



The Commonwealth of Massachusetts  
Office of the Chief Medical Examiner



REPORT OF AUTOPSY

Name of Decedent: Joshua K. Messier

M.E. Case # 09-10441

Autopsy Performed by: Mindy J. Hull, MD

Date of Autopsy: 5/5/09

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FINAL DIAGNOSES

- I. BLUNT FORCE INJURIES OF HEAD
    - A. LACERATIONS, ABRASIONS, AND CONTUSIONS
    - B. PERIORBITAL HEMORRHAGE
    - C. SCLERAL EDEMA
    - D. SUBGALEAL HEMORRHAGES
    - E. SUBDURAL HEMORRHAGE
  - II. BLUNT FORCE INJURY OF NECK
    - A. ABRASION
  - III. BLUNT FORCE INJURIES OF TORSO:
    - A. PETECHIAL CONTUSIONS AND ABRASIONS OF BACK
  - IV. BLUNT FORCE INJURIES OF EXTREMITIES
    - A. CONTUSIONS AND ABRASIONS OF ALL EXTREMITIES
  - V. EVIDENCE OF WRIST AND ANKLE RESTRAINTS
  - VI. MILD HYPERTENSIVE CARDIOVASCULAR CHANGES
    - A. MILD GLOBAL GLOMERULOSCLEROSIS
    - B. MILD CARDIOMYOCYTE HYPERTROPHY
  - VII. HEPATIC STEATOSIS OF UNCERTAIN ETIOLOGY
  - VIII. FOCAL ORGANIZING CHRONIC INFLAMMATION OF THE LUNGS OF UNCERTAIN ETIOLOGY
  - IX. POSTMORTEM TOXICOLOGY OF BLOOD IS POSITIVE FOR CLOZAPINE AND NORCLOZAPINE
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CAUSE OF DEATH:

CARDIOPULMONARY ARREST DURING PHYSICAL RESTRAINT, WITH BLUNT IMPACT OF HEAD AND COMPRESSION OF CHEST; WHILE IN AGITATED STATE

MANNER OF DEATH:

HOMICIDE (RESTRAINED BY CORRECTION OFFICERS DURING AGITATED STATE)

COMMONWEALTH OF MASSACHUSETTS

OFFICE OF THE CHIEF MEDICAL EXAMINER

REPORT OF AUTOPSY

CASE No. 09-10441

I, Mindy J. Hull, M.D., Medical Examiner, hereby certify that I have performed an autopsy on the body of Joshua K. Messier on May 5, 2009 at the Boston Office of the Chief Medical Examiner of the Commonwealth of Massachusetts.

EXTERNAL EXAMINATION:

The body is of a normally developed, well-nourished, large-framed, 69", 240 pound, white man, whose appearance is older than the given age of 23 years. The hair is red and approximately 2" in length. The facial hair consists of a 1 1/4" red beard. The eyes have green irides and white sclerae. The facial bones appear intact. The oral cavity has natural teeth and an atraumatic mucosa. There is mild gynecomastia. The fingernails are short. The toenail of the middle toe is completely removed (non-acute); there is a bandaid overlying the nail bed. The genitalia are of a circumcised normal man.

SCARS: There is a 1 1/4" x 1/8" well-healed scar of the upper anterior left forearm. There is a 1/2" x 1/2" well-healed scar of the dorsum of the foot.

POSTMORTEM CHANGES:

There is moderate rigor mortis. Livor mortis is posterior, red-purple, and blanching. The body is cold.

THERAPEUTIC PROCEDURES:

There is a cervical spine stabilization collar. There is a foam head immobilizer. There is an orotracheal tube with holder. There are 4 defibrillator pads on the chest and abdomen. There are 8 defibrillator pads on the right shoulder, chest, and abdomen. There is an intravascular access catheter in the anterior right forearm attached to 2 partially used bags of 0.9% NaCl intravenous fluid. There is an intraosseous catheter below the right knee. There are 2 medical identification bracelets on the right wrist.

