Laryngectomy Services in Canada: A Preliminary Survey
Les services pour les laryngectomisés au Canada : une étude préliminaire

by • par

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ABSTRACT

This study was conducted to obtain information on the type and scope of services provided to individuals diagnosed with and treated for laryngeal cancer. Information presented is based on survey data gathered from respondents representing 36 treatment facilities in major population centres across Canada. Information was obtained on type and number of laryngectomy surgeries performed, interdisciplinary laryngectomy care teams, the availability of pre and postoperative services, voice and speech rehabilitation options offered, frequency and duration of speech rehabilitation programs, as well as other related services. Results indicate that substantial diversity existed across the facilities surveyed and across population centres. These data are discussed in relation to identifying potential areas where the services offered by speech-language pathology may enhance clinical care of the laryngectomized population, thus increasing the potential for successful postlaryngectomy rehabilitation.

ABRÉGÉ

On a mené cette étude afin de recueillir des renseignements sur le type et la portée des services offerts aux personnes souffrant d'un cancer du larynx et traitées. L'information présentée se fonde sur des données de sondage obtenues auprès de répondants dans 36 établissements de traitement situés dans les grands centres urbains du Canada. Les renseignements portaient sur le type et le nombre de laryngectomies effectuées, les équipes interdisciplinaires de soins postlaryngectomie, la disponibilité des services précédant et suivant l'intervention, les options de réadaptation de la voix et de la parole offertes, la fréquence et la durée des programmes de réadaptation de la parole, ainsi que d'autres services connexes. Les résultats font état d'importantes différences entre les établissements sondés et d'un grand centre urbain à l'autre. Ces données sont étudiées par rapport à la détermination de secteurs possibles où les services orthophoniques offerts pourraient améliorer les soins cliniques présentés à la population laryngectomisée, ce qui permettrait d'accroître le potentiel de réussite de la réadaptation postlaryngectomie.

KEY WORDS
laryngectomy • laryngeal cancer • counselling • rehabilitation

Head and neck cancers have been estimated to account for approximately 5% of all malignancies (American Cancer Society, 1993; Endicott, Cantrell, Kelly, Neel, Saskin, & Zujtchuk, 1989). Within the subgroup of head and neck cancers, laryngeal cancer has been identified as the most common type/site (Bryce, 1985; Myers, 1991; Spiegel & Sataloff, 1993). The Canadian Cancer Society has estimated that 1360 new cases of laryngeal cancer were diagnosed in Canada during 1996 and that laryngeal cancer was anticipated to account for 560 deaths over this same time period (Canadian Cancer Society, personal communication, January 1997).

To date, the most common treatment for advanced laryngeal cancer has been radical surgical management (Doyle, 1994). The size, location, and spread of the tumour are primary determinants for the amount of surgical resection required (Doyle). Surgical resection may range from partial (i.e., conservation) laryngectomy (Biller, 1987; Doyle, 1997) to total laryngectomy. Surgical procedures, as well as all other medical treatments and rehabilitative programs, need to be individualized as this clinical population is very heterogeneous in nature (Doyle, 1994). This notion is exemplified in the suggestion of Gates, Ryan, and Lauder (1982) that "to deal with laryngectomees in a singular rather than a flexible and individualized manner deprives the patient of the opportunity of having his needs addressed realistically." (p. 97). Thus, an individualized program of rehabilitation, or perhaps better stated, a program that addresses broader issues of impairment, disability, and handicap, which directly impact the individual would appear to increase the chance of successful postlaryngectomy rehabilitation in those treated for laryngeal cancer (Doyle, 1996; World Health Organization, 1980).

Throughout the clinical literature it has been demon-

strated that in order to achieve adequate and appropriate rehabilitation for laryngectomized patients, a team approach is most useful (Doyle, 1994; Kommers, Sullivan, & Yonkers, 1977; Lehmann & Krebs, 1991; Salmon, 1986; and others). Minimally, such a team should include a head and neck surgeon, speech-language pathologist, oncology nurse, social worker, primary care physician, the patient's spouse or partner, and possibly, other laryngectomized individuals (Doyle, 1994; Lehmann & Krebs, 1991). However, beyond the surgeon, the most essential member of the team is very likely to be the speech-language pathologist.

The importance of a speech-language pathologist on the rehabilitation team centres on the primary issue that regardless of the type of lesion and type of treatment, some form of communication difficulty will exist for all individuals undergoing treatment for laryngeal cancer (Doyle, 1994). Direct involvement by the speech-language pathologist, both pre and postoperatively, is judged important by many patients, physicians, and family members (Berkowitz & Lucente, 1985; Blanchard, 1982; Johnson et al., 1979; Minear & Lucente, 1979; Reed, 1983). However, past surveys of laryngectomized individuals and otolaryngologists indicate that the degree of involvement for some professionals on the multidisciplinary team including the speech-language pathologist may be variable. In fact, some patients may never be referred to a speech-language pathologist (Berkowitz & Lucente, 1985; Blanchard, 1982; Johnson et al., 1979; Minear & Lucente, 1979). In a survey of 66 laryngectomized individuals and 53 of their spouses conducted in the United States, it was reported that contact with a speech-language pathologist prior to surgical intervention would have been beneficial had the service been made available (Salmon, 1986).

