



## Safety First for The Solar Eclipse

On Monday April 8, a rare and magical celestial event will take place: a total solar eclipse will cross North America, passing over Mexico, the United States and Canada. The last time this happened was 2017.

During a total eclipse of the sun, the Moon completely blocks the Sun while it passes between Sun and Earth. [According to NASA](#), "the sky will darken as if it were dawn or dusk, and people standing in the path of totality may get a chance to see the sun's outer atmosphere, known as the corona, if the weather permits."

New York City will not be in the path of totality, but the eclipse will be visible here from about 2:10 to 4:36 in the afternoon.

While this is a once-in-a-lifetime, natural marvel that we should all witness; it is also, ironically, incredibly dangerous to the eyes and can permanently damage your eyesight if

proper precautions are not taken when looking at the sky.

To make sure you can view the eclipse safely, we interviewed **Dr. Ronni Lieberman, Director of Ophthalmology at NYC Health + Hospitals/ Queens.**



Special eclipse glasses are very dark and block up to 99% of UV light. Regular sunglasses will only block up to 60%.

**Q: Why does looking at a solar eclipse pose potential damage to the eye?**

**A:** When your retina is exposed to the ultraviolet rays of the sun, the retina will sustain a burn. A burn to your retina will create a permanent scar, just as if you burned your skin.

**Q: How does a burned retina affect eyesight?**

**A:** The retina is the part of the eye that captures the light particles that basically form the images we see. It is similar to the film in a camera. If there is a scar on the retina, or a place that the retina is not working well, that place cannot take a picture correctly. That means when that picture is sent to the brain, there is a blank spot that would correlate to that damaged area.

**Q: We were always told when we were little: don't look directly at the sun! Is looking at a solar eclipse any stronger or more dangerous than looking directly at the sun?**

**A:** Your parents were right! Do not look directly at the sun! An eclipse heightens the risk to your eyes because the light from the sun is partially blocked during this event making it darker outside. That means your pupils will dilate in order to let more light into your eye which can may result in a retinal burn.

Because it is darker out, you can tolerate a longer time staring at the sun. But don't be tempted to.

Here's some nerdy trivia: If you DO stare at the eclipse, the shape of the retinal scar is usually a crescent shape, which is the same as the shape of the corona of the sun that is visible behind the moon.



**Q: Is this damage to the retina reversible? Can it be treated?**

**A:** NO and NO again! There is nothing we can do to treat a retinal burn, also known as solar retinopathy. Time may lessen the scarring and subsequent vision loss.

**Q: Is there any way to safely experience a solar eclipse?**

**A:** Yes. You must use special Eclipse Glasses. These are very dark and block up to 99% of UV light. Regular sunglasses will only block up to 60%.

Make sure whatever glasses you purchase are from a reputable source and ISO approved. ISO stands for International Organization for Standardization.

The American Astronomical Society (AAS) has [published a list](#) of reputable vendors and manufacturers of eclipse glasses that includes [Lunt Solar Systems](#), [American Paper Optics](#) and [Rainbow Symphony](#)

IF and only if, you are looking at the sky and are within the eclipse's totality, for those few moments, you CAN view it with no protection. However, New York City is not in this direct path, so unless you are traveling, that's not an option.

**Q: What are some tips you have for viewing a solar eclipse that will protect the eyes and vision**

**A:** First and foremost, wear the safety glasses the entire time. Using binoculars, a telescope or your sunglasses is not a good idea. They not only do not block all UV light, but may actually concentrate the light, making for a worse burn. If you are trying to photograph it, you will also need a special filter for your camera lens.

**Q: Are there any tell-tale symptoms we should be aware of after viewing?**

**A:** Well, hopefully, you have taken my advice and won't experience any symptoms! But if you have sustained a retinal burn, it will become apparent within 24-48 hours. However, by then it's not a symptom but a retinal burn and you will experience anything from blurred vision, to a dark spot in the center of your vision.