In-focus

A quarterly newsletter of the PolyU Optometry Clinic
Department of Optometry and Radiography
The Hong Kong Polytechnic University

Vol. 2 Issue 3 August 2004

Optometry: Our time has come

Hong Kong has a population of about 7 million people of which about 75% of them need vision corrections of some form. The population is also aging very rapidly as 40% is over the age of 40 years. Comprehensive and preventive eye care is, without doubt, in great need.

There are about 1900 optometrists registered in Hong Kong who are grouped in four different parts depending on their qualifications and experience. About a quarter of these optometrists have university-level optometry education. The rest have either no formal optometry training or sub-degree level training and were registered under a "grandfather" clause which is now closed. The Code of Practice of the Hong Kong SAR Optometrists Board expects each optometrist to practice to his/her level of professional competence and to assist the public differentiate among the different categories of optometrists, the profession and the Board have run public education campaigns from time to time. The expectation is that within a generation, all optometrists in Hong Kong will be university graduates.

The Optometry profession in Hong Kong, like its counterparts elsewhere, supports the concept of self-regulation. Professional associations like the one I am most closely associated with, the Association of Private Practice Optometrists, have strict continuing education requirements and practice standards. As independent primary eye care providers, it is incumbent on us to advocate on behalf of the public for high quality eye care and to create the environment for this to happen. Consequently, it is necessary for this profession to work towards its own independent regulatory framework outside the Supplementary Medical Professions Council. This, indeed, is one of the medium to long term goals of our profession.

The PolyU has never exhausted its efforts in training and upgrading optometrists from all parts of the register. What is to be highly commended is their tremendous support for the profession at a level way beyond the obligation of a teaching department of an university. This is extremely important for a profession that excels at such a fast pace. The constant interaction and collaboration between PolyU-Optometry and the profession have proven to be very successful in the development of the profession.

Optometry, on its own, has grown a lot over the past 5 to 10 years. It has never been so united in its vision and missions. No one can believe, without witnessing it, what Hong Kong Optometry has accomplished over these few years through the contributions of leaders in this profession, leaders in education, visionary supporters from the optical industry and the community and forward-thinking individual optometrists.

The time has come for Optometry in Hong Kong to leapfrog to yet another height. We have all the basic ingredients for success. Before long, we should see the formation of our own Optometry Council chaired by our own people and we should share the same autonomy, identity, prestige and commitment as our fellow overseas optometrists in their pledge to best serve the eye care needs of the public at large.

Greg Wu
Adjunct Associate Professor
Department of Optometry and Radiography
The Hong Kong Polytechnic University
and
Founding President
The Hong Kong Association of Private Practice Optometrists

What's happening out there?

The Hong Kong Scene

The International Vision Rehabilitation Symposium 2004: A Report by Our Academic Visitor, Dr. Stanley Woo, College of Optometry, University of Houston, Houston, USA

The International Vision Rehabilitation Symposium took place on the 27th and 28th of May, 2004. Hosted by the Hong Kong Polytechnic University, the event featured speakers and attendees from around the world. There are an estimated 180 million people with irreversible vision loss or low vision, which is not correctable by conventional glasses, contact lenses or surgery. The goal of the conference was to address the role of low vision rehabilitation in maximizing the quality of life of people with visual impairment and blindness.

The three themes for the conference included patient management, technology, and clinical research. Overviews for exemplary low vision rehabilitation service models were provided by Mr. Gordon Sanderson and Mr. Joseph Cho for New Zealand and Hong Kong, respectively. The breath of each program and multi-disciplinary approach to patient management were an inspiration. Mr. K.P. Tsang gave a first-hand account of service delivery as a person with low vision and also the President of Retina Hong Kong. In particular, the role of patient self-help groups can be an essential resource in low vision rehabilitation. Dr. Melissa Anglo and I described clinical cases and prescribing pearls to illustrate the multiple ways that assistance can be provided to patients with visual impairment to maximize their independence and quality of life.

