**OFFICE OF THE MEDICAL EXAMINER**
**FLORIDA, DISTRICTS 7 & 24**
**VOLUSIA & SEMINOLE COUNTIES**
**1360 INDIAN LAKE ROAD, DAYTONA BEACH, FL 32124-1001**
**(386) 258-4060**

# MEDICAL EXAMINER REPORT

| | | | |
|---|---|---|---|
| Name | **Forte, Monique Olivia** | Medical Examiner # | **10-07-278** |
| Date of Birth | July 17, 1966 | Date of Death (Found) | May 22, 2010 |
| Age | 43 Years | County | Volusia |
| Race | White | Date of Exam | May 23, 2010 |
| Sex | Female | Time of Exam | 1000 Hours |

## FINAL DIAGNOSES AND FINDINGS

I. Intra-pericardial Aortic Tear, Dissection and Rupture
   A. Hemopericardium, 400 milliliters
   B. Recent cocaine abuse

II. Cardiomegaly
   A. Heart weight, 500 grams, with left ventricular hypertrophy

III. Gastritis and Duodenitis, Marked

IV. Thyroid Adenoma

V. Scoliosis

| | |
|---|---|
| Cause of Death: | Hemorrhagic Cardiac Tamponade |
| Due To: | Intra-pericardial, Aortic Rupture |
| Due To: | Recent Cocaine Abuse |
| Other Significant Condition(s): | Cardiomegaly |
| Manner of Death: | Accident |
| How Incident Occurred: | Cocaine abuse |

XC: State Attorney's Office
Volusia County Sheriff's Office

Marie A. Herrmann MD Date: 8/5/10

Marie A. Herrmann, M. D.
Chief Medical Examiner

**Name** **Forte, Monique Olivia** **ME #** **10-07-278**

# MEDICAL EXAMINER REPORT
## REPORT OF AUTOPSY

## OFFICIALS PRESENT AT EXAMINATION

None.

## EXTERNAL EXAMINATION

The body is viewed unclothed. There is no jewelry.

The body is that of a well developed, well nourished, white woman appearing the offered age of 43 years. The body measures 67 inches in length and weighs 142 pounds. The body mass index is 23.

The unembalmed body is well preserved and cool to touch due to refrigeration. Rigor mortis is fully developed in the major muscle groups. Livor mortis is fixed posteriorly except over pressure points.

The scalp hair is blonde and measures up to 12 centimeters in length. The irides are green and the pupils are equal, each measuring 0.5 centimeter in diameter. The corneae are clear and the sclerae and conjunctivae have no petechiae or other abnormalities. The nasal bones are intact by palpation. The nares are patent and contain no foreign matter. The natural teeth are in good repair. The frenulum is intact. The mucosa and tongue are free of injuries. The external ears have no injuries. There are bilateral cosmetic earlobe piercings and bilateral earlobe creases.

The symmetrical neck has no masses or injuries. The trachea is in the midline.

The shoulders are symmetrical and are free of trauma.

The chest is symmetrical and has no scars. The breasts have no palpable masses. The flat abdomen has no scars or injuries. The back is symmetrical and has no injuries.

The genitalia are those of a normally developed adult woman. There is no evidence of injury. The anus is unremarkable.

The upper extremities are symmetrical and have no injuries and no distinctive type scars of intravenous narcotism or hesitation marks. The fingernails are of medium length and clean, and covered in a French-style polish.

The lower extremities are symmetrical. The toenails are long and clean, covered with pink polish. There is no edema of the legs or ankles.

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# MEDICAL EXAMINER REPORT
## REPORT OF AUTOPSY

Passive motion of the neck, shoulders, elbows, wrists, fingers, hips and ankles fails to elicit any bony crepitus or abnormal motion.

**EVIDENCE OF INJURY**

The right side of the upper portion of the chest has a yellow-pink contusion measuring 3 by 2 centimeters.

The medial aspect of the left breast has a small contusion.

