HENNEPIN COUNTY
MEDICAL EXAMINER'S OFFICE
AUTOPSY REPORT

ME NO.: 13-2385

CASE TITLE: MULTIPLE GUNSHOT WOUNDS

DECEASED: Terrance Franklin SEX: M AGE: 22

DATE AND HOUR OF DEATH: 5-10-13; 3:35 p.m.

DATE AND HOUR OF AUTOPSY: 5-11-13; 8:05 a.m.

PATHOLOGIST: Enid Boeding, M.D. STAFF: Owen Middleton, M.D.

FINAL DIAGNOSES:

22-year-old man who was shot by another person(s)

I. Multiple gunshot wounds

A. Perforating gunshot wound of right parietal scalp, indeterminate range

1. Entrance (B): right parietal scalp

2. Path: perforation of right parietal bone (with fractures), dura, brain (bilateral parietal and left temporal lobes), dura, and left temporal bone (with fractures)

3. Exit (I): left temple

4. Partial exit (A): right parietal scalp

5. Recovery: copper-color jacket fragment from skin of wound A

6. Trajectory: leftward, downward, and forward

B. Penetrating gunshot wound of right occipital scalp, intermediate range

1. Entrance (C): right occipital scalp

2. Path: perforation of occipital bone (with fractures), dura, brain, and dura; and penetration of left temporal bone (with fractures)

3. Recovery: one copper color jacket and three lead-color fragments from left petrous temporal bone

4. Trajectory: leftward and slightly forward

C. Penetrating gunshot wound of right post-auricular scalp, intermediate versus indeterminate range

1. Entrance (D): right post-auricular scalp, with associated graze wound of right pinna (H)

2. Path: penetration of subcutaneous tissue of scalp

3. Recovery: one jacketed projectile from occipital scalp

4. Trajectory: leftward, backward, and slightly upward

D. Penetrating gunshot wound of right ear, intermediate versus indeterminate range

1. Entrance (E): right external auditory meatus

2. Path: perforation of right temporal bone (with fractures) and dura; and penetration of brain

3. Recovery: one jacketed projectile from posterior brain tissue

4. Trajectory: leftward and backward

E. Penetrating gunshot wound of right temple, intermediate versus indeterminate range

1. Entrance (G): right temple

2. Path: perforation of frontal bone (with fractures) and dura; and penetration of brain

3. Recovery: one jacketed projectile from posterior brain tissue

4. Trajectory: leftward and backward

F. Perforating gunshot wound of the neck, intermediate versus indeterminate range

1. Entrance (F): right side of neck

2. Path: perforates subcutaneous tissue, C2-C3 intervertebral space, posterior spinal cord and dura, and subcutaneous tissue

3. Associated injuries:

   a. Comminuted fracture of posterior elements of second cervical vertebra

   b. Transection of right vertebral artery

4. Exit (J): left post-auricular skin

5. Trajectory: leftward, upward, and slightly backward

G. Graze gunshot wound of occipital scalp (K) with leftward trajectory

H. Penetrating gunshot wound of right arm, intermediate range

1. Entrance (L): right arm

2. Path: penetrates muscle tissue of right arm

3. Recovery: one jacketed projectile from anterior right shoulder

4. Trajectory: upward and leftward

I. Penetrating gunshot wound of right axilla, indeterminate range

1. Entrance (M): right posterior axilla

2. Path: perforates muscle tissue of back and right scapula (with fracture); and penetrates muscle tissue of right shoulder

3. Recovery: one jacketed projectile from muscle tissue anterior to right scapula

4. Trajectory: upward and leftward

J. Penetrating gunshot wound of back, indeterminate range

1. Entrance (N): right side of back

2. Path: perforates right chest wall and right axillary soft tissue; and penetrates muscle tissue of right supraclavicular region

3. Associated injuries:

   a. Displaced fracture, right 3rd rib

b. Hemorrhage, right 2nd, 3rd and 4th intercostal muscles

4. Recovery: one jacketed projectile from muscle tissue of right supraclavicular region

5. Trajectory: upward, leftward, and slightly forward

K. Additional projectile and fragments recovered:

1. One jacketed projectile loose in body bag

2. Two lead-color projectile fragments from hair

3. Six copper-color jacket fragments and four lead-color projectile fragments from brain, scalp, and dura

4. One copper and lead-color projectile fragment and one lead-color projectile fragment from muscle tissue of right shoulder

