

**Selected Abstracts from the OAA 63rd Annual Scientific Conference,
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A MULTI-CENTRE RESEARCH TRIAL IN AUSTRALIA

Nathan Clunas, Neryla Jolly
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In 2005 Neryla Jolly from the School of Applied Vision Sciences, The University of Sydney floated the possibility of setting up a research group which included orthoptists from several locations. The aim of the group was to enable collection of large data sets from across several practitioners rather than small numbers which resulted in inconclusive outcomes.

In 2006 interested orthoptists met and established principles of involvement, what the group wished to achieve, who would manage the project, how to include a range of practitioners and retain uniformity, who was entitled to have their name on any publications and topics to be researched.

Further discussion needs to include how each project will be funded. The first topic to be researched will be "How much does amblyopia impact on adult life?"

Staff of the School of Applied Vision Sciences involved in the multi-centre research group are enthusiastic about the possibility of developing a collegial approach, and the group already includes members from NSW (both city and rural), Victoria and an ophthalmologist.

A WebCT site has been constructed to generate discussion, report literature search results and post attachments.

The purpose of this presentation is to garner further interest throughout the orthoptic community, and to generate discussion on how to enable the success of this venture.

IS THE JIKEI UNIVERSITY CONTRAST GLARETESTER CORRELATED WITH ON-ROAD SENIOR DRIVING SKILL PROBLEMS?

Nathan Clunas, Neryla Jolly, Sue Silveira, Lynnette Kay
Sydney University

A multi disciplinary team from the Faculty of Health Sciences, The University of Sydney, comprising Orthoptists, Occupational Therapists and specialist Driving Instructors conducted off and on-road assessments of a population of 100 senior drivers across a broad range of ages from 60 to 86 years.

Clinical off-road vision assessment included basic vision tests of visual acuity and peripheral vision. In addition contrast sensitivity was assessed using the Vistech system, and glare sensitivity using the Contrast Glaretester (Jikei University) was carried out. The Contrast Glaretester was used to assess each driver's glare sensitivity and compare this to on-road driving performance as senior drivers commonly report problems with glare.

An on-road driving assessment was conducted to determine driver skills in different vision-based situations. At the completion of the assessment each subject's driving performance was rated as either pass, in need of driving lessons or fail.

Statistically significant correlations were seen amongst a number of factors. As participant age increased, discrimination under glare conditions decreased on the Contrast Glaretester. Subjects with better visual acuity had improved discrimination in glare situations. Participants who regularly drove at night also showed improved discrimination in glare situations. In addition, participants who were not comfortable with night driving had poor discrimination in glare conditions. Vistech Contrast Sensitivity correlated well with the Contrast Glaretester for the photopic range, showing that as discrimination under glare conditions decreases, so too does contrast sensitivity; and an improved discrimination under glare conditions correlated with passing the on-road driving performance.

HOW MUCH ECCENTRIC VIEWING IS ENOUGH?

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Dept. Clinical Vision Sciences

Background: Eccentric viewing is a strategy to ameliorate the impact of macula vision loss. The reports of eccentric viewing strategy in the literature vary in terms of need, success, technique and time spent on training. The strategy is often seen by service providers as expensive requiring time consuming face to face training.

Whilst the number of training sessions has been shown to have a small negative correlation with outcome measures such as decreased print size there has been no documented evidence of an optimum number of training sessions. The aim of this research is to determine if an optimum number of training sessions can be recognised.

Method: This is a retrospective study of data from the eccentric viewing data base of the Vision Rehabilitation Centre, LaTrobe University and data collected from a pilot study and a random control study of eccentric viewing both undertaken through La Trobe University.

Preliminary results and discussion: Training sessions varied between 1 and 80 sessions. There appears to be a pattern to improvement demonstrated in outcome measures and the number of training sessions. Other variable such as frequency of sessions and out of session practice also seem to have some impact. If an efficient combination of training techniques and session numbers can be identified this information may encourage the regular application of this valuable rehabilitation strategy for persons with macular disorders.

THE SPEED OF EMMETROPIA?