Studies have shown that the type and source of information and services offered or provided to persons undergoing laryngectomy vary considerably (Berkowitz & Lucente, 1985; Blanchard, 1982; Johnson et al., 1979; Minear & Lucente, 1979). Patients and their families report that the more information they receive, the more they are able to cope with the physical and psychological consequences of radical laryngeal surgery (Berkowitz & Lucente, 1985; Blanchard, 1982; Johnson et al., 1979; Minear & Lucente, 1979). Beyond the unknown course of the malignancy, the primary concern of many laryngectomized patients is the postoperative loss of oral communication (Blanchard, 1982; Jay, Ruddy, & Cullen, 1991; Johnson et al., 1979). Thus, preoperative preparation for both the physical and the psychosocial impact of the surgery is clearly necessary. In addition, counselling regarding voice reacquisition and refinement, tracheostoma care and safety, and the availability of psychological support personnel and support groups are just a few of the additional needs noted by both patients and family members (Blanchard, 1982; Doyle, 1994; Minear & Lucente, 1979).

To date, there is no information regarding the type and scope of services provided to laryngectomized individuals and their families by speech-language pathologists in Canada. As previously noted, the literature indicates that the utilization of a team approach for the rehabilitation of laryngectomized individuals is deemed most beneficial (Doyle, 1994, 1996; Reed, 1983). The goal of the present study was, therefore, to gather data regarding the type and scope of service provision to persons undergoing laryngectomy in selected major population centres across Canada via use of a survey procedure. Gathering such data would appear to offer the potential to improve clinical services offered to this population and achieve more standard models of appraisal and intervention across provinces. As such, particular attention was paid to the use of multidisciplinary teams, the role of the speech-language pathologist on those teams, and the provision of educational and counselling services in the pre and postoperative phases of diagnosis, treatment, and rehabilitation associated with laryngeal cancer.

Method

Development of Survey

As noted, the purpose of the present study was to survey the type, availability, and breadth of pre and postoperative services and surgery options available to persons undergoing laryngectomy in hospitals and clinics located in major population centres across Canada. Eleven questions were specifically developed for the purpose of the survey (see Appendix). The questionnaire was developed from items which had appeared in previous questionnaires and from existing literature identifying issues of potential importance with respect to comprehensive patient care following the diagnosis of laryngeal cancer and its treatment. A list of potential participants for this study was generated from a review of the Canadian Association of Speech Language Pathologists and Audiologists (CASLPA) directory and professional speech-language pathology contacts across Canada.

Data Acquisition and Analysis

A copy of the questionnaire was sent to the speech-language pathology departments of 56 major hospitals and clinics across Canada and was directed to the attention of the supervising speech-language pathologist. Each participant was asked to complete the questionnaire and return it to the researchers. A quantitative summary of laryngectomy services and surgery options available within

each facility across Canada was compiled from the completed questionnaires. The overall responses to each of the questions from every responding facility were recorded and used to determine distributional and frequency characteristics.

Table 1. Summary of the types of laryngectomy surgery and the percentage of facilities which perform these surgical procedures.

Types of Laryngectomy Surgery	Number of Respondents	Percentage of Respondents
Total laryngectomy	33/33	100%
Supraglottic laryngectomy	29/33	88%
Tracheoesophageal (TE) puncture	29/33	88%
Hemilaryngectomy	23/33	70%
Near-total laryngectomy	18/33	55%

Results

Of 56 surveys distributed to hospitals and clinics, a total of 45 (80%) were returned. Of the 45 questionnaires returned, responses were received from Ontario (14), British Columbia (8), Quebec (7), Alberta (6), Nova Scotia (3), Manitoba (2), New Brunswick (2), Newfoundland (2), and Saskatchewan (1). Nine of the responding hospitals and clinics (20%) were excluded from the results as they did not provide laryngectomy services and/or surgery. Therefore, the results gathered and summarized herein are from 36 responding Canadian hospitals.

Types of Laryngectomy Surgery Available

Respondents were asked to identify the types of laryngectomy surgery available at their facilities. Three of 36 respondents reported that this information was not available. All remaining facilities reported that total laryngectomies were performed at their centres. Supraglottic laryngectomy was performed at 29/33 (88%) of the facilities, hemilaryngectomy was performed at 23/33 (70%) facilities, and near-total laryngectomy was performed in 18/33 (55%) facilities. Five facilities reported offering other surgical procedures including pharyngolaryngectomy, pharyngolaryngoesophagectomy, cricohyoidepiglottiopexy, cricohyoidopexy, Lindemann procedure, and varied types of neck dissection (Robbins et al., 1991).

