GLENN N. WAGNER, D.O.
CHIEF MEDICAL EXAMINER

# County of San Diego

OFFICE OF THE MEDICAL EXAMINER
5570 OVERLAND AVE., SUITE 101, SAN DIEGO, CALIFORNIA 92123-1206
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CHRISTINA STANLEY, M.D.
CHIEF DEPUTY MEDICAL EXAMINER

## INVESTIGATIVE REPORT

9/1/2011

**CALL INFO**

| NAME OF DECEASED (LAST, FIRST MIDDLE) | AKA | HIO | CASE NUMBER |
|---|---|---|---|
| **SHACKNAI, Maxfield Aaron** | | ☐ | **11-01542** |

| INVESTIGATOR | REPORTED BY | REPORTING AGENCY | PREVIOUS WAIVE # |
|---|---|---|---|
| Leah Burton | Staff | Rady Children's Hospital | |

| CALL DATE AND TIME | ARRIVAL DATE AND TIME | RETURN DATE AND TIME |
|---|---|---|
| 07/16/2011 1307 | 07/16/2011 1551 | 07/16/2011 1642 |

**DECEDENT**

| DATE AND TIME OF DEATH | DATE OF BIRTH | AGE | GENDER | RACE |
|---|---|---|---|---|
| **07/16/2011 1130** | 06/07/2005 | 6 Years | Male | White |

| RESIDENCE (STREET, CITY, STATE, ZIP) | COUNTY | LAST SEEN ALIVE |
|---|---|---|
| 7620 N. Dobson Road Scottsdale, AZ 85256 | Maricopa County | |

| SOCIAL SECURITY NO. | CITIZENSHIP | OCCUPATION | PAID AUTOPSY |
|---|---|---|---|
| 764-54-0253 | USA | Student | ☐ |

**DEATH**

| LOCATION OF DEATH | TYPE OF PLACE |
|---|---|
| Rady Children's Hospital | In Patient |

ADDRESS (STREET, CITY, STATE, ZIP)
3020 Children's Way San Diego, CA 92123

SUMMARY

The decedent was a six year old child. On 07/11/11, he reportedly fell from a staircase banister and was transported via ambulance to Rady Children's Hospital with head trauma. His condition did not improve and on 07/16/11, brain death was pronounced.

Medical Examiner's jurisdiction invoked according to the California Government Code 27491: Deaths due to known or suspected as resulting in whole or in part from or related to accident or injury, either old or recent.

**INCIDENT**

| LOCATION OF INCIDENT | INCIDENT PLACE TYPE | AT WORK | AT RESIDENCE |
|---|---|---|---|
| Home | | ☐ | ☐ |

| ADDRESS (STREET, CITY, STATE, ZIP) | COUNTY |
|---|---|
| 1043 Ocean Boulevard Coronado, CA 92118 | San Diego |

| DATE AND TIME OF INCIDENT | INVESTIGATING AGENCY | OFFICER | BADGE # | REPORT # |
|---|---|---|---|---|
| 07/11/2011 1010 | Coronado Police | Officer Erhard | 1014 | 2011-1467 |

| DECEDENT WAS | BELTED | HELMETED | POSITION | ON PRIVATE PROPERTY |
|---|---|---|---|---|
| | | ☐ Yes ☐ No | | ☐ Yes ☐ No |

| VEHICLE | LICENSE NUMBER | STATE |
|---|---|---|
| | | |

**NOTIFICATION**

| IDENTIFIED BY | METHOD | DATE AND TIME |
|---|---|---|
| Rady Children's Hospital | Visual | 07/16/2011 1300 |

| FUNERAL HOME | PROPERTY | PUBLIC ADMINISTRATOR | TYPE OF EXAM |
|---|---|---|---|
| AM Israel Mortuary | ☐ Yes ☑ No | ☐ Yes ☑ No | Autopsy |

| NAME OF NOK OR OTHER | RELATIONSHIP | | DATE NOTIFIED | NOTIFIED BY |
|---|---|---|---|---|
| Johna Shacknai | Father | | 7/16/2011 11:30:00 AM | Hospital |
| NAME OF NOK OR OTHER | RELATIONSHIP | | DATE NOTIFIED | NOTIFIED BY |
| Dina Shacknai | Mother | | 7/16/2011 11:30:00 AM | Hospital |

San Diego Medical Examiner
5570 Overland Avenue, Suite 101
San Diego, CA 92123-1206
(858) 694-2895

Case Number: 11-01542
Investigator: Leah Durant
Date of Death: 07/16/11
Date Autopsied: 07/18/11

