

## **Ad Hoc Technical Support Group for the BC Network of Lead Communities Investigating Missing Children from Residential Schools**

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*A DRAFT summary of DNA analysis for communities, by Andrew Martindale, UBC.*

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The use of DNA is often mentioned as a way of identifying missing children. This document outlines what DNA is, how it can be used, and what is needed for identification. Note that although this is a powerful tool, not all missing children will likely be identified, even with DNA.

### **What is DNA?**

Deoxyribonucleic acid is a biological component of our bodies. It resides within every cell of our being and it contains the blueprint code for our physical selves. There is some evidence that DNA can convey experiences, such as trauma, across generations, but our interest here is in how it identifies us. Everyone's DNA is a combination of their biological mother's and father's DNA, which comes from their mothers and fathers, back into the ancestors from the beginning. It is usually unique to an individual, although identical twins have the same DNA. Connie Paul (Snuneymuxw) explains DNA like this: your body comes from your mother and your spirit comes from your father, together they make you.

### **What Role Can It Play in Identifying Missing Children?**

The pattern of your DNA identifies you, links you to your biological relatives, and distinguishes you from more distant relations. DNA remains within our bodies after we die. It is in our bones, hair follicles, and tissues. If the physical remains of a missing child are recovered, a DNA map from their tissues can be used to identify who they are. DNA mapping is now common. It is used to identify people at crime scenes and is used in medicine to understand how individuals respond to disease or treatment. A DNA map of an individual can identify them and their relatives.

However, for DNA to identify a person, we need a database of family members to compare it to. So, DNA analysis involves two parts: 1) finding the remains of missing children and 2) collecting DNA samples from potential relatives. The closer the biological link between the relatives and the missing child, the more likely the child can be identified.

### **What Are the Challenges of DNA Analysis?**

Both parts of a DNA analysis can be challenging. The recovery of a child's remains can be difficult, and if the remains have degraded, recovery of DNA from them can be difficult. We may not be able to recover DNA from all children whose remains are found, but in most cases we will. DNA collection needs to be careful. Mixing up other people's DNA with the child's can make identification difficult. Forensic archaeologists follow careful procedures when exhuming to take care of children and their DNA.

Collecting samples of DNA from living relatives is an important task, especially for survivors and elders. It involves only a mouth swab. However, there are complex legal and administrative issues in collecting and **archiving** DNA from people. The care, safety, and security of survivors' DNA is important. DNA analysis will be an important tool in identifying missing children, but one that requires support from governments to do it right.

This document is one of a series that the British Columbia Technical Working Group on Missing Children and Unmarked Burials has created to help those involved in ground searches for missing children

The BC Technical Working Group includes: Dave Schaepe (chair), Anne Atleo, Sarah Beaulieu , Remy Benoit, Kathleen Bertrand, Cara Bendzy, Hugo Cardoso, Lisa Davidson, Shannon Enns , Colin Green, Erica Kay, Amber Kostuchenko, Hudson Kunicky, Kim Lawson, Andrew Martindale, David McAtackney, Ivy Peers, Whitney Spearing, Nick Weber, Vicky White, Brian Whiting, Ashley Whitworth, Megan Whonnock.

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