Dr. Stanley Woo (first from right) and other invited keynote speakers

Technological innovation in health care is also evident in low vision rehabilitation. Dr. Goodrich highlighted the economic burden of low vision in terms of health care costs and also patient mortality rates. He cited that approximately 18% of falls leading to hip fractures in the United States are related to visual impairment. Dr. Ian Bailey presented a rationale for incorporating the "image field aspect ratio" into clinical decision making when prescribing electronic visual displays. The use of these displays involves numerous variables including pixel density, screen width, viewing distance, and magnification considerations. Dr. Strong presented a compelling multi-media presentation incorporating the use of video-based telescopes in low vision rehabilitation. Some of the advantages over conventional optical telescopes include contrast enhancement, improved search strategies, and electronic zoom. Exciting advances in technology will continue to improve the options available for patients as devices become more lightweight, portable, and powerful.

Clinical research plays an essential role in transferring knowledge from the laboratory into clinical practice. Prof. Jan Lovie-Kitchin reviewed the importance of optimizing ergonomic factors to enable maximum reading performance. The concept of acuity reserve was utilized to highlight the complexity of prescribing reading devices. Dr. Jacobs described clinical techniques necessary to find the optimal, optical correction for patients with low vision. By defining the precision limits in measuring refractive error using vector analysis, clinical guidelines can be modified to make low vision refractions more accurate and efficient.

The International Vision Rehabilitation Symposium concluded with a number of free papers on a variety of topics including traditional Chinese medicine, management of patients with neurological-based vision impairment, and clinical techniques. The program featured the important role of low vision rehabilitation in the multi-disciplinary approach to health care delivery. The Symposium is a first step for the Asia-Pacific region, and was a success in large part due to the leadership of Chairman Prof. George Woo and his committee members Prof. Maurice Yap, Dr. Helen Eng, and Ms. Sandy Chat. The secretariat deserves a special thank you; Linda, Candy and Christine were most helpful to all attendees. As we look forward to the future, low vision rehabilitation clinical care and research will become increasingly important as the health and economic impact of visual impairment due to an aging population becomes more prevalent.

Elsewhere in the World

Vision Screening for the Ethnic Minority Children in Du 'an, Guangxi, China: A Report by Our Staff Optometrist, Ms. Rufina Chan

Du 'an, a northern region of Guangxi province of Chinese mainland, is the home of the Yiao and Zhuang Ethnic Minority people. Due to the remote locations of their villages, they have limited access to health and eye care.

In May 2004, an inter-disciplinary group of health professionals and students of PolyU (Optometry, Nursing and Biomedical Science) visited this mountainous region of Du'an, providing health assessment and vision screening to local children from 6 primary and 2 middle schools. This visit was made possible by collaboration between PolyU and the Rotary Clubs of Kowloon North and Macau, sponsoring traveling expenses for both PolyU staff and students respectively.

Our vision screening team comprised three optometry staff and four final year optometry students from our Department, together with five volunteers who are private practitioners and PolyU optometry alumni. With tremendous group effort, we were able to screen 280 primary school students over a 3-day period. One of the volunteers, Mr Coleman Chan from Skyview Optical, also brought along two pieces of essential equipment; a slit lamp and an autorefractor, enabling us to carry out the screening programme more efficiently. The slit lamp allowed for a smaller group of these students to be given a more thorough examination of their external eye condition, and a number of eye problems were identified and managed.

Comprehensive binocular vision assessments showed that the most prominent binocular vision anomalies were vergence and accommodative infacility - 66 were found to have either one or both problems and five have moderate degree of strabismus. However, since their close work demand was rather limited, these anomalies did not cause any apparent problem to them. Twelve children were found to be in need of vision corrections and they received them by courtesy of our volunteer optometrists.

All in all, the whole team found this a very challenging experience: coping with bumpy rides in buses along the long, winding, narrow mountain tracks, facing plates of unusual local food (including bowls of raw goat blood!), strange toilets and using Putonghua and sign language to communicate. However, nothing beats the good feeling of doing some good in these very pleasant villages and helping children in need.

(Optometry staff: Dr. Pauline Cho, Ms. Lili Tan, Ms. Rufina Chan; Year 4 Optometry student: Lam Chun-ni, Law Kwai-mei, Leung Yuen-man, Yim Ching-man)

Our People

Conference Presenters

Dr. Henry Chan

In April, our department sent a large team of colleagues, including Prof. George Woo, Dr. Carly Lam, Dr. Pauline Cho, Dr. Andrew Lam, Mr. Peter Pang, Mr. Vincent Chui, Miss Rufina Chan, Mr. Ben Chan, Mr. William Kwan, Miss Alice Yung, Mr. Anderson Tam, Mr. Patrick Chu, Mr. Forrest Ng, Miss Ronnie Huang and me, to the International Conference of American Academy of Optometry (AAO) in Honolulu, Hawaii. We were the single largest research team at this conference.