## INVESTIGATIVE NARRATIVE

**Decedent:** Maxfield Aaron Shacknai

**Antemortem Events:**
On 07/16/11, the following initial information was obtained from San Diego Coronado Police (CPD) Officer Erhard, ID 1014's Officer Report Narrative for case number 2011-1467. On 07/11/2011, the decedent, Maxfield (Max) Shacknai was at his father's, Jonah Shacknai's part time home in Coronado with Jonah's girlfriend, Rebecca Zahau and her minor sister, Xena Zahau. Xena had reportedly gone upstairs to take a shower, Rebecca went to use the restroom and Max was last seen in the kitchen. About ten minutes after Rebecca was in the restroom, she heard a loud crash. She found Max unresponsive on the floor beneath the banister, but was later not sure if he had been lying on his back or if she turned him over. She heard Max say the dog's name "Ocean". He became unresponsive. She gave a few rescue breaths and yelled for Xena who then called 9-1-1 at 1010 hours. Officer Erhard was the first to arrive to the scene and at 1012 hours and gave dispatch the correct address once he made contact with Xena. He then alerted the fire department personnel. When Officer Erhard entered the home, he saw Rebecca kneeled beside Max. She was crying and yelling the child's name. Max was ashen, unresponsive and did not appear to be breathing. His feet faced the wall below the stair case while his head was directed toward the door. An upright broken glass or crystal chandelier was near Max's left shoulder. A "Razor" type scooter with the rear wheel and rear one third portion of the foot plate lying across his lower left right shin. Rebecca told Officer Erhard the last time she saw the scooter, it had been on the second floor the day before. He had been told in the past not to ride his scooter in the hallway. Max was transported via ambulance to Sharp Coronado Hospital Emergency Department.

On 07/18/2011, the following information was obtained from Sharp Coronado Hospital medical records. On 07/11/11 at approximately 1036 hours, Max arrived to Sharp Coronado Hospital Emergency Department. He was found to have head trauma and was transferred to Rady Children's Hospital by the Children's Hospital Emergency Transport (CHET) Pediatric Team.

On 07/16/11, the following information was provided by Rady Children's Hospital medical records. On 07/11/11, Max had been found pulseless and apneic at 1010 hours. He was at the bottom of a 15 foot stair case and chandelier was next to him. It was unclear why he fell or if he had fallen on top of the chandelier or the chandelier fell on top of him. Cardiopulmonary resuscitation (CPR) was reportedly started by Max's father's girlfriend. Upon paramedic's arrival, CPR was continued and cardiotonic medications were administered. During a second round of epinephrine, he had a spontaneous return of circulation. The estimated duration of the CPR was 25-30 minutes. He was transported via ambulance to Sharp Coronado Hospital. A head CT demonstrated cerebral edema, "rotational artifact" and a possible C5 abnormality. He had nonreactive pupils upon admission and decorticated posturing. He was transferred to Rady Children's Hospital Pediatric Intensive Care Unit. The impressions listed were: metabolic acidosis, closed head injury with cerebral edema, possible cervical spine injury, hypothermia, hyperglycemia, and respiratory failure with pulmonary edema. He had a frontal skull fracture adjacent to the anterior aspect of the sagittal suture. A ventriculostomy tube was placed which may have caused a punctate hemorrhage in the right frontal lobe. He was found to have global hypoxic ischemic injury during repeat head CTs. His condition did not improve. Brain death was pronounced on 07/15/11 at 2358 hours by Dr. Worthen and confirmed on 07/16/11 at 1130 hours by Dr. Hans. This office was notified by Lifesharing staff. Procurement is scheduled for 07/17/11 at 0600 hours. A red seal envelope was left at with Lifesharing staff and HS&B Staff notified of the pending transport and red seal.

**Past Medical, Surgical, and Social History:**
On 07/16/11, the following information was provided by Max's mother, Dina Shacknai. Max was described as an intuitive, loving, excited, funny, and smart child who loved to play soccer.

According to Rady Children's Hospital medical records, Max had a full-term spontaneous vaginal delivery without complication. He had an unremarkable medical history, until a recent appointment with his primary care physician showed a murmur and follow-up was recommended.

**Scene Description:**
On 07/16/11, Rady Children's Hospital Intensive Care Unit bed 337 was viewed.

**Body Description:**
On 07/16/11 at approximately 1605 hours, Max was viewed supine on a hospital gurney with life support measures in place. He was clad in an Adidas shirt and gray shorts. Medical paraphernalia noted on the body consisted of an endotracheal tube, bilateral intravenous (IV) access lines in the upper extremities, a Foley catheter, nasogastric tube, and IV access line in his left foot. Abrasions were noted to the back and face.

On 07/17/11, HS&B Transportation personnel transported to the Medical Examiner's Office for examination.

**Special Requests:**
Coronado PD Detective Thomas Adkins, SDSO Angela Tsuida and a representative from the District Attorney's Office requested to attend the autopsy.

