



KNOX COUNTY REGIONAL FORENSIC CENTER

2761 SULLINS STREET, KNOXVILLE, TN 37919
 FAX: 865-215-9011 EMAIL: INV.KNOXRFC@KNOXCOUNTY.ORG

Demographic Information

Case number: 170106-177
 Death County: Roane
 Last name: Norton
 First name: Randall
 Middle name:
 Race: White
 Sex: Male
 Age: 46 years 2 months 0 days
 Date of birth: 11/06/1970

Address 1: 314 Devonia Street
 Address 2:
 City: Harriman
 State: Tennessee
 County: Roane
 Zip: 37748
 Funeral name: Davis Funeral Home
 Funeral phone: 865-882-2000

Background Information

Investigator notified: 2017-01-06 17:37
 Notified by: Vanni Robinson, RN @ UTMC 865-305-9201
 Facility: Knox County, TN
 Authorized by: Morgan Seymour
 ETA at Facility/FH:
 Scene investigated ME: No
 Scene investigated by LE: Yes
 Officer:
 Agency: Tennessee Highway Patrol -District 1, Knoxville
 Incident #: 117000574

Date LKA:
 Time LKA:
 Found dead:
 911 call received: 2017-01-06 07:04
 Date of death: 01/06/2017 On
 Time of death: 17:15
 Pronounced: 01/06/2017 17:15
 Scene arrival:
 Scene departure:

First Responder

Name:
 Agency:

Phone:
 Relationship:

Next of Kin

Name: Norton, James
 Address:
 City:
 State:
 Zip:
 Phone:

Relationship: Father
 Notified:
 Notifying agency:
 Date/Time notified:
 Notified by:

Cause and Manner of Death

Reason for reporting: Accidental death
 Disposition: Sent to Autopsy Facility
 Suspected COD: Traffic

I hereby declare that after receiving notice of death described herein, I conducted an investigation regarding the cause of death in accordance with Section 38-7-109 Tennessee Code Annotated and that the information contained herein regarding such death is true and correct to the best of my knowledge and belief.

Autopsy authorization: ME/C ordered
 RFC MDI: Morgan Seymour

DC signed by: Office of ME/C
 DC signer: Darinka Mileusnic

The accompanying body of Norton, Randall is the subject of an investigation by the medical examiner. In accordance with Tennessee Code Annotated 38-7-106, I am ordering an autopsy upon the body.

Authorizing Signature of Medical Examiner or Delegated Investigator:



Randall Norton
170106-177
W-M-46 (11/06/1970)
01/09/2017 Dr. Mileusnic

OFFICE OF THE KNOX COUNTY MEDICAL EXAMINER EXTERNAL EXAMINATION

Date: 1/20/2017 Time: 09:50 Ht: 70" (Inches) Wt: 209 (Pounds)

APPEARANCE/HYGIENE: TDS hemorrhagic organs & tissues

DECOMPOSITION: None

EMBALMED/TDS: No embalming; wrapped in thermal pad covering

ALGOR/RIGOR/LIVOR: _____

HAIR: bald / brown short mustache & beard

EYES: blue, open, cloudy; (R) subconjunctival hemorrhage

HEAD/NECK: (Trauma)

NOSE/EARS: (L) ear pierced

TEETH: retained / fair

CHEST: symmetrical

ABDOMEN: flat

BACK/ANUS: TDS - skin lesions

GENITALIA: examined (altered by TDS)