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The disruption of the emmetropisation process is commonly now cited as one important reason for not prescribing glasses for hypermetropia in infants – if, of course, there are no other indications for prescribing (e.g. the presence of anisometropia or strabismus or perhaps a strong family history). The purpose of this rapid fire presentation is to briefly revisit what is considered to be a "normal"

amount of hypermetropia in infancy and the issues concerned with refractive correction and prescribing in younger children. Using a case study, it is also aimed to stimulate discussion about the speed or rate at which emmetropia can occur.

COLOUR VISION – THE FORGOTTEN TEST

Kylie Green
Sydney Hospital & Sydney Eye Hospital

Purpose: To determine the most appropriate colour vision test for investigating acquired vision loss. The Ishihara is commonly used in many clinical settings for detecting acquired colour vision defects. The Ishihara is a screening test specifically designed to detect congenital red-green colour vision defects. While optic nerve pathology often causes red-green defects, this is not the same as a congenital loss. Therefore there is a strong need for in depth colour vision testing to be routinely utilised in clinical settings as this is often the first sign of pathology.

Method: Patients presenting to the orthoptic clinic with suspected optic nerve or macula pathology underwent formal colour vision testing with

the Farnsworth-Munsell 100 Hue Test, Roth 28 Hue Test and Ishihara. The results of these three tests are compared.

Results: To date, all patients in the study scored 100% on Ishihara, and minimal discrimination loss with the 28 Hue. However the 100 Hue Test detected significant changes/abnormalities in colour vision, which reflected the pathology.

Conclusion: While Ishihara is a commonly used test, the comparison of all three tests shows that Ishihara is not sensitive enough to detect acquired colour loss and is a poor substitute. Colour vision testing is a key diagnostic tool and the correct test should be used routinely in all clinical settings to aid diagnosis and investigation of optic nerve and macula pathologies, as the current method of testing is not sensitive to acquired changes.

THE MACTEL PROJECT

Nicola Hunt, Robyn Guymer
CERA

Idiopathic juxtafoveal telangiectasis, also known as macular telangiectasis type 11 (MacTel), is an uncommon disorder in which blood vessels temporal to the central macula become dilated and develop abnormal branching patterns. The clinical presentation and course of the disorder are incompletely documented and the underlying cause of the disease is unknown. There is no proven treatment. MacTel does not usually cause total blindness but commonly causes loss of central vision over a period of 10-20 years. Although MacTel has been previously regarded as a rare disease, it is in fact probably much more common than previously thought. The very subtle nature of the early findings in MacTel means that the diagnosis is often missed. No new information has emerged about the condition since its clinical features were first well described by Dr. J. Donald Gass in 1982.

The traditional understanding of Mactel is that the primary abnormality is in the retinal blood vessels, which were thought to become more leaky, although there is little understanding as to why this occurs and traditional treatment for leaky vessels, laser photocoagulation has failed to help in this disease.

In order to understand the disease better, to raise its profile and to determine if new treatments for macular disease have a place in Mactel, a multinational research program has been set up in 2005. Clinical Research Groups have now started to conduct a prospective 4 year survey of at least 200 MacTel patients drawn from collaborating centres across Europe, North America and Australia. This survey will provide new information concerning the clinical features, natural history and possible aetiology of this disease.

INCREASING SENIOR DRIVER SAFETY THROUGH VISION TESTS AND EDUCATION – A COMMUNITY BASED PROGRAM

Neryla Jolly, Shona Blanchette, Jody Major
Sydney UniversityAims

This paper reports on the correlation between driver's opinions of performance in visually based driving situations and a decrease in the clinical test responses for vision sensitivity. This paper will also explore the relationship between visual sensitivity and driving behaviors such as driving at night and average hours per day spent driving to see if drivers adapt to be safer.

Content: The paper reports on the outcome from, the vision assessment, which is one segment of a community based Senior Driver Education Program supported by three Shire Councils in NSW and facilitated by a Driver & Work Safety Consultant. At the initial session, each driver undertook a vision assessment and responded to a questionnaire about preferred driving situations. The vision assessment included basic tests that screen to determine whether the licensing standard has been met (central acuity, peripheral vision and detection of double vision) and tests that investigated a greater range of vision skills (contrast sensitivity, depth perception and the impact of reduced light on vision performance). The outcomes were correlated with the response from the questionnaire. The tests and results will be reported.

