

### Ophthalmology in the Canadian North

The following article, by Doreen B. Adams and Samuel T. Adams\* is reprinted from the June 1974 issue of *Arctic*, published by the Arctic Institute of North America.

What did the young mother do when the dog attacked her child, leaving toothmarks on and around the eye? What could be done – when the animal was a sled-dog, and the mother and child were Eskimos on Baffin Island, with its bone-chilling wind blowing 50 degrees below, and its sparse population scattered like peppery specks on the vast unmoving landscape? Stoic acceptance. Resignation. These were the traditional responses.

Early medical care was provided in the North by missionaries, Hudson's Bay traders, and surgeons on whalers or exploration ships. In later years a doctor might be found on the Hudson's Bay supply ship, *Nascopie*. A team of medical men travelled regularly on the Canadian Department of Transport ship, *C.D. Howe*. These visits, however, occurred only in the brief open-water season of the summer months. The opening of the Arctic to the white man was accelerated by the DEW line construction in the early 1950s, and this was paralleled by increased commitment for medical care. Today most Eskimos are within reach of a nursing station, whence a patient may be evacuated to one of six modern hospitals in the Canadian North. If specialist care is necessary, the patient is flown south to a university hospital.

#### Northern Health Service

The present Northern Health Service of the Canadian Government was inaugurated in 1955 and expansion was rapid. Besides the six hospitals strung across the North, to serve the 50,000 residents there are 40 nursing stations, 11 health centres, 19 dispensaries, several one-nurse trailer nursing stations set down in otherwise inaccessible places by *Hercules* aircraft, and for the individual family group in isolation there is the "Eskimo Family Medicine Pack". This kit contains antibiotic tablets and pediatric preparations, skin and eye ointments and



Slit sun-goggles made from whale bone.

assorted dressings, together with an illustrated booklet printed in English and in Eskimo syllabics, which gives simple illustrations on the use of the contents. The nursing stations are the backbone of the Health Service. The girls who staff these stations bear tremendous responsibility and are the real heroines of northern medicine.

The question arose in the late 1960s whether a central eye hospital was needed in the North, and a decision was taken to survey ophthalmological needs. In 1970 and 1971, with Canadian Government sponsorship, three Canadian universities took part in a widespread survey, sending teams to examine whole populations of selected settlements. A total of 4,450 people were examined, McGill [University, Montreal] being responsible for the East Baffin Zone. Out of this survey came much interesting data. No eye hospital was deemed necessary, and the data obtained became even more interesting when pooled with that of the other countries responsible for northern peoples. In June 1972 an Arctic symposium was featured at the thirty-fifth annual meeting of the Canadian Ophthalmological Society. Participants included representatives from Denmark, Finland, Britain, the World Health Organization, and the Ministry of Health for Canada.

#### Service trips up North

In September 1970 the first "service" trip was made to the Baffin Zone. Teams of ophthalmologists from the McGill Hospitals now visit regularly the 12 settlements in this Zone. The teams, usually of two, touring from ten days to two weeks, three times a year, see an average yearly total of 750 patients. Before their arrival the settlement nurse has done a prelimi-

nary screening of eye and visual problems. Clinics are usually set up in the schools, which are well-equipped modern buildings, with a large captive "patient load" nearby. Clinic hours may run as late as 11 p.m. or midnight, in order to accommodate the older patients, who prefer evening hours – or perhaps in order to race the threatening weather which may delay plane take-off for the return trip.

On these tours a variety of eye problems is found. Snow-blindness is a dramatic term which jumps to the layman's mind when there is mention of eye problems in the North. In actual fact, while this condition is of extreme discomfort to the patient, it is transitory. It comes about because of the long hours during which sunlight is blindingly reflected off the snow in a land where, at times, a day may last 23 hours and a night only one. Over the years the Eskimo has learned to exclude most of the offending ultraviolet light by means of slit goggles made from sealskin, bone or driftwood.

#### Glaucoma common in women

More serious eye problems found in the North are, in order of increasing importance: trauma (frequently the result of an alcoholic fray rather than, in this age of the snowmobile, a battle with a husky); scarred cornea due to old tuberculosis, which is now on the wane; glaucoma, the blinding disease; and myopia. The Eskimo is found to be congenitally susceptible to angle closure glaucoma, more so than other races. The disease is found more commonly in Eskimo women than men, and is 40 times more prevalent in Eskimo women than in women of other races. The majority of all eye patients flown to Montreal for medical or surgical treatment are sent because of this type of glaucoma.

Imagine the consternation of one Eskimo woman, who came asking for a pair of glasses, to be told that she needed an operation and should accompany the doctors on their return to Montreal within a few hours. The pressure inside her eye was found to be above normal and, because the disease was diagnosed in its earliest stage, prompt treatment could save her from probable blindness. Her husband, when consulted, was not at all amenable to having his cook away from home for some weeks. Only after lengthy nego-

\* Department of Ophthalmology, Faculty of Medicine, McGill University, Montreal.