

## **Beautiful and Effortless Light Protection for Everyone: Transitions XTRActive New Generation and XTRActive Polarized**

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### **Course description**

Transitions is at the forefront of light protection with over 30 years of photochromic category leadership! Moreover, as the most recognized lens brand for light protection among ECPs and consumers, it is our driving passion and mission to share the benefits of light intelligent lenses with wearers worldwide through a comprehensive understanding of our consumers, pioneering light science research and relentless product innovation.

For eyeglass wearers, Transitions Light Intelligent Lenses are the new standard in everyday optical lenses thanks to their ability to provide the in-demand benefits of superior light protection, empowered vision experience, glasses-boosting style, and effortless, long-lasting performance through daily life. Transitions portfolio provides a tailor-made solution for all eyeglass wearers to meet their desire for superior light protection, empowered vision experience, and style.

### **Objectives**

Upon completion of this course, participants will have:

- Explored the new generation of Transitions XTRActive and XTRActive Polarized lenses
- An understanding of who the ideal targets are for Transitions XTRActive lenses and how to easily identify them
- Learned practical tips and insights to confidently recommend Transitions XTRActive lenses to your patients

### **Course**

The latest research in eye health continues to reinforce the importance of light protection and the impact on our vision. In the long term, repetitive exposure to some lights - including bright sunlight - can create a cumulative effect and could have an impact on eye health. And we have observed an increase in awareness of the need for light protection with 7 out of 10 wearers saying that protecting their eyes and their eye health is more important now than ever and wearers are searching for solutions – 62% of them search for optics information online, mostly on brands and products.

Today, 9 out of 10 eyeglass wearers declare they are light sensitive. However, some are very light sensitive - in fact, 3 out of 10 would say they are very light sensitive! The very light sensitive people experience painful symptoms 2.2 times more often than others do. Extra light protection is essential for them because they have a lower light sensitivity threshold. Even low light intensity from everyday lighting environments (such as artificial lighting in the office or supermarket) can bother them. Their struggle intensifies as the light intensity increases and they can experience symptoms such as dry eyes, itchy eyes, headaches, and eyestrain.

Now, the core Transitions XTRActive technology is entering into a new generation this year – introducing an advanced performance that delivers the best extra darkness and best extra light

protection. Eyeglass wearers looking for extra light protection can be categorized as wearers who are very sensitive to light and/or those who are exposed to bright light situations. A wearer could be both very light sensitive and more frequently exposed to intense bright light or just meet one of these criteria.

Regardless of a wearers light sensitivity, intense bright light situations can impact our vision, creating a poor visual experience. When there is too much light, we may experience photoreceptor saturation, affecting our immediate vision. In bright light situations, the retinal processes can be saturated, and the wearer can experience blinding glare. This is why in bright sunlight we blink or squint as a reflex to protect the eye. In fact, for very light sensitive wearers, everyday lighting environments like these (such as the supermarket or office) can bother them. In the long term, repetitive exposure to some lights - including bright sunlight - can create a cumulative effect and could have an impact on eye health. Unprotected UV and harmful blue light exposure accelerates eye ageing and may favor eye damage or lead to irreversible pathologies.

Modern lifestyles can amplify our struggle with light, especially the effects of blue light. Unlike natural sunlight, which maintains a balance across the spectrum, many of today's devices utilize specific lights - like LEDs - that have an unbalanced spectrum, with a high ratio of blue light, which may accelerate symptoms of vision fatigue, dry eye, and blurred vision. However, it is not only screens that we should be aware of there is also a high quantity of blue light in bright light and intense glare. In fact, the sun is the largest singular source of harmful blue light, scattering it through the atmosphere and emitting over 100 times the intensity of electronic devices and screens.

Wearers are more aware than ever of the need to protect their eyes and they are more aware of the important role lenses play. In a recent study, 73% of eyecare professionals reported that wearers were more sensitive to eyecare and protection and 70% agreed that wearers were more appreciative of the relationship with their eye care practitioner than before the pandemic!

