Slide 1

vision expo

Powerboost Lenses:
Understanding the Benefits and Limitations

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Slide 2

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- ❖ University of California Berkeley │ Associate Professor of Health Sciences
- ❖ Mindful Eyes Foundation │ Founder and Executive Director
- ❖ SightLine Ophthalmic Consulting │ Co-founder and CEO
- ❖ Doctor of Optometry (OD)
- ❖ Master in Ophthalmic Optics (ABOM)
- ❖ Registered Spectacle Lens Dispenser (CA-SLD)
- ❖ Licensed Optometrist (CA-DCA)

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Slide 3

vision expo

Disclosures

- ❑ The content of this course was developed independently without commercial bias or influence
- ❑ Consulting
  - ❑ Essilor Instruments, USA
  - ❑ Visionix USA
  - ❑ Topcon Healthcare
  - ❑ Quest Vision Care Specialty Lab

VISION EXPO

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Powerboost

An energy drink can give you a quick pick me up.
What can we do to help with eye fatigue?

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What is a Powerboost Lens?

Type of Near Task Specific Lens

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Our Learning Journey:
- Brief Historical Background
- Marketing Message/Fitting Recommendations
- A Shallow Dive into the Characteristics and Performance
- Overview of Several Product Portfolios
- Case Presentations to Illustrate benefits and contraindications

Please use this presentation for staff training and review

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Technology Timeline:
Over a century ago

1920's - 1930's - Radio
1940's - 1950's - B&W TV
1950's - 1990's - Color TV
1990 - present- HD TV

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The Digital Revolution:
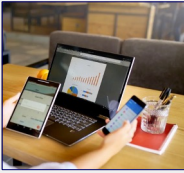Shift from Mechanical to Electronic

One small, handheld device   Lots of large individual things

50 years: Radio to Computer
20 years: digital devices major part of life

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The Physical and Visual Response

1990's: Computers are the major source of information

Breakdown of DES* Symptoms
(6 out of 10 adults report)

- 35% Neck/shoulder pain
- 27% Dry eyes
- 28% Headaches
- 32% Eye strain
- 28% Blurred vision

* DES = Digital Eye Strain, formerly Computer Vision Syndrome (CVS)

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Some Perspective on DES

The Vision Council Digital Eye Strain Report

90% of patients do not talk with their eye care provider about digital device usage.

73% of Americans said they did not know about the benefits of computer eyewear.

#1 reason for not wearing computer eyewear:
"My eye care provider never recommended them"

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Lens Manufacturers Respond to DES

2009: Essilor launches Anti-Fatigue Lens

"... Essilor Anti-Fatigue lenses feature a special "Power Boost" area in the lower portion of the lens, to give the wearer's eyes greater clarity and comfort when focusing up-close for extended periods..."
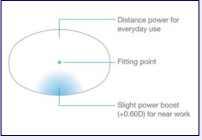
Compensate for:
- DES
- Closer working distance

POWERBOOST term created by Dr. Dennis Fong

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Design Idea

Distance power for everyday use

Fitting point

Slight power boost (+0.60D) for near work

Design:
- 0.60D "power boost" in the lower lens
- Performs like a Single Vision lens; minimal swim and magnification
- Reduces Digital Eye Strain symptoms

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Marketing Messages

Marketing Messages	Alternate Names
• Target Pt: Pre & emerging presbyopes	• Anti-Fatigue Lens
• Treat DES	• Single Vision with a power boost
• Excessive Digital Device Usage	• Starter Progressive
• Compensate closer WD (33 cm)	
• Boost ≠ ADD	

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Powerboost Lenses – Fitting Guides

Hoya Sync III

ORDERING

When ordering, please provide the Distance Prescription and the chosen level of positional support:

MINIMAL OR NO SYMPTOMS
SYNC S (+0.57D)

MILD TO MODERATE SYMPTOMS
SYNC S (+0.95D)

MODERATE TO SEVERE SYMPTOMS
SYNC T3 (+1.32D)

Fitting Zeiss Digital Lens

SELECT LENS
ZEISS Digital Lens is fitted like a progressive lens. ZEISS Digital Lens is available in 4 add powers, ranging from +0.50D to +1.25D. The appropriate add power should be determined by a near refraction.

