

# The Canadian Journal of Optometry

# La Revue Canadienne d'Optométrie

VOL. 47 NO. 3

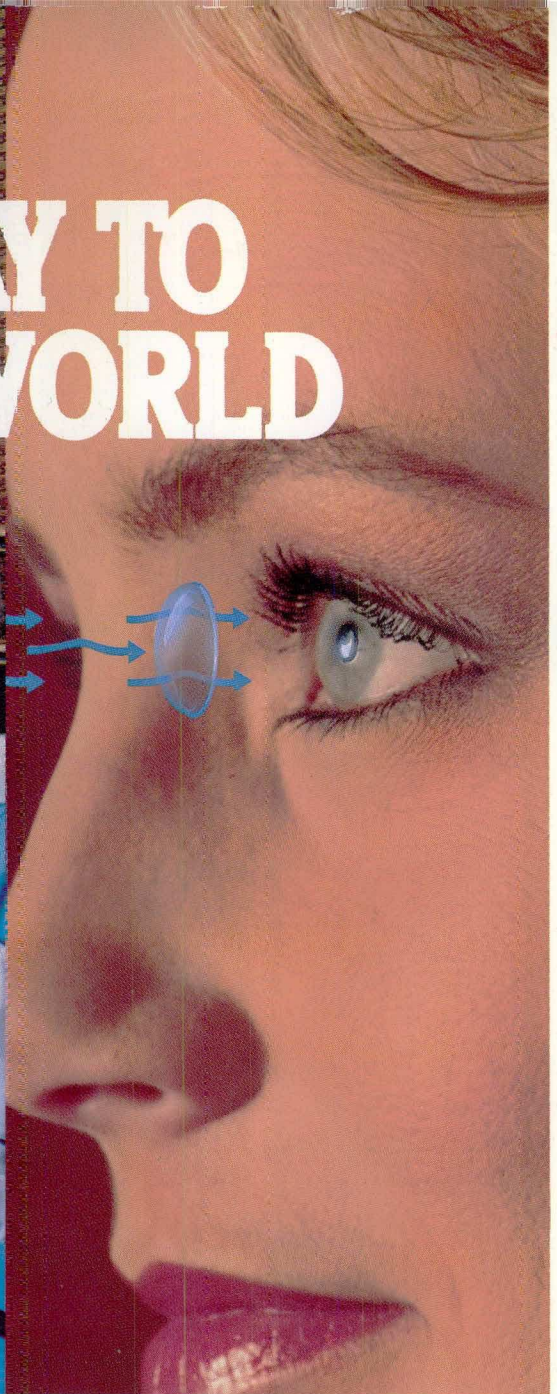
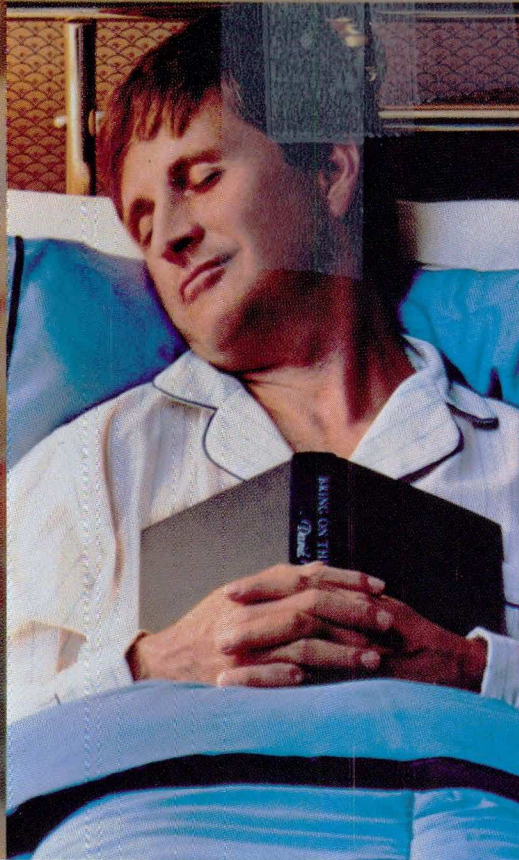
SEPTEMBER/SEPTEMBRE 1985

## IN THIS ISSUE / CI-INCLUS

1. Preventing possible transmission of AIDS from tears / Prévenir la transmission éventuelle du SIDA par les larmes
2. Complete text of CAO's Brief to the House of Commons Standing Committee on Transport Respecting Bill C-36, An Act to Amend the Aeronautics Act / Texte complet du mémoire de l'ACO présenté au Comité permanent des Transports de la Chambre des Communes concernant le projet de loi C-36, Loi modifiant la Loi sur l'aéronautique



# SYNTEX- A BETTER WAY TO LOOK AT THE WORLD



## CSI<sup>TM</sup> (crofilcon A) SOFT CONTACT LENS

- Made from GMA—a unique non-HEMA Polymer
- High-modulus material for less lens distortion and improved visual acuity
- Finer pore size results in significant resistance to deposits
- Thinner overall design provides increased oxygen transmission and greater comfort

## CSI<sup>TM</sup> (crofilcon A) SOFT CONTACT LENS FOR NON-APHAKE EXTENDED WEAR

- Made from GMA Polymer (centre thickness – .035 mm)
- Deposit resistance results in longer lens life compared to other extended-wear lenses
- Improved handling compared to HEMA lenses
- More durable than HEMA lenses for intermittent extended wear
- Choice of heat or chemical disinfection

## POLYCON II<sup>®</sup> (silafacon A) GAS PERMEABLE LENS

- Inventory and custom lens availability
- Overall thin design with a thin edge
- Material and design result in greater flexibility and stability
- Provides superior oxygen transmission and wettability

Call us for free information or to arrange an appointment.



Syntex, Inc., Ophthalmics Division, 3397 American Drive, Suite #3, Mississauga, Ontario L4V 1T8 Tel: (416) 673-1505  
Toll Free: Ontario & Quebec: 1-800-387-4881 Rest of Canada: 1-800-387-4891  
In the U.S.: Syntex Ophthalmics, Inc., 1100 E. Bell Road, Phoenix, Arizona 85022



# Digilab 750 Automated Perimeter with IBM Personal Computer

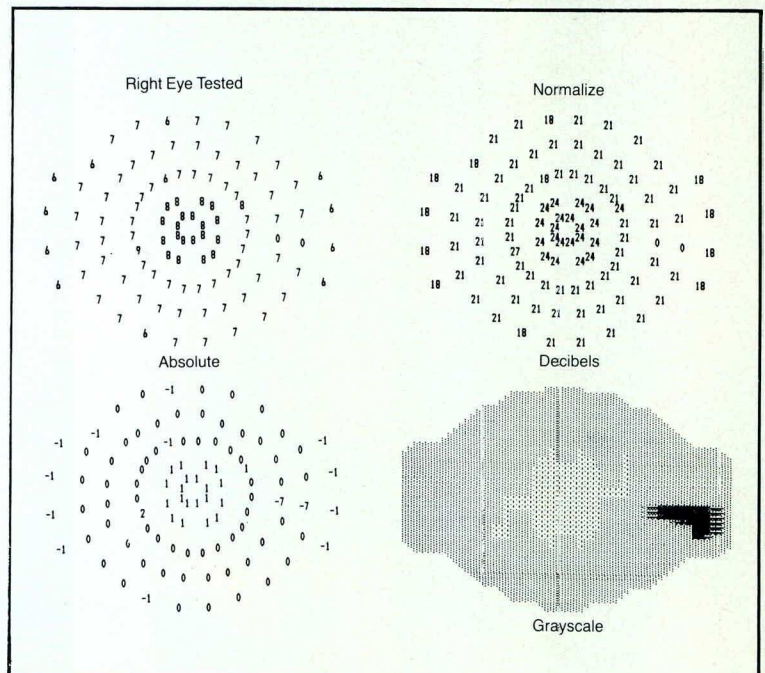
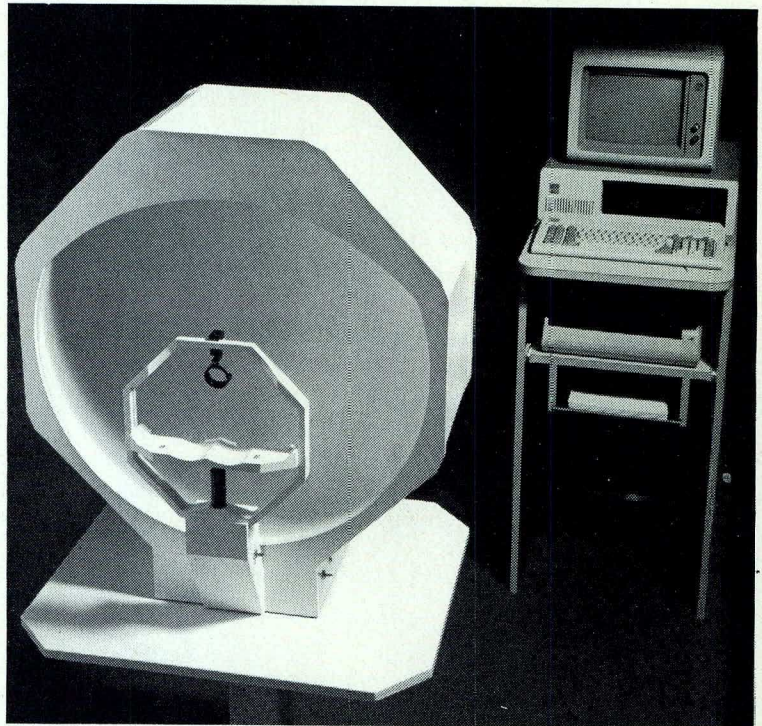
## Heijl-Krakau Based Testing Strategies and Output

### Optimum Speed, Accuracy and Diagnostic Capability

- Thresholds more than 40% faster than automated projection perimeters
  - More than a dozen standard screening and threshold test patterns
  - User-created thresholding patterns
  - Blindspot, macula, hemianopsia, and meridian programs
  - Flexible screening strategies
    - Adaptive contoured suprathreshold
    - Three zone suprathreshold
    - Suprathreshold
  - Adaptive contoured suprathreshold screening
    - Adapts to each subject's hill of vision
    - Missed points are thresholded automatically
    - Output is quantitative
  - Heijl-Krakau spread logic estimates starting threshold values accurately
    - Few trials required to determine threshold level
    - Multiple threshold crossings at each test point
    - Maximizes test accuracy, minimizes time
  - Numerous output options
    - Heijl-Krakau comparative
    - Decibels
    - Grey Scale
    - Four-in-one
  - Heijl-Krakau fixation monitor
    - Monitors patient responses to blind spot stimuli
    - Results displayed continuously
    - No operator involvement
    - Non-distracting
  - Automatic storage and retrieval of fields
    - Comparison programs enable accurate analysis of fields over time
- Previous thresholds can be utilized as starting values to speed testing

### Innovation, Performance, Value

Digilab was first to combine the benefits of projection and L•E•D perimetry in a unique rear projection L•E•D system. And first to incorporate the advanced testing methodology of Heijl and Krakau which has become the standard of automated perimetry. Now, the Digilab 750 adds another first—the powerful IBM Personal Computer—and a complete library of diagnostic/patient management software to meet virtually every practice need.



IMPERIAL  
OPTICAL  
CANADA

21 Dundas Square  
Toronto, Ontario M5B 1B7

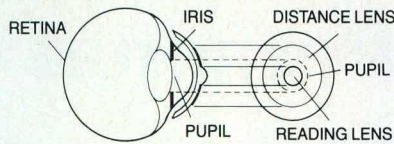


## THE BIFOCAL CONTACT LENS THAT WORKS.

Introducing ALGES™, the new soft bifocal contact lens from University Optical Products, Co. It's the ideal solution for your presbyopic patients. With qualified patients, successful fitting rates of 70% and better have been achieved.

The ALGES™ Soft Contact Lens is based on a unique approach to the bifocal function, which represents an unprecedented advancement in design and manufacture. The near vision add is placed in the center of the lens and covers 50% of the pupil area at reading

light levels. Concentric around the reading lens is the distance lens.



## SUCCESS IS REPRODUCIBLE!

To assure that you have the exact prescription necessary,

BASE CURVES	8.6 and 8.9mm
DISTANCE POWERS	- 4.00 to + 4.00 in 0.25D steps + 4.00 to + 6.00 in 0.50D steps - 4.00 to - 6.00 in 0.50D steps
NEAR ADD POWERS	2.00, 2.50, 3.00, 3.50
ADD DIAMETERS	2.12 and 2.35mm

Standard lens diameter is 14.0mm. Lenses outside this range are available on a custom basis.

there are 656 different combinations of inventoried lens parameters available. Any lens can be replaced at anytime.

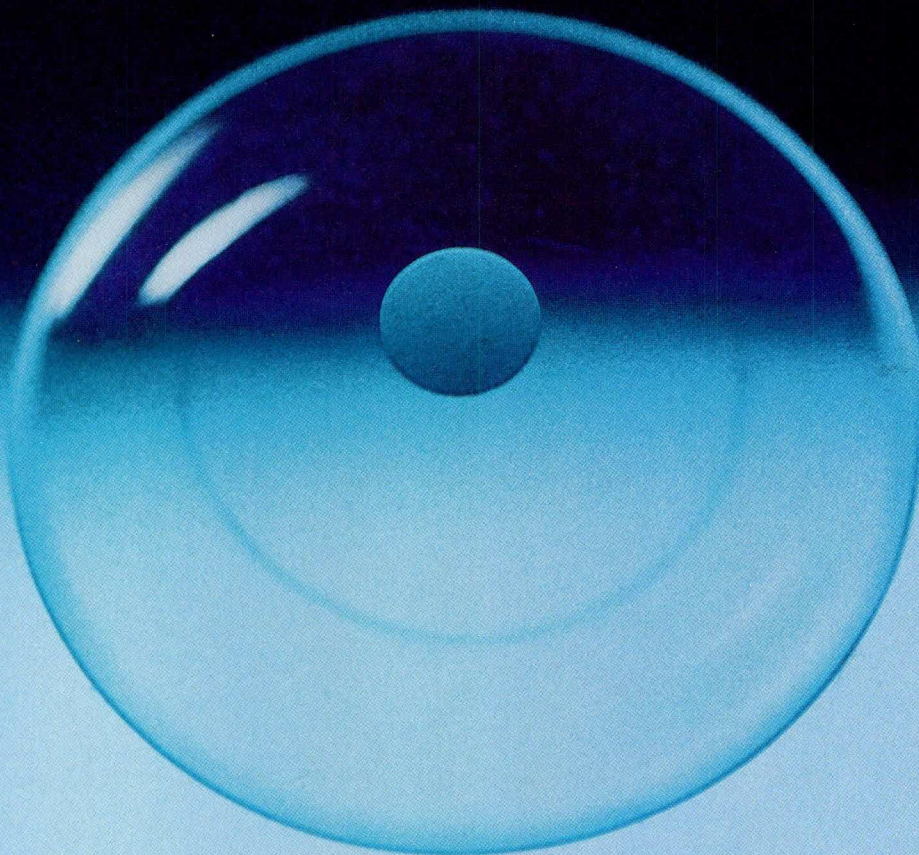
The new ALGES™ lens is tested, proven and available now. Ask your sales representative for a demonstration.

## EXCLUSIVELY DISTRIBUTED IN CANADA BY PCL


TORONTO	862-8585	800-268-8548
DARTMOUTH	463-5800	800-565-7183
MONTREAL	878-9887	800-361-8443
WINNIPEG	947-0621	800-665-8603
SASKATOON	653-3711	800-667-8718
CALGARY	259-3878	800-352-8211
BURNABY	437-5568	800-663-9206
EDMONTON	423-2854	800-272-8867

© 1985 University Optical Products Co.  
Largo, Florida USA

# THE SUCCESS LENS



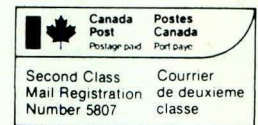
## ALGES™ BIFOCAL CONTACT LENSES

Exclusively Distributed by 





# CONTENTS



Return Postage Guaranteed

## Canadian Association of Optometrists Association Canadienne des Optométristes

### President

Dr. Bruce Rosner

### President-Elect

Dr. Scott Brisbin (Alberta)

### Secretary Treasurer

Dr. Tom Adamack (British Columbia)

### Past-President

Dr. Ralph Rosere

### Council

Dr. Jim Krueger (Saskatchewan)

Dr. Keith Letts (Manitoba)

Dr. Margaret Hansen des Groseilliers (Ontario)

Dr. Jean-Marie Rodrigue (Quebec)

Dr. Les Clements (New Brunswick)

Dr. Ron Haines (Nova Scotia)

Dr. David McKenna (Prince Edward Island)

Dr. Jim Patriquin (Newfoundland)

### Executive Director

Mr. Gérard Lambert

### Director of Communications

Mr. Michael DiCola

## Canadian Journal of Optometry

### Editor in Chief

Dr. G.M. Belanger

### Managing Editor

Dr. Roland des Groseilliers

### Business Manager

Mr. Michael J. DiCola

The CJO is a quarterly publication with offices in Ottawa at the Canadian Association of Optometrists, Ste. 207-77 Metcalfe St., Ottawa, Ontario K1P 5L6. Telephone (613) 238-2006.

Layout, Design,  
Typesetting and Printing:  
Love Printing Service Ltd.

### COVER

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

## Special Features

- AIDS — Precautions for Ophthalmic Practice  
*B. Levy* 100
- Recommendations for Preventing Possible Transmission  
of AIDS from Tears 103
- SIDA — Précautions Recommandées pour les  
Soins Ophtalmiques  
*B. Levy* 105
- Recommandations Visant à Prévenir la Transmission  
Eventuelle du SIDA par les Larmes
- Brief to the House of Commons Standing Committee  
on Transport/Memoire présenté au Comité  
Permanent des Transports de la Chambre des Communes Insert  
Carton

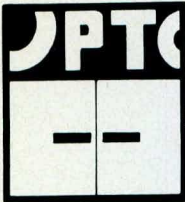
## Articles

- Evaluation of Running Water Rinsing of  
Soft Contact Lenses  
*K. Shih, J. Hu, M.J. Sibley* 110
- The MTT: A More Comprehensive Vision Screening Test for  
British Columbia Schools  
*J. Reynolds* 116
- Visual Screening Programs in British Columbia Schools:  
Recent Changes 119  
*C. Pennock, J. Shapiro*
- Photographies Cliniques: Compensation de L'hétérochromie  
Clinical Photo: Heterochromia Compensation 136  
*J. Gresset*
- Age-related Norms for Peripheral Visual Field 140  
*T.D. Williams*

## Features

- Photo Contest and Exhibit Hall Prize Draw Winners —  
CAO 19th Biennial Congress 113
- Gleanings from the 19th Biennial Congress 126
- Book Review 134
- CAO 1985 President's Award 138
- Vision Care News 142





## AIDS — Precautions for Ophthalmic Practice

B. Levy\*

Since 1981 a new and much publicized infection (AIDS) has come to the attention of the health care community and the public. The reason for the tremendous publicity generated by the disease is the devastating outcome once diagnosis has been made, and the rapid rate at which it appears to be spreading.

### History

In 1981, physicians in Los Angeles, San Francisco and New York City noticed an increase in the number of cases of young men suffering from extremely rare opportunistic infections. Accompanying these infections was an apparent breakdown in the immune system of the victims. Due to the unusual circumstances and the increase in cases, reports were made to the Center for Disease Control in Atlanta. Further investigation revealed that most of the patients were young homosexual males with multiple sexual partners. As more cases were diagnosed, four main risk groups emerged, homosexual men, intravenous drug users, hemophiliacs and people of Haitian origin. Since that time, as more information has been forthcoming, people of Haitian origin are no longer regarded as a high risk group.

The major clinical finding in those afflicted was the breakdown of the immune system, predisposing the person to severe infection and unusual malignant neoplasms. Consequently, the term "acquired immune deficiency syndrome" (AIDS) was given to the disease.

In 1983 a virus called Human T-Cell Lymphotropic (Leukemia) Virus type III (HTLV III) was isolated simultaneously in France and the U.S.A. from victims of the disease.<sup>1</sup> Since that time victims of AIDS have been diagnosed who did not fit into the major risk categories, for example, heterosexual and pediatric cases. It has also been shown that some people are carriers but do not develop the disease and that an incubation period of up to three years

may occur before the disease manifests as a disease process.<sup>2</sup>

After diagnosis, over 85% of the patients have died within three years, despite the use of antiviral and other therapies. Now that the virus has been identified, it is possible to test individuals with AIDS and to learn more about its mode of transmission. The virus has been isolated from the seminal fluid, blood, saliva and, very recently, from the tears of AIDS victims.<sup>3</sup> Two main factors influence the rapid spread of the disease in some groups. In homosexuals, anal intercourse leads to hemorrhaging of the mucus membranes and easy access for viral entry into the bloodstream from the seminal fluid. People may be infected after receiving blood from carriers of AIDS (hence the higher incidence in hemophiliacs). Recently, however, a test has been developed for screening blood for HTLV III antibodies and this should reduce (but not eliminate) the risk of contaminated blood.<sup>4,5</sup> It has become clear that heterosexual transmission is possible if one of the partners is a carrier. Some cases of AIDS have been diagnosed in infants born to mothers who have the disease or are carriers. Many of these mothers are drug-abusers and a few are married to infected men.

A major clinical finding in AIDS is the collapse of the body's defense mechanism against invaders.<sup>6</sup> When an antigen, such as a virus, enters the body, it stimulates the release of free antibody into the blood and other fluids. It also stimulates cell bound antibodies, which are sensitized lymphocytes. There is a division of labour in the immune system that is based on the production of two populations of cells, the B and T cells. All lymphocytes have their origins in the stem cells of the bone marrow. Some then pass to bursa equivalent, from where they migrate to the peripheral sites of lymphoid activity, becoming B cells. Antigen stimulates the B cells to proliferate and many transform into pre-plasma cells. These have the appearance of small lymphocytes but possess the endoplasmic reticulum and ribosomes associated with antibody production. Pre-plasma cells become plasma cells and these newly educated cells then flow to the efferent

\*OD, MSc, FAAO  
Head of Cornea and Contact Lens Research  
Optometric Institute of Toronto



# Bausch & Lomb Canada Inc.

## OPTIMA™ 38

### Contact Lenses

## There Are Two Sides To The Story

#### The Anterior Side

- Spincasting creates an exceptionally comfortable lens. And spincast reproducibility means that each lens performs just as you expect it to.

#### The Posterior Side

- The posterior surface is lathed. This contributes to easy patient handling and crisp, stable visual acuity.

Now, for the first time, the benefits of spincasting and lathing are combined in one unique lens.

#### Put Technological Innovation On Your Side

Prescribe OPTIMA 38 when you want a unique lens for your patients.

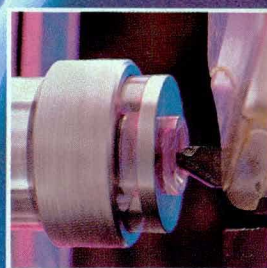
- The proven stability of its poly-HEMA material provides consistent lens performance.
- One diameter and two sagittal depths make the OPTIMA 38 lens easy to inventory and easy to fit.
- The posterior surface is lathed with two different sagittal depths, so you can optimize lens movement, patient comfort and visual acuity.



- Offered for daily wear use in sphere powers from -0.25D to -6.00D.
- Light blue visibility tint for easier handling—will not change eye colour.



As the spinning mold shapes the front surface of the lens, the liquid monomer is polymerized to form a mirror-smooth surface.



Precise, computer-controlled lathes cut the posterior curve into the back of the lens.

OPTIMA™ 38 is from the leader in contact lens technology, Bausch & Lomb

Diameter: 14.0 mm  
Optical Zone: 8.00 minimum

Center Thickness: 0.06 mm throughout the power range  
Bevel Width: 1.44 mm



lymphatics and the bloodstream via the thoracic duct and subclavian vein. When these cells arrive at the site, they are able to synthesize 2000 antibody molecules per second and will live from a few days to several weeks. Approximately 10% of lymphocytes in the normal peripheral blood are B cells.

Another group of the lymphocytes travel to the thymus and become T cells. Their function is to mediate cellular immunity. On leaving the thymus, where they are "educated", the T cells are immunologically competent and able to react to antigen. After re-entering the bloodstream the cells settle in the paracortical zones of peripheral lymph nodes, the periarteriolar areas of the spleen and the interfollicular zones of submucosal lymphoid aggregates such as the tonsils and intestinal Peyer patches. T cells seem to circulate continuously from the blood, through the tissues, back to the lymphatics, to the thoracic duct, and back to the bloodstream. Approximately 70% of the human blood lymphocytes are T cells. Functional assays have shown that T cells are stimulated by antigen to release low molecular weight proteins called lymphokines. These lymphokines have various functions the descriptions of which are beyond the scope of this paper. T cells not only have the function of producing inflammatory molecules and attacking the invading cells, they also have another function related to the B cells. A separate set of T cells function as helper cells to promote B cell function and others as suppressor cells to control the manufacture of antibodies by B cells.

AIDS victims characteristically show a diminished peripheral lymphocyte response to antigens and mitogens. Patients generally have a decreased total T cell number, and virtual elimination of the T cell helper populations.<sup>6</sup>

### Problems in Ophthalmic Practice

Now that the HTLV virus has been identified in the tears, the problems which may be encountered in ophthalmic practice are two-fold: theoretically, the practitioner may be at risk from contact with the ocular fluids and patients may be at risk from the use of applanation tonometers and trial contact lenses.

As yet, there is little evidence of infection of health personnel dealing with AIDS victims.<sup>7</sup> Clinical tests have been carried out on many health care workers for antibodies reactive with HTLV III, and to date no evidence exists to demonstrate a significant risk. Where the HTLV III virus and the antibodies have been found, there has usually been some other confounding factor involved. (eg. the person was also in one of the high risk groups). In the *Journal of the American Medical Association*, January 11, 1985, Weiss and co-workers reported on testing for HTLV III antibodies in 188 laboratory and health care employees working with AIDS victims of their

specimens. None showed any reactivity, while those with AIDS showed 82% positive and 16% borderline findings.

Thus, it appears that the risk to the practitioner is small but not absent. Precautions should therefore be taken regarding people in the high risk categories. These should include initial questioning during the case history regarding the possibility of infection, the avoidance of ocular fluids, especially if there are open sores and the copious use of disinfectant type soaps after patient handling.