The results show that whilst the response for screening tests remains at a pass standard, there is a decrease in vision sensitivity in the senior driver and that this is related to decreased comfort in some driving circumstances, such as driving in heavy traffic and speeds over 60 kms per hour. Anecdotal responses indicate that some senior drivers who have decreased visual sensitivity, modify their driving pattern to avoid driving in those circumstances. Senior drivers were pleased to know that their vision could be contributing to the problem and accepted the recommendation that they modify their driving pattern.

Conclusion: The physical vision response changes with age and has been found to be associated with driver reported difficulties in some driving situations. Senior drivers, who are informed of their vision status can be supported to manage their driving behaviour to support safe driving practice.

24 YEAR OLD FEMALE PRESENTS WITH A 5 DAY HISTORY OF LEFT BLURRED VISION – COULD IT BE MULTIPLE SCLEROSIS?

Anne Zara Klawir
Ashwood Eye Centre

Introduction: With a past history of a similar attack, Ms S presented with a 5 day history of left blurry vision. A migraine sufferer, she explained that these symptoms were different, effecting mainly her central vision. There were no associated features, such as headache or migraine, eye pain on movement or flashing lights.

Testing revealed reduced left visual acuity at 6/36 with no improvement with pinhole and reduced colour vision. Humphrey Visual Field results indicated a severe loss of the left visual field. The pupil reactions were normal and there was no sign of an afferent pupil defect. The fundus examination showed healthy optic discs and no evidence of oedema or haemorrhages. The provisional diagnosis was retro-bulbar optic neuritis and an MRI of the brain and orbits was arranged.

Results: MRI scanning indicated numerous white matter lesions with the appearance typical of demyelination. The left optic nerve showed an abnormal T2 signal extending from a point just anterior to the chiasm forward to involve a short segment of the intra-orbital component of the nerve. She was diagnosed with multiple sclerosis.

Discussion:

What does she need to know about this condition?
What does her future hold?
Are any other tests required?
What treatment is required?
Is vision loss common as a presenting symptom?
Is MS common among females of her age?

FACTORS ASSOCIATED WITH THE RECURRENCE OF INTERMITTENT EXOTROPIA FOLLOWING SURGICAL CORRECTION

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Exotropia (XT) occurs in approximately 25% of children with strabismus – intermittent divergence excess type being the most common. Indications for surgical intervention relate to the size and frequency of the deviation. Surgery most commonly involves either a unilateral lateral rectus recession and medial rectus resection or bilateral lateral rectus recessions. The surgery of choice continues to be debated with little evidence that one procedure provides more a successful outcome than the other in the longer term.

Many factors, however, may potentially influence the outcome of strabismus surgery for intermittent XT. These may include age of patient at initial surgery, duration of the deviation, size of the deviation, refractive error and presence of amblyopia or sensory status etc.

This study sought to investigate factors associated with the recurrence of an exo-deviation following horizontal muscle surgery for intermittent XT of the divergence excess type. We retrospectively reviewed the medical histories of patients who underwent surgery for the correction

of intermittent XT between January 1998 and June 2005 and who were followed up for at least 12 months post-operatively.

The results of this clinical audit will be discussed and audience comment invited.

EVIDENCE BASED PRACTICE IN ORTHOPTICS

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In order to provide the best possible patient care, clinical decision making should be based on high quality, robust evidence. Study design plays a significant role in the validity of research and its ability to be used as supporting evidence for recommendations and to be translated into practice. The translational process, which involves taking knowledge and applying it to the patient level, is an imperative part of evidence based practice.

This presentation will review the basis of evidence based medicine and the need for high quality research evidence in orthoptics and specifically in the management of strabismus and ocular motility disorders. This will be discussed in the context of a systematic review we recently conducted in neurotrauma research, which highlights the high level of research activity conducted in other disciplines.

AN AUDIT OF AN ORTHOPTIST-LEAD DIABETIC RETINOPATHY SCREENING SERVICE IN A PUBLIC HOSPITAL OPHTHALMOLOGY SETTING

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As the number of people diagnosed with diabetes escalates, so too does the demand for routine ophthalmologic monitoring/screening for diabetic retinopathy. Consequently, this is leading to increasing numbers of appointments, waiting times and consultation times in eye clinics. To help alleviate the increasing burden in a hospital outpatient eye clinic, a separate, orthoptist-lead diabetic retinopathy screening service was established to work in parallel with the ophthalmology service.