Hospitals were also asked to report the availability of tracheoesophageal (TE) puncture for voice restoration. Twenty-nine of 33 facilities (88%) reported providing postlaryngectomy voice restoration using the TE puncture procedure. Of these, 83% (24) offered TE punctures as a primary procedure (i.e., performed at the same time as the laryngectomy surgery), and 89% (26) offered the puncture as a secondary procedure (i.e., performed some time following the laryngectomy surgery; Blom & Hamaker, 1996). Table 1 summarizes the types of laryngectomy surgery and the percentage of facilities which perform specific surgical procedures.

Patients Seen for Total and Partial Laryngectomy

Regarding the number of total laryngectomy patients seen in one year, three facilities reported servicing more than 50 patients, three reported servicing 26-50 patients, nine reported servicing 11-25 patients, and 18 reported servicing fewer than 10 patients. Of the 29 facilities that reported performing partial laryngectomy procedures, one reported servicing more than 50 partial laryngectomy patients per year, four reported serving 11-25 patients, and 24 facilities reported servicing less than 10 clients per year. The percentage of facilities included in each of these categories is presented in Table 2.

Table 2. Number of total and partial laryngectomies performed by responding facilities.

	0-10	11-25	26-50	> 50
Total laryngectomy patients seen in one year	(18/33) 54%	(9/33) 27%	(3/33) 9%	(3/33) 9%
Partial laryngectomy patients seen in one year	(24/29) 83%	(4/29) 14%	(0/29) 0%	(1/29) 3%

Laryngectomy Services Available

The types of speech-language pathology services available in the responding hospitals were separated into the following categories during data collection: (a) education, (b) counselling, and (c) voice/speech rehabilitation. Results indicated that more facilities tended to provide education, counselling, and voice/speech rehabilitation services on an individual basis rather than on a group basis. Table 3 displays the percentages of facilities providing education (3a), counselling (3b), and methods of voice/speech rehabilitation (3c) services provided to laryngectomized patients.

Interdisciplinary Laryngectomy Care Teams

Sixty-nine percent (25/36) of responding hospitals reported having interdisciplinary laryngectomy care teams.

Table 3a. Types of education services available for laryngectomy patients and the percentage of facilities providing these services.

Services Available - Education	Number of Respondents	Percentage of Respondents
Preoperative Information	23/36	69%
Postoperative Information	36/36	100%
Voice/Speech Rehabilitation Options	34/36	94%
Support Groups	16/36	44%
Stoma Care	22/36	61%

* It was noted by several institutions that former laryngectomy patients come to the hospital to assist with support groups.

Table 3b. Types of counselling services available for laryngectomy patients and the percentage of facilities providing these services.

Services Available - Counselling	Number of Respondents	Percentage of Respondents
Preoperative	33/36	92%
Postoperative	36/36	100%
Individual	36/36	100%
Group	14/36	39%
Family	31/36	86%

Table 3c. Percentage of facilities providing voice/speech rehabilitation services for laryngectomy patients.

Services Available - Voice and Speech Rehabilitation	Number of Respondents	Percentage of Respondents
Artificial larynx	36/36	100%
Esophageal speech	32/36	89%
TE speech	30/36	83%

Two of the respondents reported working closely with other professionals rather than being part of a formal comprehensive care team. One facility that currently did not have a laryngectomy team reported that such a team would be developed in the upcoming year. Table 4 presents information on the inclusion of individual professions identified as being members of laryngectomy care teams.

Professionals Providing Preoperative Care

Numerous professions were identified as being involved in providing preoperative care in the areas of: (a) information on surgery/treatment options, (b) voice/speech rehabilitation options and related communication information, and (c) counselling of patients undergoing laryngectomy surgery. Trends across the hospitals were apparent with few disciplines being the sole providers of specific preoperative services (e.g., speech-language pathology, nursing, etc.). Several facilities reported the provision of supplementary preoperative information other than surgery/treatment options in their centre. This included arranging funding for equipment (social work and speech-language pathology), assessing pulmonary function and airway patency (respiratory therapy), voice/speech rehabilitation, and counselling. Table 5 displays the percentages of hospitals providing these preoperative services and the professionals involved in the provision of such preoperative care for individuals undergoing laryngectomy.

Immediate Postoperative Care

Respondents were asked to identify those professionals who provided immediate postoperative care to laryngectomized patients at their facilities. Twelve of 36 (33%) respondents reported stoma care to be the exclusive responsibility of nursing staff, while the remainder reported it to be carried out by some combination of nursing in addition to the speech-language pathologist, otolaryngologist, or respiratory therapist.