**EVIDENCE OF RECENT MEDICAL TREATMENT**

There is an endotracheal tube in the mouth. It is secured in place and is properly positioned in the airway. There is a gastric tube in the nose. It passes into the stomach. There is a urinary catheter in the urethra. There are defibrillator pads on the right upper and left lower portions of the chest. There are intravenous catheters in the left antecubital fossa and posterior aspect of the right forearm.

**EVIDENCE OF ORGAN AND/OR TISSUE DONATION**

None.

**OTHER IDENTIFYING FEATURES**

There are identification bands on both ankles and the right wrist.

There are no scars, tattoos or other distinguishing features.

**INTERNAL EXAMINATION: The following excludes any previously described injuries.**

**BODY CAVITIES**

The muscles of the chest and abdominal wall are normal in color and consistency. The lungs are inflated and collapse when the pleural cavities are opened. The ribs, sternum and spine exhibit no fractures. The right and left pleural cavities have a small amount of clear fluid and no adhesions. The mediastinum is in the midline. The pericardial sac is distended with 400 milliliters of dark red liquid blood and soft postmortem clot. The diaphragm has no abnormality. The subcutaneous abdominal fat measures 2.5 centimeters in thickness at the umbilicus. The abdominal cavity is lined with glistening serosa and has no collections of free

**Name** **Forte, Monique** **ME #** **10-07-278**

## MEDICAL EXAMINER REPORT
### REPORT OF AUTOPSY

fluid. The organs are normally situated and congested. The mesentery and omentum are unremarkable.

**NECK**

The soft tissues and the strap muscles of the neck have no hemorrhage. The hyoid bone and the cartilages of the larynx and thyroid are intact and show no evidence of injury. The larynx and trachea are lined by smooth pink-tan mucosa, are patent and contain no foreign matter. The epiglottis and vocal cords are unremarkable. The cervical vertebral column is intact. The carotid arteries and jugular veins are unremarkable.

**CARDIOVASCULAR SYSTEM**

The heart weighs 500 grams (expected heart weight for body weight is 184 - 395 grams). The epicardial surface has a normal amount of glistening, yellow adipose tissue. The heart is of the usual configuration. The circumferences of the valves are within normal range. The endocardium is tan. The valvular tissues are thin and pliable. The mural and valvular endocardia have no vegetations or thrombi. The papillary muscles and projecting myocardial muscle bundles are of normal prominence. The chordae tendineae have no abnormalities. The coronary ostia are in their usual location and give rise to normally distributed arteries. The coronary circulation is right dominant with the posterior descending arising from the right coronary artery. The major coronary arteries are free of atherosclerosis. The cut surfaces of the red-brown myocardium have no hemorrhage, necrosis or scars. The right ventricle measures 0.5 centimeter in thickness. The septum and the anterior, lateral and posterior free walls of the left ventricle measure 2.2 centimeters in thickness.

The pulmonary trunk and arteries have no thromboemboli.

The intimal surface of the aorta has a tear, measuring 1 centimeter in length, just above the right coronary ostium. Blood dissects along the adventitia of the aorta to the proximal portion of the descending aorta and along the proximal portions of the arch vessels. There is a portion of the dissected blood that is a firmer well-formed fibrin clot at the root of the aorta and near the pericardial reflection. The intimal tear extends through the full thickness of the aorta and there are 400 milliliters of blood and clot within the pericardial sac.

The intimal surface of the aorta has mild atherosclerosis. The ostia of the major branches are of normal distribution and dimension. The inferior vena cava and tributaries have no antemortem clots.

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# MEDICAL EXAMINER REPORT
## REPORT OF AUTOPSY

### RESPIRATORY SYSTEM

The lungs weigh 660 grams and 620 grams, right and left, respectively. There is a small amount of subpleural anthracotic pigment within all lobes. The pleural surfaces are thin and free of exudates. The trachea and bronchi are lined by smooth tan epithelium. The cut surfaces of the lungs are red and have mild edema. The lung parenchyma is of the usual consistency and is congested. No neoplasms are seen. There is no bronchopneumonia, consolidation, fibrosis or calcification.

