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PROGRAM AT A GLANCE

Sunday , August 14, 2005

18:30 Welcome Cocktail Party

Monday, August 15, 2005

8:00 – 8:15 Welcome to Coolum Graeme Wilson and Desmond Fonn
8:10 – 8:30 Prologue

Complications of Contact Lens Wear

8:30 – 10:30 Session 1: Epidemiology of CL-related Corneal Infections
Moderators: Fiona Stapleton and Oliver Schein

10:30 - 11:00 Tea and Posters

11:00 – 13:00 Session 2: Etiology and Pathogenesis of CL Related Corneal Infections
Moderators: Suzanne Fleizig and Michael Gilmore

13:00 – 15:30 Lunch

15:30 – 17:30 Session 3: Other Adverse Events Induced by CLs
Moderators: Debbie Sweeney and Mark Willcox

17:30 – 18:00 Tea and Posters

18:00 – 19:30 Session 4: Technology/Techniques to Further our Understanding of CL-related Complications
Moderators: David Evans and Nancy McNamara

Tuesday, August 16, 2005

Biocompatibility of Lens Wear

8:00 – 9:45 Session 5: Surfaces of Contact Lenses
Moderators: Brian Tighe and Jean Jacob

9:45 – 10:15 Tea and Posters

10:15 – 12:30 Session 6: Tear Film/Ocular Surface Interaction
Moderators: Alan Tomlinson and Darlene Dartt

12:30 – 13:00 ISCLR Members Meeting

13:00 – 15:30 Lunch

15:30 – 17:30 Session 7: Ocular Discomfort With CLs
Moderators: Eric Papas and Michel Guillon

PROGRAM AT A GLANCE

Tuesday, August 16, 2005

- 17:30 – 18:00 **Tea and Posters**
- 18:00 – 19:30 **Session 8: Technology/Techniques to Further Understanding of Above**
Moderators: Jason Nichols, Trefford Simpson, Jerry Paugh and Nathon Efron
- 20:00 **Industry/ISCLR Executive Committee Dinner**

Wednesday, August 17, 2005

Leisure Day

Thursday, August 18, 2005

Correcting Refractive Errors

- 8:00 – 10:00 **Session 9: New CLs – Silicone Hydrogel/Ortho-K designs etc.**
Optics/Vision/Oxygen
Moderators: Leo Carney, Patrick Caroline, Noel Brennan
- 10:00 – 10:30 **Tea and Posters**
- 10:30 – 12:30 **Session 10: Refractive Surgery, IOLs, Other Procedures**
Technology/Techniques to Further Understanding of Above
Moderators: Charline Gauthier, Perry Binder, Steve Klyce, Ray Applegate, Arthur Ho
- 12:30 – 14:30 **Lunch**
- 14:30 – 16:00 **Session 11: Tissue Response to all Refractive Procedures/Lenses**
Technology/Techniques to Further Understanding of Above
Moderators: Graeme Wilson, Dwight Cavanagh, Jan Bergmanson, Paul Murphy
- 16:00 – 16:30 **Tea and Posters**
- 16:30 – 17:30 **Session 12: Tissue Response and Technology, continued**
Moderators: Dwight Cavanagh, Graeme Wilson, Jan Bergmanson, Paul Murphy
- 19:00 **Gala Dinner**

Friday August 19, 2005

- 8:00 – 9:30 **Session 13: Discussion of Student Posters**
Moderator: Richard Hill and Philip Morgan
- 9:30 – 10:00 **Tea**
- 10:00 – 12:00 **Session 14: Wrap Up – What are the Most Important Issues?**
Moderators: Brien Holden and Kenneth Polse



Gerald Pier, BA, MA, PhD

Channing Laboratory, Department of Medicine, Brigham and Women's Hospital, Harvard Medical School

Education:

1970 B.A. University of the Pacific, Stockton, CA
1976 Ph.D. (Microbiology) University of California, Berkeley, CA
1997 M.A. (Honorary) Harvard University, Cambridge, MA

Academic appointments:

1976-1978 National Research Council Post-doctoral Fellow in Infectious Diseases, Department of Bacterial Diseases, Walter Reed Army Institute of Research, Washington D.C.
1978-1980 Associate in Medicine (Microbiology), Harvard Medical School
1980-1982 Instructor in Medicine, Harvard Medical School
1982-1987 Assistant Professor of Medicine (Microbiology), Harvard Medical School
1987-1997 Associate Professor of Medicine (Microbiology), Harvard Medical School
1997- Professor of Medicine (Microbiology and Molecular Genetics), Harvard Medical School
1998- Faculty Member, Ph.D. Program in Biological and Biomedical Sciences, Harvard Medical School