**Identification:**
The decedent was visually identified by his family at the scene and confirmed through Rady Children's Hospital medical records.

**Tissue Donation:**
On 07/16/11 at approximately 1508 hours, Deputy Medical Examiner Lucas and Deputy Medical Examiner Mena approved Lifesharing's requested for lungs, liver, kidneys, pancreas, and intestine for donation only.

**Antemortem Specimens:**
I collected four vials of antemortem blood from Rady Children's Hospital laboratory at approximately 1619 hours. The antemortem blood samples were secured in tamper-proof evident bag #AA0495010 and placed in the refrigerator on 06/16/11 at approximately 1657 hours.

**Public Administrator:**
No referral made.

**Other Important Factors:**
None.

**Signed:** L Burton 08/15/11
**Leah Burton, Medical Examiner Investigator**

**Approved by:** September 1, 2011

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## AUTOPSY REPORT

| | | | |
|---|---|---|---|
| **Name:** | MAXFIELD AARON SHACKNAI | **ME#:** | 11-1542 |
| **Place of death:** | Rady Children's Hospital<br>San Diego, CA 92123 | **Age:** | 6 Years |
| | | **Sex:** | Male |
| **Date of death:** | July 16, 2011; 1130 Hours | | |
| **Date of autopsy:** | July 18, 2011; 1022 Hours | | |

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CAUSE OF DEATH: ANOXIC/ISCHEMIC ENCEPHALOPATHY

Due To: RESUSCITATED CARDIOPULMONARY ARREST

Due To: CERVICAL SPINAL CORD CONTUSION

Due To: BLUNT FORCE TRAUMA OF HEAD AND NECK

MANNER OF DEATH: ACCIDENT

AUTOPSY SUMMARY:

I. Blunt force trauma of head and neck (July 11, 2011).
   - A. Cervical spinal cord contusion (no bony trauma).
     - 1. Cardiopulmonary arrest (25-30 minutes), resuscitated.
       - a. Anoxic/ischemic encephalopathy.
         - 1) Brain swelling with tonsillar herniation.
   - B. Facial abrasions and contusions.
   - C. Subgaleal hemorrhage.
   - D. Midline, linear, nondisplaced frontal and vertex skull fracture.

II. Healing abrasions and contusions of back.

III. Contusions and healing abrasions of arms and legs.

IV. Status post organ procurement.

V. See M.E. Case 11-1517.

OPINION: According to the Investigator's Report, investigations by the Coronado Police Department and the San Diego Sheriff Office, and available medical records, on July 11, 2011 this 6-year-old boy was at his father's part-time beach home in Coronado (the "Spreckels Mansion") with his father's girlfriend and her minor sister. His father's girlfriend was in the bathroom and her sister was taking a shower. The girlfriend reported hearing a loud noise after not hearing from the decedent for 10 or 20 minutes and found him on the floor at the bottom of a stairwell next to a broken chandelier, which normally hung in that position. A "Razor" type scooter was lying across his right shin. She stated that he uttered the dog's name "Ocean" and then became unresponsive. 911 was called at 1010 hours by the minor sister, and when paramedics arrived he was pulseless, apneic, and asystolic (no heart beat and no breathing).

He was transported to Sharp Coronado Hospital and then to Rady Children's Hospital. A pulse was regained after approximately 25 – 30 minutes. Head CT scans showed cerebral edema, a possible C5 abnormality (at Sharp Coronado; this was not confirmed at Rady Children's), and a non-displaced frontal skull fracture. No intracranial hemorrhage was noted. Radiologically, the changes in the brain were reportedly more consistent with anoxic/ischemic encephalopathy (brain injury due to temporary loss of blood flow and/or oxygen with subsequent reperfusion) instead of physically traumatic brain injury. The decedent remained at Rady Children's Hospital on life support for the next several days until he was declared dead by neurologic criteria five days after the incident. He subsequently underwent organ procurement. The decedent's father's girlfriend passed away at the house two days after the fall (M.E. case 11-1517), committing suicide by hanging.

He had no significant medical history, although a II/IV systolic heart murmur was detected on May 26, 2011. He had been referred to pediatric cardiology, but had not had that appointment.

The autopsy documented scattered, small bruises and healing abrasions on the back and right shoulder. There were bruises on the forehead and in the right periorbital region. There was an underlying linear frontal skull fracture running along midline and becoming diastatic (involving the normal bony connection) at the top of the head. The brain was swollen and there was tonsillar herniation. There was no evidence of heart disease. Neuropathological consultative examination of the brain revealed a contusion (bruise) of the high cervical spinal cord. There was no bony injury of the spinal column.

