FORENSIC AUTOPSY REPORT

CASE NUMBER: 22

Name of the Decedent: Elias Morren

Age: 54 years old

Sex: Male

Occupation: Custodian

Location: Old Ravensbridge Municipal Clocktower

Discovered by: Tourist

Time of Discovery: 5:42 AM

Date and Time of Autopsy: 5:40 PM, 10th December 2025

PMI: 8-12 hours prior to discovery

Performed By: R. Amisa, Medical Trainee under Supervision, Moncton Medical Center

Location of Autopsy: Forensic Pathologist Lab, University Medical Teaching Hospital

Authority Requesting Autopsy: Office of Medical Examiner

SUMMARY OF CASE:

The decedent was discovered on the 12th stair from the top, lying on his left side, one arm hanging through the railing. He was working on a night shift alone. No sign of disturbance and forced entry. Scene findings inconsistent with the PMI and location.

EVIDENCE/ OBSERVATIONS FROM SCENE:

- A small brass winding key was found near the decedent's right hand.
- One of the tower's massive clock faces is stuck at 3:17 AM, even though the others are running normally
- A warm thermos of coffee placed neatly on a windowsill

- CCTVs show no one else entering or leaving the site during the night, except for Elias
- A smear of fine grey dust is on the victim's pant leg and under the fingernails.

ENVIRONMENTAL DATA:

- The clocktower's mechanisms are extremely old— raising concerns about safety and management.

EXTERNAL EXAMINATION:

Identification:

The decedent is an adult male, appearing consistent with reported age. Body is received in a standard mortuary shroud, tagged with case number and scene ID. Identified through municipal ID card on person and confirmation by employer.

- **Identifying Information**

    a. **Apparent Sex:** Male
    b. **Height:** 5'8" / 178 cm
    c. **Weight:** 194 Ibs/ 89 kg
    d. **Build:** Well-nourished and developed adult build
    e. **Ethnicity:** Not specified
- **Clothing:**
    a. **Outergarments:** Dark blue work overalls with the Ravensbridge Municipal facility patch with a long-sleeved thermal undershirt.
    b. **Undergarments:** Present
    c. **Feet:** Steel-toe work boots with moderate dust accumulation

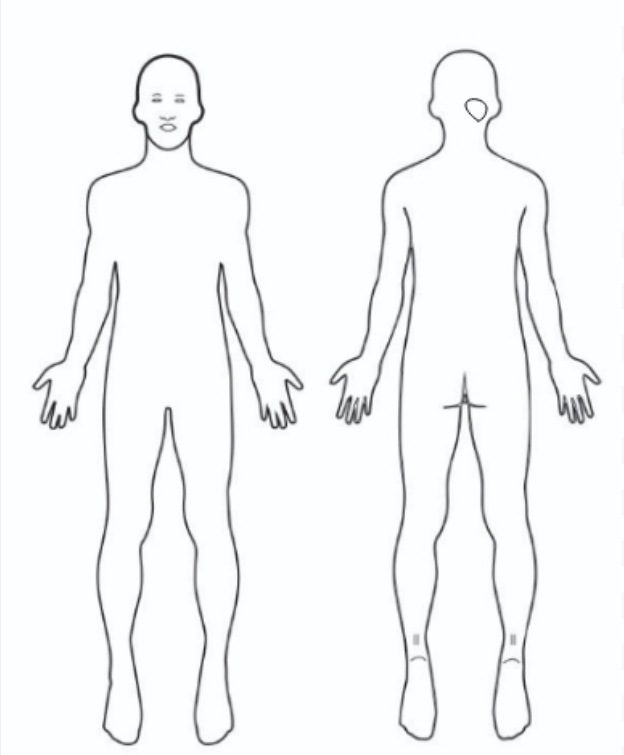
d. **Accessories:** Wristwatch also stopped at 3:17, matching the massive clock