### HEPATOBILIARY SYSTEM

The liver weighs 2250 grams. The liver edge is sharp. The capsule is intact. The cut surfaces are red-brown and of normal consistency. There are no focal lesions. The gallbladder contains approximately 50 milliliters of dark green bile. There are no stones. The mucosa is unremarkable. The large bile ducts are patent and non-dilated.

### HEMOLYMPHATIC SYSTEM

The thymus is largely replaced by fat. The spleen weighs 130 grams. The capsule is smooth, shiny and intact. The cut surfaces are dark red, firm and congested. The lymphoid tissue in the spleen is within a normal range. The lymph nodes throughout the body are not enlarged.

### GASTROINTESTINAL SYSTEM

The esophagus is empty and the mucosa is unremarkable. The stomach contains an estimated 500 milliliters of red-brown fluid with brown granules. The gastric and duodenal mucosae have intense, hemorrhagic inflammation without ulceration. The duodenum contains bile-stained fluid. The remaining gastrointestinal tract has no major alterations to external inspection and palpation. The vermiform appendix is identified. The tan, lobulated pancreas has no neoplasia, calcification or hemorrhage.

### UROGENITAL SYSTEM

The kidneys are of similar size and shape and weigh 160 grams and 200 grams, right and left, respectively. The capsules are intact and strip with ease. The cortical surfaces are lobulated, smooth and red-brown. The cut surfaces reveal a well-defined corticomedullary junction. There are no structural abnormalities of the medulla, calyx or pelvis. The ureters are slender and patent. The urinary bladder is empty. The mucosa is unremarkable.

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# MEDICAL EXAMINER REPORT
## REPORT OF AUTOPSY

The vagina is normally wrinkled and contains no foreign matter. The uterus, Fallopian tubes and ovaries are unremarkable.

**ENDOCRINE SYSTEM**

The adrenal glands have a normal configuration with the golden yellow cortices well demarcated from the underlying medullae. The right lobe of the thyroid has a well-circumscribed, tan nodule (comment: adenoma). The remainder of the thyroid parenchyma is maroon and gelatinous. The pituitary gland is unremarkable.

**MUSCULOSKELETAL SYSTEM**

The ribs, sternum, clavicles, pelvis and vertebral column have no recent fractures. There is marked thoracolumbar scoliosis. The muscles are normally formed.

**CENTRAL NERVOUS SYSTEM**

The scalp has no hemorrhage or contusions. The calvarium is intact. There is no epidural, subdural or subarachnoid hemorrhage. The brain is of a normal convolutional pattern and weighs 1500 grams. The meninges are clear. The cortical surfaces of the brain have edema. There is no uncal or tonsillar herniation. The cerebral arteries are free of atherosclerosis and patent. The cut surfaces of the brain have normal relations of grey and white matter. There are no intraparenchymal hemorrhages or evidence of neoplasm. There are no fractures of the base of the skull. The dura mater is free of stains and discolorations. The spinal cord is not examined.

**MICROSCOPIC EXAMINATION:** Three slides examined on June 8, 2010.

HEART: Myocyte hypertrophy; mild perivascular myocyte replacement fibrosis.

LUNGS: Acute vascular congestion; interstitial anthracosis; macrophages containing tan-grey pigment observed in some alveoli.

LIVER: No diagnostic abnormality.

KIDNEY: Mild arterial and arteriolar nephroglomerulosclerosis.