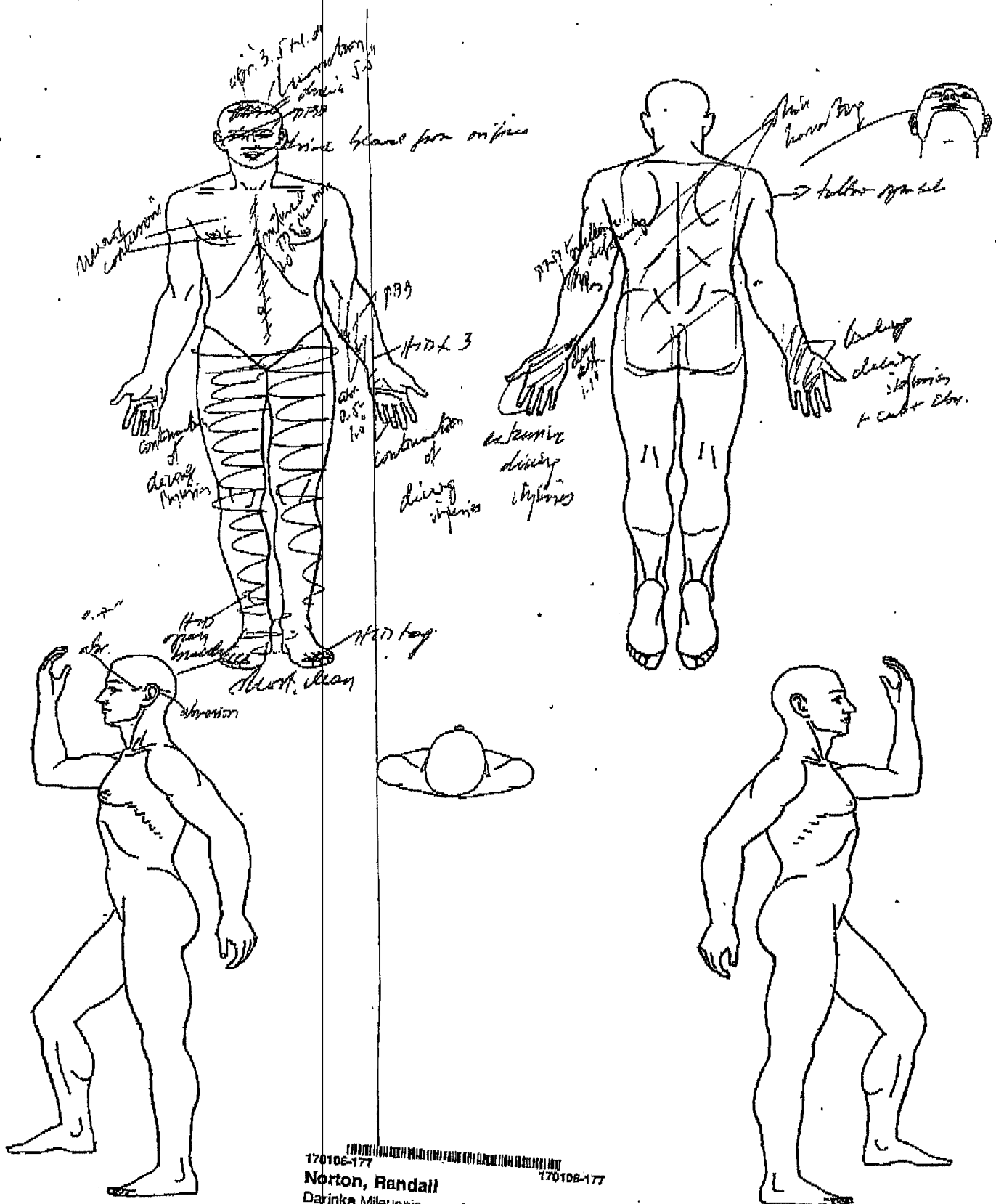
EXTREMITIES: asymmetrical; long ^{marks} / trauma hemorrhage

RADIOLOGY: Full body x-ray - upper & lower limbs & frontal cranial fracture, 4/12 fracture dislocation; (R) ankle fx; (L) elbow fx

MEDICAL: (+ Hospital imaging - comminuted tibia)
ace + gauze around head, EKG x2, ET + OG tube, IV (R) neck, IV x2 (L) forearm, IV (R) wrist, black wrap bilat shoulders, torso, abd., pelvis, ace wrap bilat legs

TOXICOLOGY: Saved NMS Urine Blood (Type)
Vitreous Negative Positive

SIGNATURE: [Signature] M.D., PhD DATE: 01/23/2016



170106-177
 Norton, Randall
 Darinka Mileusnic
 Contents: 09 JAN 2017
 170106-177



NMS Labs

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Robert A. Middleberg, PhD, F-ABFT, DABCC-TC, Laboratory Director

