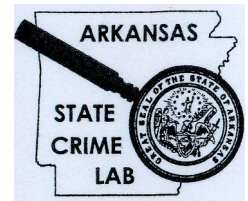




Mike Beebe  
Governor

# ARKANSAS STATE CRIME LABORATORY



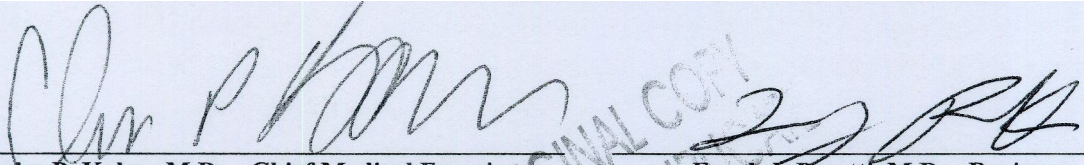
Kermit B. Channell II  
Executive Director

## MEDICAL EXAMINER DIVISION

**Case No:** ME-289-10 **Date of Examination:** March 29, 2010  
**Name:** HARPER, Pamela  
**Age:** 52 years **Race:** White **Sex:** Female  
**County:** Pulaski

### CONCLUSIONS

**CAUSE OF DEATH:** Ethanol, Propoxyphene, and Acetaminophen Intoxication with Complications.  
**CONTRIBUTORY CAUSE:** Environmental Hypothennia.  
**MANNER OF DEATH:** Suicide.

  
Charles P. Kokes, M.D. – Chief Medical Examiner  
Pathologist of Record  
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EXTERNAL DESCRIPTION:

The body was that of a well developed, well nourished, white female, clad only in a hospital type gown. A pair of gray hospital socks accompanied the body. The body weighed 148 pounds, measured 66 inches in height, and appeared consistent with the stated age of 52 years. Body temperature was cold. Rigor mortis was fully and uniformly developed in the extremities. Fixed, purple-red lividity was present on posterior body surfaces, except in areas exposed to pressure. Noted on the lower back were multiple, roughly horizontally oriented, postmortem skin impressions. These were roughly linear in shape. Tardieu spot formation was present in several of these indentations, and in some areas was nearly confluent. This imparted a linear appearance to the Tardieu spots. The scalp was covered by hair measuring up to 12 inches in length. The natural hair color was gray. Most of the hair had been tinted red-blond. On initial examination, the scalp appeared to display an excessively scaly appearance. On closer examination, this appeared to be due to application of adhesive material and small strips of fabric. The adhesive and fabric had loosened, imparting the scaly appearance. The scalp was without evidence of antemortem injury. The irides were gray and the corneae were clear. The conjunctivae and sclerae showed no petechial hemorrhages or other significant changes. The external ears were unremarkable. The nasal passages and mouth were clear. The teeth were natural and in fair condition. The neck was without external evidence of antemortem injury. The chest was normally developed, generally symmetric, and showed no evidence of recent injury. The breasts were normally developed and without palpable masses. A 1 3/4 inch long healed linear scar was noted on the superior lateral right breast. The abdomen was flat and showed no evidence of injury or abnormality. The external genitalia were those of a normally developed adult female. The external genitalia appeared slightly edematous, but was otherwise unremarkable. Pubic hair was absent. The lower extremities were normally developed and generally symmetric. Superficial injuries involving the knees and right lower leg will be described below. Superficial injuries involving both heels will be described below. The ankles and feet were otherwise unremarkable. The upper extremities were normally developed and generally symmetric. Superficial injuries involving the upper extremities will be described below. A faint, 1 inch long, healed linear scar involved the posterior left elbow. A longitudinally oriented, 4 inch long, healed, linear scar involved the distal dorsal ulnar right forearm. No tattoos or needle tracks were present. Located on the ventral surfaces of both wrists were multiple faint, transversely oriented, well healed, linear scars. The hands were unremarkable except for medical attention to be described below. Examination of posterior body surfaces did not reveal evidence of antemortem injury on the back. Tardieu spot formation on the lower back has been previously noted. Superficial injury on the right presacral area will be described below. The buttocks and anus were without evidence of injury or abnormality.

EVIDENCE OF MEDICAL ATTENTION:

An endotracheal tube and an orogastric tube were inserted in the mouth.

Multiple ECG pads were present on the upper anterior chest, lower lateral left chest, and lower lateral right chest.

A Foley catheter was nonnally positioned. It was connected to a container which held approximately 100 ml of dark yellow urine.