Patients referred to the outpatient eye clinic principally for a routine diabetic eye check were booked onto the screening clinic. A trained orthoptist performed a general eye assessment, including assessment for best correct visual acuity and fundus photography using a non-mydratric digital retinal fundus camera. Fundus images were graded by the orthoptist or an ophthalmologist, then presented and explained to the patient. A two-up colour printout was kept in the patient file, the digital images were stored on a PC and a letter was sent to the referring GP.

Over a 3-year trial period, 502 patients (1004 eyes) were assessed (255 male and 247 female). Of 1004 eyes, 631 eyes (62.85%) were considered to have no abnormality; 177 (17.63%) had minimal NPDR; 63 (6.27%) had mild NPDR; 26 (2.59%) had moderate NPDR and 8 (0.8%) were found to have proliferative retinopathy. Further, the photographs of 32 eyes (3.19%) were deemed ungradeable (thus requiring ophthalmologic assessment), and pathology other than diabetic retinopathy was noted in 38 eyes (3.78%).

INTERMITTENT EXOTROPIA IN CHILDREN AND THE ROLE OF NON-SURGICAL THERAPIES

Lindley Leonard, Colin Chun Wai Chong, Susan Cochrane, Frank J. Martin

Ophthalmic Associates

Aim: The optimal management of intermittent exotropia or X(T) is not established due to the lack of definitive evidence. We report the management outcomes of patients from a tertiary referral practice and a university teaching hospital.

Methods: Chart review of 190 patients with X(T) was undertaken to evaluate the outcomes of non-surgical and surgical therapies. Because of variable follow-up time, cumulative survival analysis was performed. The outcome measures were the distance/near control, distance/near binocular vision and cosmesis. To determine the success of non-surgical therapies, we assessed the correlation between compliance with orthoptic treatment, optical therapy and occlusion therapy and distance control of X(T).

Results: The majority (n=188) had either basic or divergence excess X(T). In the non-surgical group (n=145), 50% of patients maintained or had improved distance control of X(T) after 6 years. More than 70% of patients maintained or improved distance binocular vision up to 18 years and 50% of patients remained cosmetically acceptable up to 5.6 years. In the surgical group, 50% had worse distance control by 5 years. In the non-surgical group, compliance with orthoptic treatment was strongly associated with distance control of X(T) (r²= 0.32, P < 0.001). Compliance with occlusion therapy and optical therapy showed weaker associations (r²=0.15, P<0.001 and r²=0.00, P=0.037 respectively).

Conclusion: Non-surgical therapy is effective in maintaining or improving the degree of control, binocular vision and cosmesis in X(T) over a long time-period. Compliance with orthoptic treatment is important in achieving good control of distance X(T).

MANAGEMENT OF MEDULLOEPITHELIOMA IN A 20 MONTH OLD

Lindley Leonard, Frank J. Martin

Ophthalmic Associates

A 20 month old boy presented with a six month history of an irregular shaped right pupil. Examination found a mass behind the right temporal iris with slight shallowing of the anterior chamber and a solid tumor in the immediate subjacent ciliary body. Ultrasound confirmed diagnosis of Medulloepithelioma.

Management requiring a multidisciplinary team: Biopsy? Enucleation? Localised Resection? Or Brachytherapy??

THE PROGNOSTIC VALUE OF THE CYCLO-SWAP TEST IN THE TREATMENT OF AMBLYOPIA USING ATROPINE: A PILOT STUDY

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Although atropine is commonly used in the management of amblyopia, best practice guidelines regarding its use have not been adequately determined. The recent PEDIG trials concerning atropine treatment seem to have raised more questions than have been answered. Atropine treatment is widely believed only to be effective in milder degrees of amblyopia, where a swap in fixation to the amblyopic eye is more likely to occur. The 'cyclo-swap test' may be performed prior to prescribing atropine treatment in order to determine a patient's likely fixation behaviour during the treatment. Though perhaps not widely, this test has been used clinically, though there is scant clinical research into its use in predicting which patients will best respond to atropine treatment. Furthermore and since the relevant PEDIG study, it is currently debated as to whether a fixation swap to fixation with the amblyopic eye is actually required to achieve improvement in vision. In response to this, we have conducted a pilot study to investigate the validity and prognostic value of the cyclo-swap test. The relationship between fixation behaviour before and during treatment and visual acuity outcomes is also being assessed. The preliminary findings of this study will be discussed.