This brings up the question of disinfection. It appears that the virus is sensitive to heat, isopropyl alcohol, ethyl alcohol and hydrogen peroxide 3% in vitro.<sup>8</sup> No laboratory had any knowledge of the effectiveness of thimerosal, chlorhexidine, or benzalkonium chloride in killing the virus. This is extremely important in light of the extensive use made of trial lenses and applanation type tonometers in ophthalmic practice. Both of these diagnostic procedures can lead to epithelial abrasions through which infection possibly could occur. Systemic infection via the cornea with other viruses (eg. hepatitis B and rabies) have been reported.

We must emphasize the importance of disinfecting tonometers and contact lenses after each use. Tonometers can easily be disinfected using either isopropyl alcohol or ethyl alcohol. Contact lenses, however, are more of a problem. Hydrophilic lenses, for example, are known to absorb fluids and become contaminated quite readily on insertion. So although disinfection has been a major part of contact lens care since its inception,<sup>9</sup> only certain methods of disinfection have proved to be safe and compatible with both the lenses and the eye.

As previously mentioned, the HTLV III virus is sensitive to heat and needs to be heated to 55° for 30 minutes or to 60° for 10 minutes in order to be destroyed. These temperatures are readily attained in most contact lens heat disinfection units and in the office aseptic designed for lens disinfection. It would thus seem prudent for all practitioners using trial contact lenses to heat disinfect the lenses after every use as chemical disinfection has not been proven with the currently available systems, for HTLV III. Similarly, patients considering contact lenses would be well advised to ask the practitioner, before allowing a lens to be placed on the eye, if heat disinfection is used in the office.

However, some hydrophilic contact lenses and rigid gas permeable lenses cannot be heat treated. In this instance, further research is required to determine effective disinfection techniques, although at this stage certain guidelines should be followed.

In the opinion of the author, gas permeable rigid lenses and high water content lenses should be disinfected in the office by the use of isopropyl



alcohol and hydrogen peroxide (H2O2). There is currently available a contact lens cleaning solution which contains 20% mg./ml. isopropyl alcohol.<sup>10</sup> Several (H2O2) systems are on the Canadian market for use with gas permeable rigid and hydrophilic lenses. H2O2 is an effective cell killing agent due to its strong oxidative potential. Free radical species (eg. hydroxyl ion) are generated under certain conditions and it is the hydroxyl radical that destroys the target cell. The hydroxyl radical will react with any group of phospholipids, proteins, or carbohydrates which will then undergo oxidative degradation. Three percent H2O2 has been shown to be effective against a wide variety of microorganisms, including the herpes simplex virus. (HSV-1)

It appears that using a combination of an isopropyl alcohol cleaner and H2O2 (3%) for 2 hours would result in the destruction of the HTLV III virus. However, this is still to be proven. An ethylene oxide sterilizing system should also be effective but the residue has a vesicant action and would be difficult to move from contact lenses.

In conclusion, it appears that there is a remote possibility of infection with HTLV III via the tears of affected individuals in the use of tonometers and contact lenses.

Practitioners should be aware of the risks involved and take appropriate measures to eliminate them as far as possible. It is the responsibility of the doctor to ensure effective disinfection of the devices used in practice. The patient should question, and be assured, to his/her satisfaction.

Apparently it is the practice of some dispensers of contact lenses to accept the return of such lenses if the patient is not satisfied. Returned lenses may later be applied to the eyes of other patients. Patients should be warned of the attendant dangers inherent in such practices, especially if effective disinfection procedures are not in use.

Although the risk of AIDS infection through the use of contact lenses has not been demonstrated, it would benefit us all to keep it that way by taking the appropriate precautions.

## References

1. Barre Sinoussi F. et al. Isolation of a T-Lymphotropic retrovirus from a patient at risk for acquired immune deficiency syndrome (AIDS) *Science* 1983, 220; 868-71.
2. Lee. TH. et al. Acquired Immune Deficiency Syndrome. *Proc. Nat Acad Sci (USA)* 1984, 81; 75-79.
3. Fujikawa LS, Salahuddin SZ, Palestine AG, et al. Isolation of human T-cell leukemia/lymphotropic virus type III (HTLV-III) from the tears of a patient with acquired immune deficiency syndrome (AIDS). *Lancet* (in press).

**Mitogen:** Substance or agent capable of inducing mitotic activity in an otherwise dormant cell.

**Antigen:** Substance or agent capable of inducing antibody formation and of reacting specifically with antibodies produced.

4. Barin F. et al. Virus envelope protein of HTLV III represents major target antigen for antibodies in AIDS patients. *Science* 1985, 228; 1094-6.
5. Allan JS. Major glycoprotein antigens that induce antibodies in AIDS patients are encoded by HTLV III. *Science* 1985, 228; 1091-3.
6. Siegel RL, Fox RW. A longitudinal study of a patient with acquired immune deficiency syndrome using T-cell subset analysis. *Adv Exp Med Biol* 1983 166; 295-303.
7. Hirsch MS, Warmser GP, Schooly RT. Risk of nosocomial infection with the human T-cell lymphotropic virus III. (HTLV III) *N Engl J Med* 1985, 312; 1-4.
8. Martin LS, McDougal JS, Loskoski SL. Disinfection and inactivations of the human T lymphotropic virus type III/lymphadenopathy associated virus. *J Infect Dis.* 1985, 152; 400-3.
9. Allansmith M. *The Eye and Immunology* 1982 C.V. Mosby St. Louis Missouri.
10. Miraflo — Personal communication J. Krezonowski and corporate data. Coopervision, Mountainview, California.

## Recommendations for Preventing Possible Transmission of AIDS from Tears

**Dr. A. J. Clayton, MB, ChB, DPH, MFCM, FRCP(C), Director General of Health and Welfare Canada Laboratory Center for Disease Control/Ottawa, has transmitted to the Canadian Association of Optometrists' National Office on August 30th, 1985 at 2:15 p.m., the following enclosed recommendations telexed earlier by the U.S. Center for Disease Control (CDC) in Atlanta.**

**Dr. Bruce Rosner, President of the Canadian Association of Optometrists, requested immediate circulation of this information to every optometrist in Canada because of its importance to optometrists and their patients.**

*Recommendations for Preventing Possible Transmission of Human T-Lymphotropic Virus Type III/Lymphadenopathy-Associated Virus from Tears.*

Human T-lymphotropic virus type III/lymphadenopathy-associated virus (HTLV-III/LAV), the etiologic agent of acquired immunodeficiency syndrome (AIDS), has been found in various body fluids, including blood, semen and saliva. Recently, scientists at the National Institutes of Health isolated the virus from the tears of an AIDS patient (1). The patient, a 33-year-old woman with a history of Pneumocystis carinii pneumonia and disseminated mycobacterium avium-intracellulare infection, had no ocular complaints, and her eye examination was normal. Of the tear samples obtained from six other patients with AIDS or related conditions, three showed equivocal culture results, and three were culture-negative.

The following precautions are judged suitable to prevent spread of HTLV-III/LAV and other microbial pathogens that might be present in tears. They do not apply to the procedures used by individuals in



caring for their own lenses, since the concern is the possible virus transmission between individuals.

1. Health-care professionals performing eye examinations or other procedures involving contact with tears should wash their hands immediately after a procedure and between patients. Hand-washing alone should be sufficient, but when practical and convenient, disposable gloves may be worn. The use of gloves is advisable when there are cuts, scratches, or dermatologic lesions on the hands. Use of other protective measures, such as masks, goggles, or gowns, is not indicated.
2. Instruments that come into direct contact with external surfaces of the eye should be wiped clean and then disinfected by: (a) a 5- to 10-minute exposure to a fresh solution of 3% hydrogen peroxide; or (b) a fresh solution containing 5,000 parts per million (mg/L) free available chlorine — a 1/10 dilution of common household bleach (sodium hypochlorite); or (c) 70% ethanol; or (d) 70% isopropanol. The device should be thoroughly rinsed in tap water and dried before reuse.
3. Contact lenses used in trial fittings should be disinfected between each fitting by one of the following regimens:
  - a) Disinfection of trial hard lenses with a commercially available hydrogen peroxide contact lens disinfecting system currently approved for soft contact lenses. (Other hydrogen peroxide preparations may contain preservatives that could discolor the lenses.) Alternatively, most trial hard lenses can be treated with the standard heat disinfection regimen used for soft lenses (78-80 C (172-176F) for 10 minutes). Practitioners should check with hard lens suppliers to ascertain which lenses can be safely heat-treated.
  - b) Rigid gas permeable (RGP) trial fitting lenses can be disinfected using the above hydrogen peroxide disinfection system. RGP lenses may warp if they are heat-disinfected.
  - c) Soft trial fitting lenses can be disinfected using the same hydrogen peroxide system. Some soft lenses have also been approved for heat disinfection. Other than hydrogen peroxide, the chemical disinfectants used in standard contact lens solutions have not yet been tested for their activity against HTLV-III/LAV. Until other disinfectants are shown to be suitable for

disinfecting HTLV-III/LAV, contact lenses used in the eyes of patients suspected or known to be infected with HTLV-III/LAV are most safely handled by hydrogen peroxide disinfection.

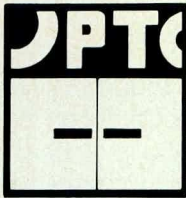
The above recommendations are based on data from studies conducted at the National Institutes of Health and CDC on disinfection/inactivation of HTLV-III/LAV virus (2-4). Additional information regarding general hospital and laboratory precautions have been previously published (5-9). Reported by the U.S. Food and Drug Administration; National Institutes of Health; Centers for Disease Control.

**Editorial Note:** All secretions and excretions of an infected person may contain lymphocytes, host cells for HTLV-III/LAV; therefore, thorough study of these fluids might be expected to sometimes yield this virus. Despite positive cultures from a variety of body fluids of infected persons, however, spread from infected persons to household contacts who have no other identifiable risks for infection has not been documented. Furthermore, there is no evidence to date that HTLV-III/LAV has been transmitted through contact with the tears of infected individuals or through medical instruments used to examine AIDS patients.

## References

1. Fujikawa LS, Salahuddin SZ, Palestine AG, et al. Isolation of human T-cell leukemia/lymphotropic virus type III (HTLV-III) from the tears of a patient with acquired immunodeficiency syndrome (AIDS). *Lancet* (in press).
2. Resnick L, Veren K, Salahuddin SZ, Markham PD. Personal communication.
3. Martin LS, McDougal JS, Loskoski SL. Disinfection and inactivation of the human T lymphotropic virus type III/lymphadenopathy-associated virus. *J Infect Dis* 1985; 152:400-3.
4. Spire B, Barre-Sinoussi F, Montagnier L, Chermann JC. Inactivation of a new retrovirus (lymphadenopathy-associated virus) by various agents (chemical disinfectants). *Lancet* 1984;8408; 899-901.
5. CDC. Acquired immune deficiency syndrome (AIDS): Precautions for clinical and laboratory staffs. *MMWR* 1982; 31: 577-80.
6. CDC. Prevention of acquired immune deficiency syndrome (AIDS): report of inter-agency recommendations. *MMWR* 1983; 32: 101-4.
7. CDC. Acquired immunodeficiency syndrome (AIDS): precautions for health-care workers and allied professionals. *MMWR* 1983; 32: 450-1.
8. CDC. Update: prospective evaluation of health-care workers exposed via parenteral or mucous-membrane route to blood or body fluids from patients with acquired immunodeficiency syndrome. *MMWR* 1985; 34: 101-3.
9. CDC. Hepatitis B Vaccine: evidence confirming lack of AIDS transmission. *MMWR* 1984; 33: 685-7.





# SIDA — Précautions Recommandées pour les Soins Ophthalmiques

B. Levy\*

Depuis 1981, la publicité faite autour d'une maladie nouvelle, le SIDA, a éveillé l'attention du monde médical et du public. L'énorme battage publicitaire s'explique par les terribles conséquences de la maladie, une fois qu'elle est diagnostiquée, et par sa rapidité de propagation.

### Historique

En 1981, des médecins de Los Angeles, de San Francisco et de New York ont observé un accroissement des cas de jeunes hommes atteints d'infections opportunistes extrêmement rares. Ces infections s'accompagnaient, selon toute apparence, d'un effondrement du système immunitaire des victimes. Étant donné les particularités inhabituelles de la maladie et le nombre croissant de victimes, le Centre de contrôle des maladies d'Atlanta a été alerté. En poussant les recherches, on a pu constater que la grande majorité des malades étaient de jeunes homosexuels mâles ayant plusieurs partenaires sexuels. D'autres cas ayant été diagnostiqués, quatre groupes à risques ont pu être isolés, soit les homosexuels mâles, les drogués utilisant des seringues, les hémophiles, et les individus d'origine haïtienne. La recherche sur la maladie ayant depuis progressé, les Haïtiens ne sont plus considérés comme un groupe à risques élevés.

L'observation clinique principale, dans la majorité des cas, était l'effondrement du système immunitaire, qui prédispose la victime à de graves infections et à des néoplasmes malins rares. C'est pourquoi on a baptisé la maladie syndrome immuno-déficitaire acquis.

En 1983, le virus appelé HTLV III (Human T-Cell Lymphotropic (Leukemia) Virus type III) a été isolé simultanément en France et aux États-Unis chez les victimes de la maladie.<sup>1</sup> Depuis, le SIDA a été diagnostiqué chez des victimes n'appartenant pas aux principaux groupes à risques, par exemple chez des hétérosexuels et des enfants. On a aussi

constaté que certains individus sont porteurs du virus mais ne développent pas la maladie, et qu'une période d'incubation pouvant aller jusqu'à trois ans précède parfois l'apparition du syndrome.<sup>2</sup>

À ce jour, 85% des victimes déclarées n'ont pas survécu plus de trois ans à la maladie, malgré les thérapies antivirales et autres. Maintenant que le virus est isolé, on peut effectuer des tests auprès des personnes atteintes du SIDA afin d'en savoir plus long sur le mode de transmission de la maladie. Le virus a été isolé dans le sperme, le sang, la salive et, tout récemment, les larmes des victimes du SIDA.<sup>3</sup> Chez certains groupes, deux facteurs influencent la propagation rapide de la maladie. Chez les homosexuels, les relations sexuelles anales provoquent une hémorragie au niveau des muqueuses, ce qui facilite l'accès du virus dans le sang par l'intermédiaire du sperme. La contamination se produit également par transfusion sanguine, lorsque donneur est porteur du SIDA (c'est pourquoi la maladie frappe un nombre particulièrement élevé d'hémophiles). Récemment, toutefois, un test servant à déceler la présence d'anticorps antivirus du HTLV III dans le sang a été mis au point, et devrait permettre de réduire, mais non d'éliminer, le risque de contamination par transfusion sanguine.<sup>4,5</sup> Par ailleurs, il est désormais évident que le virus peut se transmettre entre hétérosexuels lorsque l'un des partenaires est porteur. Certains cas de SIDA ont également été diagnostiqués chez des enfants nés d'une mère atteinte de la maladie ou porteuse du virus. Plusieurs de ces mères font un usage abusif de drogues; un petit nombre sont mariées à des hommes infectés par la maladie.

Une découverte clinique importante sur le SIDA révèle que la maladie entraîne la défaillance du mécanisme de défense naturel du corps.<sup>6</sup> Lorsqu'un antigène, comme un virus, attaque l'organisme, des anticorps libres sont libérés dans le sang et les autres liquides du corps. L'antigène déclenche également la formation d'anticorps cellulaires, les lymphocytes activés. Le système immunitaire est constitué de deux types de lymphocytes assurant chacun de fonctions déterminées: les lymphocytes

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

Directeur des recherches sur la cornée et les verres de contact  
Optometric Institute of Toronto



B et les lymphocytes T. Tous les lymphocytes proviennent de cellules souches localisées dans la moelle osseuse. Parmi ces cellules souches, certaines s'engagent dans l'équivalent chez les mammifères de la bourse de Fabricius, et finissent de se développer dans les organes lymphoïdes périphériques, pour devenir des lymphocytes B. Les antigènes activent la prolifération des cellules B, qui se transforment par la suite en cellules pré-plasmiques. Ces cellules ont l'apparence de petits lymphocytes mais contiennent le réticulum endoplasmique et les ribosomes associés à la production d'anticorps. Les cellules pré-plasmiques parviennent à maturité puis migrent vers les organes lymphoïdes afférents et le sang, en passant par le canal thoracique et la veine sous-clavière. À ce stade, elles sont en mesure de synthétiser 2000 molécules d'anticorps à la seconde et ont une durée de vie allant de quelques jours à plusieurs semaines. Environ 10 % des lymphocytes qui sont dans le sang périphérique normal sont des cellules B.

Un autre groupe de lymphocytes migrent vers le thymus, où ils se développent en lymphocytes T. Ces lymphocytes assurent des fonctions médiatrices de l'immunité cellulaire. Lorsqu'elles quittent le thymus, où elles sont "programmées", les cellules T sont prêtes à jouer leur rôle immunologique et à réagir contre les antigènes. Après avoir réintégré la voie sanguine, ces cellules s'installent dans les zones para-corticales des ganglions lymphatiques périphériques, dans les artérioles à la périphérie de la rate et dans les zones interfolliculaires des amas lymphoïdes sous-muqueux comme les amygdales et les plaques intestinales de Peyers. Il semble que les cellules T circulent de façon permanente dans l'organisme, entre le sang, les tissus, les organes lymphoïdes et le canal thoracique. Environ 70 % des lymphocytes du sang humain sont composés de cellules T. Des tests fonctionnels ont démontré que les antigènes stimulent la libération, par les cellules T, de protéines de faible poids moléculaire appelées lymphokines. Il n'entre pas dans le cadre du présent exposé de décrire les diverses fonctions que sont appelées à remplir les lymphokines. Les cellules T, en plus de produire les molécules inflammatoires et d'attaquer les cellules envahisseuses, ont une autre fonction, qui est reliée aux cellules B. En effet, d'autres sous-populations de cellules T amplifient la fonction des cellules B ou, encore, exercent une fonction de suppression destinée à contrôler la production d'anticorps.

Chez les victimes du SIDA, la réaction des lymphocytes périphériques aux antigènes et aux mitogènes est considérablement réduite. Chez ces patients, le nombre total de cellules T est en général réduit et les populations de cellules T censées jouer un rôle de coopération sont pratiquement inexistantes.<sup>6</sup>

## Le HTLV et les soins ophtalmiques

Depuis que le virus HTLV a été isolé dans les larmes, les soins ophtalmiques présentent un risque, pour le praticien comme pour le patient: pour le premier, le risque peut, théoriquement, provenir du contact avec les fluides oculaires, et pour le second, du contact avec les aplanomètres et les verres de contact d'essai.

À l'heure actuelle, peu d'indices permettent de croire que les professionnels de la santé risquent d'être contaminés par les victimes du SIDA.<sup>7</sup> On a effectué des tests cliniques auprès de bon nombre de professionnels de la santé afin de vérifier s'ils avaient des anticorps antivirus, et jusqu'ici, rien ne démontre que ces professionnels courent un risque considérable. Dans les cas où l'on a décelé la présence de HTLV III et d'anticorps antivirus, d'autres facteurs entraînent habituellement en compte. (Par exemple la personne entrainé dans la catégorie des groupes à risques.) Dans le journal de l'American Medical Association du 11 janvier 1985, Weiss et ses collaborateurs rapportent avoir effectué des tests sur la présence d'anticorps dirigés contre le HTLV III sur 188 personnes travaillant en laboratoire ou dans le domaine de la santé et entrées en contact avec des victimes du SIDA ou des spécimens du virus. Aucune de ces personnes n'a présenté de réaction positive, tandis que chez les victimes du SIDA, 82 % avaient des résultats positifs et 16 % se situaient à l'état frontière.

Il semble donc que les praticiens courent un risque minime mais réel. Il est par conséquent nécessaire de prendre des précautions appropriées lorsqu'on a affaire à des personnes appartenant aux groupes à risques élevés. Ainsi, il importe en premier lieu de demander au patient s'il a des antécédents de SIDA, d'éviter tout contact avec les fluides oculaires, particulièrement en présence de plaies ouvertes, et d'utiliser une quantité généreuse de savon de type désinfectant après avoir traité le patient.

Cela nous amène à aborder la question de la désinfection. Il semble que le virus soit sensible à la chaleur, à l'alcool isopropylique, à l'éthylène-glycol et au peroxyde d'hydrogène à 3 % in vitro.<sup>8</sup> Aucun laboratoire n'a encore pu certifier l'efficacité du thimerisol, de la chlorhexidine ou du chlorure de benzalkonium contre le virus. Ces faits revêtent une grande importance, étant donné que les praticiens font une grande utilisation des verres de contact d'essai et des aplanomètres. En effet, ces instruments diagnostique peuvent causer des abrasions épithéliales susceptibles d'entraîner l'infection. On a déjà rapporté des cas d'infections générales par d'autres virus (p. ex., l'hépatite B et la rage) contractées par la cornée.

Il ne faut absolument pas négliger de désinfecter les tonomètres et les verres de contact après chaque usage. Pour désinfecter les tonomètres, on peut



utiliser de l'alcool isopropylique ou de l'éthylène-glycol. La désinfection des verres de contact est en revanche plus problématique. On sait que les verres hydrophiles absorbent les fluides et sont contaminés dès leur insertion, et c'est d'ailleurs pour cette raison que la désinfection est un aspect important de l'entretien des verres de contact depuis leur introduction.<sup>9</sup> Mais seules certaines méthodes de désinfection se sont révélées à la fois sûres et compatibles pour les verres et pour l'oeil.

Comme nous l'avons déjà mentionné, le HTLV III est sensible à la chaleur; pour le détruire, il faut le soumettre à une température de 55 °C pendant 30 minutes ou de 60 °C pendant 10 minutes. La plupart des appareils de désinfection par la chaleur utilisés par les patients ou par les praticiens sont conçus pour atteindre ces températures. Par mesure de prudence, tous les praticiens qui utilisent des verres d'essai devraient les désinfecter par la chaleur après chaque usage, étant donné qu'on n'a pas encore prouvé l'efficacité des systèmes actuels de désinfection chimique contre le HTLV III. De leur côté, les patients qui envisagent de se procurer des verres de contact devraient demander au praticien, avant l'insertion d'un verre de contact, s'il utilise un système de désinfection par la chaleur.

Certains verres de contact hydrophiles et certains verres rigides perméables ne peuvent être soumis à la chaleur. Il faudra pousser davantage les recherches pour mettre au point des techniques de désinfection efficaces pour ces verres de contact. D'ici là, il faudrait se conformer à certaines directives.

À mon avis, les verres de contact rigides perméables au gaz et les verres de contact à contenu élevé d'eau doivent être désinfectés, en clinique, avec de l'alcool isopropylique, et du H<sub>2</sub>O<sub>2</sub>. On peut actuellement se procurer une solution de nettoyage pour verres de contact contenant 20% mg/ml d'alcool isopropylique.<sup>10</sup> Il existe, sur le marché canadien, diverses solutions de peroxyde d'hydrogène (H<sub>2</sub>O<sub>2</sub>) pouvant être utilisées pour la désinfection des verres de contact rigides perméables au gaz et des verres hydrophiles. En raison de son pouvoir oxydant élevé, le H<sub>2</sub>O<sub>2</sub> est un agent efficace d'élimination du virus. Les espèces à radicaux libres (p. ex., ion hydroxyle) peuvent être obtenues dans certaines conditions; c'est alors le radical hydroxyle qui détruit la cellule cible. Le radical hydroxyle réagit avec tout groupe de phospholipides, de protéines ou d'hydrates de carbone susceptibles de se dégrader par oxydation, et le H<sub>2</sub>O<sub>2</sub> à 3% s'est révélé efficace contre une grande variété de microbes, dont le virus herpes simplex (HSV I).

Il semble qu'un trempage de deux heures dans une solution nettoyante à base d'alcool isopropylique et de H<sub>2</sub>O<sub>2</sub> (à 3%) arrive à détruire le HTLV III, mais cela reste à prouver. La stérilisation au moyen

d'oxyde éthylrique devrait également se révéler efficace. Toutefois, le résidu laissé a une action vésicatoire et serait difficile à nettoyer.

En guise de conclusion, il semble que le risque de transmission du HTLV III par les larmes des victimes ayant été en contact avec des tonomètres et des verres de contact est minime.

Les praticiens doivent être conscients des risques potentiels et prendre les précautions voulues afin de les éliminer le plus possible. Il incombe aux médecins de veiller à ce que les appareils qu'ils utilisent soient bien désinfectés. De leur côté, les patients doivent s'informer des méthodes de désinfection utilisées.

Apparemment, certains fournisseurs reprennent les verres de contact lorsque ceux-ci ne conviennent pas à leurs patients et les réutilisent par la suite. Les patients doivent être avertis des dangers liés à une telle pratique, particulièrement en l'absence de méthodes de désinfection efficaces.

Bien qu'on n'ait pas encore prouvé que le SIDA peut être transmis par les verres de contact, il est dans l'intérêt de tous de continuer de prendre les précautions nécessaires.

## Bibliographie

1. Barre Sinoussi F. et al. Isolation of a T-Lymphotropic retrovirus from a patient at risk for acquired immune deficiency syndrome (AIDS) *Science* 1983, 220; 868-71.
2. Lee TH. et al. Acquired Immune Deficiency Syndrome. *Proc. Nat Acad Sci (USA)* 1984, 81; 75-79.
3. Fujukawa LS, Salahuddin SZ, Palestine AG, et al. Isolation of human T-cell leukemia/lymphotropic virus type III (HTLV-III) from the tears of a patient with acquired immunodeficiency syndrome (AIDS). *Lancet*.
4. Barin F. et al. Virus envelope protein of HTLV III represents major target antigen for antibodies in AIDS patients. *Science* 1985, 228; 1094-6.
5. Allan JS. Major glycoprotein antigens that induce antibodies in AIDS patients are encoded by HTLV III. *Science* 1985, 228; 1091-3.
6. Siegel RL, Fox RW. A longitudinal study of a patient with acquired immunodeficiency syndrome using T-cell subset analysis. *Adv Exp Med Biol* 1983, 166; 295-303.
7. Hirsch MS, Warmser GP, Schooly RT. Risk of nosocomial infection with the human T-cell lymphotropic virus III. (HTLV III) *N Engl J Med* 1985, 312; 1-4.
8. Martin LS, McDougal JS, Loskoski SL. Disinfection and inactivation of the human T lymphotropic virus type III/lymphadenopathy associated virus. *J Infect Dis.* 1985, 152; 400-3.
9. Allansmith M. *The Eye and Immunology* 1982 C.V. Mosby St. Louis Missouri.
10. Miraflores — Personal communication J. Krezonowski and corporate data. Cooperation, Mountainview, California.

