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IN THIS ISSUE/CI-INCLUS

PROGRAMME

CAO 19th BIENNIAL CONGRESS

ACO 19 ième CONGRÈS BIENNAL

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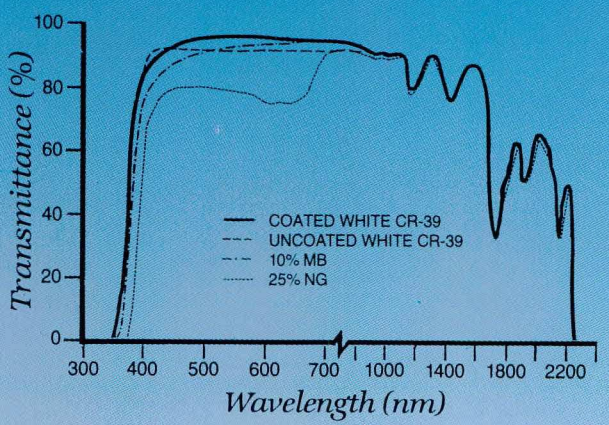


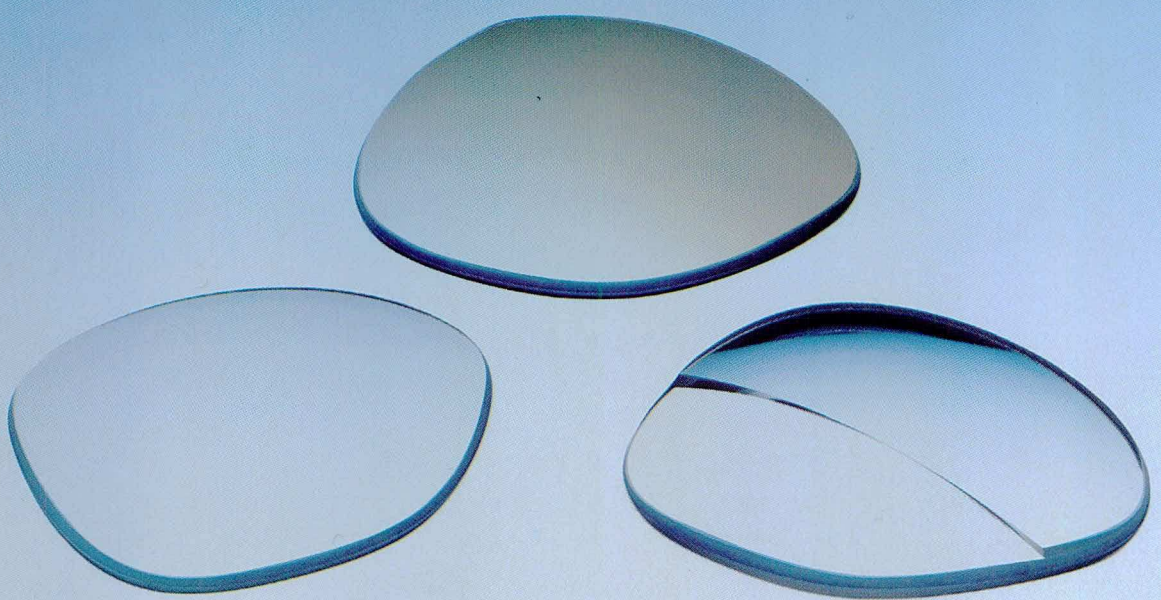

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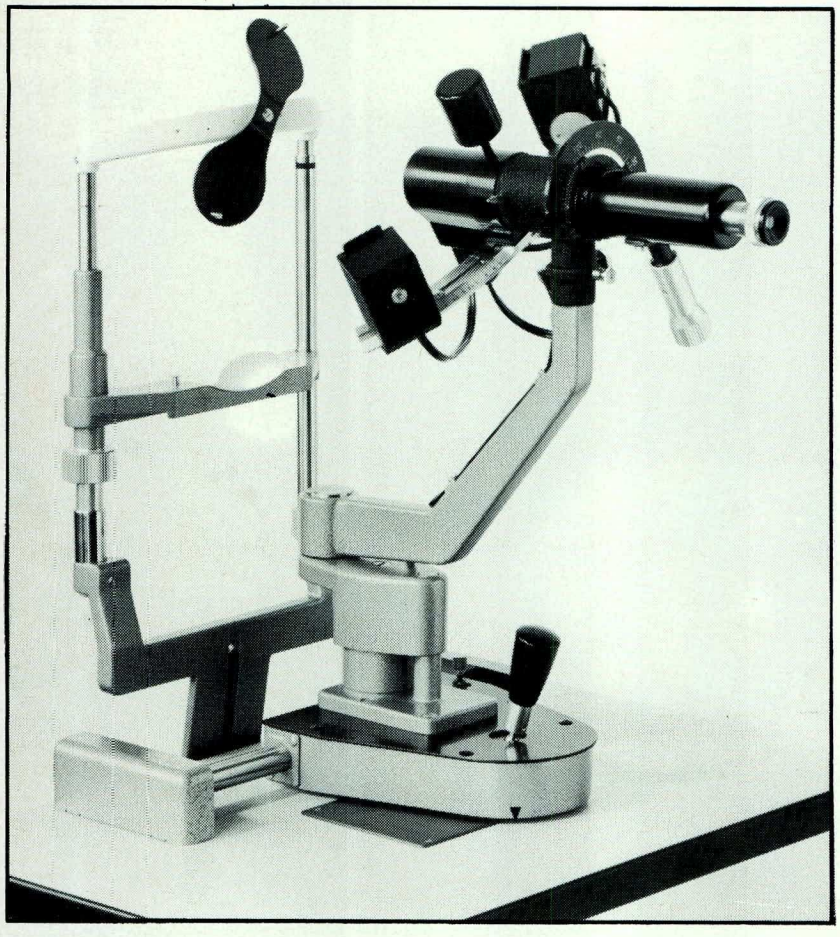

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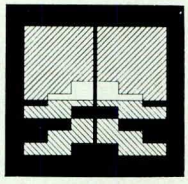

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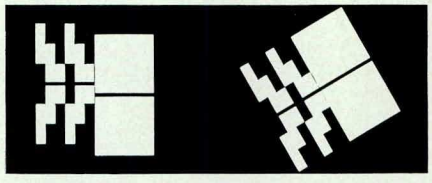

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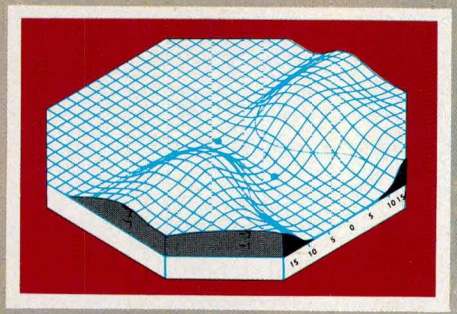

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**COVER**

Cover photograph reprinted by permission and courtesy of Carl Zeiss Ltd.

### Editorials



### Articles



### Features

# Optometry Inaugurates Save Your Vision Week in Canada

Save Your Vision Week was officially inaugurated in Canada with a noontime reception, Friday, March 1, 1985 in the nation's capital. The event was attended by the Minister of National Health and Welfare, the Hon. Jake Epp, the Honorary Chairperson for Save Your Vision Week 1985, Linda Thom, the President and Council of the Canadian Association of Optometrists and several Outaouais region optometrists.

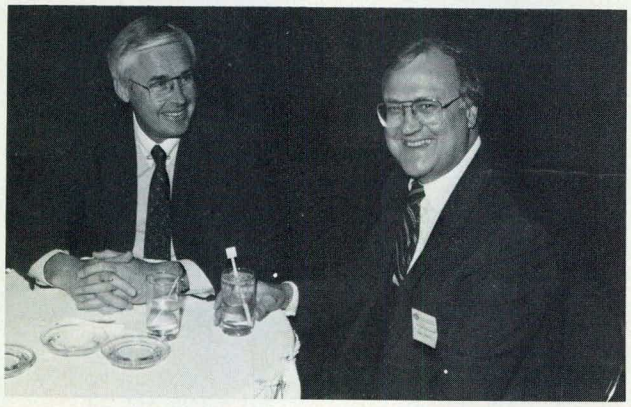
Arranged as an informal reception and luncheon at the Ottawa Convention Centre, the event did include two brief formal presentations. One, to the Minister, was a plaque commemorating the inauguration of Save Your Vision Week in Canada. The second, to Linda Thom, included a similar commemorative plaque and a CAO cheque for $700.00 to the Shooting Federation of Canada's Ed Kelly Fund. The Fund, named after Linda Thom's long-time personal coach, who died of cancer in April, 1984, was set up by the Federation to assist in the development of Canadian competitive shooters, coaches and officials.

In acknowledging their respective presentations, both Mr. Epp and Mrs. Thom paid tribute to the work that was done by the profession of Optometry in creating and promoting the concept of preventive vision care through Save Your Vision Week in Canada. Citing Linda Thom's accomplishment as Canada's first gold medalist (in the women's sport pistol competition) at the 1984 summer Olympic Games in Los Angeles, Mr. Epp said that she was an ideal representative of the relationship between good vision and achievement.

Mrs. Thom also expressed the hope that Optometry and the Shooting Federation could work towards meeting the vision care needs of the 1988 Canadian Olympic team as well.

CAO President Dr. Ralph Rosere expressed his personal thanks, and those of the Association, to the Minister, to the Honorary Chairperson, to the three other Federal MP's present and to the Outaouais region optometrists who were able to attend. He said that he was delighted to see the inauguration of Save Your Vision Week in Canada, particularly with its sports focus in 1985. (Members interested in developing Sports Vision as a Section of CAO should note that Dr. Rosere will be undertaking the formal establishment of such a section at the 1985 Biennial Congress.)

**MJ DiCola**

**Photos: Top (l-r): CAO President Dr. Ralph Rosere, SYVW Honorary Chairperson Linda Thom and Federal Health Minister the Hon. Jake Epp, following presentation of commemorative plaques.**

**Bottom: The Hon. Jake Epp (l) shares a lighter moment with CAO Executive Director Gérard Lambert during the reception.**

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# EDITORIAL

## The Use of Low Plus Lenses — Resolving the Dilemma?

At one annual mid-winter educational Congress of the Ontario Association of Optometrists, held in Windsor in 1954, one of the guest speakers, Dr. Leo Manas, a faculty member of the Illinois College of Optometry, stated that, "if children of school age were to use a pair of plus spheres of modest power, fewer children would develop reading problems and gross refractive and sensory and oculo-motor problems." This statement, as were many others put forward by OEP proponents, was based on empirical clinical experience. Scientific proof was not then available to substantiate the Manas statement.

The media of the day, supported by some members of the medical profession, jumped on this statement to berate optometrists and to reiterate the accusation that optometrists were not professionals, but mere "spec peddlars" if not outright frauds. Even orthodox practitioners in Optometry were dumbfounded and somewhat angered by this statement and its negative effect on the profession's image.

Since that date, clinical observations continue to be made and reported. When electrophysiological or electrodiagnostic procedures became available, however rudimentary, some attempts were made to investigate the neurological effects of visual tasks with and without the use of ophthalmic lenses. These first findings did indicate the effect of lenses on the electrical activities of the cortical centres involved. That these effects were beneficial was a question to remain unanswered until more sophisticated testing procedures were evolved. Controversy followed with, perhaps, the negative aspect prevailing but it did stimulate thought and research into the subject.

Progress in electrodiagnostic techniques has confirmed the value of such procedures in the investigation of many physiological functions, including the ocular. The ERG, EOG, EEG and the VER are just some of the procedures related to the investigation of visual function. However, for the purposes of this discussion, only the VER has a direct application. *The VER permits the differentiation of those patients who fulfill the Manas statement from those who would show no positive reaction at the cortical level to the application of this procedure.* In essence, this electrodiagnostic technique provides supportive evidence for clinical observations reported thirty years ago!

Examples of this evolution from observation to scientific proof abound in the biological and behavioural sciences. Pasteur and Lister, to name but two, were jeered at by their contemporaries, but their theories were shown by subsequent research to have been correct. In our own profession, one does not have to go back very far to read arguments against contact lenses. Yet today, who in Optometry would question their value?

More recently, in Canada, the electrodiagnostic laboratory at the School of Optometry, University of Waterloo, has been adding to the evidence accumulated so far. Papers by Lovasik and Strong, Lovasik and Woodruff and by Spafford, Lovasik and Holtern are providing evidence that the Manas statement had credibility.

All optometrists, after a few years in practice, have accumulated files indicating successful and unsuccessful uses of modest amounts of plus lens powers on some children afflicted with learning or reading problems. VER *is* showing itself useful in differentiating those children who would benefit from the application of low plus spheres from those where equal amounts of low plus lens powers has no enhancement effects whatsoever. It would seem that the test should be more routinely used with children demonstrating educational problems.

Presently, the distribution of electrodiagnostic equipment is limited and costs of transportation to and from the available centres, plus the cost of the service, restricts its application to a limited number of families. Perhaps the cost of such service should be a benefit under health care plans. School boards should assume the transportation costs, because society as a whole would gain from the rehabilitation of these children as future health and educational costs are reduced, if not eliminated, by such rehabilitation.

Pending the arrival of such a millenium, the alert and prudent practitioner must rely on less sophisticated procedures. This would include a thorough assessment of accommodative amplitude, its dynamic facility, vergence amplitudes, the presence of suppression, the phoria status. Additional support could come from the careful testing by dynamic retinoscopy (Bell or MEM), fused binocular cross cylinder tests, stereopsis findings, fixation disparity, aniseikonia, cheiroscopic tracings and other near point binocular tests. Following such a

thorough investigation, it may be appropriate for the practitioner to supply on a trial basis a spectacle of modest plus power for a trial period of 10 to 14 days to evaluate the value of such lenses on a particular child. Because some patients may not manifest a significant abnormality on many of the tests due to their short duration, the diagnostic plus lens test may be the ultimate determinant of the need for plus. (We could interject at this time, because of its relevance to this discussion, that the eye care professions should direct their attention to the development of some test or procedure, be it electrophysiological or otherwise, to measure the effort in convergence and accommodation functions.) If the effect is positive, the practitioner can be reasonably assured that a pair of prescribed spectacles will assist that particular child.

The prescribing of any therapeutic device or drug should not be on the basis of its strength or power, but on the effect it has on the patient's usual performance. If *careful assessment* indicates possible benefit to the patient, then good vision care indicates the use of plus spheres of modest power.

**GMB**

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# Formation of Sections
# CAO 19th Biennial Congress
# Regina, Saskatchewan
# Thursday July 4, Regina Inn

Low Vision? Sports Vision? Aviation Vision? Contact Lenses? Volunteer Services?

CAO members with an interest in one or more of these specific practice areas will be interested to note that a featured part of the 19th Biennial Congress program in Regina will be a series of Section information sessions. The purpose of these sessions will be to examine the feasibility of creating CAO Sections, if sufficient interest is indicated.

Under a newly-revised set of CAO By-laws, the national Association Council is now able to approve the establishment of a Section if its formation is requested by interested members. There are a number of specific administrative steps to be followed before Section status is formally accorded and outlining these steps is one of the purposes of the information sessions.

The sessions are presently scheduled for Thursday, July 4 at the Regina Inn, from 2:00p.m. to 5:00p.m. The specific room assignment for each individual Section information session will be posted at the Congress Registration desk in the same hotel.

Plan now to attend at least one of the Section information sessions as part of your Congress experience.

## Class Reunions at Prairie Panorama, July, 1985, Regina. Can you help?

**Personalized invitations have recently gone out to hundreds of O.D's, with a particular emphasis on class reunions. Hopefully, many fond memories will be recalled and highlights relived, of the good old school days. As much as possible, a Saskatchewan "host" for each graduating class has been engaged to organise a function on Thursday evening, 5 July.**

**Unfortunately, several years are not represented in Saskatchewan, or else no one has stepped forward to help. The following Toronto and Waterloo grads have not been invited to a particular class reunion — all years up to and including 1943, 1945, 1947, 1949, 1953, 1957, 1958, 1959, 1960, 1961, 1962, 1964, 1977. Perhaps interested O.D's from anywhere in Canada would like to take charge of the class reunion for their years. The Chairman of this committee will be happy to help any volunteers to contact classmates. If your year is one of the above and you wish to assist, write**

**Dr. Fred McWilliams**
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**Moose Jaw, Sask.**
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**As well, if any classes from other optometry schools want to have a reunion, (Montreal or any out of country colleges), we will help with arrangements upon request.**

# Broadening Usage of the "Eyedrop Container" — A Cause of Injuries?

P. Blais*

The familiar plastic "eyedrop" container is increasingly used to package certain non-pharmaceuticals. In certain cases, this has no adverse consequences. In other instances, however, user confusion culminating in eye injuries results when contact lens cleaning solutions, antiseptics, disinfectants, in-vitro diagnostic reagents, eyeglass cleaning liquids and other similarly packaged potentially injurious products are mistaken for common ophthalmic pharmaceuticals by distraught users.

Examples of packaging similarities are included in Figure 1; popular cylindrical plastic dropper containers developed for eye and ear medication are shown opposite a selection of "mimic" packages containing substances which embody variable degrees of hazards if placed in the eyes.

In the office and clinic, as well as in the home, many of these products are often found near one another. For example, baby vitamin suspensions, oral medications, ophthalmic pharmaceuticals, and similarly packaged diagnostic reagents are often placed on the same shelves of pediatric clinics; contact lens solutions, eyedrops and eyeglass (lens) cleaning liquids are commonly seen on optometrists' and ophthalmologists' desks; home medicine cabinets may contain all of those products and other consumer items of similar appearance. Therefore, it should not be surprising that serious injuries can result from user mistakes in selecting packages. Although the product labelling cannot be faulted and the user is clearly to blame, there is no doubt that packaging similarities contribute to such accidents, in particular with container configurations and colours associated with familiar ophthalmic preparations.

"Mimic" container errors appear to be related to perceptual, associative or pattern recognition peculiarities of superficially uniform objects. Perhaps some rethinking is needed in this class of container systems. Some time ago, effective tamper-proof and child resistant containers resulted from discussions and cooperation between the health products packaging industry, the pharmaceutical associations, the safety agencies, various government bodies and standard writing organizations. A similar approach could be taken for the "mimic" containers.

Recent problem reports addressed to the Bureau of Medical Devices of the Department of Health and Welfare by consumers and health professionals suggest that one ought to be wary of the "mimic" container. Case reports, anecdotes and suggestions in these areas would be welcome from the readership.


**Fig. 1**

**Top Row, Left to Right:**

*STING-EZE*(R): Mosquito bite compound containing benzocaine and phenol.

*DECISION*(R): Control serum for clinical chemistry (biological product of human origin).

*PLASTIC LENS CLEANER*: Eyeglass cleaning compound containing detergent and isopropyl alcohol.

*FECATEST*(R): In-vitro diagnostic reagent containing high concentration of hydrogen peroxide.

**Bottom Row, Left to Right:**

*RED COATE*(R): Dental plaque revealing agent containing biological stain (erytrosine).

*PLIAGEL*(R): Contact lens cleaning and wetting agent.

*LOCACORTEN-VIOFORM*(R): Anfiinflammatory - antibacterial ophthalmic medication.

*SODIUM SULAMYD*(R): Antibacterial (sulfa) ophthalmic medication.

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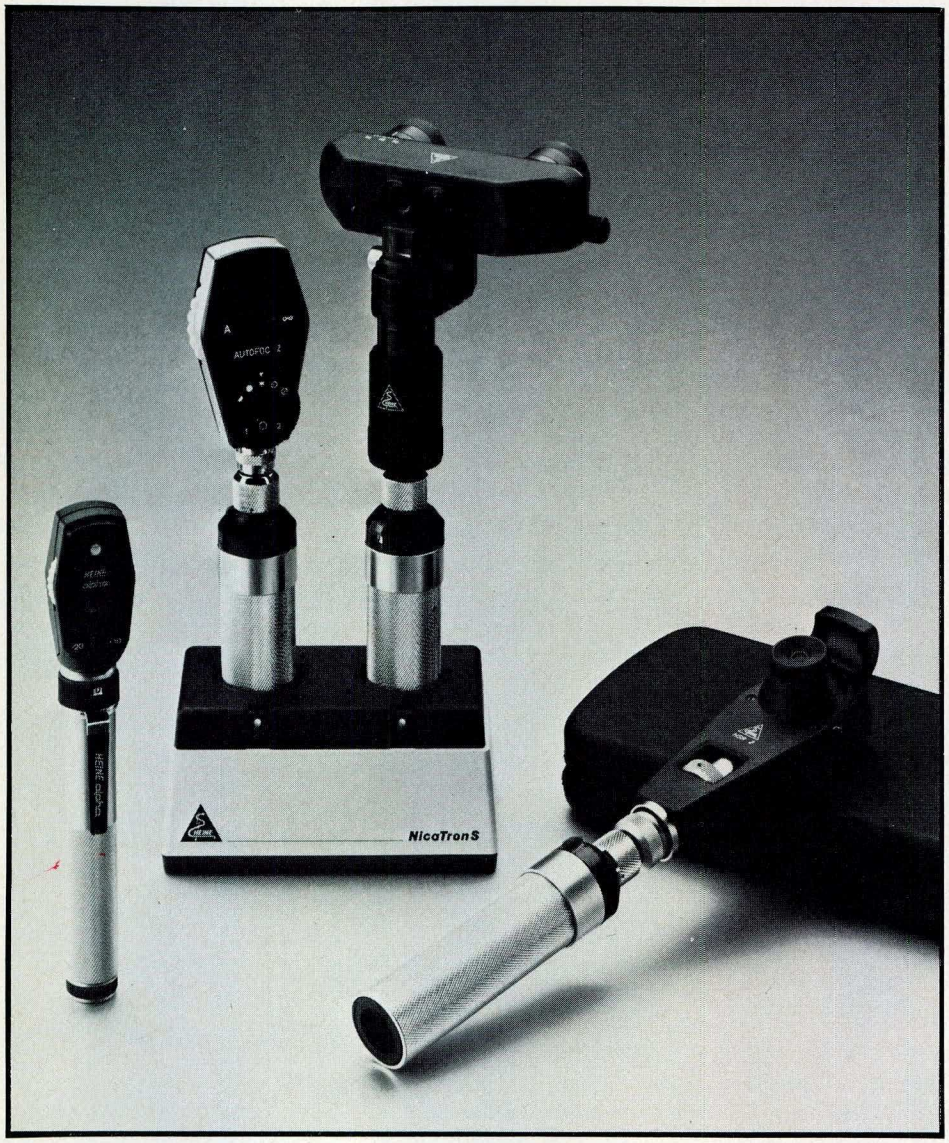


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# Vision Impairment and Blindness in New Brunswick Nursing Homes

M. E. Woodruff*
M. Pozza**
M. Gagliardi

**Abstract**

*A vision assessment program carried out in all nursing homes examined 89.3 percent of all residents. Results provide documentation of vision loss and blindness in the sample. The data show increasing levels of vision loss and blindness with age. This study documents the contribution of such impairment to increasing levels of supervision and nursing care. It is also evident that increasing vision loss reduces mobility, thus limiting the range of physical and intelectual activities of aged persons. The major contributory factors to vision impairment are ocular and systemic diseases. The prevalence of these conditions is established. A need is demonstrated for provision of vision care in nursing homes. The study suggests that the application of available technology for vision assessment and remediation could restore or improve the visual capability of a substantial number of persons suffering from vision impairment or blindness. The presence of age related increases in intraocular pressure and previously undetected glaucoma offers preventive opportunity.*

**Abrégé**

*Au cours d'un programme d'évaluation visuelle 89.3% des résidents de tous les foyers d'accueil de la province a été examiné. Les résultats révèlent le dégre de cécité ou pertes visuelles dans cette population. Les données font voir une augmentation de pertes visuelles et de cécité avec l'âge. Ce projet démontre la relation entre les afflictions visuelles et le besoin d'accroitre le niveau des soins et de la surveillance. La diminution progressive de la vision réduit la mobilité de ses personnes agées aussi bien que leurs activités physiques et intellectuelles.*

*Les maladies tant oculaires que générales sont les causes principales de ces pertes. La fréquence de ces conditions indique le besoin d'instituer un programme de soins visuels dans ces foyers. Ce projet suggère que la mise en marche d'un programme utilisant la technologie moderne résulterait dans une amélioration sensible de la capacité visuelle des personnes affligées de cécité on de basse vision.*

*Des démarches préventives améliorait le dépistage du glaucôme car l'âge et l'augmentation de la tension oculaire sont étroitement liées.*

In 1981 the senior author was retained by the Department of Health Government of New Brunswick to plan and aid in the implementation of a vision screening program for grade 1 children of the Province. The program, known as the New Brunswick Vision Assessment Program (N.B.V.A.P.), was to be operated by a board nominated by the New Brunswick Optometric Association with two *ex officio* members representing the Departments of Health and Education. The Government funded the program in April, 1982 and it became operational on the first of that month.

The program operates from two mobile clinics, specially designed and equipped house trailers pulled by four-wheel drive 3/4 ton trucks. One of these units was donated to the project by the Lions Clubs of the Province; the other was purchased by the Optometrists.

Each unit is staffed by two optometrists and a nurse. The project is directed by the board with day to day management of the program delegated to a full-time Executive Director. To fully employ the personnel and clinical resources during the periods when the schools are not in session the N.B.V.A.P. operates a program of vision assessment and care for the 66 nursing homes in the Province. In 1982-83, the project obtained a Canada Manpower grant

*O.D., Ph.D.
**O.D.
School of Optometry
University of Waterloo

which enabled the employment of eight Senior Optometric Interns from the Schools of Optometry of the Universities of Waterloo and Montreal. During the periods mid-June to mid-August, 1982 and 1983 the teams consisting of the program staff and these interns assessed the vision and ocular health of 3119 nursing home residents, (89.3% of the N.B. nursing home population). The remainder of the nursing home population, 372 residents, were not assessed as they had either recently received vision care, or wished to attend a practitioner with whom they had a continuing relationship. Also resident in the nursing homes were 141 persons aged 10 to 49 years. While these persons were assessed, their data is excluded from the discussion of this paper. There were 51 persons of unknown age whose data has also been excluded from the discussion. This paper thus reports on aspects of data from the vision assessment records of 2927 nursing home residents.

