



YOUR EYES

The theme for World Sight Day 2021 is **Love Your Eyes**. What better way your love your eyes than going to visit an eye care professional who loves what they do?

Optometrists are primary health care providers who are educated to detect defects in vision, signs of injury, ocular diseases or abnormalities and problems with general health, such as high blood pressure or diabetes. They make a health assessment of your eyes, offer clinical advice, prescribe spectacles or contact lenses and will refer you to the appropriate specialist for further treatment, when necessary.

Optometrists study at university for at least three years and must participate in a period of assessed clinical training in practice with professional examinations before being deemed to have the knowledge and skills needed to be registered. Optometrists and optical companies must be registered with the Trinidad and Tobago Opticians Registration Council to practice. The Trinidad and Tobago Optometrists Association is committed to ensuring that Optometrists in Trinidad and Tobago have access to approved lectures via annual conferences and during this COVID-19 Pandemic time via several virtual platforms, such as Zoom Meetings.

Almost everyone will experience an eye health issue in their lifetime. More than one billion persons worldwide do not have access to eye care services. Although there are limited optometric services available in our public health care system, there are over 180 registered optometrists, throughout Trinidad and Tobago. Once you can, you should book an eye examination and check on the health of your eyes. By doing so, you can find out what you need to prevent vision loss and protect and preserve the precious gift of sight.

So, here are some ways that you can **Love Your Eyes!**

The 4 Ps to Love Your Eyes:

Prevent: Many eye diseases can be prevented by adopting a healthy lifestyle.

Protect: Use protective eyewear when necessary & remove cosmetics thoroughly.

Preserve: Get a regular comprehensive eye examination & ensure that your eyecare practitioner obtains a detailed medical history and family history to understand your risk factors, followed by checking your vision, eye power, and eye health.

Prioritize: Ensure that eye examinations are a part of your routine medical examination & educate your friends and family!

In celebration of World Sight Day 2021, the Trinidad & Tobago Optometrists Association would like to use this opportunity to highlight some of our phenomenal pioneers, whose love for the profession of Optometry will help you to keep **loving your eyes!**

Our first pioneer is Professor Murchison Callender.

MEET PROFESSOR MURCHISON G. CALLENDER

(BSc, MSc, OD, MPhil, FAAO.
Professor Emeritus & Adjunct Professor)



**TELL US ABOUT YOURSELF- WHERE DID YOU GROW UP,
EDUCATION, FAMILY LIFE.**

“

I am the eldest of 4 children and was born in Ste Madeline Village where at the time my father was an accountant at the Usine Ste Madeleine Sugar Estate. He later worked for the Government Services in Port of Spain. My mother was an educator who ran her own business school. I grew up in Cocoyea village but spent most of my time in San Fernando where I attended Presentation College. I was a member of the CYO (Catholic Youth Organization) club, member of the L'Il Carib Steel Orchestra. After my Senior Cambridge Certificate and GEC exams, I was employed at the Trinidad Texaco oil Company as a research assistant at the pilot Plant. After working for three years at the Trinidad Texaco Oil Company laboratory, I was accepted at Sir George Williams University (now Concordia) in Montreal, Canada. I obtained my BSc (biological sciences) and went on to post graduate studies at the Department of Investigative Medicine, Royal Victoria Hospital, McGill University. My research studies were on diabetes using the guinea pig as the animal model. My interest was in the metabolic pathways and its pathophysiological complication in the eye leading to blindness due to cataracts.”

”

**WHERE DID YOU STUDY OPTOMETRY?
WHAT/ WHO INSPIRED YOU TO BECOME AN OPTOMETRIST?**

“

About this time, I met my wife who was studying at the University of Toronto and was visiting a cousin in Montreal. She had just been fitted with rigid (PMMA) contact lenses and was experiencing some discomfort and red eyes. This sparked my interest in the optics of this micro lens (8.3 mm diameter) and the physiological complications which manifested as red eyes. After some discussion with my supervisor about changing my course of study, I decided to do Optometry instead of the lengthy period of study to specialize in ophthalmology. I was accepted at the College of Optometry of Ontario which later became the School of Optometry, University of Waterloo. I was in the first class of graduates to receive the (OD) Doctor of Optometry degree at Waterloo.

Since I had a strong interest in the physiology of the eye, I did my MSc degree in the Department of Biology, University of Waterloo. My master dissertation was on “A Quantitative and Qualitative Analysis of Human Tear Proteins Before and After Adaptation to Non-Flexible Contact Lenses. While on a sabbatical in England I did further studies at the Aston University in Birmingham where I received an MPhil in Vision Sciences. My thesis dissertation was on “The Composition of Human tear Proteins in Contact Lens Wear” Here my interest was in the changes in the immunoglobulins (IgA, IgG & IgE) levels in tears with adverse reactions to protein deposits on soft lenses and contact lens care solution sensitivity.

