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**FINAL ANATOMIC DIAGNOSES:**

1. Through and through close contact medium calibre gunshot wound inflicted to the right side of the head (region of the left temple) associated with:
  - A. Brain injuries - lacerations and contusions
  - B. Skull fractures
  - C. Subdural Hemorrhage
  
2. Aspiration blood lower airways and lungs

COMMENT: The autopsy findings in this case reveal that the cause of death is due to brain injuries secondary to a close contact, medium calibre, through and through gunshot wound inflicted to the right side of the head. This gunshot wound is consistent with self infliction.

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Forensic Pathologist

This autopsy is performed in the Montreal Coroner's Office in Montreal, Quebec on 01/19/13 at 11:00 a.m. This autopsy is done at the request of Dr. Jonathan Truant. The identification was made by fingerprints. Concerning location, this

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body is identified as #3. Members of the Montreal Sheriff's Department attended the autopsy. I am assisted in the autopsy by Mr. William Reston.

**HISTORY:** This is the case of a 16-year-old, white male who is allegedly a victim of a self-inflicted gunshot wound to the head. The decedent was found dead in an instruction room at Westmount High School. and the death occurred on 01/19/13. No other history is available at the time of autopsy.

**EXTERNAL EXAMINATION:** The body is clothed in an orange T-shirt with the inscription "We're Just Here For The Bad Guys" across the front; a yellow wristwatch; red-blue striped boxer shorts; Medium-wash jeans with a brown belt which have large holes in the knee and back-upper-thigh areas; white socks; and grey sneakers. A medium calibre, copper jacketed bullet is present in the right shoe. This is given to the Sheriff's Officer along with the clothing. Present on the left sneaker was a written line, reading "losing all hope was freedom". This is the unembalmed, well-developed, well-nourished, traumatized body of a white male appearing consistent with the stated age of 16. Height is measured at 5 feet and 8 inches; weight is 157 pounds. Rigor is minimal in the neck and the right lower extremity; absent in the other areas of the body. Faint reddishpurple livor is set over the dorsal aspects of the body with appropriate blanching of the pressure points.

**HEAD:** The scalp is covered by medium-length, thick, blood-stained, light brown hair which measures 4.5" in length at the apex. Present on the right side of the head, in the region of the temple,, 2/4" above and 3/4" anterior to the right ear, is a circular calibre. entrance type of gunshot wound. The wound is surrounded by marginal abrasion, and what appears to be powder, although there is extensive drying artifact which makes this determination difficult. There are small irregular tears in the wound margins. The perforated area of the wound measures 2/4" in diameter; the marginal abrasion 1-1/4" in diameter. There is no powder stippling associated with the wound. For identification purposes, this wound will be referred to as "A". Present on the left lateral surface of the head, 1/2" anterior to the midportion of the left ear, is a generally circular exit type of gunshot wound showing irregular tearing of the margins. This wound measures 1/2" in diameter. No marginal abrasion or powder residue are observed. For identification purposes, this wound will be referred to as "B". The ears are intact. Both ears are blood stained. Eyes; the eyebrows are light brown. The sclerae are white. The irises dark brown. The pupils are round, measure 6 mm, and are directed anteriorly. The conjunctivae are pale. Bilateral periorbital reddish-purple contusions are present. The nose is externally unremarkable. The nasal passages contain bloody fluid. The septum is in the midline. The lips are reddish-purple with some drying artifact. There is a distinct lack of facial hair. The oral mucous membranes are tan and moist. The tongue is reddish-brown and finely granular without evidence of lacerations or contusions. The teeth are in a good state of dental repair. There is a small amount of hemorrhagic fluid in the oral cavity. Chin is consistent with lack of facial hair on upper lip and rest of face.

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**NECK:** The external surface of the neck reveals no evidence of Injury. The neck organs are in the midline without palpable masses.

