

PRODUCT SPOTLIGHT – HOYA SYNC III

OUR EYES WEREN'T MADE FOR SCREENS

Mark Mattison-Shupnick, ABOM

Course Description

How many of us go to bed thinking not only are you tired but boy, your eyes need a rest too??? That happens to most of us today and, for most, digital eyestrain is the culprit. Working or playing for hours a day on a digital screen can lead to accommodative stress – a fancy way of describing its effect, tired eyes. A way of reducing accommodative stress is to provide some of the accommodative power demanded of your eye, worn in a special spectacle lens, when in front of a digital screen. This product spotlight describes new Sync III from HOYA Vision Care and how it can be used in your practice on behalf of your patients.

Objectives

1. Understand the causes of digital eyestrain and how accommodative stress can produce a variety of symptoms.
2. Learn how new lenses with a power boost in the lower half can reduce some of the wearer's accommodative effort.
3. Know how to describe, sell, order and dispense these new lenses.

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TODAY'S VISUAL ENVIRONMENT

Today's visual environment is much different than it has ever been. Within a blink of an eye, we have brought our world to an arm's length away and it's at a critical mass. Personal smart phones came into existence just ten years ago with the first iPhone. Now, more than 80% of Americans own a smart phone! Six years ago, Apple's first-generation iPad was released in 2010 and now 50% of Americans own one. These new devices differ from our traditional computers, not only in their size and portability, but how close we hold them to our eyes. With the barrage of digital media devices in society's hands and a world of information at our fingertips always comes excessive amounts of eyestrain, even in young eyes.

According to a 2017 review by Nielsen, Americans devote more than 10 hours a day to screen time, half of which is spent on their smartphone.

It's simple, looking at digital screens can cause physical eye discomfort. From the Vision Council, this discomfort is called **DIGITAL EYE STRAIN**. And, they recommend individuals and children visit an eyecare provider to discuss their digital habits and the solutions available to relieve symptoms of digital eyestrain.

FOCUS GROUP RESULTS

In 2017, HOYA conducted global focus groups to understand the impact digital screens have on people's vision. Let's look at the findings of the focus groups.

Focus group participants spent on average between 8-10 hours/day looking at screens. In fact they had peaks of up to 15 hours a day where they were eyes on a digital device...



Fig. 1 Digital eyestrain symptoms that can present themselves in as little as 2 hours

Fig 1 is a terrific illustration of the digital eyestrain symptoms that can present themselves in as little as 2 hours. I'm sure that a patient, seeing these could identify easily with the issue and relate his or her own experiences.

Starting from the left, They are... Tired eyes – also called asthenopia, this is a common complaint of many patients but it is can also be a catch all for a variety of digital eyestrain symptoms. Headaches are more specific and are the result of stress, strain, irritation, etc. Blurred vision, often described as when looking up and away from the screen at something in the distance is a common complaint often that patients just accept as normal.

Dry Eyes are common because one blinks at almost half the rate as you do when primarily using distance vision (walking, cycling, golf, etc.) when reading or focused on something up close. Also, the constant staring at a screen's brightness results in complaints of light sensitivity. Some described that their night vision wasn't as good as before and last, that meant that many agreed that they suffered eye irritation. In fact, 65% of focus group participants experienced multiple discomforts during a single hour. This is certainly indicative of the effects on our patients everyday?

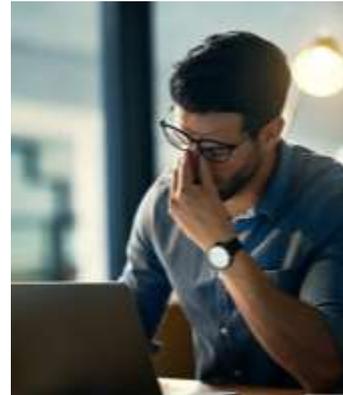
So, let me ask you, how many of your patients spend less than 2 hours a day looking at digital screens?