A gauze and tape bandage covered a fresh needle puncture mark on the proximal anterior left lower leg.

Pressure cuffs were positioned around both lower legs.

A triple lumen catheter was inserted in the left infraclavicular skin.

An intravenous line was inserted in the right antecubital fossa.

Two hospital type identification bands were present around the right wrist.

An arterial line was inserted in the ventral radial right wrist. The insertion site of the arterial line was surrounded by a wide are of purple-red ecchymosis.

A pulse monitor was attached to the right middle finger.

Fresh needle puncture marks with surrounding purple-red ecchymosis were present in the left antecubital fossa, on the ventral radial left wrist, and on the dorsal left hand.

Defibrillator pads were present on the mid anterior chest and left lateral back.

#### **EVIDENCE OF OLD INJURY:**

None present.

#### **EVIDENCE OF RECENT INJURY:**

Scattered over anterior skin surfaces of the forehead were approximately six superficial yellow-brown abrasions, ranging from 1/8 inch to 3/16 inch in greatest diameter.

A 3/8 inch diameter yellow-brown abrasion was located on the upper anterior left cheek, just inferior to the eye.

Located on the anterior right knee was a 2 1/2 inch diameter area of superficial purple-red ecchymosis.

Present on the posterior right heel was a 7/8 inch diameter area of purple-red ecchymosis.

Two faint purple-blue contusions, measuring 3/8 inch and 5/8 inch in diameter, were present on the mid posterior right lower leg.

A 1 1/2 inch diameter purple-red ecchymosis involved the posterior left heel.

Located on the anterior left knee was a wide area of superficial purple-red ecchymosis measuring 4 inches in greatest diameter. Located within this contusion, near its superior edge, was a 1 1/4 inch diameter red-brown abrasion. Another 1 1/4 inch diameter red-brown abrasion was present at the inferior margin of this contusion.

Located on the anterior left shoulder was a 2 inch diameter area of red-brown abrasion and purple-red contusion.

Located on the upper posterior left elbow area was a 3/8 inch diameter red-brown abrasion.

Located on the inferior left elbow area was a discontinuous area of red-brown abrasion measuring 3/4 inch in greatest diameter.

A 1 1/4 inch diameter red-brown abrasion involved the lateral left elbow area.

Located on the posterior medial right elbow area was a 1/4 inch diameter red-brown abrasion.

Located on the posterior right elbow was a wide, discontinuous area of red-brown abrasion and purple-blue contusion measuring 1 3/4 inches in greatest diameter.

Located on the right presacrum was an area of superficial abrasion measuring 2 x 1 1/4 inches in greatest overall dimensions.

### **INTERNAL EXAMINATION**

The subcutaneous fat layer measured up to 1 3/4 inches. No adhesions were present in the body cavities. The right pleural cavity contained 100 ml of watery, minimally sanguineous fluid. The left pleural cavity contained 150 ml of watery, minimally sanguineous fluid. The peritoneal cavity contained 200 ml of watery, minimally sanguineous fluid. Internal soft tissues were generally noted to be mildly to moderately edematous. Petechial hemorrhages were not present on the thoracic organs. All body organs were present in normal anatomic position. There was no internal evidence of blunt force or penetrating injury to the thoracoabdominal region.

### **CARDIOVASCULAR SYSTEM:**

Pericardial surfaces were smooth and intact. The pericardial sac contained 10 ml of watery, minimally sanguineous fluid and there were no adhesions. The heart weighed 260 g, and appeared generally normal in size, shape, and configuration. The coronary arteries arose normally and followed the usual course. The dominant right coronary artery and the left circumflex artery were without significant atherosclerotic narrowing. The proximal left anterior descending artery showed a single focus of 60% atherosclerotic narrowing. The remainder of this vessel was without significant atherosclerosis. Acute thrombus formation was not present in

these vessels. The cardiac chambers were of normal size and endocardial surfaces were unremarkable. The cardiac valves were normal in size and morphology. Cut surfaces of the myocardium displayed uniform brown-red coloration with no focal changes present. The atrial and ventricular septa were intact. The aorta and its major branches arose normally and followed the usual course. Minimal atherosclerotic change involved the distal abdominal aorta. The vena cava and its major tributaries returned to the heart in the usual distribution and were free of abnormalities.