---

**Mitogène:** Substance ou agent susceptible de stimuler l'activité de mitose dans une cellule par ailleurs inactive.

**Antigène:** Substance ou agent susceptible de déclencher la formation d'anticorps et de réagir spécifiquement avec ces anticorps.



## Recommandations Visant à Prévenir la Transmission Éventuelle Du SIDA par les Larmes

Le 30 août 1985 à 14 h 15, le Dr A. J. Clayton, M.B., B.Ch., Ph.D., M.F.C.M., F.R.C.P.(C.), directeur général du Laboratoire de lutte contre la maladie de Santé et Bien-être Canada à Ottawa, a transmis à l'Association canadienne des optométristes les recommandations ci-jointes qui ont été téléxées des États-Unis par le Center for Disease Control (CDC), situé à Atlanta.

Le Dr Bruce Rosner, président de l'Association canadienne des optométristes, a demandé que les renseignements contenus dans la présente soient communiqués immédiatement à tous les optométristes canadiens en raison de leur importance pour ces derniers et pour leurs patients.

*Précautions recommandées en vue de prévenir la transmission éventuelle du virus HTLV III (Human T-Lymphotropic Virus Type III) ou LAV (Lymphadenopathy-Associated Virus) par les larmes*

Le virus HTLV III (Human T-Lymphotropic Virus Type III) ou LAV (Lymphadenopathy-Associated Virus), agent étiologique du syndrome immunodéficient acquis (SIDA), a été retrouvé dans divers liquides humains, tels le sang, le sperme et la salive. Dernièrement, des scientifiques du National Institutes of Health ont isolé le virus dans les larmes d'une patiente atteinte du SIDA (1). La patiente, une femme de 33 ans ayant déjà souffert de pneumonie à pneumocystis carinii et de mycobacterium avium-intracellulare, ne se plaignait pas de malaises oculaires et son examen de la vue était normal. Sur six échantillons de larmes prélevés sur des patients atteints du SIDA ou d'une maladie apparentée, trois ont donné des résultats équivoques et trois ont donné des résultats négatifs.

Afin de prévenir la prolifération du HTLV III/LAV et d'autres agents pathogènes microbiens qui pourraient être présents dans les larmes, il est recommandé de prendre les précautions suivantes. Ces précautions ne s'appliquent pas à l'entretien des verres de contact personnels, étant donné qu'il est question ici de la transmission possible du virus entre individus.

1. Les professionnels de la santé procédant à des examens de la vue ou à d'autres examens supposant le contact avec les larmes devraient se laver les mains immédiatement après qu'un tel contact s'est produit et avant d'examiner un autre patient. Le lavage des mains devrait suffire, mais dans certains cas, le port de gants jetables est approprié. Le port de gants jetables est également recommandé aux professionnels en cas de coupures, d'éraflures, ou de lésions cutanées. Le

port du masque, de lunettes protectrices, ou d'une blouse n'est pas nécessaire.

2. Les instruments qui entrent en contact direct avec la surface externe de l'oeil devraient être nettoyés, puis désinfectés de l'une des manières suivantes: a) trempage de 5 à 10 minutes dans une solution fraîche de peroxyde d'hydrogène à 3 %; b) trempage dans une solution fraîche contenant 5 000 parties par million (mg/L) de chlore libre — solution diluée contenant une partie pour 10 d'eau de Javel (hypochlorite de sodium); ou c) trempage dans une solution d'éthanol à 70 %; ou d) trempage dans une solution d'isopropanol à 70 %. Les instruments doivent être rincés abondamment sous l'eau du robinet et séchés avant d'être réutilisés.
3. Les verres de contact d'essai devraient être désinfectés avant chaque utilisation de l'une des manières suivantes:
  - a) La désinfection des verres de contact d'essai durs peut se faire au moyen d'une solution de peroxyde d'hydrogène du commerce, du type servant habituellement au nettoyage des verres de contact mous. (Les autres préparations à base de peroxyde d'hydrogène peuvent contenir des agents de préservation susceptibles d'entraîner la décoloration des verres.) On peut également désinfecter la plupart des verres d'essai durs avec le système de désinfection par la chaleur habituellement utilisé pour les verres mous (78-80 °C (172-176 °F) pendant 10 minutes). Les praticiens devraient demander à leurs fournisseurs de leur indiquer les verres qui peuvent être soumis en toute sécurité à la désinfection par la chaleur.
  - b) Les verres d'essai rigides perméables au gaz peuvent être désinfectés avec la solution de peroxyde d'hydrogène mentionnée ci-dessus. Ces verres peuvent se déformer s'ils sont exposés à la chaleur.
  - c) Les verres d'essai mous peuvent également être désinfectés avec la solution de peroxyde d'hydrogène (mentionnée ci-dessus). Certains verres mous peuvent être désinfectés par la chaleur. Sauf dans le cas du peroxyde d'hydrogène, on ignore jusqu'ici, faute de tests, si le HTLV III/LAV est sensible aux désinfectants chimiques entrant dans la composition des solutions de nettoyage des verres de contact courantes. D'ici à ce que d'autres désinfectants appropriés aient été répertoriés, il est recommandé de désinfecter les verres qui sont entrés en contact avec les yeux des patients atteints ou présumément atteints du SIDA avec du peroxyde d'hydrogène.

Les recommandations ci-dessus sont fondées sur des données obtenues à partir



d'études menées au National Institutes of Health et au CDC, sur la désinfection et l'inactivation du virus HTLV III/LAV (2-4). Des publications antérieures (5-9) fournissent des renseignements sur les précautions nécessaires dans les hôpitaux et les laboratoires. Sources: Food and Drug Administration; National Institutes of Health; Centers for Disease Control.

**Remarque:** Toutes les sécrétions et les excréments d'une personne infectée sont susceptibles de contenir des lymphocytes, cellules hôtes du HTLV III/LAV; par conséquent l'étude approfondie de ces sécrétions peut parfois révéler la présence de ce virus. Cependant, les résultats positifs obtenus à partir de la culture de diverses sécrétions chez des personnes infectées ne permettent pas d'affirmer que le virus puisse être transmis aux membres de leur entourage lorsque ceux-ci ne présentent pas de risques identifiés. De plus, il n'est pas prouvé jusqu'ici que le HTLV III/LAV a été transmis par suite de contact avec les larmes des individus atteints ou avec le matériel médical ayant servi à examiner les patients atteints du SIDA.

## Bibliographie

1. Fujikawa LS, Salahuddin SZ, Palestine AG, et al. Isolation of human T-cell leukemia/lymphotropic virus type III (HTLV-III) from the tears of a patient with acquired immunodeficiency syndrome (AIDS). *Lancet* (sous presse).
2. Resnick L, Veren D, Salahuddin SZ, Markham PD. Communication personnelle.
3. Martin LS, McDougal JS, Loskoski SL. Disinfection and inactivation of the human T lymphotropic virus type III/lymphadenopathy-associated virus. *J Infect Dis* 1985;152: 400-3.
4. Spire B, Barre-Sinoussi F, Montagnier L, Chermann JC. Inactivation of a new retrovirus (lymphadenopathy-associated virus) by various agents (chemical disinfectants). *Lancet* 1984;8408; 899-901.
5. CDC. Acquired immune deficiency syndrome (AIDS): Precautions for clinical and laboratory staffs. *MMWR* 1982; 31: 577-80.
6. CDC. Prevention of acquired immune deficiency syndrome (AIDS): report of inter-agency recommendations. *MMWR* 1983;32: 101-4.
7. CDC. Acquired immunodeficiency syndrome (AIDS): precautions for health-care workers and allied professionals. *MMWR* 1983;32: 450-1.
8. CDC. Update: prospective evaluation of health-care workers exposed via parenteral or mucous-membrane route to blood or body fluids from patients with acquired immunodeficiency syndrome. *MMWR* 1985;34: 101-3.
9. CDC. Hepatitis B Vaccine: evidence confirming lack of AIDS transmission. *MMWR* 1984;33: 685-7.

### Well-established Practice For Sale in Alberta

Optometrist plans retirement  
Alberta licence required

For details write:  
Box 785  
Canadian Journal of Optometry  
Suite 207, 77 Metcalfe Street  
Ottawa, Ontario  
K1P 5L6

### PRACTICES FOR SALE

In rural areas of Alberta  
Established, fully equipped

**For details, write in confidence to:**

Box 585  
Canadian Journal of Optometry  
Suite 207, 77 Metcalfe Street  
Ottawa, Ontario  
K1P 5L6

### OPTOMETRIC PRACTICES FOR SALE

Fully Equipped  
Suburban or Downtown locations in  
Alberta

**For details, write in confidence to:**

Box 485  
Canadian Journal of Optometry  
Suite 207, 77 Metcalfe Street  
Ottawa, Ontario  
K1P 5L6

### ELECTRONIC DIGITAL PACHOMETER

Original (and most advanced) model  
Asking \$4,900.00  
In perfect working order

**Please contact:**

Box 685  
Canadian Journal of Optometry  
Suite 207, 77 Metcalfe Street  
Ottawa, Ontario  
K1P 5L6





## Evaluation of Running Water Rinsing of Soft Contact Lenses

K. Shih\*  
J. Hu\*\*  
M.J. Sibley†

### Abstract

The safety of using running water to rinse soft contact lenses was evaluated. Twenty soft contact lenses were contaminated with viable microorganisms in an organic load and were then rinsed under running water for 20-30 seconds. The results showed that the reduction of the contaminants by the running water rinsing alone was always more than 98%. To evaluate the contaminant level introduced to the lenses by the running water, 24 sterile lenses were also rinsed with running water. Our results indicated that these lenses were virtually not contaminated with running water rinsing. However, when 30 sterile lenses were handled by 15 soft contact lens wearers in the same manner as they would prior to inserting the lenses in their eyes, thousands of contaminants were recovered per lens in average. Furthermore, when lenses containing different water levels were rinsed in water, followed by soaking in a sterile isotonic saline solution, none of the lenses were adversely affected physically by the water rinse. From the results of this study, we believe that it is safe to use running water to rinse soft contact lenses in conjunction with a safe holding device and a proper disinfecting regimen.

### Résumé

L'objectif de cette étude est de déterminer si l'eau courante est un moyen sûr pour rincer les lentilles cornéennes molles. Après avoir contaminé vingt lentilles cornéennes molles avec des microorganismes viables dans une substance organique, on les a rincées à l'eau courante pendant 20 à 30 secondes. Les résultats ont démontré que le taux de réduction des contaminants par suite du rinçage à l'eau courante seulement dépassait toujours 98 %. Afin d'évaluer le nombre de contaminants introduits dans les lentilles par l'eau courante, on a également rincé 24 lentilles stériles à l'eau courante. Nos résultats n'ont indiqué aucune véritable contamination de ces lentilles par suite d'un rinçage à l'eau courante. Cependant, après que 15 utilisateurs de lentilles cornéennes molles eurent manipulé 30 lentilles stériles de la manière dont ils s'y prennent habituellement avant de les insérer dans leurs yeux, on a retrouvé des milliers de contaminants en moyenne par lentille. Par ailleurs, lorsqu'on a rincé des lentilles à teneur différente en eau et qu'on les a ensuite fait tremper dans une solution saline isotonique stérile, on a constaté qu'aucune des lentilles n'avait subi de dommages par suite du rinçage à l'eau. Les résultats de cette étude nous font conclure qu'il est possible de rincer les lentilles cornéennes molles à l'eau courante sans risque de contamination, à condition de les placer dans un endroit sécuritaire et d'utiliser un liquide désinfectant approprié.

\* Ph.D., Manager

\*\* M.S., Section Head

† Ph.D., Director  
Research and Development/Microbiology  
Barnes-Hind Inc.



## Background

Contact lens patients encounter many common problems — e.g., red eyes, GPC (giant papillary conjunctivitis), lens discoloration — which are due to inadequate removal of lens deposits.<sup>1,2,3,4</sup> Despite clear recognition of the importance of cleaning lenses and the availability of good cleaning solutions, many patients are not adequately removing deposits. Careful observation of the cleaning procedures used by many contact lens wearers has indicated that a common weakness is *inadequate lens rinsing*.

For several years, the principal method of cleaning soft contact lenses has been to rub the lens between the fingers after adding a few drops of a cleaning solution. The loosened debris and cleaning solution are then rinsed off by directing a stream of saline solution from a squeezable plastic bottle to the hand-held lens. This rinsing method is sometimes not adequate in providing the thoroughness of rinsing needed for complete removal of lens deposits and cleaning solution residues.

A much more effective, efficient and economical rinsing method to remove deposits and cleaning solution is the use of the force of running water. Indeed, for all hard and gas-permeable contact lenses, the use of running water has been the standard rinsing method for decades.

Despite its wide acceptance for rigid lens rinsing, running water rinsing has run into some skepticism by some clinicians concerned about possible contamination of the lenses by microbes and/or minerals in the water. In addition, questions regarding lens parameter/integrity arise. With the availability of the Hydra-Mat II, it is possible to completely rinse all cleaners and deposits from the lenses in 20-30 seconds without any fear of damage or loss of the lenses. The purpose of the research reported in this article was to address these concerns.

## Materials

<i>Lenses:</i>	For microbiological experiments: Hydrophilic soft contact lenses of 35%, 45% and 55% water content (Gelflex, Hydrocurve II <sub>45</sub> and Hydrocurve II <sub>55</sub> , respectively) For lens parameter experiments: Hydrophilic soft contact lenses of 38%, 45%, 55% and 70% water content (Bausch & Lomb, Hydrocurve II <sub>45</sub> , Hydrocurve II <sub>55</sub> and Sauflon 70, respectively).
<i>Running Water:</i>	City of Sunnyvale, California

<i>Lens Case:</i>	Barnes-Hind Hydra-Mat II Unit
<i>Lens Solution:</i>	Barnes-Hind Soft Mate ps Daily Cleaner
<i>Test Organisms:</i>	<i>Serratia marcescens</i> ATCC 14041, <i>Staphylococcus epidermidis</i> ATCC 17917, and FDA specified organic load.
<i>Media:</i>	0.1% peptone water with 1% polysorbate 80 to wash contaminants from the lenses and Trypticase Soy Agar (BBL) containing 1% polysorbate 80 for recovery of contaminants.

## Methods

### *Reduction of Microbial Contamination by Rinsing with Running Water*

Each lens was contaminated with approximately  $1 \times 10^6$  viable cells with organic load. After 3-10 minutes' contact time, the lenses were each placed in a basket of a Hydra-Mat II unit and rinsed under running water for 20-30 seconds. The lenses were then transferred to peptone water for evaluation of the remaining contaminants.

### *Contamination of Lenses by Running Water Rinsing and By Finger Handling*

In running water rinsing studies, lenses were each placed in a Hydra-Mat II basket and rinsed under running water for 20-30 seconds. For hand cleaning experiments, all subjects washed their hands first before cleaning the lenses with Soft Mate ps Daily Cleaner. The lenses were then rinsed or not rinsed with running water in Hydra-Mat II units. To study the contamination levels by finger handling, sterile lenses were handled by 15 soft contact lens wearers in the same manner as they would prior to inserting the lenses in their eyes. All the lenses were transferred to peptone water for evaluation of microbial contamination. The contaminants were identified by the Analytical Profile Index Systems of Analytical Products.

### *Determination of Effect of Water on Lens Parameters*

Lenses were soaked in water for thirty seconds followed by soaking in Soft Mate preservative-free saline solution for ten minutes. Each lens' base curve, diameter, central thickness, optical power and optical quality were measured before and after the test procedure.

## Results

The reduction of the contaminants by the running water rinsing alone was always more than 98% (see Table I). The data in Table II shows that sterile lenses



**Table I**  
**Reduction of Microbial Contamination on Soft Contact Lenses by Rinsing with Running Water**

Test Organism	Contaminants Recovered		Percentage Reduction After Rinsing
	Control Lens Without Rinsing	Lenses Rinsed With Running Water*	
<i>Serratia marcescens</i> ATCC 14041	1.4 x 10 <sup>5</sup> organisms/lens	1,567** organisms/lens	98.88%
<i>Staphylococcus epidermidis</i> ATCC 17917	1.8 x 10 <sup>5</sup> organisms/lens	1,464** organisms/lens	99.19%

\* Water microbial plate count = 100 organisms/ml

\*\* Average of 10 lenses — Hydrocurve II<sub>45</sub>

**Table II**  
**Contamination of Lenses by Running Water Rinsing and by Finger Handling**

No. of lenses tested	Sterile Lenses Rinsed With Running Water* in Hydra-Mat II	Sterile Lenses With Soft Mate ps Daily Cleaner Not Rinsed	Cleaned by Hand ps Daily Cleaner Rinsed with Running Water in Hydra-Mat II	Sterile Lenses Handled by Fingers Prior To Insertion In the Eyes
	24	14	14	30
Av. of viable organisms/lens	1+	4,445	73	4,172

\* Water microbial plate counts = 1 to 40 organisms/ml

+ Only three lenses were contaminated with 1 or 2 organisms.

**Table III**  
**Classification of the Major Microbial Contaminants Recovered from Contact Lenses by Finger Handling**

Treatment	No. of Different Species or Strains	Microbial Contaminants
Finger handling prior to insertion in the eyes	14	<i>Staphylococcus epidermidis</i>
	3	<i>S. warneri</i>
	3	<i>S. hominis</i>
	2	<i>S. xylosum</i>
	1	<i>S. capitis</i>
	10	<i>S. non-aureus</i> species
	2	<i>Micrococcus</i>
	3	<i>Branhamella</i>
	1	<i>Mycobacterium</i>
	1	<i>Penicillium</i>
	1	gram positive bacilli

**Table IV**  
**Lens Parameter Measurements Before and After Water/Saline Rinsing (typical results)**

Lenses Tested (Water Content)		B & L (38%)	Hydrocurve II <sub>45</sub> (45%)	Hydrocurve II <sub>55</sub> (55%)	Sauflon 70 (70%)
Base Curve (mm)	Before	8.2	7.8	8.2	8.6
	After	8.2	7.8	8.2	8.6
Diameter (mm)	Before	14.1	13.7	14.5	12.3
	After	14.1	13.8	14.5	12.3
Central Thickness (mm)	Before	0.07	0.10	0.11	0.17
	After	0.07	0.10	0.11	0.17
Optical Power (diopters)	Before	-3.00	+1.50	+4.00	+2.25
	After	-3.00	+1.50	+4.00	+2.25
Optical Quality	Before	Good	Good	Good	Good
	After	NC*	NC	NC	NC

\*No change

were virtually not contaminated with running water rinsing. Indeed, finger handling of the lenses contributed contamination levels greater than 4,000 organisms per lens. Table III presents identification of the major microbial contaminants found on the lenses after finger handling.

Table IV presents typical results of the lens parameter measurements before and after a 30-second water rinse of 38%, 45%, 55% and 70% water-content hydrophilic lenses. Four lenses of each water content were tested and in all tests no lenses were adversely affected by the 30-second water rinsing.

## Discussion

The data collected in this study demonstrate that running water rinsing did not contribute microbiological contamination to soft contact lenses. Quite the contrary, high levels of organisms placed on soft lenses, together with an organic load, were significantly reduced by running water rinsing.

When one realizes that the finger-handling step in all contact lens wearers' regimen prior to returning lenses to the eyes contributes thousands of organisms, concern for running water rinsing should be minimal. Our own natural defense system can take care of contaminants introduced to the eye most of the time. A study conducted by Peterson<sup>5</sup> showed that microorganisms introduced to normal, healthy eyes did not survive over 24 hours!

In Canada and the United States, the law requires that the public be provided with safe drinking water.<sup>6,7</sup> The maximum microbial contaminant levels of public water systems are regulated and enforced by the individual provinces and states.<sup>8,9</sup> The total microbial counts in tap water from different faucets in different households can be variable, depending on the temperature, the frequency of use of the outlets, the plumbing line, etc. During the period of this study (March 29, 1984 to January 21, 1985), the Sunnyvale, California tap water contaminant levels varied from 0 to 103 organisms/ml.

The chemical and physical quality of the drinking water is also regulated and monitored by the states. The total hardness, the calcium and magnesium, the total soluble solids and other inorganic and organic chemicals are routinely monitored. Early studies have shown that the pore sizes of all the soft contact lens materials are less than 5 nanometers in diameter. During 20-30 seconds of rinsing under the force of running water, it is very unlikely that calcium and magnesium residues could be collected in the lenses. Moreover, if a small amount of calcium and magnesium were trapped in the surface area of the lenses, the chelating agent, disodium edetate (EDTA), in most commercial contact lens solutions would remove them effectively.



## Conclusion

From the test results of this study, we believe that it is safe to use running water to rinse soft contact lenses in conjunction with a safe holding device and a proper disinfecting regimen.

## Acknowledgement

The authors express appreciation for the technical assistance of Gordon Yung, B.Ch.E., in the preparation of this manuscript.

## References

1. Tripathi, R.C. and B.J. Tripathi, "Lens Spoilage," *Contact Lenses* pp. 45. 1-45.25, Grune & Stratton, 1984.
2. Tripathi, R.C. and B.J. Tripathi, "The Pathology of Soft Contact Lens Spoilage," *Ophthalmology* 87:365, 1980.
3. Allansmith, M.R., et al, "Giant Papillary Conjunctivitis on Contact Lens Wearers," *Am. J. Ophth.* 83:697, 1977.
4. Sibley, M.J. and Chu, V., "Understanding Sorbic Acid-Preserved Contact Lens Solutions," *Int. Contact Lens Clinic J.*, Vol. 11, No. 9, Sept. 1984.
5. Peterson, A.F., "Microflora of the Normal Eye and Effects on Contact Lenses," *Developments in Industrial Microbiology*, 17:17-21, 1976.
6. Canadian National Water Guidelines for Drinking Water Quality, Dept. of Nat. Health and Welfare, 1978.
7. Title XIV, Safety of Public Water Systems, Public Law 93-523, 93rd Congress, S.443, Dec. 16, 1974.
8. Ontario Water Resources Act, Revised Statutes of Ont., 1981, Sections 15, 16 & 21, Pub. Jan. 1982.
9. California Domestic Water Quality and Monitoring Regulations. California Health and Safety Code and the California Administrative Code, Title 22, State of California, Dept. of Health, Sanitary Engineering Section, Berkeley, California 94704.

## CAO 19th Biennial Congress Photo Contest and Exhibit Hall Prize Draw Winners

Following is a list of winners and donors of the prizes offered at the CAO 19th Biennial Congress in Regina. CAO and the Regina Local Arrangements Committee, under co-Chairpersons Dr. Len Koltun and his wife, Betty Lou, are sincerely grateful to the following companies for their support, and offer our sincere congratulations to all the winners.

### 1985 Biennial Congress Photo Contest

Category	Winner	Prize Donor
"Personality Plus"		
1st Prize — \$300.00	Dr. H. Smit	Pioneer Optical
2nd Prize — \$100.00	Dr. MW Stefanuk	Imperial Optical
3rd Prize — \$100.00	Dr. L. Koltun	Western Optical
"Season to Taste"		
1st Prize — \$200.00	Dr. H. Smit	CIBA Vision Care
2nd Prize — \$100.00	Dr. MW Stefanuk	CAO 19th Biennial Congress
3rd Prize — \$50.00	Dr. T. Winslade	Plastic Contact Lens
"Noah's Ark"		
1st Prize — \$100.00	Dr. MW Stefanuk	Superlite Optical
2nd Prize — \$100.00	Dr. T. Winslade	Optique Perfect
3rd Prize — \$50.00	Dr. R. Rosere	Carl Zeiss Canada

### Exhibit Hall Prize Draws

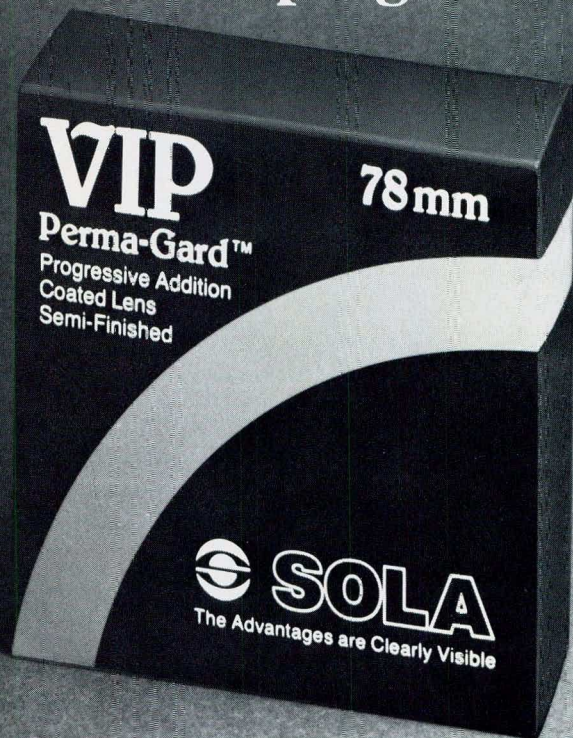
Prize	Winner	Prize Donor
\$500.00 cash	Dr. G. King	Bausch and Lomb
\$300.00 cash	Dr. D. Lukenchuk	KDS Optical
\$200.00 cash	Dr. D. Wassell	Centennial Optical
Autofoc II Specialist Ophthalmoscope	Dr. P. Padfield	Heine Instruments
7 Power Bushnell Binoculars	Dr. M. McMorris	Imperial Optical
Case Display/Cases	Dr. S. Craig-Paul	Shilling Optical Case
Mini-Stirrer	Dr. V. Kuraitis	White Ophthalmic Services
2 Suspension Eyewear Fitting Kits	Dr. S. Craig-Paul	Suspension Eyewear



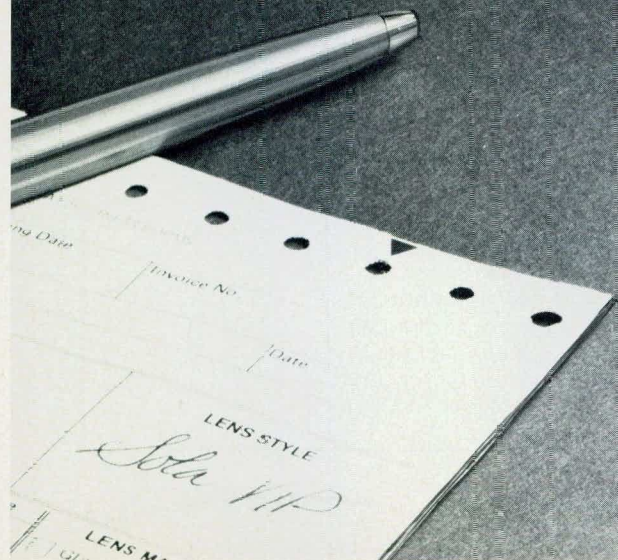
# It's your choice.