**CHEST:** The chest demonstrates a normal anterior-posterior diameter. No external trauma is present. The breasts are slightly larger than that of a normal male. Palpating the chest reveals no instability. The axillae are negative io observation and palpation. A moderate amount of brown hair is present in both axillae.

**ABDOMEN:** The abdomen is flat. No external trauma is present. There is some green discoloration of the lower abdomen due to early decomposition. Present in the right upper quadrant of the abdomen, is a linear, horizontal scar which measures 3" in length. Palpating the abdomen reveals no organomegaly or sasses.

**GENITALIA:** A normal appearing male. brown genital hair pattern is present. The penis is of normal size. shape, and position; uncircumcised. Both testicles are bilaterally descended in their respective scrotal sacs without palpable masses. There is postmortem drying artifact on the anterior surface of the SCYOLum.

**BACK:** The external surface of the back reveals no evidence of trauma.

**EXTREMITIES:** The upper extremities are intact. The nails are intact, short and clean. Present on the lateral aspect of the right hand involving the thumb and middle finger are several small reddish-brown abrasions, measuring 1/8" in diameter. Present overlying the proximal knuckle of the index finger of the left hand is a purple contusion which also involves a portion of the hand, and measures 1-1/4" in size. The forearms are unremarkable. The antecubital fossae reveal no evidence of recent needle puncture marks or scars. The upper areas are intact and unremarkable grossly. The lower extremities are intact. Present on the anterior aspect of the proximal portion of the right lower extremity are several tiny healing reddish-brown abrasions. There is a cluster of three yellowbrown contusions on the anterior-lateral aspect of the right lower leg, varying in size from 1/4" to 1". Present on the lateral aspect of the left knee is a cluster of three yellowbrown contusions, varying in size from 1/4" to 5/8". The soles of the feet are intact and unremarkable grossly. Also present in close proximity to the body, in the body bag, were the following personal effects: a second yellow wristwatch, a folded up piece of paper - possibly a letter, and what appears to be a fragment of a DVD or CD.

**INTERNAL EXAMINATION:** Through the usual Y-shaped incision, a moderate layer of yellow subcutaneous adipose tissue and reddish brown musculature are revealed. The diaphragms are intact and arch to the level of the 5th left intercostal space and the 4th right intercostal space. The peritoneal cavity contains no unusual accumulation of fluid. The lining is smooth, gray and glistening. The viscera and omentum are normally disposed.

**PLEURAL SPACES:** The pleural spaces are without any unusual accumulation of fluid. The parietal pleurae are smooth, gray and glistening. The bony structures of the chest are intact and unremarkable grossly. The clavicles are

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intact. There is no soft tissue injury involving the chest wall. The pericardial sac is intact. The lumen contains 10 cc of clear fluid. The pericardium is smooth, gray and glistening. THYMUS: Eight (8) grams of pink, lobular, firm, thymic tissue is present in the anterior-superior mediastinal space.

**NECK:** The lumen of the upper esophagus and pharynx is patent. The mucosal surface is tan and wrinkled. The lumen of the upper respiratory tract contains blood. The mucosal surface is tan and smooth. The hyoid bone and cricoid cartilages are intact.

**THYROID:** The thyroid is of normal size, shape, and position, and has a reddish-brown, lobular, firm, gross appearance. The cervical vertebrae are intact. There is no obstruction to the posterior nasopharynx or the posterior aspect of the oral cavity. The major vessels of the neck are intact and unremarkable grossly. There is no soft tissue hemorrhage in the neck.

**HEART:** The heart is intact and weighs 266 grams. The epicardial surface is reddish-brown, smooth, and glistening. Minimal amounts of epicardial yellow fat are present. The myocardium is reddish-brown and firm without gross evidence of fibrosis or softening. The ventricular walls are of normal thickness. The endocardial surface is reddish-brown, smooth, and glistening. Early subendocardial flame type hemorrhages are present in the left ventricle. The cardiac valves are intact. The valve leaflets are thin and fully pliable. The valve circumferences are normal for this size heart. The chordae tendineae are tan and delicate. The papillary muscles are intact. The foramen ovale is closed. The atrial septum is intact. The ventricular septum is intact. The coronary ostia are in a normal anatomic position and widely patent. The coronary arteries demonstrate a normal anatomic distribution with normal gross features.