Hospital appointments:

1978-1982 Associate Staff-Medicine, Peter Bent Brigham Hospital
1982-1991 Associate Microbiologist, Department of Medicine, Brigham and Women's Hospital
1992- Microbiologist, Department of Medicine, Brigham and Women's Hospital

My research interests include production and testing of polysaccharide and polysaccharide-conjugate vaccines for bacterial infections, characterization of the chemical composition and structure of the vaccine components, and definition of immune protective mechanisms relevant to bacterial infection. In addition, studies on mechanisms whereby bacterial pathogens cause infections are key parts of the laboratory investigations. Specific areas include:

- Immunochemistry of surface antigens of *Pseudomonas aeruginosa*
- Molecular and cellular basis for virulence of bacterial pathogens in corneal infections and in cystic fibrosis
- Innate immunity mediated by the cystic fibrosis transmembrane conductance regulator (CFTR)
- Staphylococcal infections- pathogenesis and vaccine development
- Human monoclonal antibodies for therapy and prevention of infections
- *Yersinia pestis*-lipopolysaccharide structure and function, role in infection and potential for vaccine development



John Dart, BM BCh, DM

BACKGROUND: Born 10.04.1950. Married Alison Mathews. Three children (Robin, Georgina and Jonathan). Degrees: BA (Christ Church, Oxford, Zoology) 1971 (MA 1976), BA (Trinity, Cambridge, Medical Sciences) 1973, BM BCh (Oxford University Medical School) 1976 Doctorate: DM (Christ Church, Oxford) 1992. Diplomas: FRCS (Ophthalmology, England) 1982 (Higher Surgical Training Certificate 1983), FRCOphth (England) 1991. Trained in Ophthalmology at the Oxford Eye Hospital and Moorfields Eye Hospital. Fellowships at the Cullen Eye Institute, Houston (Dr Dan B Jones) and Flinders University, Adelaide (Prof Doug Coster) 1983/4. Lecturer at the Institute of Ophthalmology from 1984-1989 attached to the Contact Lens and Prosthesis Dept. Appointed Hon. Consultant at Moorfields 1987.

CURRENT APPOINTMENTS: Consultant Ophthalmologist since 1989. Honorary Senior Research Fellow, Dept. of Clinical Ophthalmology, Institute of Ophthalmology, University College London, since 1998. Currently Consultant in the Corneal & External Disease Service, Deputy Director of Research at Moorfields Eye Hospital (from December 2000) and Chairman of the Infection Control Committee (from 1997). Corneal and External Disease Service Research Lead (since 1991).

EDUCATIONAL & TRAINING ACTIVITIES: Organiser of Corneal and External Disease teaching at Moorfields (weekly). Provision of a Corneal and External Disease Fellowship since 1990 and a Clinical Research Fellowship since 1994. Medical Assessor (General Medical Council, Professional Performance Procedures) since 1998, Council of the Oxford Ophthalmological Congress since 1992.

RESEARCH INTERESTS: Research interests in ocular infections (epidemiological, clinical and laboratory), inflammatory diseases of the anterior segment and ocular surface diseases (clinical & laboratory).



Debra A. Schaumberg, ScD, OD, MPH

Assistant Professor of Medicine and Ophthalmology, Harvard Medical School
Assistant Professor of Epidemiology, Harvard School of Public Health
Director, Ophthalmic Epidemiology, Division of Preventive Medicine, Brigham and Women's Hospital

Dr. Debra A. Schaumberg obtained her doctor of optometry degree summa cum laude in 1991 from the Illinois College of Optometry in Chicago, where she was also the recipient of several honors including the Clinician of the Year Award. Following this, she went on to complete an ophthalmic disease residency at the Westside Veterans Administration Medical Center in Chicago. Dr. Schaumberg then went to Baltimore where she earned a Masters of Public Health degree from the Johns Hopkins School of Hygiene and Public Health in 1994, and completed a research fellowship in preventive ophthalmology at the Wilmer Ophthalmological Institute. Dr. Schaumberg completed a second research fellowship in ophthalmic epidemiology at Harvard Medical School in 1995, after which she earned the Doctor of Science degree in Epidemiology from the Harvard School of Public Health in 1999.

