

# cjo RCO

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**In This Issue: CAO 1986 Annual Report; CAO 1987 Congress Report**

**Ci-inclus: Rapport Annuel 1986; Rapport du congrès 1987 de l'ACO**



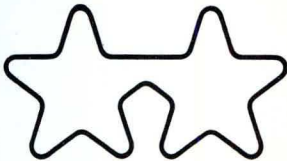
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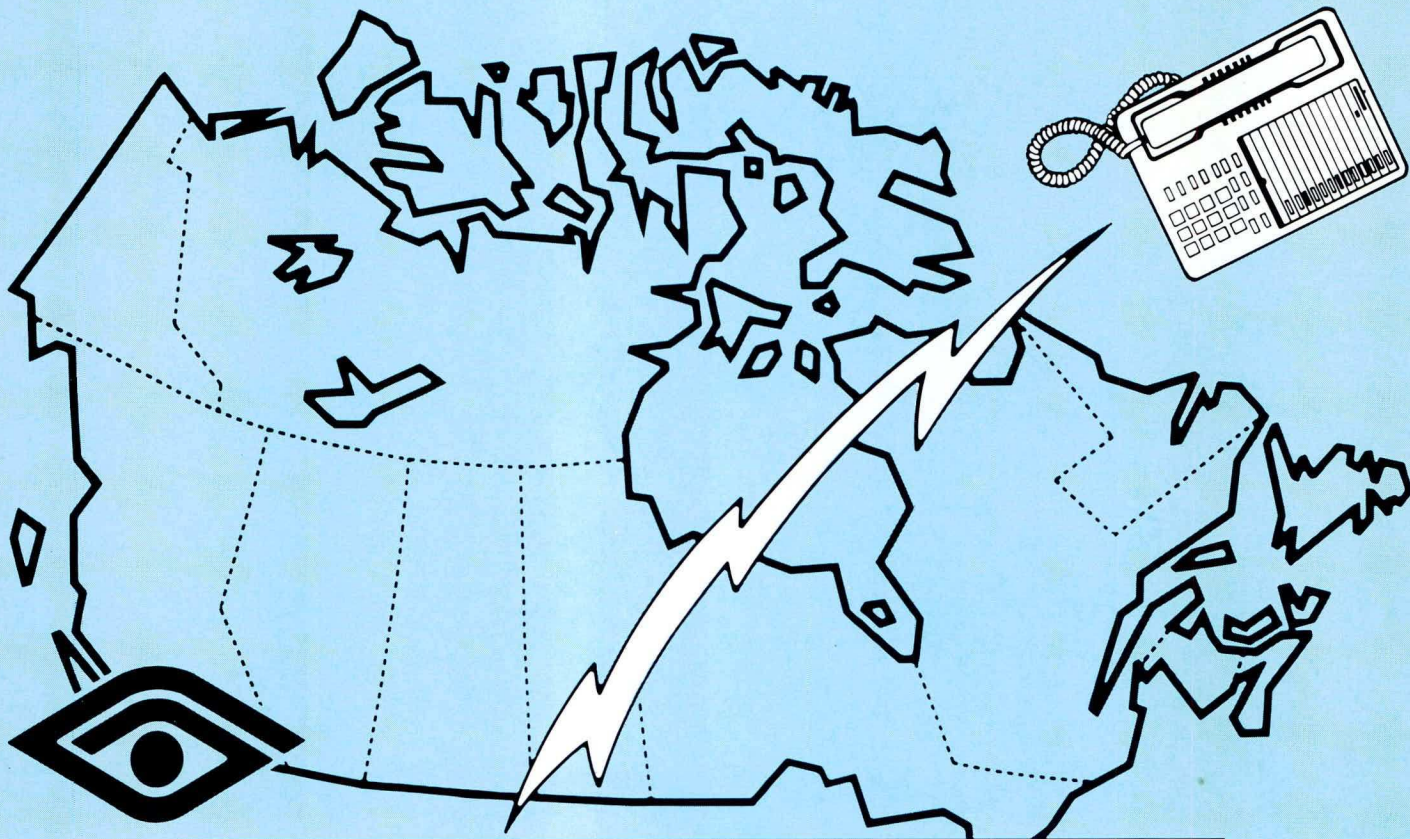


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## DIAL-THE-PRESIDENT 1988

Count Yourself In, in CAO's Dial-the-President Day  
Sunday, March 6, 1988

10:00 a.m.-6:00 p.m. (Eastern Standard Time)  
Call **Collect** (Station to Station): (613) 738-4400

Dear Colleague,

As President of our national Association, it gives me great pleasure to invite you to "Dial-the President" and to express to me personally your concerns on issues facing Optometry today.

On Sunday, March 6, (the first day of Save Your Vision Week in Canada 1988), I invite you to call the CAO office number **collect** to share with me your ideas and concerns about things we are doing, or about things we are **not** doing and which you think we should.

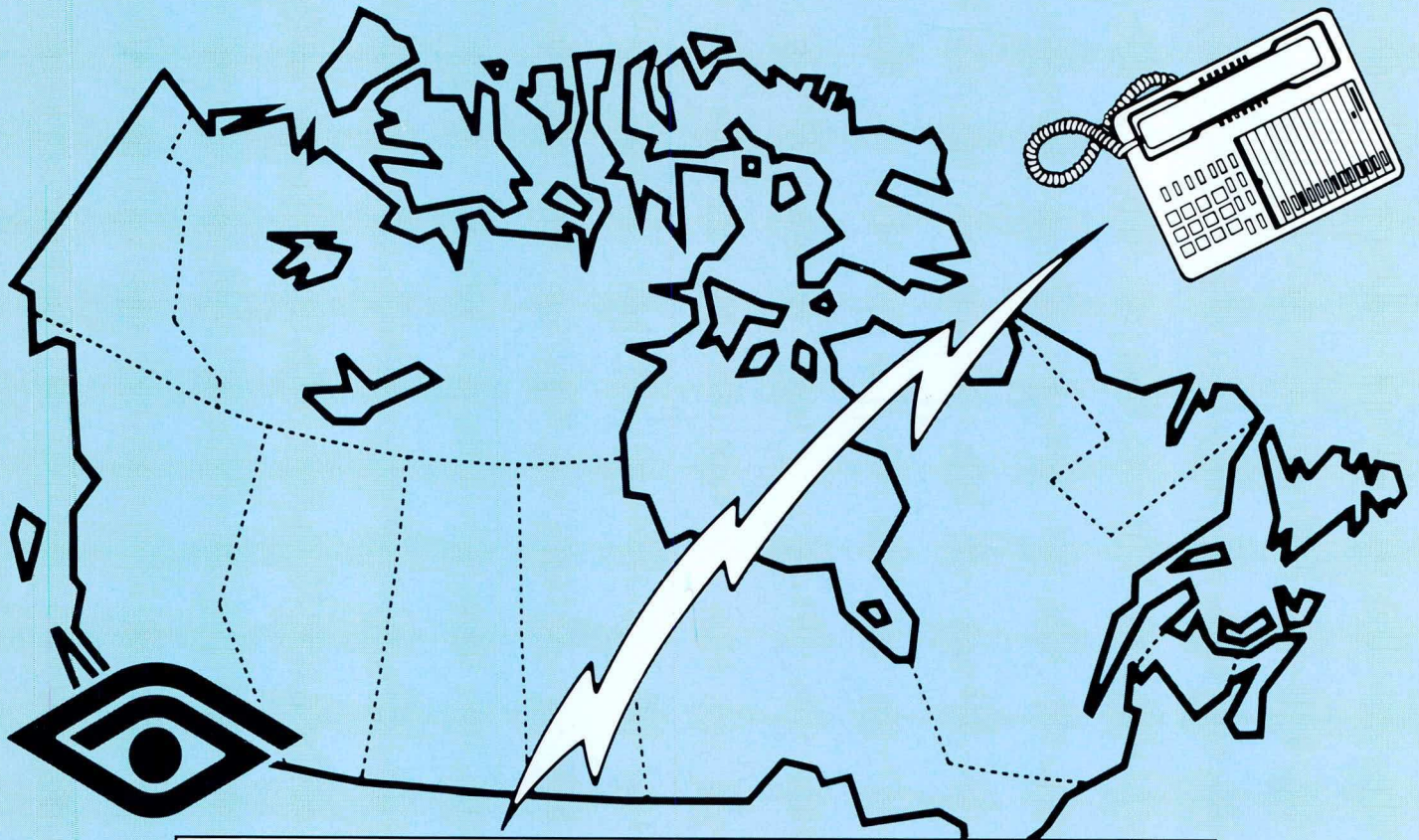
Our national office line — (613) 738-4400 — will be staffed to receive your **collect** calls from 10:00 am to 6:00 pm (EST). Save Your Vision Week 1988 will be just getting underway. I look forward to hearing from you, from wherever in Canada you may wish to call.

Yours sincerely,

A handwritten signature in black ink, appearing to read "Scott Brisbin".

Dr. Scott Brisbin  
President





## LIGNE DIRECTE AU PRÉSIDENT 1988

Faites-vous entendre lors de la Ligne directe au président  
le dimanche 6 mars 1988  
de 10 h à 18 h (heure normale de l'est)  
Composez à **frais virés** (de numéro à numéro): (613) 738-4400

Cher(e) collègue,

À titre de Président de notre association nationale, j'ai le plaisir de vous inviter à profiter de la "Ligne directe au président" pour me faire valoir personnellement vos préoccupations au sujet des questions d'actualité dans le domaine de l'optométrie.

Le dimanche, 6 mars (le premier jour de la Semaine de la vision au Canada 1988), je vous invite à composer **sans frais** le numéro du bureau de l'ACO afin de partager avec moi vos idées et vos soucis au sujet de ce que nous faisons et de ce que nous ne faisons **pas**, mais que nous devrions faire.

La ligne téléphonique de notre bureau national, au (613) 738-4400, sera à votre disposition de 10 h à 18 h (HNE). Vous pouvez appeler à **frais virés**. Ce sera alors le tout début de la Semaine de la vision 1988. J'espère avoir l'occasion de m'entretenir avec vous, où que vous soyez au Canada.

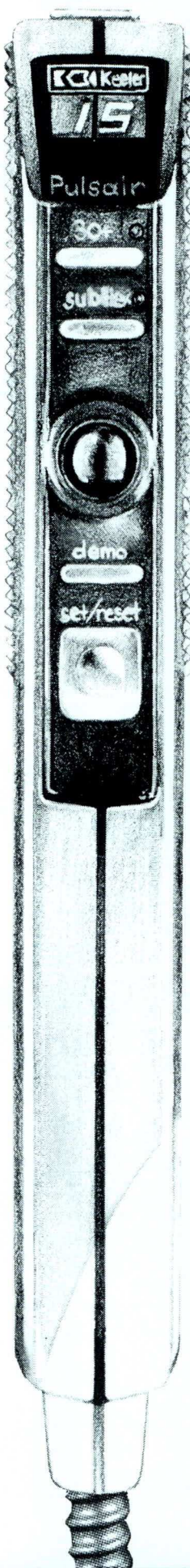
Salutations amicales,

Le président,  
Dr Scott Brisbin



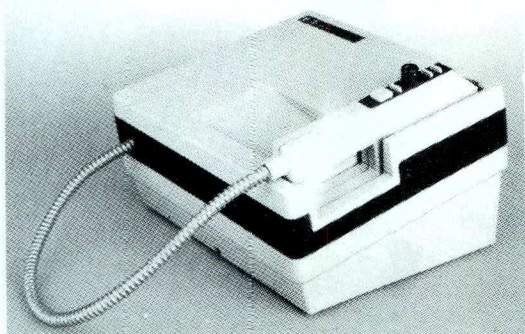
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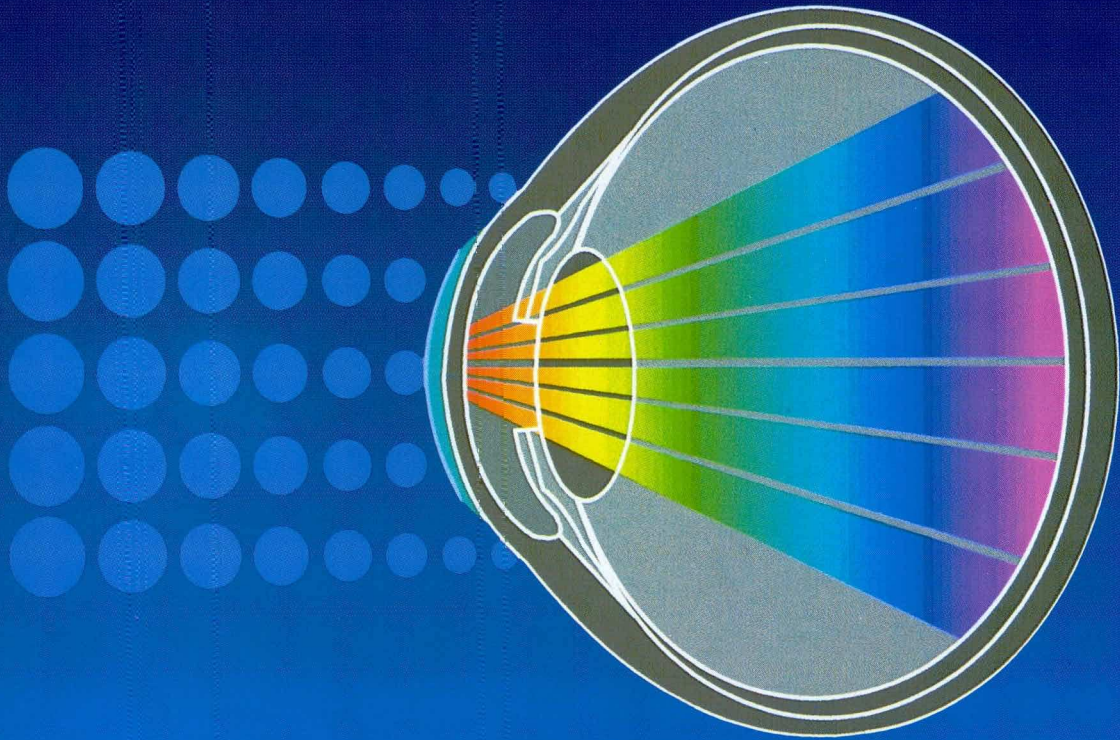


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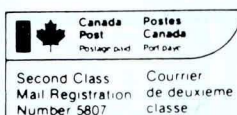
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## The Disposable Soft Lens – Boon or Disaster

It should not have surprised any serious contact lens practitioner to learn that “disposable contact lenses” have recently become a reality.

The subject has been a topic of discussion for a number of years now. It was not a matter of whether a disposable lens was possible, but rather the manner of its implementation, its cost, its manufacture and its marketing.

This past summer, Vistakon, a subsidiary of Johnson and Johnson, became the first firm to market a disposable that they have called the “Acuvue” lens, with its system called the “Disposalsens System”. How many other firms stand ready to climb on the bandwagon only time will tell. What effect such devices will have on the quality of vision and eye care only the future will reveal, although many analysts count on a rosy future.

As responsible practitioners, optometrists are now faced with a “fait accompli”. The quality of vision and eye care will depend on the manner in which we respond to the challenge.

The supplier claims four major advantages for this product over the present conventional systems of managing regular and extended wear soft lenses:

- (i) Reduced health risks due to unsterile solutions;
- (ii) the reduction of lens deposits which can serve as cultures for different organisms;
- (iii) the elimination of concerns about incomplete or ineffective cleaning and disinfection procedures;
- (iv) The very simplicity of removing a lens and discarding it should override the fuss and putter of conventional lens removal, cleaning and disinfection.

The Acuvue Lens is being touted as “a more comfortable and more exactly reproducible lens, a more of everything lens”. It will be the least expensive lens on the market. But this poses a dilemma to the industry and to the professions. How can a company make a “better” lens than their best lens and sell it for less than what they charge for their “best” lens? Is this an indication that the company will abandon production of all its other lenses to push the sale of the disposable lens? If this is the intended policy, is it not counter to the vision care needs of the population?

In a more technical aspect, how can a lens with very restricted parameters, single base curve and diameter be a “better refractive aid” than another type of lens with more varied fitting parameters?

Or is the claim to a superior lens based only on the nature of the material? This may be so, but material alone does not guarantee a superior fit if parameters are at fault.

Optometry's reputation derives from its attention to careful refraction and prescribing to meet the vocational and avocational vision demands of the patient and, to a lesser degree, to satisfy certain emotional demands. The former should take precedence over the latter and the practitioner has the task of convincing the patient as to the logic of his or her recommendations.

The arrival of the disposable lens increases considerably the responsibility of the practitioner in preventive care, the more so as this system reduces patient/practitioner contact. Have practitioners given any thought to the potential legal liabilities that the writing of a prescription for a disposable lens will bring?

As the lenses will not be available without a written prescription from a qualified practitioner, the professions will have some control, albeit a very limited one. We could, for example, refuse to write such a prescription, thereby risking the patient's goodwill. This, admittedly, is unlikely to occur frequently, but it is not an impossibility.


If a prescription is written, the practitioner must be very specific in his or her instructions to the patient and record such conversations as a protection against a possible future legal action for malpractice.

Patient/practitioner contact is the key to good management, particularly for an extended wear patient. The practitioner must bend his or her efforts to maintain contact even if (s)he should be forced to supply the lens at a minimal fee. (S)He must present the case with force and conviction so that the patient will realize the seriousness of assuming, in effect, “self-medication”. Criteria must be given to motivate the patient to consult with the practitioner in any emergency, or even in a doubtful situation.


But of all the hype about the lens, the proposed “costs” at \$10.00 per week appear to be the high point of the promotion. The manufacturers must know that no one offers “merchandise” at cost. Pharmacists, dispensing opticians or optometrists cannot supply at cost and, if the usual markup used by pharmacists and other suppliers is applied, then the “suggested cost” is erroneous.

In short, one can only conclude, “Let the buyer beware”.


GMB



Meilleurs Voeux  
et  
Bonne et Heureuse  
Année



Dr. Scott Brisbin, President,  
the Executive, Council and staff of  
The Canadian Association of Optometrists  
join in wishing you and your family every  
compliment of the 1987/88 Holiday Season.





# 20 Years of Optometry at Waterloo – A Celebration –

**N**ot since the official dedication of the new University of Waterloo School of Optometry building in 1974 has such excitement been witnessed among Faculty, students and graduated practitioners.

On one short weekend last May, Optometry honoured its own with its traditional Annual Waterloo Convocation ceremonies, a host of 20th Anniversary celebrations, the conferring of Professor Emeritus status on the School's first Director and the awarding of a special Waterloo "OD, Ad Eundem Gradum" degree to pre-Waterloo graduates of the College of Optometry of Ontario.

## **E. J. Fisher's Heritage to Optometric Education**

Dr. B. Ralph Chou, Professor at the School of Optometry and Associate Editor (Waterloo) of the *CJO \* RCO* prepared the following report on one aspect of the ceremonies to honour Professor Emeritus Dr. Fisher.

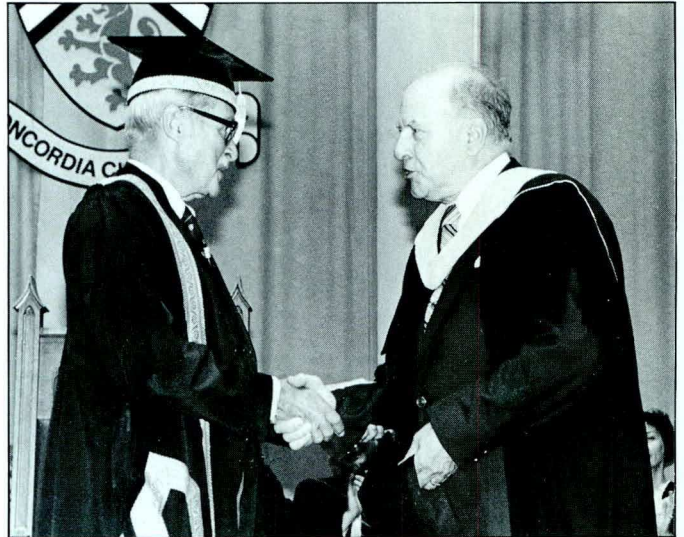
"To mark the twenty-year long affiliation of the School of Optometry with the University of Waterloo, as well as the role of Dr. Edward J. (Ted) Fisher in making this a reality, a Continuing Education Program, entitled, 'E. J. Fisher's Heritage to Optometric Education' was presented to 110 optometrists who participated in the School's 20th Anniversary programme. The speakers were past or present members of the School's Faculty, several of whom had been Dr. Fisher's students.

"Dr. T. D. Williams spoke on *Computer-Assisted Assessment of Fundus and Visual Field Data*. His research has demonstrated that retinal arterioles do not become more tortuous with age or with the development of hypertension. Other studies have included age-related changes in the Goldmann isopters of normal populations, and the relationship between the shape of the optic disc and that of the blind spot.

"*The Living Optics of the Eye* was the subject of Dr. J. G. Sivak's lecture. The anatomical and physiological factors which contribute to the refractive functions of the cornea and crystalline lens were discussed. Presbyopia and cataract were shown to be relatively early and late manifestations respectively of aging of the lens.

"Dr. W. M. Lyle discussed *Beta Adrenergic Blocking Drugs for the Treatment of Chronic Open-Angle Glaucoma*. The pharmacological actions and clinical advantages of betaxolol, catechol, levobenobol, metipranolol and timolol were compared. Dr. Lyle also described the side effects which these drugs can produce with long-term use.

"The day also featured a mid-day break in the form of a stand-up buffet luncheon which, by enabling an easy fraternization among attendees, typified the friendly mood of the whole weekend.



*J. P. R. Wadsworth, Chancellor of the University of Waterloo, invests Dr. Fisher as Professor Emeritus of Optometry, the School's first, to the standing applause of the 1987 graduating class in Optometry.*

"After the luncheon, 'Professor Emeritus' Fisher showed a number of slides to accompany a lecture on the beginnings of optometrical education in Ontario. He pointed out that, as early as 1893, Lionel Laurance had conducted training courses in Canada, but had returned to England in 1898 to open the School of Optics near the British Museum in London. Dr. Fisher also traced the establishment of a variety of educational courses provided in the years 1900 to 1919 through Lionel G. Amsden Sr., W. J. Harvey, W. G. Maybee and the Toronto Technical School, right up to the purchase of the building at 139 St. George Street in Toronto and the opening, in 1925, of the College of Optometry of Ontario by the (then) Board of Examiners under the Chairmanship of Ralph Aylesworth of Trenton, Ontario. The College appointed its first Dean, J. C. Thompson, in 1926. Dean Thompson died April 4, 1948. As the 'only full-time teacher' at the time, Dr. Fisher related how he had 'fallen' into the position of Dean virtually by default, a position he held until the integration of the College into the University of Waterloo in 1967.

"Dr. W. R. Bobier discussed how various techniques of photorefractometry could be used to assess refractive error more rapidly and accommodative ability in infants and young children. His studies showed that, even with hyperopia of over +3.50D, infants between six months and two years of age were able to accommodate for targets between 20 and 140cm from the eye. Accommodative difficulty was found in one child with +7.00D of hyperopia; a partial correction of +5.00D relieved the problem.



"New developments in aniseikonia were discussed by Dr. A. Remole. He described the techniques and instruments used in the Aniseikonia Clinic at the School of Optometry to diagnose and measure aniseikonia, and reviewed the formulae needed to calculate the necessary lens specifications. The role of ocular movements in aniseikonia, and its influence on binocular fixation performance are two new concepts which make clinical evaluation and correction of aniseikonia important.

"Dr. J. V. Lovasik presented a wide variety of high technology techniques which supplement conventional optometric diagnostic procedures. He described A- and B-Scan ultrasonography, infrared pupillometers, electroretinography, visually evoked potentials, electrooculography and other procedures which, only a few years ago, were used exclusively by physicians or applied researchers. That these tests are now being used in optometric care is evidence of the profession's progress as a health discipline.

"The politics of health care and the evolution of Optometry as a health discipline was addressed by Dr. M. J. Samek of the Optometric Institute in Toronto. His talk on *The Role of Therapeutics in Optometric Practice* also gave the audience a glimpse of one possible future development in Canadian Optometry. The controversy surrounding optometric use of therapeutic drugs was discussed in terms of how the patient, practitioner and health care system might be affected.

"Other presentations during the day included *Contact Lens Solutions* by Dr. M. G. Callender, *Accommodative Amplitude*

*in Childhood* by Dr. M. E. Woodruff, *Some Current Hard Lens Topics* by Dr. B. D. Garnett and *What is Low Vision?* by Dr. G. C. S. Woo.

"Optometry in 1987 is a very different profession from that which Dr. Fisher entered in 1934. Many of the changes came during his leadership, first as Dean of the College of Optometry of Ontario and then as Director of School of Optometry, University of Waterloo. The picture of present and future Optometry which was provided in this lecture program was a fitting tribute to one of the great leaders of our profession."

### To the Same Level

Doctor of Optometry, Ad Eundem Gradum. The decision by the University of Waterloo to award these specially designated OD's to pre-Waterloo graduates of the College of Optometry of Ontario is unique in the annals of Optometric education in Canada.

Some 283 practitioners, 98 of whom attended the convocation, applied and were accepted as candidates for the special investiture.

On behalf of those receiving the designation, Dr. George C. Woo (Class of '64) and Dr. Irving Baker (Class of '43) were formally invested as a part of the ceremony. Dr. Jacob G. Sivak, the current Director of the School of Optometry, University of Waterloo, then conferred the degree on the remaining attendees as a group.

*Ad Eundem Gradum* means "To the Same Level" and the OD degrees thus conferred accord all who received it the same rights and privileges as those who have received their OD's from the University of Waterloo following the School's establishment there in 1967.

In his convocation address to the Class of '87, Dr. Sivak summed up the cumulative impact that Optometry and the Waterloo School have had on one another: "Clearly," he said, "the interdependence of the School and the profession is such that their combined accomplishments are far greater than their individual capabilities. All of this is meant to explain why I don't look upon your graduation as farewell. I am confident that most, if not all, of you will continue your Association with the School in one form or another. The School and the profession have to rely on each other for support now, and in the future, as they have in the past. By working together, we can ensure the future growth and development of Optometry."

\*\*All photographs courtesy of the School of Optometry, University of Waterloo.

### Awards and Prizes, 1987

The School of Optometry, University of Waterloo, is pleased to announce the following awards and prizes to the graduating class of 1987.

**The General Proficiency Medal Awarded by the College of Optometrists of Ontario**

*Andrew J. Palmer*

**The Canadian Contact Lens Society Prize**

*Andrew J. Palmer*

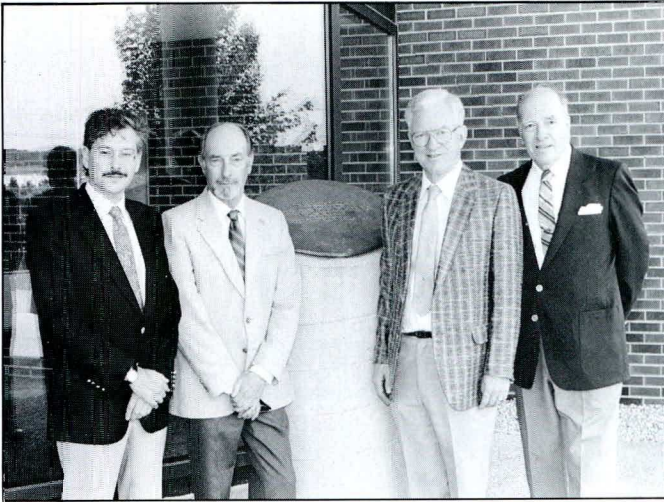
**The J. C. Thompson Memorial Prize for Optometry**

*Charline A. Gauthier*



*Dr. and Mrs. Fisher at the post-Convocation banquet held in their honour at Bingeman Park, Kitchener on 29 May 1987 as part of the School's 20th Anniversary celebration.*





The four Directors of the School of Optometry at the main entrance to the building. Left to right: Dr. J. G. Sivak (present Director), Dr. W. S. Long (1981-1984), Dr. M. E. Woodruff (1975-1981), and Dr. E. J. Fisher (1967-1975).

#### C.A.O. Award of Merit

Barry A. Burns

#### O.A.O. Award for Excellence in Patient Management

Robert K. Macyszyn

#### The E.F. Attridge Prize for Highest Achievement in Pathology

Gary S. Butterworth

#### The T.T. Beattie Award for Orthoptics and Visual Training

Jill A. McKechnie

#### A. W. Cole Award for Clinical Excellence

Andrew J. Palmer

#### The Leopold Lacourciere Award for General Proficiency Awarded by the Ontario Association of Optometrists, District #3

Beverly A. Dodge

#### Barnes-Hind Student Recognition Award

Wendy V. Hatch

#### Bausch and Lomb Optical Soflens Division Outstanding Achievement Awards

First Prize Charline A. Gauthier

Second Prize Barry A. Burns

Raymond A. Limber

#### Central Optical Award for Excellence in Special Studies

Andrew J. Palmer

Nurudin Ahmedbhai

Harry A. Bohnsack

#### CIBA Vision Care Award for Clinical Excellence

Harry A. Bohnsack

#### Essilor Award for Academic and Clinical Excellence in Optics

Charline A. Gauthier

#### William Feinbloom Low Vision Award

Andrew J. Palmer

#### The Percy Hermant General Proficiency Prizes

First Prize

Andrew J. Palmer

Second Prize

Mary Lou Barry

#### The K-W Optical Company Limited Awards

First Prize Nurudin Ahmedbhai

Second Prize Malini Varshney

#### Prize for Academic Excellence in Ocular Pharmacology

Mary Lou Barry

#### Dean of Science Honours List

Mary Lou Barry Leah R. Fraser

David P. Bobor Charline A. Gauthier

Harry A. Bohnsack Robert K. Macyszyn

Gary S. Butterworth Andrew J. Palmer

Beverly A. Dodge

#### Graduates — Doctor of Optometry

Allaire, Peter J.	Sturgeon Falls, Ontario
Ahmedbhai, Nurudin	Waterloo, Ontario
Barry, Mary Lou	Chatham, New Brunswick
Bergeron, Nicole	Toronto, Ontario
Bobor, David P.	Hamilton, Ontario
Bochnak, Karen M.	Hamilton, Ontario
Bohnsack, Harry A.	Keswick, New Brunswick
Brodie, Tracy L.	St. Agatha, Ontario
Burns, Barry A.	Louisdale, Nova Scotia
Butterworth, Gary S.	Winnipeg, Manitoba
Chau, Shanda K.	Calgary, Alberta
Clements, Patrick M.	Oromocto, New Brunswick
Cousineau, Thomas R.	Fort Frances, Ontario
Dodge, Beverly A.	New Liskeard, Ontario
During, Erika F.	Wingham, Ontario
Fitzsimmons, Mark J.	Oshawa, Ontario
Fraser, Leah R.	Weston, Ontario
Fujimoto, Fern N.	Rainier, Alberta
Gauthier, Charline A.	Wetaskiwin, Alberta
Germain, Mark J.	South Porcupine, Ontario
Gutwein, Michael W.	Kingsville, Ontario
Harding, James C.	Burnaby, British Columbia
Hargrave, James C.	Ottawa, Ontario
Hatch, Wendy V.	Willowdale, Ontario
Isok, Ellen M.	Chalk River, Ontario
Kettner, Calvin B.	Williams Lake, British Columbia
Koutsogiannopoulos, Fontini	Smithville, Ontario
Laplante, Louis J.	Calgary, Alberta
Limber, Raymond A.	Comox, British Columbia
Lukey, Lori P.	Trossachs, Saskatchewan
Lunsky, Eric S.	Toronto, Ontario
Machan, Carolyn M.	Waterloo, Ontario
Macyszyn, Robert K.	Winnipeg, Manitoba
Mann, Bruce	Peace River, Alberta
McGaffey, Kenneth W.	Windsor, Ontario
McIlveen, Linda M.	Hamilton, Ontario
McKay, Katherine L.	Kakabeka Falls, Ontario
McKechnie, Jill A.	Calgary, Alberta
Merali, Sameen	Markham, Ontario
Monetta, Angela M.	Oakville, Ontario
Palmer, Andrew J.	Hamilton, Ontario
Paulin, Marie F.	Lameque, New Brunswick
Palovic, Zrinka	Kitchener, Ontario
Persram, Karen I.	Scarborough, Ontario
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Roy, Kevin A.	Coniston, Ontario
Sharpe, Robert E.	London, Ontario
Skrapits, Linda M.	Waterloo, Ontario
St. George, Andre L.	Sturgeon Falls, Ontario
Steffler, Paula L.	Waterloo, Ontario
Tansley, Michael M.	St. Thomas, Ontario
Varshney, Malini	Mississauga, Ontario
Winer, Earl	Willowdale, Ontario
Wong, Caroline K.	Sudbury, Ontario



# Allergan/Humphrey and SOAOQ Boost Phase II Fundraising Launch

**S**aint John, besides hosting a "Merry-Tyme Mingle" this summer, was also the setting for a major Canadian Optometric Education Trust Fund (COETF) event. Allergan Optical/Allergan Humphrey, a division of Allergan, Inc. and les Services Optométriques de l'Association des Optométristes du Québec (SOAOQ) each provided a significant burst of fuel to the formal launch of Phase II of the COETF's ongoing fundraising campaign.