This pattern of injuries is consistent with a face first impact on the floor from a fall, causing the skull fracture, hyperextension of the neck (bending the head backward), and subsequent injury of the spinal cord. A spinal cord injury at this level can cause cardiorespiratory arrest (cessation of heart activity and/or breathing), which explains the decedent's loss of blood flow and oxygen on the day he fell. The time between this event

and when his pulse was regained 25 – 30 minutes later resulted in irreversible damage to his brain, which ultimately led to his death five days later.

Toxicological testing detected of blood drawn during admission to the hospital revealed a presumptive positive benzodiazepines screen, but this was not confirmed. No illicit drugs, other medications, or alcohol was detected.

Therefore, based on these findings and the history and circumstances of the death as currently known, the cause of death is certified as **anoxic/ischemic encephalopathy due to resuscitated cardiopulmonary arrest due to cervical spinal cord contusion due to blunt force trauma of head and neck,** and the manner as **accident.**

JONATHAN R. LUCAS, M.D.
Deputy Medical Examiner

Date signed: 9-2-11

IDENTIFICATION: When initially viewed, the body is in a body bag sealed with red tag number "0107465", cut at 1022 hours. There is a blue Medical Examiner's tag taped to the outside of the band bearing the decedent's name and case number. It is subsequently placed around the decedent's right ankle. Upon opening the bag, there is a yellow Medical Examiner's tag bearing the decedent's name and case number around the right ankle.

WITNESSES: Detective Tom Adkins from the Coronado Police Department, Forensic Evidence Technician Denys Williams and Detective Mark Palmer from the San Diego Sheriff's Office, and Deputy District Attorney William La Fond from the San Diego County District Attorney's Office are present. The Forensic Autopsy Specialist is Fabian King, Sr.

CLOTHING: The body is unclad when initially viewed.

EVIDENCE OF MEDICAL INTERVENTION:

1. There is tape over both eyes.
2. On the superior right frontal scalp there is a 1/2 inch sutured incision.
3. There is a pulse oximetry sensor on the left ear.
4. There is an endotracheal tube in place with tape securing it and the name "MAXIE" on the tape.
5. There is a nasogastric tube in the right nostril.
6. There is a tube (thermometer) in the left nostril.
7. There is a second probable thermometer in the oral cavity.
8. There is a triple lumen central line in the left upper chest.
9. There is an electrocardiogram pad on the posterior right shoulder and on the left upper back. There is also one on the left lateral thorax.
10. There is a blood pressure cuff around the right upper arm.
11. There is a puncture in the right antecubital fossa.
12. On the posterior left hand there is a puncture with ecchymosis.
13. There are two punctures in the lateral right wrist.
14. There is a splint on the left wrist.
15. There is an intravascular access line in the anterior left wrist.
16. There is a urinary catheter in place attached to a reservoir containing approximately 185 cc of yellow urine.
17. There is a puncture in the proximal left shin.
18. There is a hospital identification band around the left ankle bearing the decedent's name.
19. There is an intravascular access line in the anterior right ankle.
20. There is a pulse oximetry sensor on the right great toe.
21. There is a puncture on the lateral right proximal shin.
22. There is a coarsely sutured surgical incision extending from the suprasternal notch to the pubis (status post organ procurement).

## EXTERNAL DESCRIPTION

The body is of a well-developed, well-nourished, 45 inch, 57 pound boy whose appearance is consistent with the given age of 6 years.

The straight, brown scalp hair measures up to 3-1/2 inches and is shaved over the right frontal region. The nose and facial bones are palpably intact. The eyes have brown irides, glistening corneae, and conjunctivae without hemorrhage, petechiae, or yellow discoloration. The nose is normally formed and contains medical devices, but is otherwise unremarkable. The oral cavity has natural deciduous teeth in good condition and an atraumatic mucosa. The ears are normally formed without drainage or creases. The neck is symmetrical and unremarkable.

The torso is unremarkable. The abdomen is flat and soft. The back is symmetrical and unremarkable, except for the injuries. The extremities have no amputations, deformities, or edema. The hands are well developed. The fingernails are slightly dirty, trimmed, and do not extend beyond the tips of the fingers. There is a minimal overhang. The toenails are trimmed and clean. The genitalia are of a normal circumcised boy. The testes are palpable within the scrotum. The anus is unremarkable.

SCARS: On the right side of the thoracolumbar back there is a vertically oriented, thin, linear, 4 inch scar. On the anterior distal left thigh there is a 1/2 inch, horizontally oriented, thin, linear scar.

BODY MARKINGS: On the posterior proximal left upper arm there is a 2-1/2 x 1/4 inch, tan, nonraised macule. An incision in the skin reveals no underlying hemorrhage.

POSTMORTEM CHANGES: There is moderate to marked, symmetric rigor mortis of the upper and lower extremities, neck, and jaw. Livor mortis is posterior, faint red, and fixed. The body is cold (refrigerated).

