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Canadian Journal of Optometry • Revue Canadienne d'Optométrie

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SUMMER/ÉTÉ 1990



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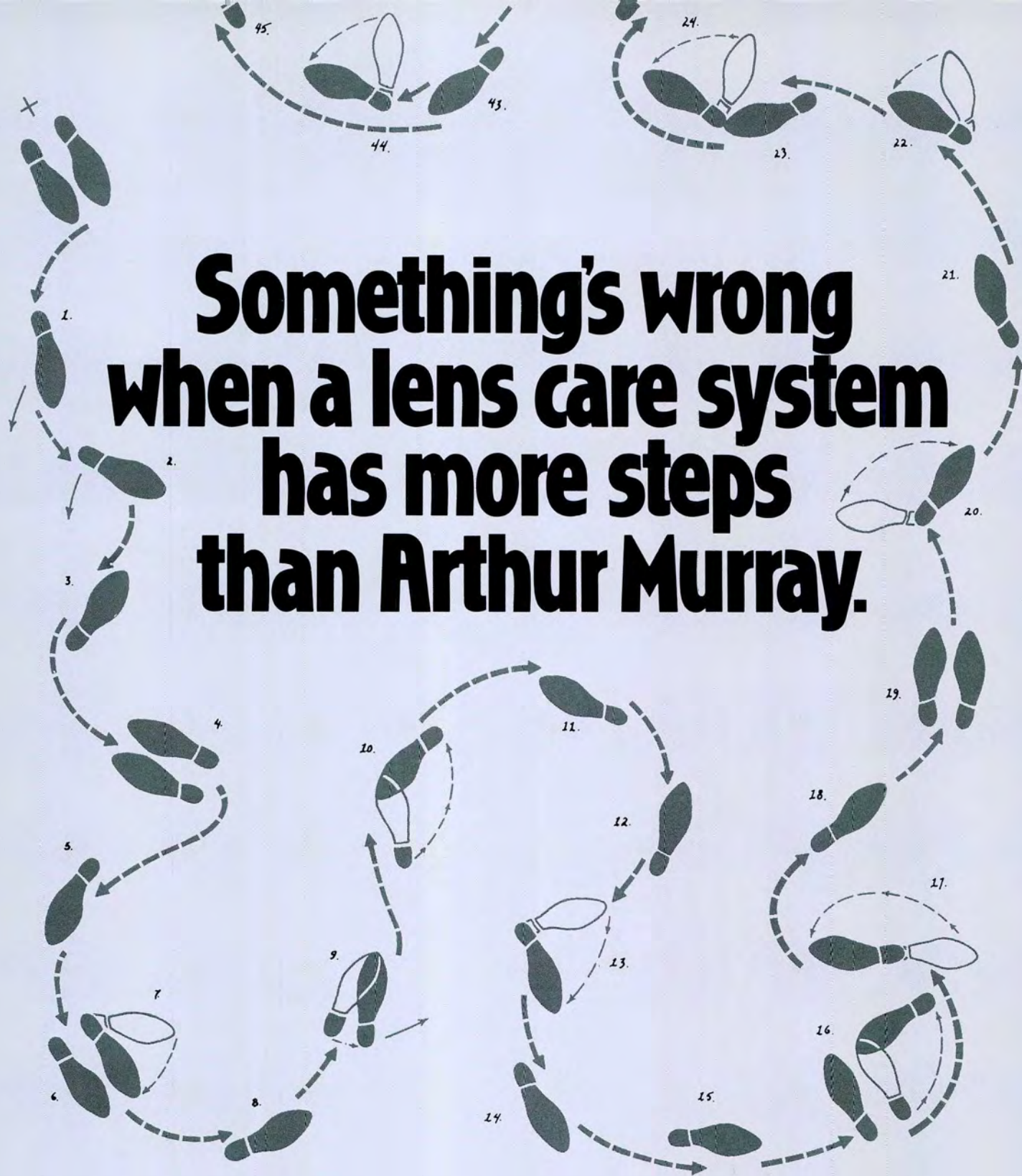
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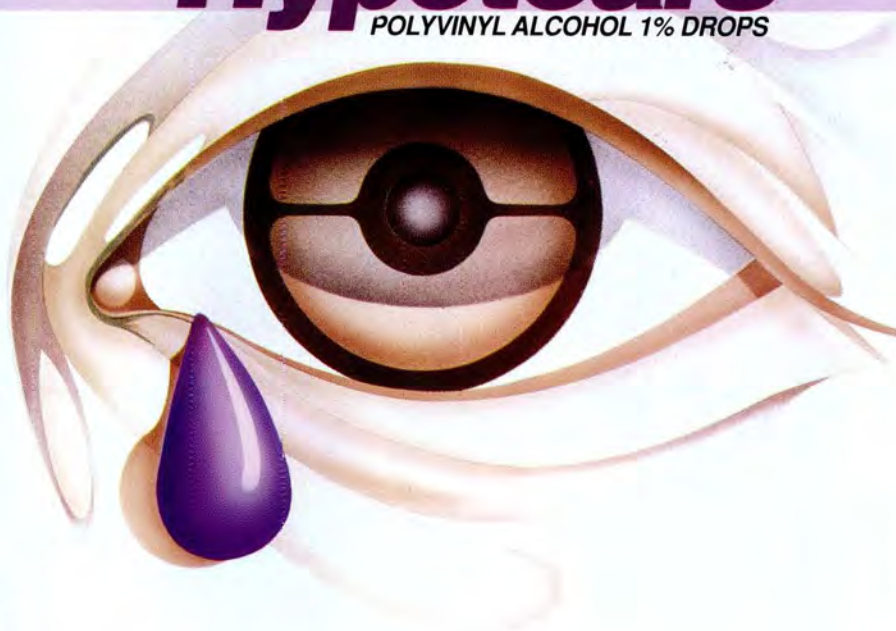
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In search of the comfort solution.

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th
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- **Brien A. Holden, Ph.D.**
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Lentilles cornéennes et effets
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*The ocular response to contact
lens wear.*
- **John Marshall, Ph.D.**
London, Europe
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*Current status of refractive surgi-
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- **Melvin J. Remba, O.D.**
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*Toric soft lens update, bifocals
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- **Helen A. Swarbrick, D.O., MSc.**
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*Medical treatment of contact lens
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- **Bruce Wick, O.D.**
Texas, USA
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Cover/En couverture

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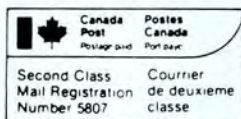
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The Canadian Journal of Optometry * la Revue canadienne d'optométrie (CJO*RCO) welcomes new advertisers. In keeping with the CJO*RCO's goal of advancing the awareness, education and professionalism of the members of the Canadian Association of Optometrists (CAO), any and all advertising material may be submitted, prior to its publication, for review by the National Publications Committee of CAO. CAO reserves the right to accept or reject any advertisement submitted for placement in the CJO*RCO. / The Canadian Journal of Optometry * la Revue canadienne d'optométrie (CJO*RCO) est prête à accueillir de nouveaux annonceurs. Dans l'esprit de l'objectif de la CJO*RCO visant à favoriser la sensibilisation, la formation et le professionnalisme des membres de l'Association canadienne des optométristes (ACO), on pourra soumettre tout matériel publicitaire avant publication pour examen par le Comité national des publications de l'ACO. L'ACO se réserve le droit d'accepter ou de refuser toute publicité dont on a demandé l'insertion dans la CJO*RCO.



Colleagues ...

They have joined our ranks, somewhat quietly, almost 100 of them. They have completed a process which required the assimilation of a prodigious amount of knowledge and an extensive level of skill, a process which, to their chagrin perhaps, must continue for years to come. Their success now raises them to a level perceived by society as being synonymous with competent and intelligent. It lends them prestige, a great deal of self-satisfaction, and self-confidence. Their success implies that financial rewards will follow. The primary reward, however, may lie in the ability to help people or, perhaps, in the opportunity to contribute to the development of our profession through research, or political or volunteer activities, or through maintaining competence.

To those of us currently practising, their entry means they are now our colleagues who are, perhaps, more abreast of current concepts in diagnosis, etiology, prognosis and therapy. Yet they may lack clinical experience which, at times, can surmount seemingly impossible patient problems.

Patients seek our counsel because we are the doctors. Patients expect us to diagnose their visual diseases, disorders and dysfunctions, while treating them with dignity. Patients expect us to exercise our duties logically, with care and compassion. They expect confidence, not arrogance. Patients wish to build a bond of trust based on thoughtfulness and thoroughness. They want the opportunity to share their concerns openly, and they expect the obligation of a health care practitioner to be taken seriously: the obligation to act responsibly in providing care, whether developing regimens for rehabilitation or remedy. In return, they will respect our clinical skills, knowledge and judgement, but only if we earn their confidence. This clinical wisdom is our gift to share with our new colleagues.

We are a profession beset, in some locales, by serious difficulties which threaten current concepts and gains made over the past few decades. We are confronted by ignorance, prejudice, professional jealousy and greed. Hopefully, we will respond with erudition, tolerance, camaraderie and generosity. This practical wisdom is our gift to share with our new colleagues.

The profession gains our colleagues' abilities and, hopefully, their commitment to the continued progress of Optometry. We see these colleagues as our future leaders, educators and practitioners and this, we hope, will be our reward.

Mitchell J Samek, OD, MSc, FAAO
Senior Editor

Collègues ...

Sans grand bruit, nous les avons admis dans nos rangs, une centaine d'entre eux. Ils ont mené à bonne fin un processus nécessitant l'assimilation d'une somme prodigieuse de connaissances et un niveau étendu de compétence, un processus qui, à leur dépit peut-être, se poursuivra pendant des années. Leur succès les élève maintenant à un niveau que la société perçoit comme étant synonyme de compétence et d'intelligence. Il leur confère prestige, une grande autosatisfaction et beaucoup d'assurance. Leur succès signifie que les satisfactions pécuniaires suivront. Mais la plus grande récompense réside toutefois dans l'aptitude à aider les gens ou, peut-être, dans la possibilité de contribuer au progrès de notre profession par la recherche, les activités politiques ou bénévoles ou la mise à jour de leurs compétences.

Pour ceux de nous qui pratiquent déjà, leur entrée dans nos rangs fait maintenant d'eux de nouveaux collègues peut-être mieux au courant des concepts actuels en matière de diagnostic, d'étiologie, de pronostic ou de thérapie. Néanmoins, l'expérience clinique qui permet parfois de surmonter des problèmes apparemment insolubles au niveau des patients peut leur faire défaut.

C'est du fait de notre qualité de docteurs que les patients s'adressent à nous. Ils attendent de nous que nous diagnostiquions leurs maladies, troubles et dysfonctionnements de la vue et que nous respections leur dignité. Ils s'attendent à ce que nous remplissions nos fonctions avec logique, soin et compassion. Ils veulent que nous fassions preuve d'assurance et non d'arrogance. Les patients souhaitent établir un lien, une relation de confiance fondée sur la considération et la minutie. Ils veulent pouvoir partager ouvertement leurs préoccupations et attendent d'un praticien des soins de santé qu'il prenne ses obligations au sérieux : l'obligation d'assumer ses responsabilités pour prodiguer ses soins, qu'il s'agisse de prescrire des régimes de réadaptation ou un remède. En échange, ils respecteront nos compétences, connaissances et jugement cliniques, mais seulement si nous gagnons leur confiance. Cette sagesse clinique est ce que nous aimerions partager avec nos nouveaux collègues.

Dans certains milieux, notre profession est assaillie de difficultés qui mettent en péril les concepts actuels et les acquis de ces dernières décennies. Nous sommes en butte à l'ignorance, aux préjugés, à la jalousie professionnelle et à la cupidité. Nous espérons être en mesure d'y répondre par l'érudition, la tolérance, la camaraderie et la générosité. Cette sagesse pratique est ce que nous aimerions partager avec nos nouveaux collègues.

La profession s'enrichit des compétences de nos collègues et, nous l'espérons, de leur mobilisation pour garantir le progrès continu de l'optométrie. Nous voyons dans ces collègues nos futurs chefs de file, éducateurs et praticiens, et, j'en formule le vœu, c'est ce qui constituera notre récompense.

D^r Mitchell J Samek, M.Sc., FAAO
Rédacteur en chef

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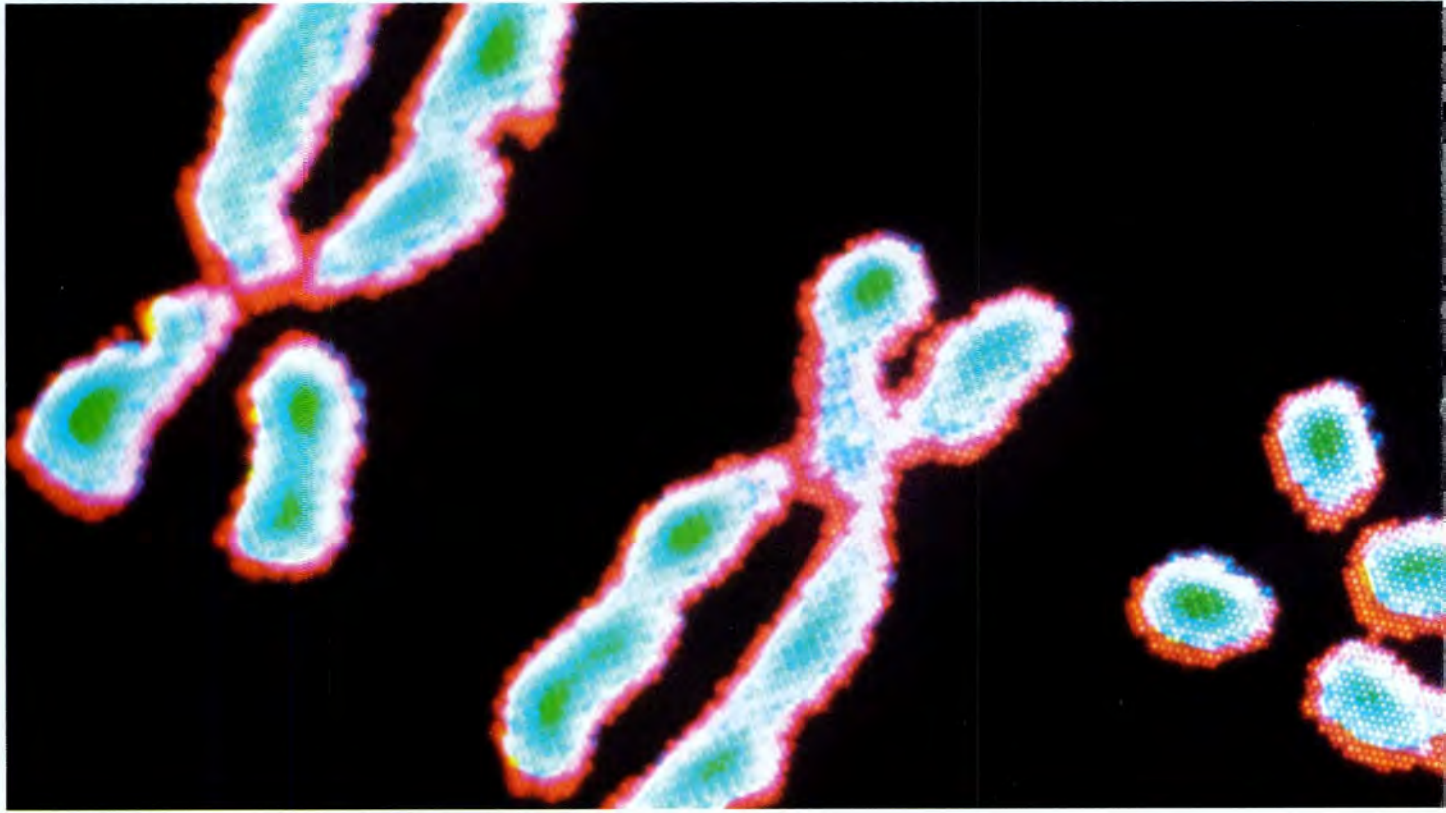


