D9 **Utilizing Ultrasound Technology to Measure Facial Tissue Thickness in Canadian Aboriginal Populations**

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After attending this presentation, attendees will have a better understanding of the data required for creating 3-D facial reconstructions; understand the need for utilizing facial tissue depths standards valid for a specific population of origin - presently, no data exist for facial tissue thickness in Canadian Aboriginal populations; and understand the methods employed for measuring tissue facial depth measurements.

This presentation will impact the forensic community and/or humanity by aiding in positive identifications for unknown skulls from peoples of indigenous ancestry.

1. This is ground breaking research and has never been published previously.
2. This new data can be utilized by law enforcement for creating more accurate pictures of what a missing child may look like today, years after they have disappeared.
3. This new data will aid in positive identifications for unknown skulls from peoples of indigenous ancestry.
4. This project will allow a new and positive connection to be made between Canadian First Nation communities and scientists.
5. As students will be trained to help use the ultrasound machine, this project will initiate proactive education and career-related training programs.

In forensic cases, when no identification is possible, facial reconstruction can aid in establishing an individual's identity. The purpose of this research is to add to the already existing databases of children and adults for use in 3-D facial reconstructions of unknown or missing individuals. When facial reconstruction is attempted, it is critical that the measurements utilized for facial tissue depths are standards valid for a specific population of origin.

Not all children grow at a similar rate and therefore it is difficult to establish methods that can be universally applied to predict the growth of children's faces. However, the most accurate growth prediction is likely to occur when large reference groups, similar to the population studied, are utilized to derive standard values. Since children of indigenous ethnicities are underrepresented in the published data for tissue depth thicknesses, this project provides additional methods for establishing the identity of unknown human child skeletons. This new data can also be utilized by the police department for creating pictures of what a missing child may look like today, years after they have disappeared.

Accurate measurements for facial tissue depth are an important and vital tool inside and outside of the medicolegal arena. In forensic contexts, this new data will aid in positive identifications for unknown skulls from peoples of indigenous ancestry. For the police, who are searching for a missing child, employing this new data may help a family reunite with their lost child. For traditional peoples, this new knowledge will give voice to a once forgotten group of peoples.

Forensic Anthropology, Facial Reconstruction, Indigenous Peoples