lunesta”

Ethchlorvynol
Trade name: "Placidyl"

Gamma-hydroxybutyrate
Street names: “GHB”; “GBL”; “Liquid X”;“1,4 Butanediol”

Methaqualone
(No longer produced in U.S)
Street name:"Ludes"

Paraldehyde
Trade name: "Paral"

Zolpidem
Common trade names: “Ambien”

ANTI-ANXIETY TRANQUILIZERS

Alprazolam
Trade name: "Xanax"

Chlordiazepoxide
Trade name: "Librium"

Clonazepam
Trade name: “Klonopin”

Diazepam
Trade name: "Valium"

Estazolam
Trade name: "ProSom"

Flunitrazepam
Trade Name: "Rohypnol"
Street names: “Roofies” or “Roches”

Flurazepam
Trade name: "Dalmane"

Lorazepam
Trade name: "Ativan"

Meprobamate
Trade names: “Miltown”; “Probate”

Oxazepam
Trade name: "Serax"

Temazepam
Trade name: "Restoril"

Triazolam
Trade name: "Halcion"

EXAMPLES OF CNS DEPRESSANTS
(CONTINUED)

ANTI-DEPRESSANTS	ANTI-PSYCHOTIC TRANQUILIZERS	COMBINATIONS
Amitriptyline Hydrochloride Common trade names: “Elavil”; “Endep”	Chlorpromazine Trade name: "Thorazine"	Chlordiazepoxide and Amitriptyline Trade name: "Limbitrol"
Bupropion Trade name: “Wellbutrin”	Droperidol Trade name: "Inapsine"	Chlordiazepoxide Hydrochloride and Clidinium Bromide Trade name: "Librax"
Citalopram Trade name: “Celexa”	Lithium Carbonate	Perphenazine and Amitriptyline Common trade names: "Triavil"; “Etrafon”
Desipramine Hydrochloride Common trade names: "Norpramin"; "Pertofrane"	Lithium Citrate	
Doxepin Hydrochloride Common trade names: “Adapin”; “Sinequan”	Haloperidol Trade name: "Haldol"	
Duloxetine Common trade name: "Cymbalta"		
Escitalopram Trade name: “Lexapro”		
Fluoxetine Trade names:“Prozac”; “Sarafem”		
Fluvoxamine Trade name: “Luvox”		
Imipramine Trade name: "Tofranil"		
Paroxetine Trade name: “Paxil”		
Phenelzine Sulfate Trade name: "Nardil"		
Sertraline Trade name: “Zoloft”		
Trazodone Trade name: “Desyrel”		
Venlafaxine Trade name: “Effexor”		

B. Possible Effects of CNS Depressants

Once again, alcohol is the model here. Other depressants generally affect people in much the same way as does alcohol.

- reduced social inhibitions
- divided attention impairment
- slowed reflexes
- impaired judgment and concentration
- impaired vision and coordination
- slurred, mumbled or incoherent speech
- a wide variety of emotional effects, such as euphoria, depression, suicidal tendencies, laughing or crying for no apparent reason, etc.

In general, a person under the influence of a CNS Depressant will look and act as though they were drunk on alcohol.

C. The Onset and Duration of Depressants' Effects

Some CNS Depressants act very quickly, and begin to affect their users within seconds. Others act more slowly, sometimes taking one-half hour or more to begin to exert an influence. The quick acting depressants also tend to be relatively short acting: in some cases their effects wear off in a matter of minutes. The slow acting depressants, on the other hand, tend to produce longer lasting effects.

Depressants fall into four groups, based on how quickly they take effect and how long their effects last.

The Ultra Short Depressants take effect in a matter of seconds, but their effects dissipate in just a few minutes. They are used medically to provide a momentary sedation of a patient, for example to reduce a psychiatrist's patient's anxieties and inhibitions at the beginning of a counseling session. An example of an Ultra Short Depressant is Thiopental (Pentothal), sometimes call "truth serum". Ultra Short Depressants rarely are the drugs of choice for abusers, because their effects don't last long enough to satisfy most abusers.

The Short Depressants are more attractive to drug abusers. They generally take effect within 10-15 minutes, and their effects last approximately four hours. Medical applications of the Short Depressants include treatment of insomnia and sedation of patients prior to surgery. An example of a short depressant is Secobarbital.

Intermediate Depressants may require up to 30 minutes to take effect, but their effects typically last 6-8 hours. They are popular among drug abusers who desire a longer-lasting state of intoxication. The medical applications of Intermediate Depressants are similar to those of Short Depressants. Amobarbital is an example of an Intermediate Depressant.