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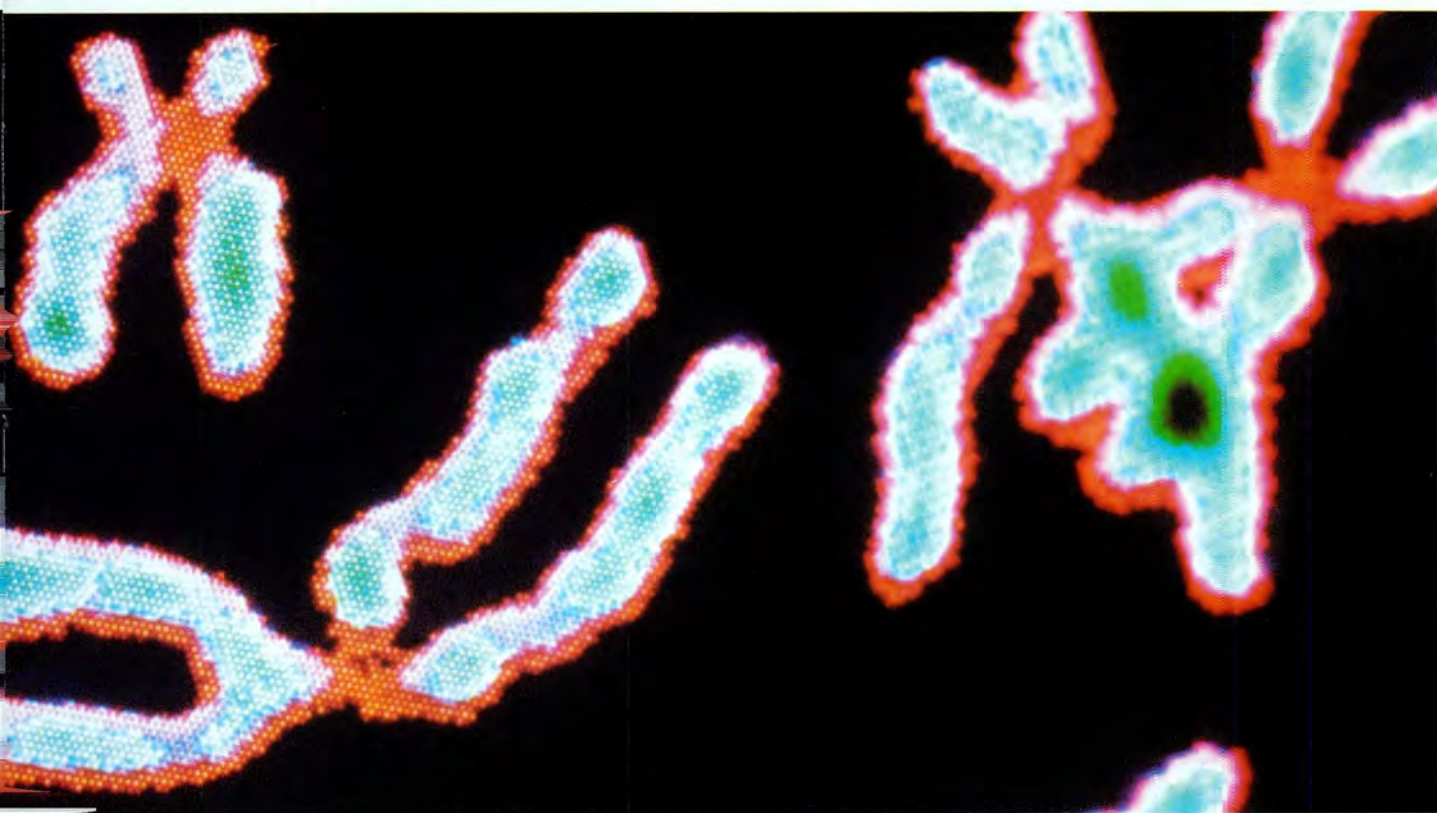
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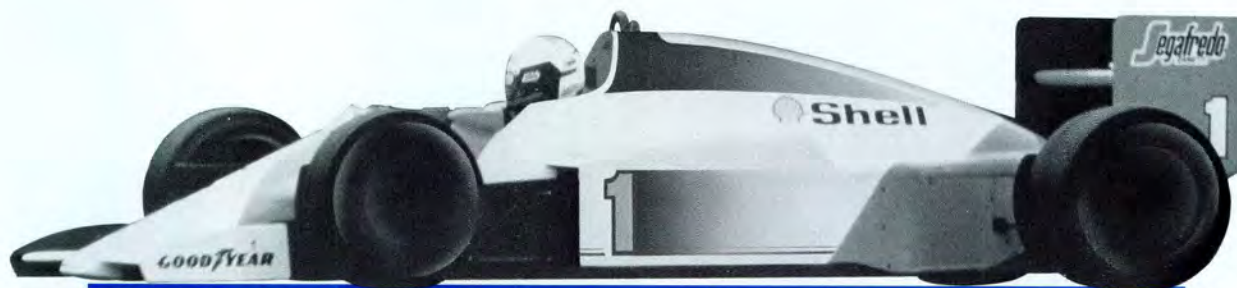
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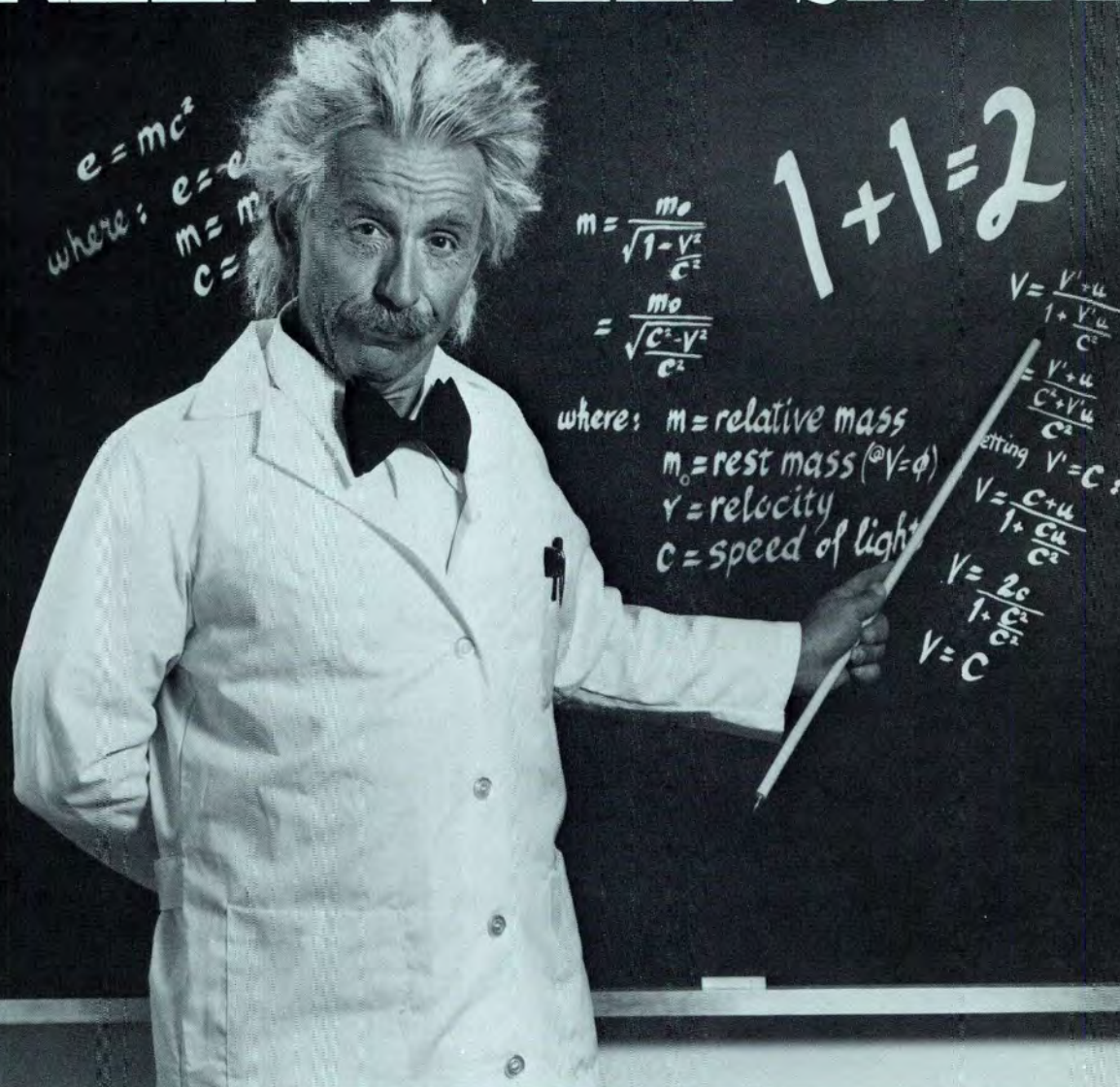
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PRESIDENT'S PODIUM / MOT DU PRÉSIDENT

CAO Elects New Executive under President Dr Jean-Marie Rodrigue

The Canadian Association of Optometrists is pleased to announce that, effective July 1, Dr Jean-Marie Rodrigue of Laval-sur-le-Lac, Quebec, has assumed the office of President. Dr Rodrigue's election took place at the summer meeting of the Council of the national Association. At the same meeting, Dr Margaret Hansen des Groseillers of Ottawa, ON, was elected to the office of President-elect and Dr Michael Duffey of Middleton, NS, to that of Secretary-Treasurer. Dr Tom Adamack, Fernie, BC, assumed the office of Past President. After a decade of service on the national Council, Dr Scott Brisbin of Edmonton, Alberta officially stepped down from Council, having completed a two-year term as Past President of CAO.

Dr Jean-Marie Rodrigue has a long and distinguished history of involvement with both CAO and his provincial body, l'Association des optométristes du Québec (AOQ).

He obtained his BA in 1959 from Ste-Anne's University, Church Point, Nova Scotia and four years later was graduated from the Optometry program at the School of Optometry, University of Montreal. Dr Rodrigue's career in optometric politics began early. In his final year of Optometry, he served as President of the Optometric Students' Association and was a delegate to the University's Student Council. He was also on the Editorial Board of the University of Montreal's student newspaper, *The Latin Quarter*.

Since 1965, he has been a member of the Richelieu Club of Chomedey-Laval, serving as its President in 1970-71. He was also a member of the Board of Directors of the Caisse Populaire St-Martin in Chomedey-Laval from 1971-77.

Optometry is not Dr Rodrigue's sole time investment in health care. He was a founding member of the Centre d'accueil Ste-Dorothée, a 350-bed long-term care hospital and has served on its Board since 1969. In addition, he is active in the real estate business.

A member of the Order of Optometrists of Quebec since 1963, and the Quebec Association of Optometrists (AOQ) since 1970, Dr Rodrigue has served on the AOQ's Board since 1973. In 1976, he was elected President and served in this capacity for ten years. He was also a Board member of the province's health insurance commission from 1979 to 1987.

He still serves as President of SOI, les Services Optométriques Inc., a position he has held since the company was founded in 1983. Since that time, SOI, an optometric purchasing group, has grown to serve a membership of 700 optometrists across Canada. Dr Rodrigue is also founding President of the Quebec Foundation for Visual Health and has been a Board member of this body since its inception in 1984.

Since 1981, he has been the AOQ's representative to the CAO Council and, prior to his election as President, served on the Executive as President-elect (1988-90) and Secretary-Treasurer (1986-88).

Dr Rodrigue and his wife, Hélène, have four children.

Élection du nouveau bureau

de l'ACO sous la présidence du Dr Jean-Marie Rodrigue

L'Association canadienne des optométristes est heureuse d'annoncer que le Dr Jean-Marie Rodrigue, de Laval-sur-le-Lac, au Québec, a assumé la présidence de l'association le 1^{er} juillet. Le Dr Rodrigue a été élu à l'occasion de la réunion d'été du Conseil de l'association nationale. Au cours de la même réunion, le Dr Margaret Hansen des Groseillers d'Ottawa (Ontario) a été nommé présidente élue et le Dr Michael Duffey de Middleton (N.-É.) a été élu secrétaire-trésorier. Le Dr Tom Adamack, de Fernie (C.-B.) a assumé le poste de président sortant. Après une décennie de service au Conseil national, le Dr Scott Brisbin, d'Edmonton (Alb.), a quitté officiellement le Conseil à la fin de son mandat de deux ans comme président sortant de l'ACO.

Le Dr Jean-Marie Rodrigue est depuis longtemps très actif à l'ACO et au sein de l'Association de sa province, l'Association des optométristes du Québec (AOQ).

Il a obtenu son baccalauréat de l'Université Sainte-Anne à Church Point (Nouvelle-Écosse) en 1959 et, quatre ans plus tard, son diplôme d'optométriste de la Faculté d'optométrie de l'Université de Montréal. Le Dr Rodrigue a commencé très tôt sa carrière dans les activités politiques de l'optométrie. Au cours de sa dernière année d'optométrie, il a été président de l'Association des étudiants en optométrie et délégué au conseil étudiant de l'université. Il a aussi siégé au conseil de rédaction du journal étudiant de l'Université de Montréal, *Le quartier latin*.

Depuis 1965, il est membre du Club Richelieu de Chomedey Laval qu'il a présidé en 1970-1971. Il a aussi été membre du conseil d'administration de la Caisse Populaire Saint-Martin à Chomedey-Laval, de 1971 à 1977.

L'optométrie n'est pas la seule discipline où le Dr Rodrigue ne ménage pas son temps dans le domaine des soins de santé. Il est membre fondateur du Centre d'accueil Sainte-Dorothée, hôpital de soins prolongés de 350 lits, et siège à son

conseil d'administration depuis 1969. Il est aussi actif dans le domaine immobilier.

Membre de l'ordre des optométristes du Québec depuis 1963 et de l'Association des optométristes du Québec (AOQ) depuis 1970, le Dr Rodrigue siège au conseil d'administration de l'AOQ depuis 1973. En 1976, il a été élu président, charge qu'il a occupée durant dix ans. Il a aussi été membre du conseil d'administration de la Régie de l'assurance maladie du Québec de 1979 à 1987.

