Newton
EYE CARE CENTER

BEYOND 20/20

PERSPECTIVES ON EYE HEALTH AND VISION CARE

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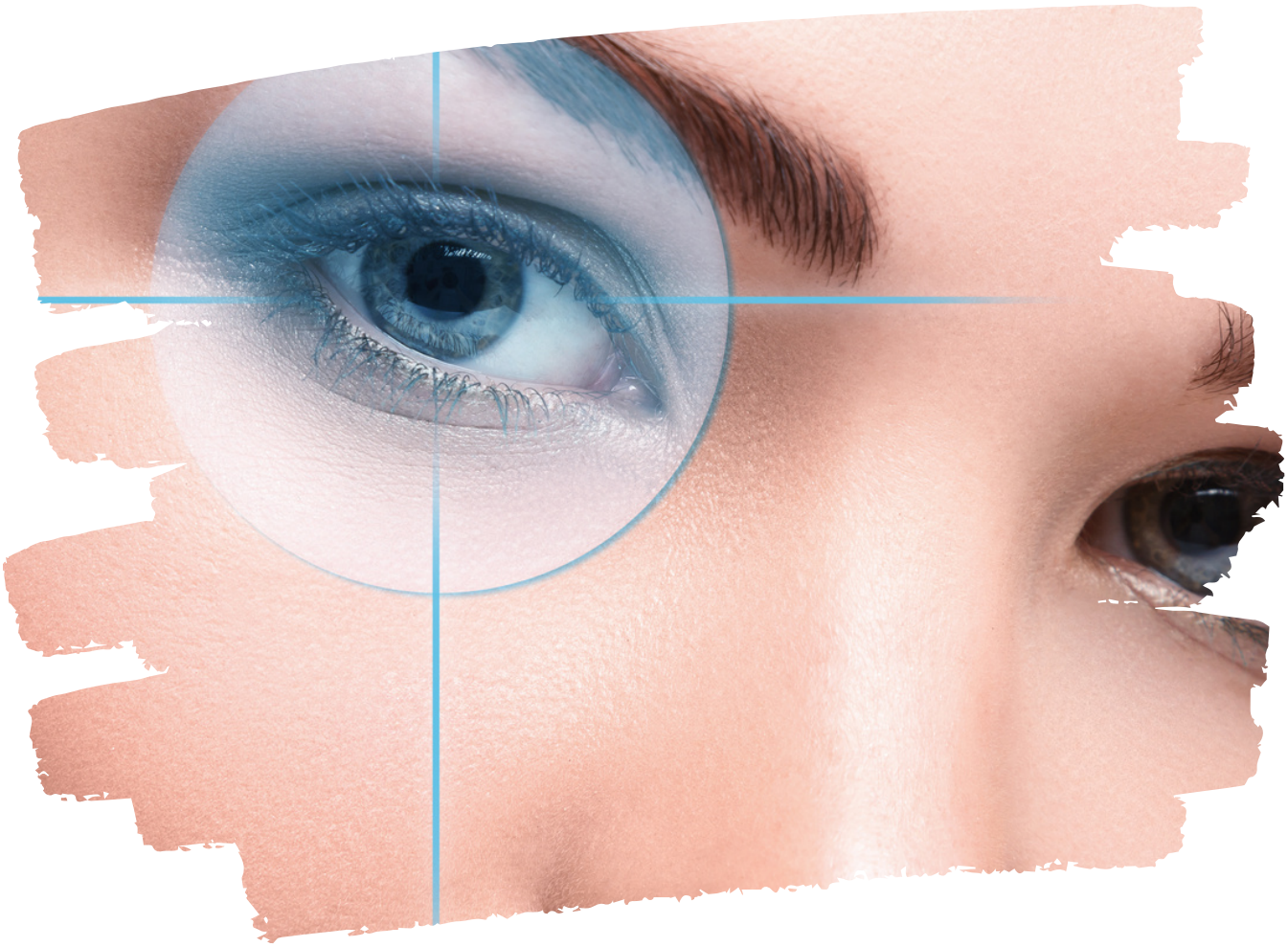
SIGHT ISN'T VISION AND CLARITY DOESN'T IMPLY FUNCTION

Sight and vision are different. Sight involves being able to focus on and make out the details of something, whereas vision involves processing information and using it to interact with one's world. Visual function is often more important than clarity of sight. For example, someone who looks at a computer screen all day has different visual demands than someone who drives for a living. Lens correction considerations made for the latter individual may have negative consequences for the former – meaning more symptoms, not fewer. The optimal lens design for one task is not likely the best design for all visual needs. Virtual schooling within and beyond the pandemic has changed children's visual needs as a result of the significant increase in screen time.



YES, WE CAN EXAMINE INFANTS AND YOUNG CHILDREN

And yes, we can gather a multitude of visual and eye health information. No, we don't ask them which lens they like better. We have ways of assessing vision (objects, shapes, faces, etc.), and we have objective means by which to assess prescription status, alignment of eyes, and eye health.