The drug Tuinal, i.e. two-in-all, straddles the border between short and intermediate depressants. It combines Amobarbital (an intermediate) with Secobarbital (a short). The result is a fairly fast acting drug with fairly prolonged effects.

The Long Depressants generally are not the preferred drugs of abusers. This is because they take too long to start producing effects (typically, about one hour). However, their effects usually last 8-14 hours. Long Depressants are used medically to control epilepsy and other conditions that can cause convulsions. Barbital is an example of a Long Depressant.

D. Signs and Symptoms of Depressant Overdose

Overdoses of CNS Depressants produce effects that are essentially identical to those of alcohol overdoses:

- the person becomes extremely drowsy and may pass out;
- the heartbeat (pulse) will be rapid and weak;
- respiration becomes shallow;
- the skin may feel cold and clammy;
- death may result from respiratory failure.

Combinations of depressants can be especially risky. Unfortunately, many people routinely do combine depressants, usually in the form of alcohol and some other depressant. In some cases, the effects that result may be greater than the sum of the effects that the two drugs would produce independently.

E. Expected Results of the Evaluation

When a person under the influence of CNS Depressants is evaluated by a DRE, the following results can generally be expected:

Horizontal Gaze Nystagmus - present

Vertical Gaze Nystagmus – present, (high dose` for that individual)

Lack of Convergence - present.

Pupil size – normal; however, in the specific cases of Soma, Methaqualone (Quaaludes) and some anti-depressants the pupils will usually be dilated.

Pupil's reaction to light - slow

Pulse rate - will be down; however, with Quaaludes and ETOH and possibly some anti-depressants the pulse rate may be elevated.

Blood Pressure - down

Temperature - normal.

Muscle tone - flaccid
Injection Sites usually will not be found; however, some Barbiturate abusers do inject. Their injection sites often will be swollen, and may appear ulcerated.

General indicators

- disoriented
- droopy eyelids (ptosis)
- drowsiness
- drunk-like behavior
- gait ataxia (lack of coordination)
- slow, sluggish reactions
- thick, slurred speech
- uncoordinated

DRUG INFLUENCE EVALUATION

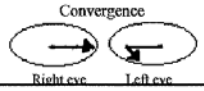
Evaluator PFC David Pacoe, B.C. P.D.	DRE # 5293	Rolling Log # 2073	**Session IX - #1**
Recorder/Witness Lt. Tom Woodward, Maryland SP	Crash: ☒ None ☐ Fatal ☐ Injury ☐ Property		Case # 07-100455
Arrestee's Name (Last, First, Middle) Cockroft, Carolyn L.	Date of Birth 4/21/64	Sex F	Race W	Arresting Officer (Name, ID#) Officer Mike Gregor, MTA P.D. #30125
Date Examined / Time /Location 08-06-10, 0145, Tunnel Command Office	Breath Results: Results: 0.00	Test Refused ☐ Instrument #: 100324	Chemical Test: Urine ☒ Blood ☐ Test or tests refused ☐

Miranda Warning Given Given By: Ofc. Gregor	☒ Yes ☐ No	What have you eaten today? When? Chicken Soup 8 pm	What have you been drinking? How much? Nothing N/A	Time of last drink? N/A

Time now/ Actual Midnight/0215	When did you last sleep? How long Last night/ 6 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 "None of your business"	Attitude: Sullen, With-drawn, non-responsive at times	Coordination: Poor, Stumbling, Staggering	
Speech: Slurred at times	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. 60 / 0222	Lack of Smooth Pursuit	Yes	Yes
2. 58 / 0230	Maximum Deviation	Yes	Yes
3. 58 / 0244	Angle of Onset	35	35

Convergence

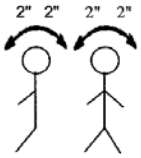


Right eye Left eye

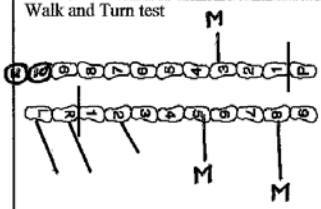
26 ONE LEG STAND 28

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

Romberg Balance



Walk and Turn test

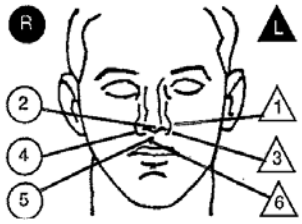


Took two extra steps at end

	1st Nine	2nd Nine
Cannot keep balance	✓	
Starts too soon	✓	
Stops walking		
Misses heel-toe	✓✓	✓
Steps off line	✓	
Raises arms	✓✓	✓
Actual steps taken	9	11