INJURIES, EXTERNAL AND INTERNAL:

*NOTE: Incisions of the back, scrotum, wrists, ankles, and plantar surfaces of the feet are made to assess for injuries. These findings are described in the report where relevant.*

**BLUNT FORCE INJURIES:**

Blunt Force Injuries of Head: There is a 3/4" laceration extending 1/8" into the subcutaneous tissue

of the posterior superior scalp. This laceration overlies a similar-sized subgaleal hemorrhage. There is a 1 1/2" x 1/2" contusion of the left aspect of the forehead. This contusion overlies a 2" x 1 1/2" subgaleal hemorrhage. There is a 1/4" x 1/4" abrasion above the left eyebrow. There is a 1/4" abraded laceration of the left eyebrow. There is a 2 1/4" x 1" left periorbital contusion. There is scleral edema of the left eye. There are 1/4" x 1/4" and 1/2" x 3/8" abrasions of the bridge of the nose. There is a 1/2" x 1/4" contusion of the left cheek. There is a 1/4" laceration above the left aspect of the upper lip. There is a 1/2" x 1/4" contusion of the outer right aspect of the lower lip. There is approximately 1-2 mL of liquid subdural hemorrhage overlying the right cerebral convexity.

**Blunt Force Injuries of Neck:** There is a 2" x 1/16" horizontally-oriented abrasion of the right anterior aspect of the neck.

**Blunt Force Injuries of Torso:** There is a 5" x 5" area of petechiae of the upper and posterior left shoulder. There is a 5 1/2" x 4" cluster of petechial contusions and abrasions of the mid left back. This cluster overlies a 1 1/2" x 1" hemorrhage into the soft tissue of the back.

**Blunt Force Injuries of Extremities:**

**Right Arm:** There is a 2" x 1" blue contusion of the anterior axillary aspect of the upper arm. There is a 5" x 3" blue contusion of the inner upper arm. There is a 1" x 1" blue contusion of the anterior forearm. There is a 1" x 1" blue contusion of the posterior forearm. There are 1" x 1/2" and 1" x 1" blue contusions of the anterior wrist. There is a 1/4" x 1/2" cluster of healing abrasions of the right palm. There are 1" x 1", 1/2" x 1/2", 1" x 1", and 1/2" x 1/2" contusions of the posterior hand.

**Left Arm:** There is a 1/4" thin abrasion of the outer upper arm. There is a 3/4" x 1/2" contusion below the elbow. There are 1 1/2" x 1", 1" x 1", and 2 3/4" x 1 1/2" contusions of the anterior forearm. There is a 1/2" x 1/8" abrasion of the ulnar aspect of the hand. There is a 1/6" diameter abrasion of the posterior hand.

**Right Leg:** There is a 1/2" x 1/4" contusion of the shin. There is a 3/4" x 3/4" contusion of the anterior ankle. There is a 7/8" x 1/2" contusion of the dorsum of the foot.

**Left Leg:** There is a 2" x 1" cluster of abrasions of the knee. There is a 1" x 1" contusion below the knee.

**EVIDENCE OF WRIST AND ANKLE RESTRAINTS**

There are handcuffs on the ankles. There are ligature furrows present on both wrists and ankles. This includes:

2 1/4" parallel abraded contusions of the posterior, ulnar, and anterior aspects of the right wrist associated with 1/4" x 1/8" abrasion of the ulnar aspect of the wrist. There is circumferential hemorrhage into the underlying soft tissue of the wrist.

2" parallel abraded contusions (separated by 1/4") of the posterior, ulnar, and anterior aspects of the left wrist. There is a 3/8" x 1/4" abrasion associated with this ligature furrow. There is circumferential hemorrhage into the underlying soft tissue of the wrist.

A pressure indentation / ligature furrow with parallel horizontal indentations of the posterior and lateral aspects of both ankles (Note: There are handcuffs present around the ankles at autopsy, and correspond with these indentations.) There are 1/2" x 1/4" abrasions above and below the ligature furrow of the posterior right ankle. In addition, there is a 1 1/4" x 3/4" abrasion above the

ligature furrow of the posterior left ankle. There is hemorrhage of the soft tissue of the ankles underlying the ligature furrows.

*These injuries having been described will not be repeated.*

**INTERNAL EXAMINATION:**

**BODY CAVITIES:** The organs are in their normal situs and are without adhesions. The pericardial, pleural, and peritoneal cavities have no abnormal fluid accumulation.

**HEAD:** The skull has no fracture. There is no epidural hemorrhage. The brain weighs 1500 grams and is retained in formalin; see "NEUROPATHOLOGY" section.

**NECK:** The cervical vertebrae, hyoid bone, tracheal and laryngeal cartilages, and paratracheal soft tissues are without trauma. The upper airway is patent and without edema or foam.