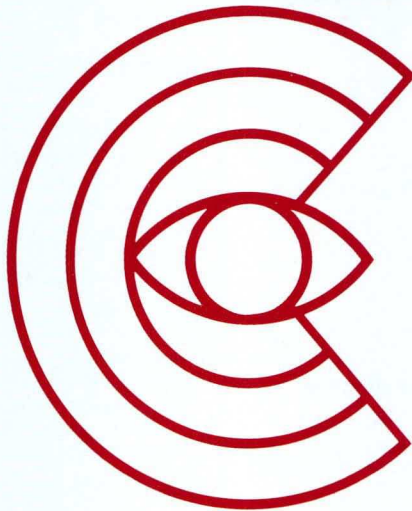
Held in conjunction with the Canadian Association of Optometrists (CAO)'s 1987 Biennial Congress in Saint John, New Brunswick, the "Light Lunch Launch" was highlighted by the two presentations and the draw for the winner of the COETF's grand prize raffle — a tour for two in the Champagne region of France aboard a luxury hotel barge.

## Allergan Optical/Allergan Humphrey: "We believe in optometric research"

On behalf of Allergan Optical/Allergan Humphrey, Mr. Peter Slight, Senior Product Manager for Lens Care Products and Mr. Pierre Guité, Area Sales Representative for Québec and Atlantic Canada, presented a cheque in the amount of \$5,000.00 to COETF Chairman Dr. Scott Brisbin.

In making the presentation, Mr. Slight referred to what he called the obvious connection between Allergan's own research priorities and the type of research funded by the COETF.

The COETF annually funds some \$60,000.00 worth of optometric research programs. Conducted by members of the profession, the programs contribute either directly to the public's benefit, in the case, for example, of senior citizens' vision screening, or indirectly through the enhancement of Canadian optometric education programs which ensure that graduating OD's in this country are versed in the "state of the art" of the profession.



A worldwide manufacturer and distributor of contact lens care products, Allergan spends annually an estimated 10 percent of its net sales on research. In an interview held during the Congress, Mr. Slight cited several examples of their current priorities:

**Basic biochemical mechanisms** of the eye while contact lenses are being worn; **morphological changes of the endothelium** during long term wear; **biocompatible disinfection and preservative systems**; and clinical trials to evaluate **patient use trends and care regimen compliance**.

As a result of their research, the company has recently produced the first edition of a new specialty publication,



*Dr. Scott Brisbin (L), Chairman, COETF, accepts the cheque from Mr. Peter Slight (C), Senior Product Manager for Lens Care Products and M. Pierre Guité (R), Area Sales Representative for Québec and Atlantic Canada, Allergan, Inc.*

*Le Dr Scott Brisbin (G), président du FFOCE, accepte le chèque de M. Peter Slight (C), directeur principal des produits de soin des lentilles cornéennes, et de M. Pierre Guité (D), représentant pour le Québec et les provinces de l'Atlantique, Allergan Inc.*



*Contact Lens Pocket Guide*, a 144-page concise reference intended as a "generic clinical guideline of optimal modern contact lens care" (from Dr. Joseph T. Barr's introduction to the text). Besides Dr. Barr, no fewer than nine other OD's co-authored and reviewed the book, copies of which are available in Canada from Allergan Inc., 2255 Sheppard Avenue East, Suite 414 W, Willowdale, ON, M2J 4Y3.

Allergan Optical/Allergan Humphrey's research support also extends into both Canadian Schools of Optometry. As part of a complimentary training program, students receive clinical instruction on automated instrumentation provided by the company. Mr. Slight estimated that some \$85,000.00 worth of equipment has been made available at each School for this purpose.

### **les Services Optométriques de l'Association des Optométristes du Québec: Optometry Supporting Optometry**

It is becoming a Biennial event. At CAO's 1985 Congress in Regina, the SOAOQ made a donation to the COETF and, this year, repeated the generous gesture with a cheque for \$1,500.00.

Dr. Jean-Marie Rodrigue (who is also CAO's current Treasurer) made the presentation on behalf of the Québec-based optometric purchasing group.

### **The Draw: And Then There Were Ten**

The pre-Congress flyer said it all: "What would you say to all this for \$100.00?" "All this" was a trip for two to France's Champagne region and, as the Congress progressed, more and more people began sporting the distinctive blue and white buttons which proclaimed, "I'm In/J'en Suis! Are You?/Et Vous?"

COETF Chairman Dr. Scott Brisbin, National Fundraising Chairman Dr. Reid MacDuff, the Board of Trustees and the provincial fundraising chairpersons threw an escape-proof net over the whole Congress and not one OD or spouse got away without being asked at least once to buy into the draw.

The draw itself was preceded by a stand-up buffet luncheon (the "light lunch") and the unveiling of the new COETF information video (the "launch") — **COETF Update**, an eight minute



*Dr. Jean-Marie Rodrigue (R) presents a cheque on behalf of les Services Optométriques de l'Association des Optométristes du Québec to COETF Chairman Dr. Scott Brisbin.*

*Le Dr Jean-Marie Rodrigue (D) présente un chèque au président du FFOCE, le Dr Scott Brisbin, au nom des Services optométriques de l'Association des optométristes du Québec.*

newscast which included, among other things, a "weather forecast" predicting increased awareness and high pressure fundraising tactics from coast to coast.

But it was obvious that roast beef and a TV show were not the only reasons for 400-plus people packing themselves into the Loyalist Room. And with the burst of a foghorn and roll of a Loyalist militiaman's drum, the draw was underway.

National Fundraising Chairman Dr. Reid MacDuff had a lobster trap filled with draw tickets and began by asking members of the audience to assist him in whittling the draw down to 10 edgy finalists. Sadly, nine of these had to content themselves with consolation prizes of bottles of champagne and, when that was done, one lucky ticket remained in Dr. MacDuff's Loyalist hat.

The winner? **Dr. Susan Woodruff** of Elora, Ontario. (Her ticket, incidentally, was pulled from the lobster trap by Mrs. Dorothy French, who later admitted that being responsible for the winning ticket's draw was every bit as exciting as actually winning the trip.)

(**Note:** In a footnote to the draw, Dr. Woodruff's personal circumstances prevented her making any of the scheduled trips. The COETF, however, consoled her with the alternate first prize of a cheque for \$5,000.00.)

**A Vision of the Future — the COETF now begins a renewed fundraising appeal across Canada to the ophthalmic business community and to optometrists from coast to coast, whether first-time or long-time supporters of the Fund.**

In the meantime, Drs. Brisbin, MacDuff and the Trustees extend a sincere and hearty thank you to Allergan Optical/Allergan Humphrey, a division of Allergan, Inc., les Services Optométriques de l'Association des Optométristes du Québec and to the many, many participants in the 1987 "Light Lunch Launch" of Phase II of the COETF's Fundraising Campaign.

Michael J. DiCola  
CAO Director of Communications



# CAO 1987 Biennial Congress

*“Life is Worth Sea-ing”*

*“Our goals shall be accomplished if this 20th Biennial Congress becomes a special highlight in your personal album of memories.”*

**W**hen Dr. Barbara Iftody penned these sentiments in her published pre-Congress welcome, she demonstrated the traditional hope of the Local Arrangements Committee Chairperson — a happily memorable experience for the delegates. In post-Congress hindsight, however, she may also



*Not in the water long enough to get queasy, participants in the “Loyalist Landing” re-enactment still sport smiles as the dory is pulled into the dock. Dotted among the Coast Guard cadet crew’s striped shirts, in Loyalist costume, can be seen CAO President Dr. Scott Brisbin (front); Dr. Ray Corbin (directly behind Dr. Brisbin); NBAO President Dr. Les Clements (tipping his hat) and a bonnetted LAC Chairperson Dr. Barbara Iftody with her back to the camera.*

*Les participants à la reconstitution de l’“Arrivée des Loyalistes” n’ont certainement pas eu le temps d’avoir le mal de mer, car c’est avec le sourire aux lèvres qu’ils arrivent au quai à bord de leur doris. Parmi les chemises rayées de l’équipage de la Garde côtière, nous voyons, habillés en Loyalistes, le président de l’ACO, le Dr Scott Brisbin (devant); le Dr Ray Corbin (directement derrière le Dr Brisbin); le président de l’AONB, le Dr Les Clements (qui salue du chapeau); et la présidente du Comité de l’organisation locale (COL), le Dr Barbara Iftody (la dame au bonnet, vue de dos).*

have to acknowledge a hitherto unsuspected reservoir of prescience!

Because from all those who attended the 1987 “Merry-Tyme Mingle” in Saint John, New Brunswick, comes unanimous agreement that CAO’s 20th Biennial gathering was, indeed, the source of not just one, but many “special highlights” in their Congress memory albums.

From Opening Ceremonies to Closing Banquet, the infectious Atlantic Canadian hospitality dominated the program. Saint John, which calls itself “The Greatest Little City in the East” is firmly rooted in Loyalist heritage and the Congress planners had arranged several opportunities to recall these traditions.

## The Social Program

### Day 1 — The Loyalists’ Return to Saint John

Landlocked Alberta, home to CAO President Dr. Scott Brisbin, doesn’t provide much of a setting in which to get one’s “sea legs”, so it was no doubt with some trepidation that he joined Dr. Iftody, NB Association of Optometrists’ President Dr. Les Clements and Dr. Ray Corbin in a whaling dory to “re-enact” the Loyalists’ landing in Saint John. (Truth be told, it is doubtful that the original Loyalists embarked from a Canadian Coast Guard wharf, were carried across two hundred metres of calm inner harbour waters — rowed by several Coast Guard cadet volunteers — to land at a municipal dock beside a new, multi-million dollar Convention Centre and Congress Hotel complex.)

Such was the Congress opening and a further patch of local colour was added by a group called Delancey’s Brigade, bedecked in period militia costume, who shattered the evening calm with several musket salvos, complimented by a fife and drum greeting.

From the dock, the Dignitary party members, now somewhat reassured by their more solid footing, with Delancey’s and the Saint John town crier as escort, were marched through the waiting crowd to the Loyalist Room (where else?) in the Convention Centre where the official Opening Ceremonies got underway. Following a very few brief formalities, including greetings from the Committee and the host Association, Dr. Brisbin declared the Congress open.

Not content with merely providing the forum for a “Mingle”, the Local Arrangements Committee forced the issue by sticking a variety of unusual New Brunswick place name tags over the official Congress badges issued at the Registration Desk. As rapidly became clear, there were only two of each name and the purpose of the exercise was to seek out one’s “match” in order to claim the official Congress souvenir — a coffee mug emblazoned with a colour badge featuring our Association’s newest political animal — Lobby the Lobster. This in turn led to the colourful exercise of grown OD’s, spouses and staff people drifting through the Loyalist Room, peering at one another’s chests, like a Dating Game gone mad, in search of another “Weaver Siding”, “Quispamsis”, “Ste-Anne-de-Madawaska” or “Memramcook”. Gradually, however, the plaintive cries diminished as more and more matched pairs emerged from one of the most imaginative Congress icebreakers ever seen.

The only complaint — that smoked salmon is so expensive. It vanished quickly among the hoard of early arrivals at the buffet table, leaving only a delectable assortment of the more traditional hors d’oeuvres and canapés for those less fortunate lovers of the Maritime version of this particular delicacy.





*Saint John's Mayor, Elsie Wayne, appears to be miming her warm welcome to "The Greatest Little City in the East".*

*Le maire de Saint-Jean, Elsie Wayne, semble mimer son chaleureux message de bienvenue à cette charmante petite ville de l'Est.*

### **Day 2 — The Greatest Little Saleswoman in the East Says Hello and the King Kong of Lobsters Says Good-Bye**

Saint John's Mayor, Elsie Wayne, is an extremely energetic, busy and dynamic individual. Her schedule, unfortunately, kept her from extending the traditional Mayor's welcome at the Opening Ceremonies but she more than made up for it with a rousing hello from the podium at the luncheon on Day One. She had the remarkable ability of making us feel like the most important group ever to visit the City and then, in the next breath, tell us that the Canadian First Ministers' Conference was slated for this same room just under a month away. Saint John, she said, armed with its lavish athletic facility built for the Commonwealth Games, a new multi-use Trade and Convention Centre/Market Square, bracketed by two new hotels and an ongoing core revitalization scheme, is serving notice to the rest of Canada that it plans to be much more than the site of this country's only two-way waterfall.

With only half a day of the City's welcome under our belts, the Congress delegates were already feeling right at home.

Special guest speaker at this luncheon was the province's Minister of Health and Social Services, the Hon. Nancy Clark Teed. It is obvious that Optometry in New Brunswick enjoys a very special profile among the province's health care providers, a point that was stressed by the Minister in her remarks. She cited several examples of this profession's services to the people of New Brunswick as emblematic of a "caring" approach, including the diagnostic screening programs offered by the NBAO's Mobile Vision Services van to both school children and senior citizens.

It is a CAO tradition to preview the coming Congress at each Biennial meeting and Day 1's luncheon also offered the opportunity for a few words from Dr. Ian Edmison, Publicity and PR Chairman for "Rendezvous Ottawa '89" to invite all and sundry,

on behalf of Local Arrangements Chairman Dr. Pierre Levasseur and his Committees, to the nation's capital August 1-4, 1989.

Meanwhile, at Saint John's Thistle St. Andrew's Curling Club, over 1/2 tonne of lobsters was being readied for the evening's social event, billed simply as a Feast and Fun Night in the program. But what a feast! And what a Fun Night!

It is no small exercise to create a warm atmosphere in an arena normally surfaced in sheets of ice but, apparently, it is routine for the organizers. Draped tables, chairs and a huge stage replaced hacks and hog lines; a virtual army of waiters and chefs supplanted the skips, leads, seconds and thirds who normally populated the floor of this Club. When the delegates arrived, there was already a festive air provided by the brightly lit hall, complimented by the rowboats full of iced Schooners, Olands, Keiths and James Ready's. Meanwhile, those few unmatched from the previous evening's place name search began table by table quests, with etched napkins, for the other half of their souvenir coffee mug entitlement.

One of the evening's early highlights surely had to be the demonstration of how to eat a lobster — or, more correctly, how to get at the parts of the lobster that are edible — offered by the NBAO's own Noella Lebrun and Dr. Richard Duguay. Obviously the size of the crowd required a clearly visible prop and the granddaddy of all Fundy lobsters, estimated by the knowledgeable as somewhere in the region of 7-8 pounds, was used for the occasion. (The less informed among us simply saw it as the biggest dead red bug we ever wanted to see, and went back to our beautifully grilled T-Bone steaks.) Ingenuity, in many cases however, replaced the Lebrun/Duguay Method as not a few impatient diners were observed cracking claws with empty



*NBAO President Dr. Les Clements (L) presents a "token of appreciation" to the Province's Minister of Health and Social Services, the Hon. Nancy Clark Teed.*

*Le président de l'AONB, le Dr Les Clements (G), exprime sa reconnaissance envers la ministre de la Santé et des Services sociaux de la province, l'hon. Nancy Clark Teed.*





*"Hello, you don't know me, but I have a name badge that says I'm from Gondola Point Quisbis...no, really, and I was wondering if you have a match. No, I don't smoke...oh, never mind."*

*"Bonjour. Vous ne me connaissez pas, mais mon porte-nom dit que je viens de Gondola Point Quisbis...non, sans blague, et je me demandais si vous aviez une "match". Non, je ne fume pas...ah, laissez faire."*



*The NBAO's Mobile Vision Van was a hit both with young patients and the media.*

*La fourgonnette publicitaire de l'AONB a eu beaucoup de succès auprès des jeunes et des médias.*

wine bottles when they failed to yield to the proddings of the plastic picks provided by the Club.

Music this evening ranged from the regional fiddling/step dancing variety to the kind of thundering guitar runs first heard from Chuck Berry and Mark Knopfler. No one was disappointed and, in a nice touch, an alternate lounge area was available for those ears to whom Chuck Berry and an unholed boxcar wheel are one and the same.

### **Day 3 — Exhibitor forum and the optometric tidal bore sweeps through Saint John**

Day 3 was the Exhibitors' opportunity to show their wares and it began with another CAO Congress first — a breakfast "seminar". It was designed so as to allow one particular Exhibitor to sponsor an event and thereby focus delegates' attention on a particular product or procedure. The Exhibitor — Polymer Technology, chose to highlight its new Boston Equalens and did so with a bright flair and several energetic "touches" that started the day off with a bang. A Dixieland band, lots of coffee and a generous amount of product information made this first ever CAO Congress breakfast "seminar" a great success.

(With all due respect to the folks at Polymer Technology, however, for painfully obvious reasons, not everyone who attended the previous evening's festivities was wholly enthralled at being greeted by what looked like a badly fried egg adorning the hats which were given out to promote your new Boston Equalens.

That being said, your hosting the very lively breakfast introduction to the day was nonetheless greatly appreciated.)

It was an event which many delegates expressed a desire to see repeated at future Congresses and, it is hoped, was perceived as a mutually beneficial forum for the Exhibitor concerned, as it certainly was for the optometrists who took part.

Both luncheon and an evening cocktail party this day were held in the Exhibit Hall. It is another CAO tradition to "cap-

ture" an audience in this way for the Exhibitors to ensure a generous attendance at a portion of the Exhibit Program. Coupled with in-Hall door prize draws and a passport system which required a significant number of booth visitations, the resulting "osmosis" of delegates through the Hall was a great success this



*A lobster so big, it takes six just to hold the tray. The six are (L-R): Mrs. Monique Lambert, AOA President Dr. John Tumblin, Mrs. Calli Brisbin, Mrs. Billie Tumblin, NBAO Executive Director Noëlla Lebrun and CAO Executive Director Gérard Lambert.*

*Le homard est si gros qu'il faut six personnes juste pour soutenir le plateau. De gauche à droite, on reconnaît Mme Monique Lambert; le président de l'AOA, le Dr John Tumblin; Mme Calli Brisbin; Mme Billie Tumblin; la directrice générale de l'AONB, Noëlla Lebrun; et le directeur général de l'ACO, Gérard Lambert.*



year, again as evidenced by the many post-Congress positive comments that have been received at the CAO office. 1987 saw a record participation by the Exhibitors and their ongoing support and participation in the CAO Congress program is a much appreciated part of the Biennial success stories that have marked our conventions. (Refer, too, to the statistical summary that follows this article.)



Who says an LAC Chairperson's lot is an unrewarding one? Dr. Barbara Iftody (L) had her number come up in the draw for a hyperopic's television set presented by les Services Optométriques de l'Association des Optométristes du Québec. Shown her presenting the prize to Dr. Iftody is Dr. Jean-Marie Rodrigue.

Qui a dit que le poste de président du Comité de l'organisation locale n'est pas rémunérateur? Le Dr Barbara Iftody (G) a gagné le téléviseur pour hypermétrope qu'ont fait tirer les Services optométriques de l'Association des optométristes du Québec. Sur la photo, le Dr Jean-Marie Rodrigue présente le prix au Dr Iftody.

That evening, under the organization of Dr. Tom McCue, many of the graduating classes of optometrists from both Waterloo and Montréal took full advantage of the City's hospitality. They ranged throughout Saint John, an optometric tide, to locations as diverse as the Reversing Falls Restaurant and an outdoor café directly in front of the downtown Labatt's Blue Live Amateur Night Talent Competition stage — where a number of unfortunate souls from, of all groups, Dr. McCue's own class were subjected to a rendition of Johnny B. Goode played on the bagpipes by a character dressed like Santa Claus! (Never let it be said Saint John's amateur musicians lack an imaginative spark.)

#### Day 4 — A light lunch, a loud launch and a lunge for the lounge

The Congress' final day offered the opportunity to showcase CAO and one of its umbrella organizations — the Canadian Optometric Education Trust Fund, or COETF.

Throughout the Congress, more and more attendees began sporting buttons which read "I'm In, Are You?/J'en Suis, Et Vous?"; "in" being a reference to in the draw for one of the most attractive prizes ever offered by a COETF fundraising activity — a luxury trip for two through the Champagne region of France aboard the beautifully appointed Hotel barge *Liquenda*. The event officially launched the COETF's Industrial Fundraising Campaign which will see a cross Canada drive to elicit funding largely from the ophthalmic manufacturing and supply com-

munity to which Optometry has for decades contributed its professional business.

As draw time (built around a light buffet luncheon) approached, excitement rose to a fever pitch (helped along by National Fundraising Chairman Dr. Reid MacDuff's suspense building exercise of first choosing ten finalists, as well as by air bursts from a foghorn loaned by a local restaurant and a series of Loyalist militia drum rolls provided by a young member of Delancey's Brigade especially conscripted for the event). In keeping with the event's suspense, we won't steal the COETF's thunder by announcing the results here — the complete story and draw results appear under a COETF banner elsewhere in this issue.

Finally, the traditional CAO Congress lull came — a breath catching time identified on the Program as a "Free Afternoon".

The weather throughout had co-operated beautifully. This final afternoon was no exception and Saint John's hospitality and historic walks beckoned many attendees away from their hotels.

By early evening, however, showered, shaved, shampooed and dressed to the nines, delegates began once more to assemble in the Convention Centre foyer for the gala concluding event — the CAO President's Banquet, Awards Night, Dance and Social.

Any banquet table rush was avoided through the foresight of a pre-event table reservation process arranged at the Registration Desk. Once the delegates were seated, the program began with the Head Table's trooping in to the strains of a solitary piper and the rhythmic applause of the delegates.

The honour roll for the 1987 Biennial Congress, that is to say the banquet dignitaries at this year's head table, were as follows: CAO President Dr. Scott Brisbin and his wife, Calli; NBO President Dr. Les Clements and his wife, Ruth; 1987 CAO President's Award winner, Dr. Irving Baker and his wife, Helen; 1987



CAO Council takes time out from the pre-banquet reception in the Royal Suite for a photo in all their finery. Seated L-R: Dr. Jean-Marie Rodrigue (Qué); Dr. Tom Adamack (BC); Dr. Scott Brisbin (President); Dr. Bruce Rosner (Past President). Standing L-R: Dr. Joe White (NB), Dr. David McKenna (PEI); Dr. Doug Côté (NF); Dr. Margaret Hansen des Groseilliers (ON); Dr. Greg Perkins (MB); Dr. Mike Duffey (NS); Dr. Jim Krueger (SK) and Dr. Grant Campbell (AL).

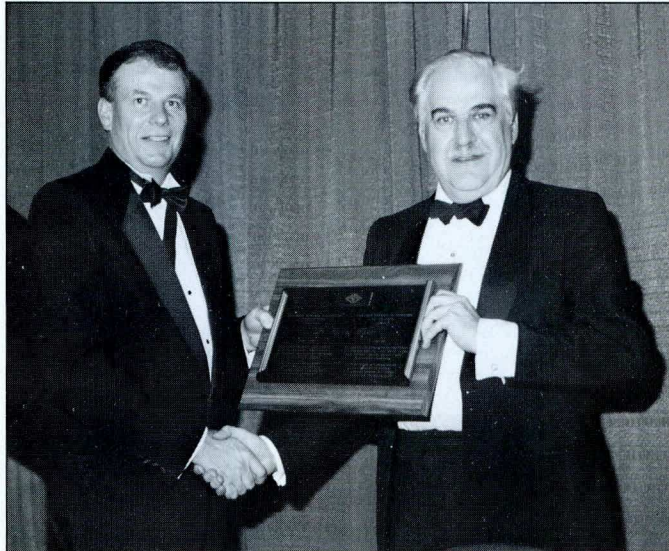
Lors de la réception précédant le banquet dans la Royal Suite, les membres du Conseil de l'ACO posent pour une photo, parés de leurs plus beaux atours. Assis de gauche à droite: le Dr Jean-Marie Rodrigue (QC); le Dr Tom Adamack (C.-B.); le Dr Scott Brisbin (président); le Dr Bruce Rosner (président sortant). Debout de gauche à droite: le Dr Joe White (N.-B.); le Dr David McKenna (Î.-P.-É.); le Dr Doug Côté (T.-N.); le Dr Margaret Hansen des Groseilliers (Ont.); le Dr Greg Perkins (Man.); le Dr Mike Duffey (N.-É.); le Dr Jim Krueger (Sask.) et le Dr Grant Campbell (Alb.).



Congress Local Arrangements Committee Chairperson Dr. Barbara Ifody, Special Committee Consultant (and francophone emcee throughout virtually the entire Congress) Dr. Raymond Corbin and his wife, Colette; CAO Executive Director Gérard Lambert and his wife, Monique; special guest Dr. John Tumblyn, President of the American Optometric Association and his wife, Billie and special guest Dr. G. Burt Holmes, President of the International Optometric and Optical League.

As with any banquet, the formalities and fun of necessity had to be preceded by a meal. The process of eating and drinking, however, was actually made much less painful this year through the provision of a superb menu by the Congress organizers, built around the entrée of a beautifully poached fillet of Atlantic salmon.

In our next issue will be found the highlights of the presentation of the CAO President's Award to Dr. Irving Baker, but another award, acknowledged as "long overdue" by President Dr. Scott Brisbin, was also presented on this occasion. A special plaque, in recognition for long and devoted service to *The Canadian Journal of Optometry* \* *la Revue Canadienne d'Optométrie* as its manager and Treasurer during the 1950's and 60's, was presented to Melvern M. Katzman of Toronto and accepted, in his absence, by Dr. Mitchell Samek.



CAO President Dr. Scott Brisbin (L) presents the 1987 CAO President's award to Dr. Irving Baker, Registrar of the College of Optometrists of Ontario.

*Le président de l'ACO, le Dr Scott Brisbin (G), présente le Prix 1987 du président de l'ACO au Dr Irving Baker, registraire du Collège des optométristes de l'Ontario.*

With formalities (which included a special acknowledgement to each of the Local Committee Chairpersons and support staff) concluded, delegates were offered a choice of two completely different types of entertainment. In the main ballroom, The Thomists, a 16 piece orchestra made up of local university music students, presented a wonderfully varied program of Big Band and Swing tunes that have become classics in only the short decades since they first crossed the airwaves. For a few golden hours, delegates waltzed, tangoed and fox-trotted across the polished dance floor to the ageless melodies of the likes of Artie Shaw, Glenn Miller and Duke Ellington.

Meanwhile, across the hall, contemporary technology pervaded and a wide range of modern recordings were played by a more than adequately amplified disk jockey. And a curious

phenomenon resulted — perhaps attracted by the novelty of live, unamplified music, a much younger audience than might have been expected spent the evening with the Thomists while a good many of those to whom "Dire Straits" means profound difficulty crossed the hall and got down to some serious rocking.



A happy host and hostess at the final event of the Congress. NBOA President Dr. Les Clements (R) has just presented a special City of Saint John Distinguished Achievement Award for Excellence in Meeting Coordination to Merry-Tyme Mingle's Local Arrangements Committee Chairperson Dr. Barbara Ifody.

*Un hôte et une hôtesse des plus ravis, lors de la soirée de clôture du Congrès. Le président de l'AONB, le Dr Les Clements (D), vient de remettre à la présidente du Comité de l'organisation locale, le Dr Barbara Ifody, le prix spécial de la ville de Saint-Jean pour l'excellence de la coordination.*

The evening pressed far into the night and Dr. Brisbin's suite finally became the gathering point for the last of the diehards who, it seemed, just didn't want the "Merry-Tyme Mingle" to end.

But all good things...etc.

We can't say enough good things about the City of Saint John. Certainly the 1984 site inspections, in which CAO's Council committed the Association to the City, confirmed that the properties and space were adequate to our needs. But it was the people of this community, who went the extra mile to make you feel welcome, that took this Congress out of the realm of a business/social/exhibit focussed meeting. "Hospitality" is not a feature you can write into a hotel contract; "warmth" is not normally an expected part of the transaction by which a visitor acquires a piece of local art. But Saint John's hospitality and warmth was everywhere — from the man in Delancey's Brigade patiently explaining to a doubting young delegate that a black powder flintlock musket doesn't have a 9mm magazine; through the convention centre's staff "recital" before the banquet that elevated "Remove the salad fork from the LEFT" to a stanza in an efficient, organizational poem (witnessed, incidentally, by very few delegates. What they saw was simply the well-orchestrated result of this pre-banquet drill.); to the final hotel desk farewell from a checkout agent who seemed genuinely saddened to see "all you optometrists" leaving.

Dr. Ifody and her committee's efforts have left many a Canadian optometrist wondering why it took until Biennial number 20 to get to New Brunswick.

Undoubtedly, our next visit will be well before Biennial number 40!



# 1987 Biennial Congress Business Meetings

## 1987 National/Provincial Optometric Leaders Meeting

**T**uesday, August 4, was the date for one of the most significant meetings ever held by the Association — The National/Provincial Optometric Leaders Meeting.