## Method

The clinical equipment available on each mobile unit enabled the following information to be obtained.

a) Snellen Visual Acuity for distance and near, with and without spectacle correction.

b) Static retinoscopy measures of the refractive errors of eyes.

c) Subjective measures of the refractive errors of eyes.

d) Measurements of heterophoria and strabismus.

e) Ocular health assessment of the external eye and funduscopy of the internal eye. The external examination was conducted under good light and an auxiliary light was used when required for pupillary reflexes, oculo-motor function, accommodative ability, and vergence capability.

f) Medical records were reviewed by the optometrists and a summary of health status and medications of each resident was incorporated in the program record. Additional ocular and visual history was recorded by the optometrists and nurses.

g) Intraocular pressures were measured by hand-held Goldmann tonometers for all persons exhibiting such ocular signs as narrow corneal-iris angles, optic disc-cup ratios exceeding 0.5, marked assymetry between optic-cups of the two eyes, reduced visual fields, persons reporting ocular pain or other symptoms of glaucoma and those whose eyes were hard on palpation.

h) All spectacle corrections in current use were measured by lensometry and their fit and comfort was reviewed.

Persons whose health or physical status would not permit them access to the mobile clinic in a wheelchair were assessed in the nursing home's examining rooms or in their beds. These assessments, while not carried out under standard conditions of luminance or test distances, do not present major flaws in the data since care was observed to accurately size test charts and to compensate for other conditions of the test environment.

The medical diagnoses of systemic health discussed in this paper were made by the patients' physicians and recorded in the institutions' health records.

## Sample

The population of 3491 persons was reduced to a sample of 2497 persons for the reasons given above. The age distribution of the population in five year intervals is shown in Table 1. Females predominated over males 2.4 to 1, a ratio identical to that reported by Woodruff (1980) for an Ontario nursing home population sample.

**Table 1**

**Age Distribution of the Population of 66 New Brunswick Nursing Homes**

| Age range | Number | Percent | Cumulative percent |
|---|---|---|---|
| 105-109 | 4 | 0.1 | 0.1 |
| 100-104 | 40 | 1.1 | 1.2 |
| 95-99 | 162 | 4.6 | 5.6 |
| 90-94 | 464 | 13.3 | 19.1 |
| 85-89 | 719 | 20.6 | 39.7 |
| 80-84 | 672 | 19.3 | 59.0 |
| 75-79 | 455 | 13.1 | 72.1 |
| 70-74 | 315 | 9.1 | 81.2 |
| 65-69 | 196 | 5.6 | 86.8 |
| 60-64 | 126 | 3.6 | 90.4 |
| 55-59 | 99 | 2.8 | 93.2 |
| 50-54 | 47 | 1.3 | 94.5 |
| 40-49* | 106 | 3.1 | 97.6 |
| 10-29* | 33 | 0.9 | 98.5 |
| unknown* | 51 | 1.5 | 100.0 |
| **Totals** | 3491 | 100.0 | 100.0 |

* Not included in the discussion of this paper.

Mean age of the: population = 79.1
sample = 82.0

## Results

Visual Acuity is defined as a measure of the individual's ability to discriminate form. The measure is commonly expressed in terms of a Snellen fraction in which the numerator expresses the distance at which the test is made, e.g. 20 feet or 6 metres. The denominator expresses the distance at which the test letter just discriminated would present an angular subtended to the observer's eye of 5 minutes of arc, e.g. 20/50 or 6/15.

For the purpose of this discussion, the visual acuity measures derived from the sample have been classified into the four categories listed in Table 2.

**Table 2**

**Visual Acuity Classification**

| Class | Distance Acuity | Near Acuity † |
|---|---|---|
| Normal | 20/15 to 20/49 | 0.37M to 0.62M |
| Mild impairment | 20/50 to 20/69 | 0.75M |
| Moderate impairment | 20/70 to 20/199 | 1.0M to 1.25M |
| Severe Impairment (legal blindness) | *20/200 or less | <1.25M |

* Includes light perception and complete absence of light perception.

† Standard Near Visual Acuity cards were used as the stimulus under 15 foot candles illumination. Near Visual Acuity is expressed in terms of the metric distance at which the print provides an angle of 5 minutes of arc to the eye and thus can also be expressed as a Snellen fraction.

Visual acuity measures were not recorded for 1020 residents due to the following causes.

a) Refused assessment 372
b) Senile dementia 293
c) Alzheimer's disease 174
d) Schizophrenia 82
e) Absent 40
f) Other 59

The percentages of the sample having distance visual acuities within each classification of visual acuity are shown in Figure 1. The frequencies of near visual acuity within the age groups from 65 to 95 years are shown in Table 3.

**Table 3**

**Binocular Near Visual Acuity**

| V.A. Class | Normal | Mild | Moderate | Severe |
|---|---|---|---|---|
| Age range | % Pop. | % Pop. | % Pop. | % Pop. |
| 65-69 | 52.8 | 22.4 | 18.4 | 6.4 |
| 70-74 | 43.7 | 22.8 | 22.3 | 11.2 |
| 75-79 | 39.1 | 21.7 | 25.4 | 13.8 |
| 80-84 | 41.4 | 27.0 | 18.7 | 12.9 |
| 85-89 | 35.5 | 22.1 | 23.0 | 19.4 |
| 90-94 | 28.1 | 20.5 | 29.1 | 22.3 |

Changes in the percentages of persons in the various visual acuity classifications are displayed in Figure 2, with a loss of normal acuity of approximately 0.8% per year between ages 60-90. The percentage with mild impairment remains

**FIGURE 1**

**DISTANCE VISUAL ACUITY STATUS OF NURSING HOME RESIDENTS**

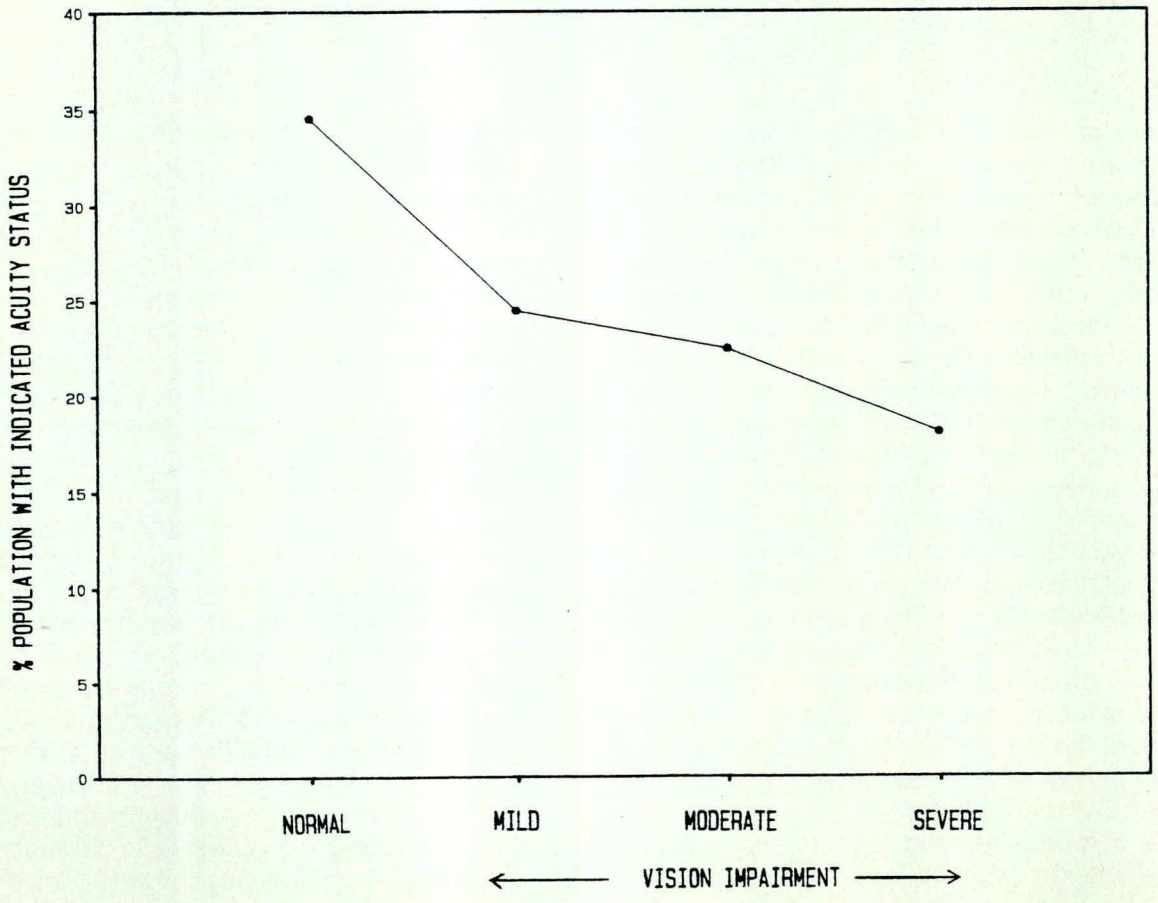
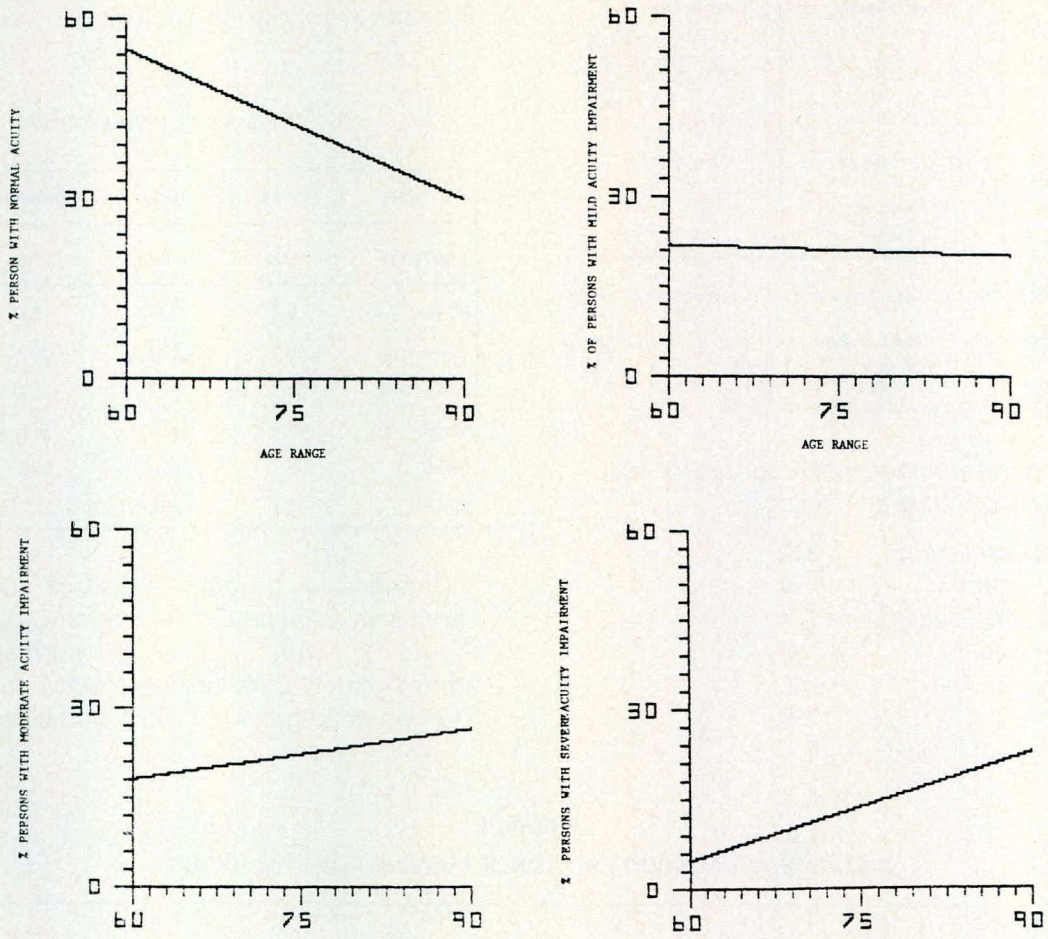


**FIGURE 2**

**BINOCULAR NEAR VISUAL ACUITY OF RESIDENTS OF N.B. NURSING HOMES**




almost constant over this same period while the percentage with severe impairment increases at a rate of 0.6% and moderate impairment increases at a rate of 0.3% per annum. The prevalence of blindness in various age ranges is illustrated in Figure 3, which shows a rate of increase of approximately 0.3% per annum. The blindness rate of 18.0% in this sample may be contrasted with the rate of 9.7% established for an Ontario nursing home sample reported by Woodruff and Pack (1980)[1]. This difference may be due in part to the fact that the New Brunswick sample has a mean age 1.5 years greater than the Ontario sample. Further, 72.1% of the N.B. population was 75 years of age or older while only 57.8% of the Ontario sample was in that age group. Another factor may also be that a southern Ontario population has a greater ease of access to eye care than the New Brunswick population.

The loss of near visual acuity affects a greater percentage of the sample in each age range from 65 years and up, with much of this impairment due to cataractous crystalline lenses.

There is a broad spectrum of refractive states among the N.B. nursing home sample, as displayed in Figure 4. Only 10.7% of the sample have no or slight refractive error requiring spectacle correction, and only 4.8% have a zero refraction. While 15% of the sample have a myopic refractive error, the errors require correction in 11.8%. Hypermetropia is the predominant refractive error with 80.1% of the sample having this condition, which was correctible in 77.4% of persons. 8.5% of the sample were aphakic, a very low figure in view of the fact that 47.8% of the sample were severely visually impaired by this condition.

Astigmatism was the next most common refractive error, being present in 59.4% of the sample, correctible in 40.4%. Figure 5 represents the distribution of astigmatic errors in the sample and is a curve of best fit derived from the collected data. Astigmatism is categorized in three forms dependant upon the position of the axis position: With the Rule (WTR) when the axis is within 20 degrees plus or minus of the 180th meridian; Oblique (OBL) when the axis is between the 21st and 69th meridians or between the 111th and 159th meridians; Against the Rule (ATR) when the axis is between the 70th and 110th meridians. Borish[2] (1970) has written a

FIGURE 3

PREVALENCE OF BLINDNESS WITH INCREASING AGE
FOR RESIDENTS OF NEW BRUNSWICK NURSING HOMES

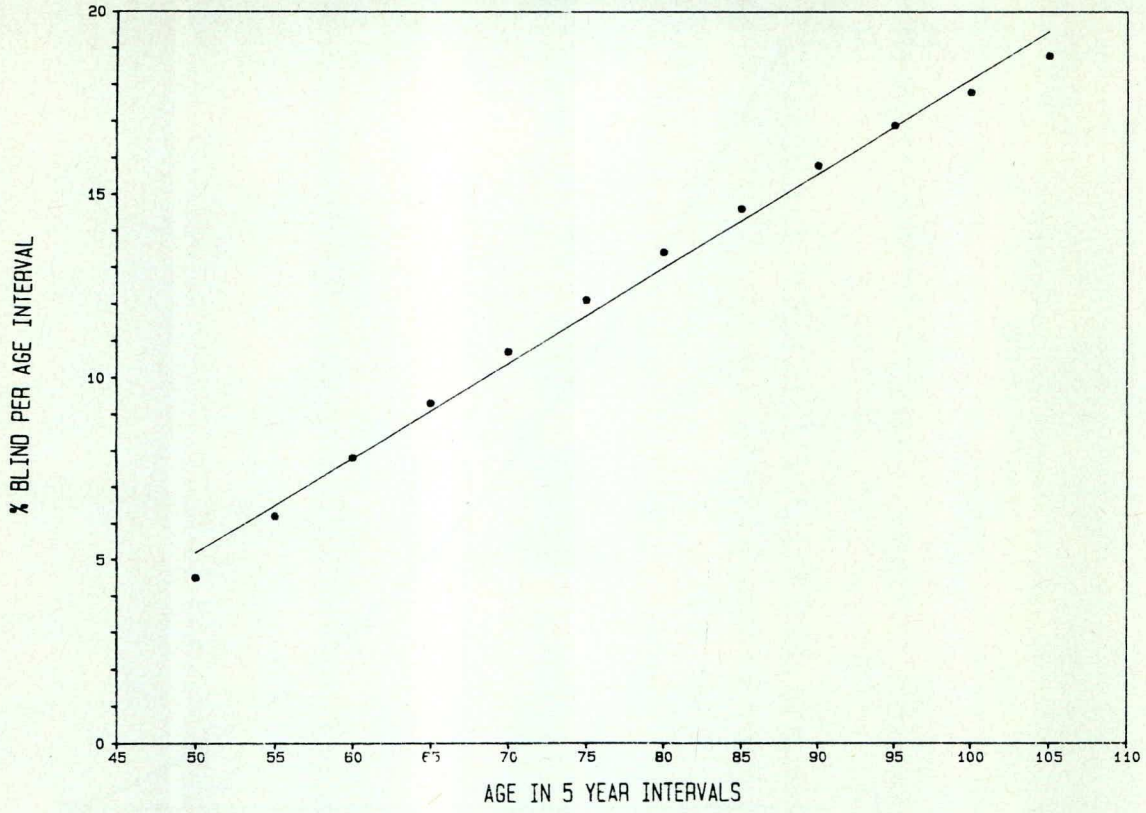



FIGURE 4

DISTRIBUTION OF SPHERICAL REFRACTION
RESIDENTS OF NEW BRUNSWICK NURSING HOMES

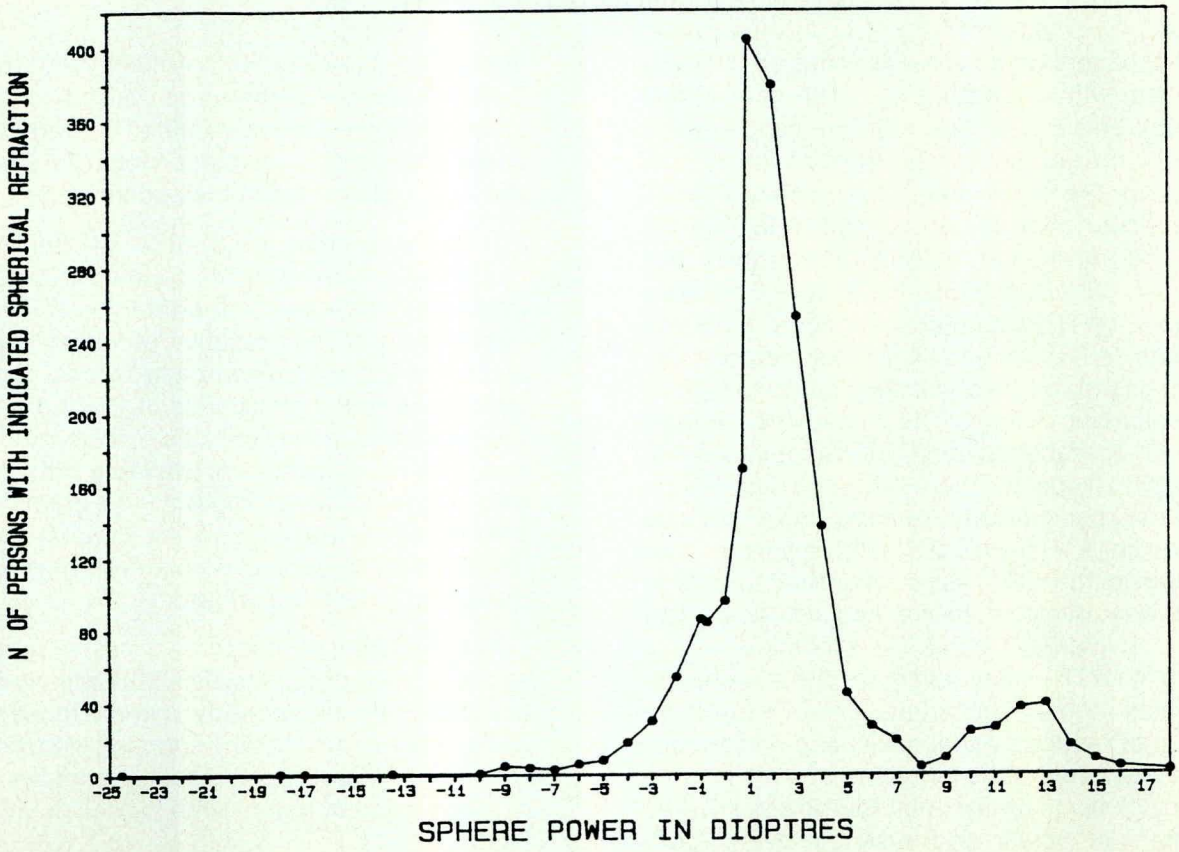
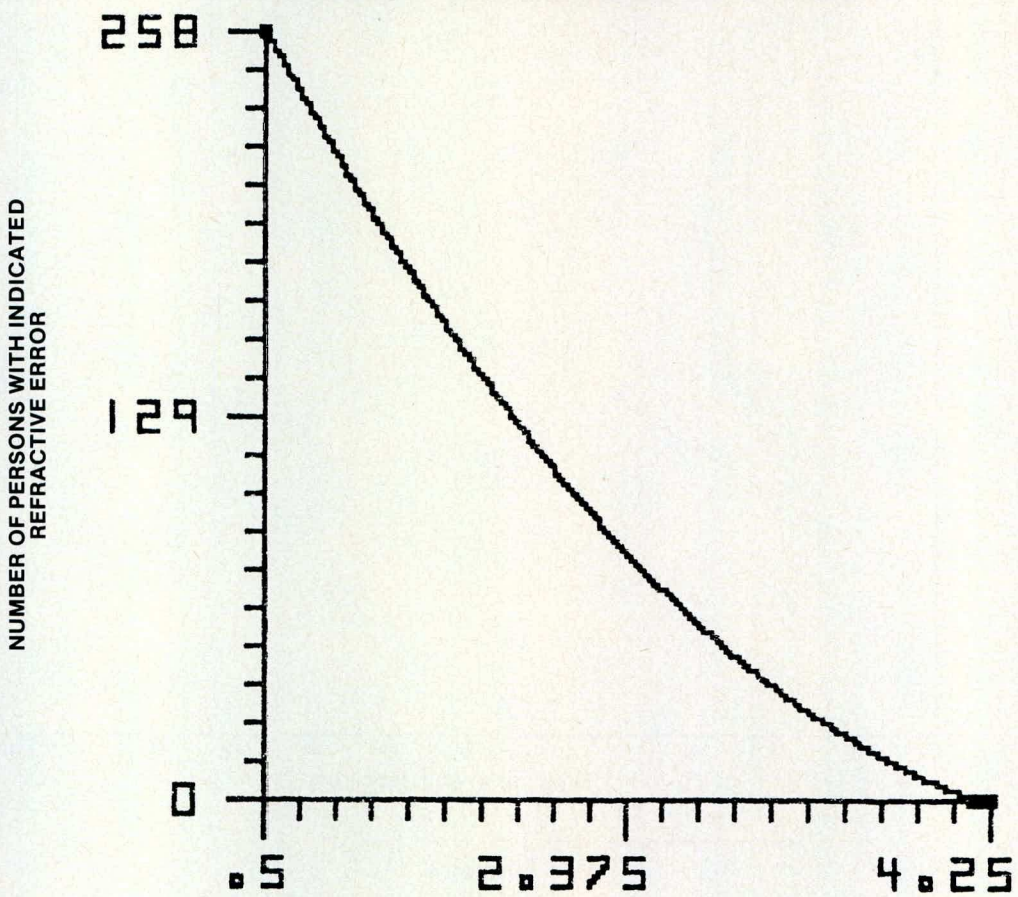


FIGURE 5

NEW BRUNSWICK NURSING HOME RESIDENTS

ASTIGMATIC REFRACTIVE ERRORS




number of papers which show an increase in (ATR) astigmatism with increasing age. The data of this study show this trend, Figure 6. The data suggest that the increase continues throughout life as opposed to the view that only relatively small changes occur past age 55, Hirsch[3] (1959), Lyle[4] (1951). The prevalence of (ATR) astigmatism was 72%, (WTR) 20%, and (OBL) 8%. Figure 6 shows a decrease of (WTR) astigmatism at about the same rate as the (ATR) astigmatism. This supports the view that growth of the crystalline lens is the cause of this astigmatic change. The data further support this view by the fact that the (OBL) astigmatism rate remains almost constant across the age range of the sample, an expected result, since adding an oblique cylinder to an (ATR) cylinder should only result in an axis change of the (OBL) astigmatism in the majority of cases. Regardless of the mechanism, the clinical effect of an increase in (ATR) astigmatism or a decrease in (WTR) astigmatism results in a change in the resolution of the retinal imagery with the likelihood of reduced visual acuity and discomfort. Such changes add to the necessity of a reasonable frequency of vision assessment for the elderly.

The state of ocular and systemic health both contribute to vision impairment and blindness. External ocular pathologies causative of vision impairment were mainly limited to corneal conditions. These had a prevalence rate of 2.3%. Table 4 shows the diagnoses in the patients' files.

It is likely that a number of the unknown opacifications result from traumas and secondary infections. Diseases of the internal ocular tissues contributory to or causative of vision impairment and blindness are presented in Table 5. Only those conditions with a prevalance of 1% or greater have been included in the table. It is evident from the data that the level of vision care available to the residents prior to the N.B.V.A. Program left a great deal to be desired since the rates of the various conditions identified by the project personnel is high relative to the extent of prior diagnoses.

The number of diagnosed systemic diseases exceeded 90 conditions. The 10 systemic diseases occurring most frequently among those persons with blindness are shown beginning with the highest frequency in Table 6. The table also shows the rank of each condition for other visual acuity classifications.