- **Condition of the Body**
  a. **Rigor mortis:** Present in the jaw, upper extremities, and partially in the lower extremities
  b. **Lividity:** Fixed posteriorly, purple discoloration on dependent areas
  c. **Body Temperature:** Reduced, but completely chilled.
  d. Alights with reported position of the body when discovered and estimated time postmortem interval of 8-12 hours prior to discovery
  e. Mild cyanotic tinge observed on fingertips; no sign of blanching or putrefaction noted
- **Injuries:**
  - **Head:**
    - Hair has small traces of the same fine grey dust
    - A localized area of swelling on the right occipital region
    - No open wound
    - No swelling or palpable depression of the skull
    - Pupils equal, fixed (postmortem). Sclerae unremarkable
    - Oral cavity unremarkable; no injuries to lips, tongue, or gums
  - **Face:**
    - A faint dark-like residue around the nares
    - No fractures palpated in the nasal bridge or mandible externally
    - No swelling
  - **Neck:**
    - No ligature marks, no petechiae visible on conjunctivae
  - **Upper Extremities:**
    - Fingernails contain fine grey dust, same as the particulate noted on clothing
    - No classic defensive wounds on forearms or hands

- **Torso:**
    - No penetrating wounds or defensive bruising observed
    - Clothing intact, minor dirt stains consistent with fall
    - Chest symmetrical
    - Clothing intact and undisturbed
    - Abdomen mildly distended in a manner consistent with early postmortem changes.
- **Back:**
    - Spine alignment normal.
- **Lower Extremities:**
    - Pants have heavier dust accumulation around shins and knees
    - Boots show recently disturbed dust pattern on soles, consistent with movement on a dusty metal staircase
- **Hands and Feet:**
    - Skin cool to touch.
    - Early postmortem drying around fingertips and lips.
    - No restraints, bindings, or patterned marks.

- **Other Distinguishing Features**
    a. No scars, surgical implants, tattoos, birthmarks observed
- **Other observations:**
    - **Mouth:** No trauma
    - **Eyes:** Closed; brown irises with 0.3 cm pupils
    - **Fingernails:** Short, free of debris
    - **Dentition:** Intact, no recent dental work
    - **Hair:** Brown- grey with 1.4 cm in length at the longest length
    - **External Genitalia:** No evidence of trauma
    - No needle/ injection marks/ stab marks observed on any surface

- No evidence of self-inflicted injury
- No medical devices present



OVERALL INTERNAL FINDINGS SUMMARY:

No signs of struggle or defensive injuries were identified externally, aside from the swelling on the right occipital region which requires more examination. No sign of major trauma.

INTERNAL EXAMINATION:

Body Cavities:

The body is opened through a standard Y-shaped incision. No abnormal fluid

accumulation is present in the pleural, pericardial, or peritoneal cavities.

- **Head and Brain:**
  - ➔ **Scalp/ Skull:** No observable fracture
  - ➔ **Brain:** A localized area of subgaleal hemorrhage corresponding to external swelling on the right occipital region. No infarcts, tumors, or congenital abnormalities observed.
    Brainstem and cerebellum intact; no herniation noted.

The injury appeared to be minor and not independently lethal, suggesting it occurred during or after the collapse rather than being the cause of death.

- **Neck:**
  - ➔ **Neck Structures:** No fractures of hyoid bone or thyroid cartilage. No petechiae of the strap muscles or soft tissue hemorrhage. No sign of manual or ligature strangulation
  - ➔ Trachea clear; no foreign material or soot.
- **Thorax:**
  - ➔ **Heart: C**oronary arteries exhibit mild to moderate atherosclerotic plaque, consistent with chronic disease, but not enough to suggest sudden catastrophic blockage; no evidence of acute thrombi, myocardium shows mild hypertrophy, compatible with hypertension or long-standing stress. No congenital abnormalities identified
  - ➔ **Lungs:**
    - Airways contain fine grey matter, consistent with dust exposure from a mechanical environment
    - No contusions within lung parenchyma
  - ➔ **Pleural Space:** Unremarkable

➔ **Ribs/ Thoracic Cage:** No rib fractures are identified upon palpation or internal inspection.

