

## Peer Review

# Review of: "Syphilis: A Review of the Controversies on Its Origins and Research of Its Arrival in Quebec, Canada"

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## Review of Ederly et al. on syphilis

Your preprint is good and informative, as far as it goes, but it does not go far enough. On p.3, you say you want to “comprehensively understand the history of the disease and its spread in Canada.” You document the spread in Quebec among the French colonists but not the appearance and spread among the pre-Columbian Indigenous peoples. In all fairness, given our current knowledge, that might not be possible yet.

Genetic evidence (mtDNA) has not been of much help in tracing the distribution and spread of the various treponemal variants. That leaves us with only the skeletal changes to work with. Some of these are of limited use and have been relied on far too much. Periostitis, osteitis, and curvature of the tibia are often used as signs of treponemal infection, but these symptoms also occur with other infections like rickets and Paget’s disease, both of which were present in pre-Columbian Indigenous peoples of the New World.

Rarer but potentially more useful symptoms that occur in advanced cases of treponemal infection are the destruction of the middle face and the cranial cavitation sequence described by Hackett. Although the facial destruction also occurs in leprosy, I know of no cases of leprosy in the pre-Columbian populations of the New World. However, I excavated a partial skeleton from ca. 1200 AD in Ontario with cranial nodular and circumvallate cavitation (see Hackett 1978). I will send you the article separately. It is *Kewa* 10 (8):1–10 (2010). *Kewa* is the newsletter of the London Chapter of the Ontario Archaeological Society. I am not sure if the Hackett severe cavitation indicates venereal syphilis, but I think it does indicate *T. pallidum*.

You should also focus on the evidence for congenital syphilis, the distinctive dental malformations. These indicate venereal syphilis in the mother.

You need to determine precisely what sort of skeletal symptoms characterize venereal, as opposed to endemic, syphilis. That means a wider search of the literature. You could start by looking in Google Scholar for “ancient syphilis.” In journals, search The American J. of Physical Anthropology (AJPA--- recently renamed The American J. of Biological Anthropology); The International J. of Osteoarchaeology; The International J. of Paleopathology; and Bioarchaeology International. There was an article on pre-Columbian skeletons in the southeastern US with severe cavitation in the AJPA some 5–10 years ago, but I cannot remember the details.

When you examine Old World cases, check to see what criteria are used. View everything critically. Your main challenge will be to identify skeletal symptoms that distinguish venereal from endemic syphilis, and to identify the role of congenital syphilis traits.

**Attachments:** available at <https://doi.org/10.32388/G71H8U>

## **Declarations**

**Potential competing interests:** No potential competing interests to declare.