Il est toujours président de SOI, Services optométriques Inc., poste qu'il occupe depuis la fondation de la compagnie en 1983. Entreprise d'achats collectifs pour les optométristes, SOI dessert maintenant plus de 700 optométristes à travers le Canada. Le Dr Rodrigue est aussi président fondateur de la Fondation québécoise de la santé oculaire et il siège à son conseil d'administration depuis sa création en 1984.

Depuis 1981, il représente l'AOQ au conseil de l'ACO et, avant d'en être élu président, il a siégé au bureau à titre de président élu (1988-1990) et de secrétaire trésorier (1986-1988).

Le Dr Rodrigue et son épouse, Hélène, ont quatre enfants.



In a photo taken at the 1990 Annual Conference of the American Optometric Association, Dr Jean-Marie Rodrigue (centre) is flanked by (L-R) Dr John Gazaway, AOA President; Dr Edward Elliott, AOA President-elect; Dr David Sullins, AOA Immediate Past President and Dr Tom Adamack, CAO Past President. / Photo prise à l'occasion du congrès annuel de 1990 de l'American Optometric Association : le Dr Jean-Marie Rodrigue (au centre) est entouré (de g. à d.) du Dr John Gazaway, président de l'AOA, du Dr Edward Elliott, président élu de l'AOA, du Dr David Sullins, président sortant de l'AOA et du Dr Tom Adamack, président sortant de l'ACO.

Adapting a Spreadsheet Program to Analyze the FM-100 Colour Vision Test

Donald Sirkka*
Jeffery K Hovis**

The Farnsworth-Munsell (FM 100-Hue) colour vision test is one of the few clinical tests capable of detecting both red-green and blue-yellow colour vision defects, and it is one of the few "in-the-field" tests that provides assessment of general colour discrimination ability.¹ Unfortunately, scoring of the test is time consuming and subject to many errors. These problems have prompted several clinicians and researchers to develop custom software packages that offer basic and specialized test analyses.²⁻⁵ However, custom software is unnecessary for basic FM-100 Hue scoring.

This paper describes the steps required to adapt "off-the-shelf" spreadsheet programs to analyze the FM-100 Hue test. Once the spreadsheet has been formatted, it can be saved as a worksheet (template), and subsequent patients' data can be entered and analyzed. Because spreadsheet programs have individual idiosyncrasies with respect to formatting and equation syntax, we have presented the specific equations in a generalized format so that the development should be applicable to most spreadsheet programs. For specific information on formatting, equation syntax and storing the spreadsheet information, readers should consult their program manuals.

Formatting the Spreadsheet

We have assumed that information is entered and displayed in separate columns. Figure 1 shows a representation of the spreadsheet as it could appear on a monitor.

Column A is the nominal cap position. This column corresponds to the numerals printed atop the standard FM 100-Hue score sheet. To simplify calculations, nominal cap 85 is changed to 0. Column B is the cap arrangement made by the patient. Only the loose cap numbers of each tray are entered. Omitting the fixed caps produces total error scores which must be divisible by 4. This provides a check to ensure the equations are entered correctly.⁶ However, it should be noted that this error check may not detect all errors in entering the patient data. Again, cap number 85 is entered as 0. We suggest that the cap 85 be altered manually to 0 in order to avoid confusion in entering the patients' results.

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Column C displays the error score for each nominal cap position. The total error score is provided at the bottom of this column. Individual cap error scores are calculated using a modified form of Kinnear's scoring method.⁷ Kinnear's method determines the

Column				
A	B	C	D	E
Nominal Cap Position	Subject's Cap Position	Error Score	X	Y
0.0	0.0	2.0	.0	2.0
1.0	1.0	2.0	.1	2.0
2.0	2.0	2.0	.3	2.0
3.0	3.0	2.0	.4	2.0
4.0	4.0	3.0	.9	2.9
5.0	5.0	3.0	1.1	2.8
6.0	6.0	3.0	1.3	2.7
7.0	7.0	2.0	1.5	2.6
8.0	8.0	2.0	1.1	1.7
9.0	9.0	3.0	1.2	1.6
.	.	.	.	.
.	.	.	.	.
.	.	.	.	.
73.0	72.0	3.0	-2.3	1.9
74.0	74.0	3.0	-2.2	2.1
75.0	75.0	2.0	-1.3	1.5
76.0	76.0	2.0	-1.2	1.6
77.0	77.0	3.0	-1.7	2.5
78.0	78.0	3.0	-1.5	2.6
79.0	79.0	3.0	-1.3	2.7
80.0	80.0	3.0	-1.1	2.8
81.0	81.0	2.0	-.6	1.9
82.0	82.0	2.0	-.4	2.0
83.0	83.0	2.0	-.3	2.0
84.0	84.0	2.0	-.1	2.0
		156.0		

Figure 1
Representation of a spreadsheet as it could appear on a computer terminal using the traditional scoring method.

number of “just noticeable differences” between adjacent caps, whereas the test manual recommends a scoring system based upon dominant wavelength differences.⁸ That is, for the Kinnear method, the error score represents the score for the nominal cap position (Column A) whereas, for the traditional method, the error score represents the score for the cap in column B. Kinnear has pointed out that his method is less time consuming for manual calculations and does not affect the total error scores. The modification to his method is the aforementioned omission of the fixed caps. Each cap error score in Column C is calculated by subtracting the cap number in column B from the succeeding cap numbers in column B and then summing the absolute values of the differences. The equations for each cell must be entered. The general equation for nominal positions 2-83 is,

$$C_i = |B_{i-1} - B_i| + |B_{i+1} - B_i|$$

where C_i is the error score of the cap in nominal position A_i , B_i is the cap number placed by the patient at nominal position A_i , B_{i-1} is preceding cap in column B, and B_{i+1} is succeeding cap. Nominal positions 0 and 84 require separate equations to reflect mathematically the circular nature of the test. These are:

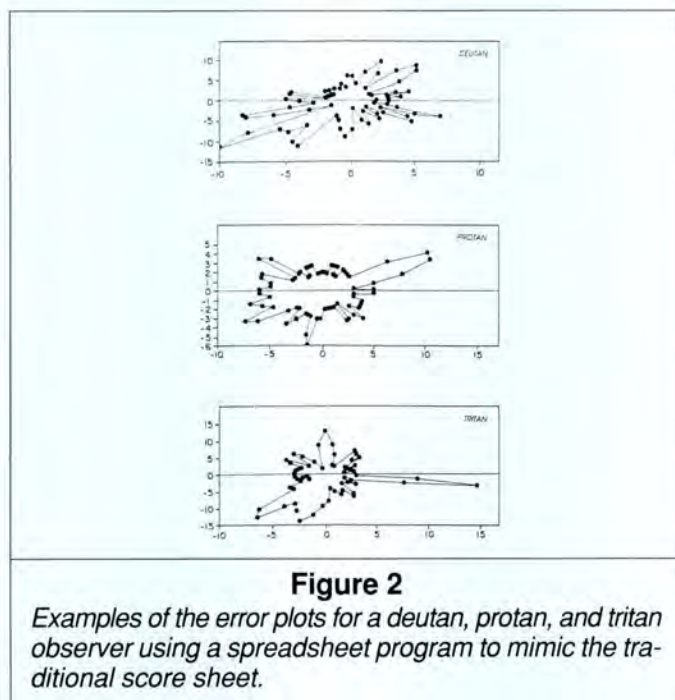
$$C_0 = |B_{84} - B_0 - 85| + |B_1 - B_0|$$

and

$$C_{84} = |B_{83} - B_{84}| + |B_0 - B_{84} + 85|$$

The total error score (TES) is the sum of the individual cap error scores and is displayed in cell C_{86} . It is calculated by the following equation:

$$TES = \left(\sum_{i=0}^{84} C_i \right) - 170$$



The value of 170 is subtracted from the TES so that a perfect arrangement of the caps has a total error score of 0.

Because most spreadsheets have only cartesian coordinate graphing capabilities, the cap position and error scores must be transformed from polar to cartesian coordinates in order to mimic the traditional polar plot. The radial lines on a traditional score sheet represent 85 different vectors whose length is determined by the nominal position error score; therefore, these vectors must be broken into their orthogonal components and rotated 90° to place the position of nominal cap 85 (0) parallel to the Y-axis. The X components are displayed in Column D and are determined by the following equation:

$$D_i = C_i \sin \left(\frac{A_i}{85} \times 2\pi \right)$$

where D_i is the X value associated with nominal position A_i and C_i is the error score of the cap positioned at nominal position A_i . The Y values are displayed in the column E and are calculated by the following equation:

$$E_i = C_i \cos \left(\frac{A_i}{85} \times 2\pi \right)$$

Figure 2 shows examples of deutan, protan and tritan error plots constructed by this method.

Note that the characteristic error patterns are apparent, but that the cap number and absolute error score of each cap have been lost in these plots.

Mean Cap Error Score Analysis

Dain and Birch⁹ have proposed an alternate method for evaluating FM-100 Hue results that is more suitable for spreadsheets, because the graphical display of the results in cartesian coordinates retains the cap position and error score information. They recommend that the FM-100 Hue test should be analyzed by computing the “mean error score” of each nominal cap position. Figure 3 is a representation of the spreadsheet as it would appear on the monitor. Columns A, B and C are unchanged from the previous section.

Column D now represents the mean error score. This value is calculated from the nominal cap error score itself and the 10 preceding and 10 succeeding nominal error scores. The equation for calculating the mean score of nominal positions 10 to 74 is,

$$D_i = \left(\frac{\sum_{m=-10}^{+10} C_{i+m}}{21} \right) - 2$$

where D_i is the mean error score for the cap placed at nominal position A_i , and C_i is the error score of the cap placed at nominal position A_i . Nominal positions 74 to 84 require the inclusion of some of the first tray (0-21) nominal error scores to complete the 21 positions. Similarly, caps 0-9 require the inclusion of some of the last tray (64-84) nominal error scores to complete the 21 positions. For example, the equation for the mean error for nominal position 80 is:

$$D_{80} = \left(\frac{\sum_{m=-10}^{+4} C_{i+m} + \sum_{i=0}^6 C_i}{21} \right) - 2$$

This method produces a rectilinear plot that preserves the cap number and individual mean error score information. Figure 4



The Canadian Association of Optometrists

Annual Report

1989

L'Association Canadienne des Optométristes

Rapport Annuel

Introduction

Was it a nationwide phenomenon or did it seem so only to the five members of the CAO staff in our national Association office in Ottawa — that 1989's twelve months disappeared from the calendar at an alarming rate?

Granted, CAO's 1989 Biennial Congress was held in the nation's capital in August and, much more than any previous Congress, "Rendez-vous Ottawa '89" was able to draw on the readily available office support.

But a review of the year's activity shows that other programs certainly received their due share of attention.

So perhaps someone seeking to encapsulate last year can do no better than by saying "Tempus fugit" (when you're having fun?) and leaving it at that.

CAO Executive and Council for 1989

President:	Dr Tom Adamack, Fernie, BC
President-elect:	Dr Jean-Marie Rodrigue, Montreal, QUE
Secretary-Treasurer:	Dr Margaret Hansen des Groseilliers, Ottawa, ON
Past President:	Dr Scott Brisbin, Edmonton, AL
The following Councillors served as representatives of their respective corporate members in CAO:	
British Columbia:	
(as alternate delegate during Dr Adamack's term as President):	Dr Rix Graham
Alberta (as alternate delegate during Dr Brisbin's term as Past President):	Dr Grant Campbell
Saskatchewan:	Dr Claude Hutton
Manitoba:	Dr Steven Mintz
New Brunswick:	Dr Calvin Smith
Nova Scotia:	Dr Michael Duffey
Prince Edward Island:	Dr David McKenna
Newfoundland:	Dr Douglas Côté

Introduction

Était-ce un phénomène national? ou était-ce simplement réservé aux cinq membres du personnel de l'ACO au bureau national de l'Association, à Ottawa? Est-ce que l'année 1989 comptait moins de 12 mois? Tout est passé si vite!

Bien sûr, le Congrès biennal 1989 de l'ACO a eu lieu dans la Capitale, en août, et plus que tout autre congrès antérieur, "Rendez-vous Ottawa 1989" a pu obtenir tout le soutien administratif qui était là, tout près.

Par contre, la revue des activités de l'année montre que d'autres programmes ont reçu leur juste part d'attention.

Ainsi peut-être le meilleur moyen de résumer l'année est-il de dire "Tempus fugit" (...surtout lorsque c'est agréable?) et de clore ainsi.

Direction et Conseil d'administration de l'ACO pour 1989

Président :	D ^r Tom Adamack, Fernie, (C.-B.)
Président élu :	D ^r Jean-Marie Rodrigue, Montréal (Québec)
Secrétaire-trésorier :	D ^r Margaret Hansen des Groseilliers, Ottawa (Ontario)
Président sortant :	D ^r Scott Brisbin, Edmonton (Alberta)
Les conseillers qui suivent ont agi comme représentants de leur association provinciale respective à l'ACO :	
Colombie-Britannique :	
(délégué suppléant pendant le mandat du D ^r Adamack à la présidence) :	D ^r Rix Graham
Alberta (délégué suppléant pendant le mandat du D ^r Brisbin comme président sortant) :	D ^r Grant Campbell
Saskatchewan :	D ^r Claude Hutton
Manitoba :	D ^r Steven Mintz
Nouveau-Brunswick :	D ^r Calvin Smith
Nouvelle-Écosse :	D ^r Michael Duffey
Île-du-Prince-Édouard :	D ^r David McKenna
Terre-Neuve :	D ^r Douglas Côté



CAO National Office Staff

Executive Director: Mr Gerard A Lambert
Director of Communications: Mr Michael J DiCola
Executive Secretary: Ms Chantal Wall
Secretary of Finance: Ms Joyce M Corey
Secretary / Receptionist: Ms Annette McDonald

CAO and Its Member Associations

Canadian Association of Optometrists (CAO)

Suite 301 – 1785 Alta Vista Drive
Ottawa, ON
K1G 3Y6
Tel (613) 738-4412 (FAX) 738-7161

British Columbia Association of Optometrists (BCAO)

125 – 10451 Shellbridge Way
Richmond, BC
V6X 2W8
Tel (604) 270-9909 (FAX) 270-4950

Alberta Association of Optometrists (AAO)

1 – 9333 – 50th Street
Edmonton, AL
T6B 2L5
Tel (403) 468-1203 / 1305 (FAX) 469-9303

Saskatchewan Association of Optometrists (SAO)

No 4, 117 3rd Avenue South
Saskatoon, SK
S7K 1Z7
Tel (306) 652-2069 (FAX) 244-7743

Manitoba Optometric Society (MOS)

846 – 167 Lombard Avenue
Winnipeg, MB
R3B 0V3
Tel (204) 943-9811 (FAX) 224-0729

Ontario Association of Optometrists (OAO)

212 – 40 St Clair Avenue West
Toronto, ON
M4V 1M2
Tel (416) 923-1173 (FAX) 923-7664