Dr. Schaumberg is currently Assistant Professor in the Departments of Medicine and Ophthalmology at Harvard Medical School, and in the Department of Epidemiology at the Harvard School of Public Health in Boston. She has years of experience in the design and conduct of epidemiological studies. Her principal research interest is in chronic disease epidemiology, especially regarding the roles of both environmental and genetic risk factors, and their interactions, in eye diseases including dry eye syndrome, cataract, macular degeneration, and diabetic retinopathy.



Steven C. Schallhorn, MD

Dr. Schallhorn entered the US Navy in 1977 as an F-14 pilot and later served as a TOPGUN instructor. He then completed a medical degree at the Uniformed Services University of the Health Sciences, ophthalmology residency at the Naval Medical Center, San Diego, and cornea and external disease fellowship at the Doheny Eye Institute. Dr. Schallhorn established and is currently the director of the Navy Refractive Surgery Center at the Naval Medical Center in San Diego (NMCSD), California. He has led Navy research on the safety and efficacy of refractive surgery including a comprehensive program for Naval aviation. Many of his studies involve the effects of laser vision correction on the quality of vision.

Dr. Schallhorn received his Doctor of Medicine from the Uniformed Services University of the Health Sciences (USUHS) in Bethesda, Maryland. He completed ophthalmology residency at the Naval Medical Center San Diego, and was a Cornea Fellow at Doheny Eye Institute. Dr. Schallhorn was a United States Navy Fighter Pilot for seven years, and won numerous awards as a pilot. From 1982 to 1984, he was selected to become a combat instructor at the Navy Fighter Weapons School (TOPGUN). In 1997, he received the Chairman of the Joint Chiefs of Staff Award for Excellence in Military Medicine.



Robert M. Lavker, PhD

Professor of Dermatology and Director of Research for the Department of Dermatology, at the Feinberg School of Medicine, where he has been on the faculty since 2002. Prior to joining Northwestern University, Dr. Lavker was a member of the faculty of the University of Pennsylvania for 26 years. At the University of Pennsylvania, Dr. Lavker served as the Director of Research from 1987 – 2001.

Dr. Lavker has spent the last 36 years studying various aspects of epithelial biology. In collaboration with Dr. Tung-Tien Sun (NYU), Dr. Lavker identified putative stem cells in several epithelia: human and non-human primate epidermis, the limbal region of the cornea, the fornical zone of the conjunctiva, the bulge region of the hair follicle, and the duct of the meibomian gland. These studies have been of major importance for their implications regarding hair follicle growth, wound repair, carcinogenesis, and corneal regeneration. More recently, the laboratory has developed novel techniques that can selectively tag subpopulations of proliferating cells, and has demonstrated that the meibomian gland can give rise to the palpebral conjunctival epithelium. In the area of differentiation, Dr. Lavker studies events involved in the commitment of an epithelial cell to differentiate. Dr. Lavker has identified two novel genes, a calcium-linked epithelial differentiation protein (CLED) and an early epithelial differentiation-associated (EEDA) protein. Dr. Lavker's research efforts have been continuously supported since 1982 by grants from the NIH. He has published over 130 original scientific articles.

In addition to Dr. Lavker's scientific and teaching responsibilities, he holds and has held numerous leadership positions. Dr. Lavker served as Associate Chairman of the Department of Dermatology, at the University of Pennsylvania with administrative responsibilities for all aspects of research from 1993-1994. At the University of Pennsylvania, Dr. Lavker served on the School of Medicine Committee on Appointments and Promotions from 1995 – 2002 and was Vice Chair from 1998-2002. Dr. Lavker also served as the Medical School representative on the University of Pennsylvania Provost's Committee on Academic Budget and Planning. At The Feinberg School of Medicine, Dr. Lavker is a member of the Dean's Research Council, which has auspices over all research-related activities on campus. He is the Chair of the Dermatology Department Committee on Appointments and Promotions at Feinberg School of Medicine and currently serves on the Promotions and Tenure Committee for the Feinberg School of Medicine. Dr. Lavker served on the Board of Directors of the Society for Investigative Dermatology from 1997-2000, and currently is an Associate Editor of the Journal of Investigative Dermatology.