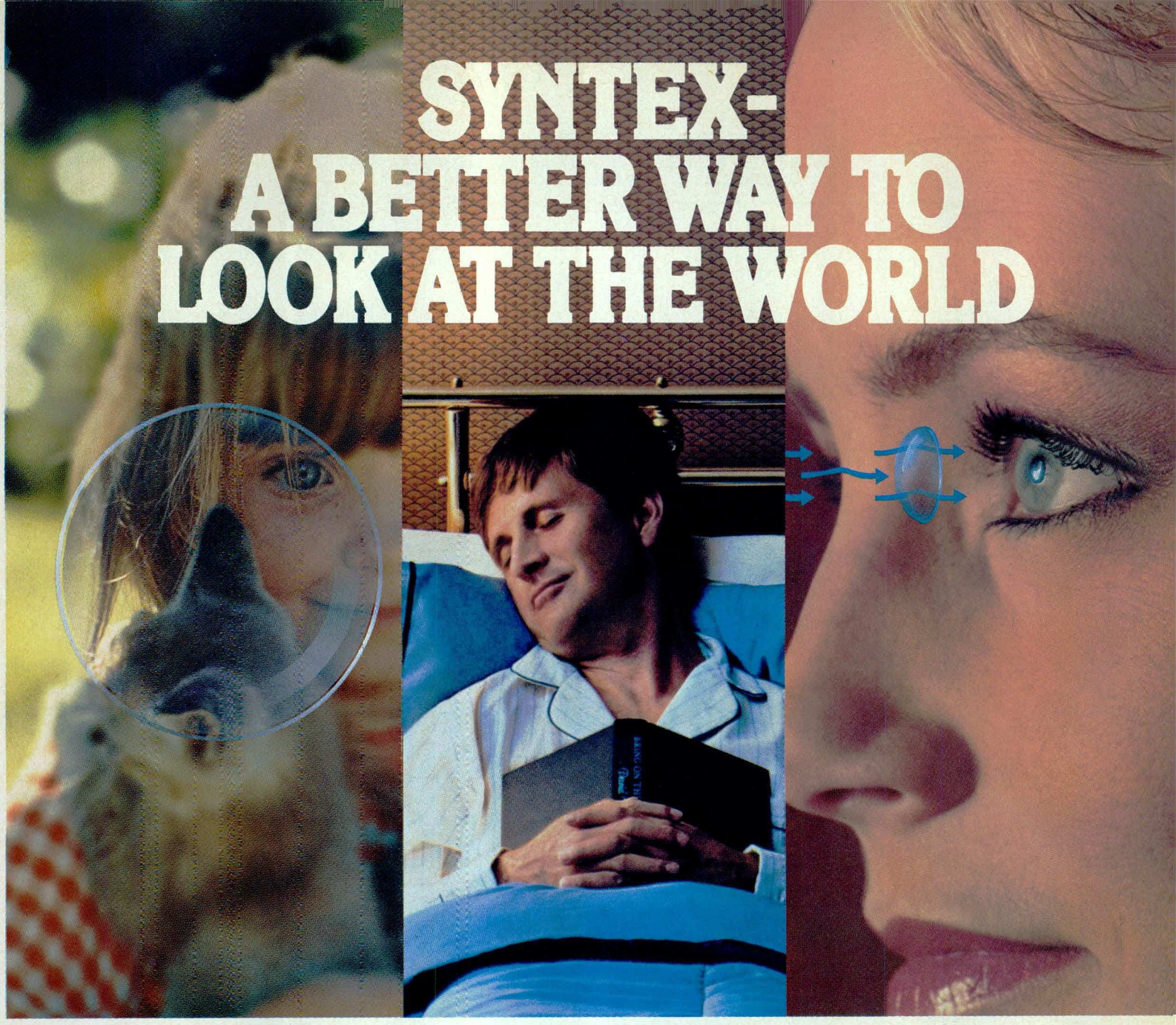


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FIGURE 6

CHANGES IN TYPES OF OCULAR ASTIGMATISM WITH AGE
RESIDENTS OF NEW BRUNSWICK NURSING HOMES

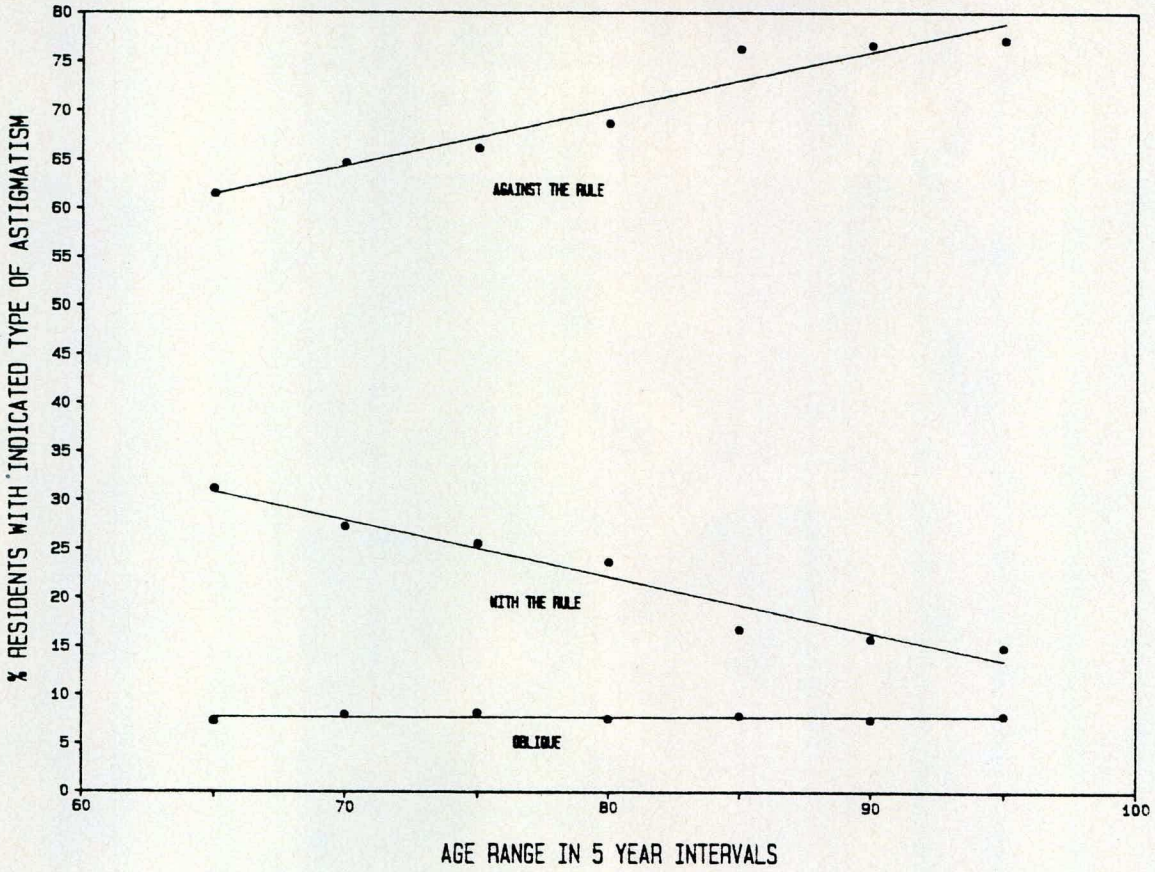



Table 4

| External Ocular Causes of Vision Impairment | | | | | |
|---|---|---|---|---|---|
| Visual acuity classification | rate for Normal | rate for Mild imp. | Moderate imp. | rate for Severe | rate All |
| Corneal infections | 0.4 | 0.6 | 1.5 | 0.5 | 0.7 |
| Degenerations | 0 | 0 | 0.2 | 1.7 | 0.4 |
| Opacifications cause unknown | 0.5 | 0.3 | 1.8 | 3.0 | 1.2 |

Table 5

| Internal Eye Disease Causation of Vision Impairment | | | | | |
|---|---|---|---|---|---|
| Visual Acuity classification | rate for Normal | rate for Mild imp. | rate for Moderate imp. | rate Severe imp. | rate All imp. |
| Glaucoma † | 0.4 | 0.6 | 0.7 | 1.9 | 0.9 |
| Glaucoma * | (----------not established----------) | | | | 3.2 |
| Iridectomy † | 1.8 | 2.1 | 1.4 | 0.8 | 1.6 |
| Cataract † | 0.2 | 0.5 | 0.2 | 1.0 | 0.4 |
| Cataract * | 37.3 | 73.3 | 73.2 | 46.8 | 53.7 |
| Senile macular degeneration * | 7.5 | 12.4 | 13.1 | 8.2 | 9.7 |
| Optic nerve atrophy † | 0.5 | 0.8 | 1.4 | 2.7 | 1.2 |
| Vitreous disease * | 2.3 | 3.8 | 3.3 | 1.5 | 2.6 |
| Uveal disease * | 0.7 | 0.4 | 0.2 | 1.9 | 0.8 |

† Physician's diagnosis in patient's health record.

* Optometrist's diagnosis in project vision assessment record.

Intraocular pressures were measured with a Perkins handheld Goldmann tonometer for 583 residents whose vision, ocular health history and assessment of ocular structures did not meet the following criteria: Persons manifesting one or more symptoms or history items indicative of glaucoma, ocular structural changes, particularly assymetry of the optic cup, visual field loss, presence of a narrowed corneal-iris angle. Intraocular pressures of 19mm.Hg or less were considered to be within the normal range, pressures between 20 to 24mm.Hg were considered to be borderline and to require continuous monitoring, pressure of 25mm.Hg or more required referral for ophthalmological assessment. Persons having a positive history, structural changes or symptoms were also referred for an ophthalmological workup. Those persons with pressures in the normal range made up 57% of the group assessed, 31.2% had pressures in the borderline category and 11.7% had pressures in the

Table 6

| rank | Visual acuity classification / Diseases * | rank | % rate Normal | rank | % rate Mild | rank | % rate Modrt | rank | % rate Sevre | rank | % rate All |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Diabetes | 3 | 7.1 | 3 | 6.8 | 4 | 6.9 | 1 | 8.4 | 3 | 8.2 |
| 2 | Arterial Hypertension | 2 | 7.8 | 1 | 9.6 | 1 | 7.8 | 2 | 7.0 | 1 | 8.1 |
| 3 | Arthritis | 4 | 6.6 | 4 | 6.7 | 3 | 7.0 | 3 | 6.9 | 4 | 6.8 |
| 4 | Congestive heart disease | 6 | 3.8 | 5 | 4.8 | 6 | 4.4 | 4 | 6.5 | 5 | 4.7 |
| 5 | Senile dementia | 8 | 3.0 | 9 | 3.2 | 5 | 5.2 | 5 | 5.7 | 6 | 4.1 |
| 6 | Cerebral vascular attack | 1 | 9.2 | 2 | 8.7 | 2 | 7.3 | 6 | 5.5 | 2 | 8.0 |
| 7 | Arteriosclerotic heart | 10 | 2.5 | 11 | 2.9 | 9 | 3.3 | 7 | 4.8 | 8 | 3.3 |
| 8 | Arteriosclerosis | 9 | 2.8 | 7 | 3.4 | 6 | 4.4 | 8 | 4.6 | 7 | 3.6 |
| 9 | Alzheimer's disease | 14 | 2.1 | 12 | 1.7 | 11 | 3.3 | 9 | 3.0 | 10 | 2.4 |
| 10 | Mental retardation | 5 | 4.3 | 8 | 3.4 | 15 | 1.7 | 10 | 2.6 | 9 | 3.2 |

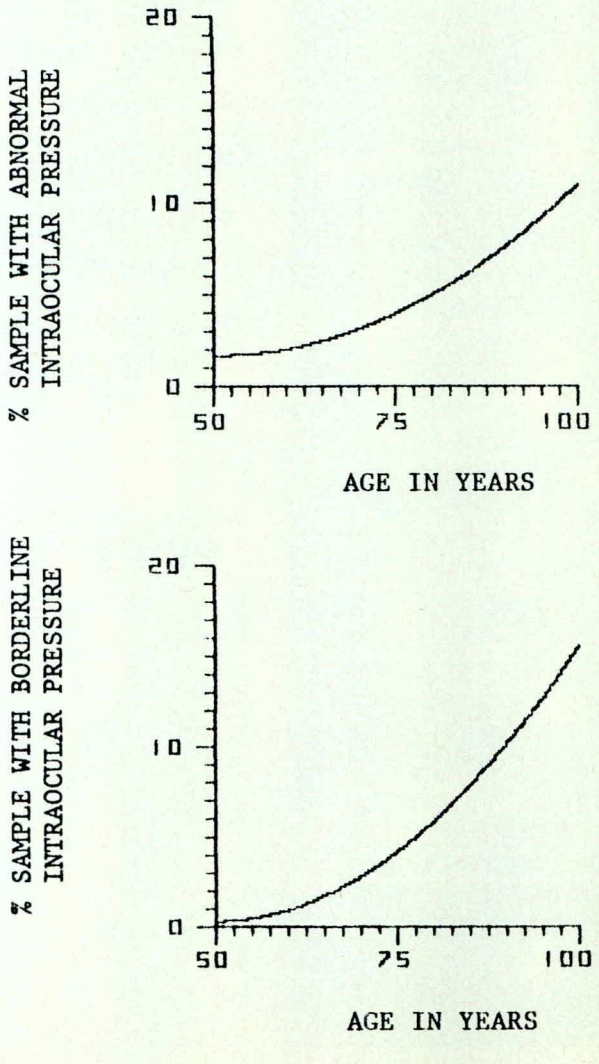
* Physician's diagnosis in patient's health record.

abnormal range. Figure 7 shows the increasing percentages of persons in both the borderline and abnormal categories. These data indicate a need for continuity of assessment of intraocular pressure and vision of aging persons, particularly after they reach age 60.

People enter nursing homes because they require care and services that they can no longer provide for themselves. 81 percent of persons in New Brunswick's nursing homes are between the ages of 70 and 90. A majority have problems with mobility which preclude their maintaining themselves outside of institutions. Moderate and severe vision impairment also contributes to their loss of independence. The extent of care required varies among individuals and a classification into three levels existed during the period when the data of this study was gathered: Level 1 care signified minimal nursing care and supervision and level 3 indicated the maximum level of care that can be rendered outside of acute care requiring hospitalization. The data displayed in Figure 8 suggest that severe vision impairment contributes to the level of care required. Figure 9 shows that severe vision impairment is also a factor contributing to loss of mobility which, in turn, increases the need for supervision and care.

**FIGURE 7**

**INTRA OCULAR PRESSURE CHANGE WITH INCREASING AGE**




## Discussion

A substantial number of New Brunswick nursing homes are located in communities where there is no vision care practitioner. Many of the homes are as much as one to two hours' driving from the nearest community where vision care is available. Lack of mobility and health problems thus precludes access to vision care on a regular basis or a required frequency. Prior to the inception of the N.B.V.A. Program, many residents had not had a vision assessment for 5 years or more. Many of those persons with severe visual handicaps had not been

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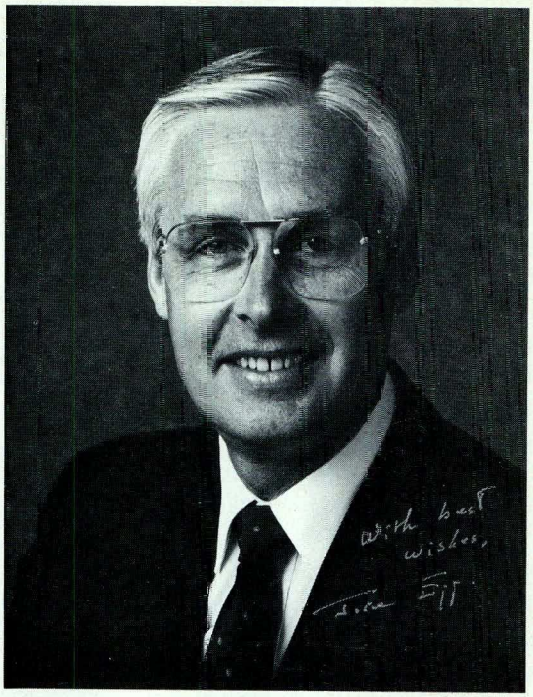
8. *Post Convention Tour* — This 3 day motor coach tour visits many historic and picturesque sights in central and northern Saskatchewan with overnite stay in Beautiful Saskatoon. For more information and reservations call Goliger's (306) 525-9144.
9. *Post Convention Canoe Trip* — S.O.A. President Dr. Claude Hutton is anxious to host a canoeing expedition of approximately 10 people thru northern Saskatchewan. Exciting and beautiful! Please call (306) 664-3663 for complete information and reservations.
10. Please bring this Program Brochure with you to the Congress.

## Renseignements spéciaux et politiques

1. Tous les *porte-noms* et billets seront disponibles au bureau d'inscription du congrès au Regina Inn. Les porte-noms et les billets sont obligatoires pour l'admission à tous les événements (séances d'éducation d'affaires, exposition et activités sociales).
2. Les formules et les bons pour l'*éducation permanente* seront validés lors de l'assistance à chaque séminaire.
3. Il y aura *interprétation simultanée (anglais/* français) à chaque conférence et réunion d'affaires.
4. Il y aura une excellente *exposition* de matériel et de techniques d'amélioration de la pratique (ordinateurs, etc.) pendant laquelle on remettra des prix d'entrée de valeur.
5. On s'occupera, sur demande, de l'organisation de *réunions* de classe spéciales. Prière de nous informer du nombre d'invités et de vos exigences afin que nous puissions vous aider en faisant des suggestions et des réservations pour assurer le succès de votre fête, dîner, pique-nique, etc.
6. Un *guide de tenue vestimentaire recommandée* paraît sur le programme. Règle générale, on recommande une tenue de loisirs appropriée, une tenue de loisirs genre "Western" pour une soirée, et une tenue de soirée et (ou) de ville pour le bal du président. On pourra voir à la location d'un smoking le mardi 2 juillet 1985.

   Habituellement, il fait chaud le jour, et il faut parfois porter un chandail léger ou un veston en soirée.
7. Goliger's, notre agence de voyages officielle, a pris les mesures nécessaires pour obtenir des tarifs spéciaux de *location de voiture*. Composez le (306) 525-9144 pour faire vos réservations.
8. *Visite post-congrès* — Ce circuit en autocar de 3 jours vous permettra de visiter de nombreux lieux historiques et pittoresques du centre et du nord de la Saskatchewan et comprendra une nuit dans la belle ville de Saskatoon. Pour obtenir plus de renseignements et faire vos réservations, composez le (306) 525-9144 (Goliger's).
9. *Expédition post-congrès en canoë* — Le président de la SOA, le docteur Claude Hutton, serait heureux d'être l'hôte d'environ 10 personnes pour une expédition en canoë dans le nord de la Saskatchewan. Vous aurez droit à sensations fortes et beauté! Composez le (306) 664-3663 pour obtenir tous les renseignements et faire vos réservations.
10. N'oubliez pas d'emporter votre brochure du programme au congrès.




## Message from Minister, National Health and Welfare

On behalf of the Government of Canada, may I extend my very best wishes to the Canadian Association of Optometrists on the occasion of their 19th Biennial Congress.

For those who are gathering in Regina, Saskatchewan from July 2 to July 5, 1985, for their spouses and for the Junior Delegates who will be attending the Congress, I know that this occasion will provide you with many opportunities to broaden your perspectives of the field of optometry. Participants will take this opportunity to profit from continuing education in the art and science of optometry and learn of the latest developments in procedures for the provision of vision care for Canadians. I am sure there will be many opportunities for less formal exchange of views among participants gathered from the various regions of our country; and I am very sure that this "Prairie Panorama" will offer you a warm and memorable reception.

May I also take this opportunity to express my congratulations to the Canadian Association of Optometrists — not only for presenting these biennial conferences dedicated to the improvement of services to Canadians — but for the ongoing contribution to the betterment of vision care in Canada since the beginnings of your Association in 1948.

**Yours sincerely,**

**Jake Epp**
**Minister, National Health and Welfare**

## Message du ministre de la Santé nationale et du Bien-être social

Au nom du gouvernement du Canada, je suis heureux d'offrir mes meilleurs voeux à l'Association canadienne des optométristes à l'occasion de leur 19e Congrès biennal.

Je sais que cet événement donnera à tous ceux qui se rassembleront à Regina, en Saskatchewan, du 2 au 5 juillet 1985, et à leurs conjoints et enfants qui assisteront au Congrès, de nombreuses occasions d'ajouter à leurs connaissances dans le domaine de l'optométrie. Les participants pourront bénéficier des séances d'éducation permanente dans l'art et la science de l'optométrie et se renseigner sur les derniers progrès réalisés dans les méthodes de prestation de soins de la vue aux canadiens. Je suis certain que les participants venant des diverses régions de notre pays auront de nombreuses occasions de discuter entre eux en toute simplicité, et je suis convaincu que ce "Panorama des Prairies" vous assurera un accueil chaleureux et mémorable.

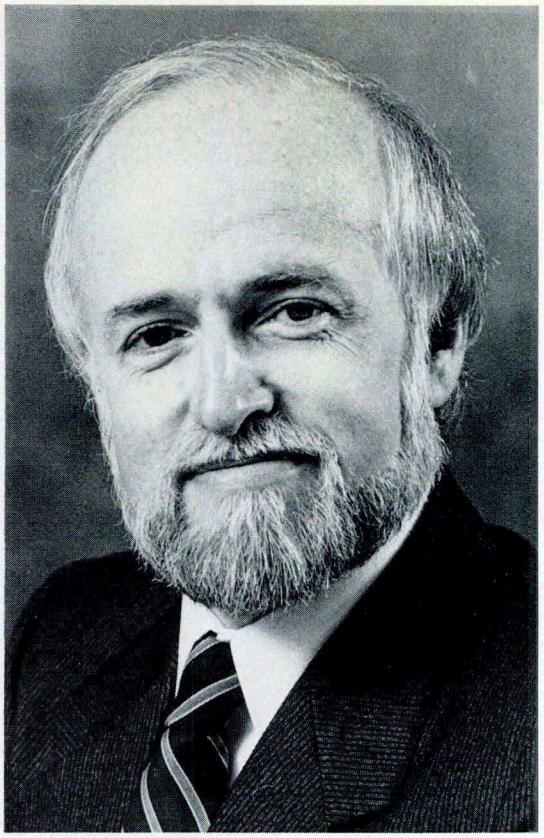
J'aimerais aussi profiter de cette occasion pour féliciter l'Association canadienne des optométristes, non seulement d'organiser ces congrès biennaux consacrés à l'amélioration des services aux Canadiens, mais aussi d'avoir contribué de façon soutenue à l'amélioration des soins de la vue au Canada depuis sa création en 1948.

Veuillez agréer l'expression de mes sentiments les meilleurs.

**Le ministre de la**
**Santé nationale et du Bien-être social,**

**Jake Epp**

Dear Colleagues,



Welcome to Regina.

On behalf of the Council of the Canadian Association of Optometrists, I would like to invite you to share in the hospitality, warmth and enthusiasm offered by Dr. Len Koltun and his wife, Betty Lou, Co-Chairpersons, and the entire Local Arrangements Committee for our 19th Biennial Congress.

The role of the Biennial Congress in CAO's history has traditionally been a two-part one: education, combined with information and, just as important, fellowship and a renewal of long-time friendships. Regina is no exception to this role, as you will have discovered already from the advance information provided for "Prairie Panorama". Our Saskatchewan hosts have assured that this year's education, business programs and social events will make Congress '85 an experience to remember.

I look forward to seeing you in the "Queen City of the Plains" this summer, and hope that you will take advantage of the opportunity to experience not only this year's Biennial Congress, but also the generosity and goodwill of the people of Regina and, indeed, of our entire host province, Saskatchewan.

**Sincerely,**

**Dr. Ralph Rosere**
**President**

Cher(e)s collègues,

Je vous souhaite la bienvenue à Regina.

Au nom du Conseil de l'Association canadienne des optométristes, je voudrais vous inviter à partager l'accueil, la chaleure et l'enthousiasme que vous offrent le Dr Len Koltun et son épouse, Betty Lou, coprésidents, et tous les membres du Comité d'organisation locale de notre 19e Congrès biennal.

Le rôle du Congrès biennal dans l'histoire de l'ACO a toujours été double: il vise l'éducation alliée à l'information et, d'importance égale, la camaraderie et le renouvellement d'anciennes amitiés. Le congrès de Regina ne fait pas exception à cette règle, comme vous l'aurez déjà découvert en parcourant l'information qu'on vous a envoyée d'avance pour "Panorama des Prairies". Nos hôtes de la Saskatchewan nous ont assurés que les programmes d'éducation et d'affaires et les activités sociales de cette année feront du congrès de 1985 une expérience mémorable.

J'anticipe avec plaisir de vous voir cet été dans la "Ville reine des Plaines", et j'espère que vous prendrez l'occasion de faire l'expérience non seulement du Congrès biennal de cette année, mais aussi de la générosité et de la bonne volonté des gens de Regina et de l'ensemble de notre province hôtesse, la Saskatchewan.

Veuillez agréer, Messieurs et Mesdames, l'expression de mes sentiments les meilleurs.

**Le président,**

**Dr Ralph Rosere**

## A Message from the Mayor

On behalf of our citizens, I am delighted to welcome Canada's optometrists to Regina.

As this is the first CAO congress to be held here, I am certain you will find our city a vibrant and exciting place to explore. Please wander through our colourful galleries and museums; share in the past at our many historical sites; sample our fine cuisine; browse through our shops; relax in the lush Wascana Centre. As you enjoy the friendly hospitality of our residents, I am assured you will quickly discover why ours is the "Queen City of the Plains".

I extend best wishes for a stimulating and successful convention and an enjoyable sojourn in Regina.

**Sincerely,**

**Larry Schneider**
**Mayor**

## Message du maire

Au nom des citoyens de notre ville, je suis ravi de souhaiter la bienvenue à Regina aux optométristes du Canada.

Puisque c'est le premier congrès de l'ACO qui a lieu ici, je suis convaincu que vous trouverez que notre ville est un endroit palpitant et excitant à explorer. Nous vous encourageons à vous promener dans nos galeries et musées colorés; à revivre le passé en visitant nos nombreux lieux historiques; à essayer notre fine cuisine; à visiter nos boutiques; à relaxer dans le luxuriant Wascana Centre. Au fur et à mesure que vous ferez l'expérience de l'accueil amical de nos résidents, je suis convaincu que vous découvrirez rapidement pourquoi notre ville porte le nom de "Ville reine des plaines".

