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Inuit shorter; snowmobiles blamed

Researchers say women are smaller because they no longer carry infants on their backs

BY STEPHEN STRAUSS
Science Reporter

Something is causing Inuit in Canada's North to shrink.

Scientists suspect that the chief culprit in men may be the spine-jarring but ubiquitous snowmobile. Women, on the other hand, may be growing smaller because they no longer carry their children on their backs.

The findings grow out of a 25-year University of Toronto study of the effects of acculturation on a group of Inuit living in Igloolik, an island settlement off the northeastern corner of the Melville Peninsula in the Northwest Territories. In almost all age groups, there has been a significant decrease in average height over that period.

A recent paper in *Arctic Medical Research* by Andris Rode and Roy Shephard presented evidence that the men in the settlement were an average of 1.78 centimetres shorter in 1990 than they had been in 1970. The women had shrunk even more, with average height diminishing by 2.47 centimetres. A total of 405 people were measured throughout the course of the research.

While height loss as a result of aging is a normal human phenomenon – spinal-cord compression is generally believed to be the major factor – Igloolik's Inuit exhibit a very different pattern of shrinkage from their fellow citizens to the south. A 1981 Canada Fitness Survey showed that while all Canadians shrank as they aged, everyone still was on average taller than Canadians of similar ages who had been surveyed 27 years earlier.

While there was roughly a one-centimetre difference for people aged 25 to 55, the average 60-year-old was about two centimetres taller than an average 60-year-old was a quarter century before. Better nutrition has generally been associated with this generational growth factor.

What makes the Inuit different?

"In male subjects one factor might be a trauma to the vertebral column associated with the repeated operation of high-powered vehicles over rough terrain," the two authors write. "This suggestion is apparently supported by the concentration of height loss in the hunters [who are the most aggressive users of snowmobiles]."

Women, most of whom are not heavy snowmobile users, may have a different cultural explanation for their shrinkage. The store-bought diet the Inuit have largely adopted may be lacking in vitamin D and calcium. This could produce bone loss associated with osteoporosis.

Traditionally, the women carried heavy loads – children or game – on their back. The University of Toronto researchers hypothesize that their heavy exercise could have stimulated bone growth. Today, snowmobiles carry whatever game there is.

REFERENCE: Rode, A. and R.J. Shephard: Secular and age trends in the height of adults among a Canadian Inuit community. *Arctic Med. Research* **53**(#1): 18-24 (1994). [*Medline* database on *Lexis-Nexis*]

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