

ADAPTICA GLOBAL WEBINAR

May 12, 2020 (1800 MNL)

Optimizing Post-Lockdown Clinic Flow: Adaptive Optics and Wireless Communications



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Financial Disclosures

- Alcon Surgical
- Allergan
- Beaver Visitec International
- InfiniteVision Optics
- LENSAR
- Oculentis
- Santen
- Spyglass Ophthalmics

Eye Clinics: Pandemic Effect

	Pre-Lockdown	During Lockdown	Post Lockdown
# Clinic days	6		
# Consultations (%)	100		
# Diagnostic tests	20		
# Clinic Staff on duty	12		
Telemedicine Consults	0		
# Infections	0		

Eye Clinics: Pandemic Effect

	Pre-Lockdown	During Lockdown (of capacity)	Post Lockdown
# Clinic days	6	1.5 (25%)	
# Consultations (%)	100	15 (15%)	
# Diagnostic tests	20	6 (30%)	
# Clinic Staff on duty	12	6 (50%)	
Telemedicine Consults	0	2	
# Infections	0	0	

Eye Clinics: Pandemic Effect

	Pre-Lockdown	During Lockdown	Post Lockdown Targets
# Clinic days	6	1.5 (25%)	6
# Consultations (%)	100	15 (15%)	50-100%
# Diagnostic tests	20	6 (30%)	50– 100%
# Clinic Staff on duty	12	6 (50%)	100%
Telemedicine Consults	0	2	> 2
# Infections	0	0	Target: 0

Post Lockdown Planning: Key to Success

Patients and Staff Must Feel and Be Safe

Post Lockdown Planning: Safety Principle

Risk of Successful Infection =

VIRAL EXPOSURE X EXPOSURE TIME

Theorized Viral Load to Get Infected: 1000 Viral copies

- Breathing:
 - 3-20 Viral copies / minute
 - 50 to 333 minutes of breathing



Erin Bromage, PhD, Univ of Massachusetts

Theorized Viral Load to Get Infected: 1000 Viral copies

- Breathing:
 - 3-20 Viral copies / minute
 - 50 to 333 minutes of breathing
- Talking
 - 200 copies per minute
 - 5 minutes of talking



Erin Bromage, PhD, Univ of Massachusetts

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- **Role of minimizing visit time and staff rotation**



Erin Bromage, PhD, Univ of Massachusetts

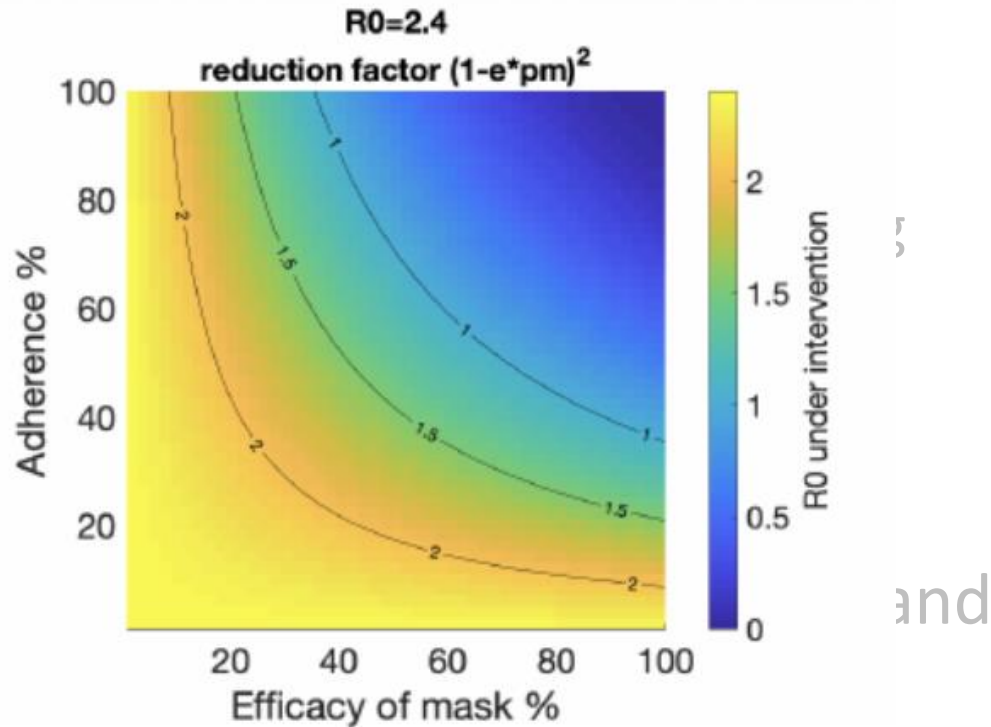
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- Role of minimizing visit time and staff rotation
- Cough or Sneeze
 - 200,000 Viral copies/ episode
 - Large droplets 6 feet
 - Small droplets 12 feet