Internal clock 46 estimated as 30 seconds	Describe Turn Lost balance	Cannot do test (explain) N/A	Type of footwear: Loafers

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	4.0	6.0	3.5
Right Eye	4.0	6.0	3.5

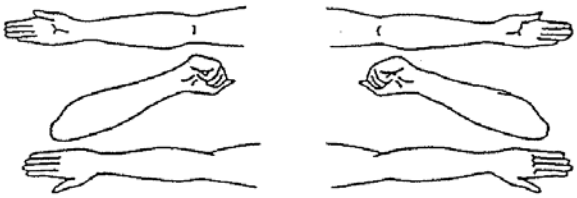
Nasal area: Clear

Oral cavity: Clear

REBOUND DILATION ☐ Yes ☒ No

REACTION TO LIGHT: Slow

RIGHT ARM **LEFT ARM**



Nothing observed

Blood pressure 110/70	Temperature 98.2

Muscle tone: ☐ Normal ☒ Flaccid ☐ Rigid

Comments:

What drugs or medications have you been using? "I told you, it's none of your business"	How much? No response	Time of use? No response	Where were the drugs used? (Location) No response

Date / Time of arrest: 08/06/10 0115	Time DRE was notified: 0140	Evaluation start time: 0145	Evaluation completion time: 0300	Precinct/Station: Tunnel Station
Officer's Signature:	DRE # 5293	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: Cockroft, Carolyn

1. LOCATION: The evaluation was conducted at Tunnel Command Processing Room at the Maryland Transportation Authority Police Department.

2. WITNESSES: Arresting Officer Mike Gregor of the Maryland Transportation Authority P.D and Sgt. Tom Woodward of the Maryland State Police.

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

4. NOTIFICATION AND INTERVIEW OF THE ARRESTING OFFICER: Writer was notified that Officer Gregor had arrested a subject for DUI and was requesting a drug evaluation. Writer contacted Officer Gregor at the M.T.A. Tunnel Command office where it was determined that the suspect had been observed driving at 30 MPH on I-95 near the tunnel. When contacted, the suspect appeared dazed and disoriented. She was unable to perform the roadside SFST's as directed and was arrested for DUI.

5. INITIAL OBSERVATION OF SUSPECT: Writer first observed the suspect in the Processing Room. She was quiet, withdrawn and slow to respond to questions. When she would try to walk, she would stumble and several times nearly fell.

6. MEDICAL PROBLEMS AND TREATMENT: None observed or stated.

7. PSYCHOPHYSICAL TESTS: Romberg Balance: The suspect exhibited a 2" front to back and side to side sway. She estimated 30 seconds in 46 seconds. Walk and Turn: The suspect lost her balance during the instructions, started too soon, stepped off the line, missed heel to toe, raised her arms for balance, staggered to the right while turning and took two extra steps returning back down the line. One Leg Stand: The suspect swayed, raised her arms for balance, hopped and put her foot down. Finger to Nose: The suspect missed the tip of her nose on all six attempts.

8. CLINICAL INDICATORS: The suspect exhibited six clues of HGN and a Lack of Convergence. Two of her pulse readings were below the normal range and her Systolic blood pressure was below the normal range.

9. SIGNS OF INGESTION: None were evident.

10. SUSPECT'S STATEMENTS: The suspect admitted taking "some medicine" her brother gave her. She also stated she did not know what the medicine was.

11. DRE'S OPINION: In my opinion Cockroft is under the influence of a CNS Depressant and unable to operate a vehicle safely.

12. TOXICOLOGICAL SAMPLE: The suspect provided a urine sample for analysis.

13. MISCELLANEOUS:

DRUG INFLUENCE EVALUATION

Evaluator: Officer Jason Craven, California H.P.	DRE #: 4480	Rolling Log #: 07-28	**Session IX - #2**
Recorder/Witness: Officer Travis Herbert, CHP	Crash: ☒ None ☐ Fatal ☐ Injury ☐ Property		Case # 07-445690
Arrestee's Name (Last, First, Middle): Henry, Michael James	Date of Birth: 3/11/70	Sex: M / Race: W	Arresting Officer (Name, ID#): Sgt. Helena Williams, CHP #113408
Date Examined / Time /Location: 09-06-10, 2110 hours, W. Sacramento	Breath Results: Results: 0.00	Test Refused ☐ Instrument #: 200548	Chemical Test: Urine ☒ Blood ☐ Test or tests refused ☐