ACCOMMODATION/ACCOMMODATIVE STRESS

That said, let's get specific... eyestrain can lead to accommodative stress. The components are 1. The ciliary muscles contract. That makes the lens more convex, shortening the focal length. That allows clear reading. 2. The pupils constrict. That is part of the near reflex and is linked to accommodation and convergence. Last, 3 the eyes converge to create a binocular image. That ensures that the eyes work more comfortably together while focusing at near.

Imagine these three things and this shows how placing this kind of demand on the eyes and its muscle system, for hours at a time, with no interruption or relaxation, can cause eyestrain.

It can get more problematic. Switching between devices can make accommodative stress even worse. Focus group participants switched focus on average 333 times per hour with 85% of those switches being near-to-near focus switches. For example, when reading a book (newspaper, actual paper book or tablet) there might be a switch to a smartphone. Can you think of other near to near switching experiences that you do regularly? Perhaps you are on the computer at work, and then switch to your smartphone to see an incoming text, then back to the computer.



Prolonged amounts of screen time can lead to accommodative lockup. Eyes lose the ability to relax as the ciliary muscle of the eye remains in a constant state of contraction. When a patient has this, doing a refraction can result in the wrong prescription. As a result, the practitioner must understand that this might be happening and ensure the eye is relaxed to get to the right set of numbers for the prescription.

Here's why it's a problem... most people don't associate symptoms of Accommodative Stress with time spent looking at screens OR conducting near vision tasks. AND if they do, they accept IT, that's the catch.

WHAT TO DO

Here's what to do... Help Your Patients Understand Accommodative Stress.

Teach them that using digital devices means they're putting additional strain on their eyes. They have to focus for extended periods of time at near distance. Eyes doing this tend to become over-worked and tired. You may even experience digital eyestrain symptoms such as tired eyes, headache, or slightly blurred vision. When you do this for days, weeks, months and years you create accommodative stress.

First, teach patients to take a break. For several years now the 20/20/20 rule has been the recommendation when it comes to taking a break from screens: **Every 20 minutes take your eyes off your screen, Look at something 20 feet away, For at least 20 seconds.**

However, taking a break had different meanings for the participants in the focus groups. For many, “breaks” were spent on digital devices checking social media, texting a friend, or watching the latest viral video. *Two-thirds of the Focus Group participants did not take a break from their screens at any moment for longer than 1 minute.*

Like we regularly use minus lenses for myopes or cylinder lenses for astigmats, spectacle lenses are assistive devices. Can a specially designed spectacle lens be part of the answer?

NEW SYNC III LENSES FROM HOYA

Introducing New Sync III, lenses specifically designed to reduce accommodative stress and the symptoms they create.

Here’s how... SYNC III lenses have the distance power for everyday use (the blue arrow) and a ‘boost zone’ at the bottom of the lens (the orange arrow). Compare that to a standard single vision lens – one power relying only on the wearer’s ability to accommodate and sustain that accommodation for what might be hours at a time. It’s this boost zone that reduces eyestrain.

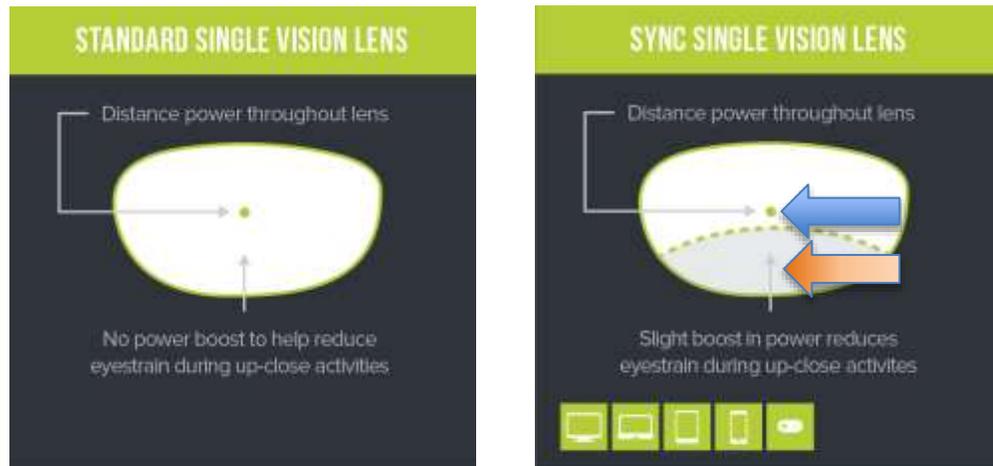


Fig. 2 Comparison of a single power (focus) single vision lens vs. Sync III with slight power boost