**TOXICOLOGY:** See separate report from NMS Laboratories.

MAH End of Report

NMS LABS

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Robert A. Middleberg, PhD, DABFT, DABCC-TC, Laboratory Director

CONFIDENTIAL

@ 6-4-10

# Toxicology Report

**Report Issued** 06/03/2010 12:00

**To:** **10277**
Volusia County Medical Examiner Office
Attn: Teri Hanans
1360 Indian Lake Road
Daytona Beach, FL 32124

| | |
|---|---|
| **Patient Name** | FORTE, MONIQUE |
| **Patient ID** | 10-07-278 |
| **Chain** | 11169830 |
| **Age** | 43 Y |
| **Gender** | Female |
| **Workorder** | 10122476 |



## Positive Findings:

| Compound | Result | Units | Matrix Source |
|---|---|---|---|
| **Caffeine** | **Positive** | **mcg/mL** | **Peripheral Blood** |
| **Cotinine** | **Positive** | **ng/mL** | **Peripheral Blood** |
| **Ibuprofen** | **Positive** | **mcg/mL** | **Peripheral Blood** |
| **Acetaminophen** | **10** | **mcg/mL** | **Peripheral Blood** |
| **Benzoylecgonine** | **720** | **ng/mL** | **Peripheral Blood** |
| **Propoxyphene** | **0.10** | **mcg/mL** | **Peripheral Blood** |
| **Norpropoxyphene** | **0.15** | **mcg/mL** | **Peripheral Blood** |
| **Atropine** | **97** | **ng/mL** | **Peripheral Blood** |
| **Naproxen** | **20** | **mcg/mL** | **Peripheral Blood** |
| **Sertraline** | **170** | **ng/mL** | **Peripheral Blood** |
| **Cocaine / Metabolites** | **Presump Pos** | **ng/mL** | **Urine** |
| **Propoxyphene** | **Presump Pos** | **ng/mL** | **Urine** |

See Detailed Findings section for additional information

## Testing Requested:

| Analysis Code | Description |
|---|---|
| 8050U | Postmortem Toxicology - Urine Screen Add-on (6-MAM Quantification only) |
| 8052B | Postmortem Toxicology - Expanded, Blood |

## Specimens Received:

| ID | Tube/Container | Volume/ Mass | Collection Date/Time | Matrix Source | Miscellaneous Information |
|---|---|---|---|---|---|
| 001 | Gray Top Tube | 8.5 mL | 05/23/2010 10:00 | Peripheral Blood | |
| 002 | Gray Top Tube | 8.5 mL | 05/23/2010 10:00 | Peripheral Blood | |
| 003 | Clear Plastic Container | 4 mL | 05/23/2010 10:00 | Urine | |

All sample volumes/weights are approximations.

Specimens received on 05/27/2010.

ORIG. TO MH
COPY TO RB V.7
DATE 6-7-10

## Detailed Findings:

| Analysis and Comments | Result | Units | Rpt. Limit | Specimen Source | Analysis By |
|---|---|---|---|---|---|
| Caffeine | Positive | mcg/mL | 0.10 | 001 - Peripheral Blood | GC/MS |
| Cotinine | Positive | ng/mL | 12 | 001 - Peripheral Blood | GC/MS |
| Ibuprofen | Positive | mcg/mL | 10 | 001 - Peripheral Blood | GC/MS |
| Acetaminophen | 10 | mcg/mL | 0.50 | 001 - Peripheral Blood | HPLC |
| Benzoylecgonine | 720 | ng/mL | 50 | 001 - Peripheral Blood | GC/MS |
| Propoxyphene | 0.10 | mcg/mL | 0.10 | 001 - Peripheral Blood | GC/MS |
| Norpropoxyphene | 0.15 | mcg/mL | 0.10 | 001 - Peripheral Blood | GC/MS |
| Atropine | 97 | ng/mL | 0.40 | 001 - Peripheral Blood | LC-MS/MS |
| Naproxen | 20 | mcg/mL | 0.30 | 001 - Peripheral Blood | HPLC |
| Sertraline | 170 | ng/mL | 1.0 | 001 - Peripheral Blood | GC |
| Cocaine / Metabolites | Presump Pos | ng/mL | 300 | 003 - Urine | EIA |
| This test is an unconfirmed screen. Confirmation by a more definitive technique such as GC/MS is recommended. | | | | | |
| Propoxyphene | Presump Pos | ng/mL | 300 | 003 - Urine | EIA |
| This test is an unconfirmed screen. Confirmation by a more definitive technique such as GC/MS is recommended. | | | | | |