Postoperative counselling was reported to be the exclusive responsibility of the speech-language pathologist by 6/36 (17%) respondents, while the remainder of respondents reported it to be carried out by some combination of a speech-language pathologist plus one or more of the following: nurse, social worker, otolaryngologist or other MD, RT, other laryngectomee, dietician, pastoral care personnel, psychologist, or psychotherapist, and/or physical therapist.

TE puncture care was reported to be the sole responsibility of the speech-language pathologist by 13 of 27 (48%) respondents, while the remainder reported it to be carried out by some combination of speech-language pathologist plus one or more of the following: otolaryngologist, nurse, other MD, and/or other laryngectomee.

Voice retraining was reported to be the responsibility of the speech-language pathologist by 27/29 (93%) respondents, with the remainder reporting some combination of speech-language pathologist plus one or more of the following: nurse, otolaryngologist, or other MD. Information on support groups or other resource information was reported to be provided exclusively by the speech-language pathologist by 15/28 (56%) respondents. The

Table 4. Composition of laryngectomy care teams in respondent facilities.

Reported Members of Laryngectomy Care Team	Number of Respondents	Percentage of Respondents
Speech-Language Pathologist	25/25	100%
Otolaryngologist	25/25	100%
Nurse	25/25	100%
Social Worker	21/25	84%
Dietician	13/25	52%
*Physical Therapist	12/25	48%
Other Surgeon (e.g., general surgeon)	10/25	40%
**Occupational Therapist	5/25	20%
***Psychologist/Psychiatrist	3/25	12%
Home Care Coordinator	3/25	12%
Pastoral Care	3/25	12%
Laryngectomee Volunteer	3/25	12%
Respiratory Therapist	3/25	12%
Palliative Care Representative	3/25	12%
Radiation Oncologist	2/25	8%
Dentist	2/25	8%
Pharmacist	1/25	4%
Dysphagia Coordinator	1/25	4%
Smoking Cessation Coordinator (If required)	1/25	4%

***Note:* Percentages refer to the proportion of 25 hospitals *with laryngectomy care teams* who identified corresponding professionals as part of their teams.**

* An additional 12% (3/25) reported consulting a physical therapist if required
** An additional 8% (2/25) reported consulting an occupational therapist if necessary
*** An additional 12% (3/25) reported consulting a psychologist/psychiatrist if required

remainder reported this to be carried out by some combination of the speech-language pathologist plus one or more of the following: nurse, otolaryngologist or other MD, social worker, laryngectomee, and/or the Canadian Cancer Society.

Information on voice-speech rehabilitation options was reported to be the sole responsibility of the speech-language pathologist by 23/29 (79%) respondents, while the remainder reported it to be carried out by some combination of speech-language pathologist plus one or more of the following: nursing, otolaryngologist or other MD, and/or other laryngectomees.

Facilities Providing Long-Term Postoperative Care

Long-term postoperative care to laryngectomized patients was provided by a number of facilities and professionals. Regarding stoma care at the one-month postoperative stage, 80% (28/35) of respondents reported that this service was available at their facility. Sixty-one percent (17/28) of these respondents reported some combination of their facility in conjunction with homecare and/or the patient's local hospital in providing stoma care. Similar trends were noted for the 2-6 month postoperative period, with only 9% (3/35) facilities reporting a shift in primary responsibility for this service from their facility to homecare, or another service provider (e.g., patient's local hospital, social worker). For the 7-12 month postoperative stage, 57% (20/35) of respondents continued to report their facility as providing stoma care service.

TE puncture care at the one-month postoperative stage was offered by 67% (20/30) of respondents either directly by their facility, homecare, and/or the patient's local hospital. Similar findings were noted for the 2-6 month and 7-12 month postoperative periods for those who received TE puncture. The provision of some form of counselling was reported by 100% (34/34) of the respondents at the one-month postoperative stage by the facilities surveyed, but these facilities also noted that one or more secondary sources also provided some counselling to individual patients (i.e., homecare, the patient's local hospital, or other speech clinic). A similar trend was noted for the 2-6 month and 7-12 month postoperative periods, with 21% (7/34) of the primary facilities shifting counselling responsibility toward homecare and/or the individual's local hospital.

Presentation of information on postoperative voice options at all three postoperative periods (1 month, 2-6 months, and 7-12 months) was reported by 94% (33/35) of respondents to be provided by their facility and/or some combination of their facility and a speech clinic, homecare, or the patient's local hospital. Two responding centres reported that this type of information was provided exclusively by a speech clinic. Voice-speech rehabilitation at the one-month postoperative period was reported by 70% (23/33) of respondents to be provided exclusively by their facility with the remainder reporting shared responsibility for this service between their facility and one or more of the following: homecare, speech clinic, or the patient's local hospital. Similar trends were noted for the 2-6 month and 7-12 month postoperative periods with a

Table 5. Percentages of hospitals providing preoperative services and the individuals involved in the provision of preoperative care.

