

# MIAMI-DADE COUNTY MEDICAL EXAMINER DEPARTMENT

MIAMI-DADE COUNTY

Number One on Bob Hope Road Miami, FL 33136 Phone (305) 545-2400 Fax (305) 545-2439

REIGADA, Carmen September 23, 2015... 9:00 A.M. Case No. 2015-02701

## **CAUSE OF DEATH:**

Dog Bites of Head, Neck, and Extremities

Sean Hurst, M.D. Associate Medical Examiner

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Emma O. Lew, M.D. Deputy Chief Medical Examiner

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## **AUTOPSY PROTOCOL**

#### ATTENDEES:

FORENSIC TECHNICIAN: David Morcomb PHOTOGRAPHER: Dana Al-Musallam

#### **EXTERNAL EXAMINATION:**

The body is that of a well-developed, well-nourished, 5 foot 1 inch, 128 pound white woman who appears the reported age of 91 years. The body mass index (BMI) is 24 kilograms per meter squared. The body is refrigerated and not embalmed. A green plastic bracelet encircling the left ankle has the inscription "258731." The body has no tattoos.

Injuries of the head, face, and neck are described below. The back of the head and neck have straight, up to 5 centimeter, white hair. The sclerae are white and mildly injected. The irides are hazel and the pupils are each 5 millimeters in diameter. The maxillary teeth are natural and the mandible is edentulous. The left side of the mandible has three, silver metallic screws for a dental implant.

The chest is symmetrical. The nipples and breasts are unremarkable. The abdomen is soft and protuberant, and has no palpable masses. The posterior torso has multiple, up to 0.7 centimeter, brown, raised macules. The external genitalia are those of a fully developed, adult woman and are not injured. The anus is unremarkable.

#### **EVIDENCE OF MEDICAL INTERVENTION:**

An endotracheal tube is properly positioned in the oropharynx and terminates in the lower trachea. An orogastric tube is in the mouth and terminates in the upper portion of the esophagus. Electrocardiogram pads are adhered to both sides of the chest and the left side of the abdomen. The left antecubital fossa has an intravenous catheter. The left wrist and right groin have arterial catheters. A chest tube is in the right seventh intercostal space. A white gauze bandage is wrapped around the left leg. A hospital bracelet encircling the left wrist includes the decedent's medical record number.

### **EVIDENCE OF INJURY:**

The following injuries of the head, neck and extremities are compatible and consistent with antemortem dog bites.

#### INJURIES OF THE HEAD AND NECK:

The skin of the scalp and most of the face is absent. The soft tissue of most of the calvarium is absent. The right parietal bone and portions of the frontal and left parietal bones are exposed. The left side of the head has a slightly greater amount of dried soft tissue and blood adhered to the bones of the skull compared to the right. The muscles of the face are mostly absent. The facial and nasal bones are exposed and have adhered, dried blood and scattered shreds of soft tissue. The cheeks

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have some remaining adipose tissue. The lower eyelid of the left eye is mostly intact. The upper lip is absent. The skin and soft tissue of the anterior portion of the chin is mostly intact. The chin has four horizontally-oriented, up to 0.6 x 0.4 centimeter, superficial puncture wounds near the midline of the face. The left lateral aspect of the skin of the chin has multiple, vertically-oriented, up to approximately 0.3 centimeter linear abrasions that do not penetrate the subcutaneous tissue. The lateral aspects of the skin of the chin have irregular edges that continue around the lateral and posterior aspects of the neck and have many, vertically-oriented tears. A small amount of the scalp tissue is on the lower back of the head; it has straight, up to 7 centimeter, gray and brown hair.

The right side of the neck has a  $3.5 \times 1.2$  centimeter, elliptical puncture wound that penetrates approximately 1.1 centimeters into the subcutaneous adipose tissue. Approximately 2 centimeters lateral to this wound in the skin of the right lateral aspect of the neck are four, up to  $0.8 \times 0.2$  centimeter, parallel, superficial puncture wounds and a  $0.3 \times 0.2$  centimeter puncture wound. The skin of the back of the neck has four, parallel, up to  $1 \times 0.2$  centimeter, puncture wounds.

The sternocleidomastoid muscles and the left sternohyoid muscles have a small amount of hemorrhage.