Under the Chairmanship of CAO President-elect Dr. Tom Adamack, the purpose of the meeting was to assess **The Role and Structure of the Canadian Association of Optometrists.**

### Background

This meeting was actually the continuation of a process begun last summer immediately after Dr. Scott Brisbin assumed the office of CAO President. Past President Dr. Bruce Rosner, Chairman of the Association's Advisory Committee, circulated a detailed questionnaire to a large number of current and former optometric leaders at both the national and provincial levels.

They were asked to do nothing less than evaluate the entire structure of the national Association in terms of its make-up and relationships with the provincial Associations of Optometrists.

(It might be somewhat surprising to the practising optometrist to realize that CAO's "membership" is not made up of individuals like yourself. Rather, as a federation, the Canadian Association of Optometrists actually has ten corporate members, the provin-

cial Associations of Optometrists from coast to coast. As a registered member of your provincial Association, you are designated to receive national Association information, via vehicles like the *CJO \* RCO* and the *Optometrist's Desk Reference*, but your actual "membership" classification is at the provincial level, not directly with CAO.)

In terms of political activity, there are few optometrists more involved than the current leaders in each province — the President, President-elect or Vice President and, at a staff level, the Executive Director. It was with precisely this thought in mind that the participation of the provincial optometric leadership was sought this year in a joint meeting with the Council of CAO to discuss the role and structure of the national Association.

The meeting was actually Part II of the process. In Part I, as is noted above, Canadian Optometry's substantial leaders' network, past and present, was tapped via a detailed questionnaire. Now it was planned to offer the corporate members the opportunity to voice their concerns through their present leadership structure. The Agenda offered virtually no itemized procedures whatsoever save the fact that each provincial Association would have an equal opportunity at the microphones.

### The Meeting

Formerly held under the title "Interaction", the 1987 National/Provincial Optometric Leaders Meeting proved to be a wide open affair. Individual presentations ranged from offering a number of highly critical specifics regarding CAO's performance, while advocating maintenance of the present federated structure, to several suggestions as to how the structure itself might be revamped.

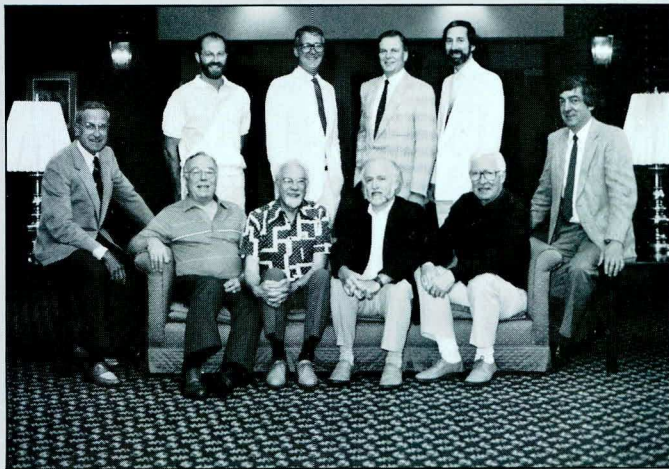
In turn, each provincial Association President reviewed the corporate member's perception of the national Association in terms of its real and potential ability to deliver member services. A number of speakers also digressed to review specific services and to offer suggestions as to how their delivery might be enhanced.

A highlight of this year's meeting as well was the provision of full on-site simultaneous services. Attendees agreed that the option of speaking in either French or English was a process which should be a regular feature at this type of national meeting. The very minor delays while the technician identified the correct microphone to activate were seen as a tiny price to pay for the opportunity to express oneself comfortably in either language.

(If the reader senses a deliberate attempt to avoid presenting any specific comments or suggestions which were reviewed at this meeting, there is a deliberate reason for this. It follows.)

### A Voice From Optometry

Those general members who attended the 1987 General Business Meeting received an invitation from the CAO President to par-



*Saint John also welcomed many from the gallery of CAO Presidents to this year's Congress. Seated L-R: Dr. Jack Huber (79/80), Dr. Ivan McNabb (73/75), Dr. Bill Lyle (55/57), Dr. Ralph Rosere (84/85), Dr. Hugh MacKenzie (67/69) and Dr. Hervé Landry (80/81); standing L-R: Dr. Reid MacDuff (81/82), Dr. Roland des Groseilliers (82/84), Dr. Scott Brisbin (86/present) and Dr. Bruce Rosner (85/86).*

*De nombreux anciens présidents de l'ACO ont assisté au Congrès de cette année, à Saint-Jean. Assis, de gauche à droite: le Dr Jack Huber (1979-1980), le Dr Ivan McNabb (1973-1975); le Dr Bill Lyle (1955-1957), le Dr Ralph Rosere (1984-1985), le Dr Hugh Mackenzie (1967-1969) et le Dr Hervé Landry (1980-1981); debout, de gauche à droite: le Dr Reid MacDuff (1981-1982), le Dr Roland des Groseilliers (1982-1984), le Dr Scott Brisbin (1986 à ce jour) et le Dr. Bruce Rosner (1985-1986).*



ticipate in the same process which formed the basis for the National/Provincial Optometric Leaders Meeting.

If you have any comments or suggestions at all, whether you were present at the Saint John General Business Meeting or not, as to how you feel the role and structure of the national Association — CAO — might be enhanced or altered to better suit the needs of the individual optometrists of Canada, Dr. Brisbin is inviting you to direct your comments to him personally, in care of the CAO offices in Ottawa, Suite 301, 1785 Alta Vista Drive, K1G 3Y6.

Questions you may want to consider: Do you feel you're getting a fair exchange for your CAO dues and, if not, how would you suggest the situation be altered to enable this to happen? Do you support the idea of "federation", i.e. one vote per provincial Association, or would you prefer to see a form of "regionalization" with representation adjusted to reflect the number of optometrists practising in Atlantic Canada, Québec, Ontario and Western Canada? Or would you support a further delineation to structure the national Association based on direct membership by each optometrist on an individual basis?

Thank you, in advance, for your contribution to the process of self evaluation presently being undertaken by CAO. As Dr. Brisbin summed up following the Leaders Meeting, the national Association's strength is in its members' satisfaction with the service it provides. A silently dissatisfied member is of no benefit whatsoever and only by hearing your suggestions can CAO evolve to be an even more effective organization for the optometrists of Canada.

## 1987 General Business Meeting

It has been said that an Annual Meeting (or Biennial Meeting) is the bane of any corporation — a necessary evil required by the Constitution.

For the past several Congresses, however, CAO has taken significant steps towards injecting much more relevance into the process for the ordinary members who attend. As has already been noted, at this year's GBM, Dr. Brisbin outlined the process through which CAO has been going to review its own role and structure. He concluded the presentation by requesting written input from the practising OD's in Canada.

In addition, however, this year the meeting provided a forum for two very distinguished guests to address Optometry from an international perspective. Dr. John Tumblin, President of the American Optometric Association, offered a review of the political and practice issues presently facing practitioners in the United States. As has been Canada's experience, one can't lie next to an elephant without feeling every twitch and Dr. Tumblin's review of present day US concerns — therapeutic pharmaceutical agents in particular — undoubtedly flagged a number of this country's future issues.

Meanwhile, a thought-provoking look from another perspective was provided by Dr. G. Burt Holmes, President of the International Optometric and Optical League (IOOL). Dr. Holmes outlined conditions in some countries where optometric vision services to Canada's standards are a distant dream. On behalf of the League, he asked Canada and Canadian OD's to continue our support of their programs, not only in those areas aimed at increasing international professional standards of practice, but also in those areas of humanitarian voluntary service by which people in underdeveloped countries receive basic vision and eye

care services. It proved to be a real reminder of how health care services have evolved in Canada and how minor our "issues" can seem when set against those of people who have no options.

## 1987 Election of CAO Officers

Yet another Congress tradition — the passing of the gavel — was conspicuously absent from the 1987 Biennial Congress. It was replaced by the huge ovation which greeted Dr. Scott Brisbin's announcement at the closing banquet that he had decided to seek a second term as CAO President.

Earlier that day, in a smaller but no less enthusiastic ovation, the Council of CAO had also welcomed the decision and confirmed the extension of the present Executive's mandate by acclaiming the full slate of incumbents for a second term:

### President:

Dr. Scott Brisbin,  
Edmonton, Alberta

### President-elect:

Dr. Tom Adamack,  
Fernie, BC

### Secretary-Treasurer:

Dr. Jean-Marie Rodrigue,  
Montréal, Québec

### Past President:

Dr. Bruce Rosner,  
Winnipeg, Manitoba.

In acknowledging the results, Dr. Brisbin said that his goal is to see through a number of programs begun under his first term, including the honing of CAO's Political Action Program, the initiation of a Canadian Optometric Advocates' Program and the expansion of the national Association's programs of internal and external communication.

Saint John 1987 now joins 19 previous CAO Congresses in the Association's history. While the Greatest Little City in the East gave us a superlative venue for a truly memorable event, the shaping of that final success is surely due to the tireless efforts of Local Arrangements Committee Chairperson Dr. Barbara Iftody and the optometrists and spouses of New Brunswick.

Geographically, New Brunswick is the closest part of Atlantic Canada to the rest of the country (unless, of course you dwell along the Québec/Labrador border). But in many, many other ways, our 1987 Congress experience drew New Brunswick and its people even closer to us.

A Merry-Tyme Mingle, indeed!

### Some 1987 Biennial Congress Statistics

<b>Registrants:</b>	CAO Members (Optometrists):	312
	Spouses:	159
	Junior Delegates (age 6 or under):	37
	(age 6-12):	44
	(age 12 or over):	23
	Students of Optometry:	3
	National/Provincial Staff:	9
<b>TOTAL</b>		<b>587</b>
<b>Exhibitors:</b>	Number of Booths Reserved:	63
	Number of Companies (Commercial):	48
	Number of Non-profit Organizations:	4



# Franklin bifocal, a solution for prismatic correction of paralytic strabismus

M. Bolduc \* J. Gresset \*\*

## Abstract

*A Franklin bifocal gives one the possibility of doing a sector prism to replace a Fresnel prism in cases of paralytic strabismus. Thus, visual acuity and the aesthetic aspect of the equipment can be enhanced.*

The Fresnel prism is an effective way of maintaining fusion in cases of paralytic strabismus<sup>1</sup>. Its low weight for high prismatic correction and the possibility of positioning it on one portion of the lens are its main advantages<sup>2,3</sup>. On the other side, its unaesthetic aspect and the visual acuity drop associated with it are less appreciated<sup>3</sup>.

Our subject, A.R. (87 years old), has shown a paralytic strabismus of idiopathic origin for 15 years. Surgery performed 5 years ago was ineffective. Her main complaint concerns the unaesthetic aspect of her actual prescription. She is wearing a 15 Δ base down Fresnel prism on the superior portion of her left lens. There is no prism on the inferior portion of that lens, neither on the right lens.

Her visual acuities, with her present correction are:

O.D. -0.75/-2.00X90° 6/18<sup>+2</sup>

O.S. -0.75/-2.00X90°

15 Δ Base down  
(Fresnel) 6/18  
Add. +4,00 0,26/0,8  
(0,8M at  
26 cm)

The actual state of refraction is:

O.D. -0.75/-2.00X90° 6/18<sup>+2</sup>

not  
improvable

O.S. -0.75/-2.00X90° 6/12

not  
improvable

Add. +4,00 0,26/0,8  
(0,8M at  
26 cm)

Maddox rods were used to examine the deviation in the nine positions of gaze. These results (Figure 1) confirm that she needs the prism power for far vision only.

To fulfill the patient's request, we had to find a way of eliminating the Fresnel prism. But we wanted to keep and enhance, if possible, the quality of the binocular vision present with the actual equipment. The idea of a slab-off prism was rejected because of the high prismatic correction. We used a bifocal like the one designed by Benjamin Franklin back in 1784<sup>4</sup>.

The original Franklin bifocal featured a halved distance lens and a halved near correction placed in juxtaposition and held together by a circular metal rimmed frame. By using this procedure, it was possible to introduce by surfacing the prism power needed in the superior portion of the lenses only. The prismatic prescription was shared out between the two eyes in the following way: 10 Δ base up on the right eye and 4 Δ base down on the left eye. This distribution was done to minimize the thickness at the dividing line of the left lens and the thickness at the superior edge of the right lens.

At the delivery of the equipment presented at figure 2, diplopia was absent in the primary and reading positions. The visual acuities were:

O.D. -0.75/-2.00X90°

10 Δ Base Up 6/18

O.S. -0.75/-2.00X90°

4 Δ Base down 6/12<sup>-2</sup>

Add. +4,00 0,26/0,8  
(0,8M at  
26 cm)

The patient was satisfied both by the appearance and the vision achieved with her new prescription. The change of ocular dominance brings an improvement in visual acuity without causing any ocular discomfort.

The visual acuity obtained with a conventional prism is better than that obtained with a Fresnel prism, but worse than that obtained without any prism. This observation is in agreement with the results reported by Borish<sup>6</sup>.

The different types of distortions described by Adams et al.<sup>7</sup> and the transverse chromatic aberration associated with every kind of prism can explain the visual acuity loss. However, there appear to be additional acuity reducing factors with Fresnel prisms. Reflections at the prism facets and increased chromatic dispersion produce a loss in contrast of objects viewed through a Fresnel prism<sup>2</sup>.

In cases of paralytic strabismus where different prismatic corrections are required for far and near vision, one can prescribe occupational unifocal lenses, use sector Fresnel prism or realise a bi-prismatic correction. When a prismatic correction of any kind is considered, Fresnel prisms should be used on a temporary basis to make sure that the symptoms will be relieved with prisms. Afterward, if needed for aesthetic purposes, conventional prisms could be used and realised as a slab-off for small prismatic powers or as a Franklin bifocal for large prismatic corrections.

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\*Optometrist, Institut Nazareth et Louis Braille

\*\*Optometrist, M.Sc., Member of Faculty Ecole d'Optométrie, Université de Montréal



# Le double-foyer Franklin, une solution pour la correction prismatique d'un strabisme paralytique

## Resumé

Un double-foyer de type Franklin permet la réalisation d'un prisme en secteur pour remplacer un prisme de Fresnel dans le cas d'un strabisme paralytique. Dans ce cas, l'acuité visuelle et l'esthétique de l'équipement sont améliorées.

Le prisme de Fresnel est une alternative efficace pour maintenir la fusion dans le cas de strabisme d'origine paralytique<sup>1</sup>. Sa légèreté pour de fortes prescriptions prismatiques et la possibilité de le positionner sur un secteur du verre correcteur constituent ses principaux avantages<sup>2,3</sup>. Par contre, son côté inesthétique et la baisse d'acuité qu'il entraîne sont moins appréciés<sup>3</sup>.

Le cas présenté ici est celui de A. R., une femme âgée de 87 ans qui est atteinte de strabisme paralytique d'origine idiopathique depuis 15 ans. Une intervention chirurgicale subie il y a 5 ans est restée infructueuse.

Sa plainte principale concerne l'aspect inesthétique de sa prescription actuelle. Elle porte sur la partie supérieure de son verre gauche un prisme de Fresnel de 15 Δ base en bas. Il n'y a pas de prisme sur la partie inférieure du verre gauche, ni sur le verre droit.

Les acuités visuelles, avec sa correction habituelle sont les suivantes:

O.D.: -0,75/-2,00X90° 6/18<sup>+2</sup>  
 O.S.: -0,75/-2,00X90°  
 15 Δ B.B. (Fresnel) 6/18  
 Add.: +4,00 0,26/0,8  
 (0,8M à 26 cm)

La réfraction indique:

O.D.: -0,75/-2,00X90° 6/18<sup>+2</sup>  
 non améliorabile  
 O.S.: -0,75/-2,00X90° 6/12  
 non améliorabile  
 Add.: +4,00 0,26/0,8  
 (0,8M à 26 cm)

L'examen de la déviation dans les neuf positions de regards en utilisant des baguettes de Maddox comme dissociateur

Fig. 1

20 B.Sup. OD 12 B.Ext.	OSF 20 B.Sup. OD 8 B.Inf.	18 B.Sup. OD 12 B.Inf.	25 B.Inf. OS 20 B.Ext.	ODF 30 B.Inf. OS 4 B.Inf.	30 B.Inf. OS 25 B.Inf.
12 B.Sup. OD 12 B.Ext.	14 B.Sup. OD 1 B.Inf.	14 B.Sup. OD 8 B.Inf.	16 B.Inf. OS 18 B.Ext.	16 B.Inf. OS Ortho.	12 B.Inf. OS 20 B.Inf.
Ortho. 10 B.Ext.	Ortho. 2 B.Ext.	2 B.Sup. OD 10 B.Inf.	Ortho. 16 B.Ext.	Ortho. 1 B.Ext.	Ortho. 12 B.Inf.

(figure 1) confirme l'utilité de la prescription prismatique habituelle en position primaire et de son absence en position de lecture.

Pour répondre à la demande de la patiente, nous avons cherché un moyen d'éliminer le prisme de Fresnel. Cependant nous voulions conserver et si possible améliorer la qualité de la vision binoculaire existante avec l'équipement précédent.

Compte tenu de l'importance de la correction prismatique requise, la possibilité d'utiliser un prisme compensateur a été rejetée. Nous avons plutôt utilisé un double-foyer tel que l'avait conçu Benjamin Franklin en 1784<sup>4</sup>.

Ce type de double-foyer est composé d'une demi-lentille pour la vision de loin juxtaposée à une demi-lentille pour la vision de près<sup>4,5</sup>. En reprenant ce procédé, il a été possible d'introduire par surfacage dans les deux demi-lentilles de vision de loin, la différence de 14 Δ prismatique nécessaire pour éliminer la diplopie en position primaire. La prescription prismatique a été répartie de la manière suivante: 10 Δ base en haut sur l'oeil droit et 4 Δ base en bas sur l'oeil gauche. Cette répartition a été choisie de manière à minimiser l'épaisseur à la ligne de séparation du verre gauche d'une part et l'épaisseur au bord supérieur du verre droit d'autre part.

À la livraison de l'équipement présenté à la figure 2, la diplopie est absente dans les positions primaire et de lecture. Les acuités visuelles sont les suivantes:

O.D.: -0,75/-2,00X90°  
 10 Δ B.H. 6/18  
 O.S.: -0,75/-2,00X90°  
 4 Δ B.B. 6/12<sup>-2</sup>  
 Add.: +4,00 0,26/0,8  
 (0,8M à 26 cm)

La patiente est satisfaite de ses nouvelles lunettes tant au niveau esthétique qu'au niveau de la vision obtenue. L'inversion de la dominance oculaire conduit à un gain appréciable d'acuité visuelle sans pour autant causer de gêne au plan fonctionnel.

L'acuité visuelle obtenue avec un prisme conventionnel est supérieure à celle obtenue avec un prisme de Fresnel, mais inférieure à celle obtenue sans prisme. Ces résultats sont en accord avec ceux rapportés par Borish<sup>6</sup>. Les différents types de distorsions décrits par Adams et al.<sup>7</sup> et l'aberration chromatique transverse associée avec tous les prismes peuvent expliquer la diminution d'acuité visuelle. Les réflexions sur les facettes d'un prisme de Fresnel ainsi que l'augmentation de la dispersion chromatique entraînent une baisse de contraste pouvant expliquer la perte d'acuité visuelle additionnelle avec ce type de prisme.

Dans les cas de strabismes paralytiques pour lesquels des puissances prismatiques différentes sont requises selon la position de regard, on peut envisager la prescription de plusieurs paires de lunettes unifocales selon la tâche à accomplir, l'utilisation d'un prisme de Fresnel dans un secteur du verre correcteur, ou la réalisation d'une prescription bi-prismatique. Dans tous les cas où une correction prismatique est envisagée, une prescription temporaire avec prisme de Fresnel devrait être tentée pour s'assurer de la pertinence d'une telle correction<sup>3</sup>. Par la suite, si l'esthétique l'exige, l'utilisation du prisme surfacé pourra être de mise, et réalisé, soit comme un prisme compensateur pour de faibles puissances prismatiques, soit comme un double-foyer de type Franklin quand la puissance l'exige.



# Vascular and Neural Changes During Body Inversion: Preliminary Findings

J. V. Lovasik \*  
A. C. Kothe \*\*  
M. M. Spafford \*\*\*

## Abstract

*This report examines the influence of gravity on physiological fluid pressures within the body. The interest in the influence of gravity on ocular structures and function is topical not only because of the current fashion of body inversion devices as forms of exercise, but also the ocular consequence of a cephalic redistribution of blood with its subsequent effect on IOP during the micro-gravity environment of space-flight. For the ophthalmic practitioner, the effect of body orientation on intraocular pressure and on the blood supply to the eye is of practical importance.*

*In this paper the influence of precisely controlled body positions on the intraocular pressure, central retinal artery pressure, and systemic blood pressure is presented. Deficits in visual neural function resulting from body inversion are documented. Clinical implications of these findings are discussed.*

cular perfusion pressure (RVPP) is the more important factor in the etiology of glaucomatous optic nerve damage

In the inverted (head down) position, the blood volume is displaced to the headward parts of the body resulting in several readily observable changes in the face and neck region. Several researchers (Klatz et al, 1983, 1985; LeMarr et al, 1984) have reported a significant rise in systemic systolic and diastolic blood pressure immediately on inversion with a return to normal immediately on resuming the upright position.

Correlated with an increase in systemic blood pressure is a significant rise in systolic and diastolic ophthalmic artery pressure (more commonly referred to as central retinal artery pressure or CRA pressure), as measured by clinical ophthalmodynamometry (Friberg et al, 1984; Friberg & Weinreb, 1985; Goldman et al, 1985; Plocher, 1985).

Intraocular pressure is likewise significantly increased to approximately twice baseline values on inversion (LeMarr

et al, 1984; Mansour et al, 1984; Weinreb et al, 1984; Friberg & Sanborn, 1985; Draeger & Hanke, 1986). The increase in IOP occurs almost immediately and remains elevated during the period of inversion (Friberg & Weinreb, 1985). IOP returns to its pre-inversion level within 15 seconds (Weinreb et al, 1984) to several minutes (LeMarr et al, 1984) on resuming the upright position. The increase in IOP with inversion is believed to be due to increased episcleral venous pressure (Klatz et al, 1983) as well as orbital congestion and increased ocular blood volume (Smith & Lewis, 1985).

The structural integrity of ocular tissues on inversion has been examined by various investigators. Friberg et al (1984) failed to find any retinal hemorrhages, cotton wool spots, or leakage of fluorescein dye within 30 minutes after inversion in normal volunteers. Plocher (1985) found no observable change in either ocular blood flow or appearance of retinal vasculature by retinal photography. However, using fluorescein angiography,

## Introduction

In recent years, considerable interest has developed in the area of body posture and its effects on human ocular structures and visual function. This interest is a result of the popularity of gravity inversion devices advocated as a form of exercise and/or therapy, as well as its applicability to aeronautical and space research. Body inversion procedures have also been used in conjunction with techniques such as suction ophthalmodynamometry to identify whether the absolute level of intraocular pressure (IOP) or retinal vas-

\*B.Sc., M.Sc., O.D., Ph.D., F.A.A.O.

\*\*B.Sc., O.D.

\*\*\*O.D., M.Sc.

School of Optometry  
University of Waterloo

Table I

Body Orientation (degrees)	IOP (mm Hg)	Systolic CRA Pressure (mm Hg)	Diastolic CRA Pressure (mm Hg)	RVPP (mm Hg)
0	20.60 ± 1.60	88.30 ± 3.42	56.60 ± 1.98	49.22 ± 3.48
20	20.10 ± 1.39			
40	21.20 ± 1.04	91.30 ± 3.33	62.20 ± 1.94	53.18 ± 2.61
60	22.70 ± 1.38			
80	24.00 ± 1.51	100.50 ± 2.51	66.50 ± 2.58	56.87 ± 2.93
100	27.20 ± 1.85			
120	30.90 ± 1.17	124.20 ± 3.30	87.40 ± 3.60	71.92 ± 3.29
140	35.80 ± 1.14			
160	39.60 ± 1.02			
180	42.30 ± 1.47	147.20 ± 3.84	114.50 ± 3.03	85.80 ± 3.25

\* Values represent group averaged mean + / - 1 standard error of the mean (SEM)



Friberg & Weinreb (1985), noted vasoconstriction of retinal arterioles on inversion. They attributed the constriction of arterioles to a manifestation of retinal vascular autoregulation.

Other reported findings associated with inversion include dilatation of conjunctival vessels (Friberg et al, 1984; Friberg & Weinreb, 1985), periorbital petechiae (Plocher, 1982) subconjunctival hemorrhages, orbital congestion, conjunctival hyperemia and epiphora (Friberg & Weinreb, 1985).

Changes in the functional aspects of vision in body inversion have received relatively little attention in the past. Visual acuity (Friberg et al, 1984; Friberg & Sanborn, 1985) and visual fields (Weinreb et al, 1984; Sanborn & Friberg, 1985) have been reported to be unchanged after inversion despite the significant rise in IOP. Optic nerve function, assessed by the amplitude of pattern reversal visual evoked potentials (VEPs), has been reported to be significantly impaired when compared with pre-inversion values (Friberg & Sanborn, 1985). Curiously, a similar elevation in IOP caused by suction ophthalmodynamometry did not cause as great a degradation in the VEP amplitude (Friberg & Sanborn, 1985; Srebro et al, 1985). A variety of body orientations with associated effects on IOP also occur during the micro-gravity environment associated with spaceflight. In a recent study, the contrast sensitivity function was evaluated before, during and after spaceflight (Ginsburg & Vanderploeg, 1986). While statistically significant changes in sensitivity were found, these were sufficiently small so as not to affect visual performance. However, these changes were not related to changes in retinal vascular perfusion and therefore provide directions for future research needs. Currently, in our lab (unpublished data) we are investigating the correlation between altered RVPP and contrast sensitivity. Preliminary findings have linked altered RVPP with significant changes in the contrast sensitivity function, particularly in the middle spatial frequencies (3 to 6 c/deg).

In as much as functional deficits occur prior to clinically observable changes in ocular structures, an examination of alterations in neural function is likely to yield useful information on causal mechanisms in experiments designed to examine various disease processes. Objective monitoring of retinal function by non-invasive neurophysiological testing, electroretino-

**Table II**

Parameter Measured	Method of Raising IOP	
	Inversion	Ophthalmodynamometry
Intraocular Pressure	38.13 ± 2.02 (mm Hg)	38.60 ± 1.87 (mm Hg)
Change in scotopic blue flash ERG b-wave amplitude	-10.47 ± 1.88 (%)	-31.79 ± 8.23 (%)
Change in photopic red flash ERG b-wave amplitude	-7.67 ± 3.69 (%)	-4.80 ± 4.93 (%)
Change in scotopic blue flash ERG b-wave implicit time	+2.25 ± 2.21 (%)	+3.23 ± 1.93 (%)
Change in photopic red flash ERG b-wave implicit time	-0.21 ± 1.17 (%)	-3.35 ± 2.25 (%)

Values represent the group averaged percent (%) change from baseline +/- 1 SEM

% change = (experimental — baseline)/baseline X 100

graphy (ERGs), provides an ideal method for evaluating the consequences of abnormal fluid pressure relationships in the eye. When combined with objective measures of optic nerve function by VEPs, ERGs may provide new insight into the etiology of glaucomatous nerve damage.

In this report we present the results of some preliminary studies into the neural reaction at the retina to altered IOP and RVPP. The objectives of our pilot studies were: (1) to develop an apparatus to manipulate systemic blood pressure, IOP, and RVPP by non-invasive procedures; (2) to document precisely the nature of fluid pressure changes in the body by controlled body inversion procedures; (3) to determine the effect of measured changes in IOP and RVPP on neural function at the retinal level; and (4) to outline the clinical implications of the measured ocular and neural reactions to altered RVPP.

### Methods and Procedures

All experimental procedures in this study complied with the guidelines of Human Experimentation Ethics and were approved by the University of Waterloo, Human Experimentation Committee.

### Outline of Testing

The aims of the initial phase of experimentation were to evaluate the special apparatus designed to allow precise body orientation and to establish the relationships among IOP, CRA pressure, and systemic BP across various angular positions of the cephalo-caudal axis of the body. This was done for a group of 10 paid volunteers between the ages of 21 and 29 years who had good systemic and ocular health and normal IOPs. For this group, IOPs were measured at 20 degree intervals between 0 and 180 degree body positions; CRA pressure in 40 degree intervals, and systemic BP at 0, 100, and 180 degrees.

The second phase of experimentation involved comparing the effects of IOP raised by (1) body inversion and (2) ophthalmodynamometry, on the scotopic and photopic flash ERGs in a second group of ten qualified subjects in the same age group as the first. For this phase of our study, the IOP was manipulated to create an increase of about 120% by both procedures. This allowed a comparison of the effects of similar IOP levels but dissimilar RVPPs, on retinal function as monitored by the flash ERGs. During



body inversion, the RVPP is increased simultaneously but more rapidly than the IOP. In ophthalmodynamometric scleral indentation the IOP is increased but the RVPP is reduced.

For the body inversion procedure, the maximum increase in IOP was achieved by rotating the body axis into the 180 degree position (total body inversion). The IOPs achieved by this procedure were matched for each subject by controlled ophthalmodynamometric compression of the globe while the subject was seated in an upright position with his head immobilized within a painless head-restraint device. Diastolic and systolic CRA pressures were measured in each of the test conditions described above in order to allow calculation of the RVPPs.

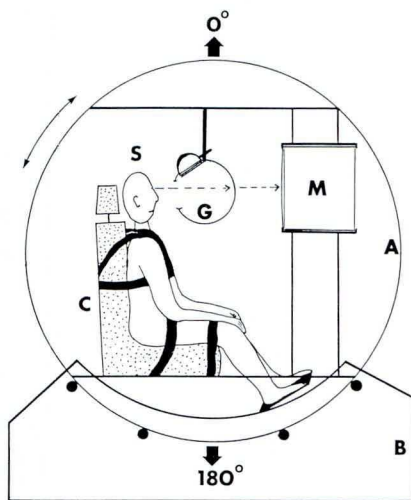


Figure 1

Schematic of the body inversion apparatus used to raise the IOP. It was composed of a circular steel frame (A) resting on roller bearings within a non-rotating base (B). During inversion the subject (S) was secured to a padded chair (C) attached to the circular frame. A strobe attached to a diffusing sphere (G) was used to present flashes for ERGs in ganzfeld mode. Pattern stimuli could be presented on a high resolution monitor (M) when G was rotated out of the line of sight. The solid arrows indicate the position of the subject's head in the upright (0 degree) and inverted (180 degree) positions.