	Surgery/Treatment Options and Information	Voice/Speech Rehabilitation Options and Information	Counselling
Otolaryngologist	34/36 (94%)	24/36 (67%)	8/36 (22%)
Nurse	18/36 (50%)	5/36 (14%)	18/36 (50%)
Speech-Language Pathologist	17/36 (47%)	33/36 (92%)	32/36 (89%)
Other MD (e.g., general surgeon)	5/36 (14%)	1/36 (3%)	3/36 (8%)
Physical Therapist	2/36 (5%)	—	**2/36 (5%)
Social Worker	2/36 (5%)	—	*19/36 (53%)
General/Plastic Surgeon	2/36 (5%)	—	—
Radiation Oncologist	1/36 (3%)	—	—
Dietician	1/36 (3%)	—	2/36 (5%)
Respiratory Therapist	1/36 (3%)	—	2/36 (5%)
Tumor Board	1/36 (3%)	—	—
Laryngectomee Volunteer	—	—	6/36 (17%)
Psychologist/Psychiatrist	—	—	4/36 (11%)
Occupational Therapist	—	—	**1/36 (3%)

* Four facilities reported by referral only
** Only when necessary

slight shift in responsibility from the primary facility to other service providers.

Information on support groups at all three postoperative periods was reported by 20/33 (61%) respondents. An additional eight respondents reported the provision of this service to be the shared responsibility of their facility in conjunction with homecare, the patient's local hospital, speech clinic, social worker, or laryngectomee association. Three respondents reported that this service was provided exclusively by a speech clinic while one respondent reported this service was provided by speech-language pathologists in private practice.

Methods of Providing Information on Speech Rehabilitation Options

Information for laryngectomized individuals on voice-speech rehabilitation options was reported to be presented through various methods. The most widely used methods consisted of pamphlets, presentations by the speech-language pathologist, video presentations, and/or visitations from other laryngectomized individuals. Table 6 illustrates the methods used and the percentages of facilities implementing these methods of providing information on voice/speech rehabilitation options.

Voice and Speech Rehabilitation

Thirty-six of the 36 respondents (100%) reported that voice-speech rehabilitation was conducted on an individual patient basis while 8/36 (22%) respondents reported occasionally using a small group structure (e.g., paired patients, support group) for voice-speech rehabilitation.

Typical Duration of Voice and Speech Rehabilitation

The typical duration of voice-speech rehabilitation reported by the respondents varied by facility. Respondents tended to answer this question differently, depending on the type of voice-speech option chosen; TE speech and artificial larynx speech typically was reported to require less than three months, and esophageal speech requiring between 3 and 12 months.

Table 6. Methods used to provide information on voice/speech rehabilitation options and the percentages of facilities implementing these methods.

Methods	Number of Respondents	Percent of Respondents
Pamphlets	33/36	92%
Presentations by Speech-Language Pathologist	33/36	92%
Laryngectomee Visitation	27/36	75%
Video Presentations	26/36	72%
Support Groups	4/36	11%
Patient Educational Material Developed on Site	2/36	5%

Note: Four facilities reported providing other voice/speech rehabilitation services including augmentative and alternative communication (AAC) and voice amplification.

Specifically, 15 respondents reported a treatment duration of less than 3 months, 22 reported a typical treatment duration of between 3 and 6 months, 12 reported a treatment duration of between 7 and 12 months, while one responding centre reported a treatment duration of greater than 12 months.

Typical Frequency of Voice-Speech Rehabilitation Appointments

Of 31 centres who offered TE puncture voice restoration services, 15 (48%) reported a therapy frequency of "more than once a week", 10 (32%) reported a frequency of "once weekly," and 5 (16%) reported "biweekly" therapy, and 1 (3%) reported a "once a month" frequency. Some respondents noted that the frequency of treatment sessions depended on the type of prosthesis (indwelling vs. non-indwelling), and a decrease in frequency of appointments over time to "as needed by patient" also was reported. Of 34 responding facilities that offered esophageal speech training, 22 (65%) reported a frequency of "more than once a week", 10 (29%) reported "once a week", and 5 (14%) reported "biweekly". Two respondents reported infrequent requests for provision of esophageal speech training. Of the 35 facilities that offered artificial larynx speech services, 14 (40%) reported the frequency of therapy to be "more than once a week" with 20 (57%) reported "once weekly", and 4 (11%) reporting "biweekly" appointments (including outpatient services), 4 (11%) reported "once a month", and 1 (3%) reported "other" (i.e., a total of 1 or 2 visits only).

Length of Voice-speech Rehabilitation Appointments

Thirty-one of the 36 respondents (86%) reported appointments to be 45 minutes to one hour in duration. Three respondents (8%) indicated that outpatient appointments would be shorter (i.e., <30 minutes); another three respondents (8%) reported that esophageal and artificial larynx appointments would be approximately 30-45 minutes long, while TE speech appointments would be 20-90 minutes in duration. Two respondents (5%) reported that appointments usually would be longer than one hour.