### **Transitions XTRActive**

For wearers searching for extra light protection, the new generation of Transitions XTRActive lenses is an incredible recommendation! Specially designed for intense bright light, Transitions XTRActive achieve the best extra darkness and 83% of wearers are satisfied with the darkness outdoors and in all situations. Transitions XTRActive new generation lenses are the darkest in hot temperatures being the only photochromic lens achieving category 3 levels of darkness in hot temperatures (95F). Category 3 is the darkest category a lens can be and remain an 'everyday lens.' They have a VLT (Variable Light Transmission- how much light your glasses let through) of 8 to 17%. If a lens becomes Category 4 it has a VLT of 3 to 8%, but these lenses are for special purposes as they become very dark and are not a pair of everyday lenses and should never be worn for driving. Transitions XTRActive lenses are the darkest in the car and the only photochromic lens achieving category 2 levels. They are perceived as clear indoors and have a hint of a protective tint to help protect from harsh indoor lighting and digital devices.

At Transitions, we utilize a proprietary comprehensive, consumer-centric approach to product development. This helps ensure not only the quality and performance of our products but also the relevance to wearer's daily lives. The proprietary method is Life360 testing methodology, which includes lab measurements, real world measurements and modeling and real wearers testing. In one particular wearers test, we recruited a panel of participants to try both Transitions XTRActive new generation

lenses and premium clear lenses for 7 days for each pair. We then explored their experience even further by conducting in-depth individual interviews to help gain insights into their vision experience with the Transitions XTRActive new generation lenses. The results of our testing revealed that wearers who prefer Transitions XTRActive new generation lenses recognized that the lenses help provide superior protection and an improved vision experience that includes greater sharpness, higher contrast, and wider field of vision.

Wearers are convinced! Ninety-six percent say they would recommend Transitions XTRActive to others and 98% want to buy them! As a result, eyecare professionals should be confident recommending this innovation to eyeglass wearers who are aware of their need for light protection and who are seeking better vision.

These great results are made possible thanks to the cutting-edge technology behind Transitions XTRActive new generation lenses. In fact, this new XTRActive technology is fine-tuned to provide the best darkness, improved activation and fade-back performance and consistent color through all phases of activation. These new molecules are the result of Transitions Optical's many years of expertise in modifying the molecular structure of photochromic dyes. By modifying the molecular structure, Transitions' dye chemists manipulate specific areas of the molecules to achieve improvements in darkness, color, and speed. Utilizing our extensive expertise in this area, Transitions has successfully improved the molecular structure of the dye, optimizing their ability to absorb more visible light energy which drives the activation of the lenses in intense light situations.

All photochromic molecules' fade-back reaction is impacted by temperature and the higher the temperature, the faster the rate of fade. For other photochromic lenses, this typically leads to less darkness overall. Transitions XTRActive new generation lenses have cracked the temperature challenge by absorbing further into the visible region of the light spectrum. As a result, they are more powerful, providing the best extra darkness outdoors—up to a category 3 level even in hot temperatures.

Transitions XTRActive new generation lenses are more powerful than other photochromics thanks to the extra visible light absorbance of this new generation of powerful XTRActive dyes. As a result, they achieve better activated darkness under a variety of conditions including in the car, in hot temperatures, and even in lower temperatures where Transitions Optical's dye chemists have been able to modify the dye molecules in such a way that they avoid being too dark in colder environments.

These new, powerful XTRActive dyes absorb energy further into the visible wavelengths of the solar spectrum, allowing for the best ever activated darkness in the XTRActive range. This includes behind the windshield of a car where UV absorbers protect the car interior and passengers from harmful UV. By absorbing intense visible light behind the windshield, Transitions XTRActive new generation lenses are the darkest clear-to-extra dark photochromic lens to activate in the car and the only one to ever achieve category 2 levels of darkness

Transitions XTRActive new generation lenses take advantage of all of the advancements made on Transitions exclusive, new nanocomposite matrix technology to break the compromise between darker and faster performance. This exclusive, new nano-composite matrix mimics a semi-crystalline structure that creates more defined hard and soft domains. This ensures the matrix avoids the trap other photochromics fall into to achieve an improvement in one dimension (such as improving darkness or speed) while declining in another (such as sacrificing hardness or clarity).

By creating hard and soft spaces, the powerful XTRActive dyes can easily seek the softer environments allowing them increased mobility and resulting in lenses that activate and fade back fast without sacrificing darkness or durability. Being the darkest, Transitions XTRActive new generation lenses are the most powerful lenses in the clear-to-extra dark category. They provide superior, unmatched performance across a range of light situations.

So what do wearers need to hear from you?

- XTRActive new generation is clear indoors and extra dark outdoors
- Is the darkest photochromic lens in hot temperatures and in the car
- Is the best extra light protection overall across all light situations
- Wearers feel protected in the car
- Wearers report better vision versus clear lenses
- They provide the best blue light protection from screens, digital devices and LED lights

In addition to these great benefits, make sure they know that Transitions XTRActive lenses are available in a range of iconic colors and style mirror finishes suiting any frame. Now, in 2021 the Transitions portfolio has been fully revamped to target your patients' need for light protection, vision experience, and style.