Association des optométristes du Québec (AOQ)

133, ouest de la Commune
4^e étage – Vieux Montreal
Montreal, Quebec
H2Y 2C7
Tel (514) 849-8051 (FAX) 286-9940

New Brunswick Association of Optometrists (NBAO) Association des optométristes du Nouveau-Brunswick (AON-B)

20 Woodstock Road
Fredericton, NB
E3B 2H3
Tel (506) 458-8759 (FAX) 458-8759

Personnel du Bureau national de l'ACO

Directeur général : M. Gérard A. Lambert
Directeur des communications : M. Michael J DiCola
Secrétaire de direction : M^{me} Chantal Wali
Secrétaire aux finances : M^{me} Joyce M Corey
Secrétaire-réceptionniste : M^{me} Annette McDonald

L'ACO et ses associations members

Association canadienne des optométristes (ACO)

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K1G 3Y6
N^o de tél. (613) 738-4412 (Télécopieur) 738-7161

Association des optométristes de la Colombie-Britannique (AOBC)

125 – 10451, chemin Shellbridge
Richmond (C.-B.)
V6X 2W8
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Association des optométristes de l'Alberta (AOA)

1, 9333, 50^e rue
Edmonton (Alberta)
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Association des optométristes de la Saskatchewan (AOS)

No 4, 117, 3^e avenue Sud
Saskatoon (Saskatchewan)
S7K 1Z7
N^o de tél. (306) 652-2069 (Télécopieur) 244-7743

Association des optométristes du Manitoba (AOM)

846, 167, avenue Lombard
Winnipeg (Manitoba)
R3B 0V3
N^o de tél. (204) 943-9811 (Télécopieur) 224-0729

Association des optométristes de l'Ontario (AOO)

212, 40, avenue St Clair-Ouest
Toronto (Ontario)
M4V 1M2
N^o de tél. (416) 923-1173 (Télécopieur) 923-7664

Association des optométristes du Québec (AOQ)

133 Ouest, de la Commune
4^e étage – Vieux Montréal
Montréal (Québec)
H2Y 2C7
N^o de tél. (514) 849-8051 (Télécopieur) 286-9940

Association des optométristes du Nouveau-Brunswick (AONB)

20, chemin Woodstock
Fredericton (N.-B.)
E3B 2H3
N^o de tél. (506) 458-8759 (Télécopieur) 458-8759

**Nova Scotia Association of Optometrists (NSAO)**

833 Sackville Drive
Lower Sackville, NS
B4E 1S1
Tel (902) 865-3433

Prince Edward Island Association of Optometrists

565 North River Road
Charlottetown, PEI
C1E 1J7
Tel (902) 566-1663

Newfoundland Association of Optometrists

PO Box 2284, Station C
St John's, NF
A1C 6E6
Tel (709) 722-9300

Association des optométristes de la Nouvelle-Écosse (AONE)

833, Promenade Sackville
Lower Sackville (N.-É.)
B4E 1S1
N° de tél. (902) 865-3433

Association des optométristes de l'Île-du-Prince-Édouard (AOIPE)

565, chemin North River
Charlottetown (Î.-P.-É.)
C1E 1J7
N° de tél. (902) 566-1663

Association des optométristes de Terre-Neuve (AOTN)

C.P. 2284, Succursale C
Saint-Jean (T.-N.)
A1C 6E6
N° de tél. (709) 722-9300



Federal Issues

Ministry of Finance

Far and away the biggest single federal issue facing Canadians in 1989 was the Goods and Services Tax (GST), scheduled for implementation on the 1st of January, 1991.

In addition to affecting ordinary Canadians from all walks of life, the GST will have an impact on those whose job descriptions include some form of professional practice, including optometrists.

CAO had been lobbying the Minister and his officials since the new tax was first floated in September of 1987 concerning the discriminatory unfairness that arises when taxes are levied on people solely because they require vision and eye care services.

It was with no small relief, therefore, that Optometry greeted the news announced on August 8 by Michael Wilson in his long-awaited technical interpretation paper that optometric goods and services will be either tax-exempt or tax-free.

While this apparent victory was welcomed, it is by no means carved in stone. The perceived impact of the GST has raised a storm of protest across Canada and many changes could be announced before it appears in its final form. CAO continues to monitor its potential impact on professionals throughout 1990 with the intent of having no surprises revealed for our members when the GST becomes the tax law of the land.

Indian Affairs

Health and Welfare Canada in 1989 gave CAO its first real opportunity for formal input as a "consultant" group. In response to a request from the Department, CAO was asked to contribute to the federal Ministry's plan to establish "standard, controllable and enforceable policies" for non-insured optometric services provided to native Canadians under agreements with Indian Affairs.

BCAO Councillor to CAO, Dr Rix Graham, was appointed by CAO Council to chair a CAO Committee charged with coordinating our response and, as Chairman, to act as the consultant requested by the Ministry.

Our hope, of course, is that this long-sought invitational "foot in the door" might serve as the foundation for much more extensive involvement by Optometry in Health and Welfare's developing and formulating policies that affect the delivery of vision and eye care services across the country.

Rendez-vous Ottawa '89

Perhaps it was only because they felt an obligation to live up to the venue, but Chairman Dr Pierre LeVasseur and the Local Arrangements Committee ensured that delegates had a "capital" time at CAO's 21st Biennial Congress.

From an opening ceremony that featured the pipes and drums of the Governor General's Footguards band, through a "Bytown Bash" (so popular that it came close to sinking its site — Victoria Island) to the final banquet, Rendez-vous Ottawa '89 provided many happy memories for our conventioners to take home.

A 1989 Congress highlight was the presentation of the CAO President's Award to Saskatchewan practitioner and past CAO President Dr Hugh MacKenzie. The Award was presented by CAO's immediate past President Dr Scott Brisbin who said it was an especially appropriate occasion. It had been Dr MacKenzie, he said, who had first kindled his (Dr Brisbin's) interests in the politics of the profession.

We'd like to say that it was a "magical" experience, especially the evening under the stars that featured a magnificent river view

Questions fédérales

Ministre des finances

La plus grande question fédérale pour les canadiens en 1989 est de loin la taxe sur les produits et services (TPS) qui doit entrer en vigueur le 1^{er} janvier 1991.

En plus de toucher les citoyens canadiens ordinaires de tous les milieux, la TPS aura des effets sur ceux dont les tâches normales incluent d'une façon ou d'une autre l'exercice d'une profession, optométristes compris.

L'ACO a fait des pressions auprès du ministre et de ses représentants depuis la naissance du projet de nouvelle taxe, en septembre 1987, sur les effets discriminatoires et injustes qui découlent de la perception de taxes sur des citoyens uniquement parce qu'ils ont besoin de services oculovisuels.

Ainsi, ce n'est pas sans soulagement, et c'est peu dire, que l'optométrie a salué la nouvelle lancée le 8 août par Michael Wilson dans son document d'interprétation technique attendu depuis longtemps et selon laquelle les produits et services d'optométrie seront soit exonérés, soit détaxés.

Malgré l'accueil favorable réservé à cette victoire apparente, rien n'est encore définitif. L'effet perçu de la TPS a soulevé une tempête de protestations partout au Canada et nombre de changements pourraient être annoncés avant l'adoption de la loi sous sa forme définitive. L'ACO continuera à surveiller les effets potentiels du projet sur les professions en 1990, afin que nos membres n'aient pas de mauvaises surprises, lorsque la TPS deviendra réalité.

Affaires indiennes

Santé et Bien-être social Canada a donné à l'ACO en 1989 la première véritable occasion d'agir comme groupe conseil. À la demande du ministère, l'ACO devait participer au plan du ministère fédéral visant l'établissement de lignes de conduites normalisées contrôlables et applicables à l'égard des services d'optométrie non assurés offerts aux Canadiens non autochtones dans le cadre d'ententes avec les Affaires Indiennes.

Le conseiller que l'ACO a l'ACO, le Dr Rick Graham, a été mandaté par le Conseil pour présider le comité de l'Association responsable de la coordination de notre intervention et, en tant que président, d'être le conseiller demandé par le ministre.

Évidemment, nous espérons par cette invitation, qui est une sorte de "pied dans la porte", parvenir à jouer un rôle plus grand au ministère de la Santé et du Bien-être social pour ce qui est de la préparation et de la formulation des lignes de conduites influant sur la prestation des services oculovisuels dans l'ensemble du pays.

Rendez-vous Ottawa 89

Peut-être était-ce simplement parce qu'il se sentait obligé d'être dans le ton, mais le président, le Dr Pierre LeVasseur, et les membres du Comité d'organisation locale ont veillé à ce que les délégués "capitalisent" leur temps, au 21^e Congrès biennal de l'ACO.

De la cérémonie d'ouverture mettant en vedette les fifres et tambours de l'orchestre de la Governor General Footguard en passant par le "ça boume à Bytown" (si populaire que nous avons failli faire couler l'Île Victoria) jusqu'au banquet de clôture, Rendez-vous Ottawa 89 a laissé à nos congressistes nombre de souvenirs heureux à ramener chez eux.

Le point marquant du Congrès 1989 a été la remise du prix du président de l'ACO au Dr Hugh MacKenzie, praticien de la Saskatchewan et ancien président de l'ACO. Le prix a été remis



of Parliament Hill and the new National Gallery and Museum of Civilization, but "magical" is reserved for 1991. Chairman Dr Scott Mundle and his Committees gave Ottawa delegates a preview of our 22nd Biennial in Winnipeg August 6-9, when Magique Manitoba Magic takes the stage as our Congress theme.

Save Your Vision Week 1989

"For Better Or For Worse" doesn't sound like the most optimistic basis upon which to build a Save Your Vision Week campaign but it was all we needed in 1989. Lynn Johnston, who makes her home in Corbeil, Ontario, is the internationally syndicated cartoonist who draws the *For Better or For Worse* family adventures that appear around the world. For Save Your Vision Week 1989, she was also CAO's Honorary Chairman and proved to be an utterly delightful person around whom to promote our messages concerning family vision and eye care.

In addition to lending her name and providing an original cartoon for the campaign's posters, Lynn also spent a wintery March day in Ottawa at the Week's official kick-off. Besides signing about ten million copies (or so it must have seemed to her) of the poster and many of her books, Lynn co-hosted our Save Your Vision Week "Wizard of Eyes" cartoon contest winner, Daryl Janzen, as he and his dad toured the capital and Hinton animation studios.

At the Week's kick-off reception, CAO also presented a cheque, on Lynn's behalf, to the Canadian National Institute for the Blind.

Re-establishing "Communiqué - tion"

When CAO President Dr Tom Adamack was first elected in 1988, he announced that he considered his personal mandate included a heavy and renewed emphasis on communications, particularly with the 2,700 Canadian ODs who are members of a provincial Association of optometrists.

To that end, in 1989 he personally oversaw the successful re-introduction of the CAO *Communiqué*, now redefined as *The President's Communiqué*. In its new incarnation, the regular bulletin is a personal memorandum that provides updates of new and ongoing events and programs from all across Canada.

The Canadian Journal of Optometry

1989 saw the end of a 35-year long term of volunteer service as Dr Maurice Bélanger, Senior Editor of the *CJO•RCO*, stepped down from the position.

At the 1989 Biennial Congress in Ottawa, Dr Margaret Hansen des Groseilliers, Chairman of CAO's National Publications Committee, introduced Dr Bélanger's replacement, Dr Mitch Samek, Director of the Vision Institute in Toronto.

Among the many tributes paid on this occasion, CAO formally established the position of Editor Emeritus for the Journal and awarded it to Dr Bélanger. Dr Bill Lyle, himself an Editor of no mean distinction (of the Journal of the American Academy of Optometry), also spoke glowingly of Dr Bélanger's immeasurable contribution to Optometry in Canada and, through the pages of the *CJO•RCO*, around the world.

Under Dr Samek, the *CJO•RCO* will also take on a new administrative flavouring with the addition of four new editorial positions to reflect publication priorities:

Academic Editor (Waterloo): Dr B Ralph Chou
Academic Editor (Montréal): Dr Pierre Simonet

par le D^r Scott Brisbin, président sortant de l'ACO, pour qui c'était une occasion absolument spéciale. C'est le D^r MacKenzie, disait-il, qui avait le premier stimulé ses intérêts (du D^r Brisbin) pour les affaires politiques de la profession.

Nous aimerions ajouter que c'était une expérience "magique", notamment la soirée sous les étoiles, avec vue magnifique sur la rivière, la Colline du Parlement et les nouveaux musées, celui des Civilisations et celui des Beaux-arts. Cependant, il faut réserver le terme "magique" pour 1991. Le président Scott Mundle et son comité ont donné aux délégués à Ottawa un aperçu de ce que sera le 22^e Congrès biennal qui aura lieu à Winnipeg du 6 au 9 août où "Magique Manitoba Magic" sera le thème de notre congrès.

Semaine de la vision 1989

"Pour le meilleur ou pour le pire" (soit l'équivalent de "For Better Or For Worse") ne semble très optimiste comme thème de la campagne de la Semaine de la vision, mais c'est tout ce dont nous avions besoin en 1989. Lynn Johnston, qui réside à Corbeil (Ontario), est la caricaturiste de réputation internationale qui dessine les aventures de la famille *For Better or For Worse*, une bande dessinée qui paraît partout dans le monde. Pour la Semaine de la vision 1989, elle était également présidente d'honneur de l'ACO : une personne charmante et une excellente ambassadrice par laquelle promouvoir nos messages sur la famille et les soins oculovisuels.

En plus de prêter son nom et d'offrir une bande dessinée originale pour les affiches de la campagne, Lynn a passé aussi une journée de mars à Ottawa, au lancement officiel de la Semaine. Elle a signé environ 10 millions d'exemplaires (ou ce qui lui a paru être 10 millions) de l'affiche et nombre de ses livres; elle a été co-hôtesse avec Daryl Janzen, gagnant du concours de bandes dessinées de la Semaine de la vision "Wizard of Eyes", lorsque Daryl et son père ont visité la capitale et les studios d'animation Hinton.

À la réception de lancement de la Semaine, l'ACO a également remis au nom de Lynn un chèque à l'Institut national canadien pour les aveugles.

Communiqué et communications renaissent

Lors de son entrée en fonction à la présidence de l'ACO pour son premier mandat, en 1988, le D^r Tom Adamack a insisté sur le fait que ses priorités personnelles portaient sur l'amélioration des communications, particulièrement avec les 2 700 optométristes canadiens membres des associations provinciales.

À cette fin, en 1989, il a personnellement supervisé la relance réussie du *Communiqué* de l'ACO, redéfini sous l'appellation *Communiqué du président*. Dans cette nouvelle incarnation, le bulletin périodique devient une note personnelle de mise au point sur les événements et programmes courants et nouveaux de toutes les régions du Canada.

La revue canadienne d'optométrie

L'année 1989 a été la dernière d'une longue période de 35 années de services bénévoles du D^r Maurice Bélanger, rédacteur principal de la RCO, qui a décidé de renoncer à son poste.