THE EFFECTS OF ANTIDEPRESSANTS ON IOP AND ANGLES IN THE EYE

Ursula Losew

Marsden Eye Specialists

Antidepressants come from a group of drugs called Selective Serotonin Reuptake Inhibitors (SSRIs). They are non-selective inhibitors of the

reuptake of serotonin, norepinephrine, dopamine and has no anticholinergic activity.

However in a study performed in the US in 1998, it was found that patients on SSRIs raised the intraocular pressure and could invariably lead to acute angle closure glaucoma. In the study 20 patients were given either the anti-depressant fluoxetine (Prozac) or a placebo in randomised order. It was noted that the patients who took the anti-depressant that IOP increased by up to 4mmHG lasting up to 6 hours.

The mechanism that these drops affect IOP has been studied extensively and two main theories have been developed.

1. It may be due to weak anticholinergic or mydriatic effects of the serotonergic drugs which can precipitate angle closure.
2. Serotonin and serotonin receptors have been found in the human ciliary body and it can lead to increased IOP.

VERBAL AND NON-VERBAL IQ LEVELS OF INDIVIDUALS WITH CONGENITAL NYSTAGMUS

Linda Malesic, Ashish Kumari

La Trobe University

Purpose: Limited research has been conducted on the intellectual and educational abilities of individuals with congenital nystagmus (CN). This study compared the verbal, non-verbal and full IQ levels of individuals with CN.

Methods: 17 individuals with CN aged between 4 and 67 years (mean 24 years; SD \pm 10.80) participated in this study. 9 participants were classified as CN only (idiopathic) and 8 were albinos with CN. Vision ranged from 6/9 to 6/60. Verbal and nonverbal intellectual ability was measured using the Kaufman Brief Intelligence Test (K-Bit) and educational ability was measured by the reading, spelling and arithmetic tests of the Wechsler Individual Achievement Test II (WIAT II). All participants completed a questionnaire and the responses given were used to determine if certain environmental and/or genetic influences correlated with the IQ scores obtained.

Results: 77% of the participants achieved an 'average' full IQ score and 23% achieved an 'above average' full IQ score when compared to the normal age-matched IQ data provided in the K-Bit manual. No participant with CN achieved a full IQ score that was 'below average'. Performance on the K-Bit and WIAT II was not related to level of visual acuity and nystagmus classification. The comparison of verbal and non-verbal IQ scores indicated that 67% of the participants performed better at non-verbal IQ tasks than verbal IQ tasks. There was a statistically significant correlation between non-verbal IQ and arithmetic skills ($P = .649$, $p = .007$) and verbal IQ and spelling skills ($P = .599$, $p = .014$). The questionnaire responses were suggestive of a relationship between the preferred indoor leisure time activity (e.g. reading) and the K-Bit and WIAT II scores achieved.

Conclusion: The level of visual acuity or classification type (albino or idiopathic) does not predict the intellectual and educational performance of individuals with CN. Reading, spelling and arithmetic skills were related to environmental and genetically predisposed factors rather than to the CN characteristics of the individual.

THE RELATIONSHIP BETWEEN THE CURRENT LICENCING AUTHORITY VISION STANDARDS AND SAFE ONROAD SENIOR DRIVER PERFORMANCE

Sue Silveira, Neryla Jolly, Nathan Clunas, Lynette Kay

University of Sydney

Current licencing authority's vision standards are based on assessment of visual acuity using a standard Snellen chart and visual fields using a variety of automated and non automated tests. These vision standards are rigorously enforced and failure to meet the required level can lead to cancellation of a driving licence. Attempts to locate the origins of the standards have been unsuccessful. While much has been written on the relationship between driving and vision, no such research has previously been done.

Enforcement of vision standards is very relevant to senior drivers because the incidence of vision defects increases with age. This research aimed to determine the relationship between current vision standards and safe senior driver onroad performance. A multi disciplinary team from the Faculty of Health Sciences comprising Orthoptists, Specialist Occupational Therapists and Driving Instructors was formed. The team conducted off and on-road assessments of 100 senior drivers (35 females, 65 males) between 60 to 86 years.