Je vous souhaite un congrès stimulant et réussi et un plaisant séjour à Regina.

**Veuillez agréer, Messieurs et Mesdames, l'expression de mes sentiments les meilleurs.**

**Le maire,**

**Larry Schneider**

## Message from the Premier

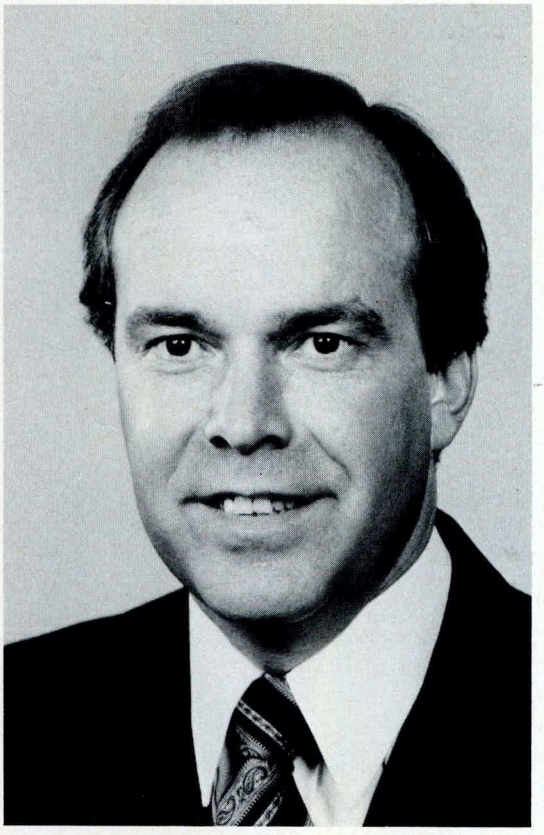
On behalf of the Government of Saskatchewan, I am pleased to extend a warm welcome to all visitors who have travelled to Regina to attend the 19th Biennial Congress of the Canadian Association of Optometrists.

The Province of Saskatchewan is proud to host a gathering of individuals who demonstrate concern for their fellow Canadians' well-being and quality of life through the practice of their profession. Regina and the surrounding area of our province have much to offer visitors. Be sure to take time during the Congress to sample some of our western hospitality and attend events which will be taking place to celebrate Saskatchewan Heritage 1985.

Best wishes for a productive and rewarding Congress. I hope your stay in Saskatchewan will be a particularly enjoyable experience—one you will be eager to repeat!

**Yours sincerely,**

**Grant Devine**
**Premier**



## Message du premier ministre

Au nom du gouvernement de la Saskatchewan, je suis heureux d'accueillir chaleureusement tous les visiteurs qui sont venus à Regina pour assister au 19e Congrès biennal de l'Association canadienne des optométristes.

La province de la Saskatchewan est fière d'accueillir un rassemblement d'individus qui se préoccupent du bien-être et de la qualité de vie de leur concitoyens par la pratique de leur profession. Regina et la région environnante de notre province ont beaucoup à offrir aux visiteurs. Assurez-vous de prendre le temps, pendant le congrès, de faire l'expérience de notre hospitalité de l'Ouest et pour assister aux événements qui auront lieu pour marquer Saskatchewan Heritage 1985.

Je vous souhaite un congrès des plus productifs et satisfaisants. J'espère que votre séjour en Saskatchewan sera une expérience particulièrement agréable, et que vous aurez hâte de revenir!

**Veuillez agréer, Messieurs et Mesdames, l'expression de mes sentiments les meilleurs.**

**Le premier ministre,**

**Grant Devine**

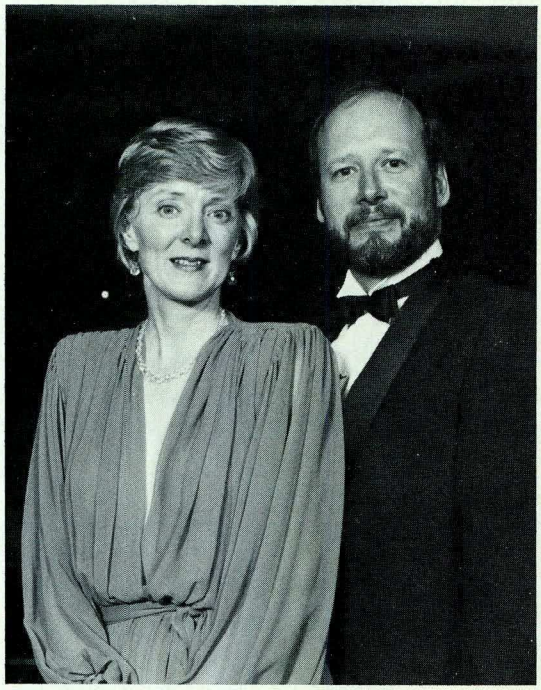
## Greetings from the S.O.A.

Dear Colleagues:

1985 has arrived and Prairie Panorama, the 19th Biennial Congress of the Canadian Association of Optometrists, is now just around the corner. Our Committee in Regina has been working hard for months and we have every indication that the Continuing Education, the business sessions, the children's and the family programmes will be outstanding. Extensive planning is also going into travel requirements so that your travel to and from our fair province will be easy and convenient.

Please read this programme thoroughly. You are sure to find something of special interest to you. Judith and I cordially invite you to be our special guests. Plan now to be with us for this informational and fun-filled week in July.

**Claude W. Hutton, O.D.**
**President**



## Salutations du SOA

Cher(e)s collègues,

L'année 1985 est arrivée et Panorama des Prairies, le 19$^{e}$ Congrès biennal de l'Association canadienne des optométristes, approche à grands pas. Notre comité à Regina travaille dur depuis des mois et nous avons tout lieu de croire que les séances d'éducation permanente, les séances d'affaires et les programmes pour les enfants et les familles seront exceptionnels. Nous mettons aussi beaucoup de temps à la planification des voyages afin que vos déplacements à destination et en provenance de notre belle province soient faciles et pratiques.

Nous vous prions de lire attentivement ce programme. Vous y trouverez sûrement quelque chose qui vous intéresse particulièrement. Judith et moi vous invitons cordialement à être nos invités spéciaux. Planifiez dès maintenant votre horaire de façon à pouvoir passer avec nous cette semaine instructive et amusante en juillet.

**Le président,**
**Claude W. Hutton, O.D.**

## Local Arrangements Committee

On behalf of the entire Local Arrangements Committee, my wife Betty Lou and I extend a most sincere welcome to the City of Regina and C.A.O.'s 19th Biennial Congress.

With every member of the Saskatchewan Optometric Association, we look forward to being your hosts. Our fellowship and hospitality are yours and we are ready to assist you in any way we can during your visit to Canada's Queen City.

We've planned this year's Congress as a "family affair" with a panorama of activities for everyone. Special travel arrangements have been made with Air Canada for your convenience.

Visualize it . . . sunshine . . . good times . . . old friends, at "Prairie Panorama."

Welcome to Regina, and have a good Congress.

**Len and Betty Lou Koltun**
**Co-Chairpersons, and the**
**Local Arrangements Committee**

## Comité d'organisation locale

Au nom de tous les membres du Comité d'organisation locale, ma femme Betty Lou et moi vous souhaitons la plus cordiale bienvenue à la ville de Regina et au 19e Congrès biennal de l'ACO.

Comme tous les membres de la Saskatchewan Optometric Association, nous serons heureux d'être vos hôtes. Vous pouvez être assurés de notre amitié et de notre hospitalité, et nous sommes prêts à vous aider dans toute la mesure du possible tout au long de votre visite, qu'il s'agisse de votre première visite, ou d'une de nombreuses visites à la ville reine du Canada.

Nous avons planifié le congrès de cette année de façon à en faire un événement familial, avec toute une gamme d'activités pour tous. Nous avons, pour plus de commodité, pris des dispositions spéciales pour les voyages avec Air Canada.

Essayez de l'imaginer: du soleil ... des activités amusantes ... de vieux amis. C'est ce qui vous attend au congrès "Panorama des Prairies".

Soyez les bienvenus à Regina, et meilleurs souhaits pour un congrès réussi.

**Les coprésidents du**
**Comité d'organisation locale,**
**Len et Betty Lou Koltun**

## Louis J. Catania, O.D., F.A.A.O.

Dr. Catania received his O.D. degree from the Pennsylvania College of Optometry in 1969. Following that, he entered into private practice during which time he held a number of positions: Chief of Eye Services, Genesee Valley Health Association; Clinical Instructor, University of Rochester; Director of Primary Care Optometry Residency at SUNY; Director of the Center for Continuing and Post Grad Education of the Pennsylvania U. of O.

At present, Dr. Catania is an Associate Professor at Pennsylvania College of Optometry and President of Primary Eyecare educational services. Dr. Catania will be lecturing on "Lumps and Bumps" and "Prefit Considerations in the FLE."

## Louis J. Catania, O.D., F.A.A.O.

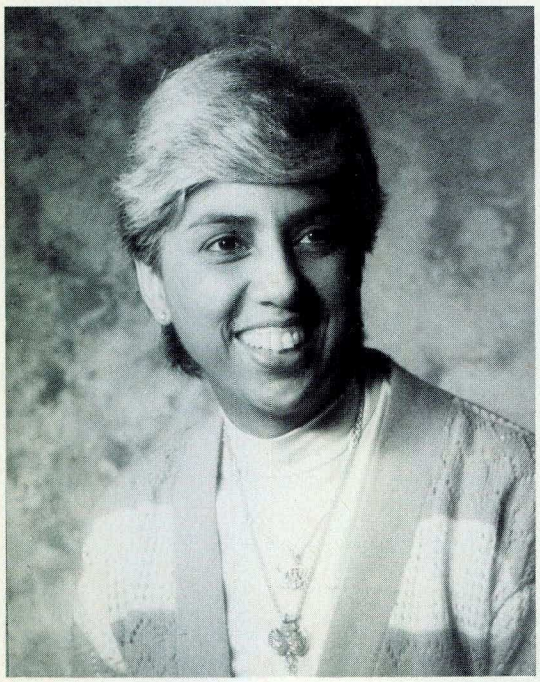
Le D$^{r}$ Catania a reçu son grade de docteur en optométrie du Pennsylvania College of Optometry en 1969. Par la suite, il a exercé en cabinet privé tout en détenant un certain nombre de postes: chef des services optométriques, Genesee Valley Health Association; enseignant clinique, University of Rochester; directeur des résidents en soins optométriques primaires, à SUNY; directeur du Center for Continuing and Post Grad Education de la Pennsylvania U. of O.

À l'heure actuelle, le D$^{r}$ Catania est un professeur adjoint au Pennsylvania College of Optometry et président des services éducationnels en soins optométriques primaires. La conférence du D$^{r}$ Catania portera en particulier sur les désordres des parties antérieures de l'œil.

## Indra Mohindra, O.D., M.Sc.

Dr. Mohindra received her Diploma in Ophthalmic Optics in 1957 from City University, London. She received her L.O.D. from Massachusetts in 1973 and New Hampshire in 1977. Since 1957 she was employed as an optometrist at positions in London, England and Nakura and Nairobi, Kenya. She has served as Director for the Optometric Eye Clinic in Brighton, Massachusetts and Director of School Vision Screening at Massachusetts College of Optometry in Boston. She has held clinical consulting positions with the Psychology Department of M.I.T. and the Virology Department, University of Alabama. From 1960 to the present she has taught Pediatric Vision Sciences at such institutions as Indiana University; College of Optometry in Houston; Massachusetts College of Optometry; School of Optometry, Birmingham and the New England College of Optometry.

At present, Dr. Mohindra is a freelance Pediatric Optometry consultant and visiting scientist with the Department of Psychology at M.I.T. Dr. Mohindra has authored numerous publications. She will be addressing the topic of "Visual Functions in Infants and Toddlers."



## Indra Mohindra, O.D., M.Sc.

Le D$^{r}$ Mohindra a reçu son diplôme en optique ophtalmique en 1957 de City University, à Londres. Elle a reçu son certificat d'optométriste autorisé (L.O.D.) du Massachusetts en 1973 et du Nouveau Hampshire en 1977. Depuis 1957, elle a occupé des postes d'optométriste à Londres, en Angleterre, et à Nakura et Nairobi, au Kenya. Elle a occupé les postes de directeur de la clinique de soins optométriques à Brighton, au Massachusetts, et de directeur du programme de dépistage de troubles visuels dans les écoles, du Massachusetts College of Optometry, à Boston. Elle a détenu des postes de conseiller clinique auprès du département de psychologie du M.I.T. et du département de virologie de l'University of Alabama. Depuis 1960 jusqu'à maintenant, elle a enseigné les sciences pédiatriques de la vision à plusieurs institutions, dont l'Indiana University; le College of Optometry, à Houston; le Massachusetts College of Optometry; le School of Optometry, à Birmingham; et le New England College of Optometry.

À l'heure actuelle, le D$^{r}$ Mohindra est un conseiller en optométrie pédiatrique et un scientiste externe du département de psychologie au M.I.T. Le D$^{r}$ Mohindra a écrit de nombreuses publications. Elle traitera du sujet de la vision chez les très jeunes enfants.

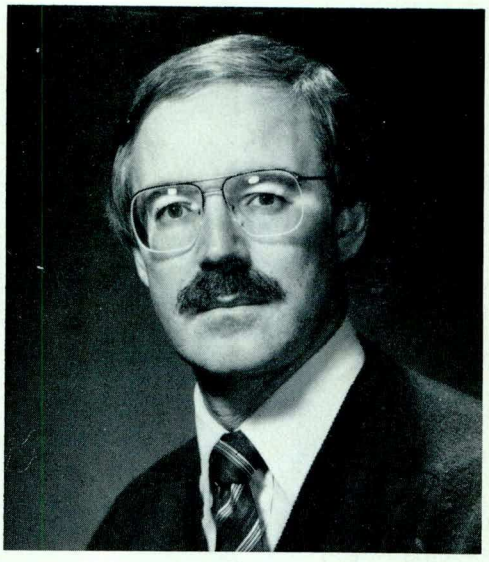
## Anthony P. Cullen, O.D., M.Sc., Ph.D.

Dr. Cullen received his Honours Diploma in Ophthalmic Optics at Northhampton College, London in 1960. He was subsequently employed as an Optometrist, including a post with the Royal Air Force in South Yemen. In 1969, he was employed at the University of Saskatchewan where he attained his M.Sc. in Ophthalmology. Dr. Cullen received his O.D. in 1978 from the Pennsylvania College of Optometry, and his Ph.D. in Radiation Biology from City University in England in 1979.

Dr. Cullen has been a professor with the University of Waterloo School of Optometry since 1978 and is, at present, Associate Director.

He has served as a referee on many journals, and has himself authored numerous articles.

Dr. Cullen will be speaking on environmental toxicological aspects of VDT's and protective filters.



## Anthony P. Cullen, O.D., M.Sc., Ph.D.

Le D$^{r}$ Cullen a reçu son diplôme en optique ophtalmique du Northhampton College, à Londres, en 1960. Il a ensuite occupé des postes d'optométriste, dont un avec l'Aviation royale au Yemen du sud. En 1969, il a été employé à l'Université de la Saskatchewan, où il a obtenu son M.Sc. en ophtalmologie. Le D$^{r}$ Cullen a reçu son doctorat en optométrie en 1978 du Pennsylvania College of Optometry, et son doctorat en radiobiologie de City University, en Angleterre, en 1979.

Le D$^{r}$ Cullen est un professeur de l'École d'optométrie de l'Université de Waterloo depuis 1978 et est, à l'heure actuelle, directeur adjoint.

Il a servi d'arbitre pour de nombreuses revues et a lui-même écrit de nombreux articles.

Le D$^{r}$ Cullen donnera une conférence sur les aspects toxicologiques environnementaux des TEC et les filtres protecteurs.

## Program for OPTOMETRISTS

| DATE/TIME | EVENT | LOCATION (Dress Recommendation) |
|---|---|---|
| **TUESDAY - JULY 2** | | |
| **1:00 p.m.** | **Registration Desk opens** | Regina Inn |
| **7:00 - 9:00 p.m.** | **Congress Opening Ceremonies:** A high-spirited Welcome Party sets the tone. Enjoy cocktails, hors d'œuvres, entertainment and, of course, fellowship of colleagues and old friends to begin our "panorama" of Congress Activities. | Regina Inn<br>Elizabethan A, B & C<br>(good casual) |
| **WEDNESDAY - JULY 3** | | |
| **9:00 a.m. - 12 noon** | **Education I** — Dr. L. Catania<br>(i) *Grand Rounds (Audience participation), Lumps and Bumps.*<br>(ii) *Prefit Contact Lens Considerations in the "FLE."* | Regina Inn<br>Elizabethan |
| **12 noon - 2:00 p.m.** | **Welcome luncheon** sponsored by the Province of Saskatchewan, featuring an address by Provincial Health Minister, the Honorable Graham Taylor | Regina Inn<br>Elizabethan A B C |
| **2:00 - 5:00 p.m.** | **C.A.O. General Business Meeting** | Regina Inn<br>Elizabethan A B C |
| **6:00 p.m. - 1 a.m.** | **Western Bar-B-Q and Dance.** "Swing your partner" and kick up your heels at the "jamboree." | Confederation Park<br>(Western casual wear)<br>Assemble in lobby of Regina Inn. Buses leaving at 6:00 p.m. |
| **THURSDAY - JULY 4** | | |
| **9:00 a.m. - 12 noon** | **Education II** — Dr. A. Cullen<br>*Environmental Toxicological Aspects of VDTs and protective filters.* | Regina Inn<br>Elizabethan A B C |
| **12:00 noon - 2:00 p.m.** | **Exhibit hall luncheon.** An outstanding display is planned. Special prizes also! ! | Sheraton Centre<br>Mezzanine floor |
| **2:00 p.m. - 5:00 p.m.** | **C.A.O. Sections Information Sessions**<br>Details and Room Locations at Registration Desk | Regina Inn<br>Elizabethan A B C |
| **6:00 p.m. - 8:00 p.m.** | **Exhibitors' Cocktail Hour and Hors d'œuvres.** Begin your evening out with a visit to the displays and "Bon Appetit". | Sheraton Centre<br>Mezzanine floor |
| **8:00 p.m.** | **Class Reunions** — Join your classmates and Reminisce the "Good Ol' Days". Check at Registration Desk for more information. | Dining in your choice of Regina's many fine restaurants. |
| **11:00 p.m. - 1:00 a.m.** | Hospitality Suite Open | Room 486-487<br>Regina Inn |
| **FRIDAY - JULY 5** | | |
| **9:00 a.m. - 12 noon** | **Education III** — Dr. Indra Mohindra<br>*Visual Functions in Infants and Toddlers* | Regina Inn<br>Elizabethan A B C |
| **FREE AFTERNOON** | Enjoy touring, shopping, etc. in the Queen City of The Plains or take one more look at the Exhibits which will remain open till 4:00 p.m. More information and suggestions at registration desk. | |

| | | |
|---|---|---|
| **6:30 - 7:30 p.m.** | **Cocktails and C.A.O. President's Reception.** | Regina Inn<br>Elizabethan A B C |
| **7:30 - 10:00 p.m.** | **C.A.O. President's Banquet and Awards** | (Formal or Semi-Formal) |
| **10:00 p.m. - 1:00 a.m.** | **Dance and Social.** An elegant conclusion and farewell to your memorable experiences at "Prairie Panorama." | |

## Program for SPOUSES

| DATE/TIME | EVENT | LOCATION<br>(Dress Recommendation) |
|---|---|---|
| **TUESDAY - JULY 2** | | |
| **7:00 - 9:00 p.m.** | **Congress Opening Ceremonies** — an informal Welcome Party to get you in the spirit of Prairie Panorama. (Cocktails, hors d'œuvres, entertainment.) | Elizabethan A B C<br>(good casual) |
| **WEDNESDAY - JULY 3** | | |
| **9:00 - 11:00 a.m.** | After settling the children into the Jr. Delegates' Program, join us in the Hospitality Room. (Coffee and information available.) | Regina Inn<br>Room 486-487 |
| **12:30 - 2:00 p.m.** | **Welcome Luncheon** sponsored by Saskatchewan Government. | Regina Inn<br>Elizabethan A & B<br>(good casual) |
| **2:30 - 4:30 p.m.** | **Optional City Tours**<br>1) RCMP Barracks<br>2) Double Decker Bus Tour through Wascana Park | Assemble in Main lobby<br>2:20 p.m. |
| **6:00 p.m. - 1:00 a.m.** | **Western Bar-B-Q and Dance.** Dress Western casual. | Confederation Park<br>Buses leaving lobby of Regina Inn at 6:00 p.m. |
| **THURSDAY - JULY 4** | | |
| **9:00 a.m. - 5 p.m.** | **Qu'Appelle Valley Bus Tour** — Visiting Summer School of Arts, Craft Fair (Variety of handicrafts and pottery for sale.)<br><br>**Tour National Historic Motherwell Homestead** and lunch in the quaint French restaurant "La Parisienne" | Assemble in Main lobby of Regina Inn at 8:45 a.m. |
| **6:00 - 8:00 p.m.** | **Exhibitors' Cocktail Hour and Hors d'œuvres.** | Sheraton Inn<br>Convention Floor |
| **8:00 p.m.** | **Class Reunions** — check at Registration desk for more information | |
| **11:00 p.m. - 1:00 a.m.** | Hospitality Suite Open | Regina Inn<br>Room 486-487 |
| **FRIDAY - JULY 5** | | |
| **Morning** | **Golfing** — times to be arranged at registration desk on arrival. | Murray Golf Course |
| **10:00 - 11:00 a.m.** | Aquacises or Aerobics Class | Regina Inn<br>Assemble on Convention Floor Pool Area 9:45 a.m. |

| | | |
|---|---|---|
| **FREE AFTERNOON** | An opportunity to shop or tour local sites with your spouse. | |
| **6:30 p.m. - 7:30 p.m.** | Cocktails and C.A.O. President's Reception. | Elizabethan A B C |
| **7:30 p.m. - 10 p.m.** | **C.A.O. President's Banquet and Awards** | Regina Inn (Semi-formal or formal) |
| **10 p.m. - 1:00 a.m.** | **Dance and Social.** An elegant conclusion and farewell to your memorable experiences at "Prairie Panorama." | |

## Program for JUNIOR DELEGATES

| DATE/TIME | EVENT | LOCATION |
|---|---|---|
| **TUESDAY - JULY 2** | | |
| **7:00 - 9:00 p.m.** | **Welcome party** for children (all ages). Snacks, pop and entertainment. | Devonshire Regina Inn |
| **WEDNESDAY - JULY 3** | | |
| **8:00 a.m.** | **Group #1 — Junior Delegates 12 and over** leave for a 3 day Camp-Out — Tawasee. See the attached program. | Meet in lobby Regina Inn |
| **8:30 a.m. - 5:00 p.m.** | **Group #2 — Junior Delegates (6-12 yr.)** begin YWCA Day Camp. See attached program information. | Meet in lobby Regina Inn |
| **6:00 - 9:00 p.m.** | **Group #2** Bowling/Pizza Evening | Assemble in lobby |
| **THURSDAY - JULY 4** | | |
| **8:30 a.m.** | **Group #2** leave for YWCA Day Camp. Supper, entertainment, and sleepover at YWCA. | |
| **FRIDAY - JULY 5** | | |
| **5:00 p.m.** | **Group #2** return from YWCA. | |
| **6:30 - 9:00 p.m.** | **Group #2** Supper and movie nite. | Devonshire Regina Inn |
| **SATURDAY - JULY 6** | | |
| **11:00 a.m.** | **Group #1** returns from Camp Out. | |

## Junior Delegates' Program Details

### Group #1 (12 and over)

**YMCA Camp Tawasee**

- 3 day resident camp in the Qu'Appelle Valley.
- Swimming pool plus beach events; crafts; camp fire; canoeing; sailboats; kayaks.
- Sports including: waterpolo, soccer, football, and hill games.
- Accommodations in cabins; resident camp nurse.
- **Please bring:** Sleeping bag, towel, swimsuit, appropriate camp wardrobe and toiletries.

## GROUP #2 (6-12 yr. olds)

**YWCA Day Camp**

— Swimming, crafts, gym activities, city tours.
— Lunch and snacks provided.
— Thursday nite will be a sleepover at YWCA with supper, films, and entertainment.
— **Please bring:** Sleeping bag, towel and swimsuit.

* **Limited capacity in both programs, so *please* register Junior Delegates by May 15, 1985.**

* ***Limited*** **number of sleeping bags will also be available through the Registration desk.**

## PRE-SCHOOL NURSERY (Infants to 5 yr. old)

| DATE/TIME | EVENT | LOCATION |
|---|---|---|
| **Wednesday - July 3**<br>**Thursday - July 4**<br>**Friday - July 5** | **Activity Area** — Organized games and stories. Toys and equipment provided. | New Castle Room<br>Regina Inn |
| **9:00 a.m. - 5:00 p.m.** | Lunch and snacks included. | |
| | **Quiet Area** — Playpens provided for children taking naps. | Cambridge Room |

**There will be qualified babysitters provided in both rooms.**

***Please Provide**

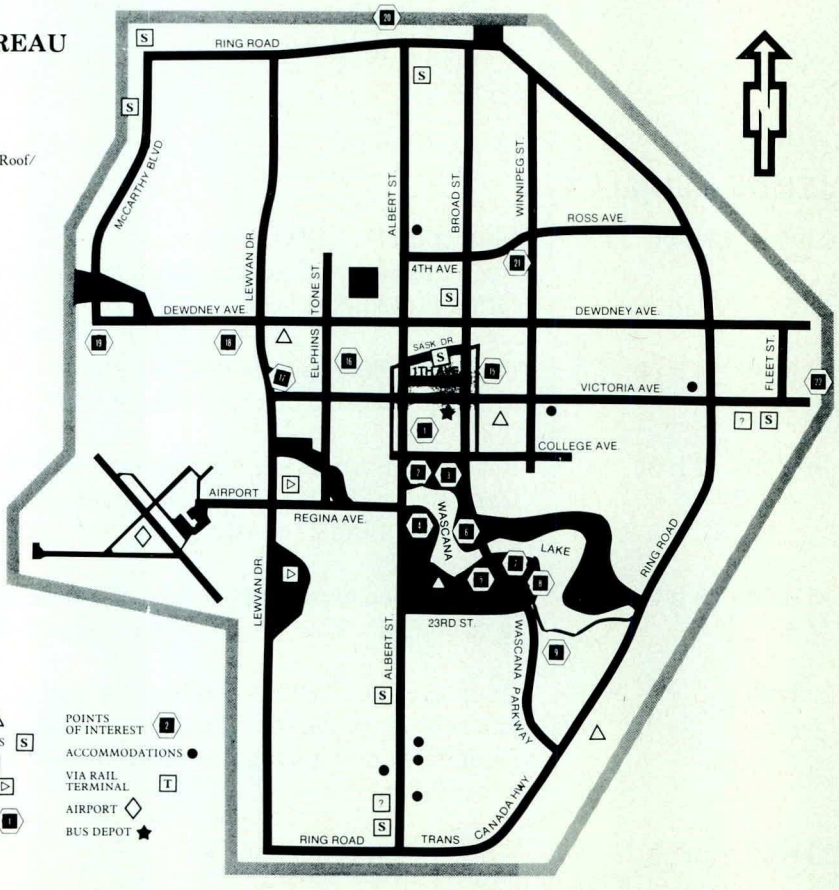
— diapers, prepared bottles, and baby food.
— change of clothing and any lotions necessary on a daily basis.