Au Congrès biennal de 1989 à Ottawa, le D^r Margaret Hansen des Groseilliers, présidente du Comité national des publications de l'ACO, a présenté le remplaçant du D^r Bélanger, le D^r Mitch Samek, directeur du Vision Institute de Toronto.

Parmi les nombreux hommages faits à cette occasion, l'ACO a officiellement créé la distinction de rédacteur émérite de la Revue,



Clinical / Case Study Editors: Dr Lorne Hart
Dr Mark Pogue

The Canadian Optometric Education Trust Fund

In an effort to encourage the continued growth and development of the COETF, Trustees embarked on a new fund solicitation campaign in 1989. At its launch, during the Biennial Congress, potential donors were urged to "Keep the Ball Rolling".

It is a message that will continue to be delivered for some time to come as both new donors, and previous supporters who have completed their pledges, are encouraged to support Optometry's investment in its own future.

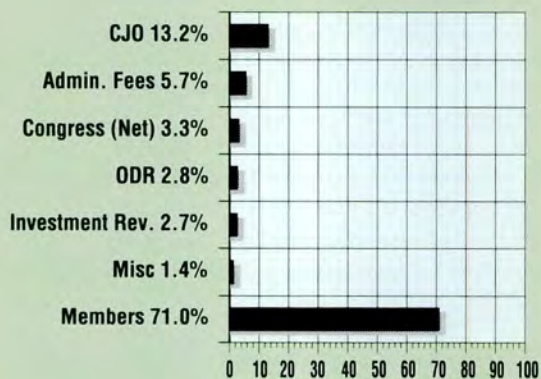
Conclusion

An investment in the future of Optometry is not solely the prerogative of the COETF.

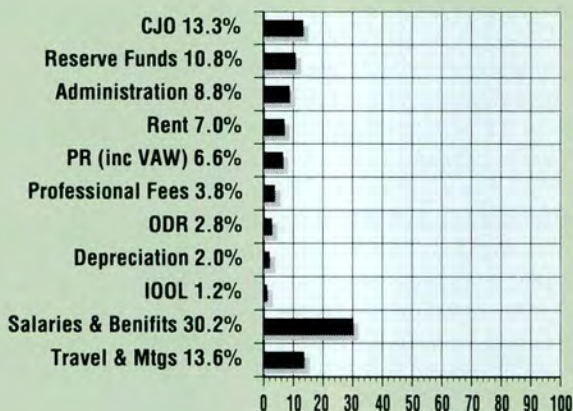
Following, for your information, are two illustrations:

1. CAO's sources of revenue
2. the apportioning of each dollar received.

CAO Revenues



Breakdown of Membership Dollar



qu'elle a attribuée au D^r Bélanger. Le D^r Bill Lyle, rédacteur lui-même et pas des moindres (du Journal of the American Academy of Optometry), a également tenu des propos louangeurs sur la contribution incommensurable du D^r Bélanger à l'optométrie du Canada et, dans les pages de la RCO, à la connaissance de l'optométrie de par le monde.

Sous la direction du D^r Samek, la RCO prendra une nouvelle tangente administrative, avec l'ajout de quatre nouveaux postes de rédaction, rendant compte des priorités de publication :

Rédacteur universitaire (Waterloo) : D^r B Ralph Chou
Rédacteur universitaire (Montréal) : D^r Pierre Simonet
Rédacteurs d'études cliniques et de cas : D^r Lorne Hart
D^r Mark Pogue

Le fond de fiducie des optométristes canadiens pour l'éducation

Dans le but d'encourager la croissance et le développement constant du FFOCE, les fiduciaires ont lancé une nouvelle campagne de levée de fonds en 1989. Lors du lancement, à l'occasion du Congrès biennal, les donateurs potentiels ont été incités à continuer leurs efforts.

C'est un message que nous entendrons encore un certain temps, et qui vise à encourager les nouveaux donateurs et ceux des années antérieures qui ont terminé les versements de leurs dons, à appuyer l'investissement des optométristes dans leur propre avenir.

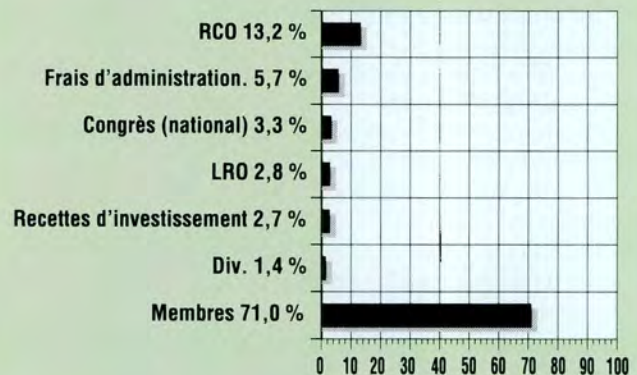
Conclusion

Investir dans l'avenir de l'optométrie n'est pas l'unique apanage du FFOCE.

Voici à titre d'information des illustrations :

1. sources de recette de l'ACO
2. répartition de chaque dollar reçu.

Recettes de l'aco





They are virtually self-explanatory with the following notes:

CAO Revenues

"ODR" is The Optometrist's Desk Reference.

"Admin Fees" are fees paid for CAO staff support by ancillary organizations like the CJO•RCO and COETF.

Breakdown of Membership Dollar

"Reserve Funds" is a CAO cash reserve allocated at the strenuous recommendation of our accountants. It is *not* "money left over".

"Professional fees" include legal, audit and federal political action consultations.

"IOOL" is our national Association support of the International Optometric and Optical League.

It is the responsibility of every optometrist in Canada to ensure that the conditions under which you practice ensure that the best possible vision and eye care services are provided to all Canadians.

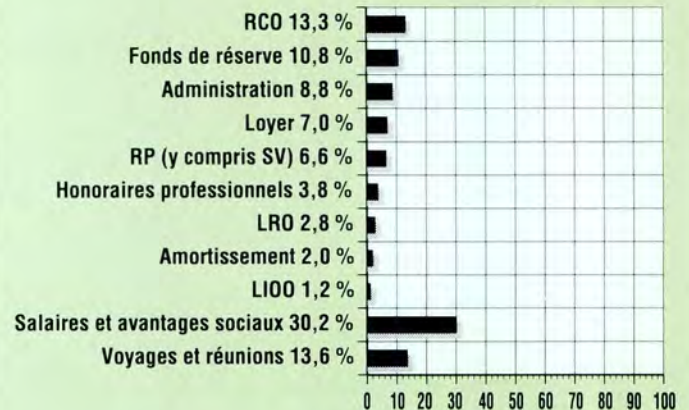
CAO, whether through political action, communication or public relations, is attempting to facilitate the task of managing the national Association for those elected to that responsibility. It is our role to ensure that, when a decision is required, it is made from a basis of complete information. The decision's then being made, it is our role to make its implementation as smooth a process as possible.

As a federation of ten provincial optometric Associations, CAO depends utterly on the support of its members and, through them, the 2,700 member optometrists in Canada. Your voice, therefore, is heard at the Council table, or through channels like the Biennial Congress, the COETF, and the CJO•RCO. But most important of all, your Councillor is the individual elected or appointed to speak on your behalf.

If our annual reports to you twig suggestions of ways we might improve our service, then contact your Councillor. He or she will, in turn, have the required input to make an informed decision on the issues faced by Council at its meetings.

Remember that communication is a two-way exercise. Get involved!

Ventilation du chaque dollar de cotisation



Recettes de l'ACO

Le LRO, c'est le livre de référence de l'optométriste.

Les frais d'administration sont ceux payés par des organismes auxiliaires comme la RCO et le FFOCE pour les services de soutien du personnel de l'ACO.

Ventilation du dollar de cotisation

Les fonds de réserve sont l'encaisse affectée en réserve à l'insistante recommandation de nos comptables : *ce n'est pas* "de l'argent de trop".

Les honoraires professionnels englobent les frais juridiques et de vérification et les consultations d'intervention politique fédérale.

La LIOO, c'est l'appui que notre association nationale accorde à la Ligue internationale d'optométrie et d'optique.

Il est de la responsabilité de chaque optométriste canadien de veiller à ce que les conditions dans lesquelles il exerce garantissent les meilleurs services ophtalmiques possibles à tous les Canadiens.

L'ACO, que ce soit par l'action politique, la communication ou les relations publiques, essaie de faciliter aux personnes élues à cette charge la tâche de gérer de l'association nationale. C'est notre rôle de veiller à ce que, lorsqu'une décision est nécessaire, elle soit prise en fonction de renseignements complets. Lorsque les décisions sont prises, c'est notre rôle de les mettre en application dans un mécanisme aussi souple que possible.

En tant que fédération de dix associations provinciales d'optométrie, l'ACO dépend énormément de l'appui de ses membres, et, par eux, des 2 700 optométristes membres de leurs associations au Canada. Votre voix, donc, peut être entendue à la table du Conseil ou par des canaux comme le Congrès biennal, le FFOCE et la RCO. Cependant, élément plus important, votre conseiller est la personne élue ou nommée pour parler en votre nom.

Si à la lecture de nos rapports annuels, il vous vient des suggestions sur les moyens d'améliorer notre service, parlez-en à votre représentant au Conseil, qui pourra à son tour, intervenir comme il se doit pour une prise de décision informée sur les questions présentées au Conseil à ses réunions.

N'oubliez pas que la véritable communication n'est jamais à sens unique. Faites-vous entendre!

We are planning a **Magical CAO Congress** in Winnipeg from August 5 to August 9, 1991!

The optometrists of Manitoba and their families want this stay to be **Magical** for delegates, spouses and junior delegates.

We have warm, beautiful, sunny summers and the activities planned will take advantage of all Manitoba has to offer!

Folklorama — Two weeks of international flavour: culture, dance and food from around the world!

Rainbow Stage — Three musicals each summer.

Children's Museum, Museum of Man and Nature, Art Gallery, Red River Cruises, Lower Fort Garry, The Royal Canadian Mint, Grand Beach (rated in the top ten beaches in North America in *Playboy* magazine), **Imax Theatre, Blue Bomber Football, Horse Racing, Casinos.**

Our **Continuing Education Program** will include international lecturers speaking on current, important topics. Confirmed speakers include John Gay and Jimmy Bartlett.

The **CAO Congress** is the perfect place to see your old friends, make new friends and get involved in CAO business.

Attend our
Magical Mystery Tours!

Be part of the **FUN**
in Winnipeg!



Ne manquez pas nos
Tournées mystères!

Soyez de la partie,
à Winnipeg!

Nous vous préparons un **Congrès de l'ACO magique** à Winnipeg, de 5 au 9 août 1991!

Les optométristes du Manitoba et leurs familles veulent que ce séjour demeure pour les délégués, leurs conjoints et leurs enfants, empreint de la magie du souvenir.

Chez nous, l'été est chaud, magnifique et ensoleillé; les activités prévues tireront parti de tout ce que le Manitoba a à offrir!

Folklorama — Deux semaines au cachet international : culture, danse et aliments de toutes les régions du monde!

Théâtre en plein air Rainbow — Trois comédies musicales par été.

Musée des enfants, Musée de l'homme et de la nature, Galerie d'Art, Croisières sur la rivière Rouge, Lower Fort Garry, Monnaie royale canadienne, plage Grand Beach (parmi les dix meilleures plages en Amérique du Nord selon la revue *Playboy*), **cinéma Imax, football des Blue Bomber, courses sous harnais, et casinos.**

Notre programme **d'éducation permanente** comprend des conférenciers internationaux qui aborderont des sujets d'actualité d'importance. Parmi les conférenciers qui ont confirmé leur présence, mentionnons John Gay et Jimmy Bartlett.

Le **Congrès de l'ACO** est l'endroit idéal pour revoir de vieux amis, s'y en faire de nouveaux et participer aux affaires de l'association.

Étude de la fidélité du test D-15 désaturé de Lanthony

B Frenette¹
D Mergler²
J Ferraris³

Abstract

The desaturated D-15 test (D-15-d) is a more sensitive version of the Farnsworth D-15 and permits the rapid detection of axes of chromatic confusion. The high level of precision and specificity required by the Lanthony D-15-d render it a suitable screening test for colour vision anomalies in a workplace. The objective of this study was to evaluate the reliability of the Lanthony D-15-d among a population of 62 subjects not previously exposed to known ophthalmotoxic agents. The test was administered once a week for four weeks to each subject, always on the same day at the same time. No significant differences were observed between results obtained for right and left eye testing over the four-week period. The chromatic confusion index increased significantly with age. These results confirmed the reliability of the Lanthony D-15-d test.

Résumé

Le test D-15 désaturé est une version plus sensible du test de Farnsworth D-15 permettant de détecter rapidement les axes de confusion chromatique. Par ses critères de précision et de spécificité élevés, le test D-15-d de Lanthony serait tout indiqué pour le dépistage d'anomalies de la vision des couleurs en milieu de travail. L'objectif de cette étude était d'évaluer la fidélité du Lanthony D-15-d auprès d'une population de 62 sujets non-exposés aux agents ophtalmotoxiques connus. Le test a été administré dans les conditions semblables, à chaque sujet une fois par semaine, pendant quatre semaines, à la même journée et à la même heure. Aucune différence significative n'a été observée entre les résultats des quatre semaines pour l'oeil gauche ou l'oeil droit. L'indice de confusion chromatique augmentait de façon significative avec l'âge. Ces résultats confirment la fidélité du test Lanthony D-15 désaturé.

Introduction

Les anomalies acquises de la vision des couleurs résultent d'une perte d'intégrité des structures oculaires ou des voies nerveuses^{19,22,23}. L'occurrence des dyschromatopsies acquises augmente avec l'âge^{6,10}, le diabète^{11,26}, la prise de certains médicaments¹⁹ et la consommation d'alcool^{15,24}. Plusieurs études ont également établi une relation entre la perte de la vision normale des couleurs et l'exposition industrielle à des produits toxiques tels le plomb^{1,8} ou encore des mélanges de solvants organiques^{3,14,20}. Récemment, Mergler et al.¹⁶ rapportaient une perte de discrimination des couleurs significativement plus élevée chez des travailleurs d'imprimerie, exposés à un mélange de solvants (utilisés pour dis-

soudre et nettoyer les encres d'impression), que chez une groupe-témoin, non-exposé et pairé pour l'âge et la consommation d'alcool.

Les tests généralement utilisés pour caractériser les pertes normales de vision des couleurs sont classés en deux groupes : les tests pseudo-isochromatiques (Ishihara et AO-H-R-R) et les tests de classement des pastilles, principalement le Farnsworth-Munsell 100 Hue. Quoique les tests pseudo-isochromatiques soient faciles d'administration et demandent un temps d'exécution relativement court, ils demeurent limités quant à leur possibilité de détecter précocement une atteinte acquise de la vision des couleurs⁹.

Pour cette raison, les études de la dyschromatopsie acquise s'effectuent avec des tests plus sensibles, tel le Farnsworth-Munsell 100-Hue (FM-100 Hue). Toutefois, dans le cadre de la surveillance des effets ophtalmotoxiques, ce test possède l'inconvénient d'être long à administrer, soit environ 20 à 25 minutes chez les sujets normaux, et parfois le double chez des personnes exposées aux solvants organiques.

