



NMS Labs

TESTING: VALIDATION

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Toxicology Report

Report Issued 10/20/2008 12:40

Patient Name BPM65287
Patient ID DOE, JOHN
Chain 254678
Age 41 Y
Gender Male
Workorder 08005520

To: 88888
IS TESTING ACCOUNT
ATTN: IT DEPARTMENT
3701 Welsh Road
Willow Grove, PA 19090

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Positive Findings:

<u>Compound</u>	<u>Result</u>	<u>Units</u>	<u>Matrix Source</u>
Ethanol	35	mg/dL	Post Mortem Blood
Blood Alcohol Concentration (BAC)	0.035	% w/v	Post Mortem Blood
Clonazepam	10	ng/mL	Post Mortem Blood
Fentanyl	5.0	ng/mL	Post Mortem Blood
Sufentanil	10	ng/mL	Post Mortem Blood
Alfentanil	8.0	ng/mL	Post Mortem Blood
Norfentanyl	6.0	ng/mL	Post Mortem Blood

See Detailed Findings section for additional information

Specimens Received:

ID	Tube/Container	Volume/ Mass	Collection Date/Time	Matrix Source	Miscellaneous Information
001	Clear vial	10 mL	10/15/2008 10:00	Post Mortem Blood	

All sample volumes/weights are approximations.

Specimens received on 10/17/2008.

Testing Requested:

<u>Analysis Code</u>	<u>Description</u>
8052B	Post Mortem Toxicology - Expanded, Blood

**SAMPLE REPORT
FOR INFORMATIONAL PURPOSES ONLY**

Analytes, methods and reference comments are subject to change at anytime.

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Detailed Findings:

Analysis and Comments	Result	Units	Rpt. Limit	Specimen Source	Analysis By
Ethanol	35	mg/dL	10	001 - Post Mortem Blood	Headspace GC
Blood Alcohol Concentration (BAC)	0.035	% w/v	0.010	001 - Post Mortem Blood	Headspace GC
Clonazepam	10	ng/mL	2.0	001 - Post Mortem Blood	LC-MS/MS
Ethanol	Confirmed	mg/dL	10	001 - Post Mortem Blood	EZA
Fentanyl	5.0	ng/mL	0.10	001 - Post Mortem Blood	LC-MS/MS
Sufentanil	10	ng/mL	0.10	001 - Post Mortem Blood	LC-MS/MS
Alfentanil	8.0	ng/mL	0.10	001 - Post Mortem Blood	LC-MS/MS
Norfentanyl	6.0	ng/mL	0.20	001 - Post Mortem Blood	LC-MS/MS

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

Reference Comments:

1. Alfentanil (Alfenta®) - Post Mortem Blood:

Following an intravenous injection of 50 mcg/kg to two subjects, a mean plasma concentration of 540 ng/mL was reported at 1 minute, decreasing to 38 ng/mL at 1 hour.

2. Clonazepam (Klonopin®) - Post Mortem Blood:

Therapeutic range: 10 - 75 ng/mL.
Toxic: greater than 100 ng/mL.

3. Fentanyl (Sublimaze®) - Post Mortem Blood:

Fentanyl is a DEA Schedule II synthetic morphine substitute anesthetic/analgesic. It is reported to be 80 to 200 times as potent as morphine and has a rapid onset of action as well as addictive properties.

It is reported that patients lost consciousness at mean plasma levels of fentanyl of 34 ng/mL when infused with 75 mcg/Kg over a 15 min period; peak plasma levels averaged 50 ng/mL.

After application of a fentanyl transdermal preparation (patch), serum fentanyl concentrations are reported to be in the following ranges within 24 hours:

- 25 mcg/hour patch: 0.3 - 1.2 ng/mL
- 50 mcg/hour patch: 0.6 - 1.8 ng/mL
- 75 mcg/hour patch: 1.1 - 2.6 ng/mL
- 100 mcg/hour patch: 1.9 - 3.8 ng/mL

Following removal of the patch, serum fentanyl concentrations are reported to decrease with a mean elimination half-life of 17 hours (range, 13 to 22 hours).

The mean peak plasma serum fentanyl concentration in adults given an 800 mcg oral transmucosal fentanyl preparation over 15 minutes is reported at 2.1 ng/mL (range, 1.4 - 3.0 ng/mL) at approximately 0.4 hours.

Signs associated with fentanyl toxicity include severe respiratory depression, seizures, hypotension, coma and death. In fatalities from fentanyl, blood concentrations are variable and have been reported as low as 3 ng/mL.

**Reference Comments:**

4. Sufentanil (Sufenta®) - Post Mortem Blood:

Following I.V. administration of 30 mcg Sufentanil/kg for surgical analgesia, mean peak plasma levels range from 36 - 43 ng/mL and decline to 0.33 ng/mL at 23 hours.

Terminal plasma elimination half-life occurs at 2 hours post dose.

Workorder 08005520 was electronically signed on 10/20/2008 12:40 by:

Eric Alexy, FTS-ABFT

Analysis Summary:

Acode 50012B - Benzodiazepines Confirmation, Blood (Forensic) - Post Mortem Blood

- Analysis by High Performance Liquid Chromatography/Tandem Mass Spectrometry (LC-MS/MS) for: 7-Amino Clonazepam, Alpha-Hydroxyalprazolam, Alprazolam, Chlordiazepoxide, Clobazam, Clonazepam, Desalkylflurazepam, Diazepam, Estazolam, Flurazepam, Hydroxyethylflurazepam, Hydroxytriazolam, Lorazepam, Midazolam, Nordiazepam, Oxazepam, Temazepam, Triazolam

Acode 50030B - Ethanol Confirmation, Blood (Forensic) - Post Mortem Blood

- Analysis by Enzymatic Assay (EZA) for: Ethanol

Acode 52046B - Fentanyl Analogues and Metabolites Confirmation, Blood (Forensic) - Post Mortem Blood

- Analysis by High Performance Liquid Chromatography/Tandem Mass Spectrometry (LC-MS/MS) for: Alfentanil, Fentanyl, Norfentanyl, Sufentanil

Acode 8052B - Post Mortem Toxicology - Expanded, Blood - Post Mortem Blood

- Analysis by Colorimetry (C) for: Acetaminophen

- Analysis by Colorimetry (C) for: Salicylates

- Analysis by Enzyme-Linked Immunosorbent Assay (ELISA) for: Amphetamines, Barbiturates, Benzodiazepines, Cannabinoids, Cocaine/Metabolites, Methadone, Opiates, Phencyclidine, Propoxyphene

- 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 included in this screen, please contact NMS Labs.

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, Hypnotics (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: Acetone, Ethanol, Isopropanol, Methanol

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