Monday August 15, 2005

8:00 – 8:30

INTRODUCTION

Welcome to Coolum

Graeme Wilson and Desmond Fonn

Prologue

COMPLICATIONS OF CONTACT LENS WEAR

SESSION 1: 8:30 – 10:30

Epidemiology of Contact Lens Related Corneal Infections

Moderators: *Fiona Stapleton and Oliver Schein*

Discussion Panel: *Schaumberg, Fonn, Sweeney, Holden, McNally and Presenters*

Introductory Remarks 5 min *Oliver Schein
Fiona Stapleton*

Keynote Address:

Epidemiology of Contact Lens-related Keratitis – a Perspective and Results from a UK Case Control Study 25 min *John Dart*

The Incidence of Contact Lens-related Microbial Keratitis in Australia 5 min *Fiona Stapleton*

A Post-Market Surveillance Study of the Rate of Microbial Keratitis Associated with the Night and Day Silicone Hydrogel Contact Lens 5 min *Oliver Schein*

Discussion and Questions 30 min

1. How can we best compare risks of sight-threatening complications between contact lens wear and LASIK?
2. Is the incidence of microbial keratitis with SH lenses different to that of hydrogel lenses?
3. Have daily disposable lenses modified the risk & are there specific risk factors associated with SH or DD microbial keratitis?

Peripheral Corneal Infiltrates in Silicone Hydrogel Lenses 5 min *John McNally*

Incidence of Hospital Presenting Corneal Infiltrative Events associated with Contact Lens Wear 5 min *Philip Morgan*

Discussion and Questions 20 min

4. Does the duration of continuous wear influence the risk of disease with SH lenses?
5. What is the etiology and significance of the high rate of peripheral corneal infiltrates seen with SH lenses?
6. What can lower the risk of keratitis?

Factors Influencing the Severity of Contact Lens-related Keratitis	5 min	<i>Lisa Keay</i>
Discussion and Questions	10 min	
7. Does the increased oxygen transmissibility modify disease severity or visual loss?		
Session Summary	5 min	<i>Oliver Schein Fiona Stapleton</i>

10:30 - 11:00 Tea and Posters

SESSION 2: 11:00 – 13:00

Etiology and Pathogenesis of CL-related Corneal Infections

Moderators: *Suzanne Fleiszig and Michael Gilmore*

Discussion Panel: *Evans, Stone, Stapleton, Willcox, Morgan and Presenters*

Keynote Address:

<i>Pseudomonas Aeruginosa</i> and Corneal Infection	20 min	Gerald Pier
Discussion	10 min	
Lipid Rafts and <i>Pseudomonas Aeruginosa</i> Invasion	5 min	<i>Dwight Cavanagh</i>
Discussion	5 min	
Do Healthy People get Corneal Infiltrative Events?	5 min	<i>Nathan Efron</i>
Discussion	5 min	
CL Wear Suppresses Innate Defenses of Corneal Epithelial Cells	5 min	<i>Inna Maltseva</i>
Discussion	5 min	
<i>Staphylococcus Aureus</i> Alters Cytokine Release from Corneal Epithelial Cells	5 min	<i>Susan Heimer</i>
Discussion	5 min	
An Animal Model for Bacterial Induced Inflammation During CL Wear	5 min	<i>Ajay Kumar</i>
Discussion	5 min	

Discussion and Questions

- 40 Min
1. If it's not hypoxia, is it mechanical or tear stagnation and what is the mechanism?
 2. Do we need to worry about hypoxia?
 3. Infections occur with Ortho-K lenses with the same bugs as soft lens infections. What does this tell us about pathogenesis? Is overnight wear of regularly fit RGPs safer than OK?
 4. Can inflammation predispose infection? Are inflammation and infection separate entities?
 5. How can we minimize infection risk now and in the future?

13:00 – 15:30 Lunch

SESSION 3: 15:30 – 17:30**Other Adverse Events Induced by Contact Lenses****Moderators:** *Debbie Sweeney and Mark Willcox***Discussion Panel:** *Jalbert, Dumbleton, McNally, Erickson, Schnider, and Presenters*

Adverse Events and Clinical Discontinuations with Silicone Hydrogel and RGPs when used on a 30-day Continuous Wear Basis	5 min	<i>Philip Morgan</i>
Contact Lens Disinfection Systems: Current Perspectives	5 min	<i>Carol Lakkis</i>
Contact Lenses Coated With Protamine Reduce Bacterial Adhesion and the Production of CLARE	5 min	<i>Mark Willcox</i>
Microbial Resistance to Biocides	20 min	<i>Michael Gilmore</i>
Etiology of Local Contact Lens-induced Papillary Conjunctivitis in Recurrent Events	5 min	<i>Cheryl Skotnitsky</i>

Discussion and Questions 80 min

1. Which adverse events are of concern today?
2. Can adverse events be reduced or controlled through novel strategies with either antibacterial solutions or surfaces?
3. Should we be concerned about antibacterial strategies and potential microbial resistance?
4. How can mechanical adverse events be controlled?