Le test de Farnsworth D-15 se compose d'un arrangement chromatique de 15 pastilles prises à peu près régulièrement sur le cercle de couleurs que forme le FM-100 Hue. Pour augmenter la sensibilité de ce test réduit, il existe une version désaturée, le Lanthony D-15 désaturé (D-15-d)¹², qui permet de détecter rapidement les

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axes de confusions chromatiques. Il est rapide d'exécution, tout en conservant des paramètres de précision et de spécificité élevés, évalués par Blain et al.² auprès de 24 sujets exposés aux solvants organiques, et par Lanthony¹⁴ auprès de 319 volontaires. Dans ces études, les auteurs ont comparé les résultats du test de Lanthony D-15-d à celui de FM-100 Hue. Il est ressorti que le test de Lanthony, malgré le nombre restreint de pastilles, a une sensibilité (détection des vrais positifs) qui varie de 90% à 92% et une spécificité (détection des faux négatifs) s'échelonnant entre 83% et 94%. Pour la prévention et la surveillance de grands groupes de travailleurs-euses à l'extérieur de conditions cliniques, le test D-15-d de Lanthony serait donc tout indiqué.

Toutefois, outre une bonne validité interne, un test de surveillance doit s'avérer fidèle : les résultats doivent être reproductibles d'une fois à l'autre, dans des conditions d'administration semblables. Seul un protocole de prises de mesures répétées permet d'estimer cette reproductibilité. La présente étude vise à examiner la fidélité du Lanthony D-15-d auprès d'une population de sujets normaux, non-exposés aux agents ophtalmotoxiques.

Sujets et méthodes

Les sujets participant à l'étude ont été recrutés sur une base volontaire. Tous ont complété un questionnaire concernant les données socio-démographiques, leur consommation d'alcool, de même que l'exposition à des substances ou des conditions susceptibles d'affecter la vision normale des couleurs. L'histoire de travail et l'histoire médicale furent complétées par une infirmière spécialisée. Le tableau 1 donne la distribution des 62 sujets selon l'âge et le sexe.

TABLE 1
Distribution du groupe de sujets en fonction de l'âge et du sexe

catégories d'âge	20-29 n (%)	30-39 n (%)	40-49 n (%)	50-60 n (%)	total n (%)
Femmes	14(22.6)	7(11.3)	8(12.9)	14(22.4)	43(69.2)
Hommes	5 (8.1)	5 (8.1)	5 (8.1)	4 (6.5)	19(30.8)
Total	19(30.7)	12(19.4)	13(21.0)	18(28.9)	62(100.0)

Le test de Lanthony D-15-d était placé 30 cm. sous un fluorescent de type "daylight", qui émet un éclairage de 1100 lux sur les pastilles, alors que l'environnement lumineux du reste de la salle était réduit au minimum. Les 15 pastilles, numérotées à l'endos, ont été placées en désordre devant le sujet, sur un tissu noir pour éviter les réflexions parasites. Le sujet devait alors replacer les pastilles selon un ordre chromatique de couleurs, en commençant par la pastille de référence, demeurée fixe. Pour s'assurer de la compréhension du sujet face au test de Lanthony D-15-d, une période de familiarisation permettait au sujet de compléter d'abord le test D-15 de Farnsworth (pastilles saturées). Aucune limite de temps n'était imposée aux sujets; la plupart ont complété la séance en trois ou cinq minutes. Le test Lanthony D-15-d a été administré de façon monoculaire, en commençant par l'oeil gauche. Les sujets portaient leur correction lors du test, et la distance entre les yeux et les pastilles étaient d'environ 40 cm.

Chaque sujet a passé le test une fois par semaine, pendant quatre semaines, à la même journée et à la même heure. Tous les tests

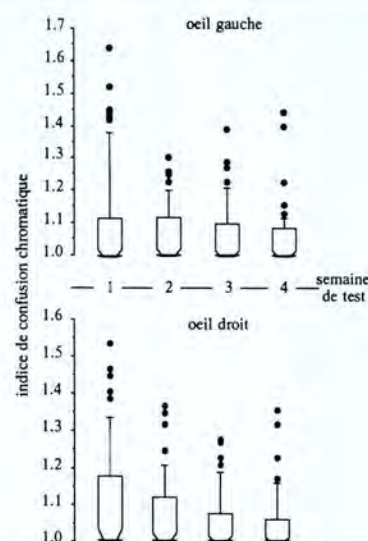


Figure 1

Distribution des indices de confusion des couleurs en fonction des quatre semaines de test. L'extrémité de la ligne représente le 90^{ème} percentile, le haut de la boîte indique le 75^{ème} percentile et la ligne du bas est la valeur médiane (50^{ème} percentile). Les points représentent les valeurs extrêmes.

ont été administrés par la même technicienne, dans des conditions et un environnement semblables.

Les résultats ont été analysés sous forme d'indice de confusion chromatique, selon la méthode de Bowman⁴. Cette méthode, basée sur le calcul de la somme des différences entre les couleurs placées les unes à la suite des autres, est dérivée de la méthode de calcul du score du FM 100-Hue. L'indice est obtenu en divisant le score observé par le score parfait. En complétant le test sans erreur, le sujet obtient un indice de 1.00; toute erreur dans le positionnement des pastilles fait augmenter l'indice.

Pour déterminer la présence de dyschromatopsie acquise, les résultats ont été transposés sur un schéma de Farnsworth²⁵. Les critères suivants ont servi à classer les dyschromatopsies : 1^o) une erreur impliquant un saut d'au moins deux positions sur le schéma de Farnsworth et 2^o) le parallélisme avec un axe de confusion chromatique.

Ensuite, la classification en trois types, proposée par Verriest²² a été appliquée : Type I, caractérisé par un axe de confusion chromatique dans les vert/rouge; Type II, comportant une perte de discrimination dans les vert/rouge, de même qu'une perte légère au niveau des couleurs bleu/jaune; Type III, caractérisé par une perte de discrimination au niveau des couleurs bleu/jaune.

Etant donnée la distribution non-normale des données, les analyses ont été effectuées à l'aide de tests non-paramétriques de comparaisons de rangs. Dans ce cas, les valeurs corrigées en fonction des rangs égaux ont été retenues.

Résultats

L'indice de confusion chromatique a été calculé pour chaque sujet à chaque semaine. Aucune différence n'a été observée entre les

résultats des quatre semaines pour l'oeil gauche ($\chi^2=3.02$; $df=3.02$; $p>0.05$) et l'oeil droit ($\chi^2=7.50$; $df=3$; $p>0.05$). La figure 1 illustre la distribution, en percentile, des résultats pour chaque oeil, pour les quatre semaines de tests. Les indices au 10^{ième}, 25^{ième}, 50^{ième}, 75^{ième} et 90^{ième} percentile sont indiqués par des barres horizontales; les points représentent les valeurs extrêmes.

On remarque pour les deux yeux qu'à chaque semaine, 50% des scores ont la valeur 1.0, c'est à dire que les pastilles ont été placées en ordre parfait. La distribution de l'autre 50% est différente pour les deux yeux : pour l'oeil gauche, le 75^{ième} percentile reste relativement stable à environ 1.10, tandis que le 90^{ième} percentile et les valeurs extrêmes varient; pour l'oeil droit, il y a une diminution du score du 75^{ième} percentile, allant de 1.18 à 1.08. Les scores du 90^{ième} percentile et les valeurs extrêmes diminuent également de semaine en semaine.

La figure 2 contient la distribution en percentile des indices de confusion chromatique en fonction des catégories d'âge. Pour la première séance, illustrée ici, ainsi que pour les trois suivantes, l'indice augmentait avec l'âge. Sur cette figure, on constate que l'augmentation est significative pour l'oeil droit (Kruskal-Wallis analyse de variance, $df=3$; $H=20.65$; $p<0.001$), mais non significative pour l'oeil gauche (Kruskal-Wallis analyse de variance, $H=6.87$; $p=0.08$), quoi qu'à la limite du seuil de 95%. La comparaison des indices de confusion chromatique entre hommes et femmes n'a révélé aucune différence (Mann-Whitney; OS: $U=354$, $z=1.36$, $p>0.05$; OD: $U=359$, $z=1.02$, $p>0.05$).

Aucune différence significative n'a été observée pendant les quatre semaines pour la présence de dyschromatopsie acquise, classifiée en Type I, II et III, (OD: $\chi^2=6.62$; $df=3$; $p>0.05$; OS: $\chi^2=2.38$; $df=3$; $p>0.05$). En tout, 23 sujets (35%) ont obtenu des résultats permettant de caractériser un axe de confusion

chromatique au moins une fois (en majorité de type III). Toutefois, 65% d'entre eux (15 sujets) n'ont obtenu ce résultat qu'une seule fois en quatre semaines de tests. Notons également que la prévalence de dyschromatopsie augmentait avec l'âge, tel qu'illustré à la figure 3 (OD: $\chi^2=20.99$, $df=3$, $p<0.001$; OS: $\chi^2=6.98$, $df=3$, $p=0.054$).

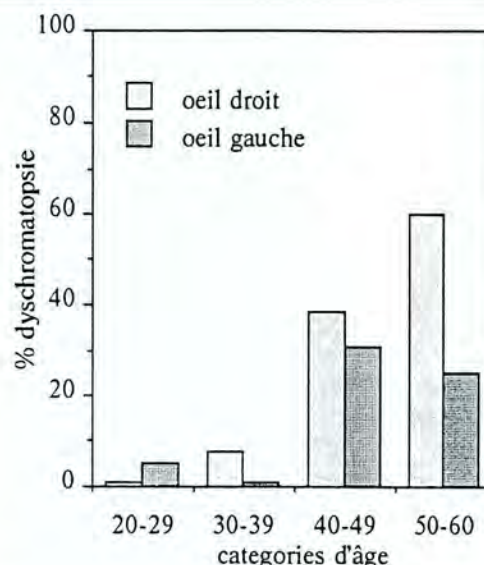


Figure 3

Prévalence de dyschromatopsie acquise (types I, II ou III) en fonction des catégories d'âge.

Discussion

La fidélité d'un test, qu'on associe souvent à la fiabilité pour des tests qui dépendent de la participation active des sujets⁷, est la capacité de l'appareil de donner des résultats semblables dans des conditions similaires²¹. Quoique la figure 1 illustre, pour l'oeil droit en particulier, une amélioration non-significative des résultats aux tests au fur et à mesure que l'étude progresse, l'absence de différences significatives entre les quatre semaines de tests confirme la fidélité du test Lanthony D-15 désaturé. L'absence de différences aussi bien pour l'oeil gauche que pour l'oeil droit était essentielle puisque les dyschromatopsies acquises peuvent se manifester de façon monoculaire⁹. L'application rigoureuse du protocole du prise de mesures et la période de familiarisation ont certainement contribué à ces résultats.

L'âge est un facteur généralement associé à la perte de la vision normale des couleurs^{5,6,12,18}. Cette perte se situe surtout dans l'axe jaune/bleu, et résulte d'une part de l'opacification du cristallin et d'autre part d'une dégénérescence maculaire^{4,19}.

Dans la présente étude, on note une augmentation de l'indice de confusion chromatique en fonction de l'âge, ainsi qu'une prévalence plus élevée de dyschromatopsie acquise chez les gens âgés de plus de 40 ans. Ces résultats concordent avec des études antérieures^{3,5} dans lesquelles les auteurs rapportaient une augmentation de la perte acquise de vision de couleurs avec l'âge.

Le test de Lanthony D-15 désaturé peut constituer un outil utile au dépistage précoce des atteintes neuro-oculaires suite à l'exposition aux solvants organiques¹⁷. Le calcul de l'indice de confusion chromatique permet de quantifier l'atteinte, alors que la classification selon les axes de confusion des couleurs donne une

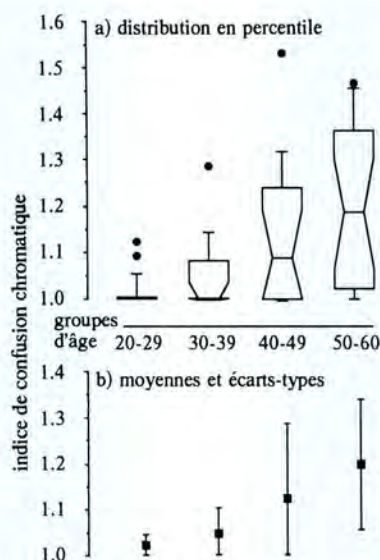


Figure 2

Distribution des indices de confusion des couleurs en fonction de l'âge. L'extrémité de la ligne supérieure représente le 90^{ième} percentile, le haut de la boîte indique le 75^{ième} percentile, la ligne du centre est la médiane, tandis que celle du bas de la boîte montre le 10^{ième} percentile. Les points représentent les valeurs extrêmes. Résultats obtenus à la première semaine.

indication de la structure oculaire affectée (essentiellement oculaire ou neurologique). Ces deux paramètres (indice de confusion et classification selon l'axe de confusion) sont complémentaires, en ce sens qu'un diagnostic basé sur l'axe seulement n'est pas suffisant pour déterminer l'existence d'une pathologie¹³. Par conséquent, la présence d'un axe de confusion chromatique une seule fois pendant les quatre semaines de test chez 15 sujets ne fait partie que de la variabilité normale qu'offre ce test.

Les résultats obtenus démontrent que le test Lanthony D-15 désaturé s'avère reproductible, alors que Lanthony¹³ le juge tout aussi sensible que le Farnsworth-Munsell 100-Hue. Ces caractéristiques en font un test intéressant à utiliser dans diverses circonstances; il peut très bien s'insérer à l'intérieur d'une batterie de tests pour la détection précoce d'atteintes neurotoxiques.

Remerciements

Les auteurs-es aimeraient remercier Mesdames Brigitte Bouchard et Suzanne Legault-Bélanger pour leur support tout au long de l'étude, de même que l'Institut de Recherche en Santé et Sécurité du Travail du Québec (IRSST) et Santé Bien-être Social du Canada pour leur appui financier.

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Reasons for Perimetric Field Testing

TD Williams*

Abstract

Discussions of visual field testing frequently concentrate on the "how" or the "when" of visual field testing, as practitioners grapple with the question of whether or not to screen all patients in their practice. I suggest that it is preferable to confine field testing to those patients where it is clinically indicated: to support this suggestion, I have reviewed 226 consecutive patients for whom Goldmann kinetic visual fields were conducted by me.

Résumé

Les discussions qui portent sur les examens du champ visuel portent souvent sur la "méthode" ou le "moment opportun", car les praticiens se demandent s'ils devraient examiner tous leurs patients. Il est à mon avis préférable de limiter les tests pratiques aux patients pour lesquels l'examen est recommandé au point de vue clinique. Pour étayer ma recommandation, j'ai passé en revue le cas de 226 patients consécutifs que j'avais soumis à un examen cinétique des champs de vision de Goldmann.

Method

Records for 226 consecutive patients referred to the Ocular Health Service of the School of Optometry Clinic at the University of Waterloo were examined to determine reasons for visual field testing. Because of variations in patient population, different practices will have different proportions of patients with a specific problem related to the need for visual field testing. However, these results provide an interesting profile.