Essilor Eyezen

Fitting Guides
– *By Symptoms?*
– *By Age?*
– *By Add Power?*
 (Boost Power?)

Designed for:	Designed for:
• Light to moderate digital eye strain symptoms	• More severe digital eye strain symptoms
• Default for patients 34 years or younger	• Default for patients 35 years or older

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Deconstructing a Powerboost Lens

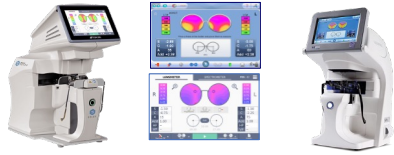- Optical Properties
- Performance Comparison
  - ○ Single Vision
  - ○ Bifocal
  - ○ Computer Lens
  - ○ PAL
- Boost = ADD?

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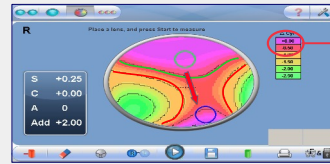## How can we better understand variable power lens designs?

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What Can We Measure?

Area of perceived clear vision

Cylinder Aberration Contour Plot
- Perceived clear vision
- Isometric contour lines (unwanted cylinder)

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Is a Powerboost = Single Vision?

Zeiss Digital 1000

△ Cyl
+0.00
-0.50
-1.00
-1.50
-2.00
-2.50

Clear Comfortable Vision

SV +0.50 DS Spherical

SV -4.50 DS Aspheric
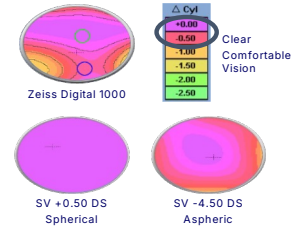
18

Is a Powerboost = Bifocal?
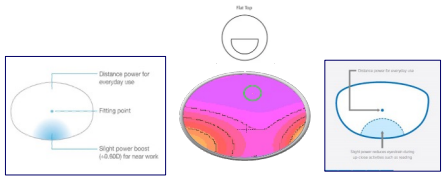
19

Is a Powerboost Lens = Computer Lens?

Digital Lens 1000

Sola Access 125   Essilor Computer   Hoya NMO Zoom

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Is a Powerboost = Progressive lens?

Digital Lens 1000

Zeiss Individual 2   Unity Via Elite   Varilux X

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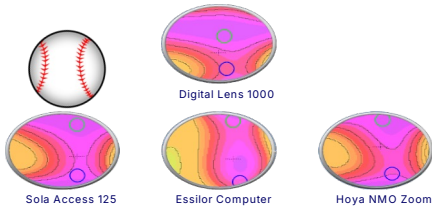## Powerboost Lens Design Characteristics

Powerboost

Progressive

Hybrid

Near Variable Focus

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A Better Description

Progressive-like design

Dual Centric design

Specialized progressive-like or dual centric lens
- reduces digital eye strain signs and symptoms
- compensates for a closer working distance

Prescribing and Fitting
- severity of the symptoms
- patient's age
- exam data

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Powerboost Marketing Material

- Wide clear distance
- Wide short power progression
- Fast access to near power
- Large wide near area
- Low Add Power +0.40 to +1.89
- Very low aberration

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Fitting & Ordering Guidelines

Dist. Mono PD
OD = 29
OS = 28
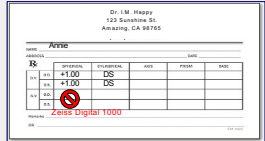
Fitting Ht. = Pupil Center

18.5 mm 17.0 mm

Distance power for everyday use

Fitting point

Slight power boost (+0.60D) for near work

Dr. I.M. Happy
123 Sunshine St.
Amazing, CA 98765

NAME: Arnie

Rx

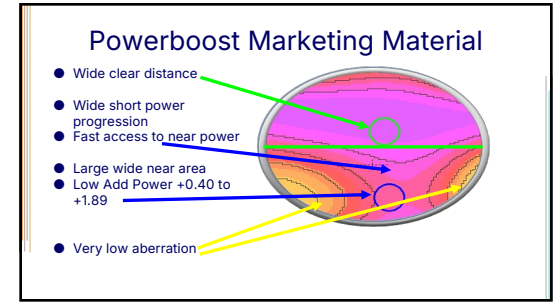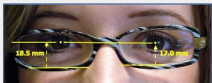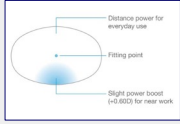|	SPHERICAL	STYLINDRICAL	AXIS	PRISM	BASE
OD	+1.00	DS			
OS	+1.00	DS			