Discussion

The purpose of the present survey was to gather an initial body of data on the type and scope of services provided to individuals undergoing laryngectomy in selected major Canadian population centres. As part of the survey, an attempt was made to gather specific information on the use of multidisciplinary teams, the role of the speech-language pathologist on those teams, and the type and scope of education and counselling services offered in both the pre and postoperative phases following diagnosis, treatment, and rehabilitation of laryngeal cancer.

Type and Number of Laryngectomy Surgeries

The results of the present survey indicated that types of laryngectomy surgery performed are for the most part consistent across major population centres in Canada. Total laryngectomy surgery was reported from all responding facilities and the majority (70-88%) also reported performing supraglottic laryngectomy, hemilaryngectomy, and TE puncture voice restoration. The exception was near-total laryngectomy surgeries which were only reported by approximately half of the responding centres. Most facilities performing laryngectomy surgery and providing services to individuals undergoing laryngectomy reported seeing fewer than 25 patients per year. More than one half of the respondents reported serving fewer than 10 individuals undergoing total laryngectomy, and more than 80% reported serving fewer than 10 individuals who had received partial laryngectomy surgery. It may be due to the small number of laryngectomy patients seen annually that services available to them, in the form of education, counseling, and rehabilitation, are generally provided on an individual patient basis, rather than in groups. This is consistent with the need for individualized care and rehabilitation programs for persons undergoing laryngectomy as issues specific to each individual are frequently seen to arise in the early postoperative recovery and rehabilitative period.

Multidisciplinary Teams

Only 69% of responding facilities reported having a multidisciplinary team to service laryngectomy patients. This statistic was somewhat surprising given the wide variety of issues, both pre and postoperatively, with which these patients confront as a consequence of cancer diagnosis and treatment. All laryngectomy teams which were reported in the survey were noted to include a speech-language pathologist, an otolaryngologist, a nurse, and in many cases a social worker. Dieticians and physiotherapists were also included as part of the team by approximately half of the responding hospitals with multidisciplinary services for the laryngectomized population.

Speech-Language Pathology Services

Speech-language pathologists were consistently identified in this survey as being involved in direct service provision to individuals undergoing laryngectomy. As indicated, a speech-language pathologist was a member of all

multidisciplinary teams reported. Furthermore, speech-language pathologists were reported to be the most frequent providers of preoperative counselling and education regarding voice/speech rehabilitation options. Along with otolaryngologists and nurses, speech-language pathologists were also involved in preoperative education regarding surgery and treatment options. Postoperative care, education, and counselling for laryngectomized individuals generally involved a speech-language pathologist who worked either alone or in concert with other members of the multidisciplinary team.

Type of Services Available to Laryngectomized Individuals

Education, counselling, and voice/speech rehabilitation services were to some extent provided by all responding facilities. Surprisingly, only 69% of respondents reported providing preoperative education to their laryngectomy patients and families. Due to the variety and magnitude of physical and psychological change each patient must undergo in a relatively short period of time, it seems that preoperative education should be one of the primary concerns of the laryngectomy team. In contrast, 92% of respondents reported providing some type of preoperative counselling services to persons undergoing laryngectomy. It is unclear whether these facilities include educational components in their counselling service. As indicated, services were provided most frequently on an individual basis as well as to families. Group counselling and education services were provided less frequently.

In this regard, Doyle (1994) has stated that the primary responsibilities of the speech-language pathologist in association with laryngectomized individuals should focus on three unique, but overlapping domains. Specifically, Doyle states that the provision, interpretation, and facilitation of information is key to the rehabilitative process. Briefly, information provision centres on providing each individual patient with a basic level of knowledge related to what they will encounter following surgery. This would include information on anatomical changes and related alteration of physiology, loss of speech, stoma care, etc. The interpretative duties focus on clarifying issues raised by other professionals; this may be done by interpreting "jargon" into simple language the individual can understand, or placing information provided within a specific context that the patient currently confronts. Lastly, the speech-language pathologist may be the sole professional who is able to gather information requested by the patient, or perhaps more importantly, make sure that direct access to other professionals is established when questions arise that are outside of the speech-language pathologist's expertise. The method of "how" services are provided must also be considered so that the information provided does not overwhelm the patient. While comprehensive information needs to be provided to each individual patient, the method of provision, interpretation, and facilitation will likely form the initial framework for the ultimate success of the postsurgical rehabilitation process.