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- Role of social distancing and face masks/ shields

Theorized Viral Load to Get Infected: 1000 Viral copies

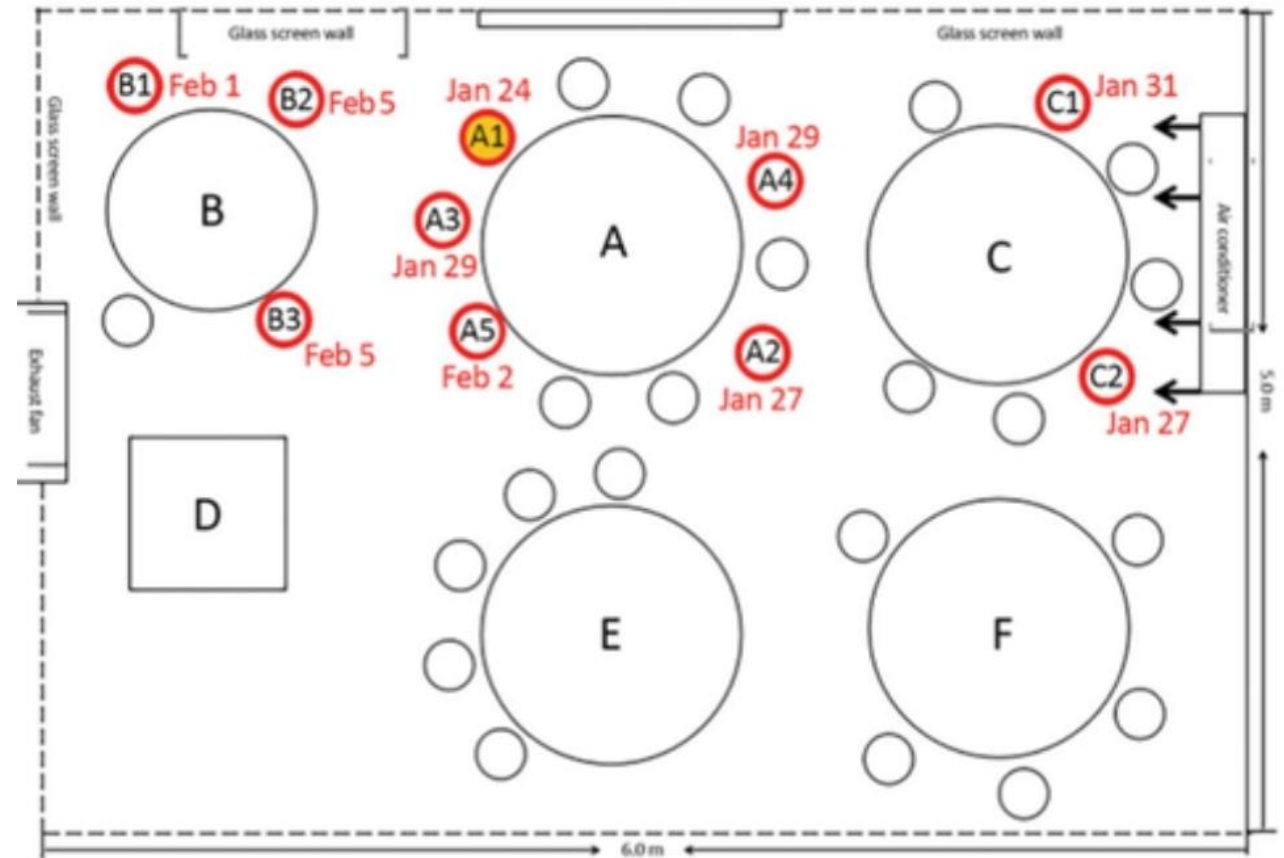


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 - 200,000 Viral copies/ episode
 - Large droplets 6 feet
 - Small droplets 12 feet
- Role of social distancing and face masks/ shields

CDC Case Studies on Social Distancing



Figure 2. Floor plan of the 11th floor of building X, site of a coronavirus disease outbreak, Seoul, South Korea, 2020.