#### **INJURIES OF THE UPPER EXTREMITIES:**

The anterior, posterior, lateral, and medial surfaces of the right arm have multiple puncture wounds that extend across an area that is approximately 16 x 12 centimeters in greatest dimensions. The wounds are associated with dark purple ecchymoses. The anterolateral surface of the right arm has an obliquely-oriented, 2.6 x 0.4 centimeter, superficial, linear wound. The lateral surface of the right arm has five, up to 0.5 centimeter, round, purple, ecchymoses in a linear arrangement. The posterior aspect of the right arm has multiple, up approximately 8 centimeter, superficial, tears in the skin that are surrounded by up to 0.5 centimeter purple ecchymosis and extend across an area that is approximately 9 x 6 centimeters in greatest dimensions. Immediately below this is an approximately 8 x 7 centimeter region with a vertically-oriented incision wound which is 5 centimeters in length and approximately 0.5 centimeter in depth and three associated, up to 0.5 x 0.2 centimeter puncture wounds and several smaller, superficial tears in the skin. The posterior surface of the right forearm has multiple superficial linear and irregular wounds with associated purple ecchymosis that range in size from 0.2 x 0.2 centimeter to 2 x 0.5 centimeters and are distributed across two regions that are approximately 10 x 3 centimeters immediately below the elbow and approximately 10 x 2 centimeters immediately above the wrist. The deepest wound on the posterior aspect of the right forearm is approximately 0.6 centimeter. In addition, the dorsal aspect of the right wrist has a 3.5 centimeter, curvilinear wound and two associated elliptical penetrating wounds that are 0.5 x 0.2 centimeter and 0.4 x 0.2 centimeter. The medial aspect of the right arm and forearm have multiple, superficial puncture wounds with associated purple ecchymoses that range in size from 0.2 x 0.2 centimeter to 3.2 centimeters. Two groupings of five puncture wounds each are distributed in a linear fashion in the region of the right elbow. The anteromedial aspect of the right forearm has a 2 x 1 centimeter. irregular, elliptical laceration which is approximately 0.5 centimeter deep and exposes the underlying adipose tissue. The ventral surface of the right hand has an approximately 1 x 0.5 centimeter laceration on the skin of the thenar prominence and a 0.5 x 0.2 centimeter laceration on the skin of

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the hypothenar prominence. The right first digit has 0.3 centimeter wound immediately proximal to the nail bed on the dorsal surface, a 0.5 centimeter wound and a round, 0.4 centimeter puncture wound under the nail on the ventral surface, and multiple, up to 0.4 centimeter purple ecchymoses on the medial and lateral surfaces. The right second digit has a 0.2 centimeter abrasion on the dorsal surface. The right third digit has two superficial lacerations on dorsal surface that are  $0.3 \times 0.2$  centimeter and approximately  $0.5 \times 0.2$  centimeter.

The lateral surface of the left shoulder has a 1.5 x 0.3 centimeter abrasion. The posterior surface of the forearm has multiple, horizontally-oriented wounds with associated purple ecchymoses that range in size from 0.2 x 0.2 centimeter to 2 x 0.6 centimeters and extend across an approximately 11 x 4 centimeter region and a 1 x 0.6 centimeter, stellate abrasion. The deepest wound extends approximately 1 centimeter and exposes the subcutaneous adipose tissue. The anterior surface of the left forearm has multiple, superficial, horizontally-oriented wounds with associated ecchymoses that range in size from approximately 0.3 x 0.2 centimeter to approximately 1.1 x 0.2 centimeters and extend across an area that is approximately 7 x 3 centimeters. The left first digit has six, up to 0.7 centimeter, superficial, horizontally-oriented wounds with surrounding ecchymoses on the dorsal surface, and a 1 centimeter, vertically-oriented wound and a 0.6 centimeter, horizontally-oriented wound on the ventral surface. The left second digit has two, up to 0.5 centimeter wounds on the dorsal surface and a 0.6 centimeter, superficial wound on the lateral surface. The left third digit has three, up to 0.3 centimeter abrasions. The left fourth digit has multiple, up to 0.5 x 0.5 centimeter ecchymoses on the dorsal surface and a 0.2 centimeter abrasion on the ventral surface. The left fifth digit has 1.5 x 1 centimeter ecchymosis on the posterior and medial surfaces.

