The Hospital for Sick Children, Toronto

BY DONALD G. HOOD AND PETER B. MEULLER

The Hospital for Sick Children was established in 1875 as a six-bed facility. It has grown to become the largest children's hospital in North America. The hospital complex encompasses a city block and includes an 810 bed main hospital building, an undergraduate nurses residence, and an apartment residence for graduate nurses.

More than 2,500 people are required to staff the Hospital, 24 hours a day, seven days a week. There are more than 250 different job classifications. They include such diverse occupations as physicians, nurses, therapists, dietitians, shoemakers, elevator operators, secretaries, accountants, data processing machine operators, laboratory technicians, groundsmen, plumbers, carpenters, painters, receptionists and eningeers.

Diagnosis and treatment are provided for more than 27,000 in-patients annually. Every day, approximately 400 patients attend one or more of the 45 out-patient clinics.

Virtually every type of medical and surgical treatment is available. Thousands of sick and injured children are treated in the Emergency Department every year. More than twenty-five per cent of the in-patients reside outside Metropolitan Toronto. Some of them come great distances to receive specialized treatment. As the majority of these patients are seriously ill and require extended hospitalization, they account for about 43 per cent of the total days of patient care. Many operative and treatment techniques developed by members of our staff have been adopted by hospitals all over the world.

During the past 90 years, thousands of members of the health care professions have received at least part of their training at the Hospital for Sick Children. Some of them join our staff upon completion of their education while others take positions in hospitals and other institutions throughout the world.

The Hospital is the paediatric teaching centre for students in the Faculty of Medicine, at the University of Toronto. Eighty residents are on staff. They are participating in a five year training program, at the conclusion of which they will become specialists in paediatrics or surgery.

The School of Nursing, founded in 1886, is the second oldest school in Ontario and the oldest school of nursing operated by any children's hospi-

Clinics in Canada

This is the first in a series of articles describing Canadian clinics. Each article is prepared by members of the Clinic staff. Dr. Hood is Head of the Division of Audiology, and Dr. Mueller is Director of the Speech and Language Clinic of the Hospital for Sick Children.

Toronto's Hospital for Sick Children, main entrance

ogy at the Hospital for Sick Children for a number of years. Until 1970, however, only one audiometric technician was employed. In 1970, the Audiology staff increased to two full-time audiologists, **Donald Hood,** and **Naneve Hawke,** and two full-time audiometric technicians. In 1973, one additional full-time audiologist will be added.

The Audiology facility is one of the largest paediatric audiology units in North America. It consists of eight audiometric test suites (five double-room and three single-room). The entire unit is housed in the new wing of the Hospital and is specially designed for a paediatric population. Complete instrumentation is available for all routine audiometric tests, impedance audiometry, conditioned orienting reflex audiometry (CORA) and evoked response audiometry (ERA). Within the next year, electrocochleography will be added to the list of possible tests. The electrocochleography will be performed by the division's on-line computer connection to the Hospital's IBM 1800 computer. This same computer will present stimuli as well as analyze human electrical potentials for more sophisticated ERA. In addition, all audiological and ENT records will be handled by the same computer program.

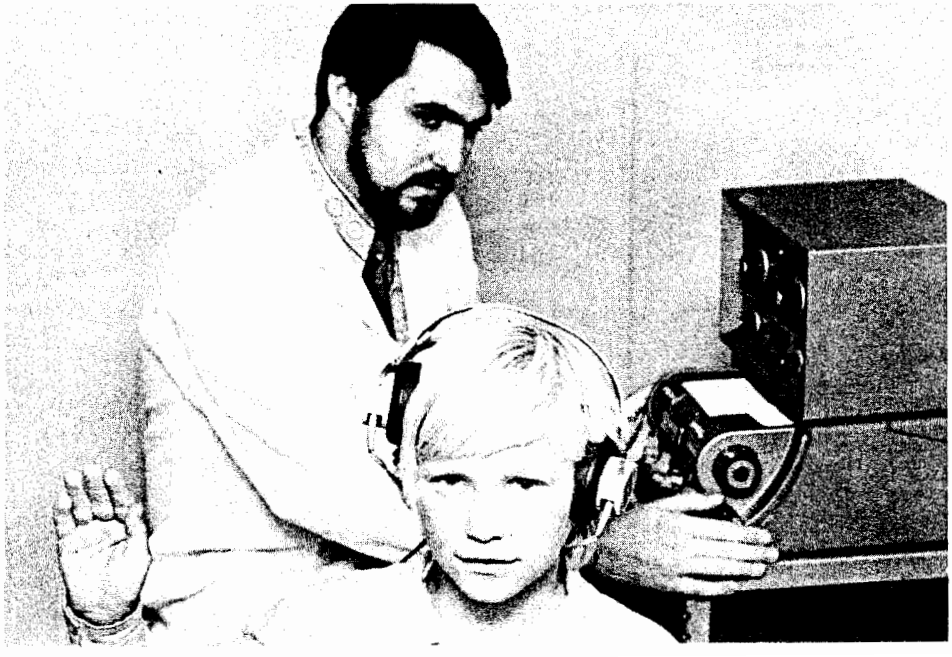
Most patients are between the ages of three and seven years, but they range in age from a few days old to eighteen years. The Division of Audiology is integrally involved with other Hospital departments in the differential diagnosis and habilitation of speech, language, and hearing disorders in children.