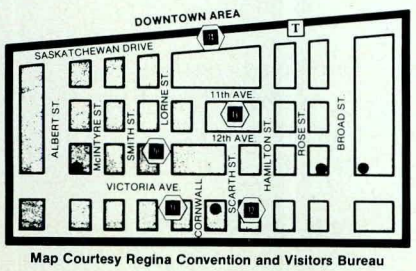
A list of babysitters will be available at the Registration Desk.

**REGINA CONVENTION & VISITORS BUREAU**
**1985 MINI MAP**

**REGINA ATTRACTIONS**

1. Regina Chamber of Commerce
2. Museum of Natural History
3. Norman MacKenzie Art Gallery
4. Legislative Building
5. Diefenbaker Homestead
6. Wascana Place
7. Saskatchewan Centre of the Arts Convention & Visitors Bureau
8. Wascana Waterfowl Display Ponds
9. University of Regina (Main Campus)
10. Regina Public Library/ Dunlop Gallery
11. Saskatchewan Sports Hall of Fame
12. Sask Power Gallery on the Roof/ Observation Deck
13. Plains Historical Museum
14. Canada Post Office
15. Police Station
16. Lawson Aquatic Centre
17. Regina Exhibition Park
18. Government House
19. RCMP Depot Division
20. IPSCO Animal Park
21. Fireman's Museum
22. Regina's Wild Slide Water Slide




**Legend**

HOSPITALS △
SHOPPING MALLS [S]
PARKLAND ■
GOLF COURSES [▷]
TRAVEL INFORMATION
POINTS OF INTEREST
ACCOMMODATIONS ●
VIA RAIL TERMINAL [T]
AIRPORT ◇
BUS DEPOT ★

Map Courtesy Regina Convention and Visitors Bureau

## Programme des OPTOMÉTRISTES

| DATE/HEURE | ÉVÉNEMENT | ENDROIT (Tenue recommandée) |
|---|---|---|
| **MARDI, 2 JUILLET** | | |
| **13 h 00** | **Ouverture du bureau d'inscription** | Regina Inn |
| **19 h 00 - 21 h 00** | **Cérémonies d'ouverture du congrès:** Une fête d'accueil des plus gaies donne le ton du congrès. Pour commencer notre "panorama" d'activités du congrès, dégustez des cocktails et des hors-d'œuvre, bénéficiez des divertissements et retrouvez vos collègues et anciens amis. | Regina Inn, Elizabethan A, B et C (tenue de loisirs appropriée) |
| **MERCREDI, 3 JUILLET** | | |
| **9 h 00 - 12 h 00** | **Éducation 1** — Dr L. Catania<br>(i) Grand Rounds, Lumps and Bumps" (Participation de l'auditoire)<br>(ii) "Prefit Contact Lens Considerations in the "FLE" | Regina Inn Elizabethan |
| **12 h 00 - 14 h 00** | **Déjeuner d'accueil** parrainé par la province de la Saskatchewan, comprenant une allocution du ministre provincial de la Santé, l'honorable Graham Taylor | Regina Inn Elizabethan A B C |
| **14 h 00 - 17 h 00** | **Séance d'affaires générales de l'ACO** | Regina Inn Elizabethan A B C |
| **18 h 00 - 1 h 00** | **Barbecue et danse genre "Western".** On bouffe, on danse et on s'amuse à la "Western". | Confederation Park (Tenue de loisirs genre Western) Rassemblement dans le foyer du Regina Inn. Les autobus partent à 18 h 00. |
| **JEUDI, 4 JUILLET** | | |
| **9 h 00 - 12 h 00** | **Éducation II** — Dr A. Cullen<br>Aspects toxicologiques environnementaux des TEC et filtres protecteurs | Regina Inn Elizabethan A B C |
| **12 h 00 - 14 h 00** | **Déjeuner dans la salle des expositions.** On a planifié une exposition exceptionnelle, et des prix spéciaux! | Sheraton Centre Mezzanine |
| **14 h 00 - 17 h 00** | **Séance d'information des sections de l'ACO**<br>Demandez les détails et l'emplacement de chaque séance du bureau d'inscription. | Regina Inn Elizabethan A B C |
| **18 h 00 - 20 h 00** | **Cocktail des exposants et hors-d'œuvre.** Commencez la soirée en visitant l'exposition ... et bon appétit! | Sheraton Centre Mezzanine |
| **20 h 00** | **Réunions de classe** — Retrouvez vos camarades de classe et racontez vos souvenirs du "bon vieux temps". Demandez de plus amples renseignements au bureau d'inscription. | Choisissez pour le dîner un des nombreux bons restaurants de Regina. |
| **23 h 00 - 1 h 00** | Suite d'accueil ouverte. | Suite 486-487 Regina Inn |

## VENDREDI, 5 JUILLET

| | | |
|---|---|---|
| **9 h 00 - 12 h 00** | **Éducation III** — Dr Indra Mohindra<br>Fonctions visuelles des bébés et des tout-petits | Regina Inn<br>Elizabethan A B C |
| **APRÈS-MIDI LIBRE** | Amusez-vous à visiter la "Ville reine des plaines", parcourez les magasins ou retournez voir une dernière fois l'exposition, qui fermera ses portes à 16 h 00. Le bureau d'inscription pourra vous donner d'autres informations et suggestions. | |
| **18 h 30 - 19 h 30** | **Cocktails et réception du président de l'ACO.** | Regina Inn<br>Elizabethan A B C |
| **19 h 30 - 22 h 00** | **Banquet du président de l'ACO et prix** | (Tenue de soirée ou de ville) |
| **22 h 00 - 1 h 00** | **Danse et soirée sociale.** Une façon élégante de terminer la semaine mémorable de "Panorama des Prairies". | |

## Programme des CONJOINTS

| DATE/HEURE | ÉVÉNEMENT | ENDROIT<br>(Tenue recommandée) |
|---|---|---|
| **MARDI, 2 JUILLET** | | |
| **19 h 00 - 21 h 00** | **Cérémonies d'ouverture du congrès** — une petite fête d'accueil toute simple pour vous mettre dans l'esprit de Panorama des Prairies. (cocktails, hors-d'œuvre, divertissements.) | Elizabethan A B C<br>(tenue de loisirs appropriée) |
| **MERCREDI, 3 JUILLET** | | |
| **9 h 00 - 11 h 00** | Après avoir installé les enfants dans l'une ou l'autre des activités du programme des jeunes, retrouvez-nous dans la suite d'accueil. (Café et information disponibles.) | Regina Inn<br>Suite 486-487 |
| **12 h 30 - 14 h 00** | **Déjeuner d'accueil** parrainé par le gouvernement de la Saskatchewan. | Regina Inn<br>Elizabethan A & B<br>(tenue de loisirs appropriée) |
| **14 h 30 - 16 h 30** | **Visites facultatives de la ville**<br>1) Baraquement de la GRC<br>2) Circuit en autobus à impériale dans le parc Wascana | Rassemblement dans le foyer principal<br>14 h 20 |
| **18 h 00 - 1 h 00** | **Barbecue et danse genre "Western".** Tenue de loisirs genre Western. | Confederation Park<br>Les autobus quittent le foyer du Regina Inn à 18 h 00. |
| **JEUDI, 4 JUILLET** | | |
| **9 h 00 - 17 h 00** | **Circuit en autobus dans la vallée de la Qu'Appelle** — Visite de l'École estivale des arts, de la foire artisanale (produits d'artisanat d'expression et poteries à vendre.) | Rassemblement dans le foyer principal du Regina Inn à 8 h 45 |
| | **Visite de la Ferme historique nationale Motherwell** et déjeuner dans le pittoresque restaurant français "La Parisienne" | |

| | | |
|---|---|---|
| **18 h 00 - 20 h 00** | **Cocktail des exposants et hors-d'œuvre.** | Sheraton Inn<br>Étage des Congrès |
| **20 h 00** | **Réunions de classe** — demandez plus de renseignements au bureau d'inscription | |
| **23 h 00 - 1 h 00** | Suite d'accueil ouverte | Regina Inn<br>Suite 486-487 |

## VENDREDI, 5 JUILLET

| | | |
|---|---|---|
| **Matinée** | **Golf** — en fixer l'heure au bureau d'inscription dès l'arrivée. | Terrain de golf Murray |
| **10 h 00 - 11 h 00** | Exercices aquatiques ou aérobiques | Regina Inn<br>Rassemblement dans la section de la piscine de l'étage des Congrès à 9 h 45 |
| **APRÈS-MIDI LIBRE** | L'occasion de parcourir les magasins ou de visiter les points d'intérêt locaux avec votre conjoint. | |
| **18 h 30 - 19 h 30** | **Cocktails et réception du président de l'ACO** | Elizabethan A B C |
| **19 h 30 - 22 h 00** | **Banquet du président de l'ACO et prix** | Regina Inn<br>(tenue de soirée ou de ville) |
| **22 h 00 - 1 h 00** | **Danse et soirée sociale.** Une façon élégante de terminer la semaine mémorable de "Panorama des Prairies". | |

# Programme des JEUNES

| DATE/HEURE | ÉVÉNEMENT | ENDROIT |
|---|---|---|

## MARDI, 2 JUILLET

| | | |
|---|---|---|
| **7 h 00 - 9 h 00** | **Fête d'accueil** pour les enfants (tous les âges). Collation, boissons gazeuses et divertissements. | Devonshire<br>Regina Inn |

## MERCREDI, 3 JUILLET

| | | |
|---|---|---|
| **8 h 00** | **Groupe n$^{o}$ 1 — Les jeunes de 12 ans et plus** partent camper pour trois jours à Tawasee. Voir le programme ci-joint. | Rassemblement dans le foyer<br>Regina Inn |
| **8 h 30 - 17 h 00** | **Groupe n$^{o}$ 2 — Les jeunes de 6 à 12 ans** commencent un camp de jour au YWCA. Voir le programme ci-joint. | Rassemblement dans le foyer<br>Regina Inn |
| **18 h 00 - 21 h 00** | **Groupe n$^{o}$ 2** — Soirée de quilles et pizza | Rassemblement dans le foyer |

## JEUDI, 4 JUILLET

| | | |
|---|---|---|
| **8 h 30** | **Groupe n$^{o}$ 2** — Départ pour le camp de jour au YWCA. Dîner, divertissements et nuitée au YWCA. | |

## VENDREDI, 5 JUILLET

| | | |
|---|---|---|
| **17 h 00** | **Groupe nº 2** — Retour du YWCA. | |
| **18 h 30 - 21 h 00** | **Groupe nº 2** — Souper et cinéma. | Devonshire<br>Regina Inn |

## SAMEDI, 6 JUILLET

| | | |
|---|---|---|
| **11 h 00** | **Groupe nº 1** — Retour du camp. | |

## Détails sur le programme des jeunes

### GROUPE Nº 1 (12 ANS ET PLUS)

**Camp Tawasee du YWCA**

- Camp de 3 jours dans la vallée de la Qu'Appelle.
- Piscine, plus activités sur la plage; artisanat; feu de camp; canoë; voile; kayak.
- Sports comprenant: water-polo, soccer, football et jeux sur la colline.
- Hébergement en cabanes; infirmière résidente.
- **Prière d'emporter:** sac de couchage, serviette, maillot de bain, vêtements appropriés et articles de toilette.

### GROUPE Nº 2 (6 À 12 ANS)

**Camp de jour au YWCA**

- Natation, artisanat, activités en gymnase, visites de la ville.
- Déjeuner et collation fournis.
- Le jeudi, dîner, cinéma et divertissements au YWCA. Les jeunes y passeront la nuit.
- **Prière d'emporter:** sac de couchage, serviette et maillot de bain.

* **Nombre de places restreint dans les deux programmes, alors inscrivez les jeunes avant le 15 mai 1985.**

* **Un nombre restreint de sacs de couchage seront aussi disponibles par le biais du bureau d'inscription.**

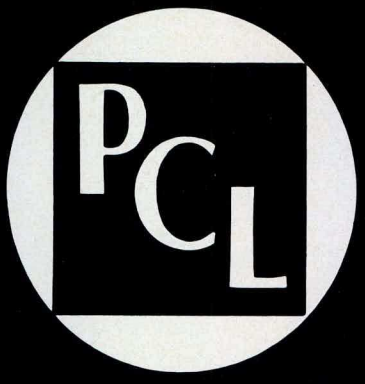
## GARDERIE PRÉSCOLAIRE (jusqu'à 5 ans)

| DATE/HEURE | ÉVÉNEMENT | ENDROIT |
|---|---|---|
| **Mercredi, 3 juillet**<br>**Jeudi, 4 juillet**<br>**Vendredi, 5 juillet** | **Salle pour les activités** — Jeux organisés et histoires. Jouets et matériel fournis. | Salle New Castle<br>Regina Inn |
| **9 h 00 - 17 h 00** | Déjeuner et collation fournis. | |
| | **Salle tranquille** — Parcs fournis pour les enfants qui font la sieste. | Salle Cambridge |
| | **Il y aura des gardiennes qualifiées dans les deux salles.** | |

* **Prière de fournir**

- couches, biberons préparés et nourriture pour bébés.
- chaque jour, vêtements de rechange et toute lotion nécessaire.

Vous pourrez obtenir une liste de gardiennes au bureau d'inscription.

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**Contact us at booth #47**

# Sheraton Centre

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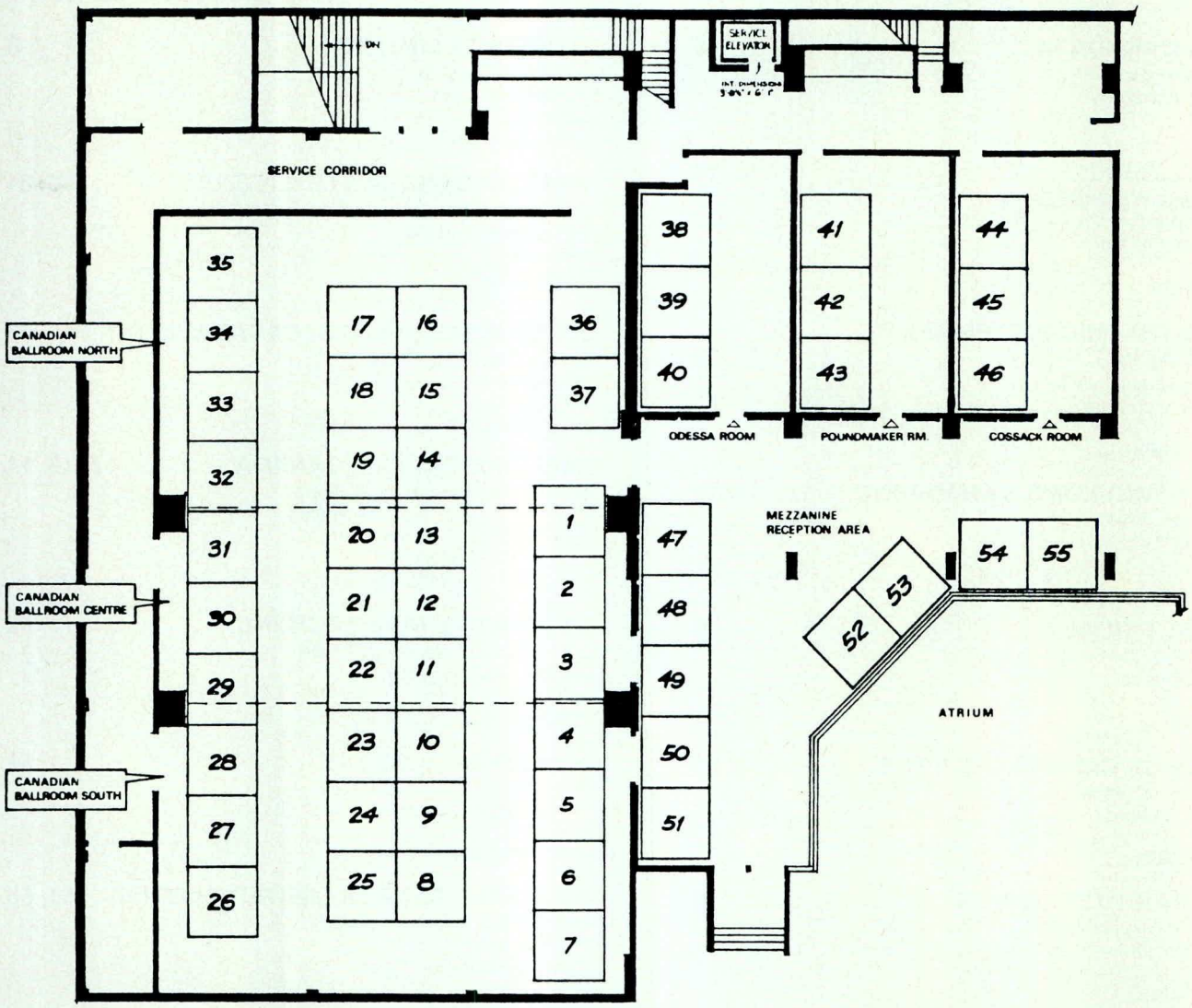
TELEX 071-2606

# OPTOFAIR '85
# CAO 19th BIENNIAL CONGRESS
# EXHIBIT HALL PLAN

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Prairie Panorama
July 2 to July 5 1985 Regina

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# OptoFair '85 Exhibitors

## *Exposants à la Foire optométrique de 1985*

Following is an alphabetical list of exhibitors and booth locations confirmed at press time. A supplementary list will be provided at the Congress Registration desk./*Suit une liste alphabétique des exposants et de l'emplacement des kiosques confirmés au moment de la mise sous presse. Une liste supplémentaire sera disponible au bureau d'inscription du Congrès.*

| **Exhibitor**<br>***Exposant*** | **Booth Number(s)**<br>***Numéro du(des) kiosque(s)*** |
|---|---|
| **ALCON CANADA INC.**<br>315 Knowles Avenue<br>Winnipeg, Manitoba<br>R2G 1E1<br>(204) 667-0779 | **26** |
| **ALLERGAN INC.**<br>2255 Sheppard Avenue East<br>Suite 414 West<br>Willowdale, Ontario<br>M2J 4Y1<br>(416) 494-6730 | **10, 11** |
| **AM OPHTHALMIC INSTRUMENTS (CANADA) INC.**<br>1535 Meyerside Drive, No. 18<br>Mississauga, Ontario<br>L5T 1M9<br>(416) 673-2999 | **34, 35** |
| **BAUSCH AND LOMB CANADA INC.**<br>480 Denison Street<br>Toronto, Ontario<br>L3R 1B9<br>(416) 268-3456 | **18, 19** |
| **CAMEO OPTICAL**<br>PO Box 1740, Terminal A<br>Montréal, Québec<br>H3C 3A5<br>(514) 866-3768 | **3** |
| **CARL ZEISS CANADA LTD/LTÉE.**<br>45 Valleybrook Drive<br>Don Mills, Ontario<br>M3B 2S6<br>(416) 449-4660 | **49, 50** |
| **CARRERA/OPTYL DESIGN**<br>Unit 7, 1195 Meyerside Drive<br>Mississauga, Ontario<br>L5T 1H3<br>(416) 677-4733 | **9** |
| **CARTIER OPTICAL**<br>PO Box 1779, Terminal A<br>Montréal, Québec<br>H3C 3A5<br>(514) 861-9891 | **4** |
| **CIBA VISION CARE**<br>2150 Torquay Mews<br>Mississauga, Ontario<br>L5N 2M6<br>(416) 821-4774 | **2** |
| **COOPERVISION INC.**<br>100 McPherson Street<br>Markham, Ontario<br>L3R 3V6 | **6, 7** |

| **Exhibitor**<br>***Exposant*** | **Booth Number(s)**<br>***Numéro du(des) kiosque(s)*** |
|---|---|
| **DYNETECH LIMITED**<br>303 Evans Avenue<br>Toronto, Ontario<br>M8Z 1K2<br>(416) 252-5228 | **8** |
| **ESSILOR CANADA LTD/LTÉE**<br>295 Deslauriers<br>St-Laurent, Québec<br>H4N 1W2<br>(514) 337-2211 | **30, 31** |
| **HEINE INSTRUMENTS (CANADA) LTD.**<br>Unit 5, 20 Steckle Place<br>Kitchener, Ontario<br>N2E 2L6<br>(519) 894-2490 | **53** |
| **IMPERIAL OPTICAL CANADA**<br>(Head Office) Hermant Building<br>21 Dundas Square<br>Toronto, Ontario<br>M5B 1B7<br>(416) 595-1010 | **12, 13, 14** |
| **INNOVATIVE RESEARCH INC.**<br>203 - 2825 Saskatchewan Drive<br>Regina, Saskatchewan<br>S4T 1H3<br>(306) 352-3452 | **52** |
| **N and N OPTICAL LTD.**<br>304 - 755 The Queensway E.<br>Mississauga, Ontario<br>L5Y 4C5<br>(416) 275-1300 | **32** |
| **NEOSTYLE CANADA LIMITED/LIMITÉE**<br>Unit 10, 630 Rivermede Road<br>PO Box 6300<br>Concord, Ontario<br>L4K 1B6<br>(416) 669-4553 | **51, 55** |
| **OPAL OPTICAL LTD.**<br>PO Box 10<br>Georgetown, Ontario<br>L7Y 4T1<br>(416) 877-7715 | **25** |
| **OPTIQUE PERFECT OPTICAL CORPORATION**<br>(Head Office) CP 790<br>Outremont, Québec<br>H2V 4N9<br>(Regional Office) 679 McIvor Avenue<br>Winnipeg, Manitoba<br>R2G 1A2<br>(204) 667-8989 | **38, 39, 40** |

| Exhibitor<br>*Exposant* | Booth Number(s)<br>*Numéro du(des) kiosque(s)* |
|---|---|
| **OPTOCOATING AND CO.**<br>2388 Dunwin Drive<br>Mississauga, Ontario<br>L5L 1T1<br>(416) 828-7502 | 15 |
| **PIONEER OPTICS SUPPLY LTD.**<br>PO Box 137<br>Regina, Saskatchewan<br>S4P 3V9<br>(306) 525-5201 | 54 |
| **PLASTIC CONTACT LENS COMPANY (CANADA) LTD.**<br>Suite 504 - 21 Dundas Square<br>Toronto, Ontario<br>M5B 1B7<br>(416) 862-8589 | 47 |
| **R AND R VISION CARE LIMITED**<br>200 - 4401 Albert Street<br>Regina, Saskatchewan<br>S4S 6B6<br>1-800-667-8199 | 1 |
| **SHILLING OPTICAL CASE COMPANY**<br>115 St. Regis Crescent North<br>Downsview, Ontario<br>M3J 1Y9<br>(416) 630-4470 | 16 |
| **LES SERVICES OPTOMÉTRIQUES (A.O.Q.) INC.**<br>465 rue St-Jean, bur. 1001<br>Montréal, Québec<br>H2Y 2R6<br>(514) 286-4096 | 27 |
| **SUSPENSION EYEWEAR ENTERPRISES CANADA**<br>PO Box 1928<br>Ponoka, Alberta<br>T0C 2H0<br>(403) 783-5575 | 48 |
| **SYNTEX INC., OPHTHALMICS DIVISION**<br>3397 American Drive, Suite 3<br>Mississauga, Ontario<br>L4V 1T8<br>1-800-387-4881 | 37 |
| **TRU-FLEX LABORATORIES, INC.**<br>6191A Westminster Highway<br>Richmond, British Columbia<br>V7C 4V4<br>(604) 278-2334 | 5 |
| **WESTERN OPTICAL CO. INC**<br>4810 ouest Jean-Talon<br>Suite 409<br>Montréal, Québec<br>H4P 2N5<br>(514) 342-6275 | 36 |
| **WETZEL CONTACT LENS LTD.**<br>2nd Floor<br>1933 10th Avenue SW<br>Calgary, Alberta<br>T3C 0K3<br>(403) 245-0105 | 17 |
| **WHITE OPHTHALMIC SERVICES AND SUPPLY CO. LTD.**<br>PO Box 153, Station J<br>Calgary, Alberta<br>T2A 4X5<br>(403) 273-1121 | 33 |

# Pleins feux sur le Concours de photographie du Congrès de l'ACO de 1985

## Ouvert à tous les optométristes inscrits au Congrès de 1985

### Catégories

**Noir et blanc, couleur**

1. "La gente humaine" (photos où le corps ou les gestes humains sont mis en vedette).
2. "Les quatre saisons" (paysages, marines, fleurs, etc.).
3. "L'arche de Noé" (petits animaux favoris, animaux, faune, etc.).