17:30 – 18:00 Tea and Posters**SESSION 4: 1800 – 19:30****Technology/Techniques to Further our Understanding of Contact Lens-related Complications****Moderators:** *Nancy McNamara and David Evans***Discussion Panel:** *Schaumberg, Efron, Morgan, Stapleton, Willcox and Presenters*

Introductory Remarks	5 min	<i>David Evans Nancy McNamara</i>
A Lens Wearing Model of Infectious Keratitis	10 min	<i>Manal Gabriel</i>
Discussion and Questions Which animal model(s) are most appropriate to advance our understanding of CL-related ocular surface disease?	10 min	
New Developments/Methods in Mucosal Immunity. Applications to the ocular surface?	5 min	<i>Jerry Pier</i>
New Methodologies in Ocular Cell Biology	5 min	<i>Nancy McNamara</i>

Antibacterial and Immunological Effect of Furanone-based Antimicrobials	5 min	<i>Tracey Schubert</i>
Discussion and Questions	15 min	
1. What are the future role(s) for specific immunomodulatory agents in the management of CL-related complications?		
2. Could immunization against MK become a reality?		
3. Will new methods in cell biology help us to advance our understanding of the molecular mechanisms of CL-related ocular surface disease?		
Advances in Epidemiological Approaches to Ocular Disease	5 min	<i>Debra Schaumberg</i>
Can MK, CLPU, CLARE and IK be Clinically Differentiated?	5 min	<i>Nathan Efron</i>
Differences in <i>Between-study</i> and <i>Within-study</i> Diagnostic Criteria in Determining the Incidence of Contact Lens-associated Keratitis	5 min	<i>Philip Morgan</i>
Discussion and Questions	15 min	
4. Is the incidence of CL-related complications significantly underestimated?		
5. Can ocular-genomics facilitate a reduction in CL-related complications?		
Session Summary & Conclusion	5 min	<i>Davis Evans</i> <i>Nancy McNamara</i>

Tuesday, August 16, 2005

BIOCOMPATIBILITY OF LENS WEAR

SESSION 5: 8:00 – 9:45

Surfaces of Contact Lenses

Moderators: *Brian Tighe and Jean Jacob*

Discussion Panel: Presenters

Introduction:

*Brian Tighe
Jean Jacob*

Assessment of Wettability by DCA Measurements	15 min	<i>Lynn Winterton</i>
Friction and Lubricity Measurement: Effects of Lens Wear	5 min	<i>Anisa Mahomed</i>
Surface Properties of Silicone Hydrogels	5min	<i>Lyndon Jones</i>
Lens-Solution Interactions	5min	<i>Ralph Stone</i>
Surface Modification by Macromolecular Entrapment	5 min	<i>Gareth Ross</i>

Discussion and Questions

70 min

1. Surface characterisation of lens surfaces (esp silicone hydrogels) - can we develop techniques to predict clinical performance?
2. Surface differences between ex-pack lenses & lenses "modified" by solutions or wear - are they significant & how?
3. Trends in methods for modifying surface behaviour – what can we learn from the emerging commercial scene (both silicone-containing & conventional hydrogels)?

9:45 – 10:15 Tea and Posters

SESSION 6: 10:15 – 12:30

Tear Film/Ocular Surface/Contact Lens Interaction

Moderators: *Darlene Dartt and Alan Tomlinson*

Discussion Panel: Presenters

Introduction

Darlene Dartt

Keynote Address

Contact Lens Wear and Dry Eye Syndromes

20 min

Debra Schaumberg

Part 1 - Dry Eye Disease

What are the Differences Between "Real" Dry Eye and Contact Lens Dry Eye?