### Body Inversion Apparatus

The apparatus to control body orientation and thereby the IOP and RVPP is shown in Fig. 1. It consisted of a robust circular metal frame that contained a padded seat

and head rest with supporting belts as well as apparatus to provide controlled visual stimulation. This latter apparatus consisted of a ganzfeld unit for the diffuse flash needed to elicit the ERG and a quality monitor for electronic generation of reversing checkerboard patterns used

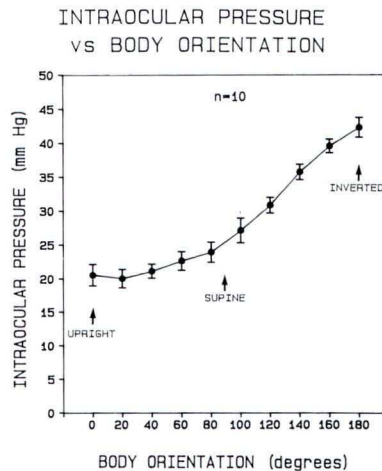


Figure 2

Change in IOP with body orientation. In this and subsequent figures the zero degree position corresponds to an upright seated position while the 180 degree orientation denotes the completely inverted (head down) seated position. For this group of ten subjects, the IOP increased in a curvilinear manner from the upright through the supine and into the inverted position. The solid bars through data points for this and subsequent figures represent  $\pm 1$  SEM (standard error of the mean).

in visually evoked cortical potential studies. The entire frame with stimulators sat on roller bearings and could be rotated by a winch in a continuous fashion into any angle between 0 and 180 degrees. The 0 degree position corresponded to a seated upright position for the subject while the 180 degree corresponded to complete body inversion.

### IOP and CRA Pressure Measurements

For convenience, all measurements were taken for the right eye. The pupil was dilated with one drop 1% cyclopentolate hydrochloride (1% Cyclogyl). IOP was determined with a calibrated gas driven tonometer (Digilab pneumatometer) following administration of a topical anesthetic, 0.5% proparacaine hydroch-

loride (Ophthaine). A minimum of three IOP measurements were made in each body position following a one minute stabilization period at each new position.

Ophthalmodynamometry for measuring CRA pressures was performed by two investigators using a spring ophthalmodynamometer (Luneau, France). One experimenter placed the circular footplate (diameter 7.3 mm) of the dynamometer 2 to 3 mm nasal to the corneo-scleral limbus while the subject looked to his right. The plunger was advanced perpendicular to the sclera until the second investigator using an ophthalmoscope, reported a pulsation of the central retinal artery at the optic nerve head. Three measurements were made of this diastolic pressure. The sclera was then indented further until the pulsation ceased and the central retinal artery collapsed. This was recorded as the systolic pressure and a minimum of two such measurements were made.

Ophthalmodynamometer scale readings were converted into mm Hg units using the Bedavanija conversion scales which take into account the resting intraocular pressure. Mean time-averaged CRA pressures (P m) were derived from the formula,  $P_m = P_{diastolic} + (P_{systolic} -$

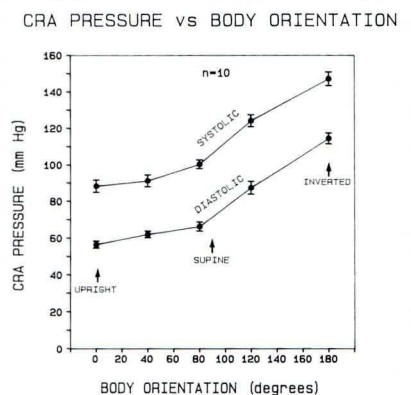
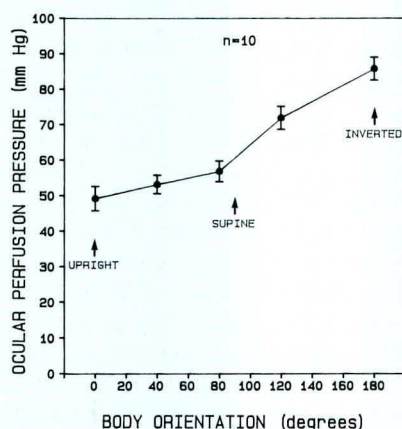


Figure 3

Group averaged values for ten subjects showing the increase in the diastolic and systolic central retinal artery pressure with body orientation as measured by ophthalmodynamometry. As was the case with the IOP (Fig. 2), the CRA pressure increased in a manner that approximated a curvilinear function. Changes in diastolic and systolic pressure paralleled each other throughout the entire range of body positions. This congruity of data provides indirect validation of the experimenters' method of measuring CRA pressure values.



### VASCULAR PERFUSION PRESSURE vs BODY ORIENTATION



**Figure 4**

Group averaged retinal vascular perfusion pressure data for the ten subjects whose IOP and CRA values are shown in Figs. 2 and 3. While the IOP more than doubled with complete body inversion, the calculated perfusion pressure increased by about 70%. This slight divergence of IOP and RVPP data with inversion may be due to (1) a limitation on the amount of vascular infiltration possible with inversion, (2) an accelerated rise in the IOP due to individual differences in globe expandability (scleral rigidity), or (3) a constant error in the subjective determination of the onset and cessation of the central retinal artery pulsation with ophthalmodynamometric indentation of the eyeball.

$P$  diastolic)  $\times 0.42$  (Weigelin & Lobstein, 1963). Retinal vascular perfusion pressure was calculated as:

$$RVPP = P_m - IOP$$

### Systemic BP

Diastolic and systolic pressure readings were recorded from the brachial artery with the arm elevated to eye level. Measurements were made with an electronic auto-inflation, digital readout blood pressure unit (Taylor, Model A-200). Three determinations of systolic and diastolic pressure were made for each body position.

### Neurophysiological Testing

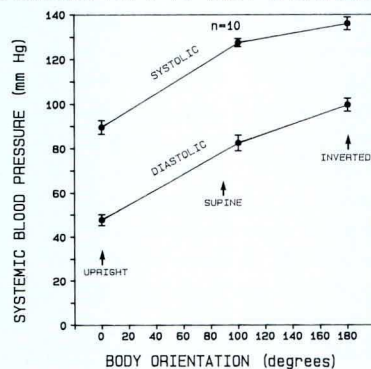
Both scotopic and photopic flash ERGs were recorded when IOP was increased by body inversion and globe compression by ophthalmodynamometry. In both procedures the pupil was dilated with one

drop 1% cyclopentolate hydrochloride. During body inversion procedures, ERGs were obtained after one minute pressure stabilization for body orientations of 0 and 180 degrees. Scotopic ERGs were recorded after 30 minutes of dark adaptation in response to high intensity blue flashes (Grass PS22 photostimulator, X16) under ganzfeld presentation. The blue flashes insured a rod isolated ERG. Following a 2 minute period of light adaptation to a white ganzfeld background (73 lux) ERGs were recorded to scotopically matched red flashes. The red flash insured a cone dominated ERG. A DTL-type fibre electrode placed in the lower conjunctival fornix of the right eye served as the active electrode. A commercially prepared pre-gelled Ag/AgCl electrode placed about 1.0 cm lateral to the temporal canthus acted as the reference electrode, and a similar electrode on the wrist served as the electrical ground. Each trial consisted of an average of 15 flashes delivered at a rate of 0.3 Hz. Responses were

electronically processed by filters providing a bandpass between 1 and 250 Hz, amplified on a clinical averager (Nicolet CA1000), and stored on floppy diskettes for subsequent retrieval and analysis.

In a separate session, prior to ERG testing during IOP elevation by ophthalmodynamometry, the cornea was anaesthetized by one to two drops of topically applied 0.5% proparacaine hydrochloride (Ophthaine). Thereafter, the dark adapted subject, with the ERG fibre electrode already within the inferior fornix, was seated upright with his head fixed within a head and chin support mechanism. The ophthalmodynamometer, used to raise IOP by scleral indentation, was secured within a rotatable x-y-z micromanipulator which allowed precise positioning of the footplate at right angles 3 to 5 mm temporal to the corneoscleral limbus of the right eye. The placement of the probe was done under Kodak safelight illumination to preserve dark adaptation. Subsequent scotopic and photopic ERG testing was identical to that carried out in the inversion procedures. ERG analysis consisted of measuring the amplitude and implicit time of the b-wave component of each ERG.

### SYSTEMIC B.P. vs BODY ORIENTATION



**Figure 5**

Group averaged trend for ten subjects showing the increase in both diastolic and systolic systemic blood pressure with the degree of body inversion. Note that while the pressure difference between diastole and systole (about 40 mm Hg) is within normal limits, the absolute pressure values for both are far below the normally measured systemic blood pressures. This occurred because all pressure measurements were made with each subject's arm held alongside his head so that the brachial artery was at eyeball level. This technique allowed a better estimate of the systemic blood pressure entering the eyeball. With the arm in its normal resting position, sphygmomanometry measurements reflect the blood pressures at the level of the heart which are some 40 mm Hg higher.

### Results

Individual IOPs increased slowly by 4 to 5 mm Hg on body rotation from the upright to a supine position. Further rotation caused a much quicker rise in IOP, ending on complete inversion with an IOP value approximately twice that measured for the baseline (upright) condition. The group averaged data ( $n = 10$ ) for the IOP-body orientation function is shown in Fig. 2.

Systolic and diastolic CRA pressures increased in a fashion similar to that seen for IOPs with body tilt from 0 to 180 degrees. The group-averaged data ( $n = 10$ ) for the CRA pressure-body orientation function is shown in Fig. 3. The calculated RVPP also increased in a similar two stage manner with inversion (Fig. 4). The systemic systolic and diastolic blood pressure measured with the arm at eyeball level (see Methods) increased by about 30 mm Hg on body rotation from the upright to supine position and then increased a further 10 to 20 mm Hg on complete inversion. (Averaged systolic and diastolic blood pressure values are about 30 mm Hg higher when measured with the arm held alongside the torso with the brachial artery in line with



the heart.) The group averaged ( $n = 10$ ) changes in systemic systolic and diastolic blood pressures with body inversion are shown in Fig. 5. Averaged values for the IOP, CRA pressure, and RVPP obtained in the first phase of the study for each of the tested body positions are given in Table 1.

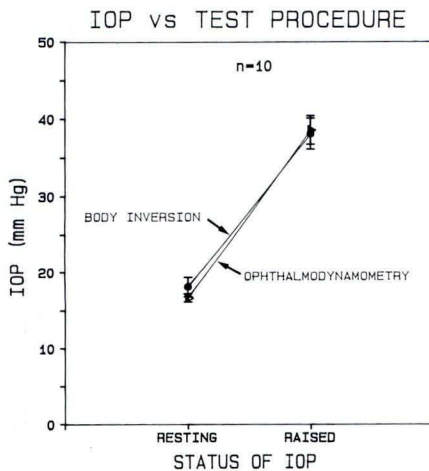


Figure 6

Group averaged data for a second group of ten subjects showing the congruence of resting and test levels of IOP as raised by body inversion and ophthalmodynamometric compression of the globe.

For the second phase of testing where the effects of IOP raised by body inversion and ophthalmodynamometry on flash ERGs were examined, the group averaged IOP values for inversion and ophthalmodynamometry were  $38.13 \pm 2.02$  mm Hg and  $38.60 \pm 1.87$  mm Hg, respectively (Fig. 6). Typical ERGs obtained for baseline and each test procedure are shown in Fig. 7. Elevating the resting IOP by either body inversion or ophthalmodynamometry caused the amplitude of the b-wave to decrease in both scotopic and photopic conditions. However, the magnitude of the reduction in the b-wave amplitude varied with the method of increasing the IOP and the state of adaptation of the retina. Under scotopic conditions, the size of the reduction was much greater by ophthalmodynamometry (about 32%) than body inversion (about 10%). Under photopic conditions the reduction in the b-wave amplitude was nearly equal for ophthalmodynamometry (about 5%) and body inversion (about 8%). This difference, shown in Fig. 8, appeared more related to the RVPP than absolute level of IOP. For example, the

RVPP given within brackets in Fig. 8 indicate that the RVPP was about 2.7 times greater in body inversion than during ophthalmodynamometry, in the presence of nearly identical raised levels of IOP. Thus the greater RVPP appeared to hold the loss in b-wave amplitude to a modest level. In photopic testing conditions, the differences in RVPP was associated with a small reduction in amplitude of the ERG b-wave and this decrease was very similar for both methods used to raise the IOP.

The implicit time of the ERG b-wave was altered only slightly (less than 3.5%) under scotopic or photopic conditions by either method of IOP elevation (Fig. 9). Thus the implicit time of the b-wave was much less susceptible to pressure effects than the b-wave amplitude. Changes in the b-wave amplitudes and implicit times with respect to baseline value are summarized in Table II according to test condition.

## Discussion

Our findings are in agreement with those of previous researchers, who also showed

that IOP is altered with body tilt (Kriegelstein et al, 1978; Draeger & Hanke, 1986) and is significantly increased in the head-down position (Klatz et al, 1983; Srebro et al, 1985). Concomitant is a non-linear increase in central retinal artery pressure. In earlier studies Smith & Cogan (1959) had reported that the ophthalmic artery pressure changes little between the upright and supine position while others (Klatz et al, 1983) showed that it rises significantly on inversion not unlike the changes in CRA pressure shown in Fig. 3.

Many changes in body orientation also occur in manned spaceflight. Draeger et al (1986) reported that the IOP after launch increased 20 to 25%. These changes may have been caused exclusively by changes in body orientation and the associated vascular changes. Alternatively they may have been as yet unidentified residual pressure effects subsequent to large G-forces affecting the astronauts during the launch. Dynamic changes in IOP during launching procedures have not been fully documented and deserve investigation in order to determine the

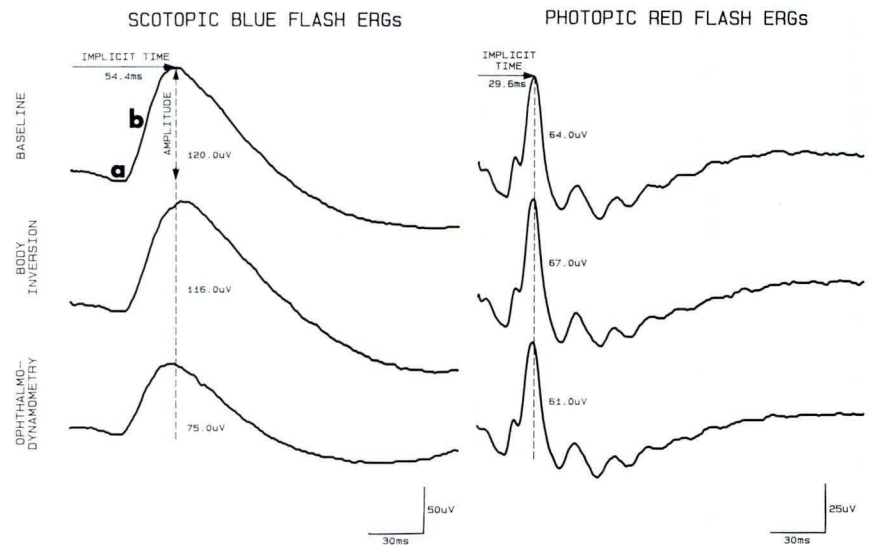


Figure 7

Digitally averaged scotopic (rod isolated) and photopic (cone dominated) flash ERGs showing the morphology of the a-wave and b-wave components, the parametric measures made in the study, and the typical changes in individual ERGs from baseline in body inversion and ophthalmodynamometry procedures. Note that while the implicit time of the scotopic b-wave varies only slightly across test conditions, its amplitude shows a

progressively larger drop with body inversion and ophthalmodynamometry. In comparison, the photopic ERGs show little change in both amplitude and b-wave implicit time across test conditions. The numbers within each wave represent the trough-to-peak amplitudes of the b-wave. Sample times for the baseline b-wave implicit times are also presented to emphasize the time difference between rod and cone responses to light.

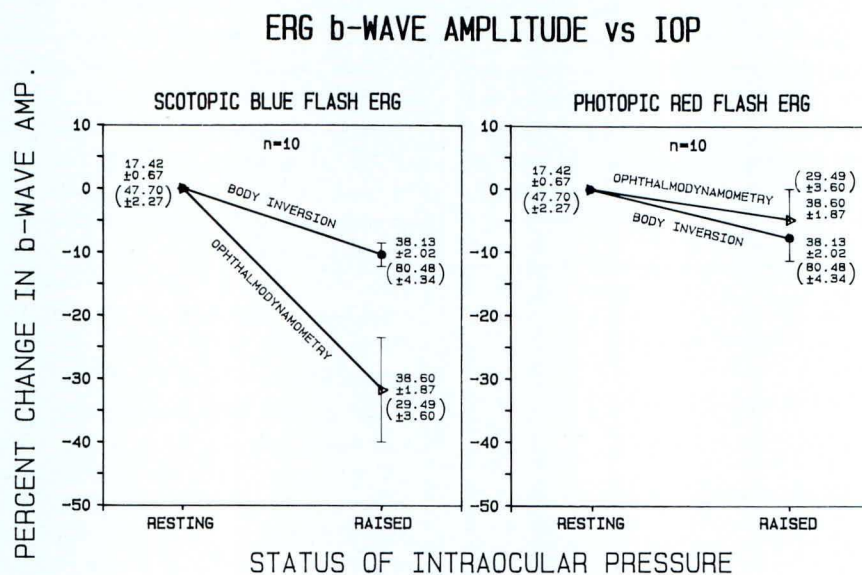


exact effect of probable large increments in IOP on visual function during that critical phase of spaceflight.

For our subjects, although IOP increased by an average of 21.7 mm Hg on inversion, the mean time-averaged CRA pressure increased by 56.46 mm Hg resulting in a net increase in RVPP as shown in Fig. 4. This finding is in agreement with that reported by Friberg & Weinreb (1985), although Plocher (1985) stated that there was little net change in perfusion pressure with inversion. The reason for these reported differences is unclear.

The observation that the ERG b-wave was reduced by only 10% with a doubling of IOP by body inversion and reduced by about 32% when the IOP was doubled by ophthalmodynamometry suggests a primary role for vascular perfusion in the preservation of neural function. The great increase in IOP in itself, albeit a short-lived one, was insufficient to cause altered function of the outer two-thirds of the neural retina, the site of origin of the flash ERG. Increased vascular perfusion was apparently able to hold neural activity to within 10% of baseline levels. A similar vascular preservation of neural function mechanism may be operative in patients with raised IOP levels but no measurable changes in the optic nerve head appearance or function. The ERG b-wave implicit times and overall waveform were unaltered under all test conditions. This was not surprising since clinically significant delays in ERGs are usually associated with retinal degeneration and acute ischemic conditions (Brunette, 1982; Brunette et al, 1983).

That the electrical function of the retina is dependent upon its oxygen supply is well established (Flower & Patz, 1971; Alder & Constable, 1981; Grehn & Prost, 1983). The relationship between the ERG and IOP has been examined by several studies (Ward, 1967; Uenoyama et al, 1968a, 1968b; Sipperley et al, 1973; Benedikt et al, 1974; Bartl, 1978) but most of these have raised the IOP to very high levels, well above mean CRA perfusion. Not surprisingly, these studies have indicated a decrease in the amplitude of the ERG in acute ischemia. The present study however, indicates that the ERG is altered by much lower IOP levels. Furthermore, the scotopic b-wave amplitude may be more vulnerable to an increase in IOP (with a concomitant decrease in perfusion pressure) than its photopic counterpart. Differential vulnerability of the scotopic



**Figure 8**

Group averaged data for ten subjects showing the reduction in scotopic and photopic ERG b-wave amplitudes when the resting IOP (17.42  $\pm$  0.67 mm Hg) level was raised by body inversion (38.13  $\pm$  2.02 mm Hg) and ophthalmodynamometry (38.60  $\pm$  1.87 mm Hg). The numbers within brackets represent the vascular perfusion pressure values for baseline and test conditions. The vascular perfusion pressures associated with each method of increasing the IOP differed significantly from the resting RVPP ( $P < 0.001$ ) as well as from

each other ( $P < 0.001$ ) by the paired t-test. Note the larger decrease in the scotopic ERG b-wave when an increase in IOP was accompanied by a decrease in perfusion pressure, as was the case in ophthalmodynamometry. For each test condition the associated change in b-wave amplitude was significantly different from baseline values ( $P < 0.005$ ) and from each other ( $P < 0.02$ ). Photopic ERGs showed measurable but insignificant ( $P > 0.05$ ) reductions in amplitude when IOP was elevated by either ophthalmodynamometry or body inversion.

and photopic ERGs to IOP levels has been reported by Uenoyama et al (1969) for the cat. It is interesting to speculate on the cause of the apparently enhanced sensitivity of the scotopic ERGs (rod function) to raised IOP levels. The rod photoreceptors are absent from the macular area and increase in density outwards from the fovea, reach a peak density about 15 degrees away from the fovea, and then decrease again towards the periphery. The decrease in the scotopic ERG seen with increased IOP may reflect a functional impairment across the entire rod population. More likely, however, it represents a signal dropout from rods in discrete retinal areas, perhaps those found in retinal locations subserved by vessels most easily collapsed by raised IOP. The large decrease in scotopic ERG amplitude with increased IOP may be the electrophysiological counterpart of the psychophysical observation that the nasal visual field is the first to dim, followed by inferior and temporal fields when the

IOP is raised transiently to sufficiently high levels in a normotensive eye. The observation of a pressure dependent sequence of segmental losses of the visual field was first reported by Jaeger et al, 1964. Two anatomical considerations may account for the present electrophysiological observation and the psychophysical findings of Jaeger et al. First, there is about 50% more retina temporal to the optic nerve head than nasally (Jaeger et al, 1964; Reed & Drance, 1972). Thus arterioles headed for the most distal temporal retina must traverse a greater distance and nourish a larger retinal area than arterioles headed for nasal areas. The larger travel distance for temporal arterioles may mean smaller vessels supplying less blood at the far temporal periphery. If this is the case, factors affecting retinal vascular flow may be manifest as functional deficits first at the nasal visual field followed by losses in sections of the visual field corresponding to retinal areas with an inferior blood



THE CANADIAN  
ASSOCIATION OF  
OPTOMETRISTS



L'ASSOCIATION  
CANADIENNE DES  
OPTOMÉTRISTES

Annual  
Report

1986

Rapport  
Annuel

### Introduction

“Health Care Row” in Ottawa is found along a particularly scenic stretch of the capital’s Alta Vista Drive. Travelling east from Smyth Road (pronounced SM-EYE-TH, an Ottawa peculiarity) one passes, in quick succession, the national headquarters of the Canadian Medical Association, the Canadian Dental Association, the Canadian Red Cross and the Canadian Pharmaceutical Association. The next turn to the right will take the traveller into a huge complex which embraces the National Defence Medical Centre (NDMC), the Ottawa General Hospital, the Ottawa Rehabilitation Centre and the world class Children’s Hospital of Eastern Ontario (CHEO).



In 1986, the Canadian Association of Optometrists elected to move its own national offices into this environment and signed a lease for space in the Canadian Pharmaceutical Association’s new building at 1785 Alta Vista Drive.

It was just one of many transitions in a year of change for the CAO. With new facilities, an expanded staff and a vastly improved office computer network, the Association began building a base upon which to shape its own new policies and directions for the coming years.

### Introduction

“L’avenue de la santé” est une partie particulièrement panoramique de la promenade Alta Vista de notre capitale fédérale. En s’engageant sur la promenade en direction est, en provenance du chemin Smyth, les sièges sociaux nationaux de l’Association médicale canadienne, de l’Association dentaire canadienne, de la Croix-Rouge canadienne et de l’Association pharmaceutique canadienne défilent sous vos yeux. Le prochain virage à droite amène le voyageur à l’intérieur d’un immense complexe englobant le Centre médical de la Défense nationale (CMDN), l’Hôpital général d’Ottawa, le Centre de réhabilitation d’Ottawa et l’Hôpital pour enfants de l’Est de l’Ontario, de renommée mondiale.

En 1986, l’Association canadienne des optométristes a décidé d’aménager ses bureaux nationaux au cœur de cette atmosphère de santé et a signé un bail pour la location de locaux dans le nouvel édifice de l’Association pharmaceutique canadienne, au 1785 de la promenade Alta Vista.

Ce n’était là qu’un des changements qui ont marqué une année de transition pour l’ACO. Avec ses nouveaux bureaux, un personnel accru et un réseau de bureautique nettement amélioré, l’Association a entrepris d’établir les fondations à partir desquelles elle procédera à l’élaboration de ses nouvelles politiques et orientations pour les années à venir.

### Qu’est-ce que l’Association canadienne des optométristes?

L’ACO est la fédération nationale qui regroupe dix associations provinciales d’optométristes: la Newfoundland Association of Optometrists, la Prince Edward Island Association of Optometrists, la Nova Scotia Association of Optometrists, la New Brunswick Association of Optometrists, l’Association des optométristes du Québec, l’Ontario Association of Optometrists, la Manitoba Optometric Society, la Saskatchewan Association of Optometrists, l’Alberta Association of Optometrists et la British Columbia Association of Optometrists. Ensemble, ces dix associations représentent quelque 2 600 optométristes d’un bout à l’autre du Canada.



## What is the Canadian Association of Optometrists?

A national "federation" of ten corporate members, "CAO" is: the Newfoundland Association of Optometrists, the Prince Edward Island Association of Optometrists, the Nova Scotia Association of Optometrists, the New Brunswick Association of Optometrists, l'Association des Optométristes du Québec, the Ontario Association of Optometrists, the Manitoba Optometric Society, the Saskatchewan Association of Optometrists, the Alberta Association of Optometrists and the British Columbia Association of Optometrists. Together, these ten corporate members represent 2,600 optometrists in Canada.

CAO's goal as the national administrative body is to provide a wide range of membership programs initiated and maintained on behalf of its corporate members and, through them, Canada's Doctors of Optometry.

We are, by turns, lobbyists, public relations directors, publishers, authors, ambassadors, convention managers and administrators.

A small but energetic full-time national staff of seven is complemented by national and provincial volunteer committee support structures whose members total into the hundreds of Doctors across the country.

We are the national voice of the profession in Canada.

### CAO Executive and Council for 1986

Following Interaction '86, the annual National/Provincial Optometric Leaders' Meeting that took place in Vancouver, the following CAO Councillors were elected to positions on the Executive:

<b>President:</b>	Dr. Scott Brisbin, Edmonton AL
<b>President-elect:</b>	Dr. Tom Adamack, Ferne, BC
<b>Secretary-Treasurer:</b>	Dr. Jean-Marie Rodrigue, Montréal, PQ
<b>Past President:</b>	Dr. Bruce Rosner, Winnipeg, MB

In addition, the following Councillors served in 1986 as representatives of their respective corporate members in CAO:

<b>Alberta</b> (as alternate delegate during Dr. Brisbin's term as President):	Dr. Grant Campbell
<b>Saskatchewan:</b>	Dr. Jim Krueger
<b>Manitoba</b> (as alternate delegate during Dr. Rosner's term as Past President):	Dr. Harry Basman and Dr. Greg Perkins
<b>Ontario:</b>	Dr. Margaret Hansen des Groseilliers
<b>New Brunswick:</b>	Dr. Joe White
<b>Nova Scotia:</b>	Dr. Michael Duffey
<b>Prince Edward Island</b>	Dr. David McKenna
<b>Newfoundland:</b>	Dr. Douglas Côté

En tant qu'entité administrative nationale, LACO a pour objectif de fournir tout un éventail de programmes mis sur pied et maintenus au nom des associations participantes et, par l'entremise de ces dernières, des docteurs en optométrie du Canada.

Selon les circonstances, les membres de l'ACO font office de lobbyistes, de directeurs des relations publiques, d'éditeurs, d'auteurs, d'ambassadeurs, de directeurs de colloques et de gestionnaires.

Le travail acharné des 7 membres à temps plein du bureau national est appuyé par des structures de soutien formées de Comités de volontaires nationaux et provinciaux composés de centaines de docteurs à l'échelle du pays.

Nous sommes la voix de la profession au Canada.

### La direction et le Conseil de l'ACO 1986

À l'issue d'Interaction 86, la réunion annuelle provinciale/nationale des dirigeants des associations d'optométristes qui s'est déroulée à Vancouver, voici les conseillers élus du Comité de direction de l'ACO:

<b>Président:</b>	Dr Scott Brisbin, Edmonton, (Alberta)
<b>Président élu:</b>	Dr Tom Adamack, Ferne (C.-B.)
<b>Secrétaire trésorier:</b>	Dr Jean-Marie Rodrigue, Montréal (Québec)
<b>Président sortant:</b>	Dr Bruce Rosner, Winnipeg (Manitoba)

Les conseillers représentant les autres organismes membres de l'ACO en 1985 étaient les suivants:

Alberta (délégué suppléant pendant le mandat du Dr Brisbin à la présidence):	Dr Grant Campbell
Saskatchewan:	Dr Jim Krueger
Manitoba (délégué suppléant pendant le mandat du Dr Rosner comme président sortant):	Dr Harry Bassman et Dr Greg Perkins
Ontario:	Dr Margaret Hansen des Groseilliers
Nouveau-Brunswick:	Dr Joe White
Nouvelle-Écosse:	Dr Michael Duffey
Île-du-Prince-Édouard:	Dr David MaKenna
Terre-Neuve:	Dr Douglas Côté

### Le rôle et les structures de l'ACO

En 1986, le Conseil de l'ACO a entrepris un long processus dont l'objectif ultime est d'évaluer et d'améliorer les structures fondamentales de l'Association nationale des optométristes au Canada.

Microcosme de la structure fédéraliste du gouvernement canadien, l'ACO ne compte que dix membres officiels — les dix associations provinciales d'optométristes. Chaque praticien appartient





*Dr. Scott D. Brisbin*

## **The Role and Structure of CAO**

In 1986, CAO Council began a lengthy process with no less an objective than assessing and improving the fundamental structure of Optometry's national Association in Canada.

As a microcosm of the federalist structure of the Canadian government, CAO has only ten official members — the ten provincial Associations of Optometrists. An individual practitioner's direct membership is in one or more of these provincial Associations, rather than in the Canadian Association of Optometrists and, as a result, (s)he receives most of his/her professional membership benefits directly from the provincial, rather than the national body.

CAO Council, however, decided in 1986 to begin asking itself, its corporate members and the optometrists of Canada to suggest ways and means by which it can most effectively represent the profession.

donc à une ou plusieurs de ces associations provinciales, plutôt qu'à l'Association canadienne des optométristes, la majorité des avantages professionnels qu'il tire de son adhésion proviennent donc directement de l'association provinciale plutôt que de l'association nationale.

Le Conseil de l'ACO a cependant décidé en 1986 de demander aux associations membres, ainsi qu'aux optométristes du Canada de suggérer des façons et des moyens suivant lesquels il pourrait le plus efficacement représenter la profession.

Bien que nous n'ayons entamé ce processus qu'à la fin de 1986, c'est au cours de cette année que nous avons érigé les fondations d'un processus qui sera sûrement long et élaboré. La confirmation et, le cas échéant, la modification du rôle et des structures nationales de l'Association a commencé au moment même de sa constitution. L'ACO a d'ailleurs indiqué cette année son intention de faire une évaluation en profondeur avant de s'engager irrévocablement.

### **Un Programme national d'action politique ou "Donc, si j'ai bien compris, la personne qui s'occupe de mon chien peut signer ma demande de passeport, alors que la personne qui s'occupe de mes yeux ne le peut pas?!"**

En effet! Et, en plus d'un vétérinaire, votre demande de passeport peut être contresignée par un médecin, un chiropraticien, un policier, un comptable, un juge et un député, mais pas par votre docteur en optométrie.