- **Abdomen:**
  - ➔ **Liver:**
    - Normal architecture, no lacerations or contusions.
    - No discoloration or nodularity observed
    - Smooth capsule, normal appearance
  - ➔ **Spleen:** No abnormalities
  - ➔ **Pancreas:** Unremarkable
  - ➔ **Kidneys:**
    - No traumatic injury
    - Normal corticomedullary differentiation
    - No sign of dehydration related stress
  - ➔ **Stomach:**
    - No pills, tablets, or foreign material noted
    - No unusual odors or materials noted
    - Stomach lining is unremarkable
  - ➔ **Intestine:**
    - o Normal configuration; no hemorrhage or perforation
    - o No distension or obstructive findings.
  - ➔ **Genitourinary System:** Normal
- **Musculoskeletal System:** No fractures of long bones. No deep tissue injuries of back or torso. No sign of defensive movements or impacts of overexertion

Table 1.

Organ	**Weight**
Brain	1,350 g

Heart	320 g
Right lung	520 g
Left lung	480 g
Liver	1,520 g
Spleen	160 g
Right kidney	140 g
Left kidney	145 g
Stomach	150- 200 mL (partially digested coffee; taken approximately 1-3 hours prior to death, no pill fragments)
Bladder	80 mL of clear urine

OVERALL INTERNAL FINDINGS SUMMARY:

Evidence of chronic but non-fatal cardiovascular disease. Inhalation of fine mechanical dust, indicating recent proximity around malfunctioning machineries. Stomach contents reveal recent coffee consumption, showing pre-death activity. Minor occipital scalp injury, but no fractures — Those findings suggest a fall or sudden medical event potentially exacerbated by inhalation of fine particulate material.

No clear internal cause of death identified from external and internal examination. Further tests required.

TOXICOLOGY REPORT:

Specimen Received: Femoral blood, vitreous humour, urine, gastric contents, and liver tissue were submitted

Date Collected: 10th December 2025

Laboratory: City Forensic Toxicology Lab

Analytical Findings:

Substance	**Specimen**	**Result**	**Reference/ Normal Range**
Caffeine	Blood	4 mg/L	2-10 mg/L (typical for moderate coffee intake)
Ethanol	Peripheral Blood	0.0 g/dL	N/A
Common Drugs of Abuse (Cocaine, Heroin Amphetamines, etc)	Blood, urine, liver	None detected	N/A
Nicotine/ Cotinine	Blood, liver	None detected	N/A
Electrolytes (Na, K, Cl)	Blood	Within normal limits	Sodium: 135–145 mmol/L Potassium: 3.5–5.0 mmol/L Chloride: 98–107 mmol/L
Carbon Monoxide	Blood	Negligible (1%	N/A

		saturation)	
Other Toxicants	Blood, liver	No cyanide or heavy metal detected	N/A

INTERPRETATION:

Toxicology does not appear to be the cause of death.

RELEVANT HISTORY:

- Three weeks ago, the city logged complaints of “metallic grinding sounds” coming from inside at night.
- Elias had recently argued with his supervisor over funding for repairs and safety concerns.

LABORATORY ANALYSIS: FINE GREY PARTICULATE:

Sample Source:

- Gathered from pant legs, fingernails, hair, and nasal area of decedent.
- Additional samples recovered from metal staircase and gear housing near the stuck 3:17 clock face.

Macroscopic Examination:

Appearance:

- Light grey, extremely fine particulate.
- Non-clumping, mildly metallic odor.
- Grain size: ~40–80 microns.

Microscopic Examination (Light & SEM):

- Particles show irregular angular shapes, typical of mechanical abrasion, not natural decomposition of stone or wood.
- Some particles show tiny metallic flakes embedded.
- Presence of soot-like carbon fragments, but not from combustion (no charred morphology).