10 min

Alan Tomlinson

The Role of Inflammation in Dry Eye

5 min

Mark Willcox

The Presence of the EGF Family and their effects on Cultured Rat Conjunctival Goblet Cell Proliferation	5min	<i>Darlene Dartt</i>
Human Tear Dynamics and its Impact on Vision and Ocular Comfort.	5 min	<i>Jianhua Wang</i>
The Residence Time of Topical Dry Eye Formulations.	5 min	<i>Jerry Paugh</i>
Part 2 – Contact Lens Dry Eye		
Kinetics of ¹²⁵ I-labelled Lysozyme Deposition on Silicone Hydrogel FDA Group II and Group IV Contact Lenses	5 min	<i>Lakshman Subbaraman</i>
Identification and Analysis of Meibomian Lipids on the Contact Lens Surface Using Eelectrospray Ionization Mass Spectrometry.	5 min	<i>Kelly Nichols</i>
Does the Tear Film Recover from Contact Lens Wear?	5 min	<i>Alan Tomlinson</i>
Discussion and Questions	70 min	
1. Is there a difference between “real” dry eye and contact lens dry eye?		
2. Should the definition of dry eye include hyperosmolarity?		
3. Is dry eye an inflammatory disease?		
4. What role does mucin deficiency play in dry eye?		
5. Does hypoesthesia play a part in contact lens dry eye?		
6. How important is tear film distribution in the aetiology of dry eye?		

12:30 – 13:00 ISCLR Members Meeting
13:00 – 15:30 Lunch

SESSION 7: 15:30 – 17:30

Ocular Discomfort With CLs

Moderators: *Eric Papas and Michel Guillon*

Discussion Panel: *Huth, Vehige, and Presenters*

Introduction and Background	5 min	<i>Michel Guillon</i> <i>Eric Papas</i>
Neuro-Sensory Aspects of Ocular Surface Response to Contact Lens Wear	5 min	<i>Fiona Stapleton</i>
Ocular Surface Interactions in Contact Lens Wear Discomfort	5 min	<i>Paul Murphy</i>
Kinin Activity in Contact Lens Wear	5 min	<i>Aisling Mann</i>
Key CL Elements, Short- vs. Long-term Response	5 min	<i>Mark Willcox</i>
Symptoms in Low- and High-Dk/t Soft Contact Lens Wear	5 min	<i>Blanca Golebiowski</i>
Influence of Osmotic Factors in Contact Lens Comfort	5 min	<i>Ulricke Stahl</i>
Eye/CL Interface: the Influence of Macromolecules	5 min	<i>Brian Tighe</i>

The Binding of Carboxymethyl Cellulose to Human Corneal Epithelial Cells and Tear Film Proteins 5 min

Gareth Ross

Discussion and Questions

75 min

1. Which ocular tissues or structures are most important in mediating the discomfort response and how does their behaviour alter during the response cascade?
2. Which features of the contact lens are responsible for precipitating tissue responses leading to discomfort and what are the mechanisms of the interaction?
3. Why are some people intolerant and/or drop out of lens wear due to discomfort yet others remain contented wearers?
4. How can the lens be altered, augmented or disguised to prevent or reduce the tissue response, i.e. What should the lens "look" like to the eye?

17:30 - 18:00 Tea and Posters

SESSION 8: 18:00 – 19:30

Technology/Techniques to Further Understanding of Above

Moderators: Jason Nichols, Trefford Simpson, Jerry Paugh and Nathan Efron

Discussion Panel: Presenters

Interferometric Studies of Tear Film Thinning and Breakup	10 min	<i>Ewen King-Smith</i>
Ocular Surface Sensory Channels	5 min	<i>Trefford Simpson</i>
Optimising Fluorescein Viewing With Slit-Lamp Biomicroscopy	5 min	<i>James Wolffson</i>
Modeling Tear Dynamics	5 min	<i>Anuj Chauhan</i>
The Relationship Between Corneal and Conjunctival Sensitivity, Dry Eye Symptoms, Tear Film Stability and Ocular Surface Characteristics	5 min	<i>Ping Situ</i>

Discussion and Questions

60 min

1. What is the etiology/origin of symptoms of ocular discomfort, and what is the most important clinical outcome that we presently have to target discomfort?
2. What are the major hurdles that generally inhibit our ability to relate signs of ocular comfort with clinical or other measures of disease?
3. What new and emerging methods are most promising relative to insights about ocular comfort?
4. Should the field incorporate a more 'basic' scientific approach to target ocular comfort?