The best  
progressive.



The best-selling  
progressive.



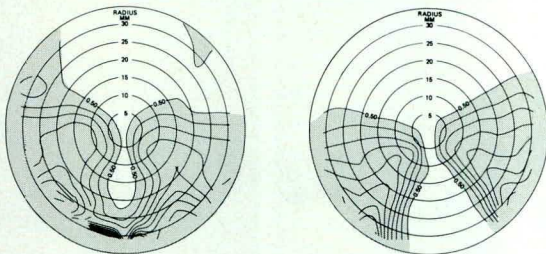


If you think the best seller is best for your patients, here's a surprise.

The new Sola VIP has bigger viewing areas and less distortion. Plus more consistent optics, larger usable diameters, and a scratch-resistant coating to top it off.

But don't take our word for it. Compare your choices and decide for yourself which is best.

## Compare the size of the viewing areas.



Varilux 2®

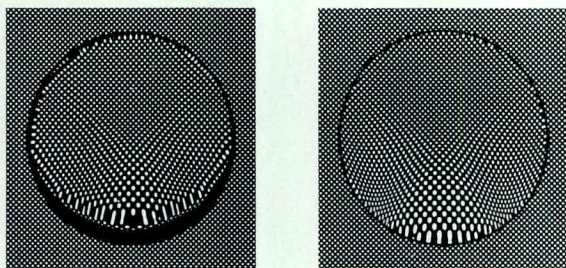
Sola VIP™

Only the unshaded areas provide good vision because they have less than .5D of astigmatism.

Look at the size of the viewing zones. The V2 has only a narrow and short near area. And its very small channel makes precision fitting very critical.

The Sola VIP has far bigger areas of good vision: 38% larger near, and 32% larger intermediate in addition to a substantially larger distance.

## Compare the astigmatism and distortion.



Varilux 2®

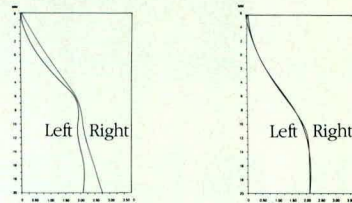
Sola VIP™

This grid demonstrates distortion. Where the dots are misshapen, patients experience swim and blurry vision.

Which lens is clearer? The V2 provides good peripheral vision due to a "soft" gradually changing surface. But astigmatism reaches far up into the distance area... and notice the excessive distortion at the base of the near.

The Sola VIP also has good peripheral vision due to a gently changing surface. But there is far less distortion.

## Compare the consistency of the optics.



Varilux 2®

Sola VIP™

These charts plot the power increases in two pair of lenses.

Notice the power changes in these two V2 lenses. It's unsteady in both lenses. Even worse, it's unpredictable from one lens to another.

Now look at the VIP. You get the reliable optics you demand: stable powers in each lens, and consistency from one lens to another.

## Compare the usable diameter—and the scratch resistance.

If you've used the lenticulated V2, you know it shrinks from 3-10mm as add powers rise. And you know the risks and costs of picking from 3 different diameters.

The Sola lens is simpler: our generous 78mm diameter is fully usable, even at the highest adds. One size fits all, perfectly.

And only the Sola VIP includes a scratch-resistant coating on every blank. So your patients get the protection they deserve in a premium lens. And you get the convenience of quick, easy tinting, even to sunlens densities.

## Which lens is best?

Take your pick.

The more famous lens, with its small viewing areas, and uncertain optics...

Or the more advanced VIP, with larger viewing zones, less distortion, plus fully usable diameter and coating.

The choice is up to you. But once you've seen the difference, it should be the easiest choice in the world.



**The advantages are clearly visible.**

Sola Optical USA, Inc., (800) 358-8258 (Continental U.S.),  
(800) 862-4934 (California), or (707) 763-9911.





## The MTT: A More Comprehensive Vision Screening Test for British Columbia Schools

J. Reynolds\*

### Abstract

Literature regarding the vision care needs of school children indicates that visual anomalies occur in sufficient numbers to warrant recommendation of a comprehensive school vision screening program. This study investigated the referral effectiveness (accuracy) of the Keystone Telebinocular (KTT), the Modified Telebinocular (MTT) and the Snellen against a standard optometric exam. The performance of 60 children, aged 6 yrs, 0 months to 9 yrs, 11 months, on each screening measure was compared to that on the standard optometric exam and categorized as a positive, negative, over or underreferral. Chi-square and phi coefficient analyses indicated that the MTT had greater effectiveness than the Snellen in identifying students needing professional care (21/25, 7/25 respectively,  $\chi^2(1) = 7.000$ ,  $p < .01$ ). The MTT missed fewer students needing professional care than did the Snellen (4/25, 18/25 respectively,  $\chi^2(1) = 8.909$ ,  $p < .01$ ). The Snellen referred fewer students unnecessarily (1/35) than either the MTT (10/35,  $\chi^2(1) = 7.364$ ,  $p < .01$ ) or the KTT (8/35,  $\chi^2(1) = 5.444$ ,  $p < .05$ ). Upon evaluating all factors of vision screening, the MTT proved to be the most useful measure for identifying children requiring professional care.

### Résumé

D'après la documentation qui traite des besoins des enfants d'âge scolaire en matière de soins de la vue, les anomalies visuelles chez les écoliers sont suffisamment nombreuses pour justifier la recommandation d'un programme complet d'examen de la vue dans les écoles. Menée auprès de 60 enfants âgés de 6 ans et 0 mois à 9 ans et 11 mois, cette étude avait pour objectif de déterminer l'efficacité de renvoi (justesse) du test "Keystone Telebinocular" (KTT), du test "Modified Telebinocular" (MTT) et du test de Snellen par rapport à un examen optométrique ordinaire. Après avoir comparé les résultats de ces trois tests pour chacun des enfants avec les résultats de l'examen optométrique ordinaire, on les a classés dans les catégories de renvoi positif, de renvoi négatif, de sur-renvoi ou sous-renvoi. Les analyses des coefficients du chi carré et de phi ont indiqué que le MTT est plus efficace que le Snellen pour déterminer quels élèves ont besoin de soins professionnels (21/25, 7/25 respectivement,  $\chi^2(1)=7,000$ ,  $p < 0,01$ ). Un nombre moindre d'anomalies ont échappé au MTT par rapport au Snellen (4/25, 18/25 respectivement,  $\chi^2(1)=8,909$ ,  $p < 0,01$ ). Les renvois inutiles ont été moins fréquents dans le Snellen (1/35) que dans le MTT (10/35,  $\chi^2(1)=7,364$ ,  $p < 0,01$ ) ou le KTT (8/35,  $\chi^2(1)=5,444$ ,  $p < 0,05$ ). Après évaluation de tous les facteurs liés à l'examen de la vue, on a établi que le MTT est le test le plus utile pour déterminer quels enfants ont besoin de soins professionnels.

### Purpose

Although the actual incidence of children requiring professional vision care has not yet been established, the reported rates indicate that a variety of visual anomalies occurs in sufficient numbers among children to warrant recommendation of a

comprehensive vision screening programme within the school system (Coleman, 1970; Cross, 1975; Harley & Lawrence, 1977; Jervis, 1978; Ontario Ministry of Health, 1976; Province of British Columbia, Ministry of Health, 1977; Rosen, 1966; and Woo & Badger, 1978). The purpose of the present study was to investigate whether the Keystone Telebinocular Technique (KTT), the Modified Telebinocular Technique (MTT), or the Snellen would be the most

\*B.A. (Psych), M.A.(Ed)  
Maple Ridge, BC



effective, in identifying students in need of professional attention.

## Screening Measures

No screening measure, regardless of its comprehensiveness, is equivalent to, or replaces, a clinical examination. Screening results do not equal diagnosis. This limitation must be considered when evaluating either an individual's screening performance or a measure's overall effectiveness.

The three screening measures investigated were selected on the basis of their suitability for administration by non-vision specialists (e.g., school psychologists, Public Health Nurses) and for their short administration time (five to fifteen minutes per student).

### *Snellen*

The Snellen is a monocular instrument which primarily measures far point acuity and myopia, although severe hyperopia and astigmatism may be detected.

Although the Snellen is a widely-used test, it is not without limitations. Perhaps its greatest limitation is its restricted content. For example, near point acuity is not checked unless an alternate form is given. The literature did not report this to be a common procedure in most school vision screening programmes employing the Snellen, yet a significant amount of near point work is required of students.

### *Keystone Telebinocular and Modified Telebinocular*

The Keystone Telebinocular Technique (KTT) and the Modified Telebinocular Technique (MTT) are binocular, stereoscopic screening instruments which measure the following visual skills at both far and near points: monocular and binocular acuity, muscle imbalance, fusion, and amblyopia. Stereopsis and colour vision are also tested at far point. The MTT also screens for hyperopia, astigmatism, and anisometropia. A standardized sequence of cards is presented following a standardized administration procedure. The eyes are tested separately and/or together on specific subtests. Recording forms indicate whether the examinee's visual skills are satisfactory or should be re-screened or evaluated by a professional. Overall performance on both the KTT and the MTT is evaluated in determining whether a referral should be made. The subtests have not been designed to yield diagnostic data, therefore results should not be compared to findings from clinical tests of the same name.

The main advantages of the KTT and the MTT include standardized procedures for testing, recording, and interpreting a variety of visual skills at both far and near point (reading) distances.

There are limitations for both the KTT and the MTT. They are considerably more expensive than the Snellen. Controversial referral rates have been reported for the KTT (Harley & Lawrence, 1977; Williams, 1974; Harris & Sipay, 1975; and Mangrum, 1970). Blum et al. (1959) reported 14% of subjects tested in 1956 were erroneously referred. Technical data are lacking in the KTT manual. The MTT is a relatively new vision screening measure. Walton (1976) reported the MTT to be comparable to the Modified Clinic Technique (MCT) as a screening measure (89.2% referral agreement). There is little other published data available to recommend its use in a school vision screening programme.

### *Standard Optometric Exam*

A consensus was obtained from the participating optometrists regarding the visual skills assessed during a standard optometric exam. These include tests of objective refraction (retinoscopy), subjective refraction (myopia, hyperopia, astigmatism), tropias, phorias and fusion at near and far points, vergences and versions at far and near points, amplitude of accommodation, stereo acuity, colour vision, and internal and external ocular health.

## Subjects and Method

Sixty children, aged 6 yrs, 0 months to 9 yrs, 11 months, who had scheduled appointments with one of five optometrists in Coquitlam, Surrey, and White Rock, British Columbia participated in the study.

All subjects were given a standard optometric exam, the three screening measures, and a letter identification test. The latter was included to determine whether limited letter identification skills or vision difficulties were responsible for errors on MTT subtests and the Snellen. Subjects making more than two errors were excluded from the study. Subjects wearing glasses were screened without their glasses.

Each child was administered the KTT and the MTT by the researcher. Subtests common to both measures were given only once; the complete KTT and remaining MTT subtests were alternated with the complete MTT and KTT specific subtests. The Snellen was given by the optometrists during the standard optometric exam.

The referral criteria given in the directions and on the record forms were followed for the KTT and the MTT. For this study all optometrists used a passing criterion of 6/12 (20/40) for each eye, on the Snellen. Performance on the standard optometric exam was evaluated by the optometrist's professional judgement.

Subjects' performance on each screening measure was compared to their performance on the standard optometric exam and categorized as a



positive referral (professional attention required), a negative referral (professional attention not required), an overreferral (unnecessarily referred), or an underreferral (needing professional attention but not referred).

## Results and Conclusions

Chi-square and phi coefficient analyses were used to make the following comparisons:

- 1) the referral effectiveness of the MTT versus that of the KTT
- 2) the referral effectiveness of the MTT versus that of the Snellen
- 3) the referral effectiveness of the KTT versus that of the Snellen

Of the 60 children tested in the study, the optometrists diagnosed 25 as needing professional care and 35 as not needing professional care.

Results indicated that there were no significant differences in the referral effectiveness of the MTT and the KTT, for any type of referral. The MTT correctly identified more students needing professional care (21/25) than did the Snellen (7/25), ( $X^2 (1) = 7.000, p < .01$ ). The MTT erroneously identified 4 subjects as not requiring professional care when they in fact did need optometric attention (underreferrals). The Snellen made 18 such errors ( $X^2 (1) = 8.909, p < .01$ ). No significant difference was found between these measures in identifying students not needing professional attention. The Snellen made fewer unnecessary referrals (1/35) than either

the MTT (10/35,  $X^2 (1) = 7.364, p < .01$ ) or the KTT (8/35,  $X^2 (1) = 5.444, p < .01$ ). No other significant referral differences were found between the KTT and the Snellen.

Not only is it important to know whether there are significant differences in the referral effectiveness of screening measures, but also for which type(s) of referrals these differences apply. Overreferrals and underreferrals are both undesirable. The former make unnecessary and therefore inefficient use of professional services. Underreferrals are more serious since the required professional attention is not obtained. Therefore, in selecting a vision screening measure, emphasis should be placed on the measure which misses the fewest students needing professional care. The results obtained indicate a significant difference between only the MTT and the Snellen for underreferrals; the MTT had the greater accuracy. Although the Snellen was more effective than either the MTT or the KTT for overreferrals, its higher underreferral rate decreases its usefulness as a screening test. Also noteworthy is that the MTT was more accurate than the Snellen in identifying positive referrals.

The appropriateness of a test depends upon more than its statistical merits. While statistical analyses did not show significant differences between the MTT and the KTT, there are administrative factors which differentiate between them. The MTT subtests tend to have content and requirements which are familiar to students, while some of the KTT subtests are novel and therefore confusing to some children. The overall impression was that administration of the MTT went more smoothly for most children than did the KTT. It could be hypothesized that the less frustration experienced by the examinee during screening, the more reliable his or her responses.

Taking into consideration both statistical findings and administrative differences when selecting among the Snellen, the KTT, and the MTT for use in a school vision screening programme, the MTT appears to be the more useful measure for identifying students requiring professional care. The 77% referral agreement (46 correct referrals) between the MTT and the standard optometric exam in this study compares favourably with the 89.2% referral agreement between the MTT and the MCT reported by Walton (1976). The results from these two studies recommend the MTT as a reliable school vision screening instrument.

## References

- Blum, H. L., Peters, H. B., & Bettman, J. W. (1959). Vision screening for elementary schools — the Orinda study. University of California Press, (reprinted 1968).
- Coleman, H. M. (1970). An analysis of the visual status of an entire school population. *Journal of the American Optometric Association*, 41(4), 1-7.

Table I

Comparison of Types of Referrals for Sixty Subjects on Each Screening Measure using a Standard Optometric Exam as the Criterion Measure

Screening Measure	Referral Categories			
	Correctly referred positive referrals no. (%)	negative referrals no. (%)	Incorrectly referred over referrals no. (%)	under referrals no. (%)
MTT	21 (35)	25 (42)	10 (17)	4 (7)
KTT	14 (23)	27 (45)	8 (13)	11 (18)
Snellen	7 (12)	34 (57)	1 (2)	18 (30)

Table II

Chi-square Comparisons of the Number of Referrals per Category between Screening Measures

Screening Measure	Referral Categories			
	positive referrals	negative referrals	over referrals	under referrals
MTT vs KTT	1.400	.077	.222	3.267
MTT vs Snellen	7.000**	1.373	7.364**	8.909**
KTT vs Snellen	2.333	.803	5.444*	1.690

\*  $p < .05$   
\*\*  $p < .01$



- Cross, H. E. (1975). Educational implications of visual disorders. In Haslam, R. H. A. & Valletutti, P. J. (Eds.), *Medical problems in the classroom* (pp. 13-31). Baltimore: University Park Press.
- Harley, R. K. & Lawrence, G. A. (1977). Visual impairment in the schools. Springfield: Charles C. Thomas Publisher.
- Harris, A. J. & Sipay, E. R. (1975). *How to increase reading-ability* (6th ed.). New York: David McKay Company, 281-287.
- Jervis, B. (1978). A case for pre-school vision screening. *Canadian Journal of Public Health*, 69, 45-47.
- Keystone, View. Keystone Telebinocular instruction manual, school vision screening.
- Mangrum, C. T. (1970). A comparison of two vision screening batteries for clinical and classroom use. Paper presented at the International Reading Association conference.
- Ontario Ministry of Health, Health Promotion Branch. (1976) Guidelines for vision screening programs in preschool and school age children.
- Pennock, C. & Shapiro, J. (1980). A survey of visual screening programmes in British Columbia schools. *B.C. Journal of Special Education*, 4(4), 377-382.
- Province of British Columbia, Ministry of Health. (1977). Vision Care task force report.
- Rosen, C. L. (1966). A modified clinic technique in a visual survey of a first grade population. *Journal of School Health*, 36, 448-449.
- Walton, H. N., Zirhut, M., & Armstrong, B. (1976). Comparison of vision screening by the Modified Telebinocular Technique and the Modified Clinical Technique. Paper presented at the annual meeting of the International Reading Association, (21st), Anaheim, CA.
- Williams, R. T. (1974). Visual screening: A procedure. Paper presented at the annual meeting of the Western College Reading Association, (7th), Oakland, CA.
- Woo, G. & Bader, D. Age and its effects on vision. *Canadian Journal of Optometry*, 40(3&4), 29-31.

**Note: This study was conducted in partial fulfillment of a masters programme in Educational Psychology and Special Education, University of British Columbia, under the supervision of Dr. O.A. Oldridge.**



## VISION SCREENING

# Visual Screening Programs in British Columbia Schools: Recent Changes

C. Pennock\*  
J. Shapiro\*

The purpose of this investigation was to determine whether changes had occurred in visual screening procedures used in British Columbia schools during the last five years. The findings were obtained from a 95% return of questionnaires sent to the 75 school districts in British Columbia. A majority of districts continued to rely primarily on the use of far-point acuity testing by means of an eye-chart. Greater use of learning assistance teachers and of community vision specialists — optometrists and ophthalmologists — appears now to be made when children have reading difficulties.

### Introduction

A previous study, Pennock and Shapiro<sup>1</sup>, presented results from a questionnaire sent to 75 British Columbia school districts. Some districts reported screening with stereoscopic equipment, enabling the evaluation of acuity, coordination and accommodation at normal reading distance as well as at 20 feet, the latter somewhat analogous to

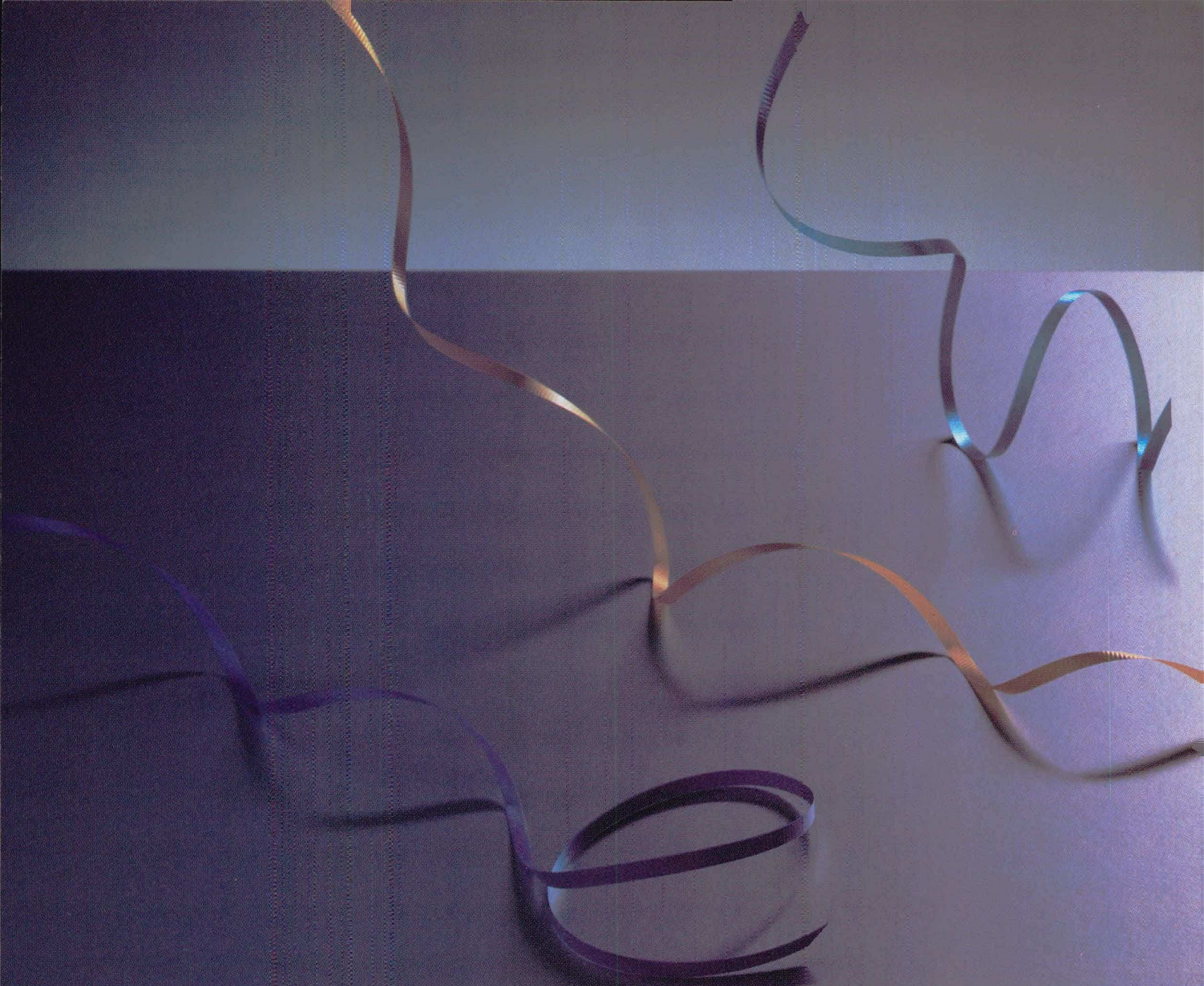
reading demands in reading from the classroom chalkboard, etc. Most districts, however, appeared to make almost exclusive use of an eye-chart at far-point. It appeared probable that, in such cases, many children with visual anomalies other than myopia would not be identified and that even children referred for diagnosis of learning disabilities might continue to suffer the results of undetected visual problems.

It was recommended that visual screening at near-point should be added to the general practice of checking at far-point. Screening of children with reading difficulties, it was suggested, should include tests of accommodation and coordination, as well as acuity, both at near and far-point by means of stereoscopic equipment.

Criticism of reliance on the Snellen Chart and supporting evidence for the need for more adequate screening has appeared for half a century! More than forty years ago Spache<sup>2</sup> summarized criticism of the Snellen Chart. Spache claimed that "only 20 to 40 percent of the children are identified (according to the standard used) who really need the aid of a vision specialist."

\*Centre for the Study of Curriculum and Instruction  
Faculty of Education  
University of British Columbia





LET'S CELEBRATE SOMETHING SPECIAL.



**Brief**  
to  
**House of Commons**  
**Standing Committee on Transport**

**Respecting Bill C-36, An Act  
to Amend the Aeronautics Act**

**Canadian Association of Optometrists**  
**Suite 207 - 77 Metcalfe St.**  
**Ottawa, Ontario**  
**K1P 5L6**

**Preface**

The Canadian Association of Optometrists represents more than 2,300 optometrists who serve the vision needs of some seven million Canadians every year.

In keeping with its goals to ensure the highest standards of vision care to Canadians, the Canadian Association of Optometrists puts forward these submissions with the hope that they will be of assistance in setting up an effective and workable system for ensuring maintenance of standards necessary for aviation safety.

While the legislative proposals contained in section 5.5 of Bill C-36 for reporting to the Minister with respect to persons holding Canadian aviation documents cover both physicians and optometrists, the Canadian Association of Optometrists' submissions are made only from the perspective of optometrists.

The Canadian Association of Optometrists addresses specifically ss. 5.5(1), (4) and (5) insofar as these proposed subsections impact on optometrists.

**Recommendations**

The Canadian Association of Optometrists has given consideration to s. 5.5 of Bill C-36 and makes the following recommendations:

**Recommendation 1**

*That the opinion of the optometrist set up in S.5.5(1) as a pre-condition to his obligation to report to the Minister be an opinion as to whether there is a likelihood that the holder of a Canadian aviation document does not meet the standards of fitness imposed by such document, or alternatively, established by some such body as the I.C.A.O.*

**Recommendation 2**

*That the requirement to inform the Minister be simply to file a report without any requirement to investigate whether the patient has reported.*

**Recommendation 3**

*That S. 5.5(4) be amended to make it clear that there is no duty to report if in reporting the optometrist either contravenes a law of a province or exposes himself to civil liability under provincial law, by providing*

*" — if compliance with either of those paragraphs would require the physician or optometrist to contravene, or would subject the physician or optometrist to civil liability under the law of the province in which he practises."*

**Recommendation 4**

*That s. 5.5(5) be changed to make it clear that the information provided shall not be disclosed or used, no matter at whose behest, in any of the proceedings or actions mentioned, by removing any reference to "privilege":*

*"Notwithstanding subsection (3), no person shall be required to disclose information provided pursuant to subsections (1) or (2) or to give evidence relating to it in any legal, disciplinary or other proceedings and the information so provided shall not be used in any such proceedings."*

**Mémoire**

**présenté au**

**Comité Permanent des Transports  
de la Chambre des Communes**

**concernant le projet de loi C-36  
Loi modifiant la Loi sur l'aéronautique**

**Association Canadienne des Optométristes**  
**Suite 207 - 77, rue Metcalfe**  
**Ottawa (Ontario)**  
**K1P 5L6**

**Préface**

L'Association canadienne des optométristes représente plus de 2 300 optométristes, qui répondent chaque année aux besoins de quelque sept millions de Canadiens en matière de vision.