**Other than the above findings, examination of the specimen(s) submitted did not reveal any positive findings of toxicological significance by procedures outlined in the accompanying Analysis Summary.**

## Reference Comments:

1. Acetaminophen (Tylenol®) - Peripheral Blood:

   Acetaminophen is an over the counter analgesic with antipyretic properties; however, it has no anti-inflammatory actions. It may be found both alone and in combinations with other substances such as codeine, hydrocodone, tramadol, butalbital, and propoxyphene. It appears to be a relatively safe substance when used in analgesic amounts; however, it frequently produces acute hepatic necrosis after overdose.

   The generally accepted therapeutic range of acetaminophen is 10 - 20 mcg/mL of plasma; however, there are considerable individual differences in plasma concentrations.

   Symptoms of acetaminophen overdose usually are not seen immediately but are reflected in hepatic damage after 1/2 to 6 days with concentrations of 120 mcg/mL and above. A reported range of blood levels in individuals succumbing to acetaminophen overdose ranged from 160 - 390 mcg/mL.

2. Atropine (d,l-Hyoscyamine) - Peripheral Blood:

   Atropine is an anticholinergic alkaloid used in pre-anesthetic therapy to control airway secretions and as an antispasmodic to control gastrointestinal spasms. It is frequently used as an antidote in the treatment of anticholinesterase-type pesticides. It can be obtained naturally from deadly nightshade or jimson weed. Atropine is also used in resuscitative attempts.

   Following a single IM 1.0 mg dose of atropine, peak plasma concentrations of approximately 3 ng/mL were attained in 30 min.

   Toxic effects of atropine have considerable individual variation; however, at high doses, signs and symptoms include mydriasis, hot dry reddened skin, delirium and hallucinations. Death has been reported with a concentration of 200 ng/mL in blood and 1500 ng/mL in urine.

   In resuscitative failure, most of the administered drug remains confined to the intravascular injection pathway. Often the drug is still present in the postmortem blood collected from the heart sampled at autopsy.

**Reference Comments:**

3. Benzoylecgonine (Cocaine Degradation Product) - Peripheral Blood:

   Benzoylecgonine is an inactive metabolite and chemical breakdown product of cocaine. Cocaine is a DEA Schedule II controlled central nervous stimulant drug. Effects following cocaine use can include euphoria, excitement, restlessness, risk taking, sleep disturbance, and aggression. A period of mental and physical fatigue and somnolence follow the use of cocaine after the excitant-stimulant effects wear off. Benzoylecgonine has a half-life of 6 to 10 hours. The average blood benzoylecgonine concentration in 906 impaired drivers was 1260 ng/mL (range 5 - 17600 ng/mL). Benzoylecgonine blood concentrations in patients admitted to an emergency room for cocaine related medical complaints were 1280 ng/mL (SD = 1290 ng/mL). Benzoylecgonine concentrations in plasma following oral administration of 2 g/day of cocaine over 6 days, averaged 4900 ng/mL. The average blood benzoylecgonine concentration in 37 cocaine related fatalities was 7900 ng/mL (range 700 - 31000 ng/mL).

4. Caffeine (No-Doz) - Peripheral Blood:

   Caffeine is a xanthine-derived central nervous system stimulant. It also produces diuresis and cardiac and respiratory stimulation. It can be readily found in such items as coffee, tea, soft drinks and chocolate. As a reference, a typical cup of coffee or tea contains between 40 to 100 mg caffeine.

   Following the oral ingestion of 120 and 300 mg of caffeine, reported peak plasma concentrations of the drug averaged 3.0 mcg/mL (range, 2.0 - 4.0 mcg/mL) and 7.9 mcg/mL (range, 6.0 - 9.0 mcg/mL), respectively. A single oral dose of 500 mg produced a reported peak plasma concentration of 14 mcg/mL after 30 min.