5. Three lead-color projectile fragments from muscle tissue of posterior neck

L. Injuries associated with gunshot wounds of the head:

1. Pulpifaction of base of cerebrum, cerebellum, and pons

2. Hemorrhage

a. Subconjunctival, right and left eyes

b. Subarachnoid, diffuse

3. Comminuted fractures of skull base

4. Linear fractures of calvarium

5. Left periorbital ecchymosis

II. Blunt force injuries

A. Head

1. Abrasions, cutaneous

2. Lacerations, mucosa of upper and lower lips

B. Trunk: cutaneous abrasions and excoriations

C. Upper extremities

1. Cutaneous linear abrasions and puncture consistent with animal bite(s), right arm

2. Nonspecific cutaneous abrasions and avulsion

D. Lower extremities: cutaneous abrasion

III. No natural disease

IV. Toxicology

A. Blood volatile screen: negative

B. Blood drug screen: negative

C. Blood THC (cannabinoids) screen: positive

D. Blood THC quantitation (results from NMS Laboratories): delta-9 THC 12 ng/mL; delta-9 carboxy THC 50 ng/mL

E. Blood PCP screen: negative

F. Blood bath salts (MDPV, mephedrone, and methylone) screen (results from NMS Laboratories): negative

G. *Blood synthetic cannabinoids screen (results from NMS Laboratories): negative

EB/KD: 6/20/13

Enid D. Boeding, M.D. 8/23/13
Enid D. Boeding, M.D.
Deputy Medical Examiner

MD 8/23/13
Owen Middleton, M.D.
Assistant Chief Medical Examiner

Lindsey C. Thomas MD
Lindsey C. Thomas, M.D. 8/24/13
Assistant Medical Examiner
Reviewing Pathologist

*IV G added to outline 8/20/13

ADDITIONAL PERSONNEL PRESENT AT AUTOPSY:

The autopsy is conducted in the presence of Sgts. Ann Kjos and Luis Porras of the Minneapolis Police Department.

IDENTIFICATION:

Positive identification is made by comparison of antemortem and postmortem fingerprints performed by the Minneapolis Police Department Crime Lab Unit. A Medical Examiner's identification tag is attached to the outside of the body bag and is labeled with appropriate case identifying information and recorded physical features. The body bag is sealed with a yellow locking zip tag bearing the following handwritten information: "CLN 5/10/13 2343 AB".

EXTERNAL EXAMINATION:

The body is that of a well-developed, well-nourished appearing, 5 feet 10 inches long, 173 pounds (clothed) black male whose appearance is consistent with the reported age of 22 years. Faint fixed red-purple livor mortis is present on the posterior dependent surfaces of the body, except in areas exposed to pressure. Rigor is developed in the large and small muscle groups. The body is cool (refrigerated). Dried blood is on the head, upper extremities, chest, and abdomen. Injuries are described in a separate section below.

The scalp is covered with normally distributed, tightly curled black hair woven into dreadlocks, averaging 16 cm in length. Facial hair consists of a trimmed black beard and mustache. The irides are brown, and the pupils are round. The sclerae are white. The ears are remotely pierced once. Blood issues from the external auditory canals. The nose and maxillae are palpably stable. The nares are patent, and the external surfaces of the lips and the oral frenula are atraumatic. The teeth appear natural and in adequate condition.

The neck is straight, and the trachea is midline. Three oblique hypopigmented scars are on the anterior neck and measure 0.5, 0.8, and 4 cm maximum dimension. The chest is symmetric. The abdomen is flat. A 5 cm oblique hyper- to hypopigmented scar is on the inferior right side of the abdomen. The genitalia are those of a normal adult male. The testes are descended and the scrotum is free of masses. Pubic hair is present in a normal distribution. Two hyperpigmented macular scars are on the superior right shoulder and superior right side of the back, and measure 1.5 and 1.8 cm maximum dimension, respectively. A 3.1

cm horizontal hyperpigmented scar is in the midline lumbar region of the back. Striae (stretch marks) are on the hips.