## INJURIES, EXTERNAL AND INTERNAL

HEAD AND NECK:

Just medial to the right eye and on the right paracentral forehead there is a roughly vertically oriented, 2-1/2 x 3/4 inch group of injuries. The most superior one, near the hairline, is a 1/4 x 1/8 inch blue contusion. Just inferior to that is a 3/8 x 1/4 inch red contusion with a small amount of brown scab. Inferior to this is a 9/16 x 1/4 inch red healing abraded contusion adjacent to a 1/2 x 1/4 inch blue contusion. Inferior to these, just above the medial end of the left eyebrow, there is 1 x 3/8 inch, faint, red contusion. Just medial to the right eye, near the bridge of the nose, there is a 3/8 x 1/4 inch red

ecchymosis, and there is a small amount of scab on this as well. Between the right eyelid and the right eyebrow there is a horizontally oriented, 1/2 x 1/8 inch, red ecchymosis.

Just below the right eye there is a 1 x 1 inch red and blue contusion, comprised of a 1 x 1/2 inch red ecchymosis superiorly and an adjacent 1/2 x 3/8 inch, faint, blue contusion inferiorly. On the mid right cheek, at the level of the mouth, there is a 1/2 x 1/4 inch blue contusion.

On the lateral left ala there is a 1/4 inch, vertically oriented, slightly healing, linear abrasion.

On the anterior right neck, just above the clavicle, there is an obliquely oriented, 1 x 1/4 inch, faint, red contusion/ecchymosis.

**Internal:**
Reflection of the scalp reveals a small amount of galeal and subgaleal hemorrhage under the right forehead contusions. There is no scalp laceration. There is a 6-1/2 x 4 inch sagittally oriented area of thin subgaleal hemorrhage over the top of the head containing a 4-1/2 x 2-1/2 inch thick subgaleal hemorrhage centrally. There is a sagittally oriented 7-1/4 inch midline frontal skull fracture. The anterior 3-1/2 inches are linear and the posterior 3-3/4 inches are diastatic and slightly separated with hemorrhage. There is no epidural hemorrhage. There is minimal subdural staining on the parasagittal vertex. The 1/8 inch diameter burr hole in the right superior frontal bone is noted.

TORSO:

On the mid thoracic back there is a vertically oriented, 5-1/2 x 3/4 inch array of healing abrasions and thin, brown scabs. The most superior one measures 1/4 inch in diameter and has a pale base. The next measures 5/8 x 3/8 inch and has a red, moist center with a surrounding thin, brown scab. The next four are evenly spaced at approximately 1/2 inch apart and are 1/4 inch in diameter, brown, thin, superficial scabs. Just distal to this there is a 1/2 inch diameter, brown, healing scab with a moist center. Just distal to this there is a 5/8 x 5/8 inch, brown, healing scab and the most inferior mark is a 7/8 x 1/2 inch, brown, healing scab. The group is linear and at the superior end is at midline. Moving inferiorly, the group diverges from midline to the left, up to a distance of 1 inch at the lower end.

On the midline towards the lower end of the previous array of abrasions there is a 3/8 x 1/4 inch, moist, healing, scabbed abrasion. Also on midline over the upper lumbar back, there is a 1-1/4 x 3/8 inch, brown, healing scab with a 3/8 inch, moist, healing abrasion in the center. Just distal to this is a 3/8 inch diameter, thin, brown scab.

On the lower right flank there is a 3/8 inch diameter blue contusion. On the lateral right buttock there is a 1/2 x 3/8 inch diameter blue contusion.

Between the right shoulder and the base of the right neck, there is a coronally oriented, 3/4 x 5/16 inch, healing, pale injury with a slightly raised, possibly scabbed edge posteriorly (histology taken).

RIGHT UPPER EXTREMITY:

On the anterior right shoulder there is a 1/2 x 3/8 inch, focally apparently scabbed, faint, red contusion. On the medial proximal right forearm there is a horizontally oriented, 5/8 inch, thin, linear, scabbed abrasion. On the right elbow there is a 1/8 inch brown scab. On the posterolateral right wrist there is a 1/8 inch diameter blue contusion.

LEFT UPPER EXTREMITY:

On the medial aspect of the left elbow there are two 1/4 inch diameter contusions; one is red and the other is blue. On the palmar aspect of the left 5th finger over the proximal interphalangeal knuckle, there is a horizontally oriented, 3/8 x 1/16 inch, light tan irregularity with possible raised, keratinaceous, rolled skin (may represent tape residue). Portions of it appear white and raised. There is no reddish discoloration (histology taken).

RIGHT LOWER EXTREMITY:

On the anterior proximal right knee there is a 5/8 x 3/8 inch blue contusion.