Fidèle à son objectif d'assurer aux Canadiens les plus hautes normes de soins de la vue, l'Association canadienne des optométristes présente ces instances dans l'espoir qu'elles puissent être utiles dans l'établissement d'un système efficace et pratique pour l'application des normes nécessaires à la sécurité aérienne.

Bien que les dispositions proposées à l'article 5.5 du projet de loi C-36 au sujet des renseignements à communiquer au ministre à l'égard des personnes titulaires de documents d'aviation canadiens s'appliquent à la fois aux médecins et aux optométristes, l'Association canadienne des optométristes ne présente ses instances que dans la perspective de l'optométriste.

L'Association canadienne des optométristes veut parler en particulier des par. 5.5(1), (4) et (5), dans la mesure où ils ont des répercussions pour les optométristes.

**Recommandations**

Après l'étude du par. 5.5 du projet de loi C-36, l'Association canadienne des optométristes formule les recommandations suivantes:

**Recommandation 1**

*Que l'opinion de l'optométriste qui, selon le par. 5.5(1), est une condition préalable de l'obligation de communiquer des renseignements au Ministre soit une opinion sur la question de savoir s'il est probable que le titulaire d'un document d'aviation canadien ne répond pas aux normes médicales dont ce document est assorti ou qui sont établies par un organisme comme l'O.A.C.I.*

**Recommandation 2**

*Que l'obligation d'informer le Ministre ne soit qu'une simple obligation d'envoyer un rapport, non assortie de l'obligation de chercher à savoir si l'intéressé a signalé son état.*

**Recommandation 3**

*Que soit modifié le par. 5.5(4) de manière à bien préciser qu'il n'y a pas d'obligation de communiquer si cela oblige l'optométriste à contrevenir à une loi d'une province ou l'expose à une responsabilité civile en vertu d'une loi provinciale, en stipulant*

*" . . . lorsque leur observation amènerait le médecin ou l'optométriste à contrevenir à une loi de la province où il exerce sa profession, ou l'exposerait à une responsabilité civile en vertu d'une loi de la province où il exerce sa profession."*

**Recommandation 4**

*Que le Par. 5.5(5) soit modifié pour préciser que les renseignements fournis ne peuvent être communiqués ni utilisés, peu importe qui les demande, dans n'importe laquelle des procédures ou actions mentionnées, par le retrait de toute mention de "protection":*

*"Par dérogation au paragraphe (3), nul n'est tenu de*



## Recommendation 5

That in S. 5.5(1) and in the title to the section the term "medical or optometric" be used instead of "Medical" wherever it appears.

## Recommendation 6

That regulations or administrative procedures be developed whereby a person holding a Canadian aviation document be required, as a condition of being granted such a document to identify himself as a person holding a Canadian aviation document and to give his consent to the reporting to the Minister by an optometrist consulted by him.

## General Comments

The Canadian Association of Optometrists understands that section 5.5 of Bill C-36 would establish a mandatory scheme requiring optometrists to ensure that any health condition of a person holding a Canadian aviation document likely to constitute a hazard to aviation safety is reported to the Minister.

The Canadian Association of Optometrists does not object to the principle of mandatory reporting. However, the scheme of mandatory reporting set out in s. 5.5 makes for uncertainty and unevenness in the reporting and puts an unnecessary onus on the optometrist while not clearly exonerating him from possible civil liability for reporting information to the Minister.

Specifically, the Canadian Association of Optometrists' concerns are in the following areas:

- (a) although the reporting is mandatory, there are no clear guidelines or standards underlying the reporting requirement;
- (b) the method and time frame for reporting is unrealistic; and
- (c) there is no clear exoneration from liability for making the report to the Minister.

## Specific Provisions

### 1. Section 5.5(1) — "Opinion" as a Pre-condition

Section 5.5(1) places a mandatory obligation on the optometrist to report to the Minister. While the "shall" is clear enough, the obligation is mired in complex and cumulative pre-conditions which must be satisfied before the report must be made. In the result, the optometrist is left in doubt as to when and under what circumstances he must report.

In the proposal, the optometrist must, as a pre-condition to reporting

- (a) believe on reasonable grounds that a patient is a holder of a Canadian aviation document,
- (b) know that the Canadian aviation document imposes standards of medical fitness, and
- (c) have formed an opinion that the patient has a medical condition that is likely to constitute a hazard to aviation safety.

The most serious problem is with the last of these pre-conditions. It leaves to subjective opinion, which may vary from optometrist to optometrist, as to what condition is likely to be a hazard. In practice its application will be spotty. No guidelines are provided. The optometrist who is informed and knowledgeable about aviation requirements and standards will have an entirely different level of opinion compared to an optometrist who is not.

Curiously, although the optometrist is, as a pre-condition to the operation of the section, required to have knowledge that the Canadian aviation document imposes standards of medical fitness, the opinion he has to form of the patient's condition is not related to *those* standards but rather to a vague requirement for a subjective view of the likelihood of the patient's condition constituting a hazard.

At the very least, this opinion should be as to whether the patient's condition meets or does not meet the vision standards of the relevant Canadian aviation document, in order that the optometrist have an objectively established point of departure for forming his opinion. Alternatively, the obligation to report should be predicated on a finding that the patient falls short of standards set by some such body as I.C.A.O.

### Recommendation 1

Accordingly, the Canadian Association of Optometrists recommends:

*That the opinion of the optometrist set up in S. 5.5(1) as a pre-condition to his obligation to report to the Minister be an*

*communiquer les renseignements ou de témoigner à leur sujet dans des procédures judiciaires, disciplinaires ou autres et les renseignements ainsi fournis ne peuvent être utilisés dans ces procédures."*

## Recommandation 5

*Qu'au par. 5.5(1) et dans le titre de l'article, les mots "médicaux au optométriques" remplacent le mot "médicaux" partout où il figure.*

Que soient établis des règlements ou procédures administratives en vertu desquels une condition de la délivrance d'un document d'aviation canadien serait que le titulaire soit tenu de s'identifier comme titulaire d'un document d'aviation canadien et d'autoriser tout optométriste consulté à communiquer des renseignements au Ministre.

## Commentaires généraux

L'Association canadienne des optométristes comprend que l'article 5.5 du projet de loi C-36 créerait un mécanisme obligeant les optométristes à veiller à ce que le ministre soit mis au courant de tout état de santé du titulaire d'un document d'aviation canadien qui serait susceptible de constituer un risque pour la sécurité aérienne.

L'Association canadienne des optométristes n'est pas contre le principe de la déclaration obligatoire. Cependant, le mécanisme de déclaration obligatoire que crée le par. 5.5 comporte des incertitudes et des manques d'uniformité et impose un fardeau indû à l'optométriste, sans l'exonérer clairement de toute responsabilité civile à l'égard de la communication de renseignements au ministre.

Plus particulièrement, l'Association canadienne des optométristes s'inquiète des points suivants:

- a) même si la communication est obligatoire, l'obligation de communiquer ne repose pas sur des principes directeurs clairs ni sur des normes claires;
- b) le mode et le délai de communication sont irréalistes; et
- c) il n'y a pas d'exonération claire de responsabilité pour la communication au ministre.

## Dispositions particulières

### 1. Article 5.5(1) — L'Opinion comme condition préalable

L'article 5.5(1) oblige l'optométriste à communiquer son avis au ministre. Même si le mot "doit" est assez clair, l'obligation est délayée dans des conditions préalables complexes et cumulatives à satisfaire avant la communication. En fin de compte, l'optométriste ne sait pas trop quand ni dans quelles circonstances il doit faire part de son avis.

Selon la proposition, l'optométriste doit, avant de communiquer des renseignements au ministre

- a) avoir des motifs raisonnables de croire que son patient est titulaire d'un document d'aviation canadien,
- b) savoir que le document d'aviation canadien est assorti de normes médicales, et
- c) estimer que l'état de l'intéressé est susceptible de constituer un risque pour la sécurité aérienne.

Le problème le plus grave concerne la dernière de ces conditions préalables. Ce qui est susceptible de constituer un risque dépend d'un avis subjectif, qui peut varier d'un optométriste à l'autre. Dans la pratique, l'application de cette condition préalable ne sera pas uniforme. Il n'y a aucun principe directeur. L'avis d'un optométriste bien informé et au courant des exigences et des normes de l'aviation sera bien différent de celui d'un autre.

Curieusement, même si l'optométriste doit savoir, avant que cet article ne puisse s'appliquer, que le document d'aviation canadien est assorti de normes médicales, l'opinion qu'il doit se faire de l'état du patient ne concerne pas ces normes, mais plutôt une vague obligation de croire, de façon subjective, que l'état du malade est susceptible de constituer un risque.

À tout le moins, cette opinion devrait porter sur la question de savoir si l'état du malade répond ou non aux normes de vision du document d'aviation canadien pertinent, de manière que l'optométriste ait un point de référence objectif pour se former une opinion. Ou encore, il ne doit être tenu de faire part de son avis que s'il constate que le patient ne répond pas aux normes établies par un organisme comme l'O.A.C.I.



*opinion as to whether there is a likelihood that the holder of a Canadian aviation document does not meet the standards of fitness imposed by such document, or alternatively, established by some such body as the I.C.A.O.*

## **2. Section 5.5(1) (b) and (C) — Method of Reporting**

Proposed sections 5.5(1) (b) and (c) require the optometrist to check within 72 hours with the Minister whether the patient has reported and, if the patient has not, then himself to inform the Minister of the patient's condition.

It is an unacceptable burden on the optometrist to be put into such a detective and policing role. Ascertaining from the Minister whether the patient has reported may be difficult, having regard to the location of the optometrist in relation to departmental offices across the country, finding the responsible person in the departmental office, holiday periods, and so on. Certainly to have to do so within 72 hours is unrealistic.

A much simpler clearcut and time-saving scheme would be where the optometrist simply files with the department a report of his examination, with sufficient delay if necessary to allow the patient himself to satisfy his personal requirement to report.

## **Recommendation 2**

Accordingly, the Canadian Association of Optometrists recommends:

*That the requirement to inform the Minister be simply to file a report without any requirement to investigate whether the patient has reported.*

## **3. Section 5.5(4) and (5) — Exoneration from Reporting or from Liability**

Proposed section 5.5(4) relieves the optometrist of the duty to enquire whether the patient has reported and then to report if in so doing the optometrist would contravene a law of the province in which he practises. If the information is given, section 5.5(5) makes it privileged, and no person would be required to disclose it or give evidence relating to it, and the information is not to be used in legal, disciplinary or other proceedings.

The fundamental point of departure in this is the confidential nature of the optometrist-patient relationship. The Canadian Association of Optometrists believes that provision of optimum vision care to the public requires the maintenance of the relationship. An exception should be made only where it is absolutely clear that the greater public good requires that an optometrist pass on information about a patient's condition to a public authority and then only in circumstances where the obligation is clear and unequivocal and does not subject the optometrist to legal or professional censure or civil liability.

We make the assumption that the interests of aviation safety advanced by Bill C-36 require such an exception.

Section 5.5(4) raises several issues. Firstly, it is likely to have uneven application across the country. At least in some provinces the requirement to abide by confidentiality provisions of the relevant optometrists' code of ethics has the force of law through regulation. In any province with such provisions, there would be no requirement to report. As a corollary of this, a holder of a Canadian aviation document with any doubts about his condition would be free to choose the province in which to consult an optometrist and thus circumvent the reporting requirement.

Moreover, section 5.5(4) is unclear as to whether "a law of a province" includes both statute and common law. It is suggested that the relief from reporting should apply whether so doing would either contravene a statute or regulation of a province or subject the optometrist to civil liability for passing on the information. Certainly, it is unthinkable that federal law would require action which would result in a contravention of provincial law or which would attract civil liability. A simple addition to the language of the subsection would clarify the point, to make it read, in part: "... if compliance with either of those paragraphs would require the physician or optometrist to contravene, or would subject the physician or optometrist to civil liability under the law of the province in which he practises."

Section 5.5(5) does not provide immunity to the optometrist from civil liability for having reported; it merely seeks to have the reported information kept out of evidence in any kind of legal proceedings. The starting-off point is to make the information "privileged". However, the section does not make it clear whose privilege is involved. Normally, it is the patient whose privilege it is

## **Recommandation 1**

Par conséquent, l'Association canadienne des optométristes recommande:

*Que l'opinion de l'optométriste qui, selon le par. 5.5(1), est une condition préalable de l'obligation de communiquer des renseignements au Ministre soit une opinion sur la question de savoir s'il est probable que le titulaire d'un document d'aviation canadien ne répond pas aux normes médicales dont ce document est assorti ou qui sont établies par un organisme comme l'O.A.C.I.*

## **2. Article 5.5(1b) et C) — Mode de communication**

Les projets d'articles 5.5(1b) et c) obligent l'optométriste à vérifier, dans les 72 heures, auprès du ministre si l'intéressé lui a signalé son état et, si l'intéressé ne l'a pas fait, à lui-même informer le ministre de l'état de l'intéressé.

Obliger l'optométriste à jouer ce rôle de détective et de police, c'est lui imposer une responsabilité inacceptable. Il peut être difficile de vérifier auprès du ministre si l'intéressé lui a signalé son état, compte tenu de l'endroit où se trouve l'optométriste par rapport aux bureaux du ministère dans les diverses régions du pays, de la difficulté de trouver la personne compétente aux bureaux du ministère, des congés, et ainsi de suite. En tout cas, il n'est pas réaliste d'exiger que cela se fasse dans les 72 heures.

Un mécanisme clair et beaucoup plus simple, et qui ferait épargner du temps, consisterait à obliger l'optométriste à tout simplement envoyer au ministère un rapport de son examen, sous réserve d'un délai suffisant, au besoin, pour permettre à l'intéressé lui-même de satisfaire à son obligation personnelle.

## **Recommandation 2**

Par conséquent, l'Association canadienne des optométristes recommande:

*Que l'obligation d'informer le Ministre ne soit qu'une simple obligation d'envoyer un rapport, non assortie de l'obligation de chercher à savoir si l'intéressé a signalé son état.*

## **3. Section 5.5(4) et (5) — Exonération de l'obligation de communiquer ou de la responsabilité**

Le projet d'article 5.5(4) soustrait l'optométriste à l'obligation de voir si l'intéressé a signalé son état, puis de le faire lui-même, si cela devait amener l'optométriste à contrevenir à une loi de la province où il exerce sa profession. Si les renseignements sont communiqués, l'article 5.5(5) les protège, et personne ne serait tenu de les communiquer ou de témoigner à leur sujet, et ils ne pourraient être utilisés dans des procédures judiciaires, disciplinaires ou autres.

Le point de départ fondamental dans ce cas-ci est la nature confidentielle de la relation entre l'optométriste et son patient. L'Association canadienne des optométristes est d'avis que, dans l'intérêt des meilleurs soins de la vue pour le public, il faut maintenir cette relation. Il ne peut y avoir d'exception que lorsqu'il est absolument clair que le bien commun supérieur exige qu'un optométriste communique des renseignements sur l'état d'un patient à une autorité publique, et seulement dans des circonstances où l'obligation est claire et non équivoque et n'expose pas l'optométriste à une censure judiciaire ou professionnelle ou à une responsabilité civile.

Nous faisons l'hypothèse que les intérêts de la sécurité aérienne que défend le projet de loi C-36 exigent pareille exception.

L'article 5.5(4) pose plusieurs problèmes. Tout d'abord, il sera difficile de l'appliquer uniformément dans toutes les régions du pays. Dans certaines provinces tout au moins, la réglementation donne force de loi à l'obligation de se conformer aux dispositions de confidentialité du code d'éthique des optométristes. Dans les provinces où il y a de telles dispositions, les optométristes ne seraient pas tenus de communiquer les renseignements. Par conséquent, le titulaire d'un document d'aviation canadien ayant des doutes sur son état serait libre de choisir la province où aller consulter un optométriste et pourrait très bien ainsi déjouer l'obligation de faire connaître son état.

L'article 5.5(5) n'accorde pas à l'optométriste l'immunité contre toute responsabilité civile pour la communication qu'il aurait faite; il vise tout simplement à interdire la production en preuve des renseignements communiqués lors de procédures judiciaires. Il s'agit au départ de "protéger" les renseignements. Cependant, l'article ne dit pas à qui s'applique la protection. Normalement, c'est au patient de décider si les renseignements protégés peuvent ou non être communiqués. L'emploi du



to decide whether the privileged information may or may not be released. The use of the "privilege" concept in s. 5.5(5) leaves it unclear and subject to court interpretation as to whether the patient may call for the release of the information.

### Recommendation 3

The Canadian Association of Optometrists recommends:  
*That S. 5.5(4) be amended to make it clear that there is no duty to report if in reporting the optometrist either contravenes a law of a province or exposes himself to civil liability under provincial law, by providing*  
*" — if compliance with either of those paragraphs would require the physician or optometrist to contravene, or would subject the physician or optometrist to civil liability under the law of the province in which he practises."*

### Recommendation 4

That S. 5.5(5) be changed to make it clear that the information provided shall not be disclosed or used, no matter at whose behest, in any of the proceedings or actions mentioned, by removing any reference to "privilege":  
*"Notwithstanding subsection (3), no person shall be required to disclose information provided pursuant to subsections (1) or (2) or to give evidence relating to it in any legal, disciplinary or other proceedings and the information so provided shall not be used in any such proceedings."*

### 4. Additional Recommendations

The optometric profession is of the view that the terms "medical condition" or "medical fitness" as used in s. 5.5(1) are not apt to describe all conditions or information pertaining to vision.

### Recommendation 5

Accordingly, the Canadian Association of Optometrists recommends:

*That in S. 5.5(1) and in the title to the section the term "medical or optometric" be used instead of "medical" wherever it appears.*

Further the Canadian Association of Optometrists supports the view that it may be possible through appropriate regulations or administrative procedures to ameliorate some of the difficulties raised by section 5.5.

### Recommendation 6

Specifically, the Canadian Association of Optometrists recommends:

*That regulations or administrative procedures be developed whereby a person holding a Canadian aviation document be required, as a condition of being granted such a document, to identify himself as a person holding a Canadian aviation document and to give his consent to the reporting to the Minister by an optometrist consulted by him.*

### Respectfully submitted

The Canadian Association of Optometrists

Appearing on behalf of  
The Canadian Association of Optometrists

Dr. Roland des Groseilliers, O.D., Past-President  
Dr. Lorne Hart, O.D., Optometric Consultant/Canadian Society of Aviation Medicine  
Dr. Gerard Lambert, Executive Director  
Mr. Y. A. George Hynna, Legal Counsel

### NOTE

On May 15, 1985, the Standing Committee on Transport reported and made its recommendations to the House of Commons. CAO was satisfied that the amendments tabled covered nearly all our recommendations. The optometric standards and administrative procedures will be developed in the Regulations to the Aeronautics Act.

Bill C-36 — Aeronautics Act (S.C. 1985, C.28) received Royal Assent on June 28, 1985.

concept de la "protection" au par. 5.5(5) fait qu'on peut se demander si le patient peut demander la communication des renseignements et que cela est laissé à l'interprétation des tribunaux.

### Recommandation 3

L'Association canadienne des optométristes recommande:  
*Que soit modifié le par. 5.5(4) de manière à bien préciser qu'il n'y a pas d'obligation de communiquer si cela oblige l'optométriste à contrevenir à une loi d'une province ou l'expose à une responsabilité civile en vertu d'une loi provinciale, en stipulant*  
*"... lorsque leur observation amènerait le médecin ou l'optométriste à contrevenir à une loi de la province où il exerce sa profession, ou l'exposerait à une responsabilité civile en vertu d'une loi de la province où il exerce sa profession."*

### Recommandation 4

L'Association canadienne des optométristes recommande:  
*Que le par. 5.5(5) soit modifié pour préciser que les renseignements fournis ne peuvent être communiqués ni utilisés, peu importe qui les demande, dans n'importe laquelle des procédures ou actions mentionnées, par le retrait de toute mention de "protection":*  
*"Par dérogation au paragraphe (3), nul n'est tenu de communiquer les renseignements ou de témoigner à leur sujet dans des procédures judiciaires, disciplinaires ou autres et les renseignements ainsi fournis ne peuvent être utilisés dans ces procédures."*

### 4. Autres recommandations

La profession optométrique est d'avis que les mots "état" ou "normes médicales" utilisés au par. 5.5(1) décrivent mal tous les états ou tous les renseignements concernant à la vision.

### Recommandation 5

Par conséquent, l'Association canadienne des optométristes recommande:

*Qu'au par. 5.5(1) et dans le titre de l'article, les mots "médicaux ou optométriques" remplacent le mot "médicaux" partout où il figure.*

En outre, l'Association canadienne des optométristes se range à l'avis qu'il peut être possible, par une réglementation ou des procédures administratives appropriées, d'atténuer certaines des difficultés soulevées par l'article 5.5.

### Recommandation 6

Plus particulièrement, l'Association canadienne des optométristes recommande.

*Que soient établis des règlements ou procédures administratives en vertu desquels une condition de la délivrance d'un document d'aviation canadien serait que le titulaire soit tenu de s'identifier comme titulaire d'un document d'aviation canadien et d'autoriser tout optométriste à communiquer des renseignements au Ministre.*

### Le tout respectueusement soumis.

L'Association canadienne des optométristes

Représentants de  
l'Association canadienne des optométristes

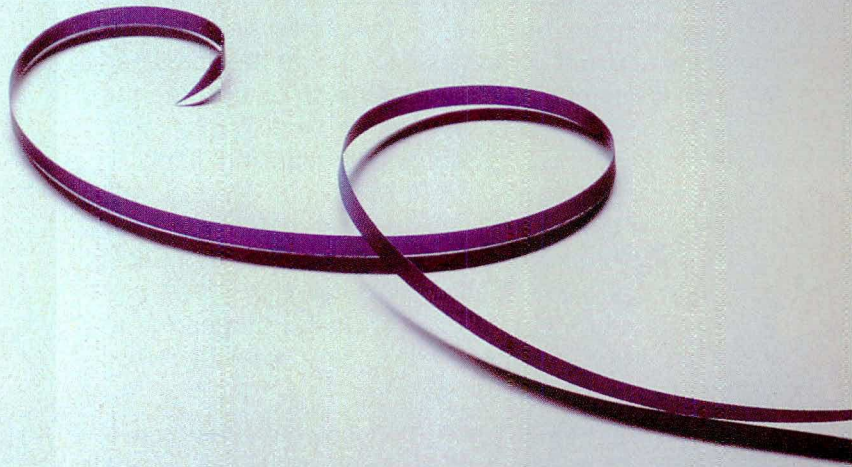
Dr Roland des Groseilliers, O.D., président sortant  
Dr Lorne Hart, O.D., expert-conseil en optométrie/Canadien Society of Aviation Medicine  
M. Gérard Lambert, directeur général  
M. Y.A. George Hynna, conseiller juridique

### NOTE:

Le 15 mai 1985, le Comité permanent des transports a présenté son rapport, avec ses recommandations, à la Chambre des communes. L'ACO est d'avis que les amendements déposés tenaient compte de presque toutes nos recommandations. Les normes et procédures administratives pour l'optométrie seront élaborées dans le règlement d'application de la Loi sur l'aéronautique.

Le projet de loi C-36 — Loi sur l'aéronautique (S.C. 1985, c. 28) — a reçu la sanction royale le 28 juin 1985.





## 100 million Hydrocare "Fizzy" Protein Remover Tablets have been used already.

For more than ten years you've recommended Hydrocare "Fizzy" Protein Remover Tablets and with good reason.

Hydrocare "Fizzy" Protein Remover Tablets have been used successfully by over one million Canadian contact lens wearers.

Hydrocare "Fizzy" Protein Remover Tablets have proven to be effective and compatible with all soft (including extended wear) and gas permeable contact lenses.

Allergan, through its commitment to research and development, will continue to bring you the finest products in contact lens care.

**HYDROCARE "FIZZY" PROTEIN REMOVER TABLETS.**

NOW ONTO THE NEXT 100 MILLION.



In recent years several studies in Canada have been addressed to determine valid and reliable school screening programmes that would reduce the underreferral problems of the Snellen without excessive overreferrals.

Cunningham and Woodruff<sup>3</sup> report on the examination of 600 children by an Ontario health unit staff using the Titmus Apparatus and then by optometrists with the Modified Clinical Technique. Using the MCT as the criterion, the Titmus under-referred a high percentage of children of all ages.

In the New Brunswick Vision Assessment Programme of 1982-1983, Woodruff<sup>4</sup>, 10,489 students, slightly more than 99.7% of the children attending grade one in New Brunswick schools were provided a modified clinical examination. In discussing the programme it was suggested that "nurse conducted preschool screening of acuity is likely to produce both underreferrals and overreferrals which are excessive with underreferrals particularly for astigmatism, anisometropia and ocular muscle imbalance. Cunningham and Woodruff<sup>3</sup> had previously claimed that "public health nurses fail to detect astigmatism since they have no valid method to assess its presence."

In a recent study in British Columbia, Reynolds<sup>5</sup> compared the referral efficiency of the Keystone Telebinocular, the Modified Telebinocular and the Snellen against a standard optometric examination. Sixty children, ages 6-9, were administered the above screening measures and a standard optometric exam. The Snellen produced a severe underreferral tendency with less than 30% of those needing attention receiving a positive referral. The Modified Telebinocular Test was found to be the most efficient of the three techniques evaluated and was recommended as a valid school vision screening procedure.

## The Study

This study was conducted in the spring of 1984. Its purpose was to determine the nature of changes in school visual screening procedures in British Columbia since a previous survey conducted in 1979<sup>1</sup>. A letter as well as a School District Information Form were sent to the superintendent of the 75 school districts in British Columbia. In the letter, superintendents were asked to give the form, a questionnaire on school visual screening practices, to their Director of Special Services or whoever else could provide the information. Responses were received from 60 school districts, an 80% return. A second letter and form was sent to districts not replying to the first letter. Eleven additional responses were obtained for a total of 71, a 95% return.

## Findings\*

### Screening Procedures

#### Compulsory Screening

When asked about screening procedures used in overall compulsory screening, most of those reporting — 54% indicated use of an eye-chart testing far-point vision, less than (67%) in the previous study. Little difference was noted in the use of a plus lens, a hand-held chart, or stereoscopic machine. More districts — 14% noted the use of "other" procedures — cover test, stereopsis, colour, etc. than previously (3%). Table 1 presents this data.