The upper and lower extremities are symmetric and without clubbing, edema or the absence of digits. Evidentiary paper bags are on the hands. A 4.5 cm oblique hypopigmented scar is on the anterior left forearm. A 3.4 cm oblique hypopigmented scar is on the anterolateral left forearm. The fingernails are of varying lengths, some extending slightly past the tips of the fingers, and are well maintained. Two oblique hyperpigmented scars are on the posteromedial left thigh, and measure 2.5 and 3 cm in maximum dimension. The toenails are short, thickened and yellow.

The following tattoos are present:

- 28 cm "Sheila R. I. P. Hollywood" and two stars, superior chest
- 16 cm "NINO", star and dollar sign, anterior right arm
- 12 cm "Nehemiah", anterior right forearm
- 19 cm "PRINCE", medial right forearm
- 6.5 cm "Joyce" and two hearts, anterior right wrist
- 9.5 cm illegible text and two hearts, lateral left arm (deltoid region)
- 15.5 cm "Laugh Now Cry Later" and clown, lateral left arm
- 14 cm "GURU" and stars, anterior left arm (bicep region)
- 20 cm "MOOKIE", medial left forearm
- 6 cm illegible text, posterior left wrist and hand

CLOTHING AND PERSONAL EFFECTS:

The following clothing items and personal effects are present on the body at the time of autopsy (the locations of any defects are described relative to how the involved garment is typically worn):

- One black V-neck "Hanes" t-shirt, size M, soiled with blood and brain matter
  - Three irregular torn defects are on the right shoulder, 4.8 to 6.9 cm maximum dimension.
  - Multiple roughly circular defects with frayed edges, 0.5-0.9 cm maximum dimension, are on the right shoulder.
  - A 1.4 cm ovoid defect with frayed edges is on the superior right shoulder.

  - Two ovoid defects measuring 1.5 and 2 cm maximum dimension are on the right side of the back.
  - A 9.9 cm torn defect is on the central back.
  - No soot or unburned gunpowder particles are seen on the t-shirt.
- One navy blue "Nautica" bathrobe, one size, with bloodstains on the neck area, left sleeve, and front (bathrobe around the left arm upon opening the body bag)
  - A used dryer sheet is in the left front pocket..
  - A 36 cm complex torn defect is on the right sleeve and right side seam. Adjacent to the tear is a 0.7 cm irregular ovoid defect. Dry clear substance is in the region of the tear.
  - No soot or unburned gunpowder particles are seen on the bathrobe.
- One pair of green, blue, and white plaid "Fruit of the Loom" boxers, size L, bloodstained around the waist and left side of the seat
- One pair of red "Fruit of the Loom" sweatpants with "Minnesota" printed in white on the right leg, size L, stained with blood around the waist
  - Two irregular defects, approximately 2-3 cm maximum dimension, are on the left knee.
  - No soot or unburned gunpowder particles are seen on the sweatpants.
  - The following items are in the right pants pocket:
    - Clear plastic bag of green leafy substance
    - Fragment of hard white plastic
    - US currency (coins)
  - The following items are in the left pants pocket:
    - US currency (cash)
    - Miscellaneous cards including EBT cards for "Michael J Oneal" and "Terrance T Franklin" and a Visa debit card for "Terrence Franklin"
    - Two movie ticket stubs
    - One white "BIC" lighter
- One pair of black, red, and white "Nike" leather-like athletic shoes, size US 9, with blood-like substance on the medial surface of the right sole
- One pair of black ankle socks
- One white metal earring with numerous clear colorless stones and a bent post (in the left earlobe)

RADIOGRAPHS:

Postmortem anterior-posterior and lateral radiographs of the head demonstrate skull fractures, radiopaque projectiles and

projectile fragments in the cranium and scalp, and a radiopaque earring. Postmortem anterior-posterior and lateral radiographs of the right shoulder and right arm demonstrate projectile fragments, two radiopaque projectiles in the region of the proximal right humerus and one projectile in the right supraclavicular soft tissue. Postmortem anterior-posterior and lateral radiographs of the chest demonstrate radiopaque debris projecting over the lateral right hemithorax and mid left thorax. A postmortem radiograph of the right forearm demonstrates no fractures or radiopaque debris.