SYNC III lenses have the distance power for everyday use and a ‘boost zone’ at the bottom of the lens. This boost zone is an area with an increased amount of relaxing power, which reduces eye strain during prolonged up close activities such as looking at digital screens, reading or any ‘near task’ activities. This allows your patients’ eye

muscles to relax and focus more easily, helping to relieve eye strain and provide visual comfort.

WEARER TESTING

To test the effectiveness of the new lenses, HOYA conducted a wearer test of the Sync III design lenses in Europe. The test used the European lens brand name, Nulux Active however are the same as Sync III, the brand used in the US.

Each of 12 optometrists were asked to prescribe Nulux Active (Sync III) over a 6-8 week prescribing period, when they deemed its use beneficial in situations where extensive eye strain was noted. Age was unimportant, but suggested the lenses were best for patients under 45 years old. In total, 87 patients were fit.

When a patient was selected for the study, each was asked to note any one or more symptoms of eyestrain. These symptoms included headaches, fluctuation in vision, light sensitivity, tired eyes, dry eyes, poor night vision, eye rubbing, and decreased concentration at near, eye twitching, vertigo, double vision and overall body fatigue. Each patient also described the amount of time they spend on a tablet/smartphone and a computer on an average day. The values ranges were less than 1hr, 1-3 hours, 4-6 hours, 7-9 hours, and greater than 10 hours.

A brief description of the reason for prescribing the Sync III lens was also asked of the doctors. After 2-4 weeks, there was a follow-up with the patient to document their overall "happiness" with the Sync III lenses. This follow-up was submitted as a brief description by the doctor, relaying the patients overall comfort.

Time spent on these devices varied, but more so with computer usage. Of the 87 overall patients, 78 responded with time spent using a computer. Ninety two (92%) of the responses fell within the 1-9 hours a day range, 54% used the computer 1-6 hours a day and 52% were on a computer 4-9 hours a day. The largest group, representing 29% used a computer 1-3 hours a day.

Tablet/smartphone use showed a more constricted grouping. Sixty-nine (69) patients responded to using a tablet/smartphone on an average day. Eighty (80%) percent of the patient group fell within the 1-6 hours a day of use. Most responses (35) were with the 1-3 hours a day, representing 51% of the patients.

From the 87 patients, there were 228 symptoms of note. Please look at the variety, shown in Figure 3. Age range, numbers... There doesn't seem to be anyone that escapes symptoms when using digital devices over a period of hours daily.

Symptoms	Age 7-10	Age 11-20	Age 21-30	Age 31-40	Age >40
Decreased concentration	6	13	2	3	3
Fluctuation in vision	5	13	11	11	6
Tired eyes	4	9	9	10	8
Headaches	4	10	9	9	5
Eye rubbing	4	2	1	2	3
Overall body fatigue	3	7	6	10	9
Dry eyes	0	5	6	5	4
Photophobia	0	3	5	5	4
Decreased night vision	0	2	7	4	7

Fig 3. Results of testing, Symptoms vs. age range. There doesn't seem to be anyone that escapes symptoms when using digital devices daily over a period of hours.

Eighty-seven (87) patients entered the study, but eleven (11) were lost in follow up. Seventy-six (76) patients gave their follow up responses to their new Nulux Active lens use. 20 were extremely happy with their new lenses; 44 responded as Happy with their new lenses, Eight were just satisfied with their new lenses; Four patients were unhappy with their Nulux Active lens experience; and Two reported being uncomfortable with the distortion.