**CARDIOVASCULAR SYSTEM:** The heart weighs 360 grams and has a normal distribution of right dominant coronary arteries with no atherosclerosis. The coronary ostia are patent. The myocardium is homogenous, red-brown, and firm without pallor, hemorrhage, or softening. The endocardial surfaces and four cardiac valves are unremarkable. The aorta has no atherosclerosis. The pulmonary arteries and venae cavae are without thrombus or embolus.

**RESPIRATORY SYSTEM:** The right lung weighs 520 grams and the left 570 grams. The parenchyma is dark red-brown, moderately edematous, and without mass, hemorrhage, or consolidation. The bronchi contain thin mucus.

**LIVER, GALLBLADDER, PANCREAS:** The liver weighs 2280 grams and has an intact capsule and orange-red-brown firm and fatty parenchyma. The gallbladder contains approximately 5 mL of green-yellow bile without stones. The pancreas is unremarkable in lobulation, color, and texture.

**HEMIC AND LYMPHATIC SYSTEMS:** The spleen weighs 230 grams and has an intact capsule. The color, architecture, and consistency are unremarkable. There are no enlarged lymph nodes.

**GENITOURINARY SYSTEM:** The right kidney weighs 160 grams and the left 170 grams. Each kidney has a smooth, red-brown, subcapsular surface, and an unremarkable architecture and vasculature. The ureters maintain uniform caliber and drain into an unremarkable empty bladder. The prostate is not enlarged. The testes are descended.

**ENDOCRINE SYSTEM:** The thyroid, pituitary, and adrenal glands are normal color, size, and consistency.

**DIGESTIVE SYSTEM:** The esophagus and gastroesophageal junction are unremarkable. The stomach contains approximately 200 mL of partially digested food particles. The gastric mucosa,

small intestine, large intestine, and appendix are unremarkable.

**MUSCULOSKELETAL SYSTEM:** The vertebrae, clavicles, sternum, ribs, and pelvis are without fracture. The musculature is normally distributed and unremarkable.

**NEUROPATHOLOGY:**

The brain and dura are retained in formalin for neuropathologic examination; a separate report will be issued.

**HISTOLOGY:**

Slide 1: Left ventricle of the heart with patchy cardiomyocyte hypertrophy. Right ventricle of the heart with no diagnostic abnormalities recognized.

Slides 2, 4: Sections of lungs with vascular congestion and some intraalveolar hemorrhage (most likely due to cardiopulmonary resuscitation efforts). There is mild, non-specific submucosal chronic inflammation around the bronchi. There are two fairly well-circumscribed foci of consolidated lung, including mononuclear cells and early fibrosis; the etiology of these are unknown, but may represent a focal organizing pneumonia. In one of these foci, there is a single small intraalveolar polarizable foreign body, however this is not within a cellular element therefore its significance is questionable.

Slide 3: Section of spleen with no diagnostic abnormalities recognized. Section of kidney with occasional globally sclerotic glomeruli.

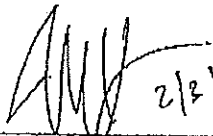
Slide 5: Section of kidney with no diagnostic abnormalities recognized. Section of liver with mixed micro- and macrosteatosis.

**TOXICOLOGY:**

Heart blood, femoral blood, bile, gastric contents, and vitreous humor are submitted for toxicologic analysis; a separate report will be issued. A gray top tube of blood is retained at the OCME.

**EVIDENCE:**

Photographs are taken. Pubic hair, head hair, and a purple top tube of blood are retained as evidence.

  
2/2/10  
Mindy J. Hull M.D.  
Medical Examiner

2/3/10/MJH/FNL

**UMassMemorial Medical Center, Inc. Forensic Toxicology Report**  
 One Innovation Drive, Suite 360, Worcester, MA 01605 (508)793-6108  
 George S. Behonick, PhD., DABFT, Director

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Ordering Location: XX-CMEB BOSTON-CME HEADQUARTERS 720 ALBANY STREET Boston, MA 01545	CASE NUMBER: CASE, CME09-10441	Page: 1
	DECEDENT: MESSIER, JOSHUA	FINAL
Ordering MD: HULL, MINDY MD	ACCT NUMBER      AGE    SEX XX000037270      23    M	

RECEIVED IN 7/17/09 11:00 AM      REPORT DATE/TIME: 06/20/09 12:05

**TEST      RESULT      QUANTITY**

Specimen Type: Blood  
 1 VIAL Fluoridated heart

**SOLVENT SCREEN**

Methanol	None Detected	qt
Ethanol	None Detected	qt
Isopropanol	None Detected	qt
Acetone	None Detected	qt

**DRUGS OF ABUSE**

Benzodiazepines	None Detected	
Cocaine/Coc Metab	None Detected	
Heroin	None Detected	
Methadone	None Detected	
Opoids	None Detected	
Oxycodone	None Detected	
Amphetamines	None Detected	
Barbiturates	None Detected	
Cannabinoids	None Detected	

Alkaline Drug Screen

~~clozapine and/or droperidol present~~ - No other extractable drugs detected.