   Reported concentrations of caffeine in caffeine-related fatalities averaged 183 mcg/mL (range, 79 - 344 mcg/mL).

   The reported qualitative result for this substance is indicative of a finding commonly seen following typical use and is usually not toxicologically significant.

5. Cocaine / Metabolites - Urine:

   Cocaine is a central nervous system stimulant and drug of abuse. This result derives from a presumptive test, which may be subject to cross-reactivity with non-cocaine related compounds. A second test is necessary to confirm the presence of cocaine related compounds.

6. Cotinine (Nicotine Metabolite) - Peripheral Blood:

   Cotinine is a metabolite of nicotine and may be encountered in the fluids and tissues of an individual as a result of, e.g., tobacco exposure. Concentrations may be variable in blood and urine depending on the route of exposure and length of exposure. Cotinine plasma/serum concentrations in non-smokers are reported to be typically less than 15 ng/mL. Tobacco users and transdermal patch wearers have typical cotinine plasma/serum concentrations of less than 1000 ng/mL.

   Anabasine is a natural product occurring in tobacco, but not in pharmaceutical nicotine and a separate test for anabasine in urine can be used to distinguish tobacco from pharmaceutical nicotine use.

7. Ibuprofen (Motrin®) - Peripheral Blood:

   Ibuprofen is a non-narcotic analgesic and anti-inflammatory agent available in prescription and non-prescription dosages. Daily oral doses generally range from 900 to 2400 mg.

   Following a single 400 mg oral dose, an average peak plasma concentration of 28 mcg/mL (range, 17 to 36 mcg/mL) was reported. No accumulation of ibuprofen in plasma was reported after 200 mg t.i.d. for 2 weeks.

   In overdose, ibuprofen produces effects such as nausea, vomiting, diarrhea, vision disturbances, edema and dizziness. In a reported overdose, the postmortem blood level was 81 mcg/mL.

   The reported qualitative result for this substance is indicative of a finding commonly seen following typical use and is usually not toxicologically significant.

**Reference Comments:**

8. Naproxen (Naprosyn®) - Peripheral Blood:

   Naproxen is a non-steroidal anti-inflammatory agent and analgesic agent. It is used for the management of mild to moderately severe pain. Dosage should be adjusted to attain the greatest effect with the lowest dosage possible. For anti-inflammatory purposes, the usual adult dosage is 250 to 500 mg twice daily. For pain, the usual adult dosage is 500 mg initially and 250 mg every 6 to 8 hr thereafter.

   After a single 250 mg oral dose, the average peak serum concentration was reported at 31 mcg/mL. Average peak and trough levels in individuals receiving 250 mg twice daily for 7 days are reported as 31 mcg/mL and 46 mcg/mL, respectively.

   Individuals have survived overdoses of naproxen where serum concentrations exceeded 500 mcg/mL.

9. Norpropoxyphene (Propoxyphene Metabolite) - Peripheral Blood:

   Average Serum concentration following a daily regimen of 195 mg Propoxyphene: 1.45 mcg Norpropoxyphene/mL.

10. Propoxyphene (Darvon®) - Peripheral Blood:

    Propoxyphene is a DEA Schedule IV synthetic narcotic/analgesic that is somewhat less potent than codeine. Its primary metabolite is norpropoxyphene. Propoxyphene is administered orally as the hydrochloride or the napsylate salt. The daily oral dose for the hydrochloride is 130 to 400 mg whereas that for the napsylate is 200 to 600 mg.

    A reported peak plasma level following a single 130 mg oral dose of propoxyphene hydrochloride was 0.2 mcg/mL at 2 hr for propoxyphene and 0.30 mcg/mL at 4 hr for norpropoxyphene. Chronic daily doses of 195 mg of the hydrochloride produced reported average plasma levels of 0.4 mcg/mL for the parent compound and 1.4 mcg/mL for the metabolite 2 hr after the last dosage.