Miranda Warning Given ☒ Yes ☐ No Given By: Sgt. Williams	What have you eaten today? When? Cheeseburger 10	What have you been drinking? Nothing	How much? N/A	Time of last drink? N/A
Time now/ Actual: 10 pm / 2115	When did you last sleep? How long: Last night / 8 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 Doctor for Stress		
Are you taking any medication or drugs? ☒ Yes ☐ No "Just Xanax"	Attitude: Withdrawn, Cooperative	Coordination: Poor, Slow, Sluggish		
Speech: Slurred, thick at times	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:
1. 62 / 2130
2. 62 / 2142
3. 58 / 2200

HGN	Left Eye	Right Eye
Lack of Smooth Pursuit	Yes	Yes
Maximum Deviation	Yes	Yes
Angle of Onset	40	40

Convergence: Right eye / Left eye

29 ONE LEG STAND 27

Romberg Balance: 3" 3" 0" 0"

Walk and turn test

	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

Slow, rubber legged walk

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

Internal clock: 50 estimated as 30 seconds	Describe Turn: Lost balance	Cannot do test (explain): N/A	Type of footwear: Lace up boots

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	4.5	6.5	3.5
Right Eye	4.5	6.5	3.5

Nasal area: Clear

Oral cavity: Clear

REBOUND DILATION ☐ Yes ☒ No

REACTION TO LIGHT: Slow

RIGHT ARM / LEFT ARM

Nothing observed

Blood pressure: 106/66	Temperature: 98.6

Muscle tone: ☐ Normal ☒ Flaccid ☐ Rigid

Comments:

What drugs or medications have you been using? Xanax	How much? A couple	Time of use? 6 pm	Where were the drugs used? (Location) McDonald's
Date / Time of arrest: 09/06/10 2015	Time DRE was notified: 2050	Evaluation start time: 2110	Evaluation completion time: 2210 / Precinct/Station: West Sac
Officer's Signature:	DRE #: 4480	Reviewed/approved by / date:	

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

Revised. 10/10

DRUG INFLUENCE EVALUATION NARRATIVE

Suspect: Henry, Michael J.

1. **LOCATION:** The evaluation took place at the West Sacramento CHP office.

2. **WITNESSES:** Arresting Officer, Sergeant Helena Williams and Officer Travis Herbert, CHP.

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

4. **NOTIFICATION AND INTERVIEW OF THE ARRESTING OFFICER:** Writer was requested to conduct a drug evaluation for Sergeant Williams at the West Sacramento CHP office. Sergeant Williams advised that she had located the suspect slumped over in the driver's seat of a vehicle stopped in the S/B traffic lane of S.R. 99. Sergeant Williams further advised that the suspect appeared to be impaired and performed poorly on the SFST's.

5. **INITIAL OBSERVATION OF SUSPECT:** Writer first observed the suspect in a slumped position in a chair next to the interview room desk. The suspect was mumbling, had thick, slurred speech and was slow to respond to questions.

6. **MEDICAL PROBLEMS AND TREATMENT:** The suspect stated he was under the care of a doctor for stress.

7. **PSYCHOPHYSICAL TESTS:** Romberg Balance: The suspect swayed approximately 3" front to back and estimated 30 seconds in 50 seconds. Walk and Turn: The suspect lost his balance twice during the instructions, stepped off the line, missed heel to toe three times, raised his arms for balance and lost his balance while turning. One Leg Stand: Suspect swayed, raised his arms and put his foot down once while standing on the left foot and twice while standing on the right foot. Finger to Nose: Suspect missed the tip of his nose on each attempt.

8. **CLINICAL INDICATORS:** Henry exhibited HGN and a Lack of Convergence. One of his pulse rates was below the normal range. His blood pressure was below the normal range.

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

10. **SUSPECT'S STATEMENTS:** The suspect admitted taking Xanax. He stated he takes the Xanax three times a day for stress.

11. **DRE'S OPINION:** In my opinion Henry is under the influence of a CNS Depressant and was unable to operate a vehicle safely.

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

13. **MISCELLANEOUS:** The suspect voluntarily produced a pill bottle containing his Xanax pills. The prescription for 30 pills had been filled two days earlier. There were only 12 pills remaining in the bottle.

Rev. 10/10

Topics for Study

1. Name the six major subcategories of CNS Depressants.

2. Name the four groups of Depressants based on onset and duration time factors.

3. To which subcategory of Depressants does Thorazine belong? To which subcategory does Chloral Hydrate belong? To which subcategory does Xanax belong?

4. Name a CNS Depressant that usually causes the pupils to dilate.

5. What is the generic name for the drug that has the trade name "Prozac"?

6. What is a trade name for the generic drug "Alprazolam"?

7. What is the name of the subcategory of CNS Depressants that is also known as the "Minor Tranquilizers"?