



A130 A Multiple Fatality Response to Nine Indigenous Deaths in a Burned House in Pikangikum, Ontario: Postmortem Investigations

*Rebekah Jacques**, Forensic Services and Coroner's Complex, 25 Morton Shulman Avenue, Toronto, ON M3M 0B1, CANADA; *Kona Williams, MD*, Forensic Services and Coroner's Complex, 25 Morton Shulman Avenue, Toronto, ON M3M 0B1, CANADA; *Jayantha Herath, MD*, Ontario Forensic Pathology Service, 25 Morton Shulman Avenue, Toronto, ON M3M 0B1, CANADA; and *Kris Cunningham, MD*, Ontario Forensic Pathology Service, 25 Morton Shulman Drive, Toronto, ON M3M0B1, CANADA

After attending this presentation, attendees will be informed concerning the approach to postmortem examination, the collection of information for identification, and how medical information from the dead can improve the quality of life for surviving family members in the event of a multiple fatality, presented by the hosts of the Triennial International Association of Forensic Sciences 2107 meeting, the Ontario Forensic Pathology Service (OFPS).

This presentation will impact the forensic science community by illustrating how a well-coordinated postmortem response with appropriate experts working systematically and as part of an interdisciplinary team in the morgue results in a successful and expedient multiple fatality investigation of a significantly burned group of human remains, as well as providing important information which may impact the health of surviving family members.

Nine family members were recovered from the rubble of a heavily damaged home following a fire on the Pikangikum Reserve, a remote Ojibwe community in Northern Ontario. A team of three forensic pathologists, two forensic anthropologists, six pathology assistants, two radiology technicians, and one forensic science technician worked alongside three forensic identification officers and three fire investigators to undertake the task of performing the postmortem examinations of this family in a single day. Communication and pre-planning for the postmortem examination of this multiple fatality allowed regular morgue business to continue uninterrupted. That the physical plant of the OFPS was designed to handle multiple fatalities also contributed to this successful single-day endeavor.

The purpose of the postmortem examinations was to collect information which would aid in identification and determination of the cause of death. The day began with a presentation from the scene forensic anthropologist that was attended by the entire team. Postmortems were assigned so any bodies with unresolved commingling would be autopsied concurrently. During the autopsies, there was ongoing communication among all members of the team, which was facilitated by the close proximity of the autopsy tables. The nine postmortems were divided among three teams with each forensic pathologist performing three autopsies and the forensic anthropologists circulating amongst cases that required their expertise.

All of the decedents had fire-related injuries and were in variable states of completeness. In particular, one of the children had extensive destruction to the pelvic organs that interfered with the recognition of the internal sex organs versus urinary bladder. The confirmation of the organ as a bladder was made by frozen histological section prior to the identification committee meeting the following morning. One adult had antemortem trauma and this was easily interpreted with the assistance of the scene forensic anthropologist. Samples for ancillary investigations included: blood collection for toxicological analysis, small tissue samples for histology, and samples for DNA. All nine individuals died from smoke inhalation. Biological information, such as approximate age and sex as well as natural diseases and other identifying features, were communicated to the identification committee. Any unexpected findings in the ancillary investigations were communicated to the other forensic pathologists prior to



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signing out the autopsy reports. All of the autopsy reports were audited by another forensic pathologist on the team to ensure completeness and similar content.

Two of the adult individuals were diagnosed with hypertrophic cardiomyopathy and referred to the cardiac pathologist for further examination. Genetic testing is currently underway in order to determine if a genetic mutation exists. Hypertrophic cardiomyopathy is typically an autosomal dominant condition and can therefore affect multiple members of a family and their extended families. The finding of this disease on postmortem remains allows for surviving family members to be screened, examined, and treated for this condition.

Multiple Fatality/DVI, Postmortem Examination, Hypertrophic Cardiomyopathy