À maintes reprises en 1986, les optométristes canadiens ont été dans l'obligation de référer leurs patients, qui sont souvent également leurs amis ou leurs collègues professionnels, à l'un des officiels mentionnés ci-dessus pour qu'ils contresignent une simple demande de passeport.

En 1986, l'ACO a décidé que l'une de ses premières priorités dans le cadre de son programme fédéral d'action politique serait de s'attaquer à l'épineux problème perpétuel du statut de contresignataire de passeport.

Pourquoi les passeports?

L'absence du statut de contresignataire, compte tenu que beaucoup d'autres professions sont, elles, légalement habilitées à contresigner les demandes, est perçue par l'ACO comme l'un des symptômes les plus apparents d'une maladie chronique du gouvernement fédéral: le refus de reconnaître l'optométrie en tant que profession des soins oculaires et de la vision primaire possédant une charte nationale et dont le droit de dispenser toute la gamme de ces services est enchâssé dans la Loi canadienne sur la santé.

Les implications qui découlent des décisions rendues jusqu'à présent par le ministre fédéral des Affaires extérieures se sont également manifestées dans d'autres cas précis en 1986: la remise en question des règlements de Transport Canada contenus dans la version initiale du projet de loi sur le pilotage qui exigeait que les pilotes reçoivent un certificat "médical" relatif à des normes visuelles prescrites; Emploi et Immigration Canada a été informé que l'Association des hôpitaux du Canada ne constituait pas une source d'information au sujet de la carrière d'optométriste, comme il avait été publié dans leur guide détaillé sur les carrières professionnelles au Canada, *Emploi-Avenir*; et, finalement, d'importantes pressions ont été faites sur le ministère de la Santé au sujet du bien-fondé de la nomination d'un expert-conseil dans le domaine de l'optométrie pour que ce genre de problème ne se représente plus entre les ministères fédéraux.



While begun only late in 1986, it was the year in which the foundation was firmly laid for what will undoubtedly be a long and detailed process. Affirming and, if necessary, **changing** a national Association's role and structure begins at the Constitution itself and CAO served notice this year that it intends to do a thorough assessment before making any irrevocable commitment.

### **A National Political Action Program or "Am I To Understand That My Dog's Doctor Can Sign My Passport Application, But My Eye Doctor Can't?!"**

Right. And, in addition to veterinarians, your passport application may be signed — **guaranteed** — by physicians, chiropractors, law enforcement officers, accountants, Justices of the Peace and Members of Parliament, but not by your Doctor of Optometry.

Again and again in 1986, optometrists in Canada were forced to refer their patients — in many cases their friends and professional peers — to one of the above noted officials to sign a simple passport application.

CAO decided in 1986 that, as one of its first priorities in its revitalized program of federal political action, it will tackle the perpetual irritant of Passport Guarantor status.

Why passports?

Lack of guarantor status, in the face of so many other professions who **do** have the legally authorized right to sign the applications, is seen by CAO as one of the more visible symptoms of a recurring federal government disease — the failure to recognize Optometry as a nationally chartered primary vision and eye care profession whose right to deliver the full range of these services is entrenched in the Canada Health Act.

The implications suggested by the Federal Ministry of External Affairs' ruling to date also manifested themselves in other specific cases in 1986: the Ministry of Transport was challenged on its regulations contained in the proposed Pilotage Act which initially required that marine pilots receive "medical" certification of required vision standards; the Ministry of Employment and Immigration was advised that the source of further information about Optometry as a career was **not** the Canadian Hospitals Association as was published in their detailed guide to Canadian professional careers, *Job Futures*; and, finally, the Ministry of Health was extensively lobbied on the merits of appointing an Optometric Consultant to ensure that exactly these types of problems would not arise in the future among Federal Ministries.

So why passports, indeed? Simply because in 1986 it remained as one of the more professionally humiliating statements an optometrist was required by the Federal Government to make — in whose eyes the profession is not yet accorded the same privileges as the Doctor who treats mange or the Officer who tickets you for double parking.

### **BILL C-96: An act to Amend the Federal/ Provincial Fiscal Arrangements and Federal Post-Secondary Education and Health Contributions Act 1977**

Only slightly longer than its title (above) was CAO's May, 1986 Brief to the House of Commons Legislation Committee on Bill C-96. At the heart of our presentation was an eight-point

Pourquoi tant parler des passeports? Simplement parce que, en 1986, c'est l'une des déclarations les plus humiliantes sur le plan professionnel qu'un optométriste était tenu de faire par le gouvernement fédéral, qui n'accorde pas encore à notre profession les mêmes privilèges qu'aux docteurs qui soignent les animaux ou à l'agent qui vous donne une contravention pour stationnement illégal.

### **PROJET DE LOI C-96: Loi modifiant la Loi de 1977 sur les accords fiscaux entre le gouvernement fédéral et les provinces et sur les contributions fédérales en matière d'enseignement postsecondaire et de santé**

Le mémoire présenté au Comité législatif de la Chambre des communes sur le projet de loi C-96 par l'ACO en mai 1986 était à peine plus long que son titre (susmentionné). Nous avons formulé en huit points, au coeur même de notre exposé, les Principes relatifs à l'assurance-maladie et à l'éducation; l'Association soutenait que:

- (i) les malades doivent avoir un accès raisonnable aux professionnels de santé de leur choix;
- (ii) Dans tout programme d'assurance-maladie, il faut protéger les droits des malades, particulièrement le droit à la protection des renseignements personnels et le droit à un accès raisonnable;
- (iii) Les établissements de santé doivent être accessibles à tous les spécialistes de la santé et leur effectif doit être constitué de professionnels;
- (iv) Les malades doivent avoir le droit de transférer leurs prestations sur l'ensemble du territoire canadien;
- (v) Tous les services de diagnostic optométrique rendus par des optométristes doivent être inclus dans le régime d'assurance-maladie;
- (vi) Le financement fédéral doit inclure les services de santé assurés par les provinces;
- (vii) L'ACO s'inquiète des réductions des contributions fédérales aux régimes d'assurance-maladie contenues à l'intérieur du projet de loi C-96;
- (viii) L'ACO s'inquiète de la compression éventuelle des services d'enseignement de l'optométrie dont le nombre est déjà restreint au Canada.

En plus de nous permettre de présenter les arguments susmentionnés, l'invitation du Comité d'étude du projet de loi C-96 nous a donné l'occasion de recommander que le coût des services optométriques soit inclus dans l'annexe des paiements de transfert du gouvernement fédéral et que le gouvernement trouve des sources de financement pour la création d'une troisième école canadienne d'optométrie.

### **Interaction 86 — Franchisage**

C'est au milieu du décor enchanteur de l'Hôtel Pan Pacific de Vancouver que nous avons étudié le franchisage et ses conséquences sur notre profession. Durant les deux jours de réunion au cours desquelles nous avons discuté de ce sujet, même la présence au quai situé à l'extérieur de l'hôtel de l'équipe de tournage de l'émission télévisée "la croisière s'amuse" ne pouvait distraire les dirigeants provinciaux et nationaux des optométristes de leurs débats.



Principle of Health Care Insurance and Education in which this Association maintained that:

- (i) Patients should have reasonable access to the health care practitioner of their choice;
- (ii) Patients' rights, particularly where they regard confidentiality and reasonable access, should be maintained under any health care program;
- (iii) Health care facilities should be staffed by and accessible to all health care practitioners;
- (iv) A patient's portability of health care benefits in Canada is a right;
- (v) Optometric diagnostic services, provided by optometrists, should be included under all provincial health care insurance programs;
- (vi) Federal funding should include provincially covered health care services;
- (vii) CAO is concerned about the apparent reduction of federal health care funding threatened by Bill C-96;
- (viii) CAO is concerned about the Bill's potential cutback threat to the already limited optometric education facilities in Canada.

Appearing before the Committee on Bill C-96 was an occasion for CAO to make not only the above case, but also to recommend specifically that optometric services be made fully insurable under the federal government's transfer payment schedule and that the government identify specific funding for a third Canadian School of Optometry.

### **Interaction '86 — Franchising**

Vancouver's Pan Pacific Hotel was a beautiful setting from which to address franchising and its impact on the profession of Optometry. But for the two days of meetings during which the subject was discussed, not even the presence of television's "Love Boat" at the dock outside the Hotel could distract the national and provincial optometric leaders from their deliberations.

On the subject of franchising, the optometric leaders heard from several spokespersons, each with a vested interest in the concept as either a boon or a threat. Presentations were made by representatives from Pearle Vision Centres, Allergan Inc., the American Optometric Association and a futurist who reviewed the generic concept of franchising in broad socio-economic terms.

One of the most thorough presentations of information to date, the format for Interaction '86 was geared almost in its entirety to a review of the facts. As a result of its unanimously acclaimed success, the meeting set a tone that could well lead to the end of "interacting" in the annual Interaction meeting and, in future, to redefining the process so as to provide a yearly data, information and consultation collection opportunity on any issue currently facing the profession.

### **CAO Sections**

The last of six special interest areas of optometric vision and eye care was formally constituted as a Section of CAO in 1986. Since the formal creation of the Section concept at the 1985 Biennial Congress in Regina, Terms of Reference had been drafted and approved for an Aviation Vision Section, a Children's Vision Section, a Contact Lens Section, a Low Vision Section, a Sports Vision Section and a Section for co-ordinating Voluntary Optometric Services.

En ce qui a trait au franchisage, les dirigeants des diverses associations d'optométristes ont écouté les déclarations de plusieurs porte-parole directement intéressés à ce concept et qui voyaient dans le franchisage, soit une bénédiction, soit ou une menace. Nus avons pu assister aux exposés des représentants des centres Pearle Vision, Allergan Inc., de l'American Optometric Association ainsi que d'un futurologue qui a brossé un tableau socio-économique général de la notion du franchisage. Préparé presque exclusivement pour étudier les faits, Interaction 86 a constitué l'une des présentations de renseignements les plus détaillés qu'il nous a été donné de voir jusqu'à présent. Suite à cette réussite incontestée, la réunion a donné le ton à ce qui pourrait bien constituer la fin des réunions d'"interaction" dans leur version actuelle et amener, dans un avenir rapproché, une redéfinition du processus afin de fournir des données, des renseignements et la possibilité de regrouper sur une base annuelle des experts sur des questions d'actualité relatives à la profession.

### **Les sections de l'ACO**

Le dernier des six domaines d'intérêts spéciaux de la vision optométrique et des soins opculo-visuels a été officiellement mis sur pied en tant que section de l'ACO en 1986. Depuis l'adoption en bonne et due forme du concept des sections dans le cadre du Congrès biennal 1985 de Regina, nous avons procédé à la préparation et à l'adoption des mandats de plusieurs sections: Vision en aviation, Vision des enfants, Verres de contact, Basse vision, Vue et sports et Services optométriques bénévoles.

L'année 1986 a été une année formatrice pour chacune de ces sections, car elles ont dû s'organiser en vue du Congrès biennal de 1987.

### **La Semaine de la vision au Canada 1986**

Le capitaine Marc Garneau a été le premier Canadien dans l'espace. Durant son séjour à bord de la navette spatiale, il s'est livré à plusieurs expériences sur la coordination opculo-manuelle dans des conditions de visibilité où les règles créés sous une lumière non adoucie par l'atmosphère ne s'appliquent plus. Les résultats de son travail sont essentiels pour faciliter la manutention du bras spatial "Canadarm" par les prochains pionniers de l'espace.

En 1986, le capitaine Marc Garneau a également été nommé président d'honneur de la Semaine de la vision au Canada. Cela a semblé tout naturel à l'ACO: la vue, un sens qui requiert une connaissance approfondie de plusieurs sciences, liée à un astronaute canadien, membre du Conseil national de la recherche du Canada et, lié également à une des plus importantes missions scientifiques de tous les temps: l'exploration de l'espace.

La science de la vision et les soins opculo-visuels constituaient le point de mire de la Semaine de la vision au Canada 1986. Afin de communiquer le thème annuel de la Semaine 1986, "La vie, faut voir ça!", l'ACO a conçu et produit une affiche mettant en vedette un des groupes d'élites de pionniers de l'espace. Sur une photo tirée d'un des premiers vols de la navette, on pouvait voir un astronaute non amarré, flottant à plusieurs mètres de la soute de la navette. Satellite miniature, l'astronaute y apparaît au milieu des éblouissants rayons du soleil, non filtrés par l'atmosphère terrestre. On peut également y voir la planète qui forme un arc magnifique, plusieurs milles sous ses pieds.



1986 proved to be a formative year for each of the above groups as each geared towards organizing itself with an eye to the 1987 Biennial Congress.

## Save Your Vision Week in Canada 1986

Canada's first man in space was Captain Marc Garneau. While aboard the shuttle, he carried out several experiments focussing on eye/hand co-ordination in visual conditions where rules created by atmosphere-softened light no longer apply. The results of his work are pivotal to making it easier for future space pioneers to manipulate the spindley robot "Canadarm".

In 1986, Captain Marc Garneau also became the Honorary Chairperson for Save Your Vision Week in Canada. It seemed a natural link for CAO to make: vision, a sense which requires an intimate understanding of several sciences, linked to a Canadian astronaut, a member of Canada's National Research Council and, through him, to one of the greatest scientific missions of all time — the exploration of space.

The science of vision and eye care was the focus of Save Your Vision Week in Canada for 1986. To convey the week's annual theme, "Life Is Worth Seeing!", CAO designed and produced a poster featuring one of the elite group of space pioneers. On one of the early shuttle flights, an astronaut had been photographed, untethered, drifting several metres outside the shuttle's cargo hold. In effect a miniature satellite, the astronaut appears in brilliant sunlight, unfiltered by the Earth's atmosphere. His home planet, meanwhile, is framed in a magnificent arc, miles below his feet.

It was this NASA photograph that CAO employed to convey to our own members and to patients of Optometry across Canada that vision is a sense whose protection and preservation must be uppermost in our thoughts.

In conjunction with the theme, the national Association also initiated the production of a 30-second television public service announcement which originally incorporated a wealth of images borrowed from NASA and the shuttle missions.

The PSA's message, however, acquired a tragic new meaning with the 1986 *Challenger* disaster and, for March's Save Your Vision Week in Canada, it was replaced by a more generic series of images drawn from this country's varied scenic beauty.

"Life Is Worth Seeing! Take Care of Your Eyes," viewers were told and, looking at the seacoast, waterfall, northern lakes and sunset in the PSA, few could disagree.

The event was kicked off in 1986 at a cocktail reception held at the School of Optometry, University of Waterloo. In addition to special representation by the National Research Council's Canadian Astronaut Program in the person of Dr. Lloyd Pinkney, the Hon. James Jepson, local Member of Parliament attended. Optometric hosts for the occasion included the Director and Faculty of the School, the President, Executive and Council of CAO and a good number of the students of Optometry.

## A New Committee — National Publications Under One Roof

CAO's National Publications Committee became a reality in 1986, charged with the mandate of reviewing and enhancing a national program of published public information material. Under newly appointed Chairperson Dr. Margaret Hansen des Groseilliers, the Committee's initial responsibilities include CAO's flagship publication, *The Canadian Journal of Optom-*

L'ACO s'est servi de cette photo de la NASA pour communiquer à ses propres membres et aux patients en optométrie d'un océan à l'autre que nous devrions faire tout notre possible pour protéger et préserver nos yeux.

Parallèlement à ce thème, l'Association nationale a également produit un message d'intérêt public de 30 secondes destiné à la télévision, et qui, à l'origine, comportait une riche variété d'images empruntées à la NASA et aux missions de la navette spatiale.

L'explosion du *Challenger* en 1986 a cependant donné un tout nouveau sens tragique au message d'intérêt public: pour cette raison, pour la Semaine de la vision au Canada nous l'avons remplacé par une série d'images panoramiques tirées de quelques beaux coins de notre pays.

"La vie, faut voir ça! Prenez soin de vos yeux," disait-on aux téléspectateurs tout en faisant défiler sous leurs yeux des images de paysages côtiers, de lacs nordiques, de chutes d'eau et de couchers de soleil: tout le monde ne pouvait qu'être d'accord.

Nous avons lancé la campagne de 1986 à l'occasion d'un cocktail organisé à l'École d'optométrie de l'Université de Waterloo. En plus d'une présentation spéciale du Dr Lloyd Pinkney, représentant du Programme des astronautes canadiens du Conseil national de recherche, l'hon. James Jepson, député de Waterloo, assistait au cocktail. Les hôtes de la cérémonie comprenaient le directeur et les membres de la faculté d'optométrie, le président, les directeurs et le Conseil de l'ACO ainsi que plusieurs étudiants en optométrie.

## Un nouveau comité — Les publications nationales sous un même toit

Le Comité national des publications de l'ACO a vu le jour en 1986. Il a reçu le mandat de réviser et d'améliorer l'ensemble du matériel d'information publié et mis à la disposition du public canadien. Sous la direction d'un nouveau président, le Dr Margaret Hansen des Groseilliers, les premières responsabilités du Comité touchent la principale publication de l'ACO: *La Revue Canadienne d'Optométrie* \* *The Canadian Journal of Optometry*, ainsi que le *Livre de référence de l'optométriste* et une courte mais instructive série de dépliants sur les ressources professionnelles.

Nous espérons pouvoir, sous peu, réunir l'ensemble des documents publiés par les associations membres de l'ACO en une bibliothèque nationale, à partir de laquelle chaque optométriste canadien serait à même d'acquérir ou d'échanger des renseignements. Que ce soit dans le cadre d'un exposé à un groupe d'étudiants de niveau secondaire qui désirent simplement savoir ce qu'est un optométriste, ou dans le cadre d'une présentation à un groupe d'étudiants de quatrième année en optométrie cherchant à savoir quels services de documentation publique sont à leur disposition, le plan à long terme du CNP est de faciliter l'accès des optométristes à la documentation imprimée ou audio-visuelle.

## La Revue Canadienne d'Optométrie \* The Canadian Journal of Optometry

Dans le cadre d'une des grandes "surprises" dans le domaine des communications en 1986 de l'Association, la *RCO* \* *CJO* a été lancée sous un nouveau nom avec la parution de son numéro d'été.

*Optovision* a causé ce qui pourrait modestement être qualifié d'un "mini-tempête" au sein de la profession au Canada. Sa paru-



etry \* la Revue Canadienne d'Optométrie, the *Optometrist's Desk Reference* and a small but informative series of professional resource pamphlets.

The future holds the goal of integrating corporate members' published information programs into a national resource library through which information may be acquired and exchanged by the individual optometrists in Canada. Whether asked to address a group of high school students who simply want to know what an optometrist is, or to speak to a group of fourth year Optometry students who need to know what professional public resource services are available for their use, the NPC's long range plan is to make the necessary print or audio visual support materials much more readily available to the optometrist.

## The Canadian Journal of Optometry \* la Revue Canadienne d'Optométrie

In one of the national association's great communications "surprises" of 1986, the *CJO \* RCO* debuted under a new name with its Summer issue.

*Optovision* created what might modestly be called a furore within the profession in Canada and immediately polarized academic and clinical practitioners alike along two separate tracks of thought — openly expressed disgust or lavish praise. No one who provided a written opinion was ambivalent, "undecided" in the language of pollsters.

What *Optovision* revealed, in its attempt to capture the magazine's identity in a single word for both optometrists and non-optometrists alike, was that *The Canadian Journal of Optometry \* la Revue Canadienne d'Optométrie* was perfectly suited for that mission. When the shells and bouquets had finished falling on the national office, an inventory was taken and there proved to be much more shrapnel than flower petals. Accordingly, *Optovision* was promptly retired and the magazine appeared in its very next issue as, once again, the *CJO \* RCO*.

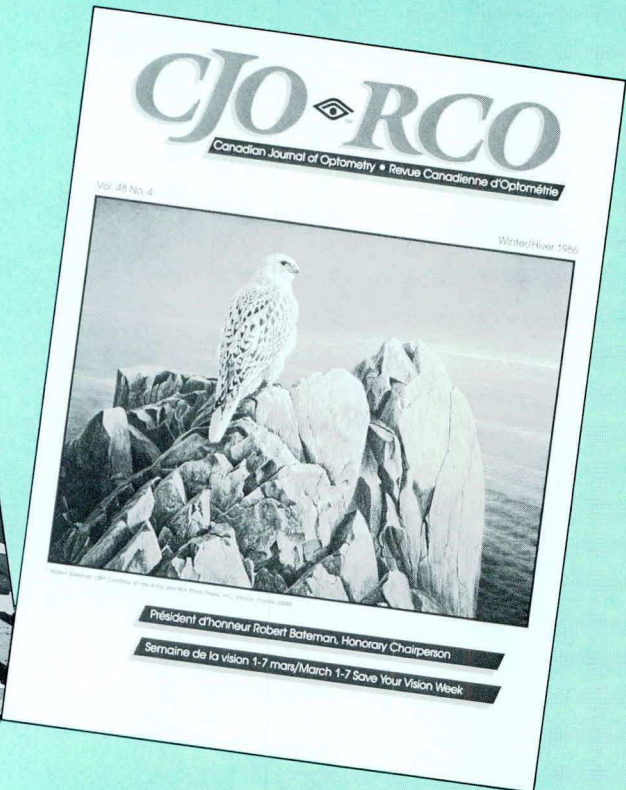
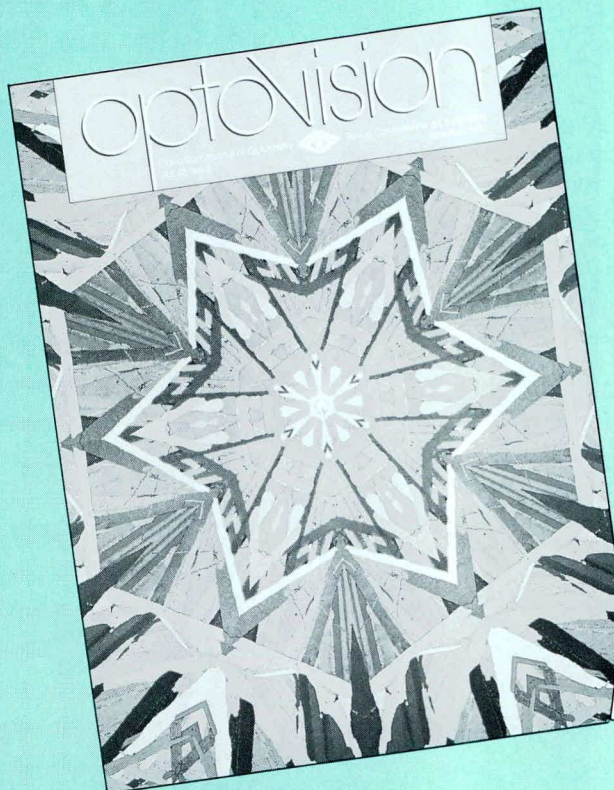
tion a eu pour effet de polariser universitaires et cliniciens dans deux lignes de pensée bien distinctes — ceux qui étaient en faveur de la publication l'ont louangé, les autres ont exprimé leur aversion. Aucune des personnes qui ont fait parvenir leur opinion écrite n'était ambivalente, ou encore "sans opinion" comme le disent si bien les spécialistes des sondages.

Dans sa tentative pour résumer en un mot l'identité de la revue pour les optométristes et les autres lecteurs, *Optovision* a révélé que *la Revue Canadienne d'Optométrie \* The Canadian Journal of Optometry* pouvait parfaitement accomplir cette mission. Une fois terminée l'avalanche de fleurs et de pots cassés sur notre bureau national, nous avons fait un inventaire qui a révélé que le nombre de pots cassés dépassait celui des fleurs. En conséquence, nous avons rapidement mis *Optovision* à la retraite anticipée et avons republié la revue, dès le numéro suivant, sous le titre *RCO \* CJO*.

Le débat que souleva l'expérience *Optovision*, n'a pas été futile et ne fut pas sans plaire aux rédacteurs et au Conseil de direction de la *RCO \* CJO*. Les bibliothécaires aux quatre coins du globe qui avaient consciencieusement créé une entrée bibliographique à leur catalogue pour se voir y apposer une note de fin de publication avec la parution du numéro étaient moins enthousiastes.

Beaucoup d'éditeurs professionnels qui doivent périodiquement faire face à ce problème de manque de communication avec leurs lecteurs sont par conséquent forcés d'adopter l'attitude "pas de nouvelles... bonnes nouvelles" dans l'évaluation de leur revue. En plus des critiques acerbes sur la page couverture, le courrier reçu au sujet d'*Optovision* comprenait beaucoup de critiques favorables à d'autres aspects du journal, que les lecteurs avaient jugé excellents.

En ce qui a trait à l'aspect artistique d'*Optovision*, il peut désormais être classé dans les annales de l'ACO maintenant que la revue est appelée à devenir une pièce de collection.





Not an exercise in futility, however, the *Optovision* experiment actually delighted the *CJO \* RCO's* Editors and Board of Managers in the lively debate it sparked. Librarians around the globe who dutifully opened *Optovision* card catalogue entries only to have to close them down again with the very next issue were somewhat less enthused.

So many professional publishers are faced with the same recurring problems of lack of feedback from their readers and, as a result, are forced to adopt a "No News Is Good News" approach in assessing their Journals. Among the critical blasts aimed at the outside front cover, the *Optovision* mail included a wealth of support in favour of other aspects of the Journal that were deemed to be excellent by its readers.

As for the *Optovision* art, however, it can now be filed in CAO's history as the magazine itself goes on to become a collector's item.

### **Who is Captain Safety and Why is He Saying All Those Nasty Things About Me?**

— because you're not taking care of your eyes, that's why.

Captain Safety is the subject of an Occupational Vision Safety film that was unveiled in 1986 by CAO's National Advisory Committee on Occupational Vision Care Programs (NACOVCP). With a humorous look at a serious topic, Captain Safety appears in one vignette after another, catching various workers in situations of great potential risk to their eyes. One after another, they are shown the error of their ways and, in the process, become educated as to the types of protection and care available through their local optometrists.

The film's production was one of the last official acts of the NACOVCP as the entire concept of a National Occupational Vision Care Program was abandoned in 1986 in favour of provincially negotiated contracts with local industries.

Captain Safety? Through the miracle of videotape, he remains forever ready as a resource for those who would call on him again to remind workers that vision safety is an important part of any job.

### **CAO Staff — New/Old Faces Mirror New Priorities**

CAO was very pleased to welcome Alex Saunders back to the ranks of national office personnel in 1986.

For the two years previous, Alex had been employed by the Ontario Association of Optometrists to initiate and implement a provincial Occupational Vision Program. Co-incidentally, he had also been party to the enlarging of his family by one, a daughter, Dana. Pre-natal Dana, in her turn, had contributed greatly to the activity surrounding the final exams for Dr. Estelle Saunders at the School of Optometry, University of Waterloo so, needless to say, the Saunders' collective decision to settle in the nation's capital was accompanied by a considerable easing of stress all around.

CAO at the time was also in the process of "birthing" the position of Governmental Affairs Co-ordinator to realize the strategies and programs now taking shape under the Association's new federal political priorities and Alex's long experience in Optometry was to stand him in good stead as the first person to fill the position.

### **Qui est le capitaine "Safety" et pourquoi dit-il ces choses à mon sujet?**

— parce que vous ne prenez pas soin de vos yeux, voilà pourquoi!

Le capitaine "Safety" est le sujet d'un film sur la sécurité des yeux au travail qui a été lancé en 1986 par le Comité consultatif national sur les programmes de soins de la vue au travail de l'ACO. Tout en jetant un coup d'oeil humoriste à une série de sujets sérieux, le capitaine "Safety" nous apparaît dans une série de mini-épisodes, dans lesquels il attrape différents travailleurs dans des situations potentiellement dangereuses pour leurs yeux. Il montre à chacun d'entre eux les dangers inhérents à sa façon de procéder et, du même coup, leur enseigne les différents types de protection et de soins offerts par les optométristes de leur région.

Ce film a été le dernier acte officiel du CCNPSVT suite à l'abandon, en 1986, du concept d'un programme national de soins de la vue au travail et à son remplacement par des contrats provinciaux négociés avec les industries locales.

Qu'est-il advenu de capitaine "Safety"? Et bien, grâce au miracle des vidéogrammes, il restera à tout jamais prêt à servir tous ceux qui feront appel à lui afin de rappeler aux travailleurs que la sécurité de la vue est une partie importante de tout travail.

### **Le personnel de l'ACO — Nouveaux et anciens visages, qui reflètent nos nouvelles priorités**

L'ACO est heureuse de souhaiter la bienvenue à Alex Saunders qui a à nouveau joint les rangs du personnel de notre bureau national en 1986.

Au cours des deux années précédentes, Alex avait travaillé au sein de l'Ontario Association of Optometrists à la création et la mise en vigueur d'un programme provincial de soins de la vue au travail. En passant, la famille d'Alex compte un nouveau membre, une fille du nom de Dana. Avant sa naissance, Dana avait activement participé aux activités qui entouraient les examens finaux du Dr Estelle Saunders à l'École d'optométrie de l'Université de Waterloo. Il va donc sans dire que la décision collective de la famille Saunders d'élire domicile dans notre capitale nationale a été accompagnée par une baisse marquée du niveau de stress.

Au même moment, L'ACO était également sur le point de "donner naissance" au poste de coordonnateur des Affaires gouvernementales qui aurait pour rôle de mener à bien les stratégies et programmes qui prennent maintenant forme conformément aux nouvelles priorités politiques fédérales de l'Association. La longue expérience d'Alex en optométrie allait faire de lui la personne indiquée pour remplir ce rôle.

Chantal Wall s'est également jointe au personnel de notre bureau national comme secrétaire de direction de Gérard Lambert, pour assumer une partie des charges administratives qui incombaient au directeur général et qui avait pris de l'ampleur suite à la création d'un troisième poste de direction au sein de l'Association.

Le reste du personnel de notre bureau national se composait en 1986 de Michel DiCola, directeur des Communications, Ruth Wilcox, chef de bureau et commis-comptable, Deanna Verhey, administratrice du FFOCE et Annette McDonald, secrétaire/réceptionniste. Tous ont été ravis du défi et du prestige associés à nos nouveaux bureaux sur la promenade Alta Vista.



In addition, Chantal Wall joined the national office staff as Executive Secretary to Gérard Lambert, thereby easing some of the Executive Director's own administrative stress which had been compounded with the creation of the Association's third Executive position.

Rounding out the roster of national personnel for 1986 was Michael DiCola as Director of Communications, Ruth Wilcox as Office Manager and Bookkeeper, Deanna Verhey as COETF Administrator and Annette McDonald as Secretary/Receptionist, all of whom proved to be delighted with the challenges and prestige created by the new office location on Alta Vista Drive.

### **"Networking" the national office**

Inevitably, even the most hardened advocate of proper English will have to come to accept "access" as a verb. Such is the pervasive influence of the business computer.