Drivers with obvious general physical or cognitive defects were excluded to eliminate influences other than those related to vision or the age of the participants. At least 20% of participants had vision defects to enable evaluation of drivers with both full and defective visual function.

The results of analysing the relationship between visual acuity, visual fields and onroad performance will be presented.

NSW VISION SURVEILLANCE AND SCREENING IN 2006 – SOME QUESTIONS ANSWERED, MANY MORE TO ASK

Sue Silveira

University of Sydney

During 2006 a statewide review of the Personal Health Record (PHR), commonly known as the "Blue Book" was conducted by a multidisciplinary committee consisting of health professionals involved in early childhood health. This included orthoptists, general practitioners, paediatricians, early childhood nurses, midwives, lactation consultants, audiologists, oral hygienists and immunization consultants.

The review began with an online survey complete by parents and health professionals and the outcome of the survey was used to determine areas of change. This was a simple as what colour and format the PHR should take, to ensuring surveillance and screening protocols adequately represented all essential child development and health issues.

Vision and hearing both came under close scrutiny by the committee, despite traditionally being considered vital areas to surveil and screen during a child's life. Doubt was cast over their inclusion due to the lack of scientific evidence to support current practice when children undergo surveillance and screening.

This paper will present the final outcome of the review of the Personal Health Record to inform clinicians of new protocols and what their role in these protocols may be. It will also open for discussion the way forward in vision surveillance and screening.

PAEDIATRIC OCULAR INJURY AND PREVENTION – A REVIEW OF THE CURRENT LITERATURE

Sue Silveira

University of Sydney

In 2006 a grant was awarded by the Statewide Ophthalmology Service, The Greater Metropolitan Clinical Taskforce, to allow a review of the current scientific literature on paediatric ocular injury and prevention.

Three questions were asked – what current literature is available on the incidence, cause and outcome of paediatric ocular injury? What prevention programs are in place and have they been evaluated? What conclusions can be drawn from the literature about "eye safe locations" for children?

A synopsis of the literature will be presented with a health promotion framework for prevention of paediatric ocular injury.

TEMPERATURE – A CONTRIBUTING FACTOR IN A CASE OF SUPERIOR OBLIQUE PALSY

Kirsty Somerville McAlester, Julia Kelly

Sydney Hospital & Sydney Eye Hospital

Purpose: An unusual case of superior oblique palsy with vertical diplopia, exacerbated by temperature change is presented. The presenting symptoms raised suspicion of a clinical condition akin to that of "Uthoff's Phenomenon," as seen in Multiple Sclerosis, however the increased body temperature in this patient lead to diplopia not vision impairment. A

literature search revealed that changes in temperature, influence muscle fatigue in myasthenic patients.

Method: Clinical signs are presented and investigative tests to determine if a suspected diagnosis of Ocular Myasthenia Gravis (OMG) are discussed. The clinical findings are examined in the light of current evidence in the literature regarding diagnostic tests for OMG. Special attention is given to the "Ice Test", a simple clinical test that aids in the diagnosis of OMG.

Results: OMG was excluded because of negative Acetylcholine Receptor Antibody Assay and single fibre electromyography studies. A diagnosis of acquired idiopathic fourth nerve palsy was accepted with subsequent inferior oblique surgery.

Conclusion: In the presence of a negative diagnosis of OMG, is this case an example of false negative responses to specific OMG testing, as documented in the literature?

Alternatively is sensitivity to temperature a previously unrecognised decompensation factor in ocular nerve palsies? The accuracy of this patient as an historian regarding the impact temperature changes had on his symptoms and deviation, should encourage us to include questions relating to body temperature in our histories. Indeed, a study of the patterns of decompensation in ocular muscle palsies compared to the time of year and temperature ranges may be an interesting future study.

LASIK: CLINICAL RESULTS AND THEIR RELATIONSHIP TO PATIENT SATISFACTION AND COMPARISON LASIK AND NON-LASIK PATIENTS

Lien Tat-Medgyessy

Prof Coroneo's Room

Purpose: The aim of this study was to evaluate the safety and efficacy of LASIK as a refractive surgical procedure, using a repeated measures design to assess satisfaction of patients who had LASIK and to correlate clinical outcomes with detailed measures of patient satisfaction to document long-term viability, monitor changes over time and patients' functional abilities post-operatively.