    Serious toxicity (stupor, coma, convulsions, respiratory depression, circulatory collapse) is generally associated with blood levels exceeding 1 mcg/mL whereas death is associated with levels greater than 2 mcg/mL; however, deaths have been reported at levels less than 1 mcg/mL.

    Postmortem blood concentrations of propoxyphene and norpropoxyphene depend on the anatomic source of the blood specimen. Concentrations may be higher in blood from visceral organs and the major vessels associated with them than actual ante-mortem circulating levels.

11. Propoxyphene - Urine:

    Propoxyphene is a DEA Schedule IV synthetic narcotic/analgesic that is somewhat less potent than codeine. Its primary metabolite is norpropoxyphene. Propoxyphene is administered orally as the hydrochloride or the napsylate salt. The daily oral dose for the hydrochloride is 130 to 400 mg whereas that for the napsylate is 200 to 600 mg.

12. Sertraline (Zoloft®) - Peripheral Blood:

    Sertraline is a selective serotonin-uptake inhibitor used in the treatment of depression. Initial adult dosage is 50 mg daily and can be increased to a maximum of 200 mg daily.

    Reported peak plasma concentrations of sertraline following single oral doses of 50, 100, and 200 mg were 9.5, 16, and 56 ng/mL, respectively. Reported steady-state concentrations following daily regimens of 100, 200 and 300 mg/day were 32, 91 and 206 ng/mL, respectively.

    Desmethylsertraline (norsertraline), a principal metabolite of sertraline, has about 10 - 20% of the pharmacologic activity of the parent compound. It accumulates in plasma due to slow elimination (half-life approximately 60-100 hours) and it attains plasma concentrations of approximately 150% of the sertraline concentration.

    Toxicity has been reported at average sertraline concentrations of 245 ng/mL. A fatality was reported with a sertraline concentration of 610 ng/mL.

**Sample Comments:**

001 Physician/Pathologist Name: HERRMANN

001 Miscellaneous Information: RB/P. FELLER

Chain of custody documentation has been maintained for the analyses performed by NMS Labs.

Unless alternate arrangements are made by you, the remainder of the submitted specimens will be discarded six (6) weeks from the date of this report; and generated data will be discarded five (5) years from the date the analyses were performed.

Workorder 10122476 was electronically signed on 06/03/2010 11:03 by:

Susan B. Crookham

Susan Crookham,
Certifying Scientist

**Analysis Summary and Reporting Limits:**

Acode 50000B - Acetaminophen Confirmation, Blood (Forensic) - Peripheral Blood

-Analysis by High Performance Liquid Chromatography (HPLC) for:

| Compound | Rpt. Limit | Compound | Rpt. Limit |
|---|---|---|---|
| Acetaminophen | 0.50 mcg/mL | | |

Acode 50014B - Cocaine and Metabolites Confirmation, Blood (Forensic) - Peripheral Blood

-Analysis by Gas Chromatography/Mass Spectrometry (GC/MS) for:

| Compound | Rpt. Limit | Compound | Rpt. Limit |
|---|---|---|---|
| Benzoylecgonine | 50 ng/mL | Cocaine | 60 ng/mL |
| Cocaethylene | 20 ng/mL | | |

Acode 50018B - Propoxyphene and Metabolite Confirmation, Blood (Forensic) - Peripheral Blood

-Analysis by Gas Chromatography/Mass Spectrometry (GC/MS) for:

| Compound | Rpt. Limit | Compound | Rpt. Limit |
|---|---|---|---|
| Norpropoxyphene | 0.10 mcg/mL | Propoxyphene | 0.10 mcg/mL |

Acode 52008B - Atropine Confirmation, Blood (Forensic) - Peripheral Blood

-Analysis by High Performance Liquid Chromatography/Tandem Mass Spectrometry (LC-MS/MS) for:

| Compound | Rpt. Limit | Compound | Rpt. Limit |
|---|---|---|---|
| Atropine | 0.40 ng/mL | | |