#### **INJURIES OF THE LOWER EXTREMITIES:**

The right leg has multiple, round, puncture wounds which are approximately 1 centimeter below the right knee and range in size from  $0.2 \times 0.2$  centimeter to  $0.5 \times 0.4$  centimeter. The anterior, medial, and lateral surfaces of the right shin have multiple, up to  $6.5 \times 0.6$  centimeter, lacerations and puncture wounds that are associated with surrounding purple ecchymoses. The deepest wound extends 1.1 centimeters into the underlying soft tissue and exposes the musculature of the right leg. The posterior surface of the right leg has an irregular,  $9 \times 2.5$  centimeter wound which penetrates approximately 0.5 centimeter into the soft tissue and exposes the musculature of the right leg. It is surrounded by multiple, faint, superficial, up to 0.3 centimeter puncture wounds. The lateral surface of the right ankle has multiple, up to  $0.3 \times 0.2$  centimeter puncture wounds and four, up to  $4.6 \times 0.7$  centimeter wounds, the deepest of which extends 0.5 centimeter into the underlying soft tissue and exposes the musculature of the right foot and ankle. The posterior aspect of the right ankle has two, 1.5 centimeter and 2.5 centimeter, horizontally-oriented, linear wounds.

The left knee has a  $4 \times 2$  centimeter, purple contusion. The anterior surface of the left leg has multiple puncture wounds with associated surrounding purple ecchymosis that range in size for  $0.2 \times 0.2$  centimeter to  $2 \times 0.8$  centimeters and extend across an approximately  $24 \times 0.8$  centimeter area. The wounds are concentrated at the midpoint of the left leg. Five puncture wounds at the superior aspect of this region are horizontally oriented. The deepest wound extends approximately 0.5

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centimeter and exposes the underlying adipose tissue. The lateral aspect of the left leg has two additional, elliptical,  $4.5 \times 0.7$  centimeter and  $2.7 \times 0.5$  centimeter, vertically-oriented wounds which are each approximately 0.5 centimeter deep and expose the underlying adipose tissue. The medial aspect of the left leg has multiple additional puncture wounds that range in size from  $0.2 \times 0.1$  centimeter to  $2 \times 1$  centimeters.

#### **INTERNAL EXAMINATION:**

The right fourth and fifth ribs are fractured anteriorly. The left first through third, sixth and seventh ribs are fractured anterolaterally. The sternum and clavicles are intact. The diaphragms are not elevated. The mesothelial surfaces are smooth and glistening. All body organs are in the normal anatomical positions. The pleural cavities have no adhesions or excess fluid accumulation. The pericardial sac contains approximately 10 milliliters of dark red, serous fluid. The peritoneal cavity has no excess fluid or adhesions.

The strap muscles of the neck are injured as described above. The internal jugular veins and carotid arteries are intact and uninjured. The hyoid bone, thyroid cartilage, and larynx are intact. The pale, brown thyroid gland has a normal size and shape and unremarkable parenchyma.

The 400 gram heart has smooth epicardial surfaces and a normal amount of subepicardial adipose tissue. The four thin, pliable cardiac valves have no deformities or vegetations and the valve circumferences are the following: tricuspid - 11 centimeters, pulmonic - 7.7 centimeters, mitral - 9.4 centimeters, and aortic - 7.9 centimeters. The mitral valve is mildly calcified. The mural endocardium is thin, smooth, and translucent. The maroon myocardium has no fibrosis, necrosis, erythema, or areas of accentuated softening or induration. The normally positioned ostia of the left main and right coronary arteries are patent. The coronary arteries arise normally and follow a left dominant distribution. The right coronary artery is thin-walled and patent. The left anterior descending and left circumflex coronary arteries have 30% stenosis and 50% stenosis, respectively by atherosclerosis. The coronary arteries are patent throughout and have mild atherosclerosis. The right and left ventricular free walls are 0.4 centimeter and 1.5 centimeters thick, respectively. The interventricular septum is 1.6 centimeters thick. The abdominal aorta has severe, hemorrhagic atherosclerosis in the infrarenal portion.

The upper airway is clear of debris and foreign material. The mucosal surfaces are smooth, pink-tan, and unremarkable. The trachea and mainstem bronchi are clear of debris and foreign material. The right and left lungs are 320 grams and 220 grams, respectively. The pleural surfaces are smooth and glistening and have a moderate amount of anthracotic pigment deposition. The posterior aspects of the middle and lower lobes of the right lung have 4 x 2 centimeter and 4 x 4 centimeter, respectively, contusions. The posterior aspect of the upper lobe of the left lung has a 4 x 3 centimeter contusion of the hilum and the posterior aspect of the lower lobe of the left lung has an 8 x 4 centimeter contusion with intraparenchymal extension. The pink and dark red pulmonary parenchyma has no masses, granulomata, or discrete areas of consolidation. The mammillary arteries are patent and have no thrombi or emboli. The anthracotic bronchomediastinal lymph nodes are not enlarged.