Table 1  
Visual Screening Procedures

	1979	1984
<b>Compulsory Screening</b>		
eye chart	67%	54%
plus lens	5%	5%
hand-held chart	1%	2%
stereoscopic machine	24%	25%
other procedures	3%	14%
<b>Screening Children with Reading Difficulties</b>		
eye chart	63%	52%
plus lens	10%	10%
hand-held chart	0	6%
stereoscopic machine	20%	22%
other procedures	7%	10%

#### Children with reading difficulties

Children with reading difficulties have their vision checked using almost identical procedures, with 52% of districts still reporting use of the eye-chart, although this is less than five years ago (63%). Little change was noted in use of the plus lens, hand-held chart, stereoscopic machine or other procedures.

### Visual Screening Staff

Compulsory screening is still usually done by a nurse (85%) and occasionally by a learning assistance teacher (3%), representing no change. Individual instances were noted of compulsory screening done by an optometrist, health aide, general practitioner, ophthalmologist, teacher of the visually impaired, coordinator of special services and classroom teacher. Little change is noted in these assignments.

Changes have taken place in the nature of screening personnel screening children who have reading difficulties. This data is presented in Table 2. Use of a nurse is now reported by 46% of districts (73%). Much greater use than previously reported is made of physicians — 24% (11%), optometrists — 13% (7%) and learning assistance teachers — 11% (5%).

\*Findings from the 1979<sup>1</sup> study are reported in parentheses.



**Table 2**  
**Visual Screening Staff**

	1979	1984
<b>Compulsory Screening</b>		
nurse	85%	85%
health aide	6%	1%
optometrist	2%	1%
physician — G.P.	1%	1%
physician — Specialist	0	1%
learning assistance teacher	3%	3%
teacher of the visually impaired	0	1%
coordinator of special services	0	1%
ophthalmologist	1%	3%
classroom teacher	0	1%
<b>Screening Children with Reading Difficulties</b>		
nurse	74%	46%
optometrist	7%	13%
physician — G.P.	8%	7%
physician — Specialist	3%	17%
learning assistance teacher	5%	11%
ophthalmologist	0	5%

### Student Characteristics

While only 22% of districts reported visual screening as a prerequisite for school entrance, no change from our last report<sup>1</sup>, visual screening appears to be considered even more important in the early school years. An increase was noted — 45% (36%) in compulsory screening, done in kindergarten. No change — 23% (23%) was reported for grade one. Slightly less emphasis seems to be placed on testing the visual proficiency of children with reading difficulties. In only 22% of the districts are these children always tested (26%), in a majority of districts — 51% (56%) they are tested most of the time and in 22% (17%) occasionally. Three districts reported *seldom* and one *never!*

### Sources of Referrals

Students are referred much more frequently by the learning assistance teacher — 24% (1%) but less frequently by their classroom teacher — 42% (54%) or by a nurse — 14% (27%).

### Summary

From the high level of response (95%) in this study, it would appear that school districts in British Columbia are very concerned with providing good visual screening. There is a greater emphasis on early screening, particularly in kindergarten, which would seem the most productive route in preventing later difficulties in both vision and learning.

Findings reveal somewhat less emphasis than previously on the screening of children with reading difficulties, in terms of when this is done. Greater use, however, is made of vision specialists, both physicians and optometrists.

The role of the learning assistance teacher in referring children for screening and in participating as screening staff has grown considerably.

While some districts report the use of stereoscopic equipment, screening is still done at far-

point by means of an eye-chart by most districts. It is probable, taking into account the high under-referral rates of the Snellen, that numerous children with visual anomalies are not identified in school screening and thereby study with discomfort and/or difficulty in classrooms in the province.

### Recommendations

1. An attempt should be made to provide visual screenings for all children prior to starting grade one.
2. Children with reading difficulties and/or other learning problems should be screened as a first step on diagnostic procedures.
3. Screening should include accommodation, coordination as well as acuity at both near-point and far-point by means of a stereoscopic device.
4. School personnel should be trained by vision specialists to use this equipment. Screening should be monitored by vision specialists to insure as much as possible minimum underreferrals and overreferrals.
5. Studies should be undertaken to investigate the relative efficiency and relative cost effectiveness of school screening programmes that are sufficiently comprehensive to identify children needing visual care. Taking into account the unacceptably high underreferral rate of the Snellen, its use as a basis for referrals should be phased out as quickly as possible.

### References

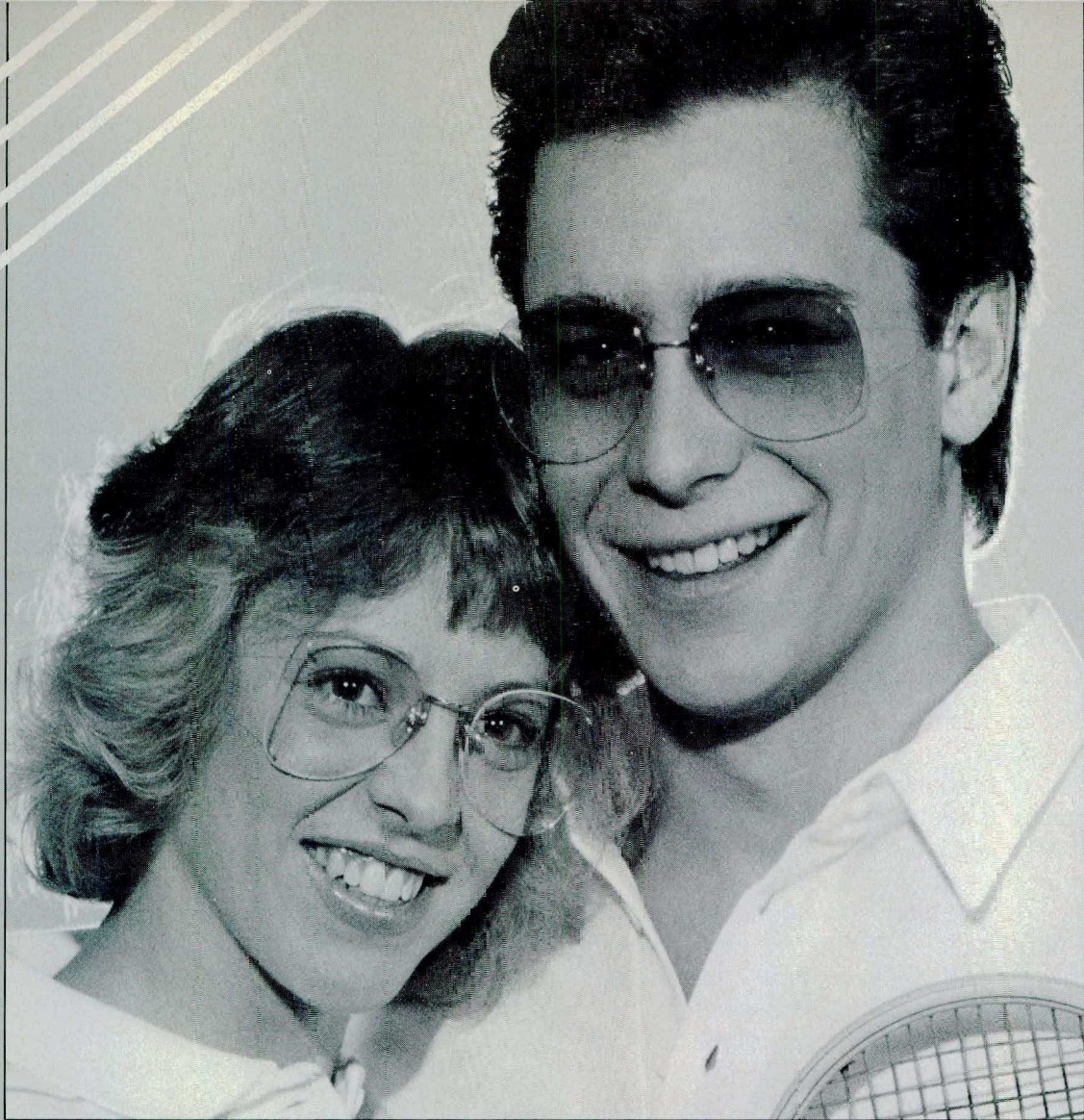
1. Pennock, C. and Shapiro, J. A Survey of Visual Screening Programmes in British Columbia Schools, *B.C. Journal of Special Education*, Volume 4, 377-382, 1980.
2. Spache, G. A Comparative Study of Three Tests of Visual Acuity, *Journal of Applied Psychology*, Volume 24, 207-212, 1940.
3. Cunningham, A.I. and Woodruff, M.E. The Evaluation of Visual Screening Procedures: A Preliminary Exercise in Public Health Optometry, *Canadian Journal of Public Health*, Volume 69, Supplement 1, 24-27, 1978.
4. Woodruff, M.E. A Report to Various Vision Parameters of Children Assessed by the New Brunswick Vision Assessment Program in 1982-83, British Columbia Optometric Association Conference, 1984.
5. Reynolds, J. A Comparison of Three Vision Screening Measures for Use with Primary School Students, unpublished M.A. Thesis, University of British Columbia, 1984.

## Correction

In the *Shilling Optical Case* advertisement which appeared in the Special Congress Souvenir Program, carried with the March issue of the CJO, the wrong telephone number was printed. Following is the correct number for the company:

**(416) 630-4470**



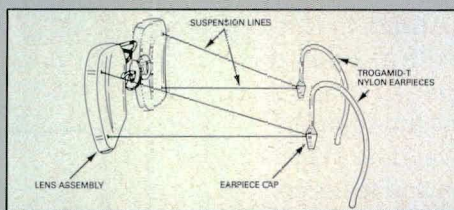


Canadian Patent No. 1135543

# Suspension Eyewear

*More secure, comfortable and stylish.*

- Lenses are held securely in place by a nearly invisible, weightless suspension system.
- No "sliding down", no irritated nose or ears.
- No peripheral obstruction to impair vision.
- Fits problem-patients and reduces frame inventory.
- Unique styling will attract new patients by referral.
- Unlimited control of PANTO-TILT and SEG PLACEMENT.
- Any style of rimless lenses by most labs.
- Suspension system guaranteed against breakage.



**CALL FOR INFORMATION PACKAGE AND FREE SUSPENSION EYEWEAR SYSTEMS FOR DOCTOR AND STAFF.**

**CANSEE  
SUSPENSION EYEWEAR ENTERPRISES  
(CANADA) LTD.  
1-800-661-1165 (CANADA WIDE)**

**POUR DE PLUS AMPLES RENSEIGNEMENTS  
AINSI QUE DES SYSTÈMES DE SUSPENSION  
GRATUITS POUR L'OPTOMÉTRISTE ET LE  
PERSONNEL, APPELEZ.**

**CANSEE  
ENTREPRISES DE LUNETTES SUSPENDUES  
(CANADA) LTÉE 1-800-567-1288  
(CODES RÉGIONAUX 418, 514, 613, 819)**



# Let's clear up a few things about anti-reflection coatings.

Anti-reflection coatings on CR-39 provide very valuable properties you may not be aware of.

First, they *do* reduce reflections.

Second, by doing so, they allow up to 5% more light through the lens for an image with more contrast. They actually boost light transmission from 91% to 96%.

Third, they do form a protective surface on the lens. And, if the lens has been tinted, coatings seal the tint coat in, providing protection against fading.

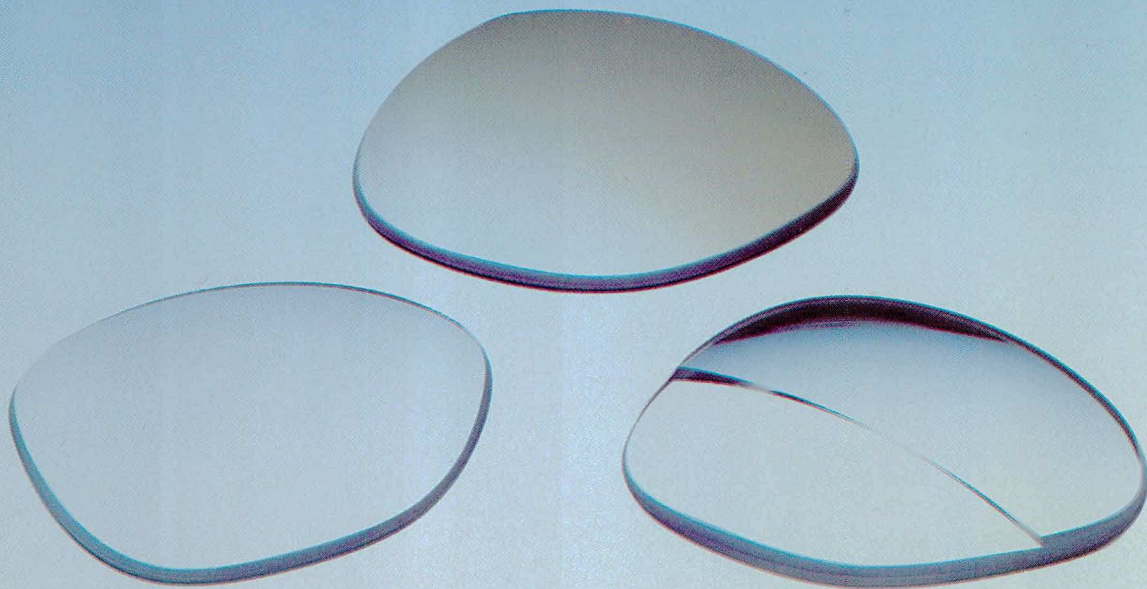
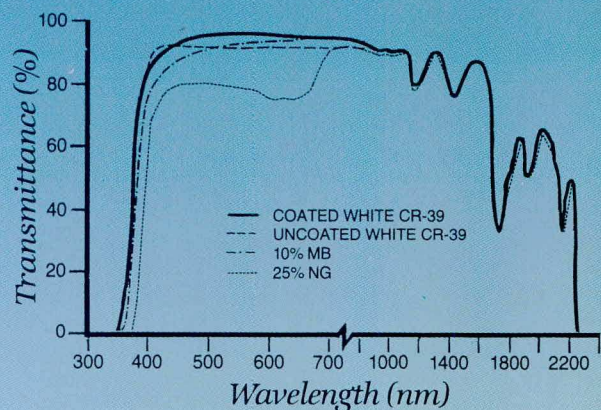
An anti-reflection coating on CR-39 should be recommended where glare and false images caused by light reflections on the lens can lead to eyestrain and headache. People who have to drive at night, work in rooms with fluorescent light, or with computers, are exposed to these problems.

The biggest misconception is that you have to send to Europe for this kind of quality. Europe has now come to you.

Optocoating uses the most advanced, high vacuum technology developed by our parent

company in Germany. Our Mississauga laboratory processes orders the day they are received and the coated lenses can usually be sent out the same night.

Anti-reflection coatings have other important advantages that increase user comfort and safety. They're all described in a free brochure available from your lab.



**Optocoat ML<sup>®</sup>**  
**The Clear Choice.**





## Gleanings from the 19th Biennial Congress

by the roving Newsman

It seems to be a Biennial fact of our Association that every Congress reveals some unexpected, unusual and pleasant aspect of the host city and the Local Arrangements Committee. The CAO 19th Biennial Congress in Regina, July 2-5, was no exception.



Their exterior calm seems to belie the planning in the minds of the Local Arrangements Committee. When photographed here at the Opening Ceremonies, their most intensive work was just ahead.

Who would have thought that Regina, rising from among the flattest lands in Canada, would have produced a registration figure that exceeded the number of OD's who went to Vancouver in 1983? Believe it or not, Regina's registration is a ringing endorsement of the selection of Canada's smaller cities as



Although this looks like a huge hello from Co-Chairman Dr. Len Koltun, the photo was taken at the end of the Congress and Len is actually measuring the extent of his relief at the program's success.

CAO Congress venues. Scenery is perhaps less spectacular but costs are much lower and, as our Saskatchewan hosts clearly demonstrated, congenial hospitality is certainly no less in generous supply.

This was the third time Saskatchewan has played host to a CAO Congress, a first for Regina. Saskatoon acted as the host city in 1953 and 1969.

The key to the success of the 1985 Congress was clearly the work of the Congress organizing Committees in their organization and publicity for "Prairie Panorama", a fact to which the national staff will readily attest. In the months leading up to Regina, Dr. Len Koltun's regular telephone contact with CAO only confirmed that virtually every contingency had been anticipated and resolved in advance.

The flavour was established right from the Opening Ceremonies on Tuesday evening. Dr. Keith MacDonald from Winnipeg, resplendent in his MacDonald tartan, piped in Regina Mayor Larry Schneider, SOA and CAO Presidents Drs. Claude Hutton and Ralph Rosere respectively and Congress co-Chairpersons Dr. Len Koltun and his wife, Betty Lou, all under the protection of two red-coated women constables from the RCMP. Clan



"Welcome to Regina!" — Betty Lou Koltun at the Opening Ceremonies.



MacDonald's tartan stood up well to the Force's scarlet coats, even if the audience's attention seemed more clearly directed to the latter.

Mayor Schneider, in addressing the gathering, offered delegates the full range of the Queen City's hospitality and unique tourist attractions in his opening words of welcome. Len and Betty Lou Koltun, followed by Presidents Rosere and Hutton, added their greetings (some in both official languages, efforts which were greatly appreciated by those ears attuned to French — hope for the day when our Quebec colleagues attend in proportion to their numbers. A quand une délégation représentative de nos collègues du Québec?) and, with Dr. Rosere's ringing declaration, the 19th Biennial Congress was declared officially open.



**"I now declare the 19th Biennial Congress of the Canadian Association of Optometrists officially open." — (then) President Dr. Ralph Rosere under close RCMP protection at the Opening Ceremonies.**

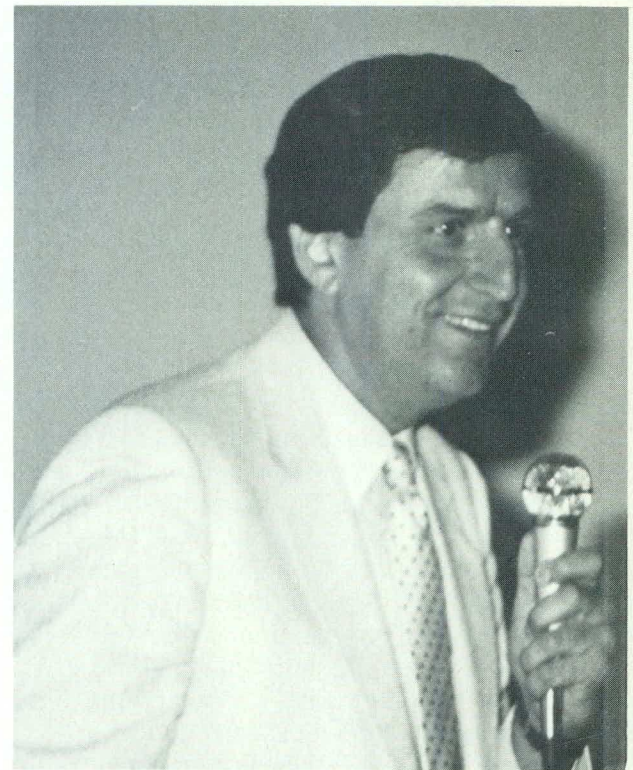
At this first reception, delegates and spouses were invited to enjoy cocktails and hors d'oeuvres spread out with consummate taste and beauty on a 10 metre-long table whose centrepiece was a beautiful ice sculpture of a swan about 1m high — truly a work of art which, despite the heat, did not melt away. The sculpture, however, was not the only piece of art in evidence. The hotel chef's culinary



**The calm just before the storm at the Opening Ceremonies. As delegates flood in the doors, the hors d'oeuvres table and swan centrepiece spend their last seconds in orderly array.**

expertise was a creation in itself in seafood bites, canapes, sandwiches, cheese and an exquisite array of fresh fruit — truly a gourmet's delight.

Bright and early Wednesday morning (and bang on time — a factor which was to be another hallmark of this Congress), the Program's business got underway with the first of three Education sessions. Dr. Louis Catania managed to personalize an optometric examination for 250 OD's using a technique known as "Grand Rounds". Long-time practitioners and new graduates alike exercised their diagnostic skills on a variety of projected slides, supplemented by Dr. Catania's personal, animated delivery and long experience with the "FLE" (which, it can now be revealed, is Catanianese for "Funny Looking Eye").



**Dr. Louis Catania fields a question.**

Wednesday's luncheon, presented for both optometrists and spouses, was sponsored by the Government of the Province of Saskatchewan and featured a pre-luncheon address by Mr. Graham Taylor, the Saskatchewan Minister of Health. Mr. Graham's unusual pre-luncheon presentation was necessitated by a particularly demanding schedule which would take him to a hospital opening later that afternoon hundreds of miles outside Regina. Regrettably, he was compelled to take his leave without being able to enjoy the luncheon. During his remarks, he welcomed everyone in the name of Premier Grant Devine and alluded to the good relations he had with members of the profession in Saskatchewan. He specifically mentioned the new provincial statutes which will permit optometrists



in Saskatchewan the use of diagnostic pharmaceutical agents and took advantage of the occasion to announce the appointment of Dr. Jerry Breker, an optometrist, to the Saskatchewan Medical Care Commission, circumstances shared by only one other province in Canada, Quebec, which has an optometrist serving full-time on the Régie de Santé as administrator of optometric affairs. Mr. Taylor concluded his address with an invitation to all visitors to the province really to see Saskatchewan which, he noted, is not only wheatfields but also beautiful valleys like the Qu'Appelle Valley, hills like the Cypress Hills, lakes, woodlands, mountains and scenic rivers like the North and South Saskatchewan.

Gratitude for all the benefits and graces which we receive is one aspect which we should never forget, both as individuals and, collectively, as a profession. The Grace and prayer which preceded the official government luncheon was a beautiful example of just such a reminder. Dr. Fred McWilliams read the grace and then invited all to join in a song, sung to the tune of *Edelweiss*:

Bless our friends; bless our food.  
Come, O God and sit with us.  
May our words glow with peace.  
Bring your love to surround us.  
Friendship and peace,  
May they bloom and grow,  
Bloom and grow forever.  
Bless our friends; bless our food;  
Bless our mission forever.

(Similarly, at the closing banquet, Dr. Keith MacDonald and his bagpipes intoned Amazing Grace and, within a few moments, the gathering began to hum the tune without actually speaking the words. It was a very inspiring few minutes, a time for inward thought and thanksgiving, and clearly one of the "moments" for which the 19th Biennial Congress will be recalled so fondly.)

Annual and Biennial Business Meetings, traditionally, are primarily to provide the Executive of an Association with the occasion (i) to report on the



Interaction, and CAO (then) President-elect Dr. Bruce Rosner reacts to a comment from the floor. Seated (L) is Dr. David Zalinger of Peat, Marwick and Partners and Gerard Lambert, CAO Executive Director.

activities carried out under its mandate; (ii) to propose a plan of action for the near and distant future and (iii) to provide an opportunity for members to question or approve the actions of their leaders and to offer suggestions for the better administration of the Association.

In all AGM's attended by this writer, a perfect mix of the above objectives has yet to be achieved. Sometimes, we found that reporting was the best feature; on other occasions, discussion (if not acrimonious, at least heated) was the order of the day. On still others, a proposal for an action, such as the original Medicare Bill, held the floor. At this Congress, the quality and depth of the pre-meeting reporting was the meeting's best characteristic. In fact, the meeting itself was *too* orderly and quiet. Reports had been printed and mailed to every optometrist registered at the Congress. One would have assumed that, as a result, there would be a good deal more questioning from the floor, but such certainly was not the case. This lack of discussion may indicate one of at least two possible scenarios: either that too many members do not read their information reports (with the resulting question as to whether or not circulating the reports is worth the time, effort and expense); or that the reports themselves actually anticipated and provided the answers for every conceivable question which might have been considered before the meeting.

As it turned out, the only item which raised some discussion dealt with the formation of Sections, as covered by By-law 52 which, ultimately, was passed with only a minor amendment to the proposed wording.

Dr. Gerald Easton, President of the American Optometric Association, attended and addressed the General Business Meeting as a special guest of CAO. Speaking on commercialism in Optometry as a priority topic for his mandate as President, he related how, in the US, consumer groups and some federal agencies were endeavouring to eliminate controls in order to enhance competition.

Under New Business, Dr. Arthur Hurst was pleased to inform delegates of his work with juvenile delinquents, work which had recently received funding from government. In company with Dr. June Robertson, the newly-elected President of the Ontario Association of Optometrists, he will visit a detention home project in California where, following optometric care and therapy, only 20% of the residents returned to prison. 80% returned to normal life. Both the Ontario and Federal governments are interested in repeating the project in Canada and Dr. Hurst, it appears, likely will direct it — a crowning achievement for his lifetime of work in helping research and resolve learning and behavioural problems in children.



A special feature of this year's Congress was the offering of simultaneous translation services during all of the lecture sessions and the General Business Meeting. Members of the faculty of the University of Regina's linguistics branch did a remarkably commendable job for a first sortie into the optical world. The technical equipment was supplied by the university, which frequently provides the same service for other civilian, professional and government groups.

This year as well, official student representatives from our Schools in Montreal and Waterloo attended the Congress, partially as guests of CAO. They made their presence known by contributing to the pre-Congress Interaction meeting, the business sessions, lectures and social events. We salute both Lucie Laurin (Ecole d'Optométrie, Université de Montréal) and Kerby Kelly (School of Optometry, University of Waterloo).



Both Canadian Schools of Optometry were represented at Interaction by (L) Kerby Kelly, representing Waterloo and Lucie Laurin, representing Montreal.

On the subject of Interaction, the meeting was held, as per Congress year tradition, prior to the Congress and was devoted to the theme, "Manpower in Optometry". A more complete report will be found elsewhere in this issue.

Nature provided the Congress dates with superb weather: bright, clear skies and a refreshing wind (a really warm wind, to be sure, but without the muggy temperatures so often characteristic of the more humid areas of this country). The dry weather's duration, however, was not to the delight of the province's farmers who truly need the rain and we do not envy the dilemma of the Congress Planning Committees in expressing their weather-related wishes — sun to please the Congress delegates or rain to please the farmers.