The realization came directly home to the CAO staff in 1986 with a massive upgrade in the computer hardware and programs through which the Association's national administration services are provided. Terminology like "Ogivar Local Area Network"; "Dumb (vs. 'Smart') Terminals"; "Spreadsheets"; "Letter Quality" vs. "Dot Matrix" printing capability (we have both) and yes, "accessing" database information which will "impact" on the political action program all became commonplace CAO personnel vocabulary late in the year.

So did "crash", but that is a story for other than an Annual Report.

### **Summary — A Year of Transition**

1986 was a turning point in the national Association's role and structure.

From the physical change of venue and administrative staff expansion through the more abstract process of self-analysis, CAO continues to represent the interests of professional Optometry in Ottawa.

It was not so long ago that the national office received federal government policy information by way of written advisories or through Hansard, the official transcript of proceedings of the House of Commons.

In 1986, we have continued to direct our energies towards vastly improving not only our awareness of the process by which policy is made, but also the process by which federal policy-makers are made aware of Optometry's position in the Canadian Health Care Delivery System.

Education is not an instant process. MP's and Senior Civil Servants will not just wake up the morning after a meeting with CAO representatives and realize that Optometry must be consulted in the pre-policy stages of health care legislation.

But education, it seems, is the correct process and, in 1986, CAO embarked on a new and dynamic beginning of the ongoing processes required to make a political action program effective. At the end of this journey is no less a destination than a specific role for Optometry in directing, planning and implementing Canadian Health Policy at the federal level.

Acting, **pro**-acting, rather than reacting is the mandate which our corporate members have given their national Association. Their ever increasing support, and the expanded professional contribution of the Doctors of Optometry in Canada, makes it a realistic and achievable goal.

### **Implantation d'un réseau informatique à notre bureau national**

Il est certain que même les puristes de la langue française devront un jour accepter des termes comme "bureautique". Telle est l'influence inéluctable de l'ordinateur de bureau.

Le personnel de l'ACO a été directement touché par l'implantation d'un réseau, suite à l'important rajeunissement, en 1986, du matériel informatique et des logiciels que l'Association utilise pour fournir des services administratifs à l'échelle nationale. Des termes tels que "réseau local Ogivar"; "terminal passif" (par opposition à "terminal actif"), "chiffrier électronique", "imprimante qualité courrier" par opposition à "imprimante par points" (nous avons les deux) et "accéder" aux informations des bases de données qui auront un "effet" sur le programme d'action politique, sont devenus des termes d'utilisation courante pour le personnel de l'ACO, depuis la fin de l'année.

Le terme "panne" s'est également ajouté à leur vocabulaire, mais ce n'est pas là une histoire à mettre dans un rapport annuel.

### **Sommaire — Une année de transition**

L'année 1986 fut un point tournant dans le rôle de l'Association et dans sa structure.

Par la relocalisation des bureaux et l'addition de personnel administratif, sans oublier le processus plus abstrait d'auto-analyse, l'ACO continue de représenter les intérêts des professionnels de l'optométrie à partir de ses bureaux d'Ottawa.

Il n'y a pas si longtemps, le bureau national ne recevait de l'information sur les politiques du gouvernement fédéral que par des avis écrits ou à partir du Hansard, le compte rendu officiel des débats de la Chambre des communes.

En 1986, nous avons continué à concentrer notre énergie afin de mieux comprendre le processus de création des politiques, ainsi que le mécanisme de sensibilisation des décideurs fédéraux sur la position des optométristes à l'intérieur du système fédéral de prestation des soins de santé.

L'éducation ne se fait pas de jour au lendemain. Nous ne nous attendons pas à ce que les députés et les hauts fonctionnaires se réveillent un matin et que, suite à une réunion avec les représentants de l'ACO, ils prennent conscience de la nécessité de consulter les optométristes au stade d'élaboration des politiques relatives aux lois sur les soins de santé.

Mais l'éducation semble être le processus le plus judicieux. Pour cette raison, en 1986, l'ACO a pris un nouveau départ plus énergique dans le processus continu nécessaire à maximiser les retombées du programme d'action politique. Notre but ultime, et non le moindre, est de permettre aux optométristes de jouer un rôle dans l'orientation, la planification et la mise en oeuvre des politiques canadiennes de soins de santé à l'échelle fédérale.

L'action, la *proaction* plutôt que la *réaction*, voilà le mandat que les associations provinciales ont donné à leur association nationale. Leur aide sans cesse grandissante et une contribution professionnelle accrue de la part des docteurs en optométrie du Canada, nous permettent d'espérer pouvoir atteindre cet objectif réaliste.



**CANADIAN ASSOCIATION  
OF OPTOMETRISTS  
STATEMENT OF INCOME  
AND SURPLUS  
YEAR ENDED  
DECEMBER 31, 1986**

**L'ASSOCIATION CANADIENNE  
DES OPTOMETRISTES  
ETAT DES RESULTATS ET  
DE L'EXCEDENT CUMULATIF  
DE L'EXERCISE TERMINE  
LE 31 DECEMBRE 1986**

	1986		1985	
	Actual	Budget	Actual	Budget
<b>REVENUE</b>				
Membership contributions —				
Schedule 1	\$320,884	\$316,000	\$282,622	\$275,000
Literature sales	27,805	3,000	3,856	4,250
Investment income	11,985	4,000	14,226	4,000
1985 congress (net of expenses)	-	-	10,358	12,000
Canadian Journal of Optometry —				
Net income (loss) — Schedule 2	29,964	-	(879)	-
Agenda roster	2,346	2,555	3,600	1,000
Optometrist desk reference (Net)	(1,824)	2,000	4,304	2,000
Miscellaneous	2,697	-	5,469	-
	<b>393,857</b>	<b>327,555</b>	<b>323,556</b>	<b>298,250</b>

<b>REVENUS</b>
Contributions des membres —
Annexe 1
Ventes littéraires
Revenu d'investissement
Congrès de 1985 (net)
La Revue Canadienne d'Optométrie —
Bénéfice net (perte nette) — Annexe 2
Agenda-liste
Annuaire des optométristes (net)
Divers

**EXPENSES**

**FRAIS**

Bad debts	765	-	-	-
Bank charges and interest	493	500	251	500
Committee travel and administration	2,186	15,855	13,514	13,500
Depreciation	4,697	3,000	2,285	3,000
Equipment rental	3,825	4,005	4,123	7,000
Employee benefits	10,249	9,000	8,049	8,228
Executive Director and Assistants				
General	9,000	9,000	8,440	8,000
Travel	6,500	5,000	9,361	3,500
Insurance	491	750	-	650
International Optometric and Optical League	6,768	7,210	5,832	5,000
Loss on disposal of fixed assets	-	-	2,015	-
Maintenance and repairs	469	2,500	343	2,500
Meetings	92,191	57,700	43,863	52,644
Miscellaneous	3,739	1,000	1,006	1,000
Postage	3,274	8,000	5,524	5,400
President				
Office	10,000	10,000	5,000	5,000
Travel	24,114	13,000	9,070	10,000
Printing and office supplies	11,619	9,000	9,338	9,000
Professional fees	22,284	17,535	22,116	20,000
Public information	45,254	15,000	20,368	16,750
Relocation costs	7,194	-	-	-
Rent, light and cleaning	11,504	17,000	11,937	10,280
Salaries	105,420	111,000	93,873	104,638
Subscriptions	2,573	2,500	1,439	2,000
Telephone and telegraph	8,579	8,000	6,823	5,660
Translation	252	1,000	1,072	4,000
	<b>393,440</b>	<b>327,555</b>	<b>285,642</b>	<b>298,250</b>

Créances irrécouvrables
Frais bancaires et intérêt
Déplacements et administration des comités
Amortissement
Location de matériel
Charges sociales
Haute direction et assistants
Général
Déplacements
Assurances
International Optometric and Optical League
Perte sur l'aliénation d'immobilisations
Entretien et réparations
Réunions
Divers
Poste
Président
Bureau
Déplacements
Imprimerie et fournitures de bureau
Honoraires professionnels
Information publique
Frais de déménagement
Loyer, électricité et entretien
Salaires
Souscriptions
Téléphone et télégraphe
Traduction

**NET INCOME**

**BENEFICE NET**

**SURPLUS, BEGINNING OF YEAR**

**EXCEDENT CUMULATIF, DEBUT DE L'EXERCISE**

**APPROPRIATION TO RESERVE FOR WORKING CAPITAL**

**AFFECTATION A LA RÉSERVE POUR FONDS DE ROULEMENT**

**SURPLUS, END OF YEAR**

**EXCEDENT CUMULATIF, FIN DE L'EXERCISE**

NET INCOME	417	\$-	37,914	\$ -
SURPLUS, BEGINNING OF YEAR	5,542		2,628	
APPROPRIATION TO RESERVE FOR WORKING CAPITAL	-		35,000	
<b>SURPLUS, END OF YEAR</b>	<b>\$ 5,959</b>		<b>\$ 5,542</b>	



**CANADIAN ASSOCIATION  
OF OPTOMETRISTS  
BALANCE SHEET  
DECEMBER 31, 1986**

**L'ASSOCIATION CANADIENNE  
DES OPTOMETRISTES  
BILAN  
AU 31 DECEMBRE 1986**

<b>ASSETS</b>	<b>1986</b>	<b>1985</b>
<b>CURRENT ASSETS</b>		
Cash	\$ 9,600	\$ 822
Deposit certificates	61,426	91,252
Accounts receivable	24,274	7,725
Due from related organizations (Note 2)	2,438	6,543
Prepaid expenses	10,000	-
	<hr/>	<hr/>
	107,738	106,342
<b>FEDERAL GOVERNMENT RELATIONS FUND — (Schedule 3)</b>	21,715	24,248
<b>FIXED ASSETS (Note 3)</b>	34,417	11,095
	<hr/>	<hr/>
	<b>\$163,870</b>	<b>\$141,685</b>
<b>LIABILITIES</b>		
<b>CURRENT LIABILITIES</b>		
Accounts payable and accrued charges	<b>\$ 41,196</b>	<b>\$ 16,895</b>
<b>MEMBERS' EQUITY</b>		
<b>FEDERAL GOVERNMENT RELATIONS FUND — (Schedule 3)</b>	21,715	24,248
<b>RESERVE FOR WORKING CAPITAL (Note 4)</b>	95,000	95,000
<b>SURPLUS</b>	5,959	5,542
	<hr/>	<hr/>
	122,674	124,790
	<hr/>	<hr/>
	<b>\$163,870</b>	<b>\$141,685</b>

<b>ACTIF</b>
<b>ACTIF A COURT TERME</b>
Encaisse
Certificats de dépôt
Débiteurs
Avances à des organismes liés (note 2)
Frais payés d'avance
<b>FONDS DES RELATIONS AVEC LE GOUVERNEMENT FEDERAL (Annexe 3)</b>
<b>IMMOBILISATIONS (Note 3)</b>
<b>PASSIF</b>
<b>PASSIF A COURT TERME</b>
Créditeurs et frais courus
<b>AVOIR DES MEMBRES FONDS DES RELATIONS AVEC LE GOUVERNEMENT FEDERAL — (Annexe 3)</b>
<b>RESERVE POUR FONDS DE ROULEMENT (Note 4)</b>
<b>EXCEDENT CUMULATIF</b>



**CANADIAN ASSOCIATION  
OF OPTOMETRISTS  
STATEMENT OF CHANGES  
IN FINANCIAL POSITION  
YEAR ENDED  
DECEMBER 31, 1986**

**L'ASSOCIATION CANADIENNE  
DES OPTOMETRISTES  
ETAT DE L'EVOLUTION DE  
LA SITUATION FINANCIERE  
DE L'EXERCISE TERMINE  
LE 31 DECEMBRE 1986**

INCREASE (DECREASE) IN CASH RESULTING FROM:	1986	1985	AUGMENTATION (DIMINUTION) DE L'ENCAISSE RESULTANT DE:
<b>OPERATING ACTIVITIES</b>			
Operations			<b>ACTIVITES D'EXPLOITATION</b>
Net income	417	\$ 37,914	Exploitation
Items not affecting cash			Bénéfice net
Depreciation and amortization	4,697	2,285	Éléments n'affectant pas l'encaisse
Loss on disposal of fixed assets	-	2,015	Amortissement
	<u>5,114</u>	<u>42,214</u>	Perte sur l'aliénation d'immobilisations
Changes in non-cash working capital balances			Evolution des postes du fonds de roulement n'affectant pas l'encaisse
Accounts receivable	(16,549)	11,330	Débiteurs
Due from related organizations	4,105	(2,191)	Avances à des organismes liés
Prepaid expenses	(10,000)	-	Frais payés d'avance
Accounts payable and accrued charges	24,301	8,620	Créditeurs et frais courus
	<u>6,971</u>	<u>59,973</u>	
<b>INVESTING ACTIVITIES</b>			
Additions to fixed assets	(59,159)	(9,396)	<b>ACTIVITES D'INVESTISSEMENT</b>
Allowance for leasehold improvements from landlord	31,140	-	Acquisitions d'immobilisations
	<u>(28,019)</u>	<u>(9,396)</u>	Subvention du locateur pour améliorations locatives
<b>FINANCING ACTIVITIES</b>			
Obligation under capital lease	-	(1,208)	<b>ACTIVITES DE FINANCEMENT</b>
			Obligation découlant d'un contract de location — acquisition
<b>(DECREASE) INCREASE IN CASH AND DEPOSIT CERTIFICATES</b>	(21,048)	49,369	<b>(DIMINUTION) AUGMENTATION DE L'ENCAISSE ET CERTIFICATS DE DEPOT</b>
<b>CASH AND DEPOSIT CERTIFICATES, BEGINNING OF YEAR</b>	92,074	42,705	<b>ENCAISSE ET CERTIFICATS DE DEPOT, DEBUT DE L'EXERCICE</b>
<b>CASH AND DEPOSIT CERTIFICATES, END OF YEAR</b>	<b>\$ 71,026</b>	<b>\$ 92,074</b>	<b>ENCAISSE ET CERTIFICATS DE DEPOT, FIN DE L'EXERCISE</b>



**CANADIAN ASSOCIATION  
OF OPTOMETRISTS  
NOTES TO  
THE FINANCIAL STATEMENTS  
DECEMBER 31, 1986**

**L'ASSOCIATION CANADIENNE  
DES OPTOMETRISTES  
NOTES AFFERENTES  
AUX ETATS FINANCIERS  
LE 31 DECEMBRE 1986**

**1. SIGNIFICANT ACCOUNTING POLICIES**

**Revenue recognition**

Membership contributions are not recorded as revenue unless received. Membership contributions received in advance are deferred to the year in which the related membership is effective. Other revenue is accounted for on an accrual basis.

**Fixed assets**

Furniture and fixtures, equipment and leasehold improvements are stated at cost and depreciation is recorded using the straight-line method at the rates of 10% and 20% per annum.

**2. RELATED PARTY TRANSACTIONS**

During the year the Canadian Association of Optometrists provided administrative services to the following organizations:

	Value of Services Provided in 1986		Amounts Receivable At December 31, 1986
	Actual	Budget	
Canadian Optometric Education Trust Fund	\$11,313	\$10,926	\$2,438
National Advisory Committee on Vision Care Plans	1,082	-	-
National Council of Optometric Education	1,329	4,142	-
	<b>\$13,724</b>	<b>\$15,068</b>	<b>\$2,438</b>

Expenditures of the Association recovered from the above related organizations have been credited to the appropriate expenses as follows:

	1986	1985
Postage	\$ 877	1,100
Rent	3,968	5,064
Salaries	8,403	11,017
Telephone and telegraph	476	671
	<b>\$13,724</b>	<b>\$17,852</b>

**1. PRINCIPALES CONVENTIONS COMPTABLES**

**Comptabilisation du revenu**

Les contributions des membres ne sont comptabilisées comme revenus que lorsqu'elles sont reçues. Les contributions des membres reçues à l'avance sont reportées à l'exercice auquel les cotisations s'appliquent. Les autres revenus sont comptabilisés selon la méthode d'exercice.

**Immobilisations**

L'équipement de bureau, l'équipement informatique et les améliorations locatives sont comptabilisés au coût et sont amortis selon la méthode de l'amortissement constant aux taux de 10% et 20% par année.

**2. OPERATIONS ENTRE APPARENTES**

Au cours de l'exercice, L'Association Canadienne des Optométristes a fourni des services administratifs aux entités suivantes:

	Valeur des services fournis en 1986		Comptes débiteurs au 31 décembre 1986
	Réel	Budget	
Fonds de Fiducie des Optométristes Canadiens pour l'Education	\$11,313	\$10,926	\$2,438
Comité consultatif national sur les régimes de soins de la vue	1,082	-	-
Conseil National d'éducation en optométrie	1,329	4,142	-
	<b>\$13,724</b>	<b>\$15,068</b>	<b>\$2,438</b>

Les frais de l'Association recouverts auprès des organisations ci-dessus ont été inscrits aux postes respectifs comme suit:

	1986	1985
Poste	\$ 877	1,100
Loyer	3,968	5,064
Salaires	8,403	11,017
Téléphone et télégraphe	476	671
	<b>\$13,724</b>	<b>\$17,852</b>



**CANADIAN ASSOCIATION  
OF OPTOMETRISTS  
NOTES TO  
THE FINANCIAL STATEMENTS  
DECEMBER 31, 1986**

**L'ASSOCIATION CANADIENNE  
DES OPTOMETRISTES  
NOTES AFFERENTES  
AUX ETATS FINANCIERS  
LE 31 DECEMBRE 1986**

**3. FIXED ASSETS**

	Cost	Accumulated Depreciation	Net Book Value	Depreciation Rates
Furniture & fixtures	\$25,000	\$20,735	\$ 4,265	10 yrs.
Computer equipment	31,113	5,692	25,421	5 yrs.
Leasehold improvements	4,860	129	4,731	5 yrs.
	<b>\$60,973</b>	<b>\$26,556</b>	<b>\$34,417</b>	

**4. RESERVE FOR WORKING CAPITAL**

The reserve for working capital was established by the Board of Directors to ensure that the Association will be adequately funded to support future operations. Appropriations from operations to the working capital reserve will be approved by the Board each year until a balance representing 50% of the previous year's operating expenditures is attained.

**5. LEASE COMMITMENTS**

On November 1, 1986 the association moved into newly leased premises. The new lease is for a term of five years at \$26,815 per annum with the first eight months of the lease being rent free. The first rental payment is due on July 1, 1987.

The Association is still under lease for its former premises until December 31, 1987. The Association is in the process of trying to sublet these premises to reduce its lease commitment payments of \$18,000.

**3. IMMOBILISATIONS**

	Coût	Amortissement Accumulé	Valeur Comptable Nette	Taux D'Amor- tissement
Equipement de bureau	\$25,000	\$20,735	\$ 4,265	10 ans
Equipement informatique	31,113	5,692	25,421	5 ans
Améliorations locatives	4,860	129	4,731	5 ans
	<b>\$60,973</b>	<b>\$26,556</b>	<b>\$34,417</b>	

**4. RESERVE POUR FONDS DE ROULEMENT**

Le comité d'administration a établi une réserve pour fonds de roulement afin d'assurer le financement adéquat d'exploitations futures. Le comité propose d'effectuer des virements annuels du compte d'exploitation à la réserve jusqu'à ce que cette dernière atteigne un solde de 50% des dépenses d'exploitation de l'exercice antérieur.

**5. ENGAGEMENTS EN VERTU DE BAUX**

Depuis le 1 novembre 1986, l'Association est engagée en vertu d'un nouveau bail à long terme, échéant en novembre 1991 à payer un loyer de \$26,815 par année pour les cinq prochaines années. Le premier versement de loyer est dû le 1 juillet, 1987, les huit premiers mois étant gratuits.

L'Association est toujours engagée en vertu de son ancien bail lequel vient à échéance le 31 décembre, 1987. L'Association a entrepris des démarches pour sous-louer ses anciens locaux afin de réduire sa dépense de loyer de \$18,000.



**SCHEDULE 1****CANADIAN ASSOCIATION OF OPTOMETRISTS MEMBERSHIP CONTRIBUTIONS YEAR ENDED DECEMBER 31, 1986**

	1986		1985	
	Actual	Budget	Actual	Budget
British Columbia	51,622	47,750	42,975	41,500
Alberta	55,000	53,000	47,813	45,500
Saskatchewan	22,250	22,750	20,475	21,000
Manitoba	18,550	18,250	16,425	16,000
Ontario	85,169	85,300	74,880	75,000
Quebec	48,260	50,450	45,322	41,000
New Brunswick	18,250	17,000	15,350	15,000
Nova Scotia	12,033	12,000	10,832	11,000
Prince Edward Island	1,500	1,500	1,350	1,000
Newfoundland	8,250	8,000	7,200	8,000
	<b>\$320,884</b>	<b>\$316,000</b>	<b>\$282,622</b>	<b>\$275,000</b>

**SCHEDULE 2****CANADIAN ASSOCIATION OF OPTOMETRISTS CANADIAN JOURNAL OF OPTOMETRY — NET INCOME YEAR ENDED DECEMBER 31, 1986**

	1986	1985
<b>REVUE</b>		
Advertising	\$79,374	\$43,252
Subscriptions and miscellaneous	1,040	1,640
Investment income	1,281	805
	<u>81,695</u>	<u>45,697</u>
<b>EXPENSES</b>		
Bad debts	86	-
Bank charges and interest	-	6
Honorarium	675	825
Mailing	5,299	5,748
Management fee	2,475	-
Miscellaneous and translation	1,698	708
Printing	34,866	37,079
Supplies	-	2,210
Salaries	6,632	-
	<u>51,731</u>	<u>46,576</u>
<b>NET INCOME (LOSS)</b>	<b>\$29,964</b>	<b>\$ (879)</b>

**ANNEXE 1****L'ASSOCIATION CANADIENNE DES OPTOMETRISTES CONTRIBUTIONS DES MEMBRES DE L'EXERCISE TERMINE LE 31 DECEMBRE 1986**

Colombie Britannique
Alberta
Saskatchewan
Manitoba
Ontario
Québec
Nouveau Brunswick
Nouvelle Ecosse
Ile-du-Prince-Edouard
Terre-Neuve

**ANNEXE 2****L'ASSOCIATION CANADIENNE DES OPTOMETRISTES LA REVUE CANADIENNE OPTOMETRIE — BENEFICE NET DE L'EXERCISE TERMINE LE 31 DECEMBRE 1986**

<b>REVENUS</b>
Publicité
Souscriptions et divers
Revenu d'investissement

<b>FRAIS</b>
Créances irrécouvrables
Frais bancaires et intérêt
Honoraires
Courrier
Honoraires de gestion
Divers et traduction
Imprimerie
Fournitures
Salaires

**BENEFICE NET (PERTE NETTE)**



**SCHEDULE 3**

**CANADIAN ASSOCIATION  
OF OPTOMETRISTS  
SCHEDULE OF FEDERAL  
GOVERNMENT RELATIONS  
FUND  
YEAR ENDED  
DECEMBER 31, 1986**

	1986	1985
<b>REVENUE</b>		
Investment income	\$ 1,777	\$ 2,237
<b>EXPENSES</b>		
Bank charges and interest	82	60
Postage	291	302
Legal fees	599	4,350
Committee expenses	2,348	388
Office supplies	20	105
Fees	-	198
Miscellaneous	623	3
Translation	347	336
Telephone	-	587
	<u>4,310</u>	<u>6,279</u>
<b>NET LOSS</b>	2,533	4,042
<b>SURPLUS, BEGINNING OF YEAR</b>	24,248	28,290
<b>SURPLUS, END OF YEAR</b>	\$21,715	\$24,248
<b>REPRESENTED BY:</b>		
Cash in bank	\$ 30	\$ (100)
Deposit certificates	21,625	24,275
Accrued interest	60	73
	<u>\$21,715</u>	<u>\$24,248</u>

**ANNEXE 3**

**L'ASSOCIATION CANADIENNE  
DES OPTOMETRISTES  
FOND DES RELATIONS  
AVEC LE  
GOUVERNEMENT FEDERAL  
DE L'EXERCISE  
TERMINE LE 31 DECEMBRE 1986**

<b>REVENUS</b>
Revenu d'investissement
<b>FRAIS</b>
Frais bancaires et intérêt
Poste
Frais légaux
Frais des comités
Fournitures de bureau
Honoraires
Divers
Traduction
Téléphone
<b>PERTE NETTE</b>
<b>EXCEDENT CUMULATIF, DEBUT DE L'EXERCISE</b>
<b>EXCEDENT CUMULATIF, FIN DE L'EXERCISE</b>
<b>REPRESENTE PAR</b>
Encaisse
Certificats de dépôt
Intérêt couru



supply. Second, Duke-Elder & Wybar (1961) reported that the general structure of retinal arteries changes with retinal location. Retinal vessels become much thinner towards the periphery because the muscle coat of the medial layer gradually attenuates toward the finest branches of the vessels. This loss of smooth muscle cells may mean decreased mechanical stability in the presence of transient elevations of IOP.

The preservation of macular fields in elevated levels of IOP may parallel the present findings that the photopic ERGs are relatively unaffected when the baseline IOP is doubled. This may reflect differential sensitivity of the dual retinal vascular supply to pressure effects, with the choroidal blood supply being structurally more impervious to raised IOP levels. Alternately, autoregulation of choroidal blood flow may be hypothesized to preserve the photopic ERG. However, even though autoregulation of macular blood flow in relation to perfusion pressure has been shown using blue field entoptic phenomenon (Riva & Loebel, 1977; Riva & Petrig, 1980; Riva et al, 1981; Fallon et al, 1985), it is difficult to imagine an autoregulatory process which could operate over a range

of IOPs that extended beyond double the baseline IOP and thereby preserve the photopic ERG.

The results of the present study suggest that loss of retinal responsivity may be more a reflection of vascular perfusion rather than absolute IOP levels. This tentative conclusion parallels the reports of largely preserved optic nerve function in elevated IOP levels if adequate vascular perfusion is maintained (Grehn & Prost, 1983; Friberg & Sanborn, 1985; Srebro et al, 1985). There are several clinical implications resulting from this investigation. The most important of these pertains to the management of low tension glaucoma patients, i.e. those presenting with symptoms characteristic of glaucomatous episodes yet showing IOP values within an acceptable range. Having demonstrated that retinal neurons continue to function relatively unimpaired even if the IOP is more than doubled, when the RVPP is sufficiently increased, it is clear that defective vascular perfusion can result in neural damage when IOPs are in the normal range. Thus the ophthalmic practitioner must be alert to the possibility of encroaching glaucoma even when IOPs are low, visual fields are normal, and the optic nerve heads appear

to have normal structural features. Ophthalmodynamometry to measure CRA pressures and to calculate perfusion pressure is indicated whenever the patient's symptomatic profile hints at sub-clinical glaucomatous processes.

A comparison of IOP measurements in the upright and supine position, may serve as a useful provocative test to detect those patients with abnormal fluid dynamic relationships between the IOP and RVPP. The present data indicates that an increase in the baseline IOP of 4 to 5 mm Hg from the upright to the supine position is an expected physiological response to postural changes. Greater increases in IOP should be viewed with suspicion and initiate further investigations of IOP dynamics.

The very large increases in IOP and systemic BP on inversion should be borne in mind when counselling patients participating in various forms of exercise, muscle relaxation, or meditation involving body inversion. Patients with IOPs on the high side of a normal distribution should be advised of the possible physical, ocular, and visual consequences of such activities. Since short term elevations of the IOP can cause alterations of function of a reversible nature, longer term, repeated elevations are likely to be more detrimental to the physiological process of vision, perhaps in a more permanent way.

Ongoing studies in our lab are directed at more detailed examinations of the changes in retinal and optic nerve function subsequent to altered vascular perfusion. These studies are intended to provide new insight into the causative mechanisms of optic nerve damage in normal and elevated IOPs.

### ERG b-WAVE IMPLICIT TIME vs IOP

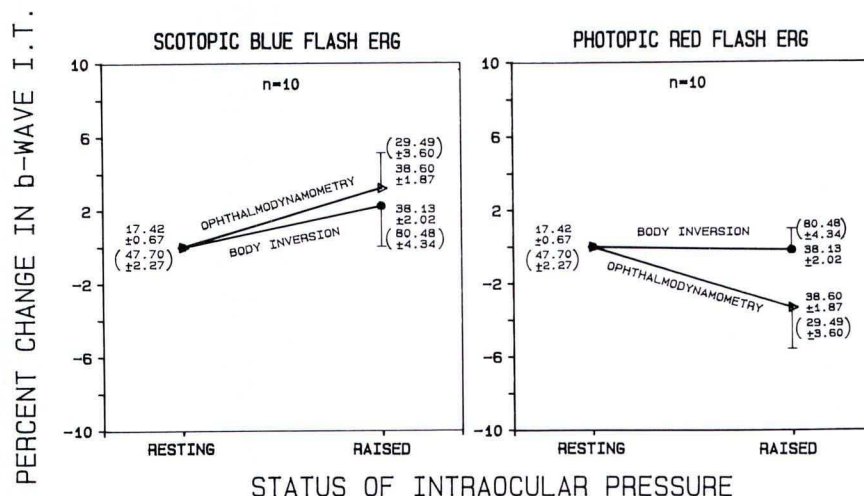


Figure 9

Grouped data for the subject population (n=10) whose ERG amplitude vs IOP function is shown in Fig. 7. These graphs show that the implicit time of the scotopic and photopic ERG b-wave changed only slightly (+/- 4%) when IOP was more than doubled by either ophthalmodynamometry or body inversion. These

changes in implicit time from baseline measurements for either test procedure were not statistically significant (paired t-test,  $P > 0.10$ ). The resting and raised IOP levels are indicated beside data points for each method. Perfusion pressure values are shown within brackets for each data point.

### Acknowledgements

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# Ocular Accommodation in Children Aged 3 to 11 Years

M.E. Woodruff\*

"In all the investigations respecting the cause and mechanism of accommodation, observers appear not to have thought of defining the range of accommodation under various circumstances, and of seeking a simple numerical expression for the same. And yet the necessity for the same existed almost still more for the oculist than for the physiologist. If it be desired to investigate the accommodation, whether in reference to the changes observed in the eye, either at different periods of life, or with respect to myopia, hyperopia, asthenopia, strabismus, paresis, etc., it is evidently necessary to have an easily comparable standard of its magnitude or range."

F.C. Donders<sup>1</sup>  
Utrecht 1864.

The intent of this statement, first published 122 years ago, remains fundamental to the assessment of visual function and diagnosis of vision anomalies. Donders, however, did not establish the range of accommodation, that is the amplitude, for children ten years of age or under, possibly for the same reason expressed by Landolt<sup>2</sup> who says "If age has a certain influence on refraction of the eye at rest, the static refraction, that which it exerts upon the dynamic refraction or accommodation is still more powerful. The accommodative power of the eye diminishes with advancing age; the punctum proximum gradually recedes. But, while the influence of years upon static refraction, makes itself felt only at a somewhat advanced age, the diminution in dynamic refraction manifests itself as early as at the age of ten — that is to say, at the earliest age at which it has been possible to make conclusive experiments relative to this matter."