LEFT LOWER EXTREMITY:

On the anterior distal left thigh there is a faint, 1/2 inch, thin, linear, scabbed abrasion. Just lateral to this is a faint, 1/8 inch diameter, red contusion. On the anterior proximal left knee there is a 1/8 inch diameter blue contusion. On the anterior mid left shin there is a discontinuous, 3/8 inch, scabbed, linear abrasion.

## INTERNAL EXAMINATION

BODY CAVITIES: The abdominal fat layer measures up to 1.5 cm. There has been organ procurement, including the liver, pancreas, great vessels (aorta and vena cava), kidneys, and perirenal fat with adrenal glands. The small and large intestines, stomach, and mediastinum have been separated from their spinal and retroperitoneal attachments. The heart is outside of the pericardium. The diaphragm has been cut down and a portion is missing on the right. A portion of the spleen is absent.

There are no adhesions in any of the body cavities. There are approximately 300 or 400 cc of combined red bloody fluid in the thoracic and abdominal cavities.

CARDIOVASCULAR SYSTEM: The heart weighs 120 grams and has a smooth, glistening epicardial surface with many petechiae, which are in areas confluent. This is primarily over the right ventricle and laterally. The coronary arteries pursue a normal right dominant course and are unremarkable and widely patent. The coronary ostia are normally placed and patent. The ventricles are slightly dilated. The myocardium is uniformly dark red and firm without pallor, hemorrhage, softening, or fibrosis. The tricuspid, pulmonic, mitral, and aortic valve circumferences are 7.5 cm, 4.5 cm, 5.2 cm, and 4.2 cm, respectively. The left ventricle, right ventricle and interventricular septum measure 0.8 cm, 0.3 cm and 1.0 cm in thickness, respectively. The foramen ovale is closed. There are no atrial or ventricular septal defects. The endocardial surfaces and four cardiac valves are unremarkable and without vegetations.

The aorta is absent.

RESPIRATORY SYSTEM: The right lung weighs 206 grams, and the left weighs 193 grams. Both lungs have smooth, glistening pleural surfaces. There are a few coarse pleural petechiae on the anterolateral lower lobe of the left lung. On the right, the lower lobe has an ill-defined area of dark red congestion posterolaterally, measuring up to 1 inch. There is a separate smaller area subpleurally in the inferior portion of the lower lobe of the right lung measuring 1/2 inch in diameter. Both lungs have reddish-tan, subcrepitant parenchyma and multifocal, light tan, apparent consolidation involving all lobes. No abscesses are noted. There are no masses. The bronchi are lined by glistening, light tan mucosa and are empty.

HEPATOBILIARY SYSTEM: The liver is absent.

There are two small pieces of pancreatic parenchyma, both in the region of the head. Both have yellow-tan, lobulated, unremarkable parenchyma without masses, hemorrhage, fibrosis, or calcification.

HEMOLYMPHATIC SYSTEM: Residual spleen appears to account for at least an estimated 90% of the total volume and weighs 61 grams. It has a smooth, glistening, intact capsule. The parenchyma is dark maroon and has faint white pulp. There are no enlarged lymph nodes in the mesentery. The thymus weighs 13 grams, appears normal size for age, and is light tan and lobulated.

GASTROINTESTINAL SYSTEM: The small and large intestines have been removed from their retroperitoneal attachments. The esophagus and gastroesophageal junction are unremarkable. The stomach contains 30 cc of black liquid (consistent with charcoal). The gastric and duodenal mucosae are unremarkable. The small and large intestines

and vermiform appendix are unremarkable. The small intestines contain a small to moderate amount of light tan to yellowish-green, slightly thick material. The large intestines contain a moderate amount of thick, green stool, maximal distally. In the upper esophagus just below the larynx, there are three superficial abrasions measuring 1/4 inch and 1/8 inch vertically on the right side and anteriorly just left of midline a 5/16 x 1/8 inch abrasion.

UROGENITAL SYSTEM: The kidneys are absent. The bladder contains 8 cc of light yellow urine. The bladder wall is not thickened. The prostate gland is normal size for age.

ENDOCRINE SYSTEM: The thyroid gland is symmetrical and has pale golden-tan parenchyma without masses or cysts. The adrenal glands are absent. The pituitary gland is unremarkable and of normal size.

MUSCULOSKELETAL SYSTEM: The vertebrae, clavicles, stemum, ribs and pelvis are without fracture. The ribs are not brittle. The musculature is normally distributed and unremarkable.

HEAD: There are injuries, described above. Otherwise, the skull and scalp are unremarkable.

CENTRAL NERVOUS SYSTEM: The fresh brain weighs 1530 grams and is swollen with flattened gyri and narrowed sulci. There is no subarachnoid hemorrhage. There are no cortical contusions. There is bilateral tonsillar herniation. The brain is retained in formalin for neuropathological examination at a later date. The spinal cord is removed and has patchy apparent subdural blood staining. There is no epidural hemorrhage. The cord is retained in formalin for neuropathological examination at a later date.