”

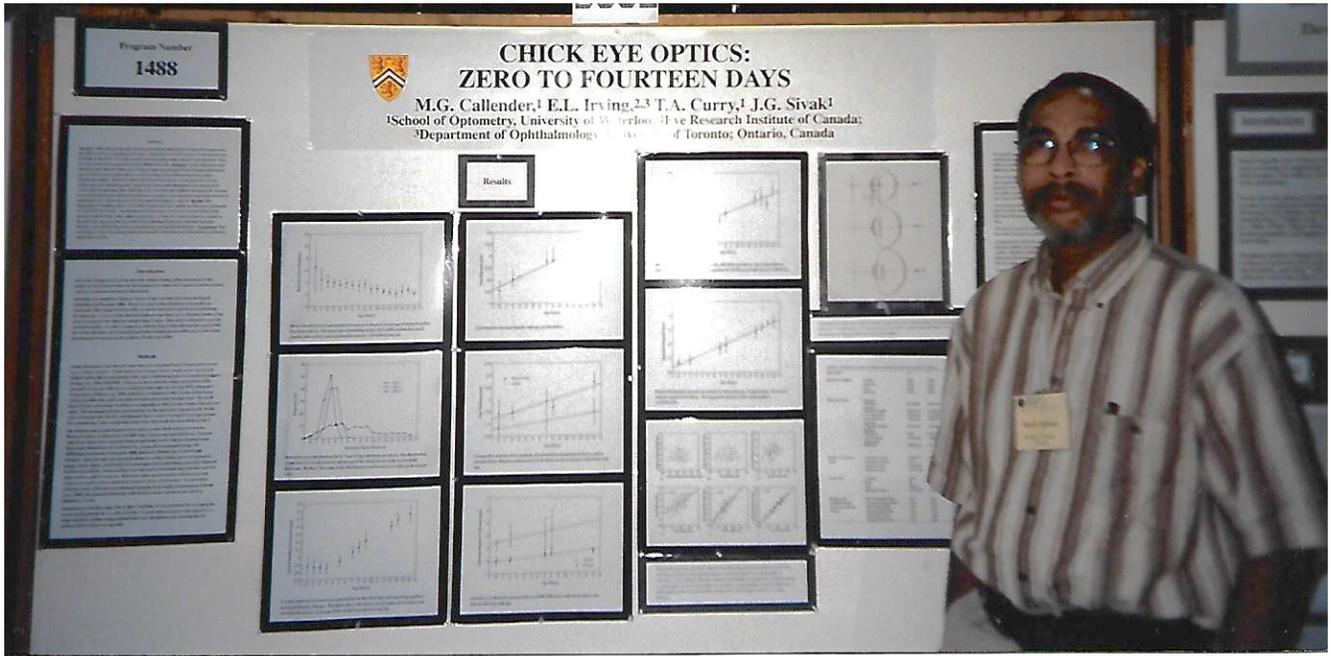


IMAGE 1: A presentation at the Association for Research in Vision and Ophthalmology (ARVO). I designed soft contact lenses to fit under the nictitating membrane of the chick's eye for our myopia studies. Authors: M G Callender, E L Irving, T A Curry & J G Sivak

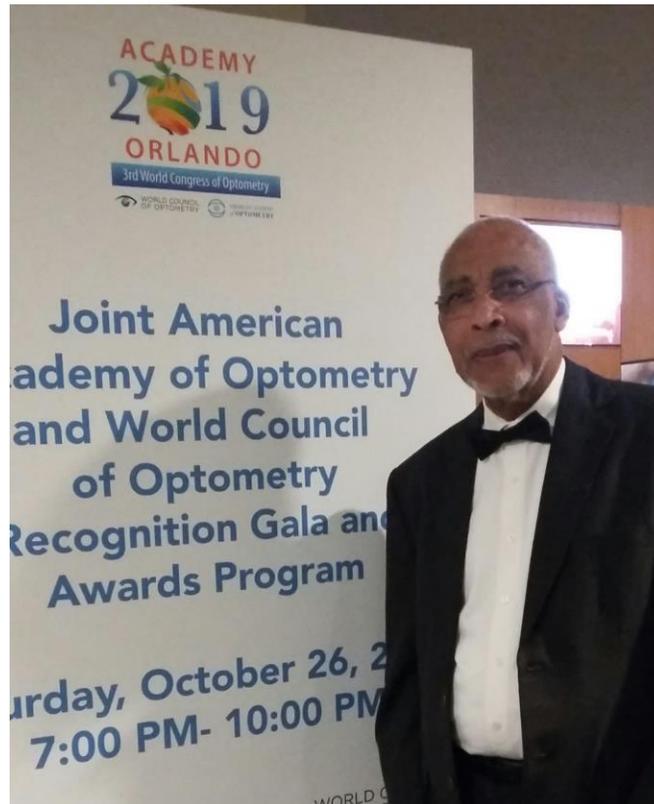


IMAGE 2: As a Fellow of the American Academy of Optometry (FAAO 50th Anniversary Awards)