#### RESPIRATORY SYSTEM:

Pleural surfaces of both lungs were smooth and intact. The pulmonary arteries were normally developed, patent, and without thrombus or embolus. The trachea and bronchi were focally coated by a layer of dark brown-gray, mucoid material. Mucosal surfaces of the trachea and bronchi were diffusely erythematous. Hilar lymph nodes were nonprominent. The right lung weighed 1000 g. The left lung weighed 850 g. Cut surfaces of both lungs revealed widespread, dark purple-red congestion and watery edema. Wide areas in both upper and lower lung lobes showed slightly paler red-tan coloration. Gross exudate was not noted in the peripheral airways. The lung parenchyma was generally firm in consistency.

#### NECK:

Examination of deep neck structures, including strap muscles, thyroid gland, and large vessels, revealed no abnormalities, including hemorrhage. The larynx and hyoid bone were intact. The epiglottis and vocal cords were unremarkable.

#### ALIMENTARY TRACT:

The tongue was without hemorrhage or other abnormalities. The esophagus was lined by intact, gray-tan mucosa. The stomach contained 50 ml of brown-red fluid mixed with nondescript particulate material. Mucosal surfaces of the stomach showed focal erythema, along with a few scattered, punctate mucosal hemorrhages. Serosal surfaces of the small and large bowel were intact and unremarkable. The rectum and anus were without evidence of injury or abnormality. The appendix was present.

#### LIVER AND PANCREAS:

The liver weighed 1640 g and was covered by an intact capsule. Cut surfaces were uniform brown-red, normally firm, and without focal changes. The gallbladder contained 45 ml of dark yellow-green, mucoid bile and was lined by intact, velvety mucosa. The extrahepatic biliary tree was patent. Periportal lymph nodes were nonprominent. The pancreas weighed 130 g and displayed its usual lobulated gray-tan appearance both externally and on cut surface. The pancreatic ducts were patent. Peripancreatic lymph nodes were nonprominent.

**GENITOURINARY SYSTEM:**

The right kidney weighed 140 g. The left kidney weighed 150 g. Each was covered by an intact capsule which stripped away easily. Cortical surfaces of the kidneys were brown-red and smooth. Cut surfaces of the kidneys revealed brown-red cortex of normal thickness. There was good corticomedullary demarcation present. The calyces, pelves, and ureters were unremarkable. The urinary bladder was empty and was lined by intact, gray-tan mucosa. The uterus and right ovary were remotely absent. The left ovary was identified, but appeared atrophic.

**IMMUNOLOGIC SYSTEM:**

The spleen weighed 120 g and was covered by an intact capsule. Cut surfaces were uniform dark purple-red, normally firm, and without focal changes. The white pulp was nonprominent. The thymus was not grossly identified. Lymphadenopathy was not present.

**ENDOCRINE SYSTEM:**

The pituitary, thyroid, and adrenal glands were free of obvious disease.

**MUSCULOSKELETAL SYSTEM:**

Skeletal muscle generally displayed uniform pale red-tan coloration, with no focal changes present. No gross bone or joint abnormalities were present. The cervical, thoracic and lumbar spine were free of hemorrhage and other abnormalities.

**CENTRAL NERVOUS SYSTEM:**

Reflection of the scalp revealed no hemorrhage or edema. The calvarium and basilar skull were intact. There was no epidural, subdural, or subarachnoid hemorrhage present. The brain weighed 1250 g. The leptomeninges were thin and clear. Initial examination of the cerebral hemispheres revealed diffuse, moderate flattening of the cerebral gyri. Examination of the brain base revealed bilateral grooving of both hippocampal unci. This grooving was unaccompanied by gross necrosis or hemorrhage. Coning of the cerebellar tonsils was not present. Other structures at the base of the brain, including cranial nerves and major blood vessels were intact and unremarkable. Serial coronal sections of the cerebral hemispheres revealed symmetry between anatomic structures of the left and right sides, with no focal changes present. The lateral ventricles were symmetric, but somewhat reduced in size. Cut surfaces of the brain stem and cerebellum were unremarkable.

**RADIOLOGY:**

No radiographs were taken.

**IDENTIFICATION:**

The body was received as identified by the Little Rock Police Department.

**EVIDENCE:**

Evidence collected at autopsy included a blood matrix card, fingerprints, and pulled head hair.

**SPECIMENS:**

Specimens collected for toxicology at autopsy included peripheral blood, vitreous humor, urine (from collection container), and stomach contents. Also submitted for toxicology were four labeled tubes of blood from hospital.