Method: In the study 216 post-LASIK subjects were randomly selected from among patients who underwent simultaneous bilateral LASIK. The study also included 100 non-LASIK subjects as a control group, to compare and differentiate ocular symptoms and visual difficulties between LASIK and non-LASIK patients. Clinical and subjective patient satisfaction data were evaluated.

Results: LASIK achieved relatively high patient satisfaction, with only a small number of dissatisfied patients. It was effective in correcting myopia, hyperopia and astigmatism. However, there were some under- as well as over-correction. The LASIK subjects' post-operative distance uncorrected visual acuity was not as good as their pre-operative best corrected visual acuity, but it did not significantly correlate with patient satisfaction. The findings confirmed the concept that patient satisfaction is not unidimensional and is not related to outcome solely in terms of visual acuity and residual refractive errors. Other contributing factors were identified.

Conclusions: The findings of this study are consistent with those of earlier studies. However, the repeated measures design and the comparisons between LASIK subjects and the control group revealed some new insights that were previously undocumented.

INTERESTING RETINOPATHY

Suzane Vassallo, Catherine Mancuso, Alex Harper

La Trobe University

Activities involving straining can sometimes result in a type of haemorrhagic retinopathy often resulting in sudden loss of vision. The authors present two interesting cases of such retinopathy which they have seen in the clinical setting in recent times. These cases will highlight the various aetiologies which could lead to this retinal insult, the management option employed and the outcomes which ensued in both instances.

A COMPARISON OF REHABILITATION STRATEGIES USED TO AMELIORATE THE IMPACT OF MACULAR VISION LOSS: FINAL RESULTS

Meri Vukicevic, Dr Kerry Fitzmaurice

Department of Clinical Vision Sciences

Purpose: The aim of the study was to compare the efficacy of two forms of rehabilitation used to ameliorate the impact of macular vision loss. The traditional method of vision rehabilitation has been the use of magnifiers. This intervention is widely used and considered successful. Nevertheless, it does have some limitations. Another method of vision rehabilitation and one that can be used in conjunction with magnification is eccentric viewing strategy (EVS). Although there has been some research into the efficacy of this technique, it has not been widely studied and little has been done to compare the two methods. This report provides data from a random controlled study comparing the two rehabilitation techniques.

Method: Patients attending ophthalmology clinics in Melbourne who met the inclusion criteria were invited to participate in this study. Inclusion criteria were healthy persons aged 50 years and over who are legally blind due to ocular pathology causing macular vision loss. Participants were randomly assigned to one of four age-matched groups. Magnification group, Eccentric viewing group, Combination group and Non-intervention group. Dependant variables were measures of reading performance and activities of daily living. The study was a multivariate design using repeated measures. A comparative cost analysis was also conducted during the study in order to measure the direct costs involved with each rehabilitation strategy.

Results: Statistical analysis has shown that both magnification intervention and EVS are effective, however a combination of both techniques is best, and most cost effective. The statistical analyses and potential implications for vision rehabilitation will be discussed.

THE CLINICAL APPLICATION OF OPTICAL COHERENCE TOMOGRAPHY: AN ORTHOPTIST'S PERSPECTIVE

Meri Vukicevic, Bronwyn Bierens, Stavroula Stylanou

Department of Clinical Vision Sciences

Optical Coherence Tomography (OCT) is a relatively new type of medical diagnostic imaging first developed in 1991. It enables the performance of high-resolution cross-sectional imaging of the internal microstructure of the eye. Cross-sectional images of the internal ocular structures are generated by measuring echo time delay and intensity of reflected light.

The value of OCT is in the ability to evaluate real-time in situ visualisation of ocular structures, without needing a biopsy specimen and is a powerful adjunct to the clinical techniques of slit-lamp biomicroscopy, indirect ophthalmoscopy, fluorescein angiography and visual field testing.

OCT is increasingly used in ophthalmic clinics and orthoptists are becoming an integral part of performing this useful diagnostic test. This presentation will provide a brief overview of how to interpret an OCT scan and interesting clinical cases will be used to facilitate examination of the clinical application of OCT.