EVIDENCE OF INJURY:

The ordering of the following injuries is for descriptive purposes only, and is not intended to imply order of infliction or relative severity. All wound trajectories are given relative to standard anatomic position.

Letters are used to label wounds on documentary photographs.

GUNSHOT WOUND OF RIGHT PARIETAL SCALP:

ENTRANCE (B): On the right parietal scalp, centered approximately 1¼ inches below the top of the head, 2¼ inches right of the anterior midline, and 4½ inches from the right external auditory meatus, is a gunshot wound consisting of a 1 x 0.7 cm oval defect with a circumferential pink-red marginal abrasion, which is maximally 0.2 cm wide between the 5 o'clock and 7 o'clock positions. No muzzle abrasion or evidence of soot, unburned gunpowder particles or gunpowder stippling is identified on the skin surrounding the wound.

PATH: The hemorrhagic wound track sequentially perforates the right parietal bone (with internal beveling and radiating linear fractures), dura, brain (including bilateral parietal and left temporal lobes), dura, and left temporal bone (externally beveled, with comminuted fractures).

EXIT (I, A): On the left temple, centered approximately 4 inches below the top of the head, 5¼ inches left of the anterior midline, and 2 inches from the left external auditory meatus, is a gunshot wound consisting of a 1.4 x 0.9 cm roughly Z-shape defect (I). A partial exit wound (A) is on the right parietal scalp, centered approximately ½ inch below the top of the head, 1¾ inches right of the superior midline, and 5¾ inches from the right external auditory meatus. This partial exit wound consists of a 2 x 0.7 cm irregular defect.

RECOVERY: Recovered from the skin of the partial exit wound (A) is a 0.5 cm maximum dimension copper-color jacket fragment.

TRAJECTORY: The wound track travels leftward, downward, and forward.

GUNSHOT WOUND OF RIGHT OCCIPITAL SCALP:

ENTRANCE (C): On the right occipital scalp, centered approximately 4½ inches below the top of the head, 3¾ inches right of the posterior midline, and 3½ inches from the right external auditory meatus, is a gunshot wound consisting of a 0.7 x 0.6 cm oval defect with a pink-red marginal abrasion between the 8 o'clock and 3 o'clock positions, which is maximally 0.2 cm wide at the 12 o'clock position. A 2.5 x 1.8 cm region of apparent gunpowder stippling (with intermixed pseudostippling of the hair follicles) surrounds the wound. No muzzle abrasion or soot is seen.

PATH: The hemorrhagic wound track sequentially perforates the occipital bone (internally beveled, with radiating linear fractures), dura, base of the brain (with pulpifaction), and dura; and penetrates the petrous portion of the left temporal bone (with comminuted fractures).

RECOVERY: Recovered from within the petrous portion of the left temporal bone in the skull base are a deformed 1.1 cm maximum dimension copper-color jacket with an approximate 0.9 cm diameter base, and three lead-color projectile fragments ranging from 0.8 to 1.4 cm maximum dimension.

TRAJECTORY: The wound track travels leftward and slightly forward.

GUNSHOT WOUND OF RIGHT POSTAURICULAR SCALP:

ENTRANCE (D): On the right postauricular scalp, centered approximately 5½ inches below the top of the head, 4 inches right of the posterior midline, and 2 inches from the right external auditory meatus, is a gunshot wound consisting of a 0.6 cm diameter circular defect with a pink-red marginal abrasion between the 8 o'clock and 6 o'clock positions, which is maximally 0.2 cm wide at the 2 o'clock position, and a micro-tear at the 9 o'clock position. No muzzle abrasion or evidence of soot, unburned gunpowder particles or gunpowder stippling is identified on the skin surrounding the wound.

On the right pinna, closely associated with entrance wound D, is a 0.7 cm diameter circular graze wound with a circumferential 0.1 to 0.2 cm wide red-black dried marginal abrasion (wound H).