\*O.D., Ph.D., F.A.A.O., Professor  
School of Optometry, University of Waterloo

Landolt, referring to Donders' curve, showing the maxima of refractive power attained at different periods of life, says, "The first figure given by the curve is, at the age of ten years, fourteen dioptries (sic). This signifies that a child of ten can, by bringing all his accommodation into play, increase the refractive power by fourteen dioptries (sic). From this point on, the curve . . . falls rapidly. At thirty years, the accommodation, being now only seven dioptries (sic), has already diminished by half."

Duane<sup>3-9</sup> established normative data for the amplitude of accommodation of subjects aged 8 to 72 years of age. Duane's work, first published in 1908, provided the standard by which the normality of accommodative amplitude is judged up to the present time. Hofstetter<sup>10</sup> developed formulae based on Duane's data which predict the range of accommodative amplitude expected at a given age. The formulae are; (Maximum accommodation =  $25 - 0.4(\text{age})$ , average =  $18.5 - 0.3(\text{age})$ , minimum =  $15 - .25(\text{age})$ ). Using these formulae, a three year old child would be expected to have an average accommodation of 17.6 D, a maximum of 23.8 D and a minimum of 14.25 D. The fact that Duane's data included only 33 subjects between the

ages of 8 to 12 years and no data at all for children younger than 8 years, makes the use of the formula to predict normal amplitudes for children under 12 years of questionable value. The expectation that young children should possess high amplitudes has perhaps inhibited practitioners of making the careful measurements of accommodative amplitude which Donders pointed out as being fundamental to making a diagnosis. It is also essential to use stimulus targets like Duane used and to exert the same controls as were carried out in his derivation of the accommodative range.

Sheard<sup>11</sup> points out that Duane's method of amplitude measurement of accommodation has 4 factors which induce inaccuracies in the measurement of accommodation. These are:

- 1). The rapid increase in visual angle of the object increases the size of the retinal image which, in turn, reduces the stimulus to accommodation.
- 2). The reduction of pupil size, which is concomitant with accommodation, acts to reduce the size of the circles of diffusion which also reduces the stimulus to accommodation.
- 3). The stenopaic slit resulting from narrowed lids minimizes the effects of astigmatism and also reduces pupil size,

TABLE 1  
Statistics On Spectacle Accommodation  
For Children Aged 3 To 11 Years

Age Group	Mean D	SEM +/-	SDM +/-	Median D	Max D	Min D	Coefficient of Variation %
3	9.4	.12	.69	9.5	12.25	8.5	7.35
4	10.7	.18	1.29	10.75	13.50	8.5	12.09
5	10.72	.21	1.83	11.00	13.50	5.0	17.05
6	11.5	.18	1.69	11.50	14.25	8.5	14.75
7	12.1	.26	1.88	12.00	15.25	8.0	15.62
8	13.1	.31	1.38	13.10	20.00	9.0	18.23
9	13.2	.34	2.62	13.50	18.87	8.25	19.91
10	13.7	.40	2.32	13.00	18.25	9.5	16.98
11	11.95	.29	1.61	12.00	14.25	9.5	13.24



further assisting in reducing the accommodative stimulus.

4). The size and nature of the test object have an effect upon its quality as a stimulus to accommodation.

Sheard therefore proposed the "Concave at Near procedure", subsequently referred to as Sheard's method. He describes the technique as follows, "The test should be made monocularly and before each eye should be the distance correction, particularly the cylindrical element. The spherical element should be the maximum convex or minimum concave which, either alone or in combination with the cylinder, . . . affords  $V =$

the amount of concave lens power overcome and expressed as a positive quantity. . . . Since the effect of concave lenses is to minimize the sizes of retinal images and hence the apparent sizes of the test objects, it should be expected that the amplitudes of accommodation as determined by concave at near methods would be less than by the push up (Duane's method) determinations."

Wold<sup>12</sup> assessed the amplitude of a sample of school children between ages 6 and 10 but only the samples of children of ages 7 to 9 were of sufficient size to yield significant data. His study compared Sheard's method to a push up

measured amplitude refers to the spectacle plane and is termed spectacle amplitude.

Studies by Bradick et. al<sup>13</sup> and Banks<sup>14</sup> suggest a considerable capability is possessed by infants to accommodate. Bradick states that, "most infants of 1 month and over, and many neonates, can accommodate at 75 cm and closer." He also says that, "What the infants are unable or unwilling to do consistently is to use this potential accommodative range to bring the target into sharp focus." Inability would be more likely at this period of life since ocular structures such as the cornea, lens and axial length are undergoing their most rapid period of growth<sup>15</sup>, that the ciliary muscle would be capable of sustaining well controlled activity during this period would be surprising.

Recently, Brookman<sup>16</sup> used grating targets and retinoscopy to measure the amplitudes of 14 infants at intervals between the 2nd week and 5th month after birth. His data show progressively increased accommodative ability and accuracy over this four and one half month period of child development.

While Brookman's data lead him to suggest that accommodation reaches near-adult capability at an early age, neither his work nor the literature cited provide normal values of accommodative amplitude or ranges of accommodative ability for children between infancy and ten years of age. This suggestion begs the question what is meant by near-adult levels?

This paper reports a study undertaken to provide normative data for children from early childhood to age 11.

### The Sample and Method

The sample consisted of 286 children drawn from daycare centers, nursery and public schools. Parental consent was obtained for each child to participate. Figure 1 shows the age distribution and number of children in each age group. Figure 2 shows the number of eyes from which accommodative measures were obtained for each age group. All children assessed were reported to be in good health by the school health authorities. Each child was assessed as follows:

- a) Ocular health by external inspection and ophthalmoscopy.
- b) Binocular status by cover test and stereopsis by Randot or Stereo-fly.
- c) Refractive status by retinoscopy and

**TABLE 2**  
**Predicted Mean And Minimum Amplitudes Of Accommodation For Children Aged 1 Month To 14 Years**

Age	Predicted Mean Amplitude Diopters	Predicted Lower Limit Of Normality Diopters
<b>MONTHS</b>		
1	5.0	3.6
6	5.7	4.3
<b>YEARS</b>		
1	6.4	5.1
2	7.6	6.2
3	8.9	7.4
4	9.8	7.2
5	10.7	7.0
6	11.5	8.0
7	12.1	8.3
8	12.6	8.8
9	12.9	7.7
10	13.1	8.5
11	13.2	10.0
12	13.1	10.0
13	12.9	9.7
14	12.6	9.4

20/20 (6/6), or as nearly the normal standard as can be obtained." Sheard used #2 Jaeger (J2) type at 33 cm. as the stimulus to accommodation. "Minus spheres, beginning in general with a -1.00 or -1.50 diopter, are then inserted in the trial frame or turned in the lens battery . . . until the maximum minus lens has been inserted through which the J2 type is just barely readable. The available amplitude of accommodation as thus obtained is the sum of the three diopters exerted by the accommodative mechanism in order to read at 13 inches plus

method similar to Duane's and showed the latter to yield higher values.

Both Duane's and Sheard's methods depend upon the interpretation of first blur, although Duane did have his stimulus moved in beyond the point of first blur and back out to the point where the target was seen with clarity. Either of these methods then is dependent upon the person's being assessed having an understanding of blur, a criterion difficult for younger children to understand. Both methods begin with distance vision corrected to maximum capability. Thus the



trial lenses and confirmed by a Canon R-100 autorefractor.

d) Distance and near visual acuity was measured without correcting lenses when the spherical refraction was less than +0.75 D and astigmatism was less than 0.5 D.

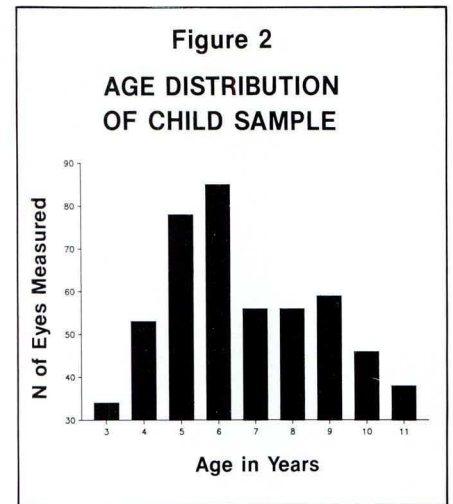
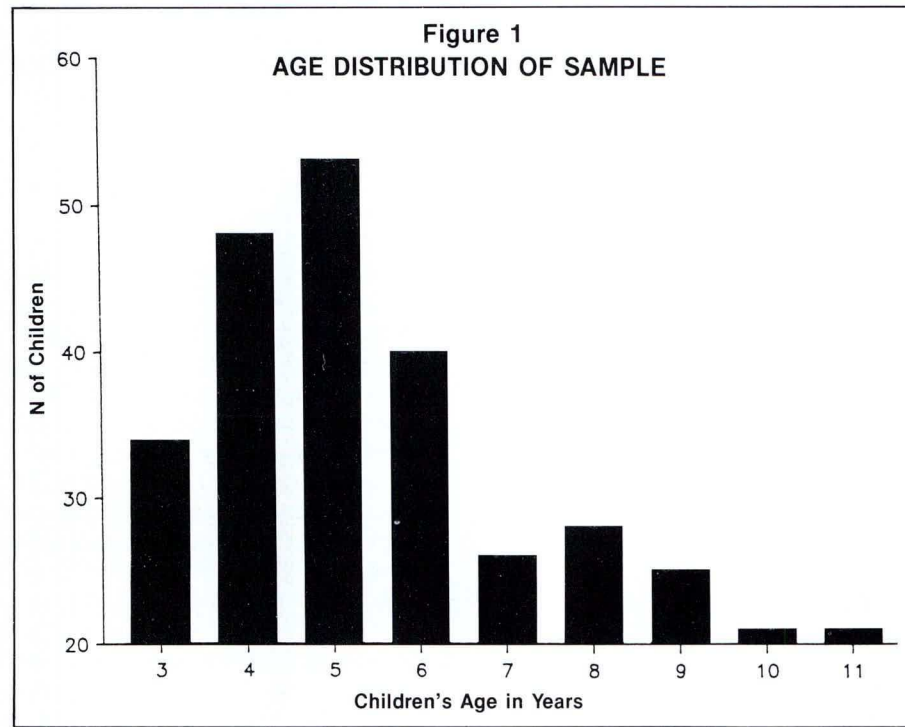
e) Accommodative amplitude was measured by a modified Sheard's method as follows: The child's ability to respond to near visual acuity stimuli was first determined using Allen symbols, tumbling E charts, number or letter charts, all sized to present  $V = 6/9$  (20/30) at 33 cm. The child was placed behind a phoropter and viewed the chart at 33 cm distance with the left eye occluded. A -10.0 D lens was turned into the right lens aperture. If the child could correctly identify the symbols, additional minus power was added in 2.0 D steps until the symbols could not be distinguished. The minus power was then reduced in 0.25 D steps until the child could correctly identify 5 of 6 symbols presented. The subjects were urged to identify the symbols in terms of playing a game whereby, with each symbol correctly identified, the child was given a point. When the child achieved the criterion, the minus power in the refractor, plus 3.0 D of the stimulus distance, was recorded as the spectacle plane amplitude. The procedure was then repeated with the right eye occluded. When the testing area was set up, the luminance of the test cards was measured and the room illumination was adjusted

to provide between 107.6 and 161.5 lux. The data were recorded on a form which facilitated entry into a Supercalc 3A spreadsheet for analysis. The statistics derived include mean, median, standard deviation (SDM) from the mean, standard error of the mean (SEM), the variance, the coefficient of variation (V) and the maximum and minimum values for each age range.

## Results

All children whose accommodative data are presented had no systemic or ocular health problems. When a child was found to be strabismic or amblyopic, only the data for the fixing eye or the eye with corrected visual acuity of 6/9 or better was included in the analysis. Both eyes of children with alternating strabismus were included, provided the acuity of each eye was 6/9 or better. Figure 3 is a plot of the measured amplitudes of 500 eyes of children. Table 1 presents the statistics derived from the data.

Figure 4 is a plot of the mean accommodative amplitude for each age group from 3 to 10 years, the range of the positive and negative standard deviation from the mean are also shown in the figure. The mean accommodative amplitude appears to increase by slightly more than a diopter between age 3 and 5 years and then by approximately 0.5 D reaching a maximum at age ten and then declines thereafter. A similar decline is evident in



Duane's data<sup>4</sup> but it suggests that the decline may begin as early as age 8.

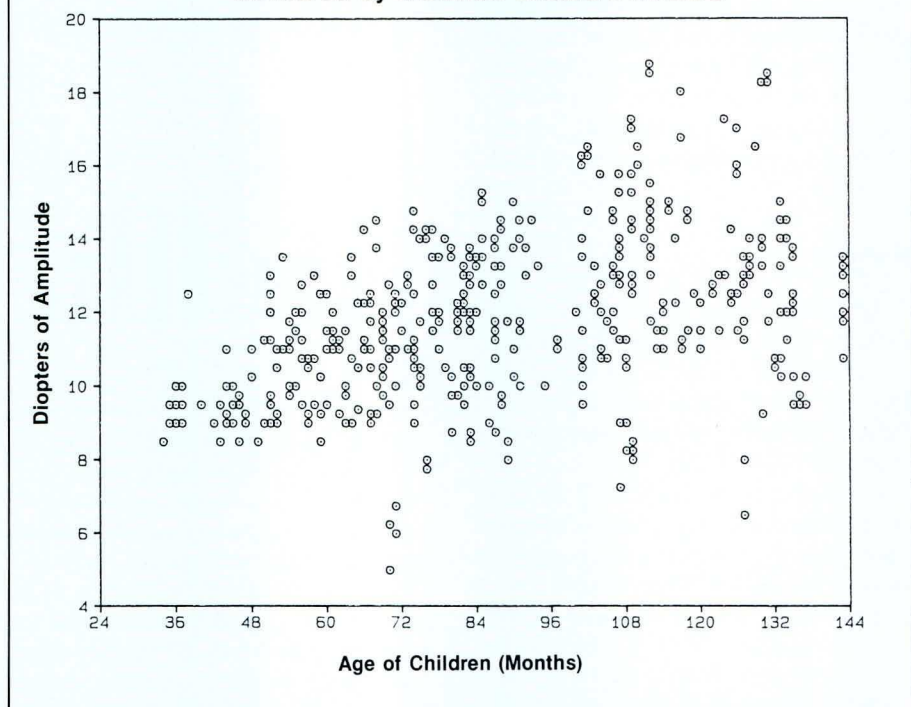
Figure 5 shows the median amplitude for each age group and the maximum and minimum values measured. There is a very narrow range in the minimum values between ages 3 and 11 years with the exception of the 5 year old children where 3 individuals showed amplitudes between 5 and 6.75 D. Examination of the individual records of these 3 children reveal no evidence of the low measures being the result of lack of understanding of the test or an ocular or systemic disease problem.

Figure 6 is a plot of the mean amplitudes for each age group of the sample with plots of the 2nd standard deviation for each of the age samples. With the exception of the 5 year old children, 95.45% of children had amplitudes of 8 diopters or more. Fletcher et al.<sup>17</sup> say, "one way of establishing a cut-off between the normal and abnormal is to agree . . . that all values beyond the 2nd standard deviation from the mean are abnormal." In Figure 5, the second standard deviation approximates 8 D for all children between 3 and 9 years of age and approximates 9 D for the children aged 10 and 11 years. In the light of these facts, the following statement by Duane<sup>7</sup> takes on a significant meaning;

"Accommodative weakness comprises both a paralysis of accommodation in which the patient cannot use his eyes for near work at all and an insufficiency in which he can use them, but not without difficulty. In this regard we must remember that what determines *the symptom in any given case is not the actual amount of accommodation present but whether that amount is at or below the normal for the age. A man of forty-two with 4 D of accommodation manifest*



**Figure 3**  
**AMPLITUDES OF 500 EYES OF CHILDREN**  
**Measured by modified Sheard's method**

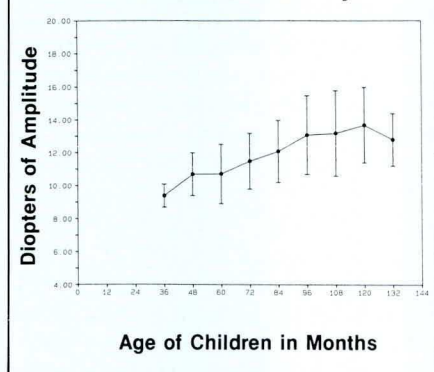


can read with perfect ease; a boy of twenty with 6 or 7 D of accommodation can hardly read at all. Accommodative insufficiency, then, is a condition not absolute, but relative. It may be said to exist whenever the manifest accommodation is persistently below the minimum for the age of the subject . . . .

The mean values were used to compute the following quadratic equation  $Y = 4.928 + .123X - 0.00047156X^2$ , from which points were derived and used to plot the curve shown in Figure 6. The curve predicts a 1 month old child to have an amplitude of 5 D which closely approximates Brookman's<sup>16</sup> data for

**Figure 4**  
**SPECTACLE PLANE**  
**AMPL. OF ACCOM.**

**For Children 3 to 11 yrs**



infants of 1 month. For ages 8 to 10 the predicted values are only 0.7, 0.4, and 0.3 D, respectively, below the mean values derived by Duane. These differences are likely due to the different methods used to obtain the measurements. Using a device which replicates Duane's methods on children 6 years of age and older, the author finds that differences between amplitude measures obtained and those obtained by the modified Sheard's method vary between 0.5 D and 1.00 D, suggesting that careful control of the stimulus and the measurement procedure permits either method to derive useful data. The shape of the derived curve compares favourably with the curve of the growth of the nervous system<sup>18</sup>, which is not surprising, since the control of accommodation is an autonomic function. Table 2 provides the predicted levels of accommodation from 1 month to 14 years. The Table also provides the minimums by which the judgement of normality or abnormality of accommodative amplitude can be made. While the collection of additional data will likely modify these data, it is likely that any change will be of a minor sort.

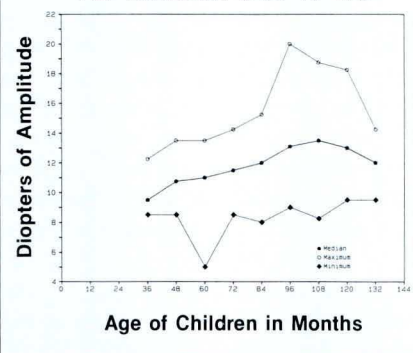
**Discussion**

Hirsch and Wick<sup>19</sup> rightly credit Donders with providing the ground work for scientific Optometry. However, it

remained for Duane to refine the norms of accommodative amplitude which he did with careful control of relevant variables. Hofstetter's predictive formula, while useful when applied to ages of 12 years and over, leads to the expectation of much higher amplitudes in children than they are likely to possess. That higher amplitudes are often erroneously confirmed by push up amplitudes measured clinically without the stimulus target and the controls which Duane applied is undoubtedly the reason that such measures are not taken routinely in younger children. For when amplitude is measured by a quick push up with a reading card, the resulting high values place the child's amplitude within a range considered normal. Woodruff et al.<sup>20</sup>

**Figure 5**  
**MEDIANS: SPECTACLE PLANE**  
**ACCUM. AMPL.**

**For Children 3 to 11 Yrs**



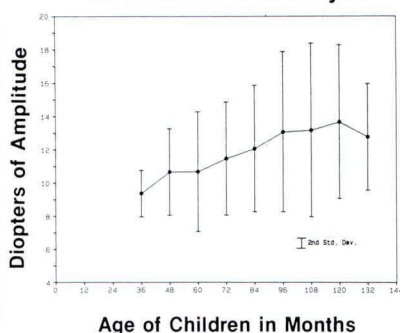
drew attention to the prevalence of low amplitudes among insulin dependent diabetic children. When they attempted to establish what the normal accommodative amplitude should be for the children in their study who were under 8 years of age, vision literature failed to provide valid or reliable data. Consultation with practitioners revealed that few routinely measured accommodative amplitude since they had an expectation that it was a function that had a very high capability from very early in life. Those who did take a measurement used a hand held near-point card pushed up to a point where the child reported blurred vision. The view that children have high levels of accommodation in early childhood tends to be reinforced by statements such as Brookman's who uses the term "adult-like levels of proficiency". Examination of Duane's adult data shows substantially lower accommodative amplitudes beyond the mid-twenties from a peak reached somewhere between ages 8 to 10 years.



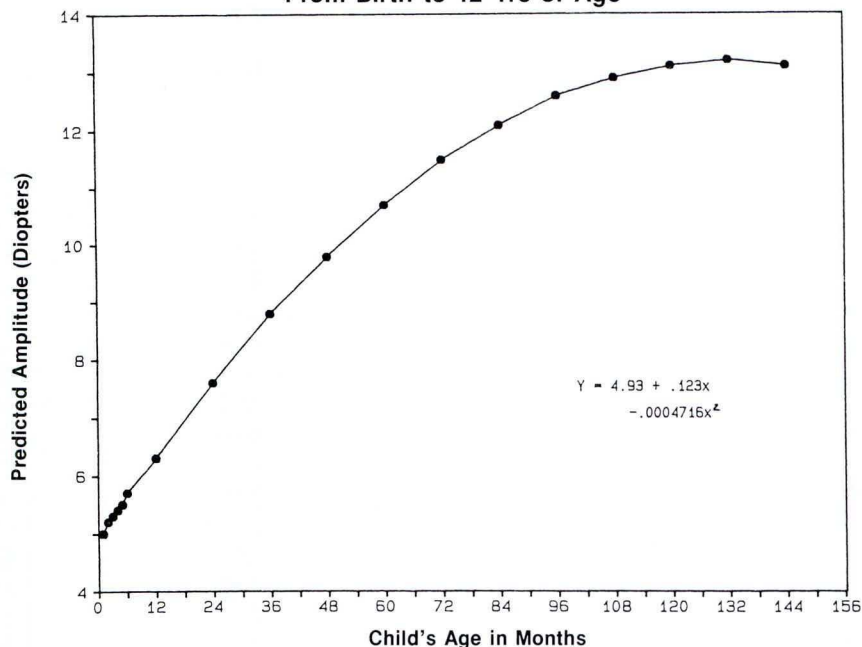
The present study supports the latter. If it is the values beyond age 25 that Brookman refers to, then at least in ages from birth to 3 years, the values do reach adult-like values. It seems logical that accommodation would follow a course of development similar to the growth curve of the nervous system<sup>18</sup>, since it is a function under autonomic nervous system control.

Thus, it seemed imperative to have a more precise set of normal measures to apply to clinical evaluation of children age 11 and under. The author believes this study fulfills that requirement.

**Figure 6**  
**SPECTACLE PLANE**  
**AMPL. OF ACCOM.**  
**For Children 3 to 11 yrs**



**Figure 7**  
**PREDICTED SPECTACLE PLANE AMPL. OF ACCOM.**  
**From Birth to 12 Yrs of Age**



### Acknowledgements

I wish to thank Dr. Douglas A. Puttaert, B.Sc., M.Ed., O.D., who worked vigorously and carefully to gather the data on the three and four year old children as well as a number of five year olds during a time when he was under other pressures. I am also grateful to the following student research assistants who gathered data on children from ages 5 to 11: Jill McKechnie, Linda Skrapits, Anita Gallo, Andrew Palmer, Beverly Dodge, Malini Varshney and Lianne Cousineau. Without the funding sup-

port from The Canadian Optometric Education Trust Fund, the Project could not have been carried out. Canada Manpower also contributed funding for two of the students who made up part of the team. I know they will all turn out to be able Pediatric Optometrists.

We are all grateful to the nursery school and day care center children and staff and the Principal, Teachers and Staff of the Elizabeth Zeigler School in Waterloo and, most of all, the children.

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# Vision in the Space Environment

L. G. Hart \*

## Author's Note

It must be noted that the subject discussed in this paper is not only one that is complex, but also one that is constantly changing. By the time a paper about the space environment reaches print, many of the ideas could well be obsolete.

This article was planned with the practising optometrist in mind. To compliment an extensive literature which already exists on the subject, only the ideas that it was felt would be of interest to, and act as primer on the subject for the interested practitioner are introduced here.

For further information on the subject, the author would refer readers to **Space Physiology and Medicine, NASA SP-447, US Government Printing Office, Washington, DC, USA.**

**M**an, living and working in the weightlessness of space, is an accomplished fact. The Soviets are committed to the establishment of a permanent space station from which they will attempt to reach other planets. The United States has also indicated that it will begin construction of a permanent space station. Therefore, man will have to learn how to survive in space for months, or even years, at a time.

Life in a zero gravity (zero-G) environment means that the human organism must adapt to the effective absence of gravity in order for the space traveller or worker to be able to accomplish successfully his or her daily tasks. The biomedical effects of weightlessness on the human organism will have to be extensively studied and, indeed, we are in the process of accumulating vast amounts of data on these effects. This paper will discuss some of these effects on the visual process and will enable optometrists to keep up with current developments in space that directly affect the visual process.

Vision, of all our senses, is the one most critical for orientation and adaptation to living and working in space. It is through vision that a person acquires primary points of reference in space, just as is the case here on Earth. For example, one of the astronauts noted that, during his initial hours in space, when he closed his eyes, his instinct was to "grab hold of whatever was nearest and just hang on, lest I fall."<sup>9</sup>

The visual environment in space is different from that on Earth. First, the brightness of objects under direct solar illumination is higher. On surfaces such as the moon, where there is

no atmosphere, there is no scattering of light. Areas not under direct solar illumination appear much darker, due to the absence of diffused light and thus force a restructuring, because of darker shadows, of normal visual relationships.

This leads us to discuss one of the most dramatic conditions to arise during space flight, space motion sickness, which continues to plague astronauts. The neurovestibular reaction is still not well understood<sup>10</sup>, but we do know that the visual process is involved<sup>8</sup>. One of the most plausible conclusions regarding its cause appears to be the "sensory conflict" hypothesis<sup>3</sup>.

It is believed that the usual afferent visual and somatosensory inputs to the vestibular nuclei and other central mechanisms are no longer appropriate in the zero-G environment and that, somehow, the vestibulo-ocular reflex is altered. This results in aberrant reflex and effector responses. After a few days, the unfamiliar afferent sensory inputs are correctly interpreted. There is considerable evidence that, after a few days in space, the brain comes to rely even more on visual inputs.

Until we know exactly what causes space motion sickness, we will have to depend on such drugs as scopolamine — dextro-amphetamine sulfate (dexedrine) or promethazine — ephedrine combinations<sup>3</sup>.

Changes in body musculature are noted and disturbances of the motor regulation system are experienced during and after space flight. There is a decrease in total body mass, leg volume and muscular strength<sup>3</sup>. What interests us as optometrists is the decrease in visual motor task performance abilities<sup>6</sup>. Fortunately, this degradation is reversible after relatively short periods in space (1-14 days). We don't know yet if longer periods in space can cause irreversible damage, but this is highly unlikely. Will the astronauts be able to deal with an inflight emergency while suffering from the effects of motor disabilities? Future space travellers must acclimatize themselves and learn to adapt and function quickly as the changes occur.

As optometrists, we are aware that the sun's radiant energy has the potential to harm the eye. Recently, we have seen more and more articles in the optometric press concerning the adverse effects of sunlight on not only the body but also the eye. Solar radiation is being implicated as a causative agent ranging from pingueculae to various keratopathies.

The earth's atmosphere absorbs at least 15% of the visible radiation, but enough solar energy reaches the earth to harm the eye<sup>11</sup>. Astronauts, during daylight hours, work at a level of illumination about 1/4 higher than that on earth and, therefore, the risks are higher. Plastic spectacle lenses used in space will have attenuators in the plastic to filter out the ultraviolet radiation.

\*O.D., F.A.A.O., Beaconsfield, Québec



Another hazard soon to be encountered in space is the laser beam. Military applications of lasers are increasing, for example in the areas of target ranging and illumination. Laser energy is capable of severely injuring any tissue in the eye that absorbs the beam energy.

Protective goggles or visors with an optical density that is considered safe at the laser wavelength will be employed. The current Extra Vehicular Visor assembly allows the astronaut to see out of the space suit. Multiple visors allow one to select the appropriate degree of protection from glare and ultraviolet radiation.

Visual acuity was tested during the Gemini 5 mission with an Inflight Vision Tester, because astronauts had reported acuity far above what had been expected. This is a binocular optical device containing a transilluminated array of high-and-low contrast rectangles. The astronaut judged the placement of each rectangle and indicated his response by punching holes in a record card. This was done pre-flight, in-flight, and post-flight.

The second part of the acuity measurement employed large rectangular patterns displayed at ground sites in Texas and Australia. The astronauts had to report the orientation of the rectangles. Displays were changed in orientation between passes and adjustments for size were made in accordance with anticipated slant range, solar elevation and the visual performance of the astronauts on preceding passes. Unfortunately, circumstances limited this test to only a couple of trials. The results were as follows: the visual performance of the astronauts neither improved nor worsened during the eight day mission<sup>4</sup>. Generally, visual acuity decreased slightly and there was a slight decrease in resolution. No change in lateral phorias and cyclophoria was noticed. There was a slight change in vertical phoria. All visual performance parameters returned to normal post-flight<sup>4</sup>.

During the Apollo program, photographic studies of the retinal vasculature showed a significant decrease in the size of both veins and arteries about 3 1/2 hours after flight for one of the astronauts and a decrease in veins only for another astronaut after 4 hours<sup>6</sup>. The cause is still speculative and it is believed that the vasoconstrictive effect of oxygen alone could not account for the degree of constriction of the retinal vasculature. It is known that both blood volume and blood pressure, when the subject is in an upright posture, are low for the first few hours after returning from weightlessness.

There was also a post-flight decrease in intra-ocular tension in all cases<sup>6</sup>. Post-flight intra-ocular tension reverted to its preflight value at a slower rate than expected. The reason for the slow return to normal remains unknown. Also, noted was a post-flight decrease in the visual fields. Changes in colour vision were noted but not on a consistent basis.

Dark adapted crews in space flight reported light flashes with eyes either open or closed. Evidence shows that the flashes seen by astronauts can be correlated with charged particles transverseing the retina. This was discovered when astronauts wore an electromechanical helmet-like device that supported cosmic radiation-sensitive emulsions. A direct physical record was made of cosmic ray particles that passed through the emulsion plates and the astronaut's head. The flux of these particles is sufficient to explain the entire phenomenon<sup>7</sup>.

Obviously, much work remains to be done before some of the above space effects or anomalies will be understood. Some investigators<sup>10</sup> believe that much of the medical or physiological data accumulated to date has not only been improperly accumulated but also improperly interpreted. Unfortunately,

there is so much work to be done on each flight, and so few flights, that some of the experimentation can only be done in a most cursory manner. Zero-G conditions will have to be produced on Earth in the laboratory to allow problems to be studied more easily, safely and less expensively.

The Soviets, who have spent more time in space than anyone else, have accumulated a little more data on visual system effects. At first, they felt that the brief exposure to the space environment caused no noticeable change in the basic functions of the visual system. They have since found that, during the first days of flight, the main visual functions (not fully explained) deteriorate by 5-30%, followed by a certain improvement of function until nearly normal<sup>6</sup>.

