

SCHOOL SCREENING OF ON-RESERVE FIRST NATIONS CHILDREN FOR LATENT TUBERCULOSIS INFECTION:

EFFECT OF BCG VACCINATION IN THE FIRST YEAR OF LIFE

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BACKGROUND: In Alberta, Canada, First Nations children attending school on reserve are screened for latent tuberculosis infection (LTBI) in grades 1 and 6 using the tuberculin skin test (TST). BCG vaccination in infancy is not thought to influence the TST in school-aged children. To the extent that it does, the utility of school screening for LTBI using the TST is compromised. **METHODS:** TST results in BCG vaccinated and non-vaccinated school children who were screened for LTBI between April 1, 2004 and March 31, 2009, were evaluated. Thereafter, to assess the specificity of the TST, children with a positive TST (≥ 10 mm of induration) underwent a QuantiFERON-TB Gold In-Tube® test (QFT). **RESULTS:** The TST was significantly more likely to be positive in children who had, compared to those who had not, received BCG, 4.6% vs. 0.7%, $p < 0.0001$ (see table). Amongst 35 (so far) TST positive, QFT- tested children (all BCG

TST	BCG Vaccinated (%)	BCG non-vaccinated (%)	Total (%)
Positive	82 (4.6%)	14 (0.7%)	96 (2.6%)
Negative	1690 (95.4%)	1888(99.3%)	3578 (99.3%)
Total	1772 (100.0%)	1902 (100.0%)	3674 (100.0%)

vaccinated), 30 (85.7%) had a negative QFT (titre $< 0.35u$). **CONCLUSION:** School screening of First Nations children in Alberta for LTBI would appear to be compromised by BCG vaccination in infancy; most positive TSTs appeared to be falsely positive on account of BCG.

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