Results and Discussion

Table 1 shows the reasons for visual field testing while, Tables 2 to 5 give details for some of the categories shown in Table 1. Elaboration relevant to these categories and field findings follows.

Concern regarding retinal integrity (glaucoma and retinal problems) were the chief factors initiating field testing; these concerns prompted more than four times as many field tests as were prompted by patients' symptoms.

Glaucoma

Out of 71 individuals who had their fields tested because of a suspicion of glaucoma (usually due to an apparently elevated intraocular pressure), 13 (18%) had field findings which were positive for glaucoma. This is comparable to the results of the Framingham study¹, in which 291 individuals had their visual fields tested

because intraocular pressure findings were suggestive of glaucoma (either an IOP > 22 mmHG or a difference of > 3 mmHG between the two eyes); of these, 50 (17%) had definite glaucomatous field losses (mainly baring of the blind spot, arcuate scotomas, paracentral scotomas, nasal step, or overall constriction). As there were 2631 individuals in the Framingham study, these 50 individuals represent 1.9% of the population, a figure which agrees with most estimates of the prevalence of glaucoma.

Retinal Problems

No doubt my enthusiasm for nerve head anomalies accounts for a large number of retinal problems in this review. Congenital nerve head anomalies included colobomas, large cuppings (mostly with negative fields), drusen (frequently with associated nerve fiber bundle [i.e. arcuate] field losses), inferior conus, tilted disk, and situs inversus. The last three conditions do tend to be associated with superior temporal field loss which does not respect the midline.²

Macular changes prompting field testing included: Best's disease, three cases of age-related maculopathy, central serous

TABLE 1

Reason	Cases	% of Fields
Glaucoma	71	31
Retinal problems	69	30
Symptoms	31	14
Trauma/Injury	26	11
Brain/CNS problems	20	9
Endocrine	4	2
Medications	2	1
Other	3	9

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University of Waterloo

TABLE 2

Retinal Problems	Cases
Retinitis pigmentosa	13
Nerve head anomaly	11
Macular changes	9
Toxoplasmosis	7
Retinal detachment	6
RPE hypertrophy	4
Medullated nerve fibers	3
Birth injuries	2
Myopia	2
RPE detachment	2
Other	10

retinopathy (which symptoms also may arise due to peripheral retinal detachments), choroiditis, confluent drusen, and disciform macular degeneration.

Reactivation of ocular toxoplasmosis may produce visual field disturbance before changes are detectable ophthalmoscopically³. Thus, it would be advisable to assess the visual field in any patient with ocular toxoplasmosis when they note flashing lights or floaters.

In the cases of retinal pigment epithelium hypertrophy, no field disturbances were found. This is consistent with some reports⁴; however, other authors have reported relative scotomas corresponding with the hypopigmented areas frequently found within areas of RPE hypertrophy⁵.

Medullated retinal nerve fibers may cause corresponding scotomas if they are dense enough; however, there may be unexpected field losses associated with them, indicating that their presence may be due to disturbances in axons travelling through the lamina cribrosa⁶.

Detachment of the retinal pigment epithelium carries a good visual prognosis and was associated with negative fields in this study. Similar results have been reported by other authors⁷.

Myopia occasionally prompts concern regarding the integrity of the retinal periphery. While indirect ophthalmoscopy is an obvious choice for assessment of the retinal periphery, I would suggest the testing of peripheral isopters is also a useful way to investigate the peripheral retina. Peripheral field testing, used judiciously, can help to determine whether there is a problem, as well as to indicate the quadrant in which the problem lies, if there is one.

Symptoms

Floaters and flashing lights are a nagging worry for all clinicians: the appropriate retinal location must be tested. The manual perimeter is of particular usefulness in such cases, as the clinician can use it to simulate the flashing lights and have the patient locate them accurately in the field. This facilitates not only further field testing, but also alerts the clinician to the exact retinal location which needs further investigation. The great majority of these symptomatic people (Table 3) produced negative fields.

TABLE 3

Symptoms	Cases
Transient vision loss	8
Floaters	8
Headache	4
Photopsia	4
Eye pain	3
Other	4

Trauma/Injury

The alarming frequency of visual field loss due to motor vehicle accidents is borne out in Table 4. Other causes are extremely varied. Not included in this list of causes is one case in which someone threw a large carrot at a friend: in this case, the eye injury caused no field loss, but did result in a small traumatic cataract.

TABLE 4

Injury	Cause	Cases
Head	Motor & farm vehicle accident	10
Head	Baseball/basketball	2
Head	Chemical fumes	1
Head	Unspecified	2
Eye	Airgun pellet	1
Eye	Bricklayer's trowel	1
Eye	Broomball stick	1
Eye	Golf ball	1
Eye	Hockey stick	1
Eye	Fist	1
Eye	Tennis ball	2
Eye	Ran into tree	1
Eye	Slingshot	1
Optic nerve	Hockey skate blade	1

The majority of the trauma cases had field loss corresponding to an area of retinal disturbance which was opposite to the direction of the blow to the head or eye (for example, a blow to the left temple of the head may lead to damage in the nasal periphery of the retina of the left eye). These cases support the idea that blows to the head alone can cause retinal damage. When querying the patient, it is often productive to ask about head injuries necessitating stitches; otherwise, the patient, assuming that you are only interested in eye injuries, will not comment on the head injuries.

Brain

As Table 5 shows, stroke is a major contributor to visual field loss among patients seen with central nervous system problems; Tables 6 and 7 give details of the field losses for this group of patients.

Endocrine

The endocrine group included four individuals: two were diabetic and two were showing elevated serum prolactin levels. Elevated prolactin levels were due to overactivity of the pituitary gland, which can enlarge enough during pregnancy to cause superior bitemporal field loss.⁸ The visual fields for the two women studied showed no changes throughout their pregnancies.

TABLE 5

Brain/CNS Problems	Cases
Stroke	13
Tumour-chiasmal	3
Tumour-parieto-occipital	1
Multiple sclerosis suspect	1
Benign intracranial hypertension	1
Cardiac arrest	1

TABLE 6

Stroke Field Losses	Cases
Negative (recovered)	2
Left inferior quadrantal (homonymous)	1
Loss of nasal field for right eye, overall constriction of left field	2
Baring of blind spot OS, bitemporal field loss	1
Overall constriction of fields: right I-2 isopter is 34% of normal size, left is 42% of normal size	1
Homonymous right hemianopia with macular sparing	2
Homonymous left hemianopia with macular sparing	2
Overall constriction of fields: I-2 isopter 34% of normal	1
Loss of nasal field for right eye, superior field for left eye	1

Medications

One patient was under treatment with tamoxifen for breast cancer, and fields were tested to establish a baseline in the event of possible toxic effects on the retina or elsewhere in the visual pathway (fields were negative at outset and continue to be so).

The other patient, a 22-year-old female, was under treatment with isoniazid for tuberculosis, and had developed a considerable overall field constriction: the I-2 isopter was 7% of normal size⁹. This therapy was discontinued.

Other

This group included one patient with amblyopia of unknown cause, one whose field appeared constricted due to anxiety (subsequent field testing yielded normal results once the patient understood the nature of the test properly and was more relaxed), and one patient with central field disturbance due to an incomplete vitreous detachment, which subsequently cleared spontaneously.

Comment

Tables 1 to 5 show the various clinical findings which prompted testing of the visual fields. I believe that the busy clinician will make the best use of his or her time (and that of the patient) when fields are tested only as necessary. Considering the low incidence of abnormal fields in an unselected population (about two percent, according to Greve and Verduin¹⁰), it would appear that a policy of field investigation for *all* patients is inefficient.

These data show a striking diversity of indications for field testing in optometric practice.

TABLE 7

Tumour-Chiasmal Field Losses	Cases
Bitemporal hemianopia with macular sparing	1
Unilateral loss: inferior nasal quadrant of right field	1
Superior bitemporal field constriction	1
TUMOUR-PARIETO-OCCIPITAL	
Homonymous hemianopia	1
MULTIPLE SCLEROSIS SUSPECT (AGE 30)	
Overall field constriction: OD I-2 42% of normal OS I-2 34% of normal	1
BENIGN INTRACRANIAL HYPERTENSION:	
Enlarged blind spots OU Relative scotoma OS	1
CARDIAC ARREST	
Occurred three times Homonymous left hemianopia with macular sparing	1

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VISION CARE NEWS



Dr Henry Hofstetter (L) and Dr G Burt Holmes

Canadians Active in 1990 IOOL Meeting

Besides attending in quite a large contingent, Canadian practitioners played an active role as seminar participants at the 1990 Congress of the International Optometric and Optical League (IOOL).

The event was held in Washington, DC, the first time ever it has been in the US capital, and attracted representatives from 24 countries.

One of the meeting's highlights was a special briefing arranged at the White House which featured a presentation by Dr Burton Lee, President George Bush's personal physician.

Dr Henry Hofstetter of the School of Optometry, Indiana University, was named International Optometrist of the Year in recognition of "a profound influence upon visual welfare through his significant contributions to and concern for modern optometric education, optometric research, the professional practice of Optometry and the international practice of Optometry".

Canadians were well represented this year on the program, as well as among the attendees. Dr George Woo of the School of Optometry, University of Waterloo, delivered the Herbert L Moss Memorial Lecture, a presentation entitled "Implications of New Technology to the Profession of Optometry". Dr Irving Baker, Registrar of the College of Optometrists of Ontario, debated Dr Theo Gumpelmayer, President of the Bundessinnung der Optiker, Austria, in a "lively and informative" session entitled "Professional Fees vs. the Selling of Material". The session was moderated by CAO's Delegate to the IOOL, Dr Roland des Groseilliers.

Two new organizations were inducted as Associate Members: the Jamaica Optometric Association, which became the League's



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51st member country and the US National Board of Examiners in Optometry, the League's 62nd Organizational member.

Of particular interest to delegates this year is the effect on the profession in Germany of the reunification proceedings underway between East and West. The German national delegate, Mr Manfred Muller, reported that the East and West German optometric associations are also expected to unite as a single professional body.

He noted that, unlike most industry, trades and professions in East Germany which had become nationalized, Optometry remained largely untouched, privately owned and independent. Of the 1,050 optometric establishments in East Germany, he said, "only a very few" are state owned or belong to the East German Carl Zeiss Company. He also noted that the state of professional education in the East is almost identical to that in the West, a factor which will further contribute to a smooth unification of the profession.

Next year, the League will meet in Cardiff Wales from 30 May to 2 June.

Ottawa in '94

Meanwhile, at the same meeting, the League announced that it has accepted an invitation from CAO and the Ottawa Visitors and Convention Bureau to hold its 1994 Annual Meeting in Canada's capital. The invitation was carried to the meeting by Canada's delegate to the IOOL, Dr Roland des Groseilliers, and supported by (then) President Dr Tom Adamack; (then) President-elect Dr Jean-Marie Rodrigue and Mr Gerard Lambert, Executive Director of CAO.



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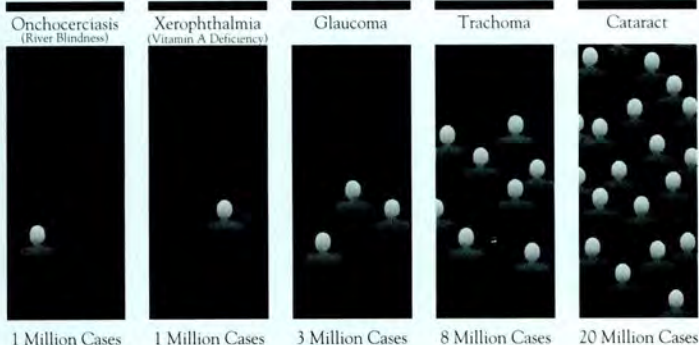
The Better Vision Institute is offering a special promotion kit that is designed to assist eyecare professionals to educate parents about the importance of annual back-to-school eye examinations.

A resource guide includes sample press releases, PSAs, advertising posters and a counter card, as well as ideas for developing office newsletters, visiting schools and conducting vision screenings.

The kit is part of the "ABCs of Eyecare" program ("ABC" standing for "Annual Back-to-School Checkups") developed by the BVI in cooperation with the American National Education Association's Health Information Network and the National Association of School Nurses.

For a free kit, write the Better Vision Institute, 1800 N Kent, Rosslyn, VA, 22209, USA. Tel (703) 243-1528.

Blindness Around The World



Lions Spearhead International Anti-Blindness Campaign

Lions Clubs International recently announced the launching of a global campaign against preventable blindness — SightFirst.

In a news release issued July 9, The international service club organization announced it will spend at least the next six years and some \$100 million to build clinics, provide public education and equipment and supplies around the world, as well as "support ophthalmic training for doctors, nurses and clinicians". SightFirst's initial programs will be in India, Latin America and Africa.

Lions calls SightFirst, developed under the guidance of an international panel of experts led by Dr Carl Kupfer, an ophthalmologist and Director of the US National Eye Institute, its "most ambitious program ever undertaken". It will be funded by local Lions Clubs worldwide and make use of "local medical experts" as technical advisers in areas where each project is mounted.

Further information:

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VISION CARE NEWS/ACTUALITÉ OCULO-VISUELLE

First World Conference on Optometric Education Receives Bausch & Lomb Donation

Bausch & Lomb's International Division recently announced it has awarded \$25,000.00 to organizers of the First World Conference on Optometric Education to help fund the event.

The conference will be held December 4 and 5 at the College of Optometry, University of Houston, TX. Organizers say that the timing is planned to enable participants to attend the conference and proceed immediately to the 1990 meetings of the American Academy of Optometry, slated for December 6-10 in Nashville, TN.

Commenting on its importance, Dr G Burt Holmes, President of the International Optometric and Optical League (IOOL) said recently, "The fact that this conference is going to be held illustrates just how far Optometry around the world has progressed in the past ten years. It represents an opportunity for all optometrists to focus on the value of education in the advancement of their profession."

Information:

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National Reading Services Aim for Fall Launch in Canada

VoicePrint, "Canada's first-ever national reading service for the blind and print-handicapped", hopes to be operating by early Fall, according to its organizers.

The National Broadcast Reading Service (NBRS) appeared before the Canadian Radio-Television and Telecommunications Commission (CRTC) on June 14 at a public hearing on its application for a network license. At the same time, the CRTC also heard an application for Magnétothèque, an existing Quebec-based reading service, for a licence to deliver its French-language service Canada-wide.

For several weeks, the NBRS has been working with more than 300 volunteer readers, recording undated newspaper and magazine articles for use on the service. Once launched, it will also include current articles as well. VoicePrint will feature material from daily papers, in-depth features, columns and editorials as well as items on sports, entertainment, food, fashion, health, business and leisure activities. About eight percent of the programming will be specially produced to cover topics related to visual and other disabilities.

Information:

Ian Sutton
National Broadcast Reading Service
PO Box 1728, Station R
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CIBA Introduces Programmed Replacement Lens

CIBA has entered the throw-away contact lens market with a new product called "FOCUStm".