Toxicology Report

Report Issued 01/17/2017 11:01

To: 10511
Knox County Medical Examiner's Office
Attn: Ellie Sanders
2761 Sullins Street
Knoxville, TN 37919

Patient Name Norton Randall
Patient ID 170106-177
Chain 170106-177
Age 46 Y DOB 11/06/1970
Gender Male
Workorder 17006006

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Positive Findings:

Compound	Result	Units	Matrix Source
Midazolam	29	ng/mL	001 - Peripheral Blood
Methadone	360	ng/mL	001 - Peripheral Blood
EDDP	34	ng/mL	001 - Peripheral Blood

See Detailed Findings section for additional information

Testing Requested:

Analysis Code

8051B

Description

Postmortem, Basic, Blood (Forensic)

Specimens Received:

ID	Tube/Container	Volume/ Mass	Collection Date/Time	Matrix Source	Miscellaneous Information
001	Lavender Vial	1.5 mL	01/09/2017 10:30	Peripheral Blood	DATE AND TIME ON SAMPLE 06 JAN17, 09 JAN 2017, 08:35
002	Blue Vial	0.1 mL	Not Given	Peripheral Blood	DATE AND TIME ON SAMPLE 06 JAN17, 09 JAN 2017, 08:35
003	Gray Top Tube	2.5 mL	01/09/2017 10:30	Vitreous Fluid	

All sample volumes/weights are approximations.

Specimens received on 01/10/2017.



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Detailed Findings:

Analysis and Comments	Result	Units	Rpt. Limit	Specimen Source	Analysis By
Midazolam	29	ng/mL	10	001 - Peripheral Blood	LC-MS/MS
Methadone	360	ng/mL	20	001 - Peripheral Blood	LC-MS/MS
EDDP	34	ng/mL	20	001 - Peripheral Blood	LC-MS/MS

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. EDDP (Methadone Metabolite) - Peripheral Blood:

EDDP (2-ethylidene-1,5-dimethyl-3,3-diphenylpiperidine) is the primary inactive metabolite of methadone.

Twelve older adult chronic pain patients receiving 10 - 100 mg daily methadone had trough EDDP serum concentrations of 12 - 69 ng/mL.

The span of methadone concentrations in fatalities overlaps with that of maintenance patients, and it is difficult to distinguish between the two on that basis alone. In some cases, it may be useful to quantitate EDDP, as the presence of the metabolite in substantial amounts may indicate prior usage of methadone and therefore tolerance to its effects.

2. Methadone (Dolophine®) - Peripheral Blood:

Methadone is a DEA Schedule II opioid analgesic used in the treatment of opiate addiction, and in the treatment of pain. Methadone is subject to abuse. Major metabolites of methadone include EDDP and EMDP. A single 10 mg oral dose of methadone produced a reported peak plasma concentration of 43 ng/mL at 2.1 hours. Patients with chronic pain who received 10 to 100 mg of methadone daily for 9 months had trough serum concentrations that ranged from 110 to 550 ng/mL. Chronic daily oral doses of 100 to 200 mg in tolerant patients produced reported peak plasma concentrations ranging from 570 to 1100 ng/mL. Methadone has a long elimination half-life, estimated to be between 15 and 55 hours. Adverse effects from methadone are characterized by sedation, dizziness, lethargy, pupillary constriction, constipation, respiratory depression, bradycardia and coma. Patients receiving methadone as part of a maintenance program may take as much as 180 mg daily. For treatment of pain or in abuse situations, the threshold toxic blood concentrations for methadone in the literature range from 100 to 1000 ng/mL. A reported range of blood concentrations in methadone-related fatalities is 400 to 1800 ng/mL. However, in cases of deaths from accidental overdose of methadone, especially in naive (non-tolerant) users, postmortem blood concentrations of methadone as low as 140 ng/mL have been reported. Since the reported blood concentration range for individuals on methadone maintenance overlaps that found in fatalities in non-tolerant individuals, it may be difficult to distinguish between the two. It has been suggested that levels of the EDDP metabolite may be indicative of prior usage of the compound and, therefore, tolerance. The blood-to-plasma ratio for methadone is approximately 0.6 to 0.7.