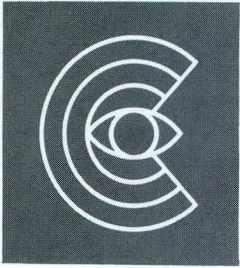
Contrast sensitivity was subjected to the most pronounced change. There was a 10% loss immediately after entry into weightlessness which progressed to a 40% loss after five days<sup>6</sup>. The principal visual functions are only slightly affected under normal conditions of illumination. It appears then that vision in space is as reliable, after a short period of adaptation, as it is on earth. There are some changes in visual function but they appear to be small and the organism is able to adapt quickly.

Obviously, we have only begun to scratch the surface of research into man's physiological reactions to the weightlessness of space. Future flights will have to include vision specialists, who are sophisticated medical researchers, to carry out properly designed experiments on the eye's reaction and adaptation to weightlessness. A closer monitoring of the visual system will have to be done as man spends more time in space.

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## The Canadian Optometric Education Trust Fund Invites Applications for Funding under the awards schedule for the 1988 Grant Program



### Purpose of the COETF

Recognizing the need to support the continuing growth and development of the profession of Optometry, the COETF is prepared to financially assist the educational, research and manpower programs deemed by the Trustees to be more important to achieving these goals.

Suitably trained optometric personnel, and the profession's continued access to these professionals is vital to our academic evolution. *The COETF supports* faculty development in our schools of optometry, graduate students in specialized educational programs and investigative research by undergraduate students.

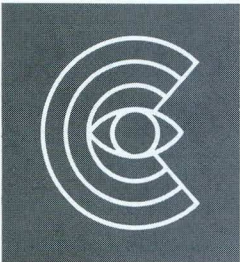
Ongoing research undertaken by the optometrist in private practice is just one type of professional development program which optometry must continue to initiate. *The COETF supports* projects established in a clinical environment to assist the visually handicapped and to assist other optometrists through preparation and publication of the details of these clinical research studies.

A third Canadian school of optometry is of vital concern to the profession. The ongoing activities of our two existing schools are just as impor-

tant. *The COETF supports* needed alterations and renovations at both schools presently operating and stands ready to assist substantially in the operating cost support of a new school of optometry in Canada.

Continuing education in the 80s must be regular and structured as technology sweeps the profession forward into new methods and discoveries in the delivery of complete vision care. *The COETF supports* the development of an academic Chair of Physiological Optics and Continuing Education to meet these ongoing needs.

The Canadian Optometric Education Trust Fund invites your support in this "Vision of the Future". If you are (or know of) an optometric practitioner, student, educational institution, service organization or member of the general public who is presently involved in, or planning a program that meets any of the goals outlined above, then assistance might be available to achieve the project's objectives. Write to us, using the application in this issue of the CJO, by March 1, 1988. The Trustees assure that all projects meeting the purposes of the Fund will be given serious consideration.



## Le Fonds de fiducie pour les études en optométrie au Canada offre du financement en vertu de son Programme de subventions 1988



### Objet du FFEOC

Reconnaissant la nécessité de soutenir la croissance et le développement de la profession d'optométriste, le FFEOC est disposé à accorder une aide financière pour les programmes d'étude, de recherche et de main-d'oeuvre que son Conseil de fiducie juge parmi les plus importants pour l'atteinte de ces objectifs.

Il est essentiel à l'évolution de notre science de nous assurer un personnel optométrique bien formé et de faire en sorte que la profession continue d'avoir accès à ces professionnels. *Le FFEOC appuie* le perfectionnement des enseignants dans nos écoles d'optométrie, la participation d'étudiants de deuxième cycle aux programmes d'enseignement spécialisé et le travail d'investigation de la part des étudiants de premier cycle.

La recherche permanente entreprise par l'optométriste en pratique privée n'est qu'un des types de programme de perfectionnement professionnel que l'optométrie doit continuer de lancer. *Le FFEOC appuie* les projets établis en milieu clinique pour aider les handicapés visuels et pour aider les autres optométristes par la préparation et la publication des détails de ces études de recherche clinique.

La profession souhaite vivement la création d'une troisième école canadienne d'optométrie. Les activités permanentes de nos deux écoles

existantes sont tout aussi importantes. *Le FFEOC appuie* les modifications et les rénovations requises aux deux écoles actuelles et est disposé à assumer une part appréciable des frais de fonctionnement d'une nouvelle école d'optométrie au Canada.

L'éducation permanente dans les années 80 doit être constante et structurée au moment où la technologie propulse la profession vers de nouvelles méthodes et de nouvelles découvertes dans la prestation des soins complètes de la vue. *Le FFEOC appuie* la création d'une chaire universitaire d'optique physiologique et un programme d'éducation permanente pour répondre à ces besoins permanents.

Le fonds de fiducie pour les études en optométrie au Canada vous demande votre appui pour cette "Vision de l'avenir". Que vous soyez praticien, étudiant, établissement d'enseignement, organisme de service ou membre du grand public qui participe présentement ou projetez de participer à un programme qui répond à l'un des objectifs décrits ci-dessus, vous pourriez obtenir une aide pour atteindre les objectifs du projet. Écrivez-nous, sur le formulaire de demande reproduit dans ce numéro de la RCO, avant le 1er mars 1988. Le Conseil de fiducie accordera une attention minutieuse à tous les projets correspondant aux objectifs du Fonds.



## Canadian Optometric Education Trust Fund 1988 Grant Program — Application for Funding

Complete and Forward (we require 5 copies) no later than March 1, 1988, to:

COETF Grant Program  
c/o Canadian Association of Optometrists  
Suite 301 - 1785 Alta Vista Drive  
Ottawa, ON  
K1G 3Y6

FULL NAME \_\_\_\_\_

TEL. (    ) \_\_\_\_\_

MAILING ADDRESS \_\_\_\_\_

FUNDING CATEGORY \_\_\_\_\_

Post Doctoral Study \_\_\_\_\_

Clinical Research \_\_\_\_\_

Undergraduate Research \_\_\_\_\_

Public Vision Care \_\_\_\_\_

(conducted by non-academic \_\_\_\_\_

or non-practitioner) \_\_\_\_\_

Title, nature and description of project\* \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\*(If this space is insufficient, please outline the project on a separate sheet of paper)

Expected date of completion \_\_\_\_\_

Expected benefit from project \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

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Estimated Budget (Please provide details on a separate sheet of paper)

Personal Services	Salaries	Equipment	Supply Mtl.	Travel	Tuition	Other (specify)
Total Grant Requested \$						

Until otherwise advised, the following policy has been approved by the COETF's Board of Trustees with respect to written reports on projects funded by the Annual Awards Program: The applicant agrees to submit a written report\* to the COETF Trustees within sixty (60) days of the completion of this project, whether wholly or partially funded by the COETF. The report will be submitted to the Editors of the *CJO* \* *RCO* and considered by them for publication. \*NOTE: The "report" may take the form of a clinical, scientific paper, or a complete summary if the grant recipient is required to submit the full paper elsewhere.

\_\_\_\_\_  
SIGNED

\_\_\_\_\_  
DATE



## Fonds de Fiducie pour les Études en Optométrie au Canada Programme de Subventions 1988 — Demande de Financement

**Remplir et renvoyer (en 5 exemplaires) au plus tard le 1 mars 1988**  
**Programme de subventions du FFEOC**  
**a/s Association canadienne des optométristes**  
**Bureau 301 — 1785, promenade Alta Vista**  
**Ottawa (ON)**  
**K1G 3Y6**

NOM DU COMPLET _____ ADRESSE POSTALE _____ _____ _____ _____	TÉL.(    ) _____ CATÉGORIE DE FINANCEMENT _____ <input type="checkbox"/> Études post doctorales _____ <input type="checkbox"/> Recherche clinique _____ <input type="checkbox"/> Recherche (premier cycle) _____ <input type="checkbox"/> Vision publique (par un non-universitaire ou un non-praticien) _____ <input type="checkbox"/>
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Titre, nature et description du projet\* \_\_\_\_\_  
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\*(Si l'espace est insuffisant, exposer le projet sur une feuille détachée.)

Date prévue d'achèvement \_\_\_\_\_  
 Avantages attendus du projet \_\_\_\_\_  
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Budget estimatif (Fournir détails sur une feuille détachée)

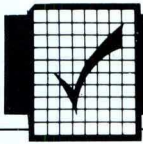
Serv. pers.	Salaires	Matériel	Fournitures	Déplacements	Scolarité	Autres (préc.)
				Subvention totale demandés \$		

Jusqu'à avis contraire, le Conseil de direction du FFOCE a approuvé la ligne de conduite suivante sur la présentation des rapports écrits ayant trait à des projets financés par le Programme annuel de bourses: Le candidat s'engage à soumettre un rapport \* écrit aux fiduciaires du FFOCE dans les soixante (60) jours suivant la fin du projet financé en tout ou en partie par le FFOCE. On soumettra le rapport aux rédacteurs du *CJO* \* *RCO* qui décideront s'il peut être publié. \*N.B.: Le "rapport" peut être présenté sous la forme d'un document scientifique ou clinique ou d'un résumé complet, si le bénéficiaire de la subvention doit soumettre le document complet ailleurs.

SIGNATURE \_\_\_\_\_

DATE \_\_\_\_\_





**M. François Charbonneau  
Executive Director/  
directeur général  
Association des  
Optométristes du Québec**

*(Editor's Note) Since December, 1986, l'Association des Optométristes du Québec has been under the administrative direction of M. François Charbonneau.*



*CJO \* RCO* recently requested some biographical information from M. Charbonneau to present as a profile of the AOQ's Executive Director and the following was provided.

François Charbonneau est entré au service de l'Association comme premier cadre-permanent en septembre 1976 après deux (2) ans de négociation dans le secteur public (hôpitaux, centres de services sociaux) pour le compte de divers syndicats de la santé publique.

L'équipe à l'Association des optométristes était alors dirigée par un président nouvellement élu, plein d'idées et de projets, Jean-Marie Rodrigue.

L'Association, doté d'un secrétariat administratif permanent, s'est alors lancée dans une foule de réalisations dont le Colloque International sur la Lentille de Contact, un Symposium multidisciplinaire thématique, une Revue et un vigoureux programme de réorganisation et modernisation des pratiques optométriques.

Trois tournées régionales biennales (1978-1982) ont permis aux dirigeants de

l'Association d'être bien compris de ses membres et de recevoir leur appui non équivoque à cette évolution rapide de leurs affaires. L'idée d'un syndicat professionnel représentant leurs intérêts économiques, scientifiques, sociaux et moraux est alors devenue chose bien comprise par la profession.

Par la suite, la réorganisation des services d'assurances et de rentes de l'AOQ, la création des Services Optométriques (AOQ) Inc. et de la Fondation québécoise pour la santé visuelle ont été avec quatre (4) renouvellements de l'Entente sur l'Assurance-maladie et deux (2) campagnes publicitaires, les faits marquants de ces années fébriles.

"C'est dans ce contexte que j'ai plongé en optométrie avec cette équipe de bâtisseurs" de dire François Charbonneau; "et c'est tout dire: mais le plus intéressant c'est évidemment tout ce qui reste à faire au service de cette profession très attachante".

François Charbonneau became the Association's first staff executive in September 1976, after spending two (2) years bargaining in the public sector (hospitals, social service centres) on behalf of public health unions.

At that time, the Association des optométristes had a newly elected president, full of new ideas and projects, Jean-Marie Rodrigue.

With a permanent administrative secretariat, the Association then undertook numerous projects, including the International Conference on Contact Lenses, a Multidisciplinary Thematic Symposium, a Journal and a strong program of reorganization and modernization of optometric practices.

Three biennial regional tours (1978-1982) enabled the Association's executives to make themselves better understood by its members and to receive their unequivocal support for this rapid development of their business. The idea of a professional union representing their economic, scientific, social and moral interests has thus become one which the profession fully understands.

Following this, the reorganization of AOQ insurance and pension services, the

creation of Services Optométriques (AOQ) Inc. and the Fondation Québécoise pour la Santé Visuelle, along with the four (4) renewals of the health insurance agreement and two (2) advertising campaigns, were the highlights of these very busy years.

"It is this context that I got involved in optometry with this team of builders," François Charbonneau indicated, "and that says it all, but what is most interesting is obviously everything that remains to be done for this very engaging profession."

**Canadian Optometry  
Represented in One of  
World's Toughest Races**

Dr. Richard Kniaziew, a Leamington, ON optometrist, was selected recently as one of over 4,000 international applicants to compete in the Bud Light Ironman Triathlon World Championship, held October 10 on Hawaii's Kona Island.

A triathlon reads like a Book of Instructions from the Spanish Inquisition. Within 17 hours, competitors must complete a 2.4 mile open ocean swim, followed by a 112-mile bicycle race, followed by a 26.2-mile marathon footrace.

Bud Light, in its pre-event promotion, referred to the terrain as "the vast lava fields and sun-drenched coastline of the largest of the Hawaiian Islands".

The *CJO \* RCO* called Dr. Kniaziew's office after the event concluded to ask how he had fared. In a blood boiling temperature of 91°F (ranging as high as 120°F when one adds reflective heat), he finished (i) first in his age group (35-40); (ii) first of three optometrists entered; (iii) 223rd overall, of 1,382 confirmed entrants. In his first ever triathlon, Dr. Kniaziew says he concentrated on "surviving, rather than placing". His time? — 10 hours, 45 minutes.

The Bud Light is considered by many to be the world's most prestigious triathlon. In 1978, it fielded only 15 competitors. The event now features over 1,200 competitors (selected this year from 4,000 applicants) from virtually every state in the US and some 37 countries around the globe.





## Allergan Signs Agreement to Market 3M Contact Lens

Allergan Optical, a division of Allergan, Inc. has recently signed an agreement with the 3M Company, of St. Paul, Minnesota, giving Allergan exclusive world marketing rights (except in Japan) to 3M's new contact lens.

3M Vision Care, which will manufacture the lens, is part of that company's massive Life Sciences Sector, a \$1.7 billion dollar arm which currently markets more than 1,000 health care and personal safety products.

Allergan's recent acquisition of International Hydron signalled the company's entry into the global contact lens market and, in a recent statement, Don Earhart, President of Allergan Optical, noted, "The alliance with 3M gives us the opportunity to market the next generation of contact lenses."

Information: Allergan Inc.  
2255 Sheppard Avenue East  
Suite 414W  
Willowdale, ON  
M2J 4Y3  
Tel. (416) 494-6730

## Boston Equalens Receives FDA Panel Recommendation for Approval

Polymer Technology's Boston Equalens has received a panel recommendation for approval by the US Food and Drug Administration (FDA) for daily wear and up to seven days of continuous wear.

Introduced in January, 1986, the Boston Equalens is now available in 40 countries outside the US, including Canada. In this country, the lens is only available for daily wear and, although it has not yet been approved for prolonged wear, Polymer has applied for a notice of compliance to this effect. Information:

Ted Roberts,  
Account Executive  
The Houston Group  
20 Bay Street  
Suit 1800

Toronto, ON  
M5J 2N8  
Tel. (416) 365-2171

## Coming Events

### 1988

#### February 16-18

#### Fourth Topical Meeting on Noninvasive Assessment of the Visual System

Hyatt Lake Tahoe, Incline Village, Nevada, USA

Information: Optical Society of America  
1816 Jefferson Place, NW  
Washington, DC  
20036, USA  
Tel. (202) 223-0920

#### April, 1988

#### 5th Australian — International Optometric Congress

Sydney, Australia  
Information: Australian  
Optometrical Association  
204 Drummond Street  
Carlton, Victoria,  
3053 Australia  
Tel. (03) 663-6833

#### April 30-May 3

#### Optica '88 World Optical Trade Fair

Cologne, West Germany  
Information: KolnMesse  
c/o Canadian German Chamber of  
Industry and Commerce Inc.  
Suite 1410  
480 University Avenue  
Toronto, ON  
M5G 1V2  
Tel. (416) 598-3343

#### May 25-28

#### International Contact Lens Centenary Congress (ICLCC '88)

Queen Elizabeth II Conference Centre  
Westminster, London, England  
Information: ICLCC '88  
Conference Associates  
27a Medway Street  
London, SW1P 2BD  
UK  
Tel. (01) 222-4246

#### May 25-28

#### British Contact Lens Association International Contact Lens Centenary Congress and Exhibition

London, England  
Information: Conference Associates ICLCC  
27A Medway Street  
London, SW1P 2BD  
England  
Tel. 01-222-9493

#### April 30-October 30

#### Expo Down Under (World Expo 88)

Brisbane, Australia  
Information: The Communications Division  
World Expo 88  
234 Grey Street  
PO Box 1988  
South Bank,  
South Brisbane  
Queensland, 4101  
Australia  
Tel. 07-840-1988

#### November 4-7

#### 5th International Retinitis Pigmentosa Congress

Hyatt Regency Hotel, Melbourne, Australia  
Information: RP Australia  
Conference Secretary  
46A Oxley Road  
Hawthorn 3122  
Victoria, Australia  
Tel. (03) 819-6590

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**The Canadian Association of Optometrists  
— Vision Education Service —**

CAO's new series of English-language pamphlets (shown above) is now available and may be ordered directly from the Association at Suite 301 - 1785 Alta Vista Drive, Ottawa, Ontario. K1G 3Y6 (\*)

\* NOTE: A CAO agreement with the Quebec Association of Optometrists excludes members living in Quebec from this particular pamphlet offer. Quebec optometrists wishing copies of the above pamphlets are requested to order directly from your provincial Association. **The pamphlets are also now available in French for members living outside Quebec who wish to order them.**

Please send a copy of this order form with your pamphlet order.  
Please **PRINT** or **TYPE** all information.

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MAILING ADDRESS: \_\_\_\_\_

Postal Code \_\_\_\_\_ Telephone \_\_\_\_\_

	Please Check Quantity — (✓)		
	\$10.00	\$45.00	\$80.00
About contact lenses	100 ( )	500 ( )	1000 ( )
At work, take care of your eyes	100 ( )	500 ( )	1000 ( )
Meeting the Visual Demands of Video Display Terminals (VDTs)	100 ( )	500 ( )	1000 ( )
Vision and aging	100 ( )	500 ( )	1000 ( )
Vision and driving	100 ( )	500 ( )	1000 ( )
Vision and sports	100 ( )	500 ( )	1000 ( )
Your child's eyesight	100 ( )	500 ( )	1000 ( )
Your Family Optometrist	100 ( )	500 ( )	1000 ( )

**Sub-totals**

(Shipping and Handling charges are EXTRA)

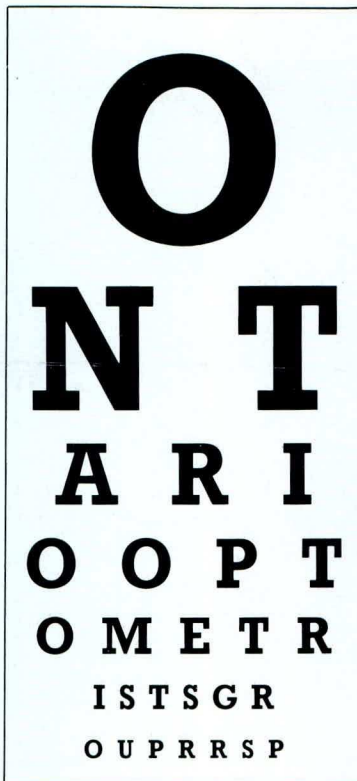
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(Signature) \_\_\_\_\_ (Date) \_\_\_\_\_





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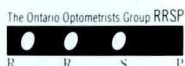
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The Ontario Optometrists Group RRSP, Susan Andrighetti, B.Comm., CFP, 120 King Street West, Suite 500, Hamilton, Ontario L8P 4V2

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## Time is of the essence

ULTRAZYME offers a timely solution – protein removal during the peroxide disinfection step. In just 15 minutes, ULTRAZYME, used once weekly, effectively removes protein and mucoprotein from all soft contact lenses. If left overnight, ULTRAZYME's unique non-binding action works without leaving irritating residual enzyme.

The result is a simple one-tablet system that can actually save time.



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## A Request from the Museum of Canadian Optometry

We are attempting to start a collection of artifacts related to past provincial and national conventions and meetings.

If you have any of the following items and would care to have them preserved for posterity, would you please send them to **Professor E. J. Fisher, School of Optometry, University of Waterloo, ON, N2L 3G1:**

Items which should be preserved:

- \*\*\* Advance notices of convention(s)
- \*\*\* Convention Booklets
- \*\*\* Convention Badges
- \*\*\* Handout Souvenirs of any type, e.g. cups or glasses printed with name and date; caps or pencils printed with name and date, etc.

## Unique Opportunity for Optometrist

The New Brunswick Association of Optometrists requires two Optometrists to work with the Mobile Vision Programs for a one-year term:

- Nursing Homes during the summer.
- Visual Assessment of Grade 1 children for the remainder of the year.

Effective date — JANUARY 4, 1988 or as soon as possible thereafter;

We offer remuneration of \$35,000 plus a \$2,000 bonus plus a \$2,000 completion bonus.

Excellent fringe benefits!

For the purpose of this position, Board exams will NOT be required.

We require mature individuals with a fondness for and understanding of children and elderly people. A willingness to travel extensively throughout the province; fluency in English and French an asset. Own means of transportation is necessary.

Please reply in confidence, forwarding your curriculum vitae to: Noella J. LeBrun, Executive Director, New Brunswick Association of Optometrists, 1-461 King St., Fredericton, NB, E3B 1E5 (506) 458-8759.

Applications will close December 28, 1987.



## A simple soak without complications

ULTRAZYME has a solution to complicated protein removal – a simple one-tablet system. Combined with peroxide disinfection, ULTRAZYME effectively removes protein and mucoprotein from all soft contact lenses during the disinfection step. Used once weekly, ULTRAZYME's one step disinfection/deproteinization works to eliminate non-compliance.

The result is a simple one-tablet system that uncomplicates protein removal.



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# There's No Crimping on Quality



Quality starts with the way you manufacture a lens. That's why we went back to the drawing board to create a toric lens that eliminates the mechanical, unpredictable crimping process. Now with Optima Toric, computer circuitry and a diamond cutting head work together to generate the correct toric surface with remarkable precision. A lens with such high reproducibility guarantees workmanship and gives your prescription the highest quality assurance.

## NO CRIMPING ALLOWED.

Of course we didn't stop at the crimping process in our search to create the best quality toric lens. Just as important to your astigmatic patients are outstanding design refinements that improve the quality of lens comfort, visual acuity and stability.

**"The key to an optimum fit is an Optima™ lens."**

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## BOOK REVIEWS

### The Complete Contact Lens Fitting Guide and Directory

**The Complete Contact Lens Fitting Guide and Directory** by J. W. Soper, F.C.L.S.A., P. R. Kastl, M.D., Ph.D.; 1986, Slack Incorporated, 6900 Grove Road, Thorofare, NJ, 08086, USA. 107 pp.

**T**he writer of a contact lens fitting guide faces a difficult task in at least two ways. One is to deal effectively with the ever increasing variety and design of contact lenses and care products. The other is to describe skilfully the delicate balance between the science and the art of fitting contact lenses.

This pocket reference contains six chapters and can be divided into three main sections. The first is a basic "cookbook" approach to the fitting of various designs of hard and soft lenses, including keratoconic, piggyback, toric and bifocal designs. At least one case example is given for each. Unfortunately, as with many "recipes", a lot of unanswered questions remain regarding the achievement of a perfect fit. For example, how can I make my patient see comfortably and be happy with his or her new contact lenses?

The second section contains five typical charts and tables on Vertex Distance, Minimum Thickness, Diopter Conversion, Diameter Chart and Sagittal Depth.

The third section is a directory of manufacturers, lens care products and available lenses. Unfortunately, the text was written in the United States and is clearly intended for American use. As a result, it is of limited value to Canadian optometrists. Although the information will be outdated soon, future editions are promised.

With the shallow description of fitting, scarcity of charts and generally thin relevance of the directory to Canada, I doubt if I'll see this guide in the pockets of many colleagues and students.

Dr. R. E. Teeple  
Ottawa, ON

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## Irritation can be rather bothersome

ULTRAZYME has the solution to bothersome irritation – protein removal without residual enzyme. Used once weekly during the peroxide disinfection step, ULTRAZYME effectively removes protein and mucoprotein – in just 15 minutes. Left overnight, ULTRAZYME's unique non-binding action works without leaving irritating residual enzyme.

The result is a simple one step solution that works without irritation.



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## ***Come Share a Taste of Springtime in February...***

**...in Vancouver! The B.C. Association of Optometrists cordially invites you to enjoy our mild westcoast climate while picking up Continuing Education credits at the —**

### **1988 BCAO Continuing Education Seminar**

**Westin Bayshore Inn, Vancouver, B.C.  
February 14-16th**

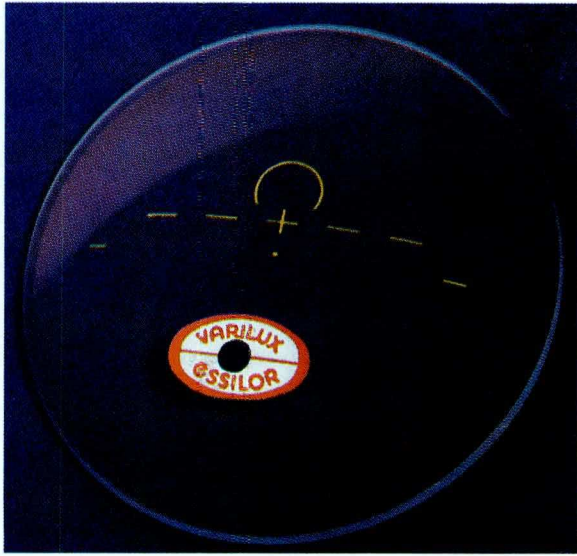
There'll be early flowers in bloom, with Stanley Park on your doorstep, Burrard Inlet in your backyard, shopping and great restaurants right next door, and skiing on the North Shore Mountains, just across the Lions Gate Bridge.

Speakers: Drs. J. Flanagan ("Neurological Workup", "Automated perimeters"); R. Trevino ("Neurological Workup", "Diagnostic Drugs"); G. Chaffe ("Emergency Medical Eye Care", "Common Reactions to TPA's"); J. Jantzi ("Low Vision Workup"); D. Johnson ("In-house surgery"); D. Nelson ("Neuro-ophthalmology"); D. Getz ("Nutrition and the Eye"); Mr. F. Kahn ("Office Design and Marketing"). Full Assistants' Program; Large Exhibit Hall. Registration: \$185.00 before Feb. 1, 1988.

So why not take a pleasant winter break and join your colleagues on the West Coast...

For complete details contact Dr. Joan Hansen, CES Chairperson, #214-1077  
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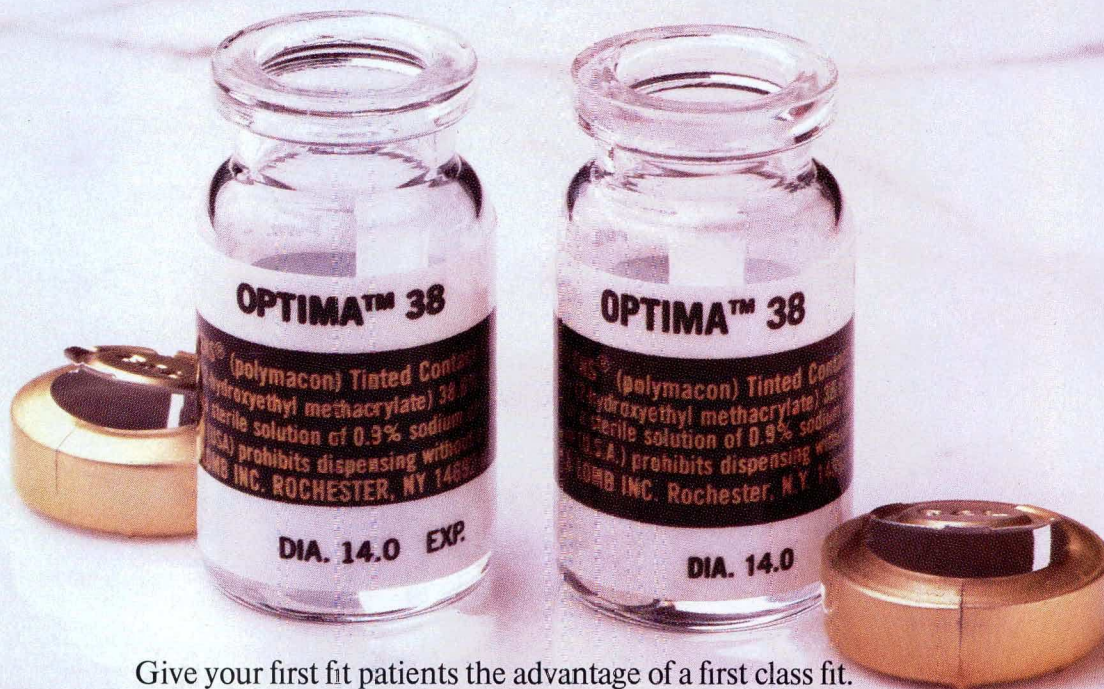
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Stringent quality standards and a unique manufacturing process that combines the advantages of spincasting and lathe cutting, make Optima 38 the ideal first fit lens.

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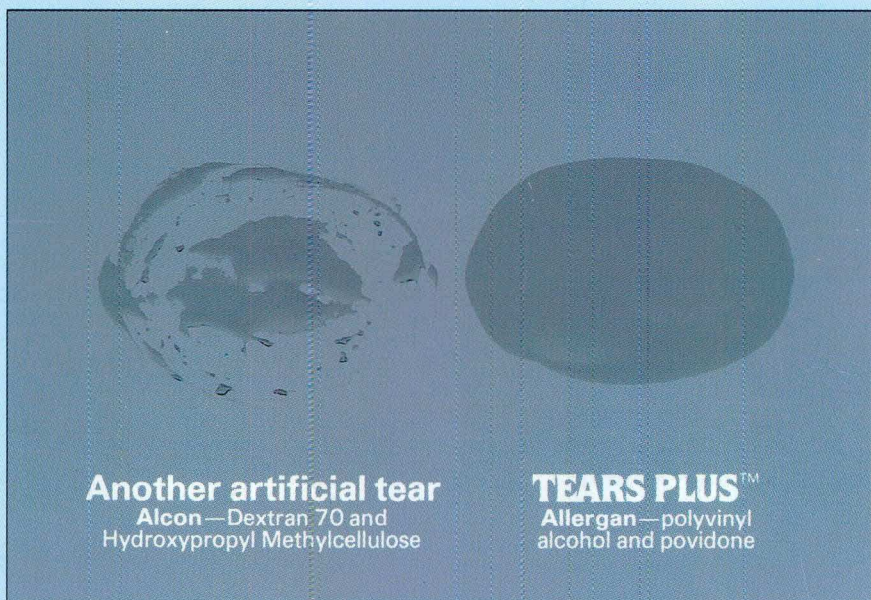
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## **TEARS PLUS™**

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\*Ask your Allergan representative for further information.

PAAB  
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