Chemical Composition (EDS + FTIR):

Detected Materials:

1. Iron oxide (FeO/Fe_2O_3)
   → typical of old machinery grinding or gear wear.
2. Aluminum silicate dust
   → could be structural dust from the tower walls, but much finer than typical wall erosion.
3. Carbonaceous particulate (non-combustion)
   → likely from lubricant degradation.
4. Trace amounts of copper and tin
   → copper + tin together = bronze.
   → so this dust are pieces of broken bronze gears**.**

NOT DETECTED:

- No asbestos.
- No chemical toxins.
- No combustion residues.

INTERPRETATION:

This fine material is a mix of: metal shavings, gear wear debris, and fine oxidant breakdown particles. This only forms when the machine is forced to operate far past safe-tolerance.

However, the amount of dust was way too high to be moderate, meaning this kind was caused by deliberate jamming, sabotage, and forcing gears with an external tool.

And the dust also appears to be fresh (Since oxidation testing showed minimal weathering), so the dust was created very recently before Elias's death, approximately minutes to 1-2 hours.

And typically, old gears don't shred bronze unless there is any human interference like: lubrication was intentionally removed, the gear teeth were forcibly misaligned, or a bolt was inserted to cause failure.

Taking everything in consideration, this was done by someone who intentionally engineered mechanical failure.

DISCUSSION:

The decedent, a custodian on his night shift, was discovered on the 12th stair of an old clocktower. Scene investigation revealed no sign of struggle or external violence. However, evidence of third-party involvement has been collected.

External examination revealed an unusual amount of fine pieces of broken bronze gears and swelling on the right occipital region, which is likely the collapse, but not significant. The internal examination was consistent with external findings; minor occipital scalp injury,

chronic cardiovascular disease (Not independently lethal in here) and lungs containing the dust from the gears. Toxicology identified no chemical present to be lethal or deteriorate cognitive ability.
All collected data supports a death due to inhalation of fine bronze dust. This was worsened by pre-existing cardiovascular disease and environmental stressors like cold, poorly ventilated, and low oxygen area. The clocktower being enclosed also removed any pathway for the dust to escape.
The timing (dust created only minutes to 2 hours before his death, signature attempts (making the clocks stop at 3:07), and evidence of deliberate tampering with the machinery point towards homicide. Other manners like accidental or suicide has been ruled out because of the evidence of the perpetrator Rowan Malik, who later confessed to be behind Elias's death.

Based on the integration of external, internal, laboratory, and scene findings, death is most consistent with acute hypoxia due to inhalation of bronze dust and environmental stressors. The manner of death is being assigned as homicide.

Cause of Death: Acute hypoxia
Mechanism of Death: Bronchospasm combined with hypoxia → Oxygen supply cut off + Brainstem respiratory system failure → Cardiac arrest
Manner of Death: Homicide

EVIDENCE SUPPORTING HOMICIDE:

- The laboratory findings indicated involvement of someone since old gears don't shred bronze unless there is any human interference

- Two of the clocks of the clocktower (The massive clock and Elias's wristwatch) were stopped at 3:07 — an attempt of the perpetrator's signature, which he confessed to
- The warm thermos had the perpetrator Rowan's fingerprints; later he also confessed to this crime and had went there to see whether Elias was alive or not and accidentally left it there

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SIGNATURE:

Medical Trainee under Supervision

12th November 2025

AUTHOR'S NOTE: This mock autopsy report is based on a fictional case scenario generated using AI, as I do not have access to real forensic cases. The analysis, biological reasoning, and report structure were developed independently by me. This piece reflects my interest in forensic pathology and my effort to understand mechanisms of death through structured, scientific writing. Certain details have been simplified for clarity and may not fully reflect real-world forensic procedures.

What I Learned From this Case?

➔ How to integrate scene findings with medical reasoning

➔ How subtle vulnerabilities can become fatal under certain conditions (In this case, heart disease with inhalation of fine bronze dust)

- ➔ How environmental stresssors combined with confinement can lead to a lethal event

It also strengthened my interest in forensic pathology as a field that blends science with human context.