Launched this summer, CIBA's line is carefully sidestepping the use of the word "disposable" and, instead, offers patients "programmed replacement lenses", which CIBAcalls "a practical alternative to conventional soft contact lenses and disposable soft contact lenses".

Under the programmed replacement concept, the lenses are dispensed in "convenient four-packs" to accommodate CIBA's recommended monthly replacement schedule.

FOCUStm lenses are made of 55% water vifilcon A and, initially, will be available with a light blue visibility tint. On the horizon is an expanded family of FOCUStm variations, including toric and cosmetic tints.

Information:

Laura Mastrangelo
Account Executive / Public Relations
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Photocentron Camera Provides Accurate Bifocal/Progressive Fitting Measurements

Eyecraft Optical of Kelowna BC has come up with a way it says will "cut down on waste and increase accuracy" when it comes to measuring patients for progressive and bifocal spectacle lenses.

The company has replaced the manual procedure of measuring with a Photocentron camera especially designed for fitting the lenses.

Developed by France's Essilor, the Photocentron uses Polaroid 552 film to produce instant pictures of the patient's eyes while wearing frames in order to record the exact centre of each eye, a process which Eyecraft says produces more precise measurements by eliminating inaccuracies due to the parallax factor of binocular vision and the differences in height between practitioner and patient.

Measuring gauges and rulers are provided with the camera that allow the practitioner to make the necessary measurements of pupillary distance, bifocal height and ocular variances, and allow for double-checking before cutting ever begins on a lens.

Eyecraft's proprietor, Michael Kalt, says his use of the Photocentron has cut his lens rejections from ten percent to one percent.

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VISION CARE NEWS



CIBA Vision Redesigns AOSEPT Cup

CIBA Vision recently announced a number of new design features on the cleaning cup that anchors the AOSEPT contact lens disinfection and neutralization system.

For one thing, they've now made it of clear plastic, to allow users actually to see the system's bubbling action. They've also attached the AODISC to the lens basket, added an enlarged, ribbed dome to make it easier to remove the lenses, and new side levers now make opening the basket easier than in the past.

Information:

CIBA Vision
Laura Mastrangelo
(215) 625-0111

New Lens Selection Guide from Sola Optical

Sola Optical has just released a new Lens Selection Guide for use with presbyopic patients to illustrate four major lens options and show patients "what the world looks like" through each lens.

Using identical side-by-side photos, the card illustrates the differences between a progressive, SmartSeg, bifocal and trifocal lens, showing what the patient will see through the distance, intermediate and near portion of each lens.

The Lens Selection Guide uses colour photographs and is printed on a 7" X 10" two-sided card.

It is available at no charge through Sola Customer Service.

Information: Janice de Ryss

Marketing Communications Manager
Sola Optical USA Inc
1500 Cader Lane, PO Box 6002
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OPTOMETRISTS

Winnipeg Clinic
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VISION CARE NEWS/ACTUALITÉ OCULO-VISUELLE

"Conversations in Eyecare" from Anadem Publishing

Anadem Publishing has announced what it is calling a "new concept" in bringing up-to-date clinical information to practising optometrists — *Conversations in Eyecare*, which are audiotaped discussions among leaders in the profession.

The series was conceived by Dr Chris Snyder, Associate Professor at the University of Alabama in Birmingham in order to allow subscribers to "listen in" on discussions carried out by experts in an informal setting. Dr Snyder, in the initial series, talks with Dr Jimmy Bartlett on ocular pharmaceuticals; Dr Larry Alexander on eye care for diabetic patients; Dr John Amos on headaches; Dr James Sheedy on VDTs and Dr Leo Semes on UV radiation. Each tape includes a printed outline as a reference.

Conversations in Eyecare is a quarterly subscription series, priced at \$68.00 (\$US) per year, which includes outlines and a storage binder. Charter subscribers receive the Semes discussion free, as a signing bonus.

Information:

Julie C Hawkins
Anadem Publishing Inc
3620 North High Street
Columbus, OH
43214, USA

Tel (614) 262-2539 or 1-800-633-0055

Coming Events

(For further information on events sponsored by the Canadian Association of Optometrists, contact the CAO office in Ottawa. For events sponsored by a provincial Association or Society of Optometrists, or for international events, contact the hosting body identified in the item.)

1990

NOVEMBER / NOVEMBRE

3 - 5

1st International Congress of Behavioural Optometry

Monte Carlo, Monaco

Information:

European Society of Optometry
PO Box 569 - Bruxelles 1
B-1000, Bruxelles
Belgium

NOVEMBER / NOVEMBRE

9 - 10

8th Annual Fundraising Seminar/draw

Vision Institute of Canada

Delta Chelsea in Toronto, Ontario

Information:

Vision Institute of Canada
301 - 815 Danforth Avenue
Toronto, Ontario
M4J 1L2
(416) 461-2268

DECEMBER / DECEMBRE

7 - 11

1990 Meeting of the American Academy of Optometry

Opryland Convention Centre,

Nashville, TN

Information:

American Academy of Optometry
Suite 1149
5530 Wisconsin Avenue NW
Washington, DC
20815, USA
(301) 652-0905

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(416) 881-6667

FRANCE

OPTOMETRIST REQUIRED

To teach at a leading optical school near Paris (250 students)

Teaching responsibilities (student level and seminars) will include clinical techniques, refraction, contact lens techniques and some technical English.

Basic French needed

Applicants required to start 1st of October 1990

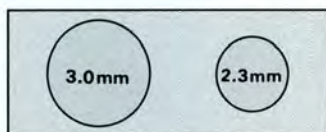
Please reply with full CV to:

Madame THIEBAUT
Institut et Centre d'Optométrie
134 route de Chartres
91440 Bures sur Yvette FRANCE

**Learning
to fit
soft bifocals
used to
take forever.**

Now it takes seventeen

This free tape is filled with up-to-the-minute advice on soft bifocal fittings. For your copy, call one of the toll-free numbers listed below.



Spectrum Bifocal comes in your choice of two near optic zone sizes for a more precise fit.

If you want a better success rate with soft bifocals, start with the right equipment.

Spectrum™ Bifocal Fitting System.

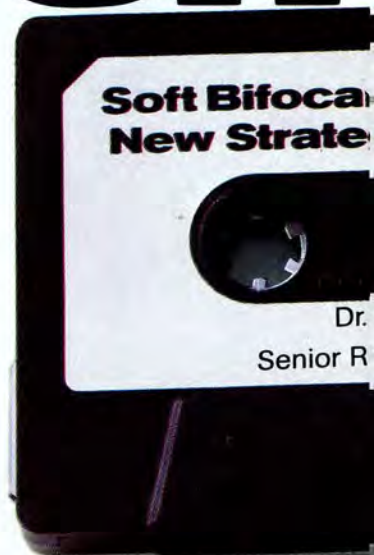
The system offers a fresh – and workable – approach to soft bifocals.

This free tape. It features a presentation by noted research optometrist Dr. Erich Bauman.

In his discussion, Dr. Bauman outlines the procedures that are resulting in successful fittings right now.

The tape is an essential aid to any practitioner.

And it's just one part of the new



Today's presbyope demands true binocular vision correction – without the need for glasses. Millions of Canadians are entering the age of presbyopia. Fitting them successfully with soft bifocals doesn't have to be difficult.

It gives you practical advice. A toll-free hotline.

And, most important, the new Spectrum Bifocal lens.

Spectrum Bifocal is designed to give you your best chance at a good fit.

It's available in two near optic zone sizes for precise fitting.

It has our exclusive thin-

kes about minutes.

Contact Lenses: gies for Success

Erich Bauman
Research Optometrist

edge design for superior com-
fort. It's cast-moulded for better
reproducibility.

And it comes with no-charge
Visitint™ for greater ease of handling.

Give us a call at
the toll-free number in
your area. You'll be
sent the tape, plus the
Spectrum Bifocal
fitting guide.

The Spectrum Bifocal Fitting System
can make your fits faster and easier.
And that can reduce chair time.

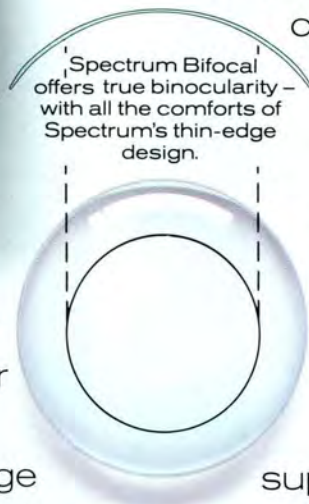
We predict they'll

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you think about
soft bifocals.

Because with
Spectrum Bi-
focal, you get
more than just
a lens.

You get the
support you need
to make it work.



The Spectrum Bifocal Fitting Guide
helps you get the best results
possible. You don't have to settle for
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1-800-361-2434

Montreal area:
(514) 631-2830

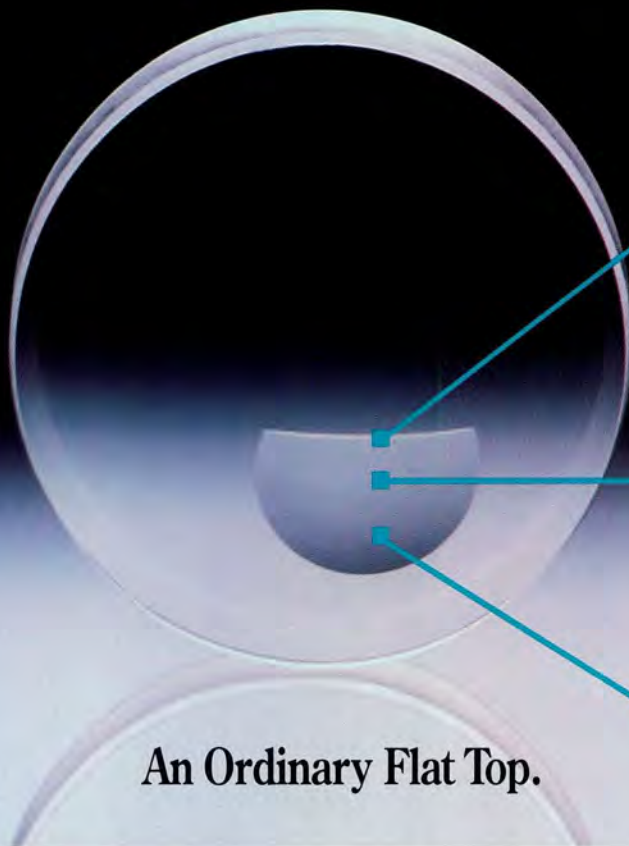
Atlantic Canada:
1-800-268-3968

**Spectrum™
Bifocal
Quick-Fit
Guide.**

CIBAVision.



The Old Standby.



Severe image jump at the ledge makes vision uncomfortable with ordinary flat tops.



Ordinary flat tops don't provide the mid-range correction required for clear vision at all distances.



Ordinary flat tops provide a spacious near zone.

An Ordinary Flat Top.

Finally, you can offer flat top patients the all-distance vision and comfort they've been missing in the past.

Because today there's a revolutionary new flat top without flat top flaws. SmartSeg[®], from Sola.

The first flat top with all distance vision.

SmartSeg looks just like an ordinary flat top. But unlike ordinary flat tops, it gives patients an essential mid-range correction in addition to the spacious near and distance area they've always had before.

The secret is an innovative segment that starts with mid-range power at the ledge,

then gradually builds to full add power halfway down.

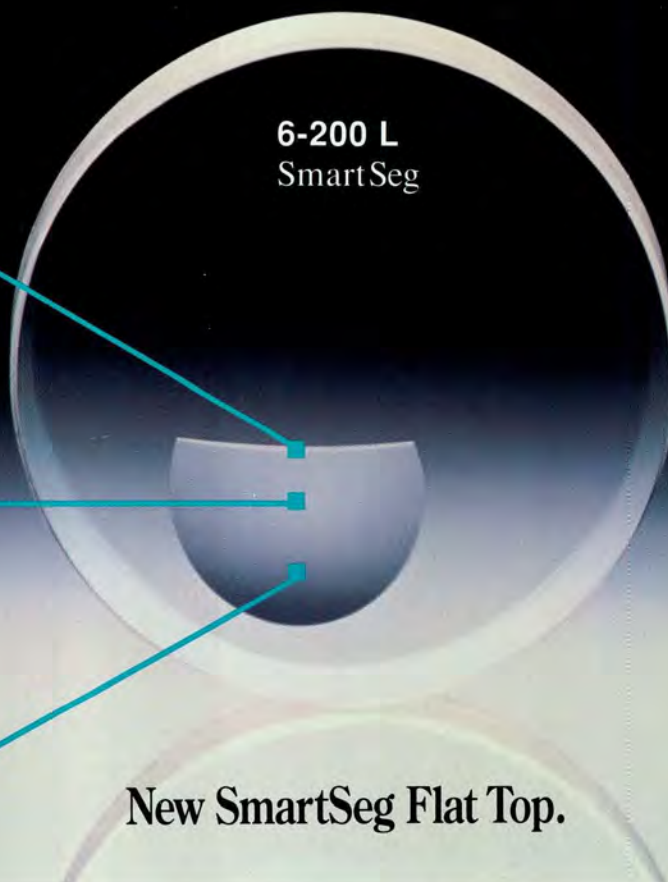
This unique design makes the whole world look more natural. Not just far away and close up — but for mid-range activities like shopping, walking and sports, too.

The world's most comfortable flat top.

But that's not all. SmartSeg also reduces the image jump that's so distressing with ordinary flat tops.

Once again, the advanced segment makes the difference. With a mid-range zone in its upper portion, there's less power and thickness at the ledge. So image jump is kept to an absolute minimum.

The New Standard.



New SmartSeg Flat Top.

It all adds up to more comfort and faster adaptation for new presbyopes. And a welcome relief for current flat top patients, as well.

In fact, SmartSeg is so easy to wear, patient satisfaction is guaranteed.

**The easiest innovation
you've ever handled.**

Best of all, SmartSeg is easy to handle. Just review a few simple fitting tips ... and you can dispense it as quickly as ordinary flat tops.

Within minutes, you'll be ready to give patients the only flat top with all-distance vision and lasting comfort. The amazing patented SmartSeg, exclusively from Sola.



SmartSeg®
The new standard in flat tops.

SOLA
The advantages are clearly visible.



Dry eye can affect anyone.



So Allergan has relief for everyone.

At Allergan, we know there are all kinds of dry eye sufferers. So we make all kinds of relief. In fact, we offer a product for every dry eye condition. So no matter what kind of dry eye you see, you know you can look to us for relief.

Tears Plus[™] (polyvinyl alcohol 1.4%, povidone 0.6%) Dual polymer action for enhanced comfort and prolonged relief.



Refresh[™] (polyvinyl alcohol 1.4%) Preservative-free for sensitive dry eyes. Available in convenient single-dose units.

Liquifilm[®] ***Tears*** (polyvinyl alcohol 1.4%) New formulation for every-day dry eye relief.

Lacri-Lube[®] (white petrolatum, mineral oil) Soothing ointment for nighttime relief.



ALLERGAN PHARMACEUTICALS

Look to us for relief.