Zeiss Digital 1000

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Power Boost Lenses		Boost at the Bottom
Zeiss Digital Lens	Digital 500	+0.50
	Digital 750	+0.75
	Digital 1000	+1.00
	Digital 1250	+1.25
Eyezen	Eyezen +1	+0.40
	Eyezen +2	+0.60
	Eyezen +3	+0.85
	Eyezen +4	+1.10
Hoya Sync III	Hoya Sync 5	+0.57
	Hoya Sync 9	+0.95
	Hoya Sync 13	+1.32
	Hoya Sync 20	+1.89
Unity Relieve	Relieve 50	+0.50
	Relieve 70	+0.70
Shamir Relax	Relax 50	+0.50
	Relax 65	+0.65
	Relax 80	+0.80

Powerboost Lenses Product Portfolio

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Why the odd numbers?

Acc. Demand + Lag = 2.97D   2.57D

0.40D

0	33.7cm	40 cm

Viewing distance and character size in the use of smartphones across the lifespan

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Symptoms Related to DES

Digital Eye Strain – Symptoms

- Red, Dry, Irritated, Sore Eyes
- Blurred Vision at Distance and/or Near
- Eye Fatigue
- Neck and Back Pain
- Headaches

Digital Eye Strain – Areas of Concern

- Refractive Errors
- Accommodative Disorders
- Binocular Vision Dysfunctions
- Dry, Sore Eyes
- Presbyopia

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Who's Sitting in Your Chair?

BUSINESS BY AGE BRACKET
Boomers still rule the roost, but for how much longer?

30%
25%
17%
16%
13%

- Baby boomers (53-71)
- Gen X (37-52)
- Millennials (20-36)
- Seniors (72+)
- Gen Z + Kids 19 and under

- Baby Boomers + Gen X = fill most appointments

- Spectacles $ = 62% of total revenue
  - Half from premium lenses

- Sales are increasing for
  - Computer
  - Anti-fatigue
  - PAL's

Eyecare Business January 2018 and 2020 Mega Market Trends

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How to prescribe and recommend a PBL?

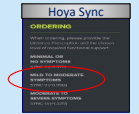Latent Hyperopes BV Disorders

Myopes w/ Eff ADD

Young People

Int/Near Presbyope

Digital Device User

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Fitting only by Manufacture Guidelines
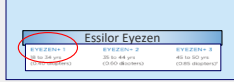
Symptom Severity: Mild
Rx: Hoya Sync 9 (+0.95D)

Age: 32
Rx: Eyezen +1 (+0.40D)

Hoya Sync
ORDERING

Essilor Eyezen

| EYEZEN+ 1 | EYEZEN+ 2 | EYEZEN+ 3 |

Convergence Insufficiency

Caution

Effective Add = +4.00
without glasses

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Powerboost for the Emerging Presbyope

Power Boost Lenses		Boost at the Bottom
Zeiss Digital Lens	Digital 500	+0.50
	Digital 750	+0.75
	Digital 1000	+1.00
	Digital 1250	+1.25
Eyezen	Eyezen +1	+0.40
	Eyezen +2	+0.60
	Eyezen +3	+0.85
	Eyezen +4	+1.10
Unity Relieve	Relieve 50	+0.50
	Relieve 70	+0.70
Shamir Relax	Relax 50	+0.50
	Relax 65	+0.65
	Relax 80	+0.80

Lisa 43 yo
Rx: +0.25 -0.75 x 180
**   +0.25 -0.50 x 005 Add +0.75**

BV, OH, GH = WNL, unremarkable

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Accommodative Disorders

Condition	NPA	Flippers	Treatment
Insufficiency	Reduced		(+) Lenses @ Near
Infacility		Reduced	VT (+) Lenses @ Near
Spasm		(+) difficult	VT (+) Lenses @ Near
Ill-Sustained	Reduced on Repeat	(-) difficult	(+) Lenses @ Near