**WITNESSES:**

Present at the autopsy were Pulaski County Coroner Garland Camper and Pulaski County Deputy Coroner Gerone Hobbs.

**HISTOLOGY:**

Multiple sections of brain were reviewed. These included sections of pons, cerebellum, cerebellar cortex, basal ganglia, and amygdala. Review of these sections did not reveal evidence of hemorrhage or inflammation. Neuronal necrosis was not identified. Two sections of trachea showed similar findings, with focal areas of edema, vascular congestion, and hemorrhage located in the submucosa. A relatively mild and focal mononuclear inflammatory cell infiltrate was also present in the submucosa. Multiple sections of lung were reviewed. These included at least one section from each lung lobe. All of the lung sections showed involvement by acute bronchopneumonia. In some sections, this process was more advanced than in other areas. The pneumonia was characterized by increased numbers of granulocytes within the alveolar spaces, along with varying amounts of proteinaceous material. Focal areas of acute hemorrhage were also present. Occasional macrophages were also seen within the alveolar spaces. The lung sections were otherwise notable for focal vascular congestion and mild to moderate emphysematous changes. Airways did not show evidence of underlying chronic inflammation. Some of the airways did contain aspirated foreign food material. Three sections of heart were reviewed. Two of these were from the interventricular septum and one was from the left ventricular free wall. All showed mild, focal perivascular fibrosis. One section showed a small focus of interstitial fibrosis. Occasional mild arteriolosclerotic narrowing of the microvasculature was present. The heart sections did not show evidence of necrosis, hemorrhage, inflammation, or other pathologic changes. A section of liver showed mildly increased numbers of mononuclear inflammatory cells in some portal triads, but no evidence of excessive fibrosis or hepatocellular necrosis. Centrilobular necrosis was not present. Sections of pancreas and spleen were without significant pathologic changes. Kidney sections showed occasional sclerotic glomeruli, along with red cell tubular casts. No other pathologic changes were present.

**LABORATORY RESULTS**

## TOXICOLOGY:

## Antemortem blood

*Volatiles assay*

Ethanol	0.15g%
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## Peripheral blood

*Volatiles assay*

Ethanol	<0.01g%
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*General Toxicology*

Propoxyphene	1.2µg/mL
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Norpropoxyphene	7.3µg/mL
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Lidocaine	present
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Acetaminophen	present
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Levetiracetam	present
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Topiramate artifact	present
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## Urine

*Immunoassay*

Amphetamines	<b>Positive</b>
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Barbiturates	Negative
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Benzodiazepines	Negative
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Cannabinoids	Negative
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Cocaine Metabolite	Negative
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Opiates	Negative
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PCP	Negative
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*General Toxicology*

Amphetamine	present
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Lidocaine	present
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Propoxyphene	present
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Norpropoxyphene	present
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Quinine	present
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Trazodone	present
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## Vitreous humor

*Volatiles assay*

Ethanol	not detected
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**FINDINGS**

- I. Scattered superficial blunt force injuries.
- II. Environmental hypothermia (clinical).
- III. Cardiopulmonary arrest (by history).
  - A. Cerebral edema.
  - B. Hypoxic encephalopathy (clinical).
- IV. Acute bilateral bronchopneumonia.
- V. Arteriosclerotic cardiovascular disease.
  - A. Focal, moderate coronary artery atherosclerosis.
  - B. Mild aortic atherosclerosis.
- VI. Hysterectomy (remote).
- VII. Bilateral pleural effusions (250 ml total).
- VIII. Ascites (200 ml).

**OPINION:**

This 52-year-old white female, Pamela Harper, died of Ethanol, Propoxyphene, and Acetaminophen intoxication with complications. Environmental hypothermia contributed to death.

According to investigation, she was last seen alive by her husband at around midnight on March 26, 2010. At around 2:00 AM, she apparently called her brother-in-law on the phone. He subsequently reported that she sounded intoxicated. At around 6:35 AM, she was found lying facedown in the alley behind her brother-in-law's residence. Paramedics were summoned to the scene, declared her dead, and then left. Law enforcement personnel subsequently observed what they thought might be signs of life and paramedics were again called to the scene. She was again thought to be deceased, and paramedics left. The Pulaski County Coroner's Office was then summoned to the scene. They arrived shortly after 10:00 AM, and examined the body. When they examined her, she was cold, but then took a deep respiration. Paramedics were summoned a third time and she was transported to a local hospital. After prolonged resuscitation attempts, medical personnel successfully restored cardiac function. She did, however, remain hypotensive and required medical support to sustain her blood pressure. She remained unconscious and on a ventilator. At the time of admission, she was also noted to be extremely hypothermic. Measures were also taken to restore normal body temperature. Initial toxicology testing showed a

markedly elevated level of acetaminophen in her system, as well as a blood alcohol level in excess of .16g%. Her condition remained critical throughout her hospitalization. She remained ventilator dependent and was unresponsive. She ultimately developed signs of liver and kidney failure. She also developed seizures. She was believed to have sustained severe hypoxic brain injury and a decision was made to withdraw supportive care. This was done on the early afternoon of March 28, 2010. Death was pronounced at 2:30 PM.