20:00 Industry/ISCLR Executive Committee Dinner

Thursday August 18, 2005

CORRECTING REFRACTIVE ERRORS

SESSION 9: 8:00 – 10:00

New CLs : Silicone Hydrogel/Ortho-K Designs - Optics/Vision/Oxygen

Moderators: *Leo Carney, Patrick Caroline and Noel Brennan*

Discussion Panel: *Efron, Morgan, Swarbrick and Presenters*

Part 1 - Orthokeratology

The Role of Central and Peripheral Vision in Emmetropization	10 min	<i>Earl Smith</i>
Optical Modeling of Corneal Shape with Orthokeratology	5 min	<i>Jennifer Choo</i>
Soft Contact Lenses can Induce Orthokeratology-like Topographical Changes	5 min	<i>Pat Caroline</i>

Discussion and Questions

30 min

1. Is there a "Myopia Control Effect" created by the optics of the post-orthokeratology cornea? If so, are our current lens designs sufficient enough to create the desired "myopia control" effect?
2. What is the future of hyperopic orthokeratology? Does the corneal tissue respond in a similar fashion as in myopic orthokeratology?
3. How does orthokeratology work and is there an increased risk of microbial keratitis associated with the modality?

Part 2 - Oxygen 2005

Metabolic Modeling of Oxygen Diffusion through a Soft Contact Lens on Eye	10 min	<i>Clay Radke</i>
A Simpler Way of Looking at Oxygen Availability	5 min	<i>Brien Holden</i>
Oxygen vs. Dk/t	5 min	<i>Noel Brennan</i>

Discussion and Questions

50 min

4. Is Dk/t the right way to look at oxygenation of the cornea or, if not, what might be a better way?
5. Does oxygen really matter that much anyway?
6. Is 125 Dk/t really a good new criterion? If not, what might be a better figure or a better way to look at it?

10:00 – 10:30 Tea and Posters

**Refractive Surgery, IOLs and Other Procedures
Technology/Techniques to Further Understanding of Above**

Moderators: *Charline Gauthier, Perry Binder, Steve Klyce, Ray Applegate and Arthur Ho*

Discussion Panel: Presenters

Part 1 – Visual Quality Metrics and Measurement

Keynote Address:

What Have We Learned About Vision Correction through Refractive Surgery in Aviators? 20 min *Steve Schallhorn*

Clinically Viable Sensitive Tests of Visual Performance are Well Correlated to Metrics of Retinal Image Quality 5 min *Ray Applegate*

Discussion of Techniques and Technology to Understand Visual Performance. 35 min

1. What is the optimal total wavefront—should we preserve some of the aberrations?
2. Is the optimal total wavefront patient-dependent? If so, is a patient-dependent total wavefront error definable?
3. Can we examine a wavefront printout and estimate patient symptoms or visual quality and quantity?
4. Which corneal refractive laser procedure produces the best wavefront outcomes – PRK or LASIK?

Part 2 – Patient Outcomes with Refractive Surgery

Why is the Multifocality of Conductive Keratoplasty (CK) So Much Better than That Obtained with Monovision Contact Lenses? 5 min *Marguerite McDonald*

Comparison of Planned Ablation Dimensions and Actual Postop Topographically Measured Ablation Parameters. How Do They Explain Postop Symptoms and Wavefront Errors? 5 min *Steve Klyce*

Discussion of Techniques and Technology to Understand Patient Outcomes and Symptoms 20 min

1. Is monovision surgery with CK different than monovision surgery with PRK or LASIK, and why?
2. Why is CK more stable than other forms of Holmium:YAG thermokeratoplasty?
3. How does one identify which patients will have a successful CK outcome and which will not?

Part 3 – Accommodating IOLs

Optimising Aberration Performance of Accommodating Intra-Ocular Lenses: a Theoretical Lens Design Analysis 5 min *Arthur Ho*

Subjective and Objective Performance of the Lenstec KH-3500 “Accommodative” Intraocular Lens 5 min *James Wolffsohn*

Discussion of Techniques and Technology to Understand Restoration of Accommodation 20 min

1. How much accommodation do we need?
2. What are the potential other approaches to presbyopia surgery and their likelihood of success?
3. Do we need more refined/precise terminology and definitions with respect to presbyopia correction?
4. How much benefit can we expect from: apparent (pseudo) accommodation, residual accommodation, multifocality of the surgical cornea?