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Binocular Vision Conditions

Condition	Treatment
Exophoria	Prism, **VT**
Esophoria	**(+) Lenses**, Prism
Gross Convergence Insufficiency	Prism, **VT**
Convergence Excess	**(+) Lenses**, Prism
Vertical Phoria	Prism

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Lens Designs for Rxing Near Plus
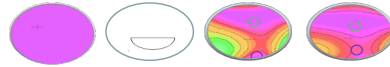
Lenses	Benefits	Limitations
Single Vision Near	Wide Field of View	Distance Blur
Bifocal	Wide Field of View	Cosmesis Image Jump
PAL	Cosmesis	Small Reading Area Narrow Corridor Cost
SV Distance with Near Power Boost	Wide Field of View Cosmesis Lower Cost	(Practically None)

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Powerboost for Accommodative Esophoria

Power Boost Lenses		Boost at the Bottom
Zeiss Digital Lens	Digital 500	+0.50
	Digital 750	+0.75
	Digital 1000	+1.00
	Digital 1250	+1.25
Eyezen	Eyezen +1	+0.40
	Eyezen +2	+0.60
	Eyezen +3	+0.85
	Eyezen +4	+1.10
Hoya Sync III	Hoya Sync 5	+0.57
	Hoya Sync 9	+0.95
	Hoya Sync 13	+1.32
	Hoya Sync 20	+1.89

Annie: 11yo
CC: Ped MD referral for H/As, onset @ beginning of school year

Dry/Wet Ret. and Refraction:
Dist. Rx: +1.00 DS-OU ADD +1.00

Dist. CT : ortho Near CT: 5 Esophoria
AC/A = 8/1

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Lab order
- Recommended Powerboost lens
- monocular distance PD
- fitting height (at pupil center)

Dr. I. M. Happy
123 Sunshine St.
Amazing, CA 98765

NAME ___Annie___

ADDRESS _____ DATE _____

Rx

		SPHERICAL	CYLINDRICAL	AXIS	PRISM	BASE
D.V.	O.D.	+1.00	DS			
	O.S.	+1.00	DS			
N.V.	O.D.					
	O.S.					

Remarks ___Zeiss Digital 1000___

DR. _____

FM-1075

Slide 38 — Powerboost for Students

Power Boost Lenses		Boost at the Bottom
Zeiss Digital Lens	Digital 500	+0.50
	Digital 750	+0.75
	Digital 1000	+1.00
	Digital 1250	+1.25
Eyezen	Eyezen +1	+0.40
	Eyezen +2	+0.60
	Eyezen +3	+0.85
	Eyezen +4	+1.10
Unity Relieve	Relieve 50	+0.50
	Relieve 70	+0.70
Shamir Relax	Relax 50	+0.50
	Relax 65	+0.65
	Relax 80	+0.80

Sophie: 20 yo College student

CC: Eye strain and blurry vision in class

Rx: -0.75 DS
        -1.00 DS add +0.75
Acc. Insuff.

BV, OH, GH = WNL, unremarkable

Slide 39 — Powerboost for Intermediate/Near Use

EA +1.25	EA +1.25	EA +1.25
EA +2.00	EA +2.50	EA +2.50
Access 1.25	NVF- Int/Near	Powerboost

Power Boost Lenses		Boost at the Bottom
Zeiss Digital Lens	Digital 500	+0.50
	Digital 750	+0.75
	Digital 1000	+1.00
	Digital 1250	+1.25
Hoya Sync III	Hoya Sync 5	+0.57
	Hoya Sync 9	+0.95
	Hoya Sync 13	+1.32
	Hoya Sync 20	+1.89

Fred: 61yo w/multiple screens

CC: Trouble seeing at near w/ Access 75

Rx: Plano OU, Int. +1.25, Near +2.50

BV, OH, GH = WNL, unremarkable

Slide 40

Master Rx

Dr. I. M. Happy
123 Sunshine St.
Amazing, CA 98765

NAME __Fred__

Rx

	SPHERICAL	CYLINDRICAL	AXIS	PRISM	BASE
O.D.	Plano	Plano DS			
O.S.	Plano	Plano DS			
	+2.50				
	+2.50				