Both of distortion complaining patients was wearing single vision free form lenses before trying the Nulux Active lenses. Overall, sixty-four (64) patients or 84% of the Nulux Active study patients were happy or very happy with the Nulux Active lens and its ability to reduce their eyestrain symptoms. Only 5% found the Sync III lenses uncomfortable or ineffective in its ability to reduce their eyestrain.



Fig 4. Test Results – Overall 84% responded Happy or Very Happy with the effects of the Sync III lenses

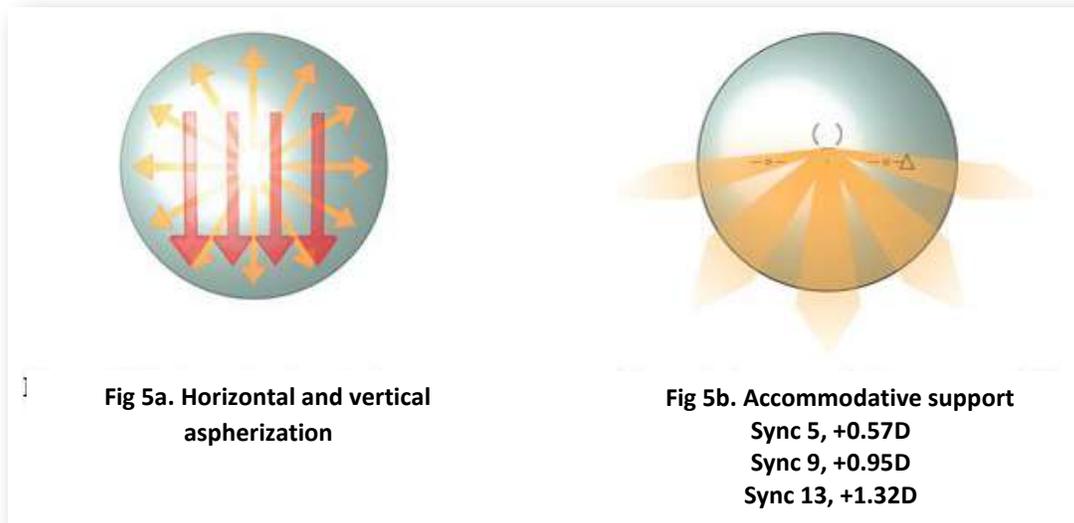
While this was a very limited study in its numbers and subjective responses, the overwhelming positive results of the patient base to resolve their eyestrain must be noted. In a world where digital devices are becoming the normal in such a short period, digital media strain of the visual system will not just be a problem of the presbyopes.

LENS CONSTRUCTION

Using free form to cut and construct the lens' back surface (front surface is spherical) , a complex HOYA mathematical algorithm drives the cutting generators. Look at Figure 5a. The result is both horizontal and vertical aspherization. This allows a Plano power or a

distance prescription, as well as a small amount of plus power to provide this POWER BOOST or accommodative support, in three forms. Now, look at Figure 5b, Sync 5 has a +0.57D power boost, Sync 9 can be ordered with +0.95 power boost and Sync 13 has a +1.32D power boost.

SYNC III a new Single Vision Lens for today's digital demands for today's modern consumer.



SUMMARY

Accommodative stress is associated with viewing screens for long periods of time. The Power Boost allows the eyes to relax. *Digital eyestrain symptoms can present themselves in as few as 2 hours.* They are, Tired eyes, Headaches, Blurred Vision, Dry Eyes, Light Sensitivity, Poor Night Vision, and finally Blurred Vision. A lens with a small amount of power boost aids the demand for plus power and as a result can reduce accommodative demand.

PRACTICE BUILDING

If your practice were to visibly (no pun intended) address this problem of accommodative stress and by visibly I mean, talk to all single vision patients, describing this new lens in your newsletters, recall cards and on your Facebook page, this could be a practice-building product.

After all, this is a replacement for single vision lenses when a patient spends 2+ hours a day on screens. That means that it is a product opportunity to avoid the commoditization of single vision lenses. After all, it's easy to not think of the many other options that single vision wearer's have. It's also easy to lose SV patients to other retailers or online sellers because you can't or won't meet those kids of challenge pricing. Remember, commodities are price advertised so there is little room for practice growth.

