

## SNOWMOBILE INJURIES IN SVALBARD - A THREE YEAR STUDY

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**Study objective** - To survey snowmobile injury events treated in Longyearbyen hospital, Svalbard and to report the injury distribution and characteristics for Svalbard residents and visitors driving snowmobiles.

**Design** - Prospective injury recording.

**Setting** - The Norwegian arctic archipelago, Svalbard during three years from 8 March 1997.

**Participants** - The person years of the study, estimated from yearly census data on Svalbard residents, were 4211. In 1998 the number of registered snowmobiles were 1342, of which about 250 were available for use to visitors.

**Measurements and main results** - The variables were selected and coded according to the Nordic system. Of 107 snowmobile injuries recorded, 85 occurred during March-May (79.4%). Nine out of ten injuries occurred during leisure driving. Visitors (N=51) had peak injury frequency in the agegroup 30-39 and an injury rate of 68.0 per 1000 registered vehicles per year. Residents had a corresponding peak in the 20-29 agegroup and injury rate four times lower. The upper (23.4%) and lower (22.5%) extremities were the most commonly injured. 32 injuries were non-minor. Of these, 7 had multiple injuries. The most seriously injured had ruptured abdominal organs (spleen, kidney) or fractures of long bones. There were no fatalities in Norwegian subjects during the study. However, recent data show two fatalities on 4 February 2001 in an avalanche incident. One fatality occurred in a Russian Barentsburg resident.

**Discussion and conclusion** - The snowmobile injury rate per 1000 registered vehicles in Svalbard is three times higher for residents (17.4) than in Swedish Lapland. Death rate is over 30 per 100 000 person years, six times higher than Swedish Lapland (unadjusted for vehicle ownership rate). The injury rate for Svalbard visitors is four times higher than the resident rate. Eight out of ten snowmobile injuries occurred during March-May. Continuous prospective hospital recording of snowmobile injuries continues in Svalbard and will enable evaluation of preventive measures targeted as a result of the present study.

**Key words** - Snowmobile, injury, prevention.