### **Transitions® Signature® GEN 8™**

For people who wear eyeglasses every day, Transitions Signature GEN 8 lenses are the ideal choice and are the best overall photochromic lens, delivering all the benefits that patients want: protection, outdoor darkness, full indoor clarity, fast responsiveness and long-lasting performance without sacrificing on any of the qualities they desire. This includes choice! Transitions Signature GEN 8 lenses are available in 7 stylish colors to suit any taste: Gray, Brown, Graphite Green, Emerald, Sapphire, Amethyst, and Amber.

For those who are very light sensitive we offer the Transitions XTRActive range of extra dark lenses uniquely designed for the best extra darkness and best light protection. They are available in a range of iconic colors – Grey, Brown, and Graphite Green - and style mirror finishes to suit any frame and fashion taste – Silver Shadow, Gold, Green, Blue, Pink, and Red.

### **Transitions XTRActive Polarized Lenses**

Let's start with the light situation with the highest intensity reflective glare. Reflective glare is a reflection of incident light that partially or totally obscures the details that can be seen on a surface by reducing the contrast. This type of light is most commonly experienced outdoors in light situations influenced by smooth, shiny surfaces found in nature such as water, snow, and sand, and in urban environments with surfaces such as glass, car windows, concrete, metal, and buildings. Reflective glare can also contribute to sight pollution, which is experienced by 30% of people every day! Sight pollution refers to the impact of our landscape on our ability to enjoy the view.

Sight pollution is created by light coming from different directions, intensities, and sources all at the same time towards the eyes and therefore can compromise our vision. Sight pollution can consist of bothersome intense light and reflective glare caused by ads, signage, buildings, artificial lights, and other human constructions in our modern environment. The solution for reflective glare is polarization. This is

why we want lenses that become extra dark and polarize outdoors when they activate to protect from intense bright light and reflective glare. Transitions XTRActive Polarized lenses are an incredible innovation because when they activate outdoors, they become extra-dark and polarized at the same time. Compared to the previous generation, these new lenses have the best ever performance in this area. Like all Transitions lenses, Transitions XTRActive Polarized lenses block 100% UVA & UVB rays. In the car, they absorb visible light and darken to achieve the same level of premium photochromic performance wearers expect from a lens in the Transitions XTRActive range.

Indoors, what they don't do is almost as important as what they do. Many people report increased use of digital devices, which means more time that our eyes spend looking at screens. Did you know that unlike natural sunlight, which maintains a balance across the spectrum, many of today's devices utilize specific lights - like LEDs - that have an unbalanced spectrum, with a high ratio of blue light, which may accelerate symptoms of vision fatigue, dry eye, and blurred vision?

There is still much scientists are trying to understand with regard to blue light and a lot of research and studies are on going. However, one thing we do know is that 66% of people report spending more time indoors in front of a screen than before the pandemic. Moreover, 70% of people say protecting their eyes and their eye health is more important now than ever. Transitions XTRActive Polarized lenses help provide the best blue light protection indoors.

As mentioned, light intensity is not the only consideration. Our modern lives can amplify our struggle with light, especially the effects of blue light. We spend more time on our screens and that time has only increased with the pandemic for more than 61% of us worldwide— as we continue to rely on screens for work, entertainment, and connection. Unlike natural sunlight, which maintains a balance across the spectrum, many of today's devices utilize lights—such as LEDs and screens—that have an unbalanced spectrum, with a high ratio of blue light.

### **Polarization**

Sunlight can be absorbed or reflected in several different directions. When sunlight is bouncing off horizontal surfaces such as water, land, or the hood of a car, it creates reflections. Those reflections produce an agitating source of glare that causes visual discomfort and potentially blinding glare. Transitions XTRActive Polarized lenses are unique in that they allow only vertically oriented light to pass through the lens. This blocks the horizontally oriented light so that glare is almost eliminated. Transitions XTRActive Polarized lenses help to reduce the glare created by the sun, empowering the wearers to see through reflective surfaces such as a window, water, or snow. Transitions XTRActive Polarized lenses help to reduce the glare enabling the wearer to have sharper vision.