PATH: The hemorrhagic wound path penetrates the subcutaneous tissue of the scalp.

RECOVERY: Recovered from the midline occipital scalp tissue is a moderately deformed, 1.8 cm maximum dimension copper- and lead-color jacketed projectile with an approximate 0.9 cm diameter base.

TRAJECTORY: The wound track travels leftward, backward, and slightly upward.

GUNSHOT WOUND OF RIGHT EAR:

ENTRANCE (E): In the right external auditory meatus, centered approximately 6 inches below the top of the head and 6 inches right of the anterior midline, is a gunshot wound consisting of a 0.9 cm diameter circular defect with a circumferential pink-red marginal abrasion, which is maximally 0.9 cm wide within the concha of the right ear at the 6 o'clock position.

PATH: The hemorrhagic wound track sequentially perforates the right temporal bone (with fractures) and dura; and penetrates the brain tissue.

RECOVERY: Recovered from within the left posterior brain tissue are two projectiles. The first is a moderately deformed 1.7 cm maximum dimension lead- and copper-color jacketed projectile with an approximate 1.1 cm diameter base. The second is a markedly deformed 1.3 cm maximum dimension lead- and copper-color jacketed projectile with an approximate 0.9 cm diameter base. Convergence of wound pathways does not allow for discrimination between the projectiles associated with this wound pathway and the wound pathway of the penetrating gunshot wound of the right temple (entrance wound G, described below).

TRAJECTORY: The wound track travels leftward.

GUNSHOT WOUND OF RIGHT TEMPLE:

ENTRANCE (G): On the right temple, centered approximately 4¼ inches below the top of the head, 3¼ inches right of the anterior midline, and 3½ inches from the right external auditory meatus, is a gunshot wound consisting of a 0.4 cm diameter circular defect with a circumferential dry, black marginal

abrasion, which is maximally 0.2 cm wide between the 7 o'clock and 12 o'clock positions.

PATH: The hemorrhagic wound track sequentially perforates the frontal bone (with comminuted fractures) and dura; and penetrates the brain tissue.

RECOVERY: Recovered from within the left posterior brain tissue are two projectiles. The first is a moderately deformed 1.7 cm maximum dimension lead- and copper-color jacketed projectile with an approximate 1.1 cm diameter base. The second is a markedly deformed 1.3 cm maximum dimension lead- and copper-color jacketed projectile with an approximate 0.9 cm diameter base. Convergence of wound pathways does not allow for discrimination between the projectiles associated with this wound pathway and the wound pathway of the penetrating gunshot wound of the right ear (entrance wound E, described above).

TRAJECTORY: The wound track travels leftward and backward.

NOTE: Injuries associated with gunshot wounds of the head described above include pulpifaction of the base of the cerebrum, cerebellum, and pons, comminuted fractures of the skull base, and linear fractures of the calvarium. Scattered bulbar and palpebral subconjunctival hemorrhages are present in both eyes. There is a diffuse film of subarachnoid hemorrhage. Ecchymosis is in the left periorbital region.

GUNSHOT WOUND OF THE NECK:

ENTRANCE (F): On the right side of the neck, centered approximately 7½ inches below the top of the head, 3¾ inches right of the posterior midline, and 2½ inches from the right external auditory meatus, is a gunshot wound consisting of a 0.7 cm diameter circular defect with a circumferential dry black marginal abrasion, which is maximally 0.4 cm wide at the 12 o'clock position.

PATH: The hemorrhagic wound track sequentially perforates the subcutaneous tissue, intervertebral space between the 2nd and 3rd cervical vertebrae, posterior spinal cord and dura, and subcutaneous tissue.

ASSOCIATED INJURIES: A comminuted fracture is in the posterior elements of the 2nd cervical vertebra. The right vertebral artery is transected.

EXIT (J): On the left postauricular skin, centered approximately 6 inches below the top of the head, 3½ inches left of the posterior midline, and 2¾ inches from the left external auditory meatus, is a gunshot wound consisting of a 2 cm linear defect.