**HOW LONG HAVE YOU PRACTICED OPTOMETRY?
WHAT WAS OPTOMETRY LIKE WHEN YOU WERE A STUDENT, AND
THEN AS A QUALIFIED OPTOMETRIST IN TRINIDAD AND CANADA?
WHAT CHANGES HAVE YOU SEEN OVER THE DECADES?**

“

I have been a practicing Optometrist for 53 years. I have seen many changes in optometry during this period. As a student, the emphasis in the curriculum was on the treatment of refractive and binocular vision problems. Now the emphasis is on ocular diseases and treatment with pharmacological agents (TPAs) as the profession became integrated as part of the National Health Care System. The responsibility for diagnosis and treatment of anterior segment diseases were added to our diagnostic services as the government saw optometry was underutilized and that it would save money in the healthcare budget. For example, a patient seen by the optometrist for a refractive assessment, noticed that the patient has an eye infection; It is the responsibility of the optometrist to treat the disease and not refer to an Ophthalmologist. There is no additional service fee for the diagnosis and treatment of the infection at that visit. Post graduate research which was traditionally in physiological optics (psychophysics / perception) has now shifted to the ocular physiology, microbiology, and pharmacology. Some of these changes are credited to my background in biochemistry, physiology, microbiology, and the hiring of new faculty members with these specialties.

”

WHAT MILESTONE HELPED TO SHAPE YOU PROFESSIONALLY?

“

My career as an academic in a health-related programme has been most successful in that I was able to balance my involvement in teaching, research, service to the university and to the optometric profession.

Teaching

In 1973, I was given the primary responsibility for developing the didactic and clinic curriculum for the area of contact lenses. The explosive growth in the knowledge of materials, fitting techniques as well as the microbiology, pharmacology, and physiology of the eye with respect to contact lens wear and hygiene necessitated periodic revisions of the syllabus and the behavioral objectives for training professional students. Much of this new knowledge came from research carried out in my laboratory within the School of Optometry. The Waterloo Contact Lens Curriculum has been adopted by the Canadian Association of Optometrists and some optometry schools in the USA. It is recommended by the International Association of Contact Lens Educators (IACLE) to its affiliates in Latin America, Europe, South East Asia and Australia.

I founded the University of Waterloo, School of Optometry Contact Lens Journal in 1974. This innovation made teaching more effective and has stimulated student interest in research. This compendium of information on contact lenses in Canada has been invaluable to students and the profession. This resource is now managed by the University of Waterloo's Centre for Ocular Research & Education (CORE) and is accessible online at www.ContactLensCompendium.com

Research

My research has contributed to the international recognition of the School of Optometry as a centre of excellence in contact lens research. I have been recognized for research in microbiology and physiology of the eye in contact lens wear, as well as in clinical applications of contact lenses by various granting agencies. The success of this work is demonstrated by the optometric profession's use of my results to set standards for safety and efficacy of contact lens products for the Canadian consumer. For example, in the early 1970's when hydrogel soft lenses were first introduced on the Canadian market, many practitioners reported that their patients were developing problems from wearing these hydrogel soft lenses. My investigation of the problem indicated that microbial contamination of these lenses and the saline storage solution were the cause. My group demonstrated the first electron microscope pictures of rod-shaped microbes (*Pseudomonas aeruginosa*) in fissures with the lens material. This information was relayed to the Health Protection Bureau in Ottawa, through the Canadian Association of Optometrists. As a result, the use of salt tablets in the preparation of homemade saline for use in heat disinfection of hydrogel lenses was discontinued. Another problem we report on was the red eye adverse reaction to thimerosal as a preservative in the saline solution for soft lens care. As clinical services and contract research activities increased, it became evident that there was need for a research centre. The Centre for Contact Lens Research (now CORE) gained senate approval in 1988 as an integrated but separate research facility, supported solely by funding from industry. This is one of the most successful centres on campus for which I founded.

In recent years, I have been involved in studies of the refractive development of the eye in collaboration with post graduate students and faculty members. We have been using baby chickens as the animal model to induce both myopia and hyperopia by fitting them with soft contact lens or goggles. I am the first optometrist to design and fit a soft contact lens on a chick's eye.