3. Midazolam (Versed®) - Peripheral Blood:

Midazolam is a short acting benzodiazepine (a DEA Schedule IV controlled compound) with strong central nervous system depressant/hypnotic properties. It is usually utilized for preoperative sedation, as a sedative hypnotic, and as an agent for the induction of anesthesia. It has significant abuse potential. Effects noted following use may include sedation, somnolence (drowsiness or sleepiness), visual disturbances (diplopia or double vision), dysarthria (slurred speech), ataxia (shaky movements and unsteady gait), and intellectual impairment and coma may result.

Oral doses of 10 mg given to 20 subjects produced average peak plasma concentrations (at 1 hr post dose) for midazolam of 69 ng/mL in males and 53 ng/mL in females. As a preoperative medication, intramuscular injection of midazolam at 0.13 mg/Kg body weight (9.1 mg/70 Kg body weight) produced peak plasma concentrations of 68 ng/mL.

At high concentrations, confusion, impaired coordination, diminished reflexes, respiratory depression, apnea, hypotension and coma may result.



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Unless alternate arrangements are made by you, the remainder of the submitted specimens will be discarded one (1) year from the date of this report; and generated data will be discarded five (5) years from the date the analyses were performed.

Workorder 17008006 was electronically signed on 01/17/2017 10:05 by:

Paul Miller,
Certifying Scientist

Analysis Summary and Reporting Limits:

All of the following tests were performed for this case. For each test, the compounds listed were included in the scope. The Reporting Limit listed for each compound represents the lowest concentration of the compound that will be reported as being positive. If the compound is listed as None Detected, it is not present above the Reporting Limit. Please refer to the Positive Findings section of the report for those compounds that were identified as being present.

Acode 50012B - Benzodiazepines Confirmation, Blood (Forensic) - Peripheral Blood

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

Compound	Rpt. Limit	Compound	Rpt. Limit
7-Amino Clonazepam	10 ng/mL	Flurazepam	4.0 ng/mL
Alpha-Hydroxyalprazolam	10 ng/mL	Hydroxyethylflurazepam	10 ng/mL
Alprazolam	10 ng/mL	Hydroxytriazolam	10 ng/mL
Chlordiazepoxide	40 ng/mL	Lorazepam	10 ng/mL
Clobazam	40 ng/mL	Midazolam	10 ng/mL
Clonazepam	4.0 ng/mL	Nordiazepam	40 ng/mL
Desalkylflurazepam	10 ng/mL	Oxazepam	40 ng/mL
Diazepam	40 ng/mL	Temazepam	40 ng/mL
Estazolam	10 ng/mL	Triazolam	4.0 ng/mL

Acode 50015B - Methadone and Metabolite Confirmation, Blood (Forensic) - Peripheral Blood

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

Compound	Rpt. Limit	Compound	Rpt. Limit
EDDP	20 ng/mL	Methadone	20 ng/mL

Acode 8051B - Postmortem, Basic, Blood (Forensic) - Peripheral Blood

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

Compound	Rpt. Limit	Compound	Rpt. Limit
Amphetamines	20 ng/mL	Fentanyl / Acetyl Fentanyl	0.50 ng/mL
Barbiturates	0.040 mcg/mL	Methadone / Metabolite	25 ng/mL
Benzodiazepines	100 ng/mL	Methamphetamine / MDMA	20 ng/mL
Buprenorphine / Metabolite	0.50 ng/mL	Opiates	20 ng/mL
Cannabinoids	10 ng/mL	Oxycodone / Oxymorphone	10 ng/mL
Cocaine / Metabolites	20 ng/mL	Phencyclidine	10 ng/mL

-Analysis by Headspace Gas Chromatography (GC) for:

Compound	Rpt. Limit	Compound	Rpt. Limit
Acetone	5.0 mg/dL	Ethanol	10 mg/dL



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Analysis Summary and Reporting Limits:

Compound
Isopropanol

Rpt. Limit
5.0 mg/dL

Compound
Methanol

Rpt. Limit
5.0 mg/dL