NECK: The trachea and larynx are lined by glistening, light tan mucosa and are empty, except for the endotracheal tube. The tubes from the nose and the wire from the mouth all extend into the esophagus. The cervical vertebrae, hyoid bone, and tracheal and laryngeal cartilages are without fracture. The unremarkable tongue, anterior strap muscles and paratracheal soft tissues are without hemorrhage.

## SPECIMENS

TOXICOLOGY: The following specimens are submitted for toxicology: vitreous, urine, and gastric contents.

HISTOLOGY: Portions of tissues and major organs are retained in formalin. Sections of skin from left 5th finger (3), injury on right shoulder (3), heart (25), and lungs (5) are submitted for microscopic examination.

PHOTOGRAPHS: The usual facial photographs, overall photographs, and photographs of the injuries and heart are taken.

RADIOLOGY: Postmortem radiographs are made and retained including a 3D reconstruction of the head. The frontal fracture is identified. No other bony trauma is identified.

## MICROSCOPIC EXAMINATION

SKIN FROM LEFT 5TH FINGER (see page 7) (3 sections): No abnormality or injury is seen.

INJURY OF RIGHT SHOULDER (see page 7) (3 sections): There is a well-demarcated area of a fibrous cap and deeper nuclear debris with admixed acute inflammation and macrophages. It extends into the superficial dermis. No evidence of nuclear streaming is seen. The adjacent epidermis and underlying dermis are unremarkable.

HEART (25 sections): Multiple sections of myocardium, including right and left ventricle show no inflammation or fibrosis. There are scattered isolated hypereosinophilic apparently necrotic myocytes in the left ventricle, often in the epicardial region. One section of the right ventricle has an area of contraction band necrosis (this is at the edge of one of the sections). Sections of the sinoatrial node, nodal artery, atrioventricular node, and bundle of His reveal no abnormalities.

LUNGS (5 sections): There is extensive atelectasis and filling of airspaces with variable mixtures of fibrin, macrophages and/or type 2 pneumocytes, and neutrophils. A few areas of open alveoli remain, but they are scattered. The underlying parenchyma is unremarkable. A few scattered larger fragments of foreign material are visible under polarized light. Some are within the alveoli.

JRL:SCC:lcb
D: 7/18/11 T: 7/19/11
Rev. 9/2/11 clb

# NEUROPATHOLOGY REPORT

**NAME:** MAXFIELD SHACKNAI
**M.E. #:** 11-1542(N)
**PATHOLOGIST:** JONATHAN R. LUCAS, M.D.
**N.S.M.E.#:** 711
**DATE:** AUGUST 9, 2011

## GROSS DESCRIPTION:

Available for examination is the entire formalin-fixed brain, the spinal cord, and a portion of convexity dura. The superior sagittal sinus is thrombosed, but otherwise the epidural and subdural surfaces are clean and glistening. The fixed brain weighs 1590 grams. The leptomeninges are delicate and transparent over normally developed cerebral hemispheres which display vascular congestion and diffuse swelling with flattening of gyri with narrowing of sulci. The vessel of the circle of Willis are normally formed and free of atherosclerosis. Both unci are grooved but they are neither hemorrhagic nor softened. There is bilateral cerebellar tonsillar herniation with petechial hemorrhage, softening and fragmentation of the cerebellar tonsils which obliterate the cisterna magna.

Brainstem removal confirms uncal grooving without softening, hemorrhage, or necrosis. No Duret hemorrhages are identified.

Coronal sections through the cerebral hemispheres reveal a cortical gray ribbon of normal thickness which is slightly pale and often indistinctly demarcated from unremarkable underlying white matter. The corpus callosum is intact. The ventricular system is compressed to slit-like proportions. There is a narrow linear hemorrhage shunt track in the right frontal lobe commencing between the right superior and middle frontal gyri and extending through white matter to the ventricular surface of the right caudate nucleus. The basal ganglia and thalami are pale, but of normal size and shape. The subthalamic regions and hypothalami are caudally displaced, i.e. central diencephalic herniation. The hippocampi are of normal size and shape and the grooved unci are neither hemorrhagic nor overtly softened or necrotic. Sections through the cerebellum and brainstem show age-appropriate absence of pigmentation of the substantia nigra. There is no Duret hemorrhage in the brainstem. The cerebellar hemispheres and vermis display "silver wiring" autolytic artifact. The previously described petechial discoloration and apparent necrosis and fragmentation of the herniated cerebellar tonsils is again, noted.