Ophthalmology: High Risk Field

- Near distance eye exam
 - 2-3 feet
- Contact with tears, conjunctiva
 - Exposed conjunctiva
 - Connected to nasal mucosa ✓ ✓
- High patient volume
- Norway COVID 19 Epicenter
 - Eye Department, Oslo University Hospital



Coronavirus disease 2019 (COVID-19) outbreak at the Department of Ophthalmology, Oslo University Hospital, Norway

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HOW TO RESTART PRACTICE? BE AND FEEL SAFE

- TIME MANAGEMENT

- Reduce # consults
- Allow extra time for room disinfection
- Spread out appointments
- Reduce visits
 - Eg. 2 visits post cataract surgery
- Virtual visits if possible
- Waive less important tests
 - eg. IOP checking for conjunctivitis; dilation for low risk eyes



HOW TO RESTART PRACTICE? BE AND FEEL SAFE

- SPACE MANAGEMENT
 - Screen out infected patients
 - Barriers
 - Disinfectant Strategy
 - Ready to use
 - Regular disinfection schedule
 - Space optimization
 - The farther the better



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HOW TO RESTART PRACTICE?

SOCIAL DISTANCING



BARRIERS



PPE



Adaptive Optics and Wireless Communications

CONVENTIONAL VISUAL ACUITY EXAMINATION PROCESS



Close distance
< 6 feet

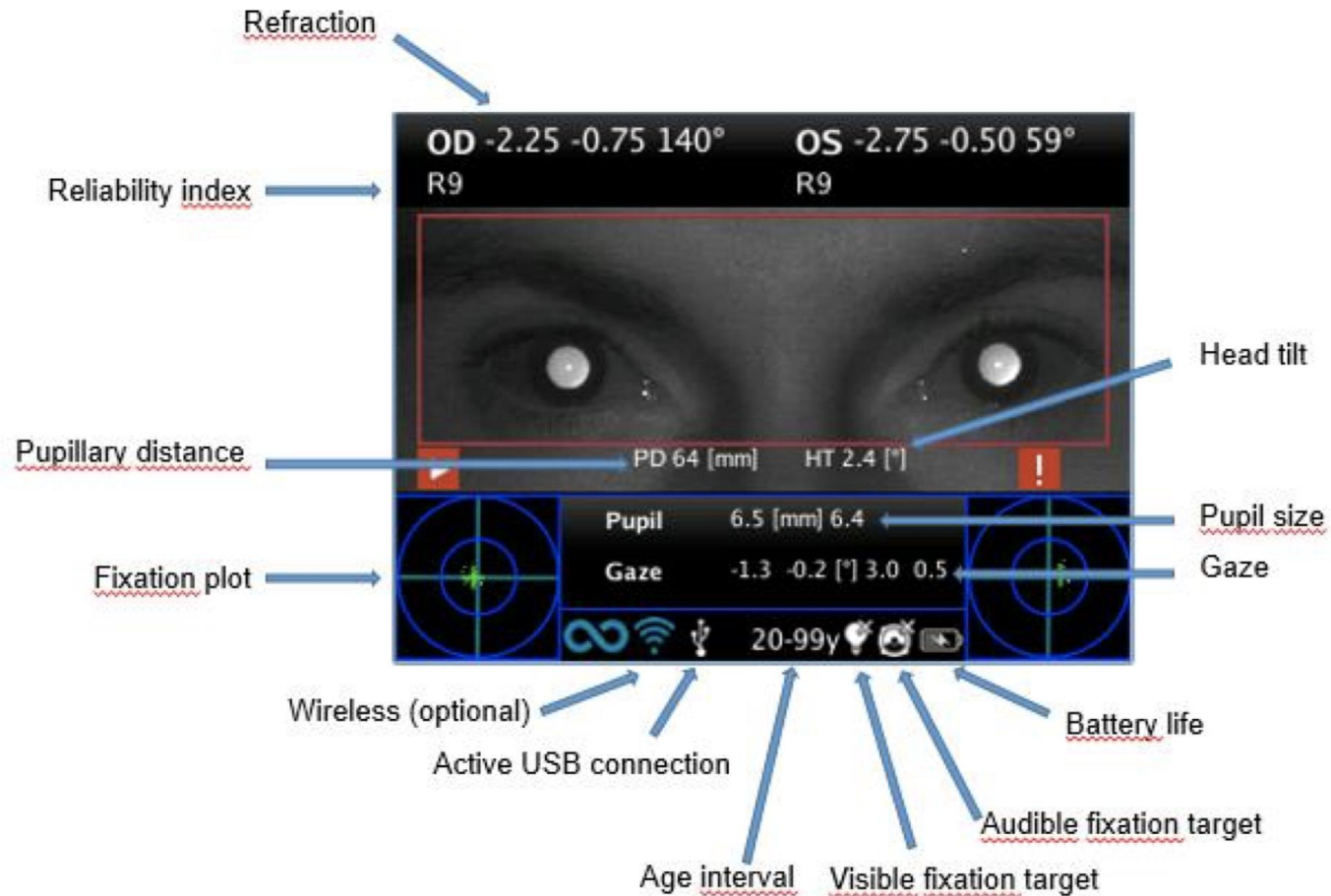


Eccentric Photorefraction/ Photoretinoscopy (Adaptica 2WIN)



- Binocular refractometer
- Vision analyzer
- Measures both eyes same time
- Detects refractive errors, sight anomalies and amblyogenic factors
- Measurement in seconds

Functions of photoretinoscopy



- Binocular Refraction
- Monocular Refraction
- Pupil Distance
- Pupil Size
- Head Tilt
- Direction of Gaze
- Phorias and Tropias

Photorefractive using Adaptica 2WIN



Eccentric Photorefraction/ Photoretinoscopy



- Serves as a darkroom
- Allows the exam to be performed in any light condition