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The 1320 gram liver has a smooth, glistening, intact capsule covering dark brown parenchyma with a preserved lobular pattern. The liver has a superficial, 1.5 x 0.5 centimeter contusion, multiple petechial hemorrhages of both lobes, a 3 x 1 centimeter, horizontally-oriented laceration on the diaphragmatic surface of the right lobe and a 2 x 1 centimeter, vertically-oriented laceration on the anterior surface of the left lobe. The extrahepatic and intrahepatic vessels are patent. The gallbladder contains approximately 15 milliliters of dark green, mucoid bile and multiple, up to approximately 0.2 centimeter, multifaceted, black calculi. The gallbladder mucosa is dark green and velvety. The cystic, common, and hepatic bile ducts are patent. The pink-tan pancreas has an intact lobular architecture and patent ducts.

The tongue is unremarkable. The esophagus is lined by pink-tan, smooth mucosa, is not dilated or stenosed, and has no varices. The stomach has a normal size and shape. The mucosa of the gastric body is mildly erythematous. The gastric mucosa is free of ulcerations and masses and is arranged in the usual folds. The stomach contains approximately 500 milliliters of viscous, dark brown liquid and partially digested food. The small intestine is normal in length, configuration, and diameter. It has a smooth, shiny serosal surface. The mucosa is erythematous. The mesentery has a normal insertion. The large intestine has a smooth, shiny serosal surface and no palpable masses or obstructions. The appendix is unremarkable.

The 200 gram spleen has an intact capsule covering dark red parenchyma. The lymph nodes of the neck, chest, abdomen, and pelvis are unremarkable.

The adrenal glands are unremarkable.

The 90 gram right kidney and 80 gram left kidney have pale brown, granular surfaces. The parenchyma has well-defined corticomedullary junctions. The renal arteries have moderate atherosclerosis but are patent. The ureters have normal courses and calibers. The bladder is empty. Its mucosa is tan, smooth, and intact.

The vagina has a smooth mucosa and contains no foreign material. The cervix has no masses or obstructions. The uterus and ovaries are atrophic. The fallopian tubes are unremarkable.

The musculoskeletal system is normally developed. The muscle groups of the anterior neck, chest wall, abdomen, and iliopsoas are symmetrical, mildly atrophic, and pale red-brown. The pelvic bones and vertebral bodies of the cervical, thoracic, and lumbar spine are unremarkable.

The skull is intact and has no fractures of the calvarium and skull base. There is no epidural or subdural hemorrhage. The brain is 1090 grams. The leptomeninges are thin and transparent. There is no subarachnoid hemorrhage. The cerebral hemispheres are symmetrical. The structures at the base of the brain, including cranial nerves and blood vessels, are intact. The thin-walled arteries at the base of the brain have no berry aneurysms or other obvious abnormalities. The gray-white matter border is distinct. The deep white matter has no softening, nodules, or masses. The mammillary bodies are not shrunken or discolored. The dorsal cerebellar vermis is not atrophic. The symmetrical

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hippocampi are not shrunken, scarred, or ecchymotic. The atlantooccipital ligaments and cervical spine are intact.

#### **AUTOPSY FINDINGS:**

- 1. Injuries of head and neck
  - a. Defleshed face and scalp
  - b. Multiple puncture wounds of the neck
- 2. Injuries of the extremities
  - a. Multiple abrasions, puncture wounds, and ecchymoses.
- 3. Cardiomegaly
- 4. Atherosclerotic cardiovascular disease
  - a. Left anterior descending coronary artery 30% stenosis
  - b. Left circumflex coronary artery 50% stenosis
  - c. Severe aortic atherosclerosis
  - d. Moderate atherosclerosis of the renal arteries
- 5. Bilateral nephrosclerosis
- 6. Pulmonary anthracosis
- 7. Cholelithiasis
- 8. Multiple rib fractures, lacerations and contusion of liver, contusions of lungs, and contusions of heart, likely iatrogenic.

TISSUES SUBMITTED FOR HISTOLOGY INCLUDE: Heart, lung, liver, and kidney

Sean Hurst, M.D.

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**Associate Medical Examiner** 

Emma O. Lew, M.D.

**Deputy Chief Medical Examiner** 

Date: October 6, 2015