TRAJECTORY: The wound track travels leftward, upward, and slightly backward.

NOTE: An 18 x 7 cm region of apparent gunpowder stippling encompasses wounds E, F, G, and H, suggesting that at least one of those wounds is of intermediate range. No muzzle abrasions, soot, or unburned gunpowder particles are identified surrounding these wounds.

GRAZE GUNSHOT WOUND OF OCCIPITAL SCALP (K):

On the occipital scalp, centered approximately 5½ inches below the top of the head, 1 inch left of the posterior midline, and 5½ inches from the left external auditory meatus, is a graze gunshot wound consisting of a 6.4 x 1.1 cm abrasion with circumferential micro-tears and skin tags on the left half of the wound pointing rightward. The trajectory of the graze wound is leftward. No muzzle abrasion or evidence of soot, unburned gunpowder particles or gunpowder stippling is identified on the skin surrounding the wound.

GUNSHOT WOUND OF RIGHT ARM:

ENTRANCE (L): On the right arm, centered approximately 15½ inches below the top of the head, ¾ inches right of the posterior midline of the arm, and 10 inches from the right shoulder (acromion process), is a gunshot wound consisting of a 0.9 cm diameter circular defect with a dry pink-tan marginal abrasion between the 5 o'clock and 9 o'clock positions, which is maximally 0.4 cm wide at the 6 o'clock position. An 8 x 7 cm region of apparent gunpowder stippling with rare embedded tan particles consistent with gunpowder surrounds the gunshot wound. No soot or muzzle abrasion is present.

PATH: The hemorrhagic wound track penetrates the muscle tissue of the right arm.

RECOVERY: Recovered from the muscle tissue of the anterior right shoulder is a 1 cm maximum dimension moderately deformed copper- and lead-color jacketed projectile with a 1.1 cm diameter base.

TRAJECTORY: The wound track travels upward and leftward.

GUNSHOT WOUND OF RIGHT AXILLA:

ENTRANCE (M): On the right posterior axilla, centered approximately 14½ inches below the top of the head, 8¼ inches right of the posterior midline, and 8 inches from the right shoulder (acromion process), is a gunshot wound consisting of a 0.9 x 0.7 cm oval defect with a dry pink-black marginal abrasion between the 3 o'clock and 10 o'clock positions, which is maximally 0.5 cm wide at the 6 o'clock position. No muzzle abrasion or evidence of soot, unburned gunpowder particles or gunpowder stippling is identified on the skin surrounding the wound.

PATH: The hemorrhagic wound track perforates the muscle tissue of the back and the right scapula (with fracture); and penetrates the muscle tissue of the right shoulder.

RECOVERY: Recovered from muscle tissue anterior to the right scapula is a 2.7 cm maximum dimension markedly deformed lead- and copper-color jacketed projectile with an approximate 1.1 cm diameter base.

TRAJECTORY: The wound track travels upward and leftward.

GUNSHOT WOUND OF BACK:

ENTRANCE (N): On the right side of the back, centered approximately 18 inches below the top of the head, 7½ inches right of the posterior midline, and 11½ inches from the right shoulder (acromion process), is a gunshot wound consisting of a 0.7 x 0.6 cm oval defect with a dry red-black marginal abrasion between the 2 o'clock and 10 o'clock positions, which is maximally 0.8 cm wide at the 5 o'clock position. No muzzle abrasion or evidence of soot, unburned gunpowder particles or gunpowder stippling is identified on the skin surrounding the wound.

PATH: The hemorrhagic wound track sequentially perforates the muscle of the right posterior chest wall and right axillary soft tissue; and penetrates the muscle of the right supraclavicular region.

ASSOCIATED INJURIES: A displaced fracture is in the posterolateral right 3rd rib. Hemorrhage is within the posterolateral 2nd, 3rd and 4th intercostal muscles.

RECOVERY: Recovered from the muscle tissue in the right supraclavicular region is a moderately deformed 1.4 cm maximum

dimension copper- and lead-color jacketed projectile with an approximate 1.1 cm diameter base.

TRAJECTORY: The wound track travels upward, leftward and slightly forward.