Delegates, however, took advantage of the sun for golf or other outings, particularly for the Congress barbecue on Wednesday evening. The city's Exhibition grounds were an ideal spot for an indoor/



Looking right at home in denim and stetsons are (L) Dr. Scott Brisbin, CAO President-elect and President Dr. Bruce Rosner.

outdoor gathering — a cooling breeze, sun and lots of greenery.

The evening's dining started with deepfried cheese "bings" and barbecued spareribs cooked over a four-metre long open brazier on the lawn in front of the bandstand. The band itself fired up with some peppy music and entertainment which gradually attracted a sizeable number of the crowd. There followed some introductions and, finally, the induction of several Association and Congress VIP's\* into the Order of the Buffalo Hunters. (A ceremony unique to Regina, induction into this questionable brother/sisterhood involves great personal embarrassment in front of the largest audience that can be assembled. As the crowd yells, "Higher, higher!!", the bandleader, as Master of Ceremonies, slips a garter onto the leg and above the knee of each of the female inductees, as far as



"Swing your partner!" . . . under a setting Prairie sun at Wednesday night's barbecue.

\*Outgoing President Dr. Ralph Rosere and his daughter, Roxanne; incoming President Dr. Bruce Rosner and his wife, Susan; Congress special guest Dr. Gerry Easton, President of the American Optometric Association; Congress Co-Chairperson Betty Lou Koltun and CAO Executive Director Gerry Lambert and his wife, Monique.



he dares given the presence and size of appropriate spouses, fathers, etc., while the band's lead singer, a female, then performs the same induction for the males.)

The ceremony completed, delegates retired indoors for a steak dinner (cooked outside and carried indoors on heated platters). In true Western tradition, this proved to be quite a substantial meal, very well-prepared and topped off with sweet pastries and coffee.

After dinner, a band renowned in that part of Canada, the Weekend Whiskey Band, really came into its own with electric guitars and exuberant dance music enough to set the building shaking with the sound of music and stomping feet until 1:00 am.

(The crowd did begin to thin out slightly at this point in the evening. Not all the delegates were up to the music and the dance and whether it was a slip of the tongue or a play on words, one cannot really say, but when the MC asked, jokingly, if the decibels were harmful to the Doctors' eyes, one attendee was heard to comment, "Bad enough that it's hard on the ears, but when it gets hard on the eyes, it's time to leave.") Given the Prairie sunset, some opted to miss the early buses back in favour of walking. Although it was a 15 minute bus ride back to the hotel, this decision would seem to have required quite a constitution until one recalls that a golf game demands a longer walk than the distance from the fairgrounds to the hotel — and are not all optometrists golfers?!

As Day 2 dawned with all the sun, warmth and promise of Day 1, most of the delegates turned up, on time, for a lecture by Dr. Tony Cullen of the Waterloo School of Optometry on a subject whose mere title gave the translators pause: *The Environmental Toxicological Aspects of VDT's and Protective Filters*. Research on the effects of the VDT is one of Dr. Cullen's specialties and this lecture, as with so many of his presentations, "radiated" his own brand of wit, extensively supported by his strong background in the field.

Thursday afternoon's business meeting was a workshop session devoted to exploring the establishment of individual Sections of CAO for practitioners with areas of special interest within the profession. Several possible Sections were listed, for example, Sports Vision, Children's Vision, Contact Lenses, Voluntary Services and Aviation Vision and each member attended the session of his or her choice.

This lengthy summary of perceptions of events and people during the Congress would be incomplete without the full recognition and heartfelt thanks to all those exhibitors who made the Congress possible by their presence and their financial assistance. We salute them all for their contribu-

tions and to those who, because of the limitations imposed by the facilities, were unable to exhibit this year, we point out that 1987 takes CAO's 20th Biennial Congress to Saint John, New Brunswick, under the Chairpersonship of Dr. Barbara Iftody.



The Congress is only one day old and 1987's Local Arrangements Chairperson Dr. Barbara Iftody already looks as though she's absorbed enough planning information to last the next two years.

The Exhibit Hall itself was the focus of the afternoon and early evening's activities on Thursday. For the first time in Congress history, the Hall was opened throughout the Congress business program on Thursday and Friday. Following the more traditional format of moving the optometrists into the Hall en masse, two functions were scheduled in the Hall — a buffet luncheon and an early evening cocktail and hors d'oeuvres reception.

Fully two months before the Congress, the Exhibit Hall was completely sold out and, once again, the distributors "put on the Ritz" in the quality of their displays. In addition, perhaps as at no previous Congress, manufacturer/supplier support was



Sarah Turnbull looks decidedly uncertain about entering "Satellit 558.852.00" in the toddlers' playroom.



extensive for aspects of the Congress other than the purchase of Exhibit space, notably in the prizes for the Biennial Photo Contest and the In-Hall Prize Draws. A full list is included elsewhere in this issue of the CJO and we encourage you to read it. Granted that we are mutually supportive, but the CAO Congress always seems to bring out the best in the ophthalmic industry representatives.

Once again the photo contest was a success and, as noted above, it was the contributions of many of the Exhibitors who really made it worthwhile, with over \$900.00 in cash prizes having been donated before the Congress. The one aspect of the event with which we might take issue, however, is that the photos were not really very clearly in evidence, having being set up in the exhibit hall along one wall which, as it happened, wound up being the distribution point for the cocktails and hors d'oeuvres. In future, we would suggest that the photos be displayed near the reception desk so that everyone could see and admire them until after the final banquet. The winners, as happened this year, should still be announced at the banquet and invited to collect their prizes and retrieve their pictures at that point in the Congress.

Day 3's dawn cracked somewhat more loudly for those who had taken advantage of the myriad of opportunities for a class reunion. Mention has to be made of the efforts of Dr. Fred McWilliams who saw to it that not only were most of the profession's graduating years represented, but also that Saskatchewan hosts were provided for virtually every class that wanted to hold a reunion during the Congress. As a footnote to this event, Dr. Luc Boulay, a Newfoundland practitioner, may find himself wishing he'd attended after all. His particular class members have a tradition of telephoning, collect, from the Congress to whichever of their classmates is farthest away at the time. Dr. Jim Beckner of BC placed the call, which would have detonated Dr. Boulay's phone at 3:30 am in St. John's, and every member of the class in attendance had a word with the absent classmate, all at Dr. Boulay's expense. See you in Saint John, Luc!

In spite of the late night and subsequent loss of sleep for many of the reunion participants, Dr. Indra Mohindra faced a well-filled classroom for Friday's Education session. She spoke on *Visual Functions in Infants and Toddlers*, reflecting many years of experience with pre-schoolers.

The whole of Friday afternoon was given over to free time for delegates and spouses alike. Saskatchewan's sky continued to reflect only the blue end of the spectrum and the thermometer remained locked at 28 degrees C. Most of the attendees took full advantage of the options offered by the Local Arrangements Committee; a few sealed a last transaction in the Exhibit Hall before its closing, while

still others simply vanished to enjoy the unscheduled time with their families. But all had returned by late afternoon as what was to be one of the most memorable conclusions yet to a CAO Congress got underway with another warm and friendly Regina reception.

The social highlight of the Congress, unquestionably, was the closing banquet.

Prior to any of the food's being served, however, (with the exception of yet another spectacular array of hors d'oeuvres and appetizers,) the Local Arrangements Committee opted for a novel procedure — to present all the awards before serving the meal.



**A somewhat surprised looking CJO Editor Dr. Maurice Belanger during a close examination of the CAO Gallery of Presidents unveiled at the final banquet.**

The Awards portion of the evening was inaugurated by Professor Jacob Sivak, Director of the Waterloo School of Optometry, who announced that the reception had been supported in part by the University of Waterloo and in part by the Canadian Optometric Education Trust Fund. He thanked all those contributors on behalf of the WATfund and stressed that donations from Optometry graduates were, on average, four times that of any other Waterloo alumni group. The COETF, like the University, he pointed out, is manpower conscious and it seemed only proper for both to sponsor the reception. His acknowledgement of this joint support for the event was tempered somewhat by the comments of a voice from the audience, recognized as that of one Dr. Ivan J. McNabb, who reminded those who had enjoyed the reception, "Don't forget whose money it was." Needless to say, the roof came down.

Dr. Scott Brisbin, Chairman of the COETF, speaking briefly on behalf of the Fund, then reported it has reached \$1,000,000.00 in pledges, a third of its long-range objective. Thus ends Phase I of the Campaign, a total in pledges raised exclusively by the membership. Phase II, to begin shortly, is directed to the ophthalmic industry, although Dr. Brisbin reminded all in attendance that fundraising from



among members has not been terminated. In fact, he said, with all the new members who have set up practice since Phase I was inaugurated seven years ago, and with many of the Fund's donors having since completed pledges, a reintensified drive to appeal to CAO members is definitely on the COETF's horizon.

Dr. Brisbin also informed members that the Mert deForest Fund for "the writing of a history of Canadian Optometry" under the COETF donations structure, has reached \$25,000.00 which has been slated for research and the book's initial draft, work presently being undertaken by Professor Ted Fisher.

At this time, Mr. Marcel Brin, Executive Director of les Services Optométriques de l'Association des Optométristes du Québec (SOAOQ), a co-operative purchasing group run by the AOQ, presented the first cheque from industry to Dr. Brisbin, thus officially inaugurating Phase II.

CAO President Dr. Ralph Rosere then introduced to the assembled delegates the full Congress Local Arrangements Committee and, after presenting each with a specially inscribed plaque commemorating the event, led a warm round of applause in acknowledgement of a superbly planned and executed Congress.

It was then the turn of co-Chairpersons Len and Betty Lou to be recognized.

In presenting them with a pair of beautifully carved and polished wooden grasshopper weather-vanes, Dr. Rosere acknowledged the multi-directional, pre-Congress "hops" undertaken by both halves of this most energetic couple in planning for, and promoting the 19th Biennial Congress. Both Len and Betty Lou then offered their thanks, on behalf of the Committee, to everyone in attendance for helping to make the event such a success.

SOA President Claude Hutton added his official thanks, on behalf of the optometrists of Saskatchewan, to all the out-of-province delegates and once again took advantage of the occasion to practise his excellent French.

In a unique and long overdue recognition by the Association of contributions made by its most distinguished representatives, President Ralph returned to the podium and unveiled a large photo portrait which includes pictures of all past national Presidents of the Canadian Association of Optometrists, that is, all but three — Herb McClung, Dave Maguire and Emanuel Finkleman\*. He then read out the Honour Roll of Presidents who have served CAO since our first pre-Constitution President was elected in 1941.

In Part II of this presentation, Dr. Rosere then presented a plaque to each of the nine past national

\*Editor's Note: Since the Congress, CAO has acquired two of the missing three pictures in its Photo Gallery of Presidents and now lacks only a photo of Dr. Dave Maguire.

Presidents in attendance at the Regina Congress: Drs. Bill Lyle, Emanuel Finkleman, Hugh Mackenzie, Woody Spearman, Ivan McNabb, Garson Lecker, Roy Brown, Jack Huber and Roland des Groseilliers. The plaques were individually dedicated for efforts on behalf of the profession. Those past Presidents not in attendance will each receive a similar plaque either by mail or by personal delivery from a colleague.



**A total of nine past national Presidents attended the Congress' final banquet. The previous day, seven were assembled for an informal luncheon hosted by (then) President Dr. Ralph Rosere for a preliminary unveiling of the CAO Gallery of Presidents photo: (L to R) Dr. Ivan McNabb, Dr. Roy Brown, Dr. Bill Lyle, Dr. Rosere, Dr. Woody Spearman, Dr. Garson Lecker, Dr. Jack Huber. Absent from the photo, but present at the banquet were Dr. Emanuel Finkleman, Dr. Hugh Mackenzie and Dr. Roland des Groseilliers.**

The list of tributes this night, however, did not end with past national Presidents. Also among those honoured was Ed Higgins, the first full-time Executive Secretary of CAO, who was the person most responsible for CAO's establishment as the representative Association of optometrists from coast to coast in Canada. Ed Higgins is presently ill but is on the mend and those who would like to communicate with him can do so by addressing cards and letters to:

Apt. 3, 49 Henry Street  
TRENTON, Ontario  
K8V 3V1

Dr. Rosere also paid tribute to four past national Councillors of CAO who had served their provincial Associations ably on the national Council — Dr. Robert Bell, of New Brunswick; Dr. Barry Winter, of Ontario; Dr. Paul Lambert of Quebec and Dr. Rix Graham of BC.

Finally, a double award was given to outgoing Councillor and past national President of the Association, Dr. Roland des Groseilliers. It was ten years ago this year that Dr. des Groseilliers first faced a



CAO Council meeting. As a young Councillor (but provincially experienced, having come through the Presidency of the Ontario Association of Optometrists), he soon found himself learning quickly from the likes of Drs. Garson Lecker, Roy Brown and Ivan McNabb the intricacies of optometric politics on a national level. That experience carried him through to the Presidency of the Association, ably representing the profession in discussions leading to the passage of the Canada Health Act, acknowledged by Dr. des Groseilliers as probably the most arduous campaign of his years on CAO. Optometric politics will continue to dominate the des Groseilliers' table talk, however, with Dr. Margaret Hansen des Groseilliers picking up the Council reins for the province of Ontario. As Dr. Roland acknowledged, though, "I'm looking forward to being a spouse for a while."



Locked in thoughtful discussion at the final banquet are (L) Dr. Scott Brisbin, CAO President-elect and past President Dr. Ralph Rosere.

In his final remarks as CAO President, Dr. Rosere reviewed four important areas which, he said, dominate the present and future of the profession:

- the Canada Health Act, and the resulting need to get an optometric consultant in the Department of Health and Welfare;
- the national Keyman and political action program;
- Passport signatory recognition for the profession;
- National Defence's continued use of ophthalmic technicians to perform optometric services.

Dr. Rosere's final act was to introduce Dr. Bruce Rosner of Winnipeg, elected earlier that afternoon to succeed him as President of CAO. After officially surrendering the gavel, Dr. Rosere himself was on

the receiving end of a short ceremony during which he was thanked and presented with a gift of a beautifully handcrafted decorative ceramic bowl by incoming President Dr. Rosner, a clear challenge to the airlines of Canada to return it safely to Dartmouth, Nova Scotia.

The last item on the pre-dinner awards portion of the program was the presentation of the CAO President's Award to Dr. Roy Brown of Virden, Manitoba.

The head table this year was graced as well by the presence of Roy's charming wife, Flora and, in acknowledging the presentation of CAO's highest award, Roy paid loving tribute to her for her years of devotion and support. The award was presented by CAO past President Dr. Roland des Groseilliers who read the following inscription in both English and French: "Presented to Dr. Roy Brown, July 5, 1985. In recognition of his years of leadership and service to the profession of Optometry, we applaud his dedication to the development of Optometry into the primary vision care profession in Canada and we further appreciate his commitment to Optometry and his concern for the individual optometrist."



A handshake ties together years of CAO service as this year's Presidents' Award winner, Dr. Roy Brown (R), accepts congratulations from a past CAO President, Dr. Garson Lecker.

The Congress' closing banquet was framed around a superb six-course meal with a lot of time deliberately provided between courses to permit visiting at other tables and speaking with friends. It seemed to encapsulate the whole flavour of Regina, 1985 and utterly banished any of the stiff formality that can be created when your head table guests are in tuxedos and formal gowns. The wine fanciers were well provided for, with a selection of six different types. Although the dinner itself took well over two hours to serve, no one arose with a feeling of being overstuffed. The emphasis was on ambience and quality, not on quantity. Hats off to those who selected the menu and to the chef and his more than able staff.





When you're running on time, everyone's happy. Checking their watches are (L to R) Betty Lou Koltun, Dr. Len Koltun (Co-Chairpersons), Ottawa OD Dr. Jacques Gaulin and SOA President Dr. Claude Hutton.

Saturday's outbound flights from the Regina airport carried with them most of the CAO Congress delegates and their families. Each will carry his or her special memories of the 19th Biennial Congress and many, we hope, will have already booked August 4-8, 1987, for a reunion in Saint John, New Brunswick at our 20th Biennial gathering.

The "Merry-time Mingle", under Chairperson Dr. Barbara Iftody, will be held at the brand new Market Square Trade and Convention Centre with a new Hilton Hotel at one end and a new Delta Hotel at



Saint John in 1987 will owe a lot to these people — the New Brunswick contingent, seen here enjoying the post barbecue festivities on Wednesday night.

the other. Salt sea air, Fundy's famous tides, Saint John's own two-way waterfall, Loyalist and Acadian tradition alike will be the foundation for 1987. See you there!

GMB

All photos by Michael J. DiCola

Editor's Note: The report of the business meetings held in conjunction with the Congress (Council, Provincial Presidents, Interaction and General Business Meeting) will be included in the December CJO.



## BOOK REVIEW

**Atlas of the Peripheral Ocular Fundus**, by William L. Jones and Robert W. Reidy. 1985 by Butterworth Publishers, 80 Montvale Avenue, Stoneham, MA 02180, USA. 206 pp, illustrated.

In this detailed book on the peripheral fundus, there are seven beautifully illustrated chapters.

The early chapters deal with the methods of observation, and with the anatomy of the area. The succeeding chapters deal, in turn, with the clinical description, histopathology and significance of the abnormality.

It is an extremely well-illustrated book and has additional references in each chapter if the practitioner wishes to undertake more detailed investigation. I suggest that the book will be an invaluable aid in helping the practitioner to make differential diagnoses on the pathologies of the peripheral fundus.

Dr. M. Hansen-des Groseilliers  
Ottawa

**ROI**  
CORPORATION

**CONFIDENTIAL  
PROFESSIONAL SERVICES**

**PRACTICE APPRAISALS**  
Goodwill, Assets, Real Estate

**PRACTICE PROGRAMS**  
Cost Sharing, Associate Buy In,  
Phase Retirement

A.L. Roy Brown, C.A.M.  
Professional Appraiser

Mississauga (416) 278-4145  
Ottawa (613) 748-7202

**ROI CORPORATION**

**Established 1973**



FOR DAILY WEAR

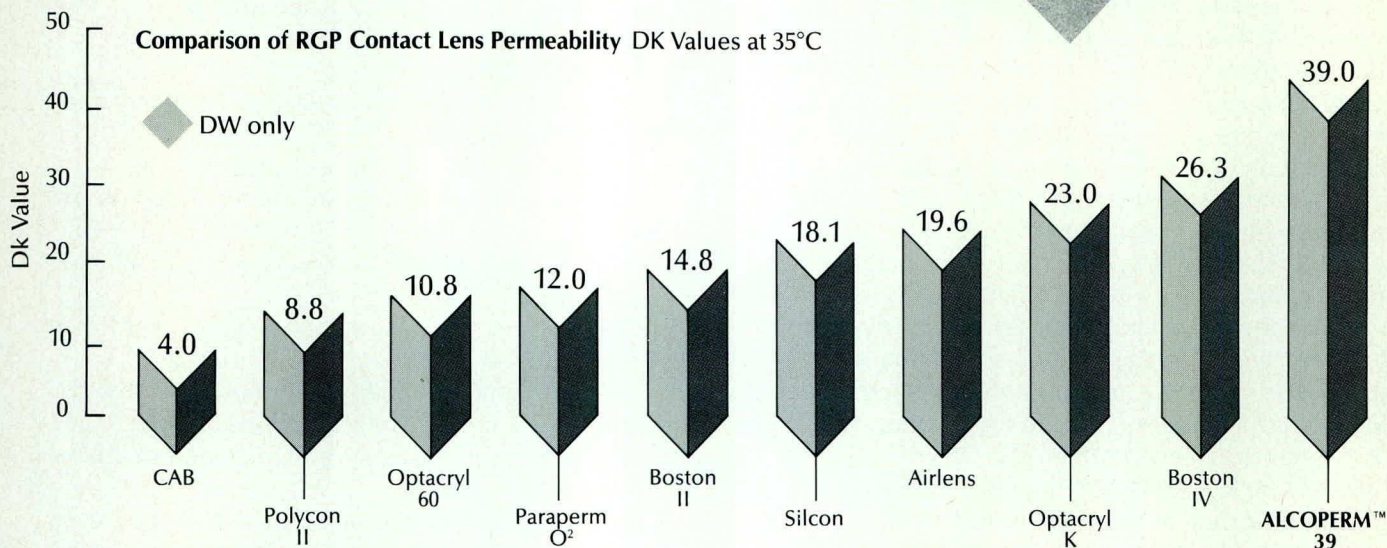
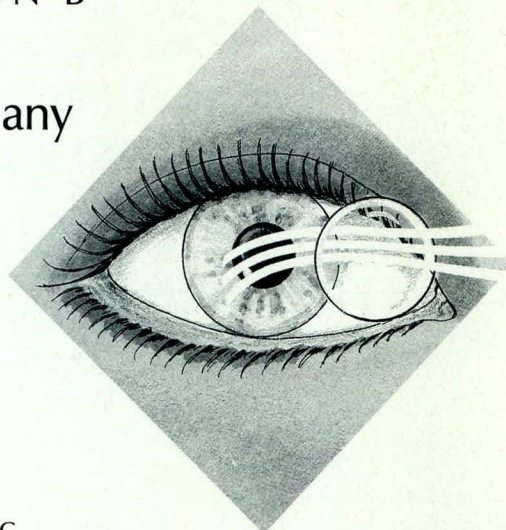
# ALCOPERM™ 39

PASIFOCON B

The highest oxygen permeability of any rigid, daily wear lens.

$$Dk = 39 \times 10^{-11} \text{ at } 35^{\circ}\text{C}.*$$

- Satisfies corneal oxygen requirements in all patients.
- Edema is eliminated.



Computer generated design with all parameters totally integrated for maximum comfort

Outstanding functional wettability in vivo.

Edge lift is a constant 0.12mm for optimal tear exchange.

25.6° wetting angle.  
(CLMA method)

- Base curve determines diameter and optical zone.
- Correction up to 4.00 diopters of astigmatism with spherical lenses.
- Superior stability and durability over soft lenses, with comparable comfort.
- Longer wearing time than other daily gas permeable lenses.

\*Dr. Irving Fatt, O.D., Ph.D., Berkeley, California 3/14/84, Schema Versatae Method







## Photographies Cliniques Compensation de L'hétérochromie par Lentilles Hydrophiles Teintées

### Clinical Photo Heterochromia Compensation with Tinted Soft Contact Lenses

J. Gresset\*

Les lentilles souples à iris artificiel peint à la main, ou reproduit photographiquement, ont été réalisées pour fins cosmétiques. La réalisation de telles lentilles fait appel à une technologie compliquée, ce qui en diminue la disponibilité et en augmente considérablement le coût. Les nouvelles lentilles souples teintées sont un moyen idéal, dans certains cas, pour pallier à ces inconvénients.

Le jeune SB, âgé de 7 ans présente une amblyopie organique secondaire à des cataractes congénitales. En plus de deux iridectomies, les iris sont hétérochromes. Il présente un nystagmus saccadique, et une exotropie intermittente. Les fundus et les papilles sont normales. Corrigé en lunettes (OU + 11.25), l'acuité visuelle de loin est:

OD: 6/48, OG: 6/42 et OU 6/36.

En vision rapprochée (add. + 4.50):

OD: 0.14/1.2, OG: 0.14/1, OU 0.14/1.

Le grossissement produit par cette correction contribué à attirer l'attention de ses pairs sur ses problèmes de vision et son hétérochromie.

Le jeune SB est scolarisé en milieu régulier, et se trouve gêné de se faire toujours poser des questions au sujet de ses yeux et de sa vision. Afin de tenter de diminuer les effets psycho-sociaux de cette déficience, nous avons proposé un équipement en lentilles souples.

L'adaptation en lentilles hydrophiles a été réalisée, afin de masquer l'iridectomie et l'hétérochromie (photo no. 1) les lentilles ont été teintées (photo no. 2). La prescription est la suivante:

OD: R. 8.5 Ø P: +12.00 Gris no. 2

Ø de l'iris artificiel: 11 mm

Ø de la pupille: 4 mm

OG: R. 8.5 Ø P: +12.00 Bleu no. 2

Ø de l'iris artificiel: 11 mm

Ø de la pupille: 4 mm

Corrigé en lentilles cornéennes, l'acuité visuelle en vision de loin est:

OD: 6/42, OG: 6/42 et OU 6/30.

Avec une addition +3.50, l'acuité en vision de près est:

OD: 0.1/0.8, OG: 0.1/0.8 et OU 0.1/0.8 (0.8 M 0.1 mètre).

L'aide à la lecture a été prescrite en double foyer (OU Plano Add +3.50, UV 400 gris no. 1).

L'acceptation et l'adaptation aux lentilles cornéennes a été facile. L'utilisation des double foyer n'a pas été problématique, puisque l'enfant utilisait déjà ce type de verres.

Le résultat esthétique est satisfaisant (photo no. 3), et le jeune SB apprécie grandement ses lentilles cornéennes.

Soft contact lenses that were manufactured for cosmetic purposes required a sophisticated technology which made them less available and more costly.

The new tinted soft contact lenses are a good means to overcome these drawbacks, in certain cases.

The young SB, age 7, exemplifies a case of low vision resulting from congenital cataracts. Corrected with glass (OU + 11.25) distance acuity is:

OD: 6/48, OG: 6/42 and OU 6/36

With an addition of +4.50, near acuity is:

OD: 0.14/1.2, OG: 0.14/1, OU 0.14/1 (1 M at 0.1 meter).

The subject has been fitted with soft lenses in order to mask the iridectomy and heterochromia.