### Règlements

1. Photographies seulement — dimensions 5x7, 8x10 ou 11x14 seulement.
2. Toutes les photographies doivent être montées.
3. Aucune photographie encadrée n'est permise.
4. Le nom et l'adresse de la personne et la catégorie doivent être imprimés au verso de chaque photographie.
5. Les données techniques sont permises, mais facultatives.
6. On peut présenter une seule photographie pour chaque catégorie (maximum de 3 par catégorie).
7. Les présenter au plus tard le 31 mai 1985.
8. Les participants doivent venir chercher leurs photographies au congrès après le choix final du jury ou, si cela est impossible, doivent fournir une chemise de retour affranchie.
9. En présentant une photographie, le participant donne à l'ACO le droit de publier la photographie dans le Journal de l'ACO et donne à entendre que la photographie n'a jamais été publiée antérieurement et qu'elle n'est pas protégée par un droit d'auteur.
10. Les prix pour les gagnants seront annoncés plus tard.
11. Toutes les photographies feront l'objet d'une pré-sélection et on en affichera certaines au congrès.
12. **Envoyez les photographies au plus tard le 31 mai 1985 au D^r^ R.A. Rosere, 152 Ochterloney Street, Dartmouth (N.-É.) B2Y 1E1.**

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## CAO OptoFair '85 Passport Prize Draw

## *Tirage de prix à partir des passeports pour la Foire optométrique de 1985 de l'ACO*

In addition to booth space, the following exhibitors (at the time of publication) have donated prizes which will be drawn from among the completed OptoFair passports at the Congress. We thank them for their support of OptoFair '85./*En plus d'exposer leurs produits, les exposants suivants (au moment de la mise sous presse) ont donné des prix qui feront l'objet d'un tirage au Congrès au moyen des passeports remplis pour la Foire optométrique. Nous les remercions de leur appui de la Foire optométrique de 1985.*

(Any supplemental prizes will be advertised at the Registration Desk)
*(Des prix supplémentaires seront annoncés au bureau d'inscription)*

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|---|---|
| AM OPHTHALMIC INSTRUMENTS | |
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| BAUSCH AND LOMB CANADA INC. | |
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| ** 500 $ comptant ** | Valeur de 500 $ |
| HEINE INSTRUMENTS (CANADA) LIMITED | |
| ** Autofoc II Specialist Ophthalmoscope and Rechargeable Handle ** | Value $402.00 |
| ** Ophtalmoscope spécialisé Autofoc II et poignée rechargeable ** | Valeur de 402 $ |
| IMPERIAL OPTICAL CANADA | |
| ** 7X Power Lightweight Bushnell Binoculars ** | Value $139.00 |
| ** Jumelles Bushnell légères, pouvoir grossissant 7X ** | Valeur de 139 $ |
| SHILLING OPTICAL CASE COMPANY | |
| ** Sample Assortment Case Display with 36 Cases ** | Value $125.00 |
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| SUSPENSION EYEWEAR ENTERPRISES CANADA | |
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**Regina, Saskatchewan July 2-5, 1985**
**Registration Form**

**Registration Procedure:**

1) Fill in and return this form to: C.A.O., Ste. 207-77 Metcalfe, Ottawa, Ont. K1P 5L6 — **PLEASE TYPE OR PRINT ALL INFORMATION.**
2) Your registration and reservations will be processed through the C.A.O. Office.
3) Your receipt and confirmation of accommodations will be forwarded as soon as possible along with further Congress and travel information.
4) Any questions or concerns — please write C.A.O. Office. Have a good Congress!

---

**OPTOMETRIST** _____
Name Degree First name on badge to read

**SPOUSE-Mr./Mrs./Ms.** _____
Name Degree First name on badge to read

Please check if attending. Day Bus Tour — Thursday_____ Golfing Friday_____

**JUNIOR DELEGATES** _____
First name age First name age

First name age First name age

**ADDRESS** _____

**CITY/PROV./POSTAL CODE** _____ **TELEPHONE** _____

---

**HOTEL RESERVATION: WILL BE PROCESSED THROUGH C.A.O. OFFICE**

| | | **Single** | **Double** |
|---|---|---|---|
| **HOTEL*REQUESTED:** | Regina Inn | $58.00 (one queen bed) | $58.00 (two double beds) |
| | Sheraton Centre | $58.00 | $58.00 |

***Note: Education sessions and Business Meetings will be in the Regina Inn. The Exhibit Program will be in the Sheraton Centre.**

Date/Time of Arrival_____ Date/Time of Departure_____

Special instructions: (cots required, babysitters, etc.)

_____
(or attach note)

---

| **REGISTRATION FEES:** | | **Before May 15** | **After May 15** |
|---|---|---|---|
| **OPTOMETRIST** | | $230.00 | $275.00 |
| **SPOUSE** | | $210.00 | $250.00 |
| **JUNIOR DELEGATES** | (6-12 yrs.) (City day camp) | $100.00 ea. (x ____ #attending) | $100.00 |
| | (12-up) (Valley camp-over) | $100.00 ea. (x ____ #attending) | $100.00 |
| **PRE-SCHOOL NURSERY** | | $12.00/day each — (Special fees for ½ day or 2 or more children per family) | |

**TOTAL FEE ENCLOSED** $ _____

**CAR RENTAL** — Special Rates have been arranged through Goliger's — The Official C.A.O. Congress Travel Agency. (306)-525-9144.

**POST CONVENTION TOUR** — Contact Goliger's — Regina — (306)-525-9144.

**POST CONVENTION CANOE TRIP** — Contact Dr. Claude Hutton — (306)-664-3663.

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**C.A.O. OFFICE USE ONLY**

**Reg. #** _____ **Fees #** _____ **Date** _____ **Cash Rec'd** _____

**Ck Rec'd** _____ **CN** _____ **Note** _____

**19e Congrès biennal de l'ACO**
**Regina (Saskatchewan) 2-5 juillet 1985**
**Formule d'inscription**

**Procédure d'inscription:**

1) Remplissez et renvoyez cette formule à: ACO, 77, rue Metcalfe, suite 207, Ottawa (Ontario) K1P 5L6 — **PRIÈRE DE DACTYLOGRAPHIER OU D'ÉCRIRE EN LETTRES MOULÉES TOUS LES RENSEIGNEMENTS.**
2) Le bureau de l'ACO fera le traitement de votre inscription et de vos réservations.
3) On vous enverra dans les meilleurs délais votre reçu et la confirmation de chambre d'hôtel, ainsi que d'autres renseignements touristiques et sur le congrès.
4) Écrivez au bureau de l'ACO pour toute question ou préoccupation. Bon congrès!

---

**OPTOMÉTRISTE** _____
Nom Grade Petit nom pour le porte-nom

**CONJOINT M./Mme/Mde** _____
Nom Grade Petit nom pour le porte-nom

Cochez pour indiquer la participation. Circuit de jour en autocar — jeudi _____ golf - vendredi _____

**JEUNES** _____
Petit nom âge Petit nom âge

_____
Petit nom âge Petit nom âge

**ADRESSE** _____

**VILLE/PROV./CODE POSTAL** _____ **TÉLÉPHONE** _____

---

**RÉSERVATION D'HÔTEL: LE BUREAU DE L'ACO EN FERA LE TRAITEMENT**

| | | **Individuelle** | **Double** |
|---|---|---|---|
| **HÔTEL DEMANDÉ:** | Regina Inn | 58 $ (un lit queen) | 58 $ (deux lits doubles) |
| | Sheraton Centre | 58 $ | 58 $ |

*Note: **Les séances d'éducation et les réunions d'affaires auront lieu au Regina Inn. L'exposition aura lieu au Sheraton Centre.**

Date/heure d'arrivée _____ Date/heure de départ _____

Instructions spéciales: (besoin de lits pliants, gardiennes, etc.)

_____
(ou annexer une note)

---

| **DROITS D'INSCRIPTION:** | | **Avant le 15 mai** | **Après le 15 mai** |
|---|---|---|---|
| **OPTOMÉTRISTE** | | 230 $ | 275 $ |
| **CONJOINT** | | 210 $ | 250 $ |
| **JEUNES** | (6-12 ans) | | |
| | (Camp de jour en ville) | 100 $ chacun (x ____nbre de participants) | 100 $ |
| | (12 ans et plus) | | |
| | (Camping dans la vallée) | 100 $ chacun (x ____nbre de participants) | 100 $ |
| **GARDERIE PRÉSCOLAIRE** | | 12 $/jour chacun — (Droits spéciaux pour demi-journée ou 2 enfants ou plus par famille) | |

**DROITS TOTAUX INCLUS** _____ $

**LOCATION DE VOITURE** — Tarifs spéciaux fournis par le biais de Goliger's, l'agence de voyages officielle du congrès de l'ACO. (306)-525-9144.

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**RÉSERVÉ À L'USAGE DU BUREAU DE L'ACO**

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Ch. reçu _____ no de ch. _____ remarque _____

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July 2 to July 5 1985 Regina

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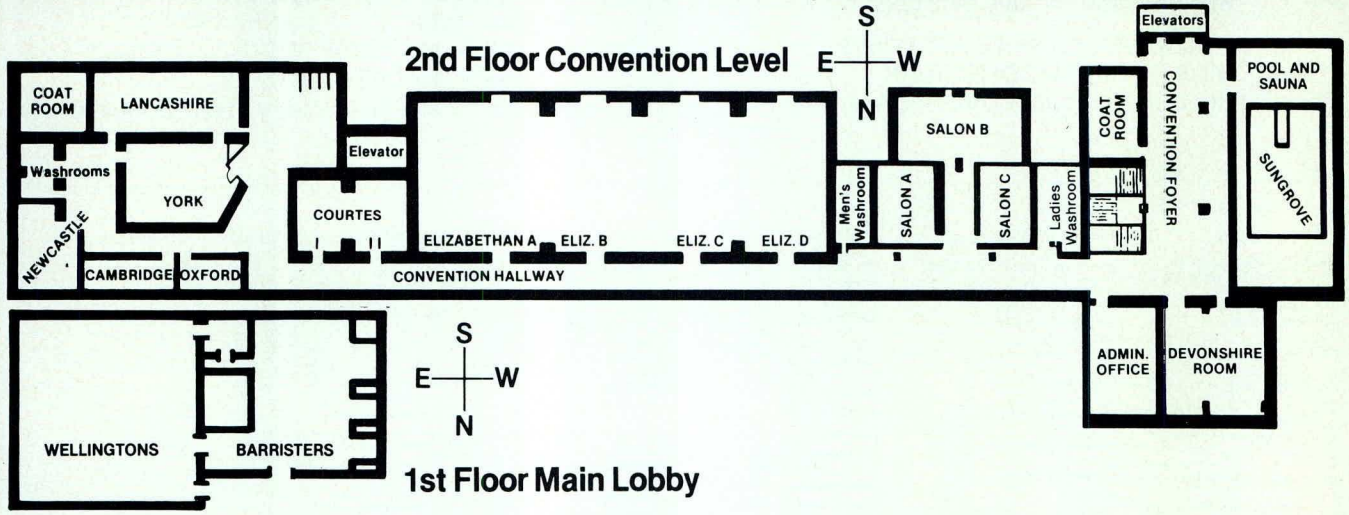


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REGINA, SASKATCHEWAN S4P 0R1
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### The Village

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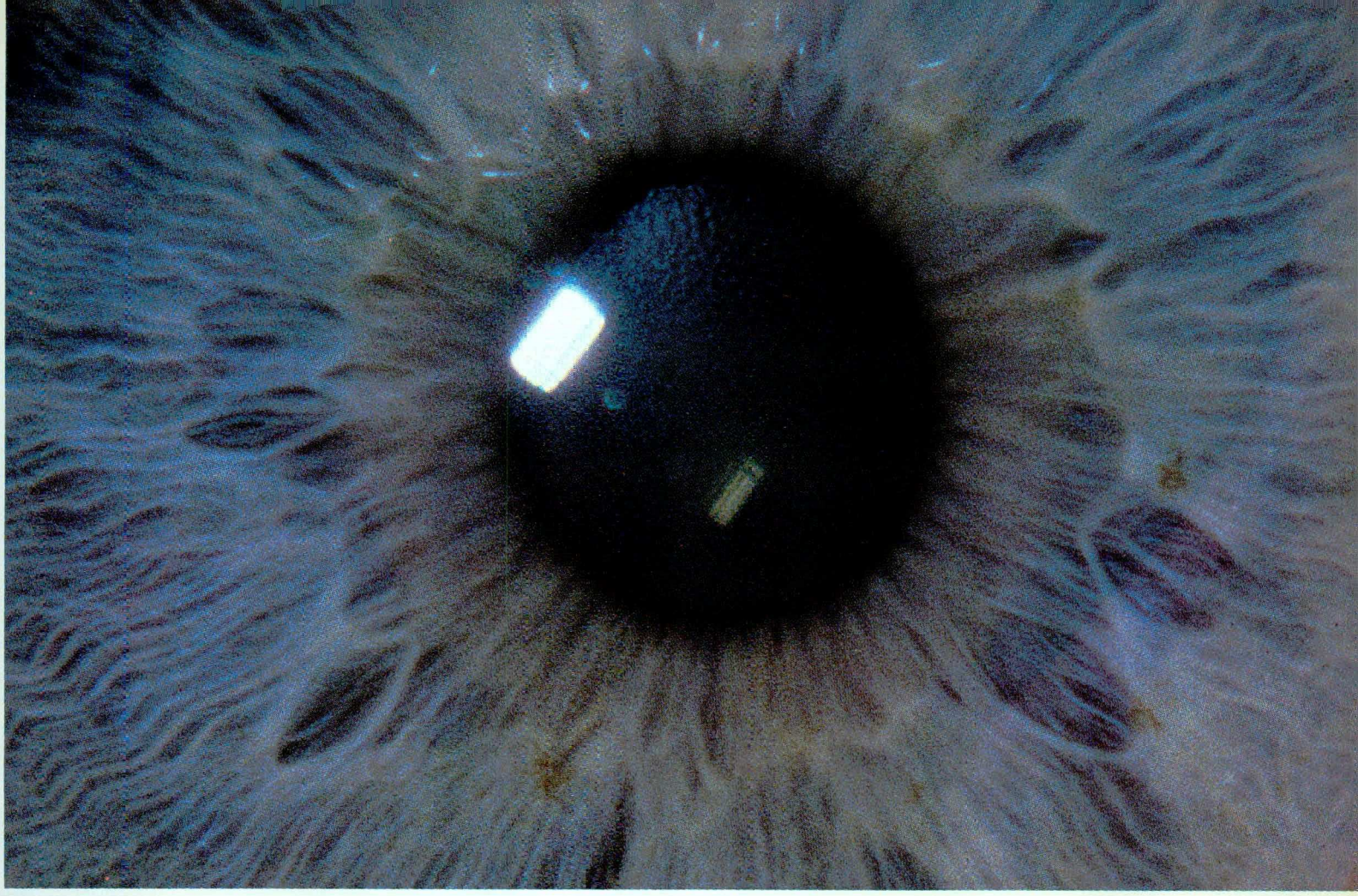

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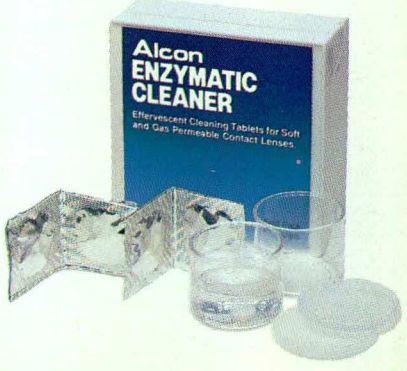


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1. Stein, J.M.: Clinical evaluation of Alcon's Enzyme Cleaner with daily wear soft, hydrophilic contact lenses. June, 1982.
2. Randeri, K.J. et al: A new broad spectrum enzymatic cleaner for contact lenses, Alcon Report Series: 107, Alcon Laboratories, Inc. Fort Worth, Texas 76101, July, 1982.


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Solution désinfectante pour toutes les lentilles cornéennes souples
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For neutralizing, rinsing and storing of all soft contact lenses
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FIGURE 8

RELATIONSHIP BETWEEN VISION IMPAIRMENT AND REQUIRED LEVEL OF CARE

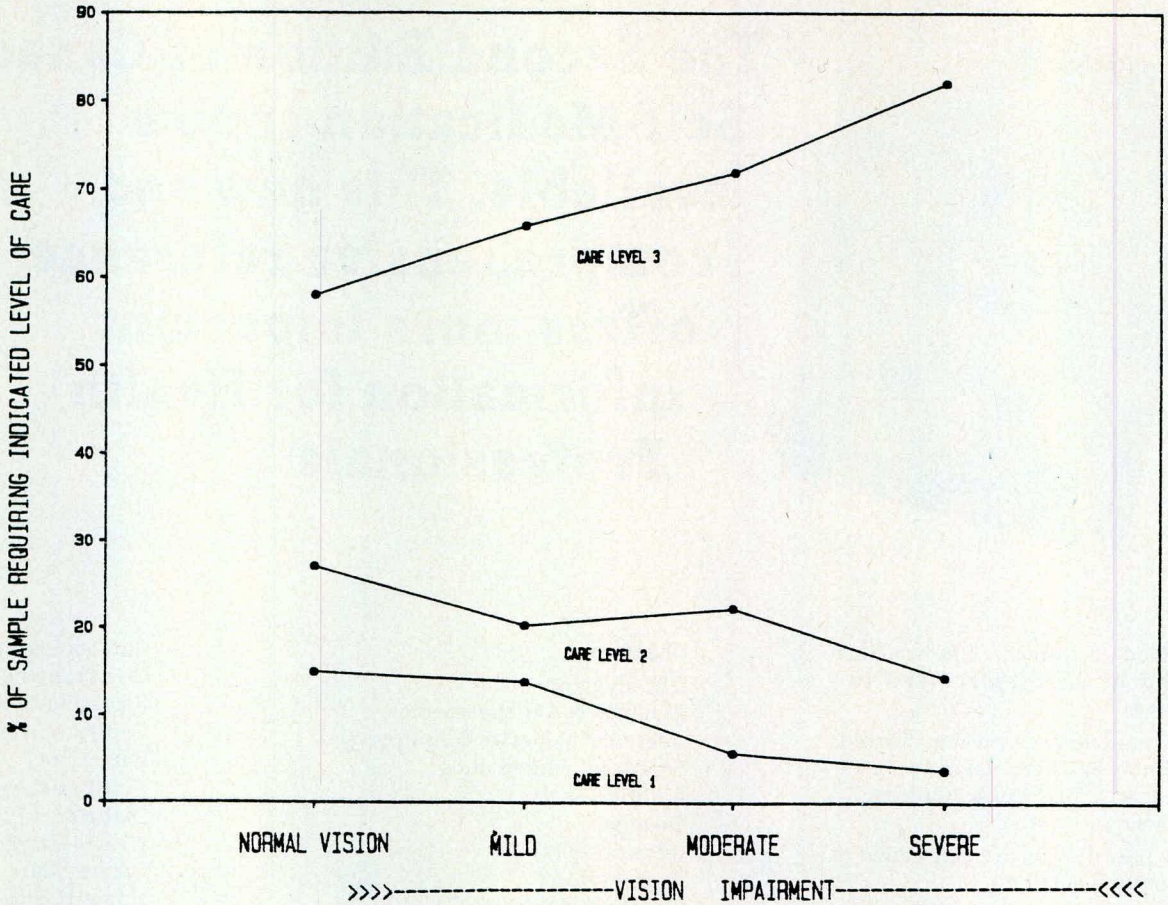
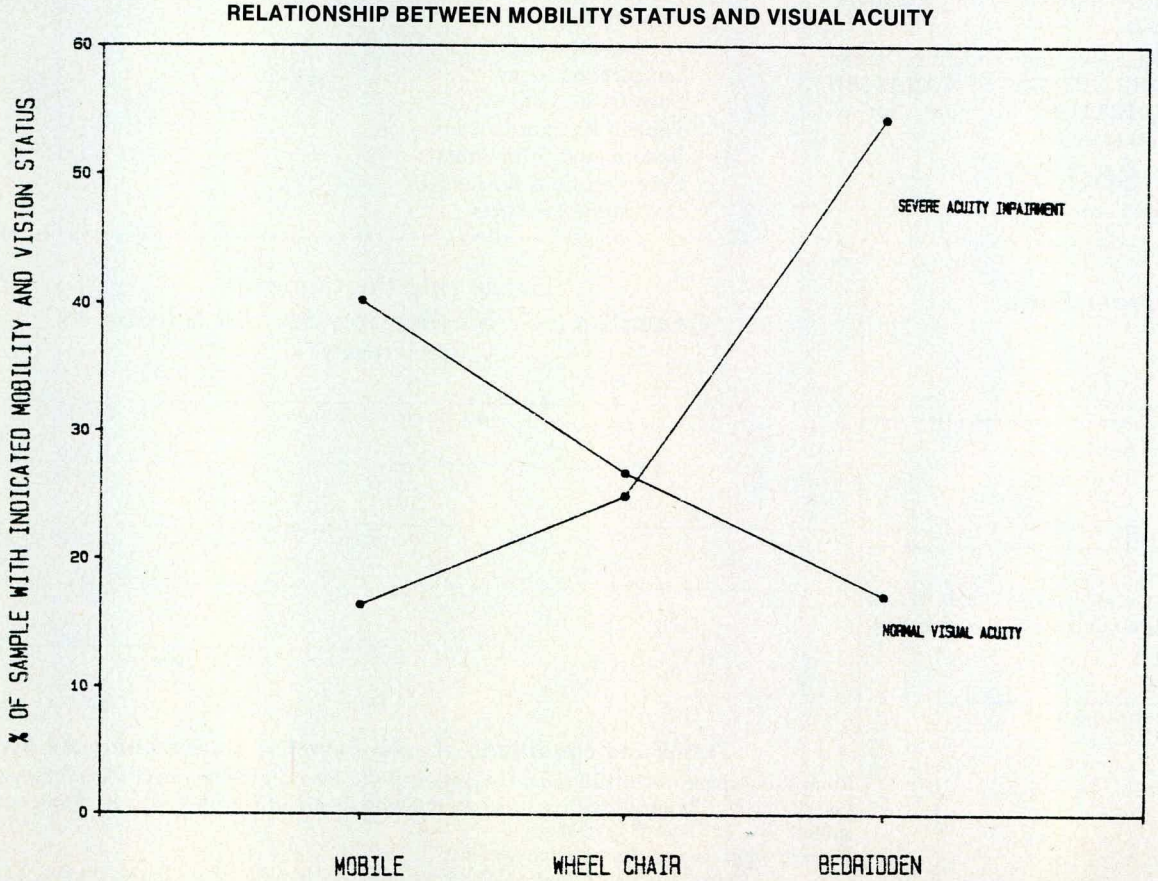



FIGURE 9

RELATIONSHIP BETWEEN MOBILITY STATUS AND VISUAL ACUITY



identified as blind and thus had not been certified and registered with the Canadian National Institute for the Blind with the result that they were not in receipt of services such as talking books, instruction in Braille or other mind-stimulating activities made available by that agency. Failure to recognize individuals as blind also meant that they were not in receipt of low vision services and as a result were denied the full use of residual visual capability. Moderate and severe vision impairments afflict 40.4% of the nursing home residents resulting in sensory deprivation which increases the amount of supervision and care required. More important is the loss of quality of the individual's day to day living since vision loss prevents participation in reading, writing, television viewing and many other forms of activity and recreation.

The prevalence rates for some of the major causes of vision deterioration in the N.B. sample are very close to those published by the United States Department of Health and Human Services, Center for Health Statistics[5] (1983) for example, Cataract prevalence U.S. 57.6% for persons age 65-74, N.B. 53.7%; Glaucoma prevalence U.S. 16.3%, N.B. 16.4%; Vascular diseases U.S. 36.4%, N.B. 34.5%. This suggests that the data can be used for health planning with some degree of confidence in other jurisdictions.

Refractive error is a major cause of decreased visual acuity and the data of this study show that these errors change as age increases. This establishes a requirement for regular assessment of the refractive state in order to maintain a high quality of sensory input. For the 51.4% of New Brunswick nursing home residents with moderate and severe vision loss, low vision assessment and the provision of assisting devices could improve their visual capabilities and increase their enjoyment of daily living. Well-staffed and fully-equipped Low Vision clinics are not available in a majority of Canadian cities and, thus, the residents of nursing homes cannot get access to such services. The N.B.V.A. program provides only a minimal service in this area, but even this level resulted in improved visual ability for a substantial number of residents.

Refractive errors are a major cause of vision deficit. The majority of these can be remedied by the prescription of spectacles. Changes in astigmatism and manifest hyperopia require that refractive assessment be carried out a minimum of once every two years. However, other causes of visual deficit can cause the requirement to be increased to an annual frequency.

While diseases of the external eye contribute only minimally to vision impairment of nursing home residents, problems of the eyelids, conjuctiva and lacrimal apparatus cause much mild discomfort for elderly persons, much of which can be easily remedied if eyecare is accessible. Most of these problems were handled by the homes' physicians after being brought to their attention. Others, such as dry eyes and blepharitis were cared for by the nursing staff when the problem was drawn to their attention.

Internal eye conditions and diseases cause the majority of vision impairment. The greatest single cause is cataract, with a prevalence rate of 48% among those with severe impairment and 73% among those with mild and moderate impairment. Since only 8.7% of the sample had received surgical treatment for cataract, one must marvel at the fact so few had received the benefit of one of the safest and most effective surgical procedures in medicine. The advent of such valid and available technologies as the laser interferometer, electroretinogram, and visually evoked cortical response apparatus provide the means of presurgical assessment of the level of retinal and cortical function, thus assuring that a surgical procedure will result in vision improvement and a patient benefit. Ocular implants and other surgical advances in cataract remediation have also reduced the length of hospital stay and minimized the inconvenience to the patient. Evidence gathered by the senior author from moderately and severely visual impaired patients in six nursing homes suggest that a minimum of *one third* of these persons could recover sufficient visual acuity to increase their mobility, intellectual and physical activities. This number would likely be increased with the application of the technical resources mentioned above.

That such improvement holds the potential for cost saving is self-evident. Senile macular degeneration of the retina (SMD) with a prevalence of nearly 10% is the second leading cause of vision impairment from internal ocular disease. This condition may be part of systemic vascular disease but individuals may be minimally impaired in functions other than vision. Optical and electronic technological advances provide the opportunity to reduce the effect of visual impairment from this condition but, until low vision services are made more widely available, the majority of the visually impaired elderly will not receive these benefits.