If you describe these new lenses as a SV lens replacement but with a new power boost for that very patient that is spending 2+ hours on a digital screen, that means a special product from your office that separates you from the others. It allows you to solve a patient problem, enhance the reason that they choose your office and deliver with products that really work.

That then brings up the question – who is the right patient... how do I choose the right patient to whom to talk?

First, the opportunity is to make lenses like SYNC III Lenses your primary single vision lens. Then, target patients AGED 13-45. Why? Those needing a prescription wear SV lenses and they are the right age group that have grown up with digital screens as a major part of their lives. Then, verify though that they Spend 2+ Hours Per Day on Digital Devices. That's it, it can work.

WHICH LENS?

Now you learned that there were 3 new lens options in the new Sync III series. But, which Sync lens is best for your patient? Sync 5 is the least power boost, with +0.57D so it provides just a small increase of plus power for the patient that spends 2+ hours looking at digital screens or other near tasks. So, that could also mean the scrap-booker, or quilter... don't limit yourself to only the screen users even though they are the primary patient for whom the benefits are intended.

For the patient that spends 2+ hours looking at digital screens or other near tasks... And, shows or complains about **minimal to moderate** signs of eyestrain, they would benefit from a slight increase in plus power. As a result, recommend Sync 9.

For the patient that spends 2+ hours looking at digital screens or other near tasks... And, shows **moderate to severe** signs of eyestrain, even more plus power is needed to help relieve the associated accommodative stress. Remember, in all cases, the patient also has a current distance prescription. Sync III lenses are always produced using the patient's latest or most current prescription for far distance vision.

Often, we recommend lens improvements that patient won't experience until after they receive their new glasses. A Sync III lens flipper provides a real opportunity for patients to understand the lens' benefits. You can help you patients feel the relaxation. A SYNC III Demonstration lets your patients try before they buy.

STEP 1: With patient wearing their present correction – have them look at the reading card or their phone

STEP 2: Use a flipper or trial lenses (+.050 , +1.00, or +1.25) to demonstrate the relaxing power for 10-15 seconds

STEP 3: Remove the flipper or trial lenses and watch for a reaction – ask the patient if they can feel their eyes working harder.

Repeat these steps several times for maximum effect. Then discuss how reading became clearer/crisper because their eyes were allowed to relax. Easy huh!

Scripts are very useful to get the message correct. Try this, “SYNC lenses are specifically designed for people who spend two or more hours a day focusing on digital screens at near distance or other near tasks.” And/or “SYNC lenses allow your eye muscles to relax, reducing visual fatigue and eye strain so you can focus more easily.”

Patients love new technology and innovations. In addition, new products provide you talking points. Continue your explanation by saying, “Third generation, SYNC III a new advanced design in single vision lenses. They are made to reduce visual fatigue and eye strain while increasing the crispness of your Patient’s vision.” It’s more than smaller screens and longer hours of viewing; the design also takes into consideration the constant switching between screens which forces the eyes to work even harder.

We are not born with digital eyestrain, it’s not hereditary – Digital Eyestrain is a preventable result of our dependence on digital screens and a result of the number of new devices, it seems, we cannot live without.

THE DETAILS

Just some last details that every optician needs to know.

When ordering, the distance prescription is ordered with the chosen level of “functional support” i.e., the power boost, +0.57D, +0.95D or 1.32D. Lenses are fit to pupil center so the monocular PD and monocular fitting height place the right powers in the right places.

The lenses are available in a wide variety of materials and power ranges, with the variety of AR and blue light attenuating coatings, makes this product one that you can recommend for virtually every SV patient. Contact your laboratory for the complete list.

There’s no need to worry that you’ve sold the lens and might have to call the patient that you’ve made an error in availability.

CONCLUSION

Today’s visual environment is much different than it has ever been. It’s a new day in single vision lens opportunities. The 13-45 years old that’s on a screen or variety of screens 2+ hours a day is a candidate – that’s virtually all SV lens wearers
New Sync III is virtually an every SV Lens wearer opportunity.