Preoperative and Postoperative Services

While the speech-language pathologist, otolaryngologist, and nursing staff were reported to be the major providers of preoperative services to persons undergoing laryngectomy, it is of interest to note that counselling and education regarding surgery and treatment options was being provided by a wide range of professionals in some facilities. It is unclear whether these services are being provided on an ad hoc basis, or in a consistent manner by members of a comprehensive care team. Minimally, however, it appears that no clear standard exists relative to how pre and postoperative services may be offered to patients diagnosed with laryngeal cancer. This finding suggests that the manner of services provided, as well as the professional(s) who provide(s) such services varies across institution. Consequently, the establishment of a standard for the ideal "laryngectomy team" would seem to be a valuable clinical asset for any comprehensive program of patient care and rehabilitation following diagnosis and treatment of laryngeal cancer. While some members of the team may not play as active a role as others, should the need arise for information, the potential for direct access to specific professionals or services would seem to be extremely valuable to enhancing patient care.

The results of this survey indicate that postoperative care of the laryngectomized individual may be provided by a number of health care professionals. Education and training regarding voice/speech rehabilitation options and even TE puncture care may be the primary responsibility of the speech-language pathologist, but some services may also be provided by nursing, medical/surgical staff, or other laryngectomy patients. Clearly it would seem that communication-based issues broadly defined would be provided exclusively by the speech-language pathologist. Postoperative counselling for the laryngectomized individual may be provided by a wide range of professionals depending upon the issue(s) of concern. Again, it is unclear whether the type of "counselling" reported in this survey is educational in nature, whether it is primarily designed to meet the emotional/psychological needs of the individual, or both.

Long-term postoperative care, education, and counselling for laryngectomized individuals was reported to be the direct responsibility of the primary respondent facilities (i.e., those at which the surgeries were performed), par-

ticularly in the first six months postoperatively. In the 7 to 12 month postoperative period, some shift in responsibility to homecare or other service provision facilities personnel was more frequently reported.

Conclusions

It was anticipated that results of this survey would help to identify the current status of services for laryngectomized individuals and their families in major population centres across Canada. The results may also assist in evaluating the comprehensiveness of services currently offered in major centres and may prove useful as an educational tool, in the planning or restructuring of service delivery programs, and most importantly, in enhancing the quality of patient care. The limited scope of this survey does not, however, allow for generalization of findings to other centres. Variations in service provision which may be related to geographic location, size of the population centre, or the availability of professional expertise also must be considered. Furthermore, detailed responses regarding the precise nature of educational or counselling services, or the reasons for why certain service delivery models may be in use were not elicited. The precise reasons for variations in type or scope of service provision, as well as the extent to which differing professionals provide those services are unclear. Nevertheless, the present survey provides preliminary data regarding the type and scope of service provision to persons undergoing laryngectomy in selected major population centres across Canada. The present data suggest that speech-language pathologists are key service providers for these individuals as members of basic multidisciplinary comprehensive care teams (i.e., SLP, physician, and nurse). Yet despite involvement of an SLP, preoperative education may be an area of relative weakness in the overall care of the person with laryngeal cancer across the other related disciplines. In contrast, postoperative services may be provided by any number of health care professionals and other laryngectomized individuals. Based on this information, preoperative services appear worthy of enhancement at the clinical level. The question that clearly arises from these data relates to why such service is not found in all instances? The reason for this is likely due to several factors. First, the question regarding the level of student preparation in this clinical area as part of educational programs is clear. Anecdotal information suggests that few students have any formal exposure to laryngectomy as a communication disorder and/or experience in direct patient care. Secondly, and as a potential outgrowth of the lack of formal academic training in laryngeal cancer and the anatomical, physiological, communicative, and psychosocial consequences of treatment, clinicians may feel that their skills are inadequate, hence, they may only provide cursory services. Although it is certain that many clinicians have considerable expertise in the area of laryngectomy rehabilitation, many will acknowledge that much if not all of what they know was obtained once they were employed. As a result, national programs aimed at standardizing basic components of education in laryngectomy and associated rehabilitation and counselling seems logical and necessary in an effort to ensure the best possible patient care.

Although the types of services reported are not uniformly incomplete, it is of particular concern that a majority of the centres surveyed did not report the use of more extensive multidisciplinary teams (e.g., dietician, psychologist, etc.) in laryngectomy rehabilitation. This is viewed as problematic based on the assumption that larger centres would potentially have access to greater professional resources. This would result in a greater opportunity for creation of comprehensive, multidisciplinary teams. While the speech-language pathology, medical, and nursing services noted may be seen to augment this limitation, increasing caseloads across varied disordered populations, staffing reductions evolving from health care restructuring, as well as the potential for complete elimination of services at some point seems indicative that services for those diagnosed and treated for laryngeal cancer may diminish further. This possibility appears to be real and some anticipatory consideration of what constitutes a "basic" level of service needs to be identified. Nevertheless, the present data indicate that input from the speech-language pathologist, surgeon, and nurse form the primary resource for addressing myriad concerns related to laryngectomy.