External examination of body surfaces revealed a few scattered superficial blunt force injuries on the body surfaces. These included relatively wide areas of injury on the knees and elbows. There was no internal evidence of injury present. Internal examination showed a number of secondary changes related to her initial collapse and hospital course. Her brain was edematous, a finding which correlates with the given history of cardiac arrest, prolonged resuscitation, and hypoxic encephalopathy. No evidence of significant cardiovascular disease was identified. Both lungs showed congestion, edema, and widespread pneumonia. The liver appeared grossly unremarkable. Punctate hemorrhages were noted on the inner lining of the stomach. This latter finding is often associated with hypothermia.

Microscopic tissue examination confirmed the presence of bronchopneumonia. Examination of liver tissue did not reveal changes typically associated with acetaminophen toxicity. Tissue microscopy otherwise showed nonspecific changes reflective of her post resuscitation survival. Toxicology testing revealed a blood ethanol level of .15 g% in hospital blood. A very low level of ethanol was detected in blood obtained at the time of autopsy. Drug testing was performed on blood obtained at autopsy. Propoxyphene (a narcotic) and its metabolite norpropoxyphene were present at levels considered toxic. Acetaminophen was still present. Lidocaine (a drug administered during resuscitation attempts) was also detected. Two seizure medications, Levetiracetam and topiramate were detected in blood. A urine drug screen was positive for amphetamines, but no drugs in that class were detected in blood. Urine screening also revealed trazodone (antidepressant) and quinine. Quinine can be used as a treatment for muscle cramps, but is also found in tonic water.

Overall, findings in this case indicate that death primarily occurred as a result of ethanol and propoxyphene, and acetaminophen intoxication. Although the propoxyphene level was not determined in hospital blood, the fact that it was still present in autopsy samples at a toxic level indicates that it was present in her system at even higher concentrations during her terminal hospitalization. The markedly elevated acetaminophen level observed during her hospitalization indirectly supports this. Acetaminophen is commonly combined with propoxyphene in a single pill (Darvocet). Investigation indicates that she had a prescription for Darvocet filled on 3/15/2010. At that time, she had been issued sixty tablets, and the medication container at the scene was empty. The markedly elevated acetaminophen level determined in the hospital indicates a very large quantity of this drug was taken at one time. By inference, the propoxyphene level would have been correspondingly high. Propoxyphene is a potent central nervous system depressant, as is ethanol. Together these two substances produced marked central nervous system depression and suppression of normal respiratory drive. Had this occurred under normal environmental conditions, it is likely death would have taken place sooner. As it was, her loss of consciousness occurred in a relatively cold, outdoor environment. The subsequent hypothermia likely provided a degree of protection by lowering the body's

metabolism and oxygen needs. For some interval of time, she was less able to survive with low body temperature, minimal pulse, and only occasional respirations. By the time medical intervention was initiated, she had like sustained irreversible brain injury. She subsequently developed other complications, including altered liver function, kidney failure, and pneumonia.

In light of the fact that she would have necessarily taken a large quantity of medication to achieve the above noted results, her overdose was likely intentional. A history of past suicide attempts and the presence of antidepressant medication in her system supports the conclusion that her death was intentional, and hence a suicide.

It is reasonable to raise the question of whether she could have ultimately survived had her true condition been recognized by the paramedics who initially assessed her. Although it is possible that more timely recognition of her medical condition could have resulted in her survival, it is nonetheless doubtful. By the time of her first evaluation, her vital functions had minimized to a point where they were no longer perceptible. Under those circumstances, it is likely she had already experienced some degree of hypoxic brain injury. Even if the first responders had initiated resuscitation attempts and taken her to the hospital, she would have also been at increased risk for developing pneumonia, liver damage from the acetaminophen, and other complications.

**MANNER OF DEATH:** Suicide.