12:30 – 14:30 Lunch

SESSION 11: 14:30 – 16:00

**Tissue Response to all Refractive Procedures/Lenses
Technology/Techniques to Further Understanding Above**

Moderators : *Graeme Wilson, Dwight Cavanagh, Jan Bergmanson, Paul Murphy*

Discussion Panel: Presenters

Keynote Address 20 min *Robert Lavker*
What's New in the Palpebral Epithelium

A Tissue Engineered Corneal Epithelium: Differentiative and Regenerative Potential 5 min *Danielle Roberston*

Discussion and Questions 65 min

1. Can contact lens wear affect stem cells or cause stem cell deficiency?
2. Can contact lens wear affect the migration of epithelial cells?
3. How might a contact lens affect the maintenance of the conjunctival epithelium?

16:00 – 16:30 Tea and Posters

SESSION 12: 16:30 – 17:30

Tissue Responses to Lenses and Technology

Moderators: *Dwight Cavanagh, Graeme Wilson, Jan Bergmanson, Paul Murphy*

Discussion Panel: Binder and Presenters

Is Dk/t Important in Orthokeratology? 5 min *Helen Swarbrick*

Is Tissue Loss the Cause of Ectasia in Pathologically and Iatrogenically Thinned Corneas? 5 min *Jessica Horne*

Discussion and Question 30 min

1. Refractive surgery, keratoconus, and orthokeratology are associated with stromal thinning.
2. What is the significance of thinning to the well-being of the cornea?

Friday August 19, 2005

SESSION 13: 8:00 – 9:30

Student Poster and Presentation Overviews

Moderators: Richard Hill and Philip Morgan

Mini-Forum A: Microbiological and Biochemical Aspects of Contact Lens Systems

Poster #	Poster Title	Student Discussant
A-1	Contact Lens Wear <i>in vitro</i> Compromises Human Corneal Epithelial Cell Innate Defense Responses Against Bacteria	<i>Inna Maltseva</i>
A-2	Characterisation of Protease iv As a Virulence Determinant in Clinical Ocular Isolates of <i>Pseudomonas aeruginosa</i>	<i>Tim Conibear</i>
A-3	Antibacterial and Immunological Effect of Furanone-based Antimicrobials	<i>Tracey Schubert</i>
A-4	Kinin Activity in Contact Lens Wear	<i>Aisling Mann</i>
A-5	Toxigenic <i>S. aureus</i> Downregulates Proinflammatory Cytokine Release From Cultured Human Corneal Epithelial Cells.	<i>Susan Heimer</i>
A-6	Factors Influencing the Severity of Contact Lens-related Microbial Keratitis	<i>Lisa Keay</i>
A-7	An Animal Model for Contact Lens-induced Acute Red Eye	<i>Ajay Kumar</i>
A-8	A New Tissue-engineered Human Corneal Epithelium: Differentiative and Regenerative Potential	<i>Danielle Robertson</i>

Mini-Forum B: Optical, Mechanical and Material Aspects of Contact Lens Systems

Poster #	Poster Title	Student Discussant
B-1	Impact of Contact Lens Decentrations on the Correction of Optical Aberrations	<i>Pete Kollbaum</i>
B-2	Frictional and Lubricity Changes in Lenses During Wear	<i>Anisa Mahomed</i>
B-3	The Relationship Between Corneal and Conjunctival Sensitivity, Dry Eye Symptoms, Tear Film Stability and Ocular Surface Characteristics	<i>Ping Situ</i>
B-4	Influence of Osmotic Factors in Contact Lens Comfort	<i>Ulrike Stahl</i>
B-5	Comfort Enhancement by Macromolecular Entrapment: Understanding the Mechanism	<i>Gareth Ross</i>
B-6	Symptoms in Low- and High-Dk/t Soft Contact Lens Wear	<i>Blanca Golebiowski</i>
B-7	Etiology of Local Contact Lens-induced Papillary Conjunctivitis (CLPC) in Recurrent Events	<i>Cheryl Skotnitsky</i>

- B-8 Kinetics of ¹²⁵I-labelled Lysozyme Deposition on Silicone Hydrogel FDA Group II and Group IV Contact Lenses *Lakshman Subbaraman*
- B-9 Is Tissue Loss the Cause of Ectasia in Pathologically and Latrogenically Thinned Corneas? *Jessica Horne*

SESSION 14: 10:00 – 12:00

Wrap Up - What are the most important issues?

Moderators: Brien Holden and Kenneth Polse

NOTES

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