A four-day multi-service hearing assessment program investigates the suspected hearing impaired preschool child. The purpose of this investigation are (1) to determine the degree, nature and, if possible, cause of the hearing loss; (2) to determine what other problems exist and to recommend remediation, if necessary; (3) to make appropriate educational recommendations in conjunction with the Schools for the Deaf in Ontario; and (4) to make any necessary medical and audiological recommendations for surgery, medication, a hearing aid and so on.

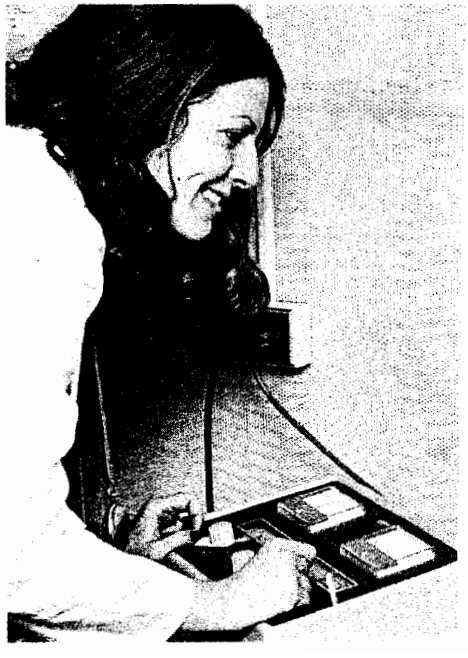
The program has been in operation for nearly three years and has investigated nearly one hundred children. The team consists of otolaryngologist, audiologist, paediatrician, psychologist, social worker, public health nurse, cardiologist, opthalmologist, and radiologist. Other specialties that may be called upon include neurology, psychiatry, genetics, or speech pathology.

The Speech and Language Clinic, one of the oldest in Canada, has traditionally been under the administrative auspices of the Department of Psychiatry. Since July, 1972, however, the clinic acquired departmental status

Masked bone conduction audiometry



Impedance audiometry, Division of Audiolog



and is now located in much expanded and improved quarters in the new Elm Street Wing of the Hospital.

Diagnostic and therapeutic facilities consist of eight offices equipped with teaching aids and other essential paraphernalia. The staff numbers seven speech pathologists whose competencies and professional interests range from maxillo-facial disorders to language delay in children. In addition, students of the University of Toronto Diploma Course in Speech Pathology participate in the activities of the clinic as part of their supervised clinical practicum. Members of the staff also play an active role in the University of Toronto's teaching programs, for example, speech pathology, and orthodontics, as either clinical supervisors or course lecturers.

The patients, who are referred by physicians, range in age from two (or younger) to eighteen years. They come to the clinic as either in- or out-patients, not only from throughout Ontario, but from other provinces and countries as well. Although diagnostic assessments outnumber therapeutic services provided, a number of children are being treated on a regular basis. The case load consists primarily of children with speech and language delay and of patients with maxillo-facial involvements. However, individuals with voice problems, stuttering, dysarthria, dysphasia, emotional difficulties, and other communicative disorders are seen fequently. Over 6,000 patient interviews will have been conducted during the current calendar year.

Close liasons are maintained with otolaryngology, audiology, psychology, psychiatry, and learning disabilities, providing rather unusual opportunities for professional interaction, team work, and quality patient care.

The Department is currently in the process of evaluating avenues through which a greater number of patients can be treated more efficiently as well as more effectively. Thus, group sessions for parents of communicatively handicapped children have been instituted and several clinical research projects are in the planning stages. For example, assessment techniques applicable to velopharyngeal function and benign lesions of the vocal folds will be investigated. This research will focus primarily on the aerodynamic parameters of speech and voice production. Two other projects under consideration will deal with auditory closure and discrimination in children with learning disabilities and oral-stereognostic perception of speech-handicapped children.

The basic philosophy underlying the departmental activities is that our patients can be served best through interdisciplinary team work, clinical research activities, and involvement in teaching.

Voice therapy with Florida I