Glaucoma was present in 4.1% of the home residents yet undetected in 3.2%. Since the data show that borderline and abnormal levels of intraocular pressure increase with age, it indicates the necessity of frequent pressure evaluation of nursing home residents. Such checks must also include a review of symptoms, visual fields and fundus assessment. Since a majority of glaucoma cases occur without symptoms, detection cannot be left to chance or be of a sporadic nature if vision loss from the disease is to be minimized.

The early diagnosis and treatment of systemic vascular disease and diabetes, plus patient education to promote compliance, can assist over the long term in minimizing vision impairment. It will not, however, eliminate the need for an annual assessment of vision to minimize impairment.

The New Brunswick Vision Assessment Program experience has not only provided regular eye examinations for the institutionalized elderly in the province but also provides an opportunity to plan preventive care and to contribute to cost restraint.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# Extended Wear Hydrophilic Lenses: An Insight into Clinical In-Office Patient Management

**Tom Mulhall***

The use of soft contact lenses for extended wear can provide a beneficial and convenient therapy for patients where spectacles and/or daily wear contact lenses are contraindicated.

Extended wear refers to day and night wear of contact lenses which are removed at regular intervals for cleaning and disinfecting. The ultimate goal of extended wear is clear, comfortable vision without harmful ocular side effects.

The purpose of this paper is to provide an insight for in-office patient management.

One of the greatest contributors to overall success is proper patient selection. Those suggested as possible extended wear candidates include those persons unable to remove and care for their daily lenses, and examples include:

1. elderly patients
2. physically handicapped
3. children/adults with unilateral or bilateral aphakia
4. high ametropes (children/adults)
5. keratoconus in early stages
6. institutionalized patients
7. emergency related occupations such as nurses, physicians, police, firemen and ambulance drivers.[7]

Other considerations include:

1. ocular and general health
2. previous contact lens experience
3. lens fitting difficulties
4. patient compliance
5. risk/benefit ratio

The following conditions should disqualify a patient:

1. history of allergies or infections, especially in conjunction with high incidence of cellular infiltrates on conjunctival samples.
2. high index of conjunctival fornix bacteria (greater than 15 colonies per eye) on conjunctival swab.
3. active ocular pathology and/or taking ocular medications.
4. GPC greater than grade I.
5. corneal endothelial abnormalities.
6. corneal hypoaesthesia.
7. reduced tear flow or tear break up time (BUT). normal SCHIRMER TEAR TEST 17 mm/30-200 SEC normal BUT greater than 10 sec.
8. oedema during daily wear with lenses designed for extended wear.
9. poor motivation.[7,17]

Zantos et al. suggest patients likely to have a problem with oedema have endothelial cells 20 times larger than normal: (5 microns thick x 20 microns wide seen with 40 x magnification), and that these patients exhibiting 'endothelial bedewing' (small mobile deposits on back surface of the endothelium), are more likely to have extended wear problems.[23]

Patients should be discontinued from extended wear if any of the following occur:

1. failure to comply with practitioner instructions or adhere to a schedule of follow-up examinations;
2. through the first week, there is persistence during the day of excessive debris trapped under the contact lens.
3. persistent epithelial staining associated with improper corneal coverage by the contact lens;
4. repeated occurrence of adverse eye reactions such as corneal abrasions, and anterior stromal infiltrates.

It is possible these patients may be converted to daily wear soft contact lenses.[23]

Positive contributors to successful patient compliance include proper counselling and careful monitoring. Proper handling, cleaning, disinfecting, storage and when and/or how to insert/remove a lens are aspects of counselling. Basic monitoring should include follow-up examinations of 1) visual acuity, 2) overrefraction, 3) slit lamp biomicroscopy, and at least every quarterly progress examination, 1)

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This paper was written by Dr. Mulhall as one of the final-year requirements for the O.D. degree and recommended to the CJO by Dr. M. Callender, School of Optometry, University of Waterloo.

a postrefraction with best visual acuity, and 2) keratometry with lenses on and off.

An already stabilized daily wear patient is a good candidate for extended wear. Delivery of the lens(es) should take place morning or afternoon. At this time allow the lens to stabilize on the eye for at least an hour. If the lens centers well, and moves well (crisp movement of at least 1 mm) and provides good clear comfortable vision, the patient can sleep with them overnight and should be examined the following morning. Follow-up examinations vary, and one suggestion is:

1. the first morning after;
2. after 3 days wear;
3. one week, two weeks, one month, three months, and every six months, thereafter.

Each practitioner develops his/her own fitting philosophy. Certain guidelines help establish greater potential for success. There is no hard and fast rule as to how steep or flat to fit a lens in relation to the cornea because a multitude of factors are involved. For example, the tightness of the upper lid, the configuration of the corneal limbus, tear production, and so on. Dr. John De Carle considers an ideal Permalens$^{R}$ fit, a lens centering well and exhibiting perhaps a millimeter movement but not more, on straight ahead gaze. On upward gaze, vertical downward movement should be similar. If the lens slides to the lower lid, another lens should be tried.[8,9]

Along with providing a good tear pump, lens movement allows epithelial debris to escape. De Carle believes epithelial debris can still manage to escape even if the lens is fitted a little steeply. If the practitioner desires to stay away from fluorescein in evaluating lens fit, lens fit can easily be detected with a keratometer. As the patient blinks the keratometer mires will move slightly. They become flatter immediately after a blink and then steeper again. Through experience evaluation becomes easier. An alternative is fluorosoft$^{R}$ (HMW fluorescein) and slit lamp.[8,9]

Bausch and Lomb $O_3/O_4$ lenses have a 1 mm wide edge bevel, which can be used to judge movement.

Another area of concern is cleaning and disinfecting lenses. Lens deposits and tearing are common with extended wear lenses. The commonly used high water content lenses have a high affinity for mucoprotein lipid deposition. This may be related to the larger pore diameter of high water content material, to the hydration shifts these lenses are subjected to, or an inability to adequately clean these lenses.[1,11,14,20,21]

Deposits (organic or inorganic) forming on the lens surface have been reported to occur in 5 to 33% of extended wear patients. The use of low-viscosity or hypo-osmotic artificial tears may modify the incidence and degree of lens deposits by helping the tears flush debris. Debris on the front surface in the form of oily patches can sometimes be removed with "in-vivo" application of lens lubricant or "in-vitro" use of daily cleaner solution.[25]

McEachern et al. believe "removal should be based upon needs and symptoms, not on time."[16] Provided a quiet eye is evident and the patient symptomless, an extended wear lens can be left on for up to a maximum of 3 months.[8,9] Lenses are usually replaced because they are lost, torn or impossible to clean.

The longer the lenses remain on the eye, the greater the chance for deposits, therefore if cleaning is done on a weekly basis enzyme tablets may prove helpful to remove protein. For advanced cases of protein build-up (beyond 2 weeks), enzyme tablets may be ineffective; LIPOFRIN, a stronger cleaner is very effective and causes minimal irritation. De Carle has had great success with Lipofrin$^{R}$ and suggests 9% hydrogen peroxide as an alternative, although hydrogen peroxide has the potential to just bleach protein and not remove it.[8,9]

Repeated removal of lenses only increases the likelihood of disturbing a quiet system and increases the risk of lens tearing, loss, or introduction of foreign matter, as well as many other adverse variables.

The choice of cleaning system depends upon practitioner experience. Thermal, or chemical, but not both can be used. One must remember heat has a tendency to increase protein deposits, and chemical systems can create adverse ocular reactions and increase inorganic (calcium) deposits.[8,9]

Several lenses currently available for use as extended wear include:

1. Permalens
2. Hydrocurve-II[55]
3. Hydrocurve-II[55] TORIC
4. CW79
5. TC75
6. Silsoft
7. CSI
8. $O_3/O_4$

Three of the more commonly used lenses are examined in Table 1.

**TABLE 1**

| | % WATER | * DK | ** DK/L | *** EOP | C.T. (mm) |
|---|---|---|---|---|---|
| Permalens | 71 | $42 \times 10^{-11}$ | depends on C.T. | depends on DK/L | 0.10-0.43 |
| H-II[55] | 55 | $12 \times 10^{-11}$ | $22.7 \times 10^{-9}$ | depends on DK/L | 0.06-0.07 |
| $O_3/O_4$ | 38.6 | $8.5 \times 10^{-11}$ | $24 \times 10^{-9}$ | 10 | 0.036 |

*DK =oxygen permeability
**DK/L=oxygen transmissibility (cm/sec) x (ml $O_2$/ml x Hg)
***EOP=equivalent oxygen pressure[5,23,25]

**Corneal Integrity and Complications**

The cornea swells when deprived of atmospheric oxygen. Polse et al. have found from studies to maintain normal corneal function a minimum oxygen tension beneath a hydrophilic lens must be 10 mm/Hg.[1,11,14,20,21] Other studies indicate the critical level of atmospheric was 1.5 to 2.5 per cent (oxygen pressure 11.4 to 19.0 mm Hg).[10]

Under open-eye conditions hydrophilic lenses reduce oxygen available to the cornea and the condition is compounded under closed-eye conditions; under extended wear it is not uncommon to develop 9 to 11 per cent oedema. Hypoxia contributes 6 to 8 per cent and decreased tear toxicity the remainder. When the cornea swells 6 to 8 per cent, deep vertical striae can be detected before other clinical evidence of corneal oedema.[2,3,12,15,18,19] Vertical striae (associated with Descemet's membrane and the endothelium) are often present in the morning, soon after eye opening, and absent in the afternoon.[25] The striae may persist without other associated clinical signs or symptoms. A hydrophilic lens must have an oxygen transmissibility (DK/L) of 15 x $10^{-9}$ to provide the above minimal values. Given accurate parameters calculation can be made to meet the requirements.[2,3,12,15,18,19]

The normal oedema cycle for the cornea is 3-4% overnight, reducing to 0% one hour after awakening. Extended wear produces overnight oedema levels on the average as high as 12 per cent, and daytime oedema of 4 per cent. Ideally, a lens that produces 8% overnight oedema would allow the cornea to recover to normal limits.[2,3,12,15,18,19]

Holden et al. found that after one week's wear, the cornea stabilized to diurnal variations in oedema.[24]

A decrease in oxygen supply to the cornea resulting in an increase in corneal thickness can produce the "over wear syndrome". Several things to consider are:

1. severely infected eyes.
2. severe pain.
3. decreased vision.
4. increased corneal stroma thickness.
5. eyelid oedema.
6. anterior chamber inflammation.[13]

Several noteworthy disturbances to corneal integrity include:

*1. corneal oedema.
2. pannus.
*3. epithelial microvesicles.
4. corneal ulceration.
5. 'red-eye' (non-ulcerative keratitis).

*usually do not result in an interruption of extended wear.

1. *Corneal Oedema*

Despite similarities in lens design, lens characteristics and patient refractive error a wide variation in corneal response may be found. Lens thickness, DK/L, water content, and so forth, can also influence corneal response. Particular attention should be paid to the posterior cornea development of vertical striae.[24,25]

2. *Pannus*

A marked loss of epithelial and anterior stromal transparency in the form of a 1 to 2 mm-wide annulus at the limbus after several weeks of extended wear may be apparent. The likely aetiology of this condition may be prolonged hypoxia of the peripheral cornea due to excessive lens thickness at the periphery of the contact lenses. Mechanical irritation of the conjunctiva and limbus by the lens may also be a cause.[24,25]

3. *Epithelial Microvesicles*

Small (15 to 50 microns) irregular-shaped vesicles may occur in the corneal epithelium after four or more weeks of continuous wear. These vesicles begin near the basement layer of the epithelium, and move forward with time, eventually breaking the surface. Contact lens pressure areas on the cornea are considered the cause. These areas will stain with fluorescein.[24,25]

4. *Corneal Ulceration*

Multiple small epithelial lesions of obscure aetiology may occur and coalesce into a large central ulcer. A hypopyon may develop and ring abscess form. When the cornea heals, dense scarring with marked loss of vision may be evident.[24,25]

5. *Red Eye*

This reaction can occur at various stages of extended wear, with a variety of contact lens materials and designs, and a variety of patient refractive errors and age groups. The reaction occurs with loose and tight fitting lenses; however, may be more common with tight fittings due to entrapment of debris beneath the lens. The condition is usually unilateral, and symptoms are acute, the patient usually awakens during the night. Alerting symptoms include a "scratchy" sensation beneath the top lid, watering, and occasionally a sticky eye with increased sensitivity to light. With removal of the lens clinical symptoms usually disappear within the first two days. Clinical signs may persist several days longer, and include masked conjunctival and ciliary vessel engorgement and small patches of infiltrates with stromal and epithelial involvement. Fluorescein staining overlying some foci in infiltrates may be apparent. The

aetiology of this condition has been associated with bacterial contamination, viral infections, or toxic or allergic reactions to chemicals in contact lens cleaning solutions.[24,25]

Keratometric changes, refractive error changes and a significant degree of corneal neovascularization have been associated with extended wear. Morgan reported keratometric changes from 0.5 to 2.74 diopters with long-term use of soft lenses.[2,3,12,15,18,19] The patient who presents with significant change in manifest refraction should be examined for corneal oedema and keratometric changes. Even with no significant oedema, minus or plus changes in power can occur due to adaptation of the contact lens to the corneal surface. To avoid this problem the practitioner should order lenses of slightly less power than the manifest refraction.[4,6]

Corneal neovascularization is more frequent (up to 7% of eyes fitted), with extended wear as compared to daily wear of both hard and soft lenses. Cessation of lens wear, changing the wearing schedule, or switching to a more hydrophilic lens usually controls the growth.[4,6]

In summary, it is recommended that the patient be aware of certain minor symptoms which he/she may experience during the first few weeks, including dryness of the eye, hazy vision, and small amounts of secretion on the eyelids in the morning. The use of a lens lubricant or normal saline may alleviate these minor symptoms and help dislodge early morning debris.

Sometimes dislodgement or folding of the lens on the eye may occur. The patient should be reminded to report any troublesome or unusual symptoms.

A reminder that clinical signs demanding particular attention, which are usually benign and do not require cessation of the extended wear program include:

1. vertical corneal striae;
2. epithelial changes
   —punctate staining
   —microcysts
   —dimpling
3. front and back surface lens debris.

The major reasons for failure to continue extended wear appear to be motivation and lens deposits.[5]

Future considerations include disposable extended wear lenses, and ideally a lens material which resists deposits, or perhaps a lens which can be worn indefinitely. It is not impossible that research could produce disposable and/or permanent wear lenses; either concept would indicate a revolutionary approach to clinical in-office patient management.

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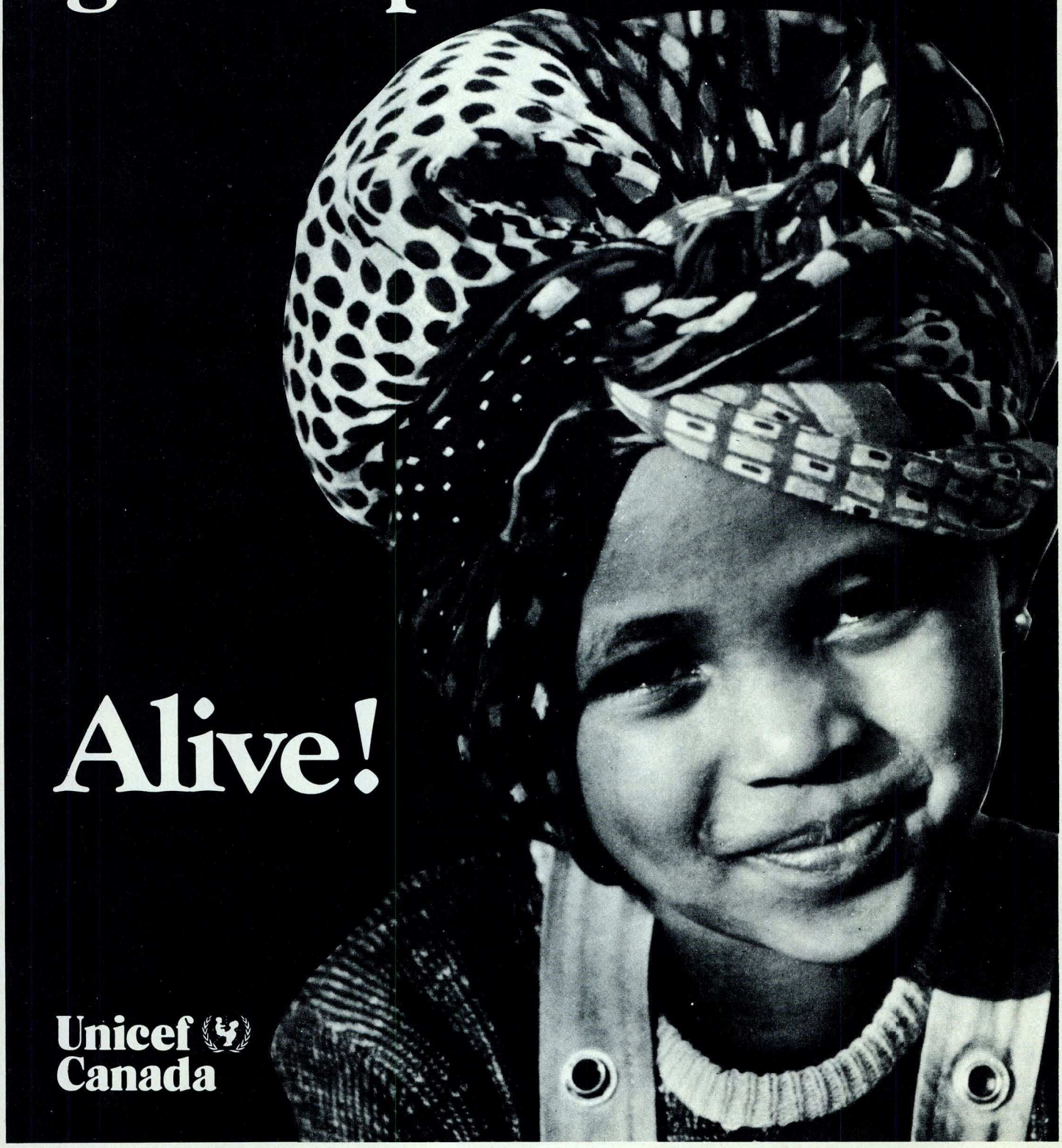
# What would you like to be when you grow up?



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CONTACT LENS

# Safety and Efficacy of a New Hydrogen Peroxide Disinfection System for Soft Lenses — In-a-Wink™

**D. Lutzi***
**M. Callender****

**Abstract**

*A six-month study was conducted to establish the safety and efficacy of Ciba Vision 'In a Wink™' hydrogen peroxide disinfection system. Patient acceptance, ocular response and lens cleanliness were good for all twenty nine subjects evaluated. However, a small number of subjects found greater lens comfort when they used a longer neutralization time than is currently recommended by the manufacturer.*

**Abrégé**

*Une enquête d'une durée de six mois a été menée pour déterminer la sureté et l'efficacité d'un système de désinfection à base de péroxide d'hydrogène (In-a-Wink) de la maison Cibavision et 29 sujets de l'enquête ont rapporté favorablement la commodité du système, la propreté de la lentille et le confort oculaire. Toutefois, quelques sujets ont rapporté un plus grand confort en prolongeant le temps de la neutralisation recommandé par le fabricant.*

The search for the ideal contact lens care system has been ongoing since the introduction of soft contact lenses. Heat disinfection was the first system to be approved by the US Food and Drug Administration. Although heat is effective in killing vegetative microorganisms, there are a number of shortcomings with this system, notably its inconvenience for some patients where the electrical supply may be different (or non-existent) during travel, malfunctioning of the system, reduced longevity of the lens due to denaturation of tear proteins on the lens surfaces and polymer degradation of high water content soft lenses.[1-5]

Chemical disinfection was later developed as an alternative to heat. Unfortunately, many of the systems currently available appear to precipitate adverse ocular responses in a number of patients.[5] These adverse responses may be related to patient non-compliance, inadequate cleaning, cytotoxicity and/or allergic response to one or more of the disinfectants (Thimerosal and Chlorhexidine) in the system.[6-8]

The use of hydrogen peroxide as an alternative to other chemical disinfection systems has been well-received by Canadian practitioners since the introduction of the Septicon® system by Warner-Lambert.[9] In addition to having a shorter disinfecting time, this system appears to aid in the cleaning of the soft contact lens.[10] However, there is a potential risk to the eye if the residual hydrogen peroxide is not neutralized. With the Septicon system, a six-hour period of neutralization by a platinum catalytic disc in a preserved saline is required before the lens can be placed on the eye. Also, the platinum disc becomes spent after three months of daily use and must be replaced to ensure neutralization of the residual peroxide.

Because of this shortcoming of the Septicon® system, other methods of neutralizing the residual peroxide have been developed recently by the major pharmaceutical companies. Cooper Vision Inc. has accomplished this by using sodium pyruvate as the neutralizer in their Mira-Sept® system, while Ciba Vision Care and Allergan Pharmaceuticals both utilize an enzyme, catalase, as the neutralizing agent in their "In-a-Wink™" and Oxysept® systems respectively. With these new hydrogen peroxide systems, the neutralization procedure is completed in 20 minutes.

The purpose of this clinical study was to evaluate the safety and efficacy of one of these new hydrogen peroxide systems, Ciba Vision Care, "In-a-Wink®", for a period of six months.

## Materials and Methods

### Care System

The care system consisted of Ciba's 'In a Wink™' daily cleaner, 'In a Wink™' disinfectand and 'In a Wink™' neutralizing rinse. The daily cleaner is a sterile isotonic solution containing sodium chloride

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and cleaning agents, preserved with 0.25% sorbic acid and 0.50% edetate disodium. The disinfectant is 3% hydrogen peroxide. The neutralizing rinse is a sterile isotonic solution containing sodium chloride, catalase, a neutralizing agent and is preserved with 0.1% sorbic acid and 0.20% edetate disodium.

**Selection of Subjects**

A total of 29 subjects (15 male and 14 female) were chosen from our clinic population. All subjects were previously successful Ciba soft lens wearers. The previous care systems used by the participants are tabulated in Table 1. Two of the patients had previously confirmed adverse reactions to a chemical care system. One of the two had a reaction to the Flexcare® system while the other reacted to the Hydrocare® system. Both were subsequently successful with the Septicon® system.

**Table 1**

**Previous Care Systems Used**

| | |
|---|---|
| Hydrocare (Allergan) | 11 |
| Unicare (ICN) | 6 |
| Septicon (AOCO) | 5 |
| Bausch & Lomb Chemical | 4 |
| Flexcare (Alcon) | 3 |

**Lens Evaluation**

All subjects were supplied with a new pair of lenses upon commencement of the study. Each lens received from the manufacturer was analysed for deposits using the Rudko technique for inspection and classification.[11] As well, a spectrophotometric analysis was done in the lens optic zone on a Zeiss DMR21 spectrophotometer at wavelengths 500nm and 280nm respectively. Wavelength 500nm was selected to obtain baseline data for visible light transmittance which, for a new lens, should be at least 97% T. Wavelength 280nm was chosen for protein detection since most proteins strongly absorb ultraviolet radiation at this wavelength.

**Initial and Follow-up Procedure**

At the initial visit each subject received the new pair of Cibasoft® lenses, the In-a-Wink® system and a Barnes-Hind Hydra-MatII® case.

All subjects were instructed to clean the lenses nightly with the daily cleaner followed by a rinse with the neutralizing solution before storing in the hydrogen peroxide disinfectant for a minimum of 20 minutes.

The participants were given the option of either leaving the lenses for 20 minutes in the disinfectant followed by overnight in the neutralizing rinse or overnight in the disinfectant followed by 20 minutes in the neutralizing rinse.

At the initial and all subsequent visits, data were collected on visual acuity, refractive status, biomicroscopy, pachometry, keratometry and lens performance. Follow-up visits were scheduled for 1 week, 1 month, 2 months, 3 months and 6 months after lens delivery. Additional visits were scheduled when problems occurred. On each visit any abnormalities were noted and quantified. In addition, each lens was examined for deposits according to the Rudko procedure. The six month visit also included a spectrophotometric analysis of all lenses worn for the entire six month period. Lenses that had been replaced for loss or rippage during the span of the study were not included in the spectrophotometric analysis.

## Results

**Patient Response**

The overall response to the In-a-Wink™ system was good. A total of 28 subjects completed the six month study. One subject was deleted because she missed the three and six month visits.

Table 2 summarizes the subjects' responses when asked to compare the investigational care system with their former care system — with respect to comfort, cleanliness and convenience. In general, 90% of the subjects found the new system was as comfortable or more comfortable than their former system. 97% reported that their lenses felt as clean or cleaner than with the former system. Those subjects who used a weekly enzyme cleaner with their former system found the new system more convenient while those using an all-in-one solution found the system less convenient.

**Table 2**

**Subjects' Comparative Assessment of the Investigational System With Former Care System**

| | Enhanced | Unchanged | Reduced |
|---|---|---|---|
| Comfort | 8 (28%) | 18 (62%) | 3 (10%) |
| Convenience | 11 (38%) | 14 (48%) | 4 (14%) |
| Cleanliness | 12 (42%) | 16 (55%) | 1 ( 3%) |

It was noted that the lens case "exploded" during the neutralization cycle. This was due to a lack of venting for the oxygen produced when hydrogen peroxide is decomposed by the catalase. The currently marketed case is not prone to this problem.

Since the subjects were allowed to choose between 20 minutes and overnight disinfection followed by neutralization depending on their life style, it is interesting to note that 15 subjects (52%) chose to disinfect overnight. Seven subjects (24%) chose to disinfect for 20 minutes and the remaining seven subjects (24%) varied between overnight and 20 minutes disinfection.

Five of the subjects who chose overnight disinfection experienced burning and stinging with lens insertion. In one of these cases, biomicroscopy revealed a mild conjunctival injection, grade 2 corneal staining and corneal edema. Biomicroscopy was negative for the other four subjects. In all five cases, these signs and/or symptoms were alleviated by switching to a 20 minute disinfection followed by overnight neutralization.