Weak Acid/Neutral Screen

No weak acid or neutral extractable drugs detected.

**TEST      RESULT      QUANTITY**

Specimen Type: Vitreous Humo

**SOLVENT SCREEN**

Methanol	None Detected	
Ethanol	None Detected	qt
Isopropanol	None Detected	qt
Acetone	None Detected	qt

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UMassMemorial Medical Center, Inc. Forensic Toxicology Report  
 One Innovation Drive, Suite 360, Worcester, MA 01605 (508)793-6108  
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	DECEDENT: MESSIER, JOSHUA	FINAL
ACCT NUMBER      AGE      SEX XX000037270      23      M		

RESULTS

Specimen Type: BLOOD

1 VIAL Fluoridated femoral

Clozapine 1600 (NMS)

Norclozapine 1300 (NMS)      ng/mL

RESULTS

Specimen Type: BILE

RESULTS

Specimen Type: GASTRIC 200 ML

NMS - Test performed at NMS Labs, Willow Grove, PA

\*\* END OF REPORT \*\*

SIGNATURE

*George S. Behonick*

DATE 6/14/09





The Commonwealth of Massachusetts  
Office of the Chief Medical Examiner



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NEUROPATHOLOGY REPORT

Name of Decedent: Joshua Messier M.E. Case.# 2009-10441  
Autopsy Performed by: Mindy Hull, MD Date of Autopsy: 5/05/09  
Brain Cutting by: Peter Cummings, M.D. Date Brain Cutting: 11/19/09

Neuro Gross Description

I. Date Cut: 11/19/09

II. Gross Description of the Brain and Dura.

A. Fresh Weight: 1500 gm.

B. Leptomeninges:

1. The leptomeninges are thin and transparent.

C. Dura:

1. The dura is unremarkable.

2. The superior sagittal sinus is patent.

D. Vasculature:

1. The circle of Willis is intact without aneurysm or atherosclerotic disease.

E. External Examination:

1. The brain is symmetric.

2. The gyri are of a usual pattern.

3. The cortical and ventral surfaces demonstrate no mass lesions or herniation.

4. There is atrophy of the cerebellar hemispheres.

5. The cranial nerves are intact and symmetric.

F. Gross Description of the Spinal Cord:

1. The spinal cord is not received for examination.

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## G. Coronal Sections:

1. Coronal sectioning of the brain demonstrates a distinct gray/white junction.
2. There is no midline shift or hydrocephalus.
3. The deep nuclei are unremarkable.
4. The substantia nigra is adequately pigmented.
5. There is mild atrophy of the cerebellum.

## H. Supplemental Techniques:

1. Photography – Yes.
2. Microscopic exam – Yes.

## I. Provisional Gross Impression:

1. Mild atrophy of the cerebellum.

**Neuro Microscopic Description:**

## A. Slide Description:

1. Left hippocampus, 1 H&E
2. Cerebellum with dentate, 1 H&E
3. Parietal cortex, 1 H&E

## B. Microscopic Description:

1. Microscopic examination of the hippocampus demonstrates an adequately populated well formed CA1 – CA4 region. The dentate gyrus is adequately populated. The entorhinal cortex and subiculum demonstrate appropriate cortical layering. The vasculature throughout this section is unremarkable.
2. Microscopic examination of the cerebellum with dentate demonstrates an adequately populated granular cell layer. There is rare Purkinje cell drop-out. There is mild separation of the cerebellar folia.
3. Microscopic examination of the parietal cortex demonstrates appropriate cortical layering. The overlying leptomeninges are unremarkable. The subadjacent white matter is unremarkable.

2009-10441

Joshua Messier

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**Final Neuropathology Diagnosis:**

1. Mild atrophy of the cerebellum.



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Peter M.E. Cummings, M.Sc., M.D.  
Neuropathologist

1/15/10/PC/FNL