**AORTA:** The aorta is intact and of normal course and calibre throughout. The intimal surface is tan and smooth. The wall is thin and elastic. The main abdominal tributaries are intact.

**RESPIRATORY SYSTEM:** The lumen of the lower respiratory tract contains blood. The mucosal surface is tan, smooth and blood stained. The lungs are mildly hyperaerated. The pleural surfaces are pink, reddish-purple, smooth and glistening. The lungs together weigh 730 grams. Serial sections reveal soft, spongy, mildly hyperaerated lung tissue showing evidence of vascular congestion, early pulmonary edema, and aspirated blood. The pulmonary arteries are intact without evidence of thromboembolic disease. The pulmonary veins empty into the left atrium in a normal fashion.

**GASTROINTESTINAL SYSTEM:** The esophagus is of normal course and calibre throughout. The lumen is patent. The mucosal surface is tan with longitudinal furrowing. The wall is thin. The stomach is in a normal anatomic position. The lumen contains 160 cc of yellow-orange, liquid, gastric contents containing fragments of what appears to be potato skins. The mucosal surface is tan with

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intact rugae. No peptic ulcer disease or tumor are noted grossly. The small bowel demonstrates a normal anatomic distribution with normal gross features. The appendix is present and unremarkable grossly. The large bowel demonstrates a normal anatomic distribution with normal gross features.

**SPLEEN:** The spleen is intact and weighs 140 grams. The external surface is purple and smooth. Serial sections reveal a firm, reddish-purple, splenic parenchyma. **LIVER:** The liver is intact and weighs 1100 grams. The external surface is reddish-brown, smooth, and glistening. Serial sections reveal a firm, reddish-brown, lobular, normal appearing, liver tissue.

**GALLBLADDER:** The gallbladder is intact. The lumen contains 12 cc of cloudy yellow-brown, liquid bile. The mucosal surface is smooth and bile stained. The cystic duct and common bile duct are intact and patent throughout. The portal vein, splenic vein, and superior mesenteric vein are intact and patent.

**PANCREAS:** The pancreas is of normal size, shape, and position, and has a tan, lobular, soft, partially autolyzed, gross appearance. **ADRENALS:** Both adrenals are identified. Serial sections reveal a thin yellow cortex and gray medulla.

**KIDNEYS:** Both kidneys are identified. The capsules strip easily. The left kidney weighs 160 grams; the right kidney weighs 150 grams. The cortical surfaces are reddish-brown and smooth. Bivalving of each kidney reveals a well-demarcated, reddish-brown cortex and medulla. The renal papillae are normal. There is no calyceal scarring. There is no unusual pelvic dilatation. Both ureters are present, patent, and uniform in diameter throughout.

**BLADDER:** The bladder is intact. The lumen contains 20 cc of clear yellow urine. The bladder mucosa is tan and wrinkled. The prostate, seminal vesicles and testicles are intact and unremarkable grossly.

**MUSCULOSKELETAL SYSTEM:** Other than the injuries to be described under the head, no other significant injuries are observed **LYMPHATICS:** No gross abnormality.

**VENOUS SYSTEM:** There is no evidence of hepatic vein, renal vein, or portal vein thrombosis. The superior and inferior vena cavae are intact.