ADDITIONAL PROJECTILE AND FRAGMENTS RECOVERED:

- Recovered from within the body bag is a moderately deformed 1.2 cm maximum dimension lead- and copper-color jacketed projectile with an approximate 0.9 cm diameter base.
- Two lead-color projectile fragments, 0.4 and 0.5 cm maximum dimension, are recovered from the hair.
- Six copper-color jacket fragments (ranging from 0.7 to 1.2 cm maximum dimension), and four lead-color projectile fragments (ranging from 0.3 to 0.5 cm maximum dimension), are recovered from the brain, scalp and dura.
- One 2.1 cm maximum dimension copper- and lead-color projectile fragment and one 0.9 cm maximum dimension lead-color projectile fragment are recovered from the muscle tissue of the right shoulder.
- Three lead-color projectile fragments, 0.5 to 0.7 cm maximum dimension, are recovered from the muscle tissue of the posterior neck.

DESCRIPTION OF BLUNT FORCE INJURIES:

HEAD AND NECK:

- A 0.6 cm dry brown C-shape abrasion is on the left side of the forehead at the hairline.
- Two superficial red-brown abrasions are on the orbital ridge lateral to the left eye and measure 1.0 and 1.6 cm maximum dimension.
- A 1.9 x 0.3 cm dry red-black abrasion is on the right brow ridge (wound O).
- A 0.7 cm partial thickness laceration surrounded by an approximate 1.5 cm maximum dimension contusion is on the mucosa of the right side of the upper lip.
- Scattered partial thickness lacerations ranging from 0.1 to 1.3 cm maximum dimension are on the mucosal surface of the right side of the lower lip.

TRUNK:

- A 1.5 cm dry red abrasion is on the superior left shoulder.

- Two oblique red-brown abrasions are on the superior left side of the back, and measure 4.5 and 9.8 cm maximum dimension.
- Two superficial excoriations are on the inferior left side of the abdomen near the groin and measure 6.3 and 7.5 cm maximum dimension.
- A 4 x 1.5 cm group of oblique red-brown abrasions is on the left side of the back at the waist.

UPPER EXTREMITIES:

- On the lateral, posterior, and medial right arm is a 19.5 x 7.5 cm group of dry red-brown linear and circular abrasions, ranging from 0.2 to 3.2 cm maximum dimension, and a 1.4 x 0.3 cm abrasion containing a superficial puncture. This group of injuries is consistent with an animal bite.
- On the anterior right shoulder is a 2.5 x 2 cm patch of punctate dry red-black abrasions.
- A 0.7 cm avulsion is on the lateral surface of the right thumb.
- A 0.2 cm red abrasion is on the right palm near the base of the 4th and 5th fingers.
- Two 0.7 cm brown-red abrasions are on the posterior left arm near the elbow.
- Two vertical linear abrasions measuring 1.3 and 2.9 cm long surrounded by a faint 2.6 cm purple contusion are on the anterior left forearm.
- A 0.3 cm red abrasion is on the dorsum of the left hand.

LOWER EXTREMITIES:

- A 2 cm maximum dimension oblique red-brown abrasion is on the posterior left thigh.

INTERNAL EXAMINATION:

HEAD: The soft tissue, muscles of the scalp, calvarium, dura mater, and brain are injured as described above. Blood-tinged cerebrospinal fluid surrounds the 1200 g brain, which has unremarkable gyri and sulci (where uninjured). Evaluation of the basal ganglia, ventricles, brainstem, cerebellum, and arterial systems is limited by injury. The brain has an overall normal configuration. There is atlanto-occipital hypermobility due to the cervical vertebral fracture described above.

NECK: Injuries of the neck are described in "Gunshot Wound of the Neck" above. The anterior strap muscles of the neck are homogeneous, red-brown and without hemorrhage. The thyroid cartilage and hyoid are intact. The larynx is lined by intact white mucosa. The thyroid is symmetric and red-brown, without cystic or nodular change. The tongue is free of bite marks, hemorrhage or other injuries.