SELF-ASSESSMENT EXAM - OUR EYES WEREN'T MADE FOR SCREENS

1. The Vision Council named physical eye discomfort from digital screens
 - a. DDD, Digital Device Discomfort
 - b. Digital Computer Discomfort
 - c. Digital Lens Options
 - d. Digital Eyestrain***

2. What percent of Americans own a cellphone?
 - a. 55 percent
 - b. 70 percent
 - c. 80 percent***
 - d. 91 percent

3. Digital eyestrain can lead to
 - a. Accommodative sufficiency
 - b. Esotropia
 - c. Hyperphoria
 - d. Accommodative stress***

4. In the wearer trial described in the CE, what percent of participants reported happy or very happy with the effects of Sync III lenses?
 - a. 45 percent
 - b. 60 percent
 - c. 84 percent***
 - d. 96 percent

5. The best way to think about this new type of lens is as
 - a. Single vision***
 - b. Progressive
 - c. Office type
 - d. Specialty only

6. Recommending 20/20/20 to all patients means
 - a. Seeing 20/20 at 20 feet
 - b. Looking 20 feet away for 20 seconds every 20 minutes***
 - c. Looking 20 inches away every 20 minutes for 20 seconds
 - d. Seeing 20 feet away at all times

7. Demonstrating potential accommodative stress relief to patients uses all of the following except
 - a. Patient wears present correction
 - b. A flipper with +0.50, +1.00 or +1.25D lenses or trial lenses
 - c. Look for patient reaction to, with and without, added plus lenses

d. Focus on objects at 20 feet or more***

8. The Focus Group participants described in this paper switched near to near demand _____ of the time.

a. 85 percent***

b. 65 percent

c. 50 percent

d. 40 percent

9. All of the following are digital eyestrain symptoms except

a. Tired eyes

b. Dry Eyes

c. Poor daytime vision***

d. Headaches

10. The construction of Sync III lenses includes all of the following except

a. Spherical front

b. Toric back***

c. Aspheric back

d. Power boost back

11. One of the best communication opportunities for practice growth is

a. To describe benefits of new product technologies***

b. Limit Facebook to only well known frame brands

c. Sell every patient 1.74 index lenses

d. Include photochromic options on every lens

12. Personal cell phones are in existence only

a. 5 years

b. 10 years***

c. 14 years

d. 18 years

13. The three power boost options are

a. 0.5, 0.9 and 0.13D

b. 0.5 and 0.9D

c. 0.57, 0.95 and 1.32D***

d. 0.57, 0.9 and 1.3D

14. What percent of Focus Group participants experienced multiple discomforts during a single hour?

a. 25 percent

b. 45 percent

c. 65 percent***

d. 85 percent

15. Dry eyes can be a result of digital eyestrain because

- a. Blink rate drops by 10 percent
- b. Air circulation is less at the computer
- c. Blink rate can be half as much as normal***
- d. Air circulation is more when using a smartphone

16. The power boost suggested for a patient with minimal to moderate signs of eyestrain and 2+ hours of screen time is

- a. 0.32D
- b. 0.57D
- c. 0.95D***
- d. 1.32D

17. The _____ makes Sync III lenses different from standard single vision.

- a. Focus Power
- b. Boost Zone***
- c. Power Zone
- d. Negative Zone

18. An interesting observation during the Focus Group session was that

- a. All participants fell asleep after 15 minutes on screen
- b. Two thirds of participants didn't take more than a one-minute break***
- c. Breaks from screens had participants putting their 'screens' away completely
- d. Two thirds of participants took more than a one-minute break

19. The power boost suggested for a patient with moderate to severe signs of eyestrain and 2+ hours of screen time is

- a. 0.32D
- b. 0.57D
- c. 0.95D
- d. 1.32D***

20. The Nielsen review in this CE suggests that Americans devote

- a. More than 10 hours a day to screen time***
- b. More than 10 hours a day to their smartphone
- c. Less than 5 hours a day to their smartphone
- d. 10 hours to smartphone and 5 hours screen time