



A138 Constricting Structures: A Critical Analysis of a Past Forensic Anthropology Case Through the Systematic Examination of a Neck Organ Block Traumatic Injury in the Present

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After attending this presentation, attendees will understand the frequency of trauma to the hyoid, thyroid cartilage, and cricoid cartilage that results from hanging, with special consideration paid to the age, sex, and ancestry of the decedent as well as the type of ligature used. In addition, this presentation reinforces observations made by forensic anthropologist William R. Maples, PhD, concerning a controversial international 1991 case involving neck trauma.

This presentation will impact the forensic science community by demonstrating how the intellectual merit of this study is grounded in the knowledge that the medical examiner's determination of cause and manner of death may not be reliably determined when the influences of the variables mentioned above are not taken into account.

With these analysis needs in mind, this study conducted macroscopic and radiographic forensic anthropological examinations of trauma at the request of the medical examiners from three medical examiner districts in Florida.

Over the past two years, 52 medical examiner cases (25 = with evidence of peri-mortem trauma; 27 = no evidence of peri-mortem trauma) were macroscopically (with a 300x dissecting scope) and radiographically (AGFA CR30-X machine at 40kvp and 1/30 exposure) examined in each medical examiner's facility. Each medical examiner removed the neck organ block from the decedent without cracking the thyroid cartilage along the midline. Cartilage and bone traumatic discontinuities (complete or greenstick fractures) were photographed and mapped (to scale) onto anatomical figures. The sample comprised 37 males and 15 females between the ages of 16 and 99 years (mean age = 42 years) who were of European (42), African (4), Asian (1), and Hispanic (5) ancestries, with statures ranging from 4'4" to 6'2". These cases involved 28 ligatures (rope, electrical cord, belt, etc.) and one instance of manual strangulation. Most of the hangings involved partial suspension while only two evidenced full suspension.

The analyses revealed that 25 individuals (48%) presented with fractures and that greenstick fractures (60%) predominated. Interestingly, 53% of the individuals presented with thyroid cartilage fractures, a finding that was statistically significant ($x^2 = 22.354$, $p < .001$). There was no significant association between ligature type and frequency of thyroid fracture ($x^2 = 10.69$, $p > 0.05$); however, there is a significant association between ligature type and the frequency of hyoid fracture ($x^2 = 23.69$, $p < 0.05$). No statistically significant difference in the fracture frequency of males and females was noted ($t = -0.876$, $p = 0.385$). These findings helped in the heuristic validation of a forensic anthropology case analyzed by Dr. William R. Maples that was part of more than 7,000 slides, notes, books, bones, and casts comprising the William and Margaret Maples Special Collection at Florida Gulf Coast University.

During Dr. Maples' 29-year career, which involved 1,000 forensic anthropology cases, one international case brought public emotions to the forefront. Ms. Flor Contemplacion's family and Filipino human rights activists fought to have her death sentence by judicial hanging overturned. Ms. Contemplacion, a housekeeper in Singapore,



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was found guilty of the homicides of Master Nicholas Huang (the 4-year-old son of their employer) and Ms. Della Maga (the 34-year-old Filipino coworker). On May 4, 1991, Master Huang's father came home to find his son's head in a pail of water and Ms. Maga strangled in the bathroom. Ms. Contemplacion was hanged on March 17, 1995 for her crimes. The incident triggered an emotional outrage by some who indicated that Contemplacion was denied a fair trial and that new evidence was off-handedly dismissed. Two years later, the Philippine National Bureau of Investigation put together a team of forensic scientists from United States, which included Maples, to review the exhumation records and reports in order to provide opinions on the validity of the new evidence, cause, and manner of death. Maples and his colleagues found Della Maga died as a result of asphyxiation due to ligature strangulation; thereby supporting the original autopsy while asserting that the evidence of the exhumation was fundamentally flawed.

Peri-Mortem Trauma, Hyoid, William R. Maples