Based on the data gathered as part of this survey, health care facilities and individual speech-language pathologists may wish to assess their service provision to individuals undergoing laryngectomy. By doing so, it is anticipated that each facility could assess how comprehensive the services offered are relative to other facilities. However, it is important to stress that providing services that are comparable to other facilities does not imply that the service provided is complete or appropriate. Rather, the present data serve as a guide to the range and scope of laryngectomy related services provided. It should also be noted again that the present data were gathered from major population centres across Canada. Our rationale for sampling in this manner was predicated on our belief that a larger centre would be likely to provide more comprehensive service solely because additional human resources might be available. It is possible, however, that smaller centres might provide very comprehensive services for a number of reasons (e.g., more time for direct patient care, clearly identified case managers, fewer patients, etc.). As health

care policy changes in the future, additional information will certainly need to be gathered to determine whether services provided to laryngectomized individuals have been enhanced, maintained at current level, or the unfortunate possibility that services have been scaled back. As the next step in addressing such concerns, further research that seeks to obtain similar data from smaller populations centers within selected provinces would be valuable.

When viewed in a collective manner, the present data appear to suggest that dissemination of information on providing a comprehensive program of diagnosis, treatment, and rehabilitation requires multiple professional services. However, it appears that the mainstay of such a team clearly may be the speech-language pathologist, as a team leader/coordinator. Continued efforts to expand training and further develop comprehensive programs of postlaryngectomy patient care will almost certainly enhance the potential for full rehabilitation following treatment for laryngeal cancer.

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APPENDIX

Survey of Laryngectomy Services in Canada

1. What types of laryngectomy surgery are available at your facility? (Check all that apply)
   - ☐ Hemi-laryngectomy
   - ☐ Near-total laryngectomy
   - ☐ Total laryngectomy
   - ☐ Primary TE puncture
   - ☐ Secondary TE puncture
   - ☐ Supraglottic laryngectomy
   - ☐ Other (please specify)

2. Approximately how many total and/or partial laryngectomy patients are seen at your facility in one year? (Check appropriate box)

	0-25	26-50	more than 50
Partial			
Total			

3. Does any SLP in your centre see laryngectomy patients?

4. What SLP services are available in your centre for laryngectomy patients? (Check all that apply)

a) Education	b) Counselling	c) Voice-speech rehabilitation
☐Preoperative information	☐Preoperative	☐Artificial larynx
☐Postoperative information	☐Postoperative	☐Esophageal speech
☐New voice options	☐Individual	☐TE speech
☐Support groups	☐Group	☐Other (please specify)
☐Stoma care	☐Family	

5. a) Do you have a laryngectomy care team? (Check one) ☐Yes ☐No

   b) If yes, who are the team members? (Check all that apply)

☐SLP	☐ENT	☐Social worker
☐Physical therapist	☐Other physician	☐Psychologist/psychiatrist
☐Occupational therapist	☐Nurse	☐Other (please specify)

6. Who provides the preoperative care to laryngectomy patients? (Check all that apply)

	Surgery Options and Information	Information on Voice-Speech Rehabilitation Options	Counselling	Other Services (please specify)
SLP				
PT				
OT				
ENT				
MD				
Nurse				
Social Worker				
Psychologist				
Other (please specify)				

7. Who at your facility provides immediate postoperative care to laryngectomy patients?
   - stoma care _____
   - counselling _____
   - TE puncture care _____
   - voice re-training _____
   - support group/other resource information _____
   - information on new voice options _____

8. Who of the following provides ongoing postoperative care to laryngectomy patients? (Please use the letter options presented below to answer the next three parts)
   - A. Your facility
   - B. Homecare
   - C. Patient's local hospital
   - D. Speech clinic (e.g., university)
   - E. SLP in private practice
   - F. Other (please specify) _____

Period Postlaryngectomy

	1 Month	2-6 Months	7-12 Months
Stoma Care			
TE Puncture Care			
Counselling			
Information on new voice option			
Voice-speech rehabilitation			
Information on Support Groups/Other Resources			

9. Information on voice-speech rehabilitation options is presented in the form of: (Check all that apply)
   - ❑ Pamphlets
   - ❑ Presentations by SLP
   - ❑ Video presentations
   - ❑ Visits from laryngectomees who use the various methods
   - ❑ Other (please specify)

10. Voice-speech rehabilitation is done: (Check all that apply)
   ❑ With individual patients ❑ In small groups ❑ Other (please specify)

11. a) What is the typical duration of voice-speech rehabilitation at your facility?
   - ❑ Less than 3 months
   - ❑ 3-6 months
   - ❑ 7-12 months
   - ❑ More than 12 months

   b) What is the typical frequency of voice-speech rehabilitation appointments?

	TE Speech	Esophageal Speech	Artificial Larynx
More than once per week			
Once per week			
Bi-weekly			
Once per month			
Other (please specify)			

   c) What is the typical length of voice-speech rehabilitation appointments?
   - ❑ Longer than one hour
   - ❑ 1 hour
   - ❑ 30 minutes-1 hour
   - ❑ Less than 30 minutes

Comments: _____