I have published over 100 peer review papers and several technical reports. In 2011, one paper was formally recognized by the Journal of Ophthalmic Optics as one of the four classic papers published in the Journal's history: Irving, EL, Sivak, JG., Callender, MG.: Refractive Plasticity of the Developing Chick Eye. *Ophthalmic Physiol Opt.* 1992; 12(10): 448-456.

Service

I have participated in the life of the University by serving in several positions and committees:

Director of the contact lens clinic

Admissions officer for the School of Optometry

Partnered with the Waterloo Region Roman Catholic Separate School Board in their cooperative education programme by providing placement for gifted students with an interest in optometry. The student spends a minimum of twenty hours per week as a research assistant in my laboratory. This provides an opportunity for the student to experience different aspects of optometry (basic and clinical science). They are allowed to attend my lectures, observe patients in the specialty contact lens clinic and initiate small research projects. Also, I would arrange for them to observe some of my ophthalmology colleagues doing cataract surgery.

Provided clinical service to the community by working 1 to 2 days per week in the School's contact lens clinic. I provide consultation on difficult cases for my colleagues throughout Canada and Trinidad and Tobago.

Served on various committees for the Canadian Association of Optometrists and continue to be a consultant on matters pertaining to contact lens wear.

Served as a member of the Canadian National Bureau of Medical Devices Standards Committee for contact lenses and care products.

Served as a consultant for the major contact and care products companies.

A founding member of the International Society for Contact Lens Research. A prestigious body of 100 researchers in this area. I served on the council for several years.

Provided 30 + years voluntary eyecare service to outreach programmes in Jamaica. This programme involves taking teams of optometry student interns to Jamaica twice yearly. This programme provides a valuable service to the people of Jamaica, while providing an equally valuable educational experience to Canadian students.

Provide Continuing Education lectures to Optometrists across Canada, USA, and Trinidad & Tobago

”

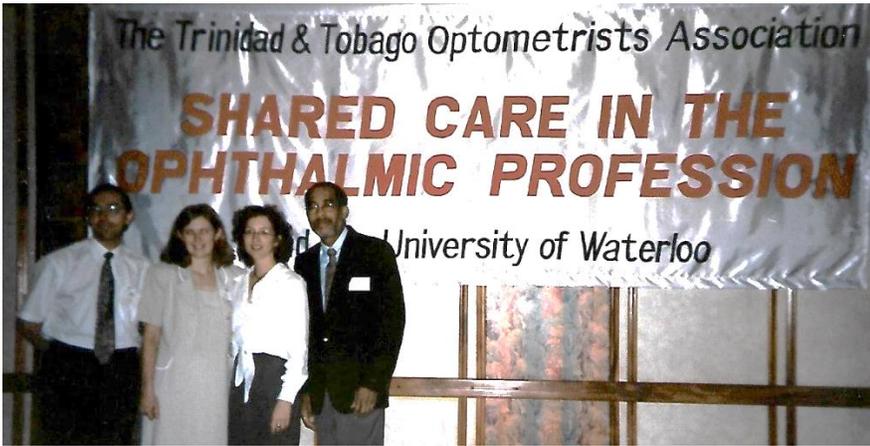


IMAGE 3: TTOA Continuing Education – “Shared Care in The Ophthalmic Profession”



IMAGE 4:
Collage of photos showing the 30 plus years of Vision Care to out reach programmes done twice yearly with teams of final year University of Waterloo Optometry Students in Jamaica. I was honored at the 25th Anniversary of The Foundation for International Self Help (FISH) Jamaica Ltd.

TELL US ABOUT THE CALLENDER KERATOCONUS FITTING SET

“

The Keratoconus fitting set is a series of GP lenses of different BCORs and two diameters with a multicurve edge. The set design is based on the corneal topographic power data from the tangential display maps of a Pentacam topographer using a population of keratoconic corneas (nipple and oval shaped) compared with matched normal corneas. The data is computed to measure the axial edge lift at different points across a 9 to 11 mm corneal area.

”

WHAT DO YOU DO WHEN NOT PRACTICING OPTOMETRY?

“

I enjoy listening to music, mainly Jazz, classical and contemporary. Also, I am a steel pan aficionado.

”

WHAT ADVICE WOULD YOU GIVE TO PERSONS INTERESTED IN OPTOMETRY?

“

I would recommend that the individual should research the three professions associated with eye care (Ophthalmology, Optometry and Opticianry) and spend some time job shadowing these professionals. The person should have a strong background in the sciences and a caring personality.

”