Acode 52090B - Ibuprofen / Naproxen Confirmation, Blood (Forensic) - Peripheral Blood

-Analysis by High Performance Liquid Chromatography (HPLC) for:

| Compound | Rpt. Limit | Compound | Rpt. Limit |
|---|---|---|---|
| Ibuprofen | 3.0 mcg/mL | Naproxen | 0.30 mcg/mL |

Acode 52116B - Sertraline Confirmation, Blood (Forensic) - Peripheral Blood

-Analysis by Gas Chromatography (GC) for:

| Compound | Rpt. Limit | Compound | Rpt. Limit |
|---|---|---|---|
| Sertraline | 1.0 ng/mL | | |

## Analysis Summary and Reporting Limits:

Acode 8050U - Postmortem Toxicology - Urine Screen Add-on (6-MAM Quantification only)

-Analysis by Enzyme Immunoassay (EIA) for:

| Compound | Rpt. Limit | Compound | Rpt. Limit |
|---|---|---|---|
| Amphetamines | 1000 ng/mL | Methadone | 300 ng/mL |
| Barbiturates | 0.30 mcg/mL | Opiates | 300 ng/mL |
| Benzodiazepines | 50 ng/mL | Phencyclidine | 25 ng/mL |
| Cannabinoids | 20 ng/mL | Propoxyphene | 300 ng/mL |
| Cocaine / Metabolites | 300 ng/mL | | |

Acode 8052B - Postmortem Toxicology - Expanded, Blood - Peripheral Blood

-Analysis by Colorimetry (C) for:

| Compound | Rpt. Limit | Compound | Rpt. Limit |
|---|---|---|---|
| Acetaminophen | 5.0 mcg/mL | | |

-Analysis by Colorimetry (C) for:

| Compound | Rpt. Limit | Compound | Rpt. Limit |
|---|---|---|---|
| Salicylates | 200 mcg/mL | | |

-Analysis by Enzyme-Linked Immunosorbent Assay (ELISA) for:

| Compound | Rpt. Limit | Compound | Rpt. Limit |
|---|---|---|---|
| Barbiturates | 0.040 mcg/mL | Methadone | 25 ng/mL |
| Benzodiazepines | 100 ng/mL | Opiates | 20 ng/mL |
| Cannabinoids | 10 ng/mL | Phencyclidine | 10 ng/mL |
| Cocaine / Metabolites | 20 ng/mL | Propoxyphene | 50 ng/mL |

-Analysis by Gas Chromatography/Mass Spectrometry (GC/MS) for: The following is a general list of compound classes included in the Gas Chromatographic screen. The detection of any particular compound is concentration-dependent. Please note that not all known compounds included in each specified class or heading are included. Some specific compounds outside these classes are also included. For a detailed list of all compounds and reporting limits included in this screen, please contact NMS Labs.

Amphetamines, Analgesics (opioid and non-opioid), Anesthetics, Anticholinergic Agents, Anticonvulsant Agents, Antidepressants, Antiemetic Agents, Antihistamines, Antiparkinsonian Agents, Antipsychotic Agents, Anxiolytics (Benzodiazepine and others), Cardiovascular Agents (non-digitalis), Hallucinogens, Hypnosedatives (Barbiturates, Non-Benzodiazepine Hypnotics and others), Muscle Relaxants, Non-Steroidal Anti-Inflammatory Agents (excluding Salicylate) and Stimulants (Amphetamine-like and others).

-Analysis by Headspace Gas Chromatography (GC) for:

| Compound | Rpt. Limit | Compound | Rpt. Limit |
|---|---|---|---|
| Acetone | 1.0 mg/dL | Isopropanol | 1.0 mg/dL |
| Ethanol | 10 mg/dL | Methanol | 5.0 mg/dL |