- Detects refractive errors < 3 secs
- Minimize cycloplegia
- Relaxing, non-intimidating

Adaptic Optics Refraction



- Adaptica VisionFit (Adaptica)
- Electronically controlled, mobile and wearable lenses
- Phoropter and Trial Frame combined
 - -20 to +20 D sphere (0.125 steps)
 - 0 to 10 D cylinder (0.10 steps)
 - 0 to 180 deg axis (1 deg steps)

Adaptive Optics Phoropter (Aquad)

- Adaptive Optics Phoropter
- Eye-chart distance compensation
- Simulate farsightedness even distance between a patient and eye-chart short
- Perform far sight examination even in isolated room
- Wireless control



New Social Distancing Refraction Process



PHOTOREFRACTION/ RETINOSCOPY

New Social Distancing Refraction Process



PHOTOREFRACTION/ RETINOSCOPY



WIRELESS
CONTROL SYSTEM

New Social Distancing Refraction Process



PHOTOREFRACTION/ RETINOSCOPY



WIRELESS
CONTROL SYSTEM



SUBJECTIVE REFRACTION USING AO LCD LENSES



PHOTOREFRACTION + AO + WIRELESS CONTROLS

- Time Advantages
 - Lessen refraction & VA time
 - Simultaneous autorefraction of both eyes
 - Less need for cycloplegia
 - Less need to transfer patient
- Space Advantages
 - Physical distancing possible between staff and patient
 - Lessen instillation of cycloplegic drops
 - Less contact with surfaces (trial frame, lenses, light switch)

The “New Normal” Eye Clinic: We shall Overcome!



The “New Normal” Eye Clinic: We shall Overcome!



Summary

- As practices restart, need to adopt new procedures and equipment to improve patient/staff safety and confidence
- Physical and temporal distancing as well as infection control strategies are needed
- Adaptive optic systems with wireless controls for refraction and vision testing improves efficiency, physical distancing and lessens physical contact
- Facilitate vision testing while lessening infection risk