Our eyes are naturally attracted by reflections caused by light. It is perhaps unsurprising that light attracts the eye as light is energy, and the eye contains energy sensors that are activated by light. But when our eyes look toward a bright light or reflective glare the visibility is compromised and the field of vision is reduced as if there were a white shadow on a part of our vision. Limited visibility can represent a risk while driving or crossing a road. With Transitions XTRActive Polarized lenses, you experience less glare, and your eyes are less bothered by light resulting in a wider field of vision. This can provide a significant reduction in the percentage of time we spend looking at glare. By reducing glare Transitions XTRActive Polarized lenses help improve visibility up to 33% more than non-polarized sun lenses.

Glare also distorts the true color of objects and makes them harder to distinguish. This is because tiny particles within the air can dim colors, giving them a white, yellow, or grey overcast especially in humid or polluted environments. Transitions XTRActive Polarized lenses reduce the reflections from those particles, so colors can retain their deep natural appearance. It can be a real visual treat to see deep blue skies, crystal clear water, and the colors of a landscape more naturally when wearing Transitions XTRActive Polarized lenses. The polarization properties of the lenses make the world 30% more colorful.

Transitions XTRActive Polarized lenses are built on a unique and exclusive technology platform supported by more than 400 patents and patent applications globally - covering everything from the chemistry of the matrix and dyes to the equipment and manufacturing process and the final product itself. We took our learnings from the latest matrix technology in Transitions Signature GEN 8 and applied that knowledge to this new, exclusive multilayer matrix. By optimizing the environment of each layer, we achieved significant improvements in the photochromic system, resulting in a technology that activates and fades back faster while also improving extra darkness, durability, and the ability to polarize.

New Transitions XTRActive dyes powered by a broader spectrum of both UV and visible light deliver their full potential and get extra dark and extra powerful. These new dyes are clear indoors with a hint of protective tint, yet outdoors they capture more light energy. These new dyes activate with the UV spectrum like all photochromic lenses, but they also activate with visible light to become darker and more powerful in intense light. This broad-spectrum activation enables the lenses to activate in the car and get extra dark outdoors.

The true magic of this unmatched innovation is in its dynamic polarization capability that successfully adds the benefit of polarization to the Transitions XTRActive range. Transitions XTRActive Polarized lenses become dark outdoors with the level of polarization adjusting according to light intensity outdoors. This dynamic polarization is generated by the ultra-fast dichroic dyes that organize in a linear pattern in the matrix of the lens for polarization. (A dichroic dye is an organic molecule that has a rod like shape and displays a unique orientation in which its light absorption properties occur parallel and perpendicular to the molecule.)

When not activated, Transitions XTRActive Polarized lenses have no polarization effect because the dichroic dyes react to UV light. As a result, these lenses take an evolutionary leap in dynamic polarization performance with polarization efficiency that can go from zero indoors to up to 90% outdoors! The highest level of polarization and darkness is reached when the lenses are exposed to a high level of UV and visible light so you can be confident recommending Transitions XTRActive Polarized lenses to patients who are exposed to high-glare and intense bright light situations.

### **In Summary**

Transitions XTRActive lenses, clear indoors and extra dark outdoors, are the darkest photochromics in hot temperatures and in the car, providing the best extra light protection across all light situations. What's more, they provide the best blue light protection from screens, digital devices, and LED lights, and wearers report better vision than with a clear lens. They're available in three colors and six mirror finishes.

Transitions XTRActive Polarized lenses are an evolutionary leap in dynamic polarization. With up to 90% polarization efficiency, they are extra dark in hot temperatures and activate in the car as well. By cutting reflected glare, the result is a wider field of vision. They are clearer than ever and fade back up to two times faster. Available in iconic gray, they block 100% UVA and UVB, and provide the best blue light protection indoors. In addition, for everyday wear, Transitions Signature GEN 8 lenses are the ideal choice and are the best overall photochromic lens, delivering all the benefits that patients want protection, outdoor darkness, full indoor clarity, fast responsiveness and long-lasting performance without sacrificing on any of the qualities they desire.

Transitions Light Intelligent Lenses are the new standard in everyday optical lenses thanks to their ability to provide the in-demand benefits of superior light protection, empowered vision experience, glasses-boosting style, and effortless, long-lasting performance through daily life. Transitions portfolio provides a tailor-made solution for all eyeglass wearers to meet their desire for superior light protection, empowered vision experience, and style. Recommend them with confidence that you are providing your patients with tailor-made solutions that are the best for their eyes and satisfaction for the most demanding wearers.