At this meeting, we presented a total of 15 papers and posters which were very well received. The topics included low vision, binocular vision, pediatric optometry, contact lenses, ortho-K, aberration, electrophysiology and in-vitro animal eye study. The most interesting presentation was the one from Prof. Woo. He presented with his son, Dr. Stanley Woo, on the topic of "Primary care low vision". Their seminar was in the style of a TV chat show.

AAO hosted a banquet at the Hilton Hawaiian Village which is the most beautiful hotel in Hawaii. Apart from the delicious food and the entertainment prepared by AAO, there was also the Fellowship Admission ceremony. Mr. Anderson Tam received his Fellowship in this meeting. He is the first research student to get this distinction in our Department.

Mr. Thomas Lam

The Third International Proteomics Conference (IPC'03) jointly organized by the Taiwan Proteomics Society and AOHUPO Meeting Committee was held in Taipei from 14-17 May 2004. We did not only take the opportunity to meet and share with scientists working in the same discipline but also take the advantage of the four days lectures and presentations to update our knowledge in recent proteomic applications from basic research to clinical studies. We won a travel fellowship and an oral presentation award at this Conference.

Dr. Andrew Siu

The annual meeting of the Association of Research in Vision and Ophthalmology (ARVO) was held in late April 2004 in Fort Lauderdale, USA. PolyU-Optometry researchers actively participated in this prestigious international conference. Mr. Jay Chan, Dr. Camus Choy, Miss Emily Choy, Dr. Mohammad Shahidullah, Miss Wing Tang, Dr. Chi-ho To, Mr. Dennis Tse and I presented altogether 8 research reports in different sections:

"Spatial frequency and myopic defocus detection in chick eye in a closed visual environment"

"A novel porcine dry eye model (pDEM) with simulated lacrimation/blinking system: preliminary data of effects of artificial tears for protection of corneal epithelial cells from desiccation"

"mRNA Expression of Glucose Transporters in the Bovine Ciliary Body Epithelium (CBE)"

"Pinoline protects the retina from lipid peroxidation"

"Nitric oxide donors reduce aqueous humor formation and IOP in the isolated arterially perfused pig eye"

"UV-mediated DNA damage in corneal epithelial cells assessed using the comet assay procedure"

"Retinal stretching limits visual acuity in myopic eyes"

"Testing for association between COL2A1 and myopia susceptibility in Hong Kong Chinese population"

Every year, several thousand scientists and clinicians attend the ARVO meeting. If you are interested to learn more about ARVO, the website is www.arvo.org.

China Visit

(From left) Dr. Liang Zhongan, Prof. Yap, Dr. Li Gandi, Ms. Yang Bi, Ms. Ma Wei, Prof. Woo and Dr. Liu Longqian

Prof. George Woo and Prof. Maurice Yap were invited to lecture to health-care students of Sichuan University in May 2004. Prof. Woo presented the K. B. Woo Award to two of the graduating optometry students.

Chair Professor of Optometry

Prof. George Woo re-joined OR as Chair Professor of Optometry after his retirement from the Deanship of Faculty of Health and Social Sciences in June.

Academic Visitor

Dr. Tim Lam (in white shirt) and our research personnel

Dr. Tim Lam from Doheny Eye Institute, Los Angeles, USA visited PolyU and gave a talk on "Leber's Hereditary Optic Neuropathy - a Multi-Year Study in Brazil" on 8 June. Dr. Lam is Associate Professor of Research Ophthalmology of Doheny Eye Institute.

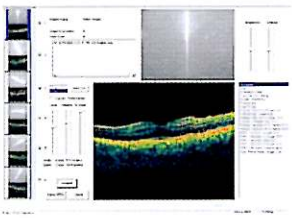
Dr. Michael Collins, Associate Professor at the School of Optometry, Queensland University of Technology in Australia delivered a lecture on "Biomechanics of the Cornea Epithelium" on 15 June. Dr. Collins is an academic advisor to our Ortho-k CPD course.