\*Clinicien de l'école d'optométrie  
de l'Université de Montréal  
à l'Institut Nazareth et Louis-Braille



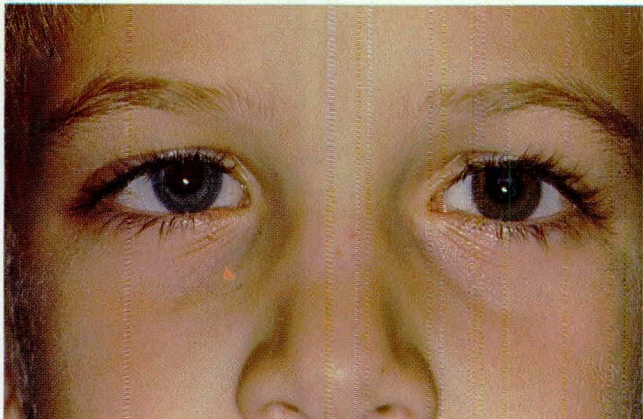


Fig. 1

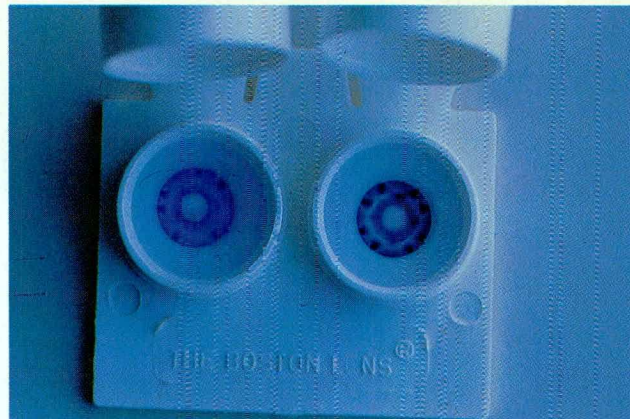


Fig. 2

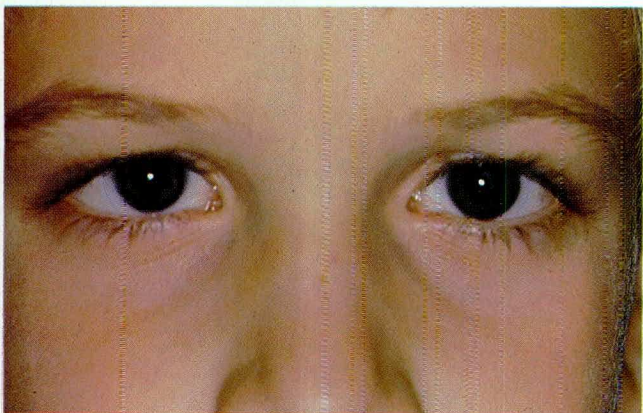


Fig. 3

(photo no. 1), the lenses have been tinted (photo no. 2). The specifications of the lenses are:

OD: R. 8.5 Ø 15 P: +12.00 Grey no. 2  
 Ø artificial iris: 11 mm  
 Ø pupil: 4 mm

OG: R. 8.5 Ø 15 P: + 12.00 Blue no. 2  
 Ø artificial iris: 11 mm  
 Ø pupil: 4 mm

Corrected with contact lenses distance acuity

is:

OD: 6/42, OG: 6/42 and OU 6/30

With an addition + 3.50, the near acuity is:

OD: 0.1/0.8, OG: 0.1/0.8 and OU 0.1/0.8 (0.8 M at 0.1 meter)

The result is esthetically pleasing (photo no. 3).

Remerciement à Monsieur A. Tremblay de la compagnie Freflex pour une assistance dans la détermination de la couleur des lentilles.

Thanks to Mr. A. Tremblay of the Freflex Company for assistance in determining lens colour.

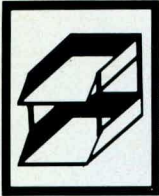
## EQUIPMENT FOR SALE

Marco No. 1202 Chair  
 Marco No. 1206 Deluxe Stand, 3-arm  
 Topcon SL 5D Biomicroscope  
 Haag-Streit R900 Applanation Tonometer  
 AO Rx Master Phoropter  
 AO Project-o-chart and one slide No. 11103, supplied with floor stand No. 11276, arm for instrument stand No. 14129 or table base No. 11087, and round screen  
 AO Ophthalmometer, reconditioned and in good working order  
 MacKay-Marg Tonometer  
 Durham Model III Scleral Tonometer  
 Omni Trainer and slides  
 After-Image Tester  
 Dioptron II  
 Polaroid TV Trainer (AO)  
 Amblyoscope and slides  
 3 Ortho Fusors (B and L)  
 Pigeon-Cantonnet Stereoscope

**For enquiries about more details of any particular item, write:**

Box 385  
 Canadian Journal of Optometry  
 Suite 207, 77 Metcalfe Street  
 Ottawa, Ontario  
 K1P 5L6





## 1985 Presidents' Award



Dr. Roy Brown and his wife, Flora

Dr. Roy Brown, past President of CAO and long active in many of its professional committees, was selected by the 1985 CAO Presidents' Award Committee to be the recipient of the 1985 CAO Presidents' Award.

In presenting the Award to Dr. Brown, Dr. Roland des Groseilliers, Chairman of the Awards Committee said:

"There is no greater honour than to be recognized by one's own peers. We are here tonight to honour one of our own.

"The Presidents' Award is the highest award which may be presented by CAO. It is awarded to an individual who has made an exceedingly significant contribution to the advancement of the profession of Optometry in Canada.

"Our honoured guest was graduated from the College of Optometry of Ontario in 1948. He received the General Proficiency Award in Optometry. He has practised in Virden, Manitoba since June, 1949. He served on the Council of the Manitoba Optometric Society from 1953 to 1979 and was its President from 1967 to 1970. From 1969 to

1971, and again from 1973 to 1980, he was the Manitoba delegate to the CAO Council and served as President of the national Association from 1977 to 1979.

"He has been Chairman and/or Director of the CAO Interprofessional Relations Committee since 1970 and is one of the principal authors of the original CAO Role Document (1974), its 1976 revision and its latest version, produced this year. He was one of the founders of the Canadian Optometric Education Trust Fund in 1977. A Fellow of the American Academy of Optometry, Dr. Brown is also a member of the Manitoba Public Health Association and an Associate Member of the American Association of Optometrists. His record of community service is as distinguished as his optometric service.

"Roy's achievements reflect the encouragement, the love and understanding and the co-operation of his wife, Flora. She has been, over the years, a friend to many and a gracious ambassador for Optometry.

"On behalf of CAO, I am deeply honoured to present the CAO Presidents' Award to Dr. Roy Brown."



Dr. des Groseilliers then presented a plaque to Dr. Brown, inscribed as follows:

"The Canadian Association of Optometrists Presidents' Award presented to Dr. Roy Brown, July 5, 1985. In recognition of his years of leadership and service to the profession of Optometry, we applaud his dedication to the development of Optometry into the primary vision care profession in Canada and we further appreciate his commitment to Optometry and his concern for the individual optometrist."

(The inscription was also engraved in French on the plaque, and Dr. des Groseilliers read it as well.)

Concluding his presentation, Dr. des Groseilliers also presented a bouquet of roses to Mrs. Flora Brown.

In acknowledging the presentation, Dr. Brown offered the following comments:

"On June 28, 1985, one week ago today, I completed 36 years of private practice in Virden, Manitoba. Being able to practice 36 years in a profession that I love and getting an expression of appreciation like this from the Canadian Association of Optometrists makes me a fortunate man.

"I wish to thank the people who have made this presentation possible.

"First is the lady who has walked beside me down life's pathway, giving freely of her love, time, energy and encouragement while she also forfeited many years of evenings and weekends, allowing me to indulge in official Optometry, both at the Manitoba and Canadian level. Thank you, Flora.

"Secondly, I thank our family, who likewise gave as freely of their time and support as their mother.

"Thirdly, the optometrists of Manitoba and all of Canada who, for many years, have given me encouragement, inspiration and co-operative help in the achievement of our goals for Optometry.

"A special thanks to those untiring people on the staffs of the School of Optometry, University of Waterloo, the School of Optometry, University of Montreal, the American Optometric Association, the staff of the Canadian Association of Optometrists in Ottawa and to the staff of each provincial Association.

"A very special thanks for all those close, enduring friendships Flora and I have made in Optometry.

"You, the members of the Canadian Association of Optometrists, through its Executive Council and through its spokesman, Dr. Roland des Groseilliers, have honoured me by presenting the 1985 CAO Presidents' Award.

"I thank you for the honour accorded me — I walk proudly. I appreciate being held in the same esteem as the previous recipients of this award, by you, my colleagues and my peers.

"I can only hope that my contribution to the profession is equal to the benefit and enrichment which I have personally received.

"I am humbled by this recognition. Thank you."

### **An Alert to Optometrists, Ophthalmologists and Opticians from A.J. Liston, Ph.D., Assistant Deputy Minister, Health and Welfare Canada**

Dear Practitioner:

In past years, the Health Protection Branch had been made aware of cases of progressive corneal vascularization associated with "extended wear" soft contact lenses. More recently, the Branch has been receiving reports involving "daily wear" soft contact lenses and local surveys confirmed that nearly every ophthalmologist has seen patients who had signs of corneal vascularization.

Vascularization was first observed on the cornea of contact lens users more than 10 years ago. The inability of lenses to transmit enough oxygen to eye tissues was believed responsible. Traumatized or diseased eyes appeared particularly susceptible.<sup>1,2</sup> The process is characterized in its early stage by asymptomatic growth of new blood vessels into the normally transparent avascular cornea. Vessels begin at the periphery of the cornea and progress gradually towards the centre. Vascular networks are easily seen with the aid of a slit lamp.

As the quality of vision may eventually be diminished if the vessels reach the central part of the eye and as a large number of Canadians wear contact lenses under diverse conditions, more data are needed to establish the extent, the cause and the long term impact of the problem.

In view of the serious nature of corneal vascularization, we should be grateful if you could forward reports of its occurrence to the Bureau of Medical Devices, Environmental Health Centre, Tunney's Pasture, Ottawa, Ontario, K1A 0L2.

Reports need not include names but should include: age of patient; type of lens; length and type of exposure; type of solutions used and any other pertinent data.

### **References**

1. Dohlman, C.M., Boruchoff, S.A., Mobilia, E.F.; Complications in Use of Soft Contact Lenses in Corneal Disease; *Arch. Ophthalmol.* 90, 367 (1973).
2. Dohlman, C.M.; Complications in Therapeutic Soft Lens Wear; *Trans. Am. Acad. of Ophthalmol. Otolaryngol.* 78, 399 (1979).

### **OPTOMETRIST**

An established, multi-service health facility requires an optometrist to join in the preventive team approach to health care. Recent graduates will be considered.

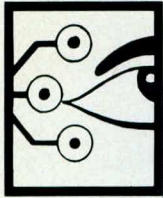
Current services include: physicians, nursing, X-Ray, laboratory, physical therapy, social services, community day care, optical dispensing, and a variety of health education programs.

This is a salaried position offering an excellent benefit package. Applications and enquiries may be directed in confidence to:

Executive Director  
**Regina Community Clinic**  
3765 Sherwood Drive  
Regina, Saskatchewan  
S4R 4A9

Telephone (306) 543-7880





## Age-related Norms for Peripheral Visual Field

T.D. Williams\*

### Peripheral Field Norms

I would like to present some further norms based on my study reported in *Can J Optom* (ref 1).

In that paper, I presented normal average field sizes for the Goldmann I-2 stimulus for age groups 15, 25, 35, 45, 55, and 65 years.

Figs. 1 and 2 show the equivalent data for the Goldmann I-3 and I-4 stimulus.

If these figures are reproduced as transparencies, they may be used as templates for comparison with a given patient's chart. If this is to be done, then the scale of the transparency should be adjusted photographically so that the separation of the fixation point and the 60 degree marker is equal to 7.2 cm (the same as their separation on the Goldmann charts)

Table I shows the percent reduction of the visual field size as a function of age.

It appears that the rate of reduction of peripheral field is slower than that for the central field data reported previously (ref. 1).

### References

1. Williams, T.D. (1983), Computer-based analysis of visual fields: age-related norms for the central visual field, *Can J Optom* 45(4):166-170

### Acknowledgements

This research was supported in part by a grant from the Canadian Optometric Education Trust Fund, and by grant No . AO162 from the Natural Sciences and Engineering Research Council of Canada. Jim Wilkinson (UW Optometry Class of 1986) prepared the computer-plotted figures.

Table I  
Area of Normal Peripheral Field

Age group	I-3 isopter area (sq mm)	Percent Reduction*	I-4 isopter area (sq mm)	Percent Reduction*
15	12288	0.0	16038	0.0
25	12059	1.8	15702	2.1
35	11160	9.2	15192	5.3
45	10298	16.2	14328	10.7
55	8112	34.0	12677	21.0
65	6376	48.1	10498	34.5

\*relative to 15 year age group

Variability in isopter sizes. The isopters shown represent mean I-2 data for the 15-year-old age group (outer isopter) and the 65-year-old age group (inner isopter). The bars shown on either side of the isopters represent 1 standard deviation; that is, the total length of each bar is 2 standard deviations.

\* OD, MS, PhD  
School of Optometry, University of Waterloo



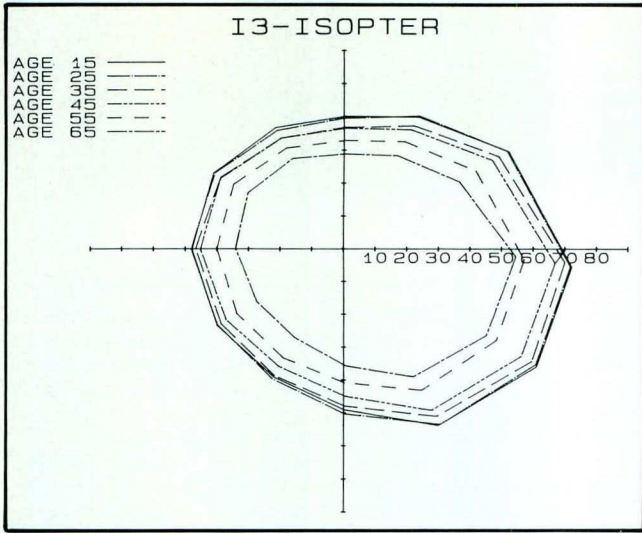


Fig. 1

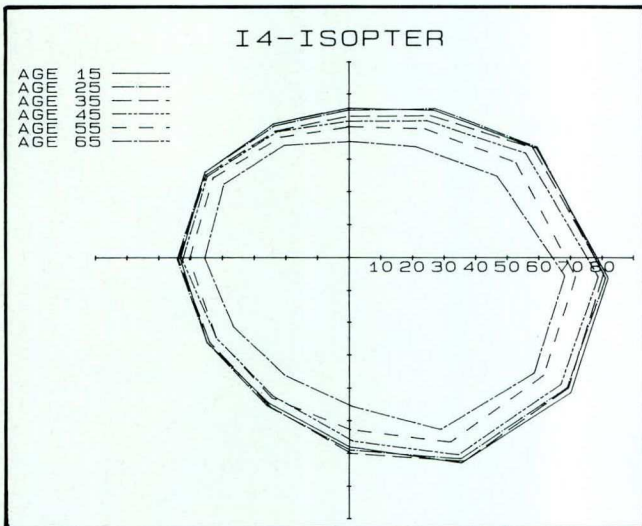


Fig. 2

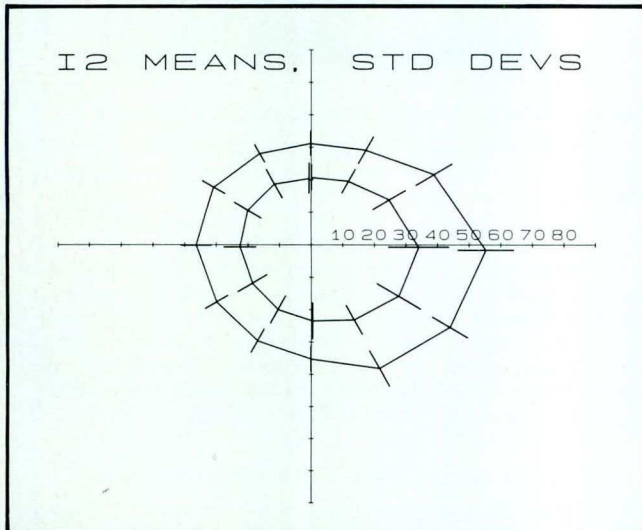


Fig. 3: Variability in isopter sizes. The isopters shown represent mean 1 - 2 data for the 15 year-old age group (outer isopter) and the 65 year-old age group (inner isopter). The bars shown on either side of the isopters represent 1 standard deviation; that is, the total length of each bar is 2 standard deviations.

# Back to Nature in just ONE STEP



## AOSEPT Catalytic Disinfection System

**CONVENIENT** - The only chemical disinfection system to simplify contact lens care with just one cup and one solution which assures patient compliance.

**EFFECTIVE** - The AOSEPT Solution combines the unsurpassed microbial kill rate of 3% hydrogen peroxide and the gentleness of a buffered unpreserved saline into one solution.

**NATURAL** - The only one to combine in just ONE STEP, the superior cleaning and disinfection ability of an oxidation system and the dynamic action of a catalytic disc for neutralization. Harmless water and oxygen are the only by-products. The lenses are left ready-to-wear in a preservative free, buffered saline environment.

**BETTER** - This preservative-free system is designed to minimize risk of irritation, prevent deposits and prolong lens life, all in ONE STEP — naturally.



## AOCO LIMITED/LIMITÉE

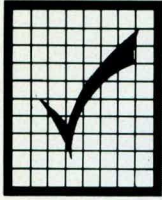
Subsidiary of American Optical Corp./60 Mobile Drive, Toronto, Ont. M4A 2R7

Call today for more information: Telephone 416-752-8780 or

Ontario:	Quebec:	Others:
1-800-268-5718	1-800-268-5707	1-800-268-5773
1-800-268-5712	1-800-268-5703	1-800-268-5740

\*Trademark of American Optical Corporation





# VISION CARE NEWS

## Amorphic (Horizon) Lens Undergoes Trials at Waterloo

Designs for Vision, Inc. has introduced the Amorphic Lens System, or Horizon Lens, a variation of reverse telescopic field expansion. Designed for patients whose fields are ten degrees or smaller, this spectacle mounted device compresses only the horizontal visual field by employing a reverse cylindrical telescope to minify that meridian 1.2X, 1.4X, 1.6X, 1.8X or 2.0X. The telescope can be used monocularly or binocularly and refractive error correction can be included in the system. Also available are reading caps of various dioptric powers. They incorporate base in prism to allow binocularity. The telescopes are housed in a newly designed frame which features adjustable interpupillary distance, temple length and pantoscopic angle.

During its development and since its introduction several months ago by its inventor, the late Dr. William Feinbloom, the lens has undergone some field testing at the Vision Rehabilitation Centre of the Pennsylvania College of Optometry and by eight other investigators. Some of the results have been positive, particularly for those patients with fields smaller than 20 degrees whose loss is due to retinitis pigmentosa. Success rates seem to vary widely from study to study. The Centre for Sight Enhancement at the School of Optometry, University of Waterloo has recently obtained a fitting set and very early trials seem to indicate that the device in its present form may be most useful as a reading aid.

A bioptic version of the lens is being developed at the William Feinbloom Rehabilitation Centre which may prove to facilitate mobility while the lens is worn.

Costs range from \$595 (US\$) for monocular single vision plano lenses to \$1,145 (US\$) for binocular single vision prescription surfaced lenses. They can be obtained from: Designs for Vision Inc., 120 East 23rd Street, New York, NY, 10010, USA

— submitted by Lois Calder, OD  
School of Optometry  
University of Waterloo

## Waterloo Seeks Middle-Aged Volunteers for Contact Lens Studies

The Waterloo School of Optometry is searching for people who use, or need, bifocal spectacles for a study into a new type of bifocal contact lens.

In a detailed five-page news release issued recently, Waterloo's Dr. Murcheson Callender identified Barnes-Hind as the manufacturer of the Hydrocurve II Bifocal, the multifocal lens around which this particular study will be based, and cited other lenses currently available, e.g. B and L's aspheric PA-1, Ciba's Bi-soft and Dr. Carl Evans' CALS lens.

Working with Drs. Dagmar Lutzi and Gina Sorbara, Dr. Callender says he hopes to attract a "sizeable" group to determine the lens' suitability. Additional information is available from Dr. Callender, c/o the School of Optometry, University of Waterloo, Waterloo, Ontario, N2L 3G1. Telephone: (519) 885-1211, ext. 6309.

## Patient Vision Guide Simplifies Lifestyle Marketing

A new program is now on the market to help optometrists "strengthen patient loyalty, gain more referrals and satisfy more vision needs".

Developed by a company called Optical Laboratories Association, *The One Minute Difference* is designed to cover all aspects of "lifestyle marketing", a term which goes undefined in the material provided. Further information is available from: Optical Laboratories Association, PO Box 2000, Merrifield, Virginia, 22116, USA. Or telephone William N. Coan (414) 725-8774.

## Is that a Gleam in your Eye . . . or Oxy-Shine (TM)?

A new pre-mixed contact lens polish is now on the market.

Oxy-Shine (TM) was developed by Young Enterprises, a subdivision of Valley Contax, an Oregon company, as "an economical means of polishing and modifying all rigid gas-permeable lenses." The product's solution form is its key selling point, eliminating the need for a practitioner to mix powders.

The product is available in three sizes: 4, 8 and 32 ounces, for \$6.50, \$10.50 and \$34.00 (US\$) respectively. Information: Steve Young, Valley Contax, 1310 Coburg Road, Eugene, Oregon, 97401, USA. Telephone (503) 344-1310.



## Suspension Eyewear Distributed in Canada

Delegates to the CAO 19th Biennial Congress in Regina got a first-hand look at a new, patented system of mounting lenses without a conventional frame.

The plastic or polycarbonate lenses are attached to a bridge similar to that used on a three-piece rimless, faceted frame. Two nylon lines run from each lens to an earpiece that curves around the ear, creating a "light, comfortable, no-slip fit, even under active conditions."

In Canada, distribution of the system will be done through CANSEE Suspension Eyewear Enterprises (Canada) Ltd. Information: Dale Ferguson, President, PO Box 1928, Ponoka, Alberta, T0C 2H0. Telephone: 1-800-661-1165.

## Syntex Introduces New Toric Contact Lens

The United States Food and Drug Administration (USFDA) has approved for marketing the Polycon (R) II (silafocan A) toric contact lens, a daily wear contact lens manufactured by Syntex Ophthalmics Inc. According to Syntex, it is the "only approved rigid, gas-permeable toric lens on the market."

Designed for difficult to fit patients, the lens is available in a power range of -10.00 to +10.00 dioptres (D) for the correction of myopia, hyperopia and astigmatism not exceeding 7.00D. Further information: Syntex Ophthalmics Consultation Department, PO Box 39600, Phoenix, Arizona, 85069-9600, USA.



*Clean, rinse, store  
and disinfect soft lenses†  
...the easier way.*

*The Two Solution  
Polyclens\*/Polyflex\* System.*

*Peroxide-free simplicity.*

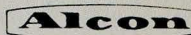
The Polyclens/Polyflex System is less complicated and easier to use than hydrogen peroxide systems. Its single step disinfection process eliminates the inconvenient waiting and risk of irritation due to inadequate peroxide neutralization.

*Simplicity encourages compliance.*

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

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

*Polyclens\*/Polyflex\*  
The Uncomplicated Unperoxide System.*



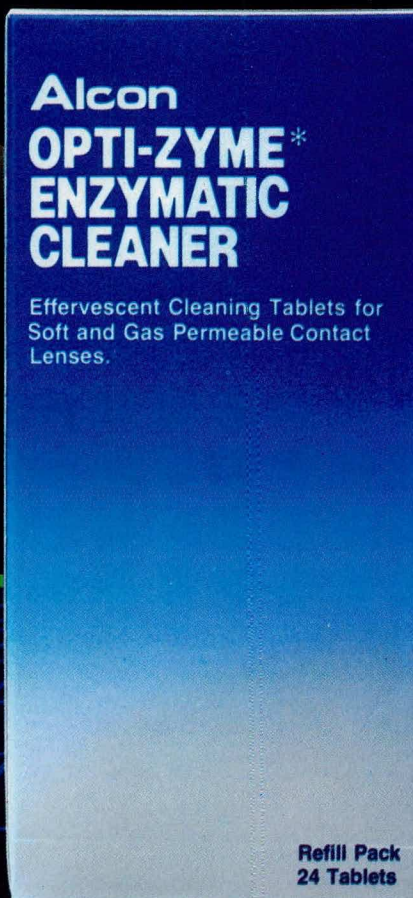
Alcon Canada Inc.  
Toronto, Canada L5N 2B8

\*T.M. Authorized user





# OPTI-ZYME\* AN ENZYMATIC CLEANER THAT REALLY CLEANS



## WITHOUT PAPAIN SENSITIVITY

Clinical studies prove Opti-Zyme's unique cleansing action to be highly effective...in fact, Opti-Zyme is the only enzymatic cleaner that removes protein, lipid and mucin deposits.

Odorless and in convenient tablet form, Opti-Zyme dissolves in any saline solution in just two minutes...and cleans lenses completely in 2 to 4 hours without the risk of papain sensitivity.

**Alcon Opti-Zyme Enzymatic Cleaner,  
ideal for ALL soft (including extended wear lenses) and gas permeable contact lenses**



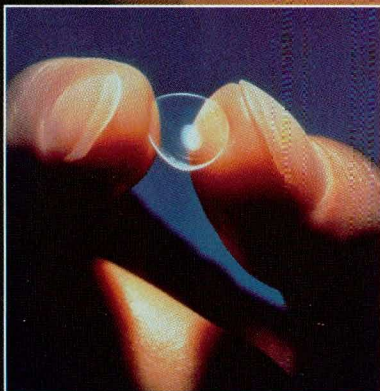
Alcon Canada Inc.  
Toronto, Ontario L5N 2B8

\*registered trade mark Alcon Canada Inc.



# TOTAL EYE CARE

**Prescription Lenses** Zeiss lenses are finished to unsurpassed standards of excellence.



**Contact lenses** A range of exceptional contact lens designs, including the use of patented proprietary materials, researched and tested to the most exacting standards.

**Frames** Elegantly styled frames to suit to-day's fashions and tastes.

**Prescription Sunglasses** World-famous Umbra Punktal lenses for maximum protection across the entire visible spectrum.

**Office Design** Design and construction of complete professional offices and optical displays.



**Spectacle Cases** Prestige and limited-edition quality cases.

**Low Vision Aids** Monocular and binocular low vision aids, covering a wide range of viewing conditions.

**ZEISS**

West Germany

Carl Zeiss Canada Ltd/Ltée (416) 449-4660



# What's missing in the perfect saline?

## Preservatives.

Preservatives cause irritation.  
Because New Lens Plus  
contains no preservatives, only  
pure saline,  
you can be sure your contact  
lens wearers enjoy irritation-free eyes.  
At a price they can afford.



**NEW**  
**LENS PLUS**<sup>TM</sup>  
recommend perfection.

**Allergan Inc.**  
SCIENCE WITH VISION