Biocompatibility of the In-a-Wink™ system with the ocular tissues was good in all but the one case described above. None of the findings listed in Table 3 are particularly significant. The frequently observed grade I staining is a clinically acceptable finding among the various types of care systems including heat.

**Table 3**
**Frequency of the Biomicroscopy Signs**

| | Initial | 1 wk. | 1 mo. | 2 mo. | 3 mo. | 6 mo. |
|---|---|---|---|---|---|---|
| Injection | | | | | | |
| — mild | 2 | 1 | 0 | 0 | 0 | 2 |
| — moderate | 0 | 0 | 0 | 0 | 0 | 0 |
| — severe | 0 | 0 | 0 | 0 | 0 | 0 |
| Staining | | | | | | |
| — Gr. 1 | 1 | 5 | 8 | 5 | 10 | 9 |
| — Gr. 2 | 0 | 4 | 2 | 1 | 1 | 2 |
| — Gr. 3 | 0 | 0 | 0 | 0 | 0 | 0 |
| Striae | 0 | 0 | 0 | 0 | 0 | 0 |
| Edema | 0 | 1 | 0 | 0 | 0 | 0 |
| Infiltrates | 0 | 0 | 0 | 0 | 0 | 0 |
| Vascularization | 0 | 0 | 0 | 0 | 0 | 0 |
| Conjunctival Changes | | | | | | |
| — mild | 0 | 0 | 0 | 4 | 6 | 6 |
| — moderate | 0 | 0 | 0 | 0 | 0 | 0 |
| — severe | 0 | 0 | 0 | 0 | 0 | 0 |
| Total eyes | 57 | 57 | 57 | 57 | 55 | 55 |

**Lens Deposits**

Following six months of wear, only six of the 55 lenses showed deposits according to Rudko's classification. Table 4 summarizes these findings.

**Table 4**

**Classification of Deposits Observed on Lenses During the Six months Study Period**

| | | |
|---|---|---|
| I | 49 | (89.0%) |
| II | 3 | ( 5.5%) |
| III | 3 | ( 5.5%) |
| IV | 0 | ( 0 %) |

27 of the original 57 lenses underwent spectrophotometric analysis at the end of the six month period. At wavelength 500nm, no apparent change in visible light transmission occurred over the six month period. Average transmission at this wavelength was 97.96% at baseline and 97.28% at 6 months. As well, there was no apparent change in UV transmission at wavelength 280nm. Average transmission at this wavelength was 90.63% at baseline and 89.72% at 6 months. One would expect that the presence of protein deposits on the lens would reduce UV transmission. However, incidence of lens deposits was apparently low in this study and, if located outside of the 0.1mm slit area measured by the spectrophotometer, would not be analysed.

## Conclusions

The new Ciba 'In-a-Wink™', system appears to be a safe and effective soft lens care regimen. Adverse effects during the course of the study were minimal. The edema and red eye response of one patient was easily resolved by allowing the lenses to soak in the neutralizer rather than the disinfectant overnight. The initial burning and stinging experienced by those subjects who stored their lenses overnight in the disinfectant followed by a 20 minute neutralization may be due to a temporary acid shift in the pH of the neutralizer rather than residual hydrogen peroxide. Laboratory analysis shows that all residual peroxide is neutralized within the first 5 minutes of exposure to the neutralizing rinse.[12] Copious rinsing with fresh neutralizing rinse prior to lens insertion effectively alleviates these symptoms.

The In-a-Wink™ system appears to be an effective cleaner as the presence of lens deposits was minimal. For those patients who tend to show heavy deposits, one of the currently marketed enzymatic cleaners may be used in conjunction with this care system.

This hydrogen peroxide system has many advantages over other chemical and heat disinfection systems. It can be used with all types of hydrogel lenses including high water content extended wear lenses. This system does not contain thimerosal or other known ocular sensitizers. It has the flexibility of overnight or a 20 minute disinfecting cycle geared to the varying life styles of patients. However, patient compliance must be stressed for the inadvertent omission of the neutralization step would result in an adverse ocular response from the residual peroxide absorption.


## Acknowledgement

We wish to thank Ciba Vision for supplying the lenses and care products used in this study.


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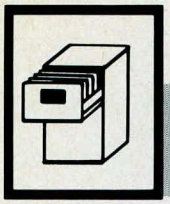


# CASE REPORT

# Correcting the Unilateral Aphake

**J.C. Thompson***

## Introduction

Three procedures are available to correct the unilateral aphake: (i) a contact lens to minimize magnification, which could be said to be the procedure of first choice; (ii) spectacles for the eye with best acuity, or for the dominant eye, and a balance lens for the other eye, if the contact lens fails; (iii) spectacles providing best acuity in both eyes.

The following report concerns a patient in which the third procedure described above was used.

## History

Patient V.V., a 56-year old male, complained of light sensitivity and poor acuity in his left eye. He had had an extracapsular cataract surgery eight months previously. Subsequently, he was fitted with an extended-wear contact lens which proved to be unsuccessful. He was then advised that glasses would not help him to see with the left eye.

Correction in use:

| | | F1 | Visual Acuity |
|---|---|---|---|
| OD | +4.75 | +8.00 | 6/7.5 |
| OS | +7.25 | +8.00 | 6/120 |
| OU | +2.25 add | ST 28 | |
| | Glass lenses | | |

## Treatment and Discussion

Biomicroscopy and ophthalmoscopy indicated the beginning of a subcapsular spoke cataract in the right eye. Intraocular pressures were normal.

## Refraction

| | | |
|---|---|---|
| OD | +4.50 / -0.75 X 110 | 6/7.5 |
| OS | +15.75 / -0.50 X 090 | 6/12 |
| Monocular adds +2.50 | | |
| Vertex 12mm | | |

Binocular vision was not assessed since the large anisometropia would induce aniseikonia in the order of 29%. Such a difference would not be fusable.

V.V. was insistent that he wanted to use his two eyes together with his spectacles. The subjective results were inserted in a trial frame and V.V. was shown the Snellen chart. He reported no diplopia. I asked him to get up and walk around. Again, he experienced no diplopia. He reported that both eyes were more comfortable than before. The Worth 4-dot test was then performed, indicating suppression of the aphakic eye. However, the suppression would be central, leaving an appreciation of the peripheral field. Suppression would be expected to be the same as that for a strabismic in order to prevent diplopia[1]. For strabismus and amblyopes, we try to give the best correction, so why not for aphakes?

The following $R_x$ was prescribed, in a polymil frame with resin lenses to reduce weight:

| | | F1 |
|---|---|---|
| OD | +4.75 / 0.25 X 110 | +8.00 |
| OS | +15.50 | +16.00 |
| | +2.25 Add OU | ST22 Tonelite #1 |
| | UV400 lenses | |

Protection of the retina and reduction of the photophobia was accomplished with the tinted UV400 lens. Since peripheral vision in the left eye was important, a full field aspheric lens was used. A bifocal was placed in the left lens in anticipation of the need for surgery in the right eye.

Two weeks after dispensing, V.V. returned for evaluation. He was pleased with his spectacles and had no problems, especially when questioned for diplopia, headaches or nausea. He was then discharged.

## Reference

1. Pratt-Johnson, JA, Suppression in Strabismus, *Arch. Ophthalmol.* 101: 218-224, 1983.

*O.D., F.A.A.O.
Dawson Creek, BC

# VISION CARE NEWS

## BC Presentation at Waterloo

A group of British Columbia optometrists has presented the University of Waterloo's WATfund with a cheque for $18,000.00.

On March 4, Dr. Bart McRoberts, President of the BC Optometric Association and Dr. Tom Adamack, past-President, both alumni of the UW's School of Optometry, presented the cheque to University President Douglas Wright and Dr. Jacob Sivak, Director and Associate Dean of Science for Optometry.

Dr. Sivak said the gift demonstrates "the commitment of practising optometrists to education and research and indicates clearly the strong sense of loyalty felt by UW alumni to the School," at present the only English-language School of Optometry in Canada.

Dr. Sivak also said that the School has received good support from across the country, but that the BC optometrists' gift is particularly important because 100% of the province's optometrists contributed.

Many optometrists keep close ties with the Waterloo School, thinking of it as "their academic home", Dr. Sivak said. Many attend Continuing Education programs put on by the School in late spring and summer.

**Joan MacLean**
**Department Secretary**
**School of Optometry, University of Waterloo**

**(l-r) Dr. Anthony P. Cullen, Associate Director, School of Optometry; Dr. Bart McRoberts, President, BCOA; Dr. Douglas Wright, President, University of Waterloo; Dr. M. Emerson Woodruff, Professor, School of Optometry; Dr. Jacob Sivak, Director, School of Optometry and Associate Dean of Science for Optometry; Dr. Tom Adamack, past-President, BCOA.**

## Vision Canada Marks First Year in Ottawa

Vision Canada Centres reports that the response to its first year of operating in the nation's capital "has been very encouraging."

In a recent letter to Ottawa OD's, William S. Rudkin, Deputy Director General of Vision Canada Centres, also reported that the clinic's stock of low vision aids has been "very popular".

The clinic counts two Ottawa OD's among its staff — Drs. Joseph Mittelman and James Tripp. Any OD wishing to visit the clinic while in Ottawa is welcomed, although prior notification is requested, and further information is available from:

Vision Canada Centres
267 O'Connor Street
Suite 106
Ottawa, Ontario
K2P 1V3
Telephone (613) 263-6281

## CIBA Vision Care opens New Facilities

March 19 this year saw the opening of a new and expanded Canadian facility for CIBA Vision Care.

The new offices and manufacturing facilities were officially opened with a ribbon-cutting ceremony to which a number of ophthalmic community representatives had been invited.

Representing a sevenfold space expansion, CIBA's new offices and manufacturing services now occupy 27,000 sq. ft. on 4.5 acres of land in Mississauga, Ontario. An automated distribution centre, on-line computer order entry system and "state of the art" manufacturing equipment are part of the expanded CIBA Canadian operation. Further information is available from:

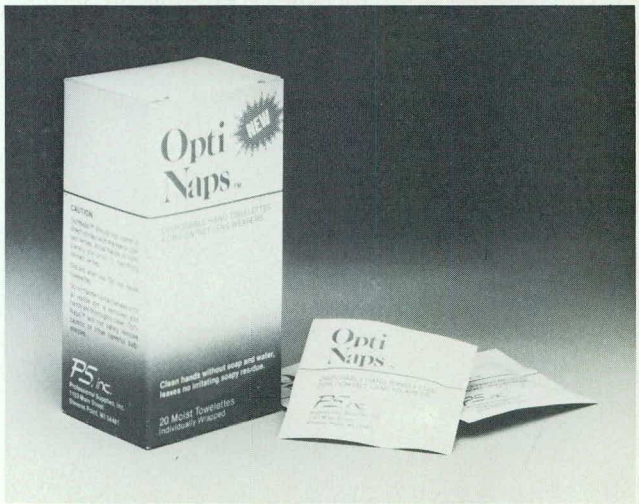
Mr. Syl Ghirardi
General Manager
CIBA Vision Care
2150 Torquay Mews
MISSISSAUGA, Ontario
L5N 2M6

**(l-r) Jim Crowley, V-P, Planning and Admin, CVC Atlanta; Terry Jones, MPP, Mississauga North; Dr. Bob Horner, MP, Mississauga North; Syl Ghirardi, Pres and GM, CVC Canada; Hazel McCallion, Mississauga Mayor; Arvid Reist, Senior V-P, CIBA-GEIGY Canada and Ted Southern, Cnclr, Mississauga Ward 9.**

## Disposable Hand Towelette for Contact Lens Wearers

Not what optometrists do during lunch breaks, OptiNaps™ are pre-moistened, disposable towelettes designed specifically to clean hands that handle contact lenses without soap and water.

The manufacturers claim that OptiNaps™ get hands "clinically clean" to handle and insert contact lenses even when no sink is



handy. Designed to remove hand oils, oil-based cosmetics, lanolin and other residue, the towelettes are also individually wrapped.

Further information is available from

Terry Matthews
Professional Supplies, Inc.
1153 Main Street
Stevens Point, WI
54481
USA
Telephone (715) 345-0404

## New Vision Screener

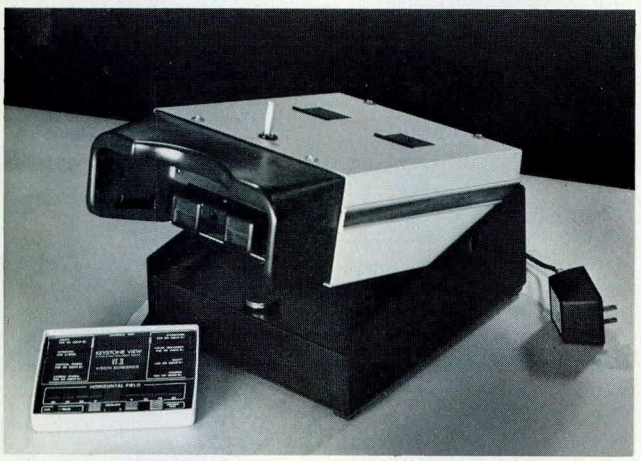
A new vision screener, being touted by the manufacturer as "one of the most convenient yet developed" has been introduced by a company called Keystone View.

VS11 features a remote operation from a 5" X 6" keypad control. Targets are advanced by a motor-driven drum housed in the unit, while distance change is accomplished by an "instant" slide switch on the control unit.

A total of 16 different tests are available through the unit, which weighs 11 pounds (Each target on the eight-sided drum can simulate either far or near test distance).

Further information is available from:

Keystone View
Division of Mast Development Co.
2212 E. 12th Street
Davenport, IA
52803
USA



## Ray-Ban$^{R}$ Sunglass Service Kit Offered by B & L

A new service kit for "complete, on-the-spot maintenance" of Ray-Ban sunglasses is now available from Bausch and Lomb.

The pre-packaged two-tray kit includes the most frequently-required parts for servicing and "customizing" the sunglass line, e.g. lens and temple screws, cable temples and nose pads.


Further information is available from any B&L representative or directly from

Consumer Products Division
Bausch and Lomb
1400 North Goodman Street
Rochester, NY
14692
USA
Telephone (716) 338-8688

## Syntex Introduces Bifocal Soft Contact Lens

Syntex Ophthalmics Inc. has received approval from the American Food and Drug Administration (USFDA) to market Synsoft®, a new bifocal soft contact lens.

Synsoft® is a translating lens, which means it contains separate zones for near and distance vision and the eye moves from one zone to the other. (The alternate bifocal lens design is simultaneous-design, requiring the eye to look through both near and distance zones at the same time, which can result in "blurred images or dizziness", according to the information provided by Syntex.)

The Synsoft® lens maintains its position on the eye through a patented design that incorporates a small, teardrop-shaped wedge on the lower portion of the lens, which allows for the production of a thin upper portion of the lens, and eliminates the need for squaring off the lower lens edge.

Further information is available from:

Syntex Corporation
3401 Hillview Avenue
Palo Alto, CA
94304
USA
Telephone (415) 855-5567

## Space Saving Soft Lens Cabinet from Syntex

448 lens vials can be "easily organized" in a new Space-Saver Soft Lens cabinet just introduced by Syntex Ophthalmics.

The high-impact plastic cabinet measures approximately 22-5/8" wide X 18¼" X 6" deep and, empty, weighs just 16 pounds.

Priced at $199.00 (US$, includes shipping and handling), the cabinet, and further information, is available from:

Syntex Ophthalmics, Inc.
PO Box 39600
Phoenix, Arizona
85069-9600
USA
Telephone (602) 482-4000

## MISSING PERSON

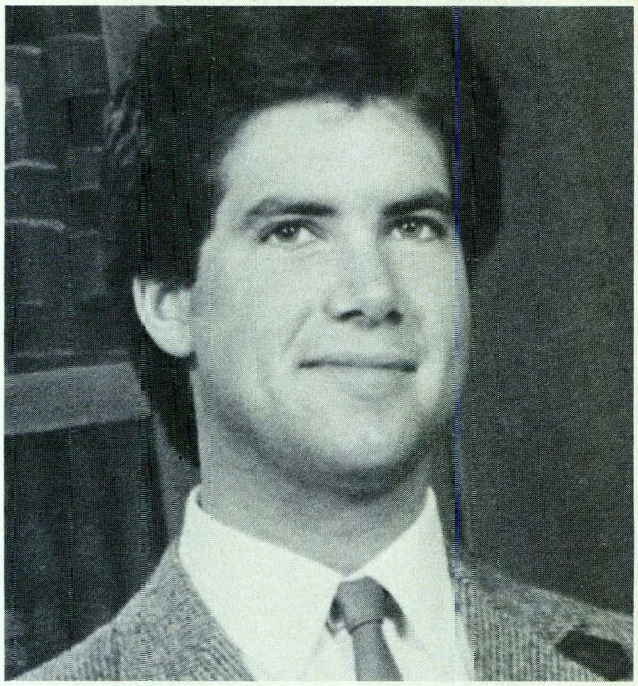
Canadian optometrists have been asked by Dr. Garson Lecker, a Sydney, Nova Scotia OD and past-President of CAO, and by the Nova Scotia RCMP detachments to assist in locating the person in the accompanying photograph.

Ian Douglas MacKeigan of Sydney Mines, NS is 23 years old, 5' 11" tall, 178 lbs. with medium brown hair and blue-green eyes.

Mr. MacKeigan wears the following spectacle correction: OD -4.75, OS -4.50. Lenses are plastic with a 4.25 base and a #2 gradient grey colour. Frame is a Safari #266 (grey) size 55 X 17 X 135mm supplied by Renaissance Optical.

Contact lenses are the choice of wearer. The lenses are Alden soft lenses and bear the registration #34-D-679 on the right lens, and #59-B-818 on the left. Base curves are 8.10mm as primary curve and 9.10mm for the secondary. Powers are OD -4.25, OS -3.75. Lens diameter is 13.0mm and optical zone of 12.0mm.

Should this man seek your aid, please contact the RCMP or call Dr. Garson Lecker collect at (902) 564-6102.



# Calendar

## 1985

### May

**9-12** Swedish Optometric Association
50th Anniversary Scientific Congress
Stockholm, Sweden
**Information:** Swedish Optometrical Association
Arstaangsvagen 1 C/4 tr
S-117 43 Stockholm
Sweden

**10-12** US National Academy Sports Vision
Sportsvision '85 West
14 hours CE
Caesar's Palace
Las Vegas, Nevada
**Information:** Sandra L. Still
The National Academy of Sports Vision
200 S. Progress Avenue
Harrisburg, PA
17109
USA
Telephone (717) 652-8080

**30-June 2** OptiFair Midwest
"Modern Office Design" and "Nutrition and the Eye"
O'Hare Expo Centre — Chicago
366 hours of courses, Exhibits
**Information:** Program Director
OptiFair Inc
17 Washington Street
PO Box 4990
Norwalk, CT
06856-4990
USA
Telephone (203) 852-0500

### June

**3-5** US National Council for International Health Annual Conference
"Management Issues in Health Programs in the Developing World"
Washington, DC
**Information:** NCIH
2100 Pennsylvania Avenue NW
Suite 740
Washington, DC
20037
USA

**24-27** 76th Annual Conference of the Canadian Public Health Association
Saint John, NB
**Information:** Karen Hall
76th Annual Conference
Canadian Public Health Association
Suite 210 - 1335 Carling Avenue
OTTAWA, Ontario
K1Z 8N8
Telephone (613) 725-3769

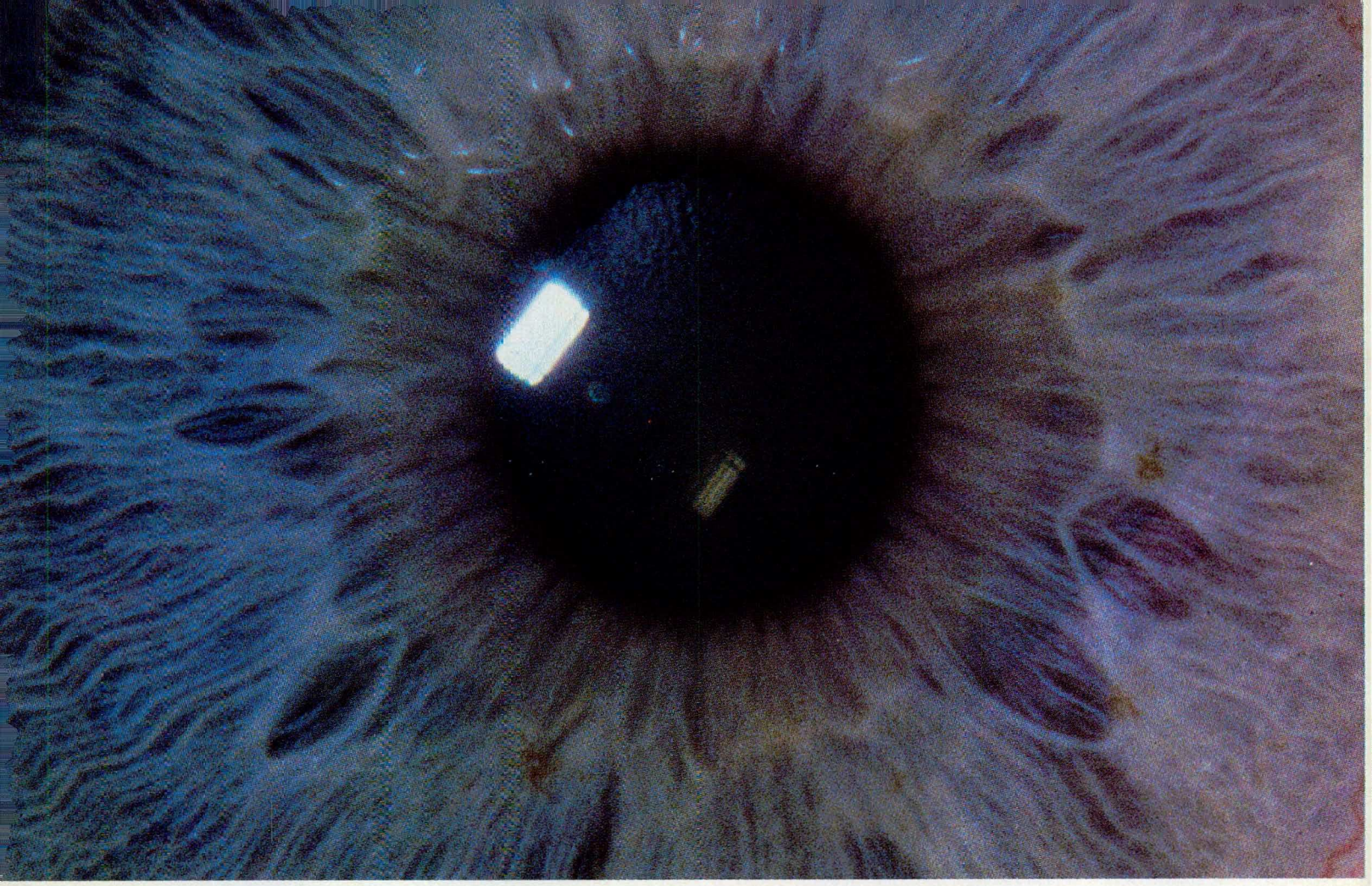
### November

**2-4** European Society of Optometry
1985 World Congress
Farah Sofitel Hotel
Marrakech, Morocco
Full simultaneous translation (English, French, German, Spanish, Italian)
**Information:** Congress Organizing Committee
European Society of Optometry
PO Box 569
Bruxelles 1
B-1000 Bruxelles
Belgium

## 1986

### January

**11-12** Pan Pacific Contact Lens Conference
Sheraton Royal Waikaloa Hotel, Hawaii
12 hours CE
**Information:** Dr. Stanley J. Yamane, Chairman
Pan Pacific Contact Lens Conference
94-748 Hikimoe Street, Suite C
Waipahu, Hawaii
96797
USA



# NEW FROM ALCON RESEARCH AN OUTSTANDING ENZYMATIC CLEANER.

Results of testing, equivalent to over 100,000 days of patient use, indicate that weekly use of the Alcon Enzymatic Cleaner "is both safe and effective for removing pre-existing deposits and maintaining lens surfaces free of deposits."[1]

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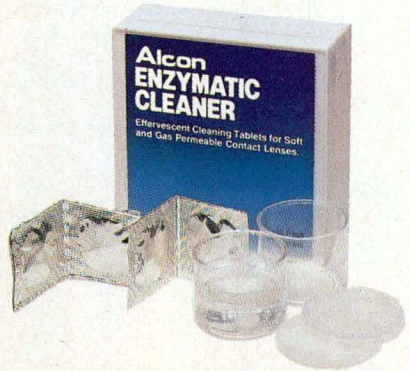


Alcon Leaders in Ophthalmic Therapy.
Alcon Canada Inc.
Toronto, Canada L5N 2B8

PAAB CCPP MEMBER PMAC

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2. Randeri, K.J. et al: A new broad spectrum enzymatic cleaner for contact lenses, Alcon Report Series: 107, Alcon Laboratories, Inc. Fort Worth, Texas 76101, July, 1982.

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This simple two solution system avoids the confusion and inconvenience of three solutions. Polyclens thoroughly cleans lenses while Polyflex not only rinses, but stores and disinfects. And with only one bottle for rinsing and disinfecting there's little risk of using the wrong solution. When it comes to simplifying lens care, two solutions really are better than three.

†Recommended only for all Daily Wear Soft Contact Lenses with a 50% water content or less. Now also recommended for use with the Permaflex and Sauflon Extended Wear Lenses.


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Toronto, Canada L5N 2B8

*T.M. Authorized user

PMAC PAAB CCPP

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**Montréal, Québec**
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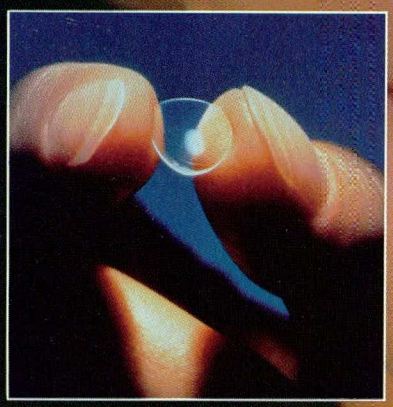

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