Remarks: __Intermediate = +1.25__

Powerboost Rx

Int = +1.25
Near = +2.57

Dr. I. M. Happy
123 Sunshine St.
Amazing, CA 98765

NAME __Fred__

Rx
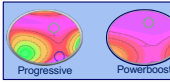
	SPHERICAL	CYLINDRICAL	AXIS	PRISM	BASE
O.D.	+1.25	DS			
O.S.	+1.25	DS			

Remarks: __Hoya Sync 13 for Intermediate/Near__

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Powerboost for Progressing Presbyope

Progressive   Powerboost

Power Boost Lenses		Boost at the Bottom
Zeiss Digital Lens	Digital 500	+0.50
	Digital 750	+0.75
	Digital 1000	+1.00
	Digital 1250	+1.25
Eyezen	Eyezen +1	+0.40
	Eyezen +2	+0.60
	Eyezen +3	+0.85
	Eyezen +4	+1.10
Hoya Sync III	Hoya Sync 5	+0.57
	Hoya Sync 9	+0.95
	Hoya Sync 13	+1.32
	Hoya Sync 20	+1.86

Walter: 57yo   IT Support

CC: Trouble seeing at near current PAL

Current PAL: +1.00 DS OU add +1.50

RX: +1.00 DS OU Int: +1.25 Near +2.25

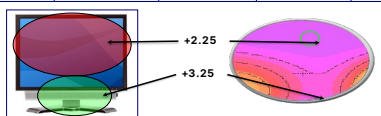**BV, OH, GH = WNL, unremarkable**

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Example: Powerboost as Intermediate/Near
Rx +1.00D, add +1.25 intermediate, add +2.25 near

Zeiss Digital 1000 (+1.00 boost)

Powerboost Lens	Power at FRP	Distance (above FRP)	Near (below FRP)	Power at near
Zeiss Digital 1000	Intermediate add	No distance	14mm	Boost power

+2.25
+3.25

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Powerboost for the Traveling Presbyope

Power Boost Lense		Boost at the Bottom
Zeiss Digital Lens	Digital 500	+0.50
	Digital 750	+0.75
	Digital 1000	+1.00
	Digital 1250	+1.25
Eyezen	Eyezen +1	+0.40
	Eyezen +2	+0.60
	Eyezen +3	+0.85
	Eyezen +4	+1.10
Unity Relieve	Relieve 50	+0.50
	Relieve 70	+0.70
Shamir Relax	Relax 50	+0.50
	Relax 65	+0.65
	Relax 80	+0.80

-3.75
-3.00

Evan: 56 YO retired Silicon Valley tech, traveling the world

CC: PAL not ideal for viewing seat-back screens in flight

Rx: -5.00 DS OU Add +2.00 Seatback screen EA +1.25

BV, OH, GH = WNL, unremarkable

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Clinical Pearls

❑ Developed to relieve DES, closer WD
❑ Cat = SV, but more like hybrid variable power lens
❑ Prescribe using visual assessment data
❑ Not just for Pre-presbyopes/Digital Eye Strain
  ❑ Accommodative Disorders
  ❑ Binocular Dysfunction
  ❑ 1st time PAL
  ❑ Task Specific/Advanced Presbyope

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Contraindications

❑ Convergence insufficiency
❑ Moderate exophoria at near
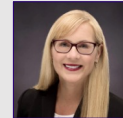❑ Pseudo Non-adapts

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At the End of the Day

- Did I address the chief concern with the appropriate recommendations?
- Is it an improvement over what they are used to?
- Continue to develop your skills in the art and science of vision care

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On behalf of Vision Expo, I sincerely thank you for being here this year.

Vision Expo Has Gone Green!

We have eliminated all paper session evaluation forms. **Please be sure to complete your electronic session evaluations online** when you login to request your CE Letter for each course you attended!
Your feedback is important to us as our Education Planning Committee considers content and speakers for future meetings to provide you with the best education possible.

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