News from.....

The Clinic

Mr. Peter Pang

A new instrument, *"STRATUSOCT"*, is installed in the Optometry Clinic. Using Optical Coherence Tomography (OCT), the system enables the cross-sectional examination of the retina to facilitate diagnosis and management of retinal/macular disorders.



The Research Lab - Opening of Sheung Shui Lab

Dr. Mohammad Shahidullah

I came to Hong Kong with the aim of establishing the extracorporeal bovine eye as an experimental model to study aging eye conditions. The first step in this is to keep the eye alive in the laboratory by artificial supply of oxygen and nutrients to the eye. Given the high cost of animals, using eyes from the abattoir by product is an economical way to do our experiments. However, the collection and transportation time of eyes from the only abattoir at Sheung Shui to our lab at PolyU takes more than one hour, rendering the eyes unsuitable for experiments. We have solved this problem by setting up an off campus lab at Sheung Shui. At present we are conducting studies in retinal electrophysiology in arterially perfused pig eye using multifocal ERG (mfERG) and another study of nitrovasodilators for their effects of AHF and IOP in isolated pig eye.

Conferences/Seminars/ Workshops

Seminars

Our research personnel conduct regular seminars to let us know their latest findings.

27 July 2004 *Miss Ming Young*

"Performance of Visual Form Constancy Subtest of Test of Visual Perceptual Skill (TVPS) in Hong Kong Chinese Children"

7 September 2004 *Mr. Dennis Tse*

"Signal integration characteristic of emmetropization"

21 September 2004 *Miss Emily Choy*

"Establishment of a novel porcine dry eye model (pDEM) and the effect of artificial tears for protection of corneal epithelial cells from desiccation"

Conference

The 2nd Hong Kong Optometric Conference will take place on 4 November 2004 at the Hong Kong Convention and Exhibition Centre. It is organized by the Hong Kong Trade Development Council and co-hosted by The Hong Kong Optometric Association and PolyU-Optometry. Speakers are come from the UK, Canada, Australia and HKSAR. The Conference is held together with the Hong Kong Optical Fair 2004. For more information, please visit:
http://www.hkopticalfair.com

Students Corner

Scholarship Award 2003/2004

Ms. Lili Tan

This is a good year for optometry students in term of scholarships and awards. Our students (undergraduates and postgraduates) have received a total of 14 scholarships and awards both at faculty and departmental levels.

Prof. Poon Chung-kwong, President of PolyU (left) and Miss Ip Koon-ching

Miss Ip Koon-ching was awarded the Faculty of Health and Social Sciences (FHSS) Most Outstanding Student and HKSPO COIV Prize. This is the second time one of our students has won the FHSS Most Outstanding student in the past four years. The first time was in year 2000/2001 when Miss Choy Pik-yin was awarded the FHSS Most Outstanding Student as well as the Most Outstanding PolyU Student. This year, Miss Choy together with another postgraduate student, Mr. Tse Yan-yin, have also been awarded the Sir Edward Youde Memorial Fellowship.

In view of their outstanding academic performance, Miss Chun Ka-man was awarded the Sonca Gold Medal and a Ciba Vision Contact Lens Prize; and Mr. Tang Yiu-bong was awarded the Bausch & Lomb Contact Lens Prize and S.K. Yee Medical Foundation Scholarship. Mr. Kwan Chi-keong was awarded the HKSPO COIII Prize and both Mr. Tang Yiu-bong and Mr. Li Chi-kit were also awarded the Ocular Sciences Best Poster Award in producing a poster of their final year project. Miss Law Kwai-mei and Miss Tang Ying-yung were awarded the HKAPPO Best Optometric Community Work Prize as a recognition of their outstanding work and contribution towards the community. Miss Tang has also won the Boston Scholarship for Optometry Student Exchange Program (C/L section) which she would use for her summer training in Queensland University of Technology (QUT).

Our Sincere thanks to our donors (in alphabetical order):
Bausch & Lomb
Ciba Vision
Hong Kong Association of Private Pratice Optometirsts
Hong Kong Society of Professional Optometrists
Oculus Optical (on behalf of Polymer Technology)
Ocular Sciences Inc.

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