**CENTRAL NERVOUS SYSTEM:** Reflection of the scalp reveals wound tracts in the soft tissues involving both the left and right side of the head in the temporal areas. There appears to be some powder staining of the soft tissues comprising the margin of the wound tract on the left side of the head. There is also a contusion measuring 1-1/2" on the apex of the scalp. There is a circular perforation which is beveled inward involving the right temporal bone. There is a circular perforation which is beveled outward involving the left temporal bone. Numerous fractures radiate from the circular perforations. Removal of a portion of the calvarium reveals no epidural hemorrhage. 40 cc of subdural hemorrhage overlies the right cerebral hemisphere and on the undersurface of this hemisphere. There is no subarachnoid hemorrhage. There are contusions on the undersurface of both temporal lobes. There is a wound tract across the

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undersurface of the brain, involving both cerebral hemispheres in the temporal and frontal areas. The brain demonstrates laceration and some pulverization of brain tissue involving the previously mentioned areas. The brain weighs 1600 grams. Serial sectioning the cerebral cortex, the midbrain, the pons, the medulla, the spinal cord, the cerebellum and the pituitary reveals internal injury to the brain involving the anterior aspects of both cerebral hemispheres involving the frontal and temporal areas; and there is injury to the midbrain with predominantly contusion. There is no evidence of any underlying disease of the brain. Examination of the base of the skull reveals a transverse basal skull fracture that involves both temporal fossa and interconnects across the sphenoid bone in the region of the sella turcica. C1 and C2 are intact. The odontoid ligament and odontoid processes are intact. Removal of the dura on the left side of the head reveals powder staining (soot) in the margins of the dura adjacent to the perforated area of skull.

**TOXICOLOGY:**

Blood: I obtained two gray-stoppered test tubes of blood from the heart.

Urine: I obtained two gray-stoppered test tubes of urine.

Gastric Contents: I obtained two gray-stoppered test tubes and one red-stoppered test tube of gastric contents.

Vitreous Humor: I obtained one gray-stoppered test tube of vitreous humor.

Bile: obtained one gray-stoppered test tube of bile. Approximately 100 grams of liver and kidney were also obtained and will be frozen.

**TRACE EVIDENCE:**

Hair: I obtained random samples of scalp hair and pubic hair. obtained scalp hair adjacent to the wounds involving the right and left sides of the head.

Nail Scrapings: I obtained nail scrapings of both hands.

Blood: I obtained one yellow, one purple and one red-stoppered test tube of blood from the heart. All of the trace evidence, with the exception of the blood samples, are given to the Jefferson County Sheriff's Officers upon completion of the autopsy. The blood samples for any evidentiary need are going to be stored along with the toxicology specimens for up to a year.

**X-RAY EXAMINATION:**

Revealed no evidence of retained bullets.

**WOUND SUMMARY:**

The wound of entrance is designated wound "A" in the region of the right temple. The projectile penetrated the cranium through the right temporal bone; extended across the undersurface of both cerebral hemispheres; exiting the head through the left temporal bone. The perforated area on the right side is beveled inward; the perforated area on the left side is beveled outward. Powder is associated with the wound on the right side of the head. The projectile traveled right to left slightly front to back and slightly downward. The

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characteristics of the wound are consistent with a medium calibre weapon; with a close contact range of fire; consistent with self-infliction.

The wound is consistent with 9 mm ammunition.

**MICROSCOPICS:**

Heart: Normal histologic features.  
Lung: Sections reveal intra-alveolar edema.  
Liver: Sections reveal moderate autolysis.  
Kidney: Sections reveal moderate autolysis.  
Spleen: Normal histologic features.  
Adrenal: Normal histologic features.  
Thymus: Normal histologic features.  
Thyroid: Normal histologic features.  
Stomach: Sections reveal early autolysis involving the gastric mucosa.  
Brain: Sections reveal fragmentation and intraparenchymal hemorrhage.  
Entrance Wound A: Sections are of skin revealing a central deeply penetrating wound associated with a few scattered fragments of powder residue in the deeper margins of the wound. Dura: Sections reveal scattered foci of powder residue adhering to one side of the dural surface.

**TOXICOLOGY:**

Blood Alcohol                      Negative  
Blood Drug Screen - Gas Chromatography/Mass Spectroscopy  
    Only drug detected is Lisdexamfetamine - 50mg/L  
    (Therapeutic levels 30-70mg/L)  
Urine Drug                      Screen Negative