BODY CAVITIES: Except for a fracture of the posterolateral right 3rd rib (described in "Gunshot Wound of the Back" above) the ribs, sternum and vertebral bodies are visibly and palpably intact. No excess fluid is in the pleural, pericardial or peritoneal cavities. Focal pleural adhesions are on the right upper lobe of the lung. The organs occupy their usual anatomic positions.

RESPIRATORY SYSTEM: The right and left lungs weigh 300 and 340 g, respectively. The external surfaces are smooth and pink-red. The pulmonary parenchyma is crepitant. No mass lesions or areas of consolidation are present. A small amount of bloody secretion is in the tracheobronchial tree. The pulmonary vasculature is unobstructed.

CARDIOVASCULAR SYSTEM: The 290 g heart is contained in an intact pericardial sac. The epicardial surface is smooth, with minimal fat investment. The coronary arterial distribution is right-dominant. Cross-sections of the vessels show no significant atherosclerosis. The myocardium is homogeneous, red-brown and firm, without areas of discoloration or fibrosis. The valve leaflets are thin and mobile. The walls of the left and right ventricles are 1.3 and 0.3 cm thick, respectively. The foramen ovale is sealed. The endocardium is smooth and glistening. The aorta contains scattered intimal fatty streaks and gives rise to three intact and patent arch vessels. The renal and mesenteric vessels are unremarkable.

LIVER AND BILIARY SYSTEM: The 1200 g liver has an intact, smooth capsule and a sharp anterior border. The parenchyma is tan-brown and soft, with the usual lobular architecture. No mass lesions or other abnormalities are seen. The gallbladder contains a small amount of bile and no stones. The mucosal surface is green and velvety. The extrahepatic biliary tree is patent.

SPLEEN AND HEMATOPOIETIC SYSTEM: The 110 g spleen has a smooth, intact, red-purple capsule. The parenchyma is maroon and soft.

No lymphadenopathy is identified. The exposed bone marrow is unremarkable.

PANCREAS: The pancreas is firm and yellow-tan, with the usual lobular architecture. No mass lesions or other abnormalities are seen.

ADRENALS: The right and left adrenal glands are symmetric, with bright yellow cortices and gray medullae. No masses or areas of hemorrhage are identified.

GENITOURINARY SYSTEM: The right and left kidneys weigh 130 g each. The external surfaces are intact and smooth. The cut surfaces are red-tan, with uniformly thick cortices and sharp corticomedullary junctions. The pelves are unremarkable and the ureters are normal in course and caliber. White bladder mucosa overlies an intact bladder wall. The bladder contains approximately 130 mL of clear yellow urine. The prostate is normal in size, with a lobular, yellow-tan parenchyma. The seminal vesicles are unremarkable. The testes are free of mass lesions, contusions or other abnormalities.

GASTROINTESTINAL TRACT: The esophagus is intact and lined by smooth, gray-white mucosa. The stomach contains approximately 20 mL of yellow fluid. No medications are discerned. The gastric wall is intact. The duodenum, loops of small bowel and colon are unremarkable. The appendix is present.

ADDITIONAL PROCEDURES:

- Documentary photographs are taken.
- Specimens retained for toxicologic testing: aortic and mixed heart blood, vitreous, liver, urine and gastric contents.
- Representative tissue biopsies are submitted in cassettes for microscopic examination; additional biopsies are retained in formalin for potential microscopic evaluation.
- All recovered projectiles are photographed and placed in labeled, sealed envelopes.
- Fingernail clippings and pulled head hairs are placed in labeled, sealed envelopes.
- The dissected organs are returned to the body.

EB/KD: 5/13/13

MICROSCOPIC EXAMINATION:

LUNGS (1):	Patchy intra-alveolar fresh hemorrhage. No significant polarizable debris.
HEART (2):	Left and right ventricular myocardium with no significant pathologic abnormality.
THYROID (3):	No significant pathologic abnormality.
PANCREAS (3):	No significant pathologic abnormality; background autolysis.
LIVER (3):	No significant pathologic abnormality.
KIDNEY (4):	No significant pathologic abnormality.
ADRENAL (4):	No significant pathologic abnormality.
BRAIN (5):	Random section of cortex with focal perivascular hemorrhage.

EB/KD: 5/13/13