Also received is a 27.5 cm long specimen of spinal cord in its dural sheath. The epidural fat is unremarkable. The dura over the lower cervical and upper thoracic spinal cord is seemingly thicker than normal and the underlying leptomeninges show a pale

gray-brown discoloration rather than their typical thin and glistening transparency. Some reddish-brown discolorations of leptomeninges over the thoracic and lumbar cord are also noted. This could represent cerebellar tonsillar herniation of folia into subarachnoid space. Cross sections through the uppermost portion of the spinal cord specimen disclose hemorrhage or hemorrhagic necrosis of gray matter, i.e. hematomyelia, extending for 1 - 2 cm from the rostral end of the cord before disappearing. Multiple cross sections of spinal cord levels caudal to the hematomyelia show no abnormalities of fiber tracts or gray matter.

**SECTION CODE:**

**CASSETTE A =** Upper end of spinal cord specimen with hematomyelia.
**CASSETTE B =** Rostral extent of spinal cord and section below hematomyelia.
**CASSETTE C =** Cerebellar tonsils and medulla.
**CASSETTE D =** Right posterior hippocampus.
**CASSETTE E =** Left posterior hippocampus.
**CASSETTE F =** Left amygdala with grooved uncus.
**CASSETTE G =** Left mid frontal cortex.
**CASSETTE H =** Medulla.
**CASSETTE I =** Pons.

**MICROSCOPIC DESCRIPTION:**

H&E stained sections of cervical spinal cord show acute hemorrhagic necrosis consistent with cord contusion. Staining pallor, swollen axons, a few shrunken hyperangulated and hypereosinophilic neurons, and multiple streak-like petechiae predominantly affect the posterior horns and posterior columns of the cervical cord. A section taken from just below the hemorrhagic necrosis displays the lower cervical cord enlarged anterior horns with a few hypereosinophilic neurons, microglial hyperplasia, and scanty perivascular lymphocytic cuffing. Herniated cerebellar granule cell layer in the leptomeninges account for its brown discoloration grossly. The herniated cerebellar tonsils themselves are fragmented and hemorrhagic and some of their Purkinje cells are acutely necrotic. Changes of acute ischemic encephalopathy are widespread in neocortex and hippocampus. Most neurons in the left frontal lobe section and both hippocampal formations (including their granule cell layers) are shrunken, hyperangulated, and have hypereosinophilic cytoplasm and pyknotic nuclei. Ischemic neurons are plentiful in the basis pontis and there are a few even in the medulla. Microglial hyperplasia and, more unexpectedly, scanty perivascular lymphocytic cuffs, are interpreted as most likely reactive phenomena rather than as evidence of encephalitis since there is little or no leptomeningeal inflammation and no neuronophagia is identified.

**FINAL NEUROPATHOLOGIC DIAGNOSIS:**

Child brain and spinal cord with:

1. Cervical spinal cord-Acute hemorrhagic necrosis consistent with contusion.
2. Acute diffuse ischemic encephalopathy.
3. Cerebral edema (brain weight= 1,590 g).
4. Status post right frontal lobe shunt placement.
5. Central diencephalic herniation.
6. Bilateral cerebellar tonsilar herniation.

Lawrence A. Hansen, M.D.
Neuropathologist
8/23/11
Date signed

LAH:clb
D: 8/9/11 T: 8/10/11
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# County of San Diego

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## TOXICOLOGY REPORT

Name: **SHACKNAI, Maxfield Aaron**

Medical Examiner Number: **11-01542**

Date of Death: **07/16/2011**

Pathologist: **Jonathan R. Lucas, M.D.** LB

Specimens Received: **Antemortem Blood, Gastric, Peripheral Blood, Urine, Vitreous**

| Test Name (Method of Analysis) | Specimen Tested | Result |
|---|---|---|
| Alcohol Analysis (GC/FID-Headspace) | Antemortem Blood (Serum) | |
| Alcohol (Ethanol) | | Not Detected |
| Acetone, Methanol, Isopropanol | | Not Detected |
| Drugs of Abuse Screen (ELISA) | Antemortem Blood (Serum) | |
| Cocaine metabolites | | Not Detected |
| Amphetamines | | Not Detected |
| Opiates | | Not Detected |
| **Benzodiazepines** | | **Presumptive Positive** |
| Fentanyl | | Not Detected |
| Cannabinoids | | Not Detected |
| Base Screen (GC/MS) | Antemortem Blood (Serum) | Not Detected |
| Benzodiazepines (HPLC/DAD) | Antemortem Blood (Serum) | Not Detected |

Antemortem blood was collected on 07/11/2011; time unspecified.
End Results

Approved and Signed: 07/29/2011
Iain M. McIntyre, Ph.D.
Forensic Toxicology Laboratory Manager
(All Inquiries/Correspondence)

Reviewed:
Chris Vance
Toxicologist II