YOUR EYES ARE YOUR WINDOW TO YOUR WORLD, BUT THEY ARE OUR WINDOW TO YOUR BODY

Here is an interesting fact: Your eyes are the only places in your body where both vascular tissue and brain tissue may be examined without surgical intervention.

YOUR OVERALL HEALTH IMPACTS YOUR EYE HEALTH

I recently examined a woman in her mid-40's whom I diagnosed with a cataract. Age-related cataract typically isn't a factor until at least 55-65 years of age. This patient had a cataract due to poor nutrition. Her nutrition was poor due to chronic alcoholism. Various studies have also shown an increased risk of macular degeneration among those with poor dietary habits. Nutrition is important to your current and future eye health and vision.

DIABETICS - CONTROL YOUR BLOOD SUGAR

When I graduated optometry school over 20 years ago, vision changes from diabetic retinopathy were the leading cause of newly diagnosed blindness. Unfortunately, this remains true. Diabetics have an increased risk of vision problems simply based on the amount of time they are diabetic. When the blood sugar isn't tightly controlled, the risk increases significantly.

ASYMPTOMATIC DOESN'T MEAN PROBLEM-FREE

Many conditions initially present and develop from a blur-free, pain-free, redness-free initial state. Vision loss is experienced weeks to months later. By then, it's too late to regain lost function. Moral: have your eyes examined even if you have no symptoms.

AN EYE EXAMINATION CONSISTS OF SEVERAL THINGS

Definitions of the components of an eye examination vary. Here is mine:

- A review of personal and family eye and health history
- Visual acuity and visual function determination as part of prescription assessment
- Neurological examination – alignment, pupil function, focusing, range of motion. Fascinatingly, of the 12 sets of cranial nerves that arise from your brain and govern body function, cranial nerve pairs 2,3,4,5,6 are almost totally devoted to your eyes, and others have connections to eyes and vision.
- Peripheral vision assessment, color vision, intraocular pressure
- Microscopic evaluation of front surface structures as well as eyelids and surrounding structures
- Evaluation of internal structures - iris/pupil, lens
- Evaluation of retina through dilated pupils - optic nerve, macula, vessels, peripheral retina

WE REALLY NEED TO DILATE YOUR EYES

Yeah, I know it's a pain...

Maybe not every time, but certainly the first time, and periodically thereafter. Have you ever tried to gather information about your surroundings while looking through a pinhole? That is a good approximation of an eye doctor trying to examine your eye health through non-dilated pupils.

INTERNET HOLDS PROMISE BUT BRICKS AND MORTAR, IN PERSON, IS SO MUCH BETTER

Telemedicine has come a long way. Keep in mind that the degree of scrutiny we require to accurately diagnose an eye condition is still orders of magnitude greater than the resolution of a typical webcam. And the risk of misdiagnosis is permanent loss of vision. I'm in favor of utilizing technology to be more efficient, but I don't want to compromise care for convenience. The degree of magnification and resolution we have at our disposal is far superior to any modern telemedicine technology.

How accurate do you think a website is that says it can "determine your prescription"?

Technology has provided advances with respect to examination equipment and techniques as well as increasing knowledge about conditions, medical treatments, and visual solutions. Newer isn't always better, but it certainly looks good!

BLUE LIGHT PROBABLY WON'T BLIND YOU BUT YOU NEED TO KNOW ABOUT IT

The emission of blue light from devices such as phones, tablets, other screens, and even light bulbs and televisions is a topic that we have heard discussed. Like everything else in life, there are two - maybe even three - sides to the story.

Blue light is an important part of our sleep and wakefulness cycle:

- *Exposure to blue light during the day is important to suppress the secretion of melatonin from the pineal gland; this process plays a crucial role in circadian rhythm regulation.*
- *Exposure to an excess of blue light later in the day may cause problems with sleep.*
- *Exposure to too much blue light cumulatively in your life may increase your risk of macular degeneration – studies are inconclusive at present.*

The lenses that do a good job blocking blue light, only do a good job at blocking around 30% of the blue light. Therefore, it is possible to convey a false sense of security - especially with children.

Anecdotally, we do hear positive feedback about a reduction in visual fatigue from patients who have opted for the blue light-blocking lenses. Obviously, that sets up a situation of cognitive dissonance: Is it the lens correction we prescribed, the lens design, or is it really the blue light blocking aspect that has reduced their symptoms?

SUNGLASSES ARE IMPORTANT YOUR ENTIRE LIFE

The UV (ultraviolet, non-visible) light rays from the sun can contribute to cataract, macular degeneration, and skin cancer in the tissues around the eye. The exposure occurs in a cumulative fashion throughout our lives. Studies show that a good amount of our lifetime UV exposure occurs prior to age 18.

DRY EYE IS THE MOST PREVALENT AND UNDER-DIAGNOSED EYE CONDITION

If the surfaces of your eyes are not well hydrated, they can feel dry as well as affect your vision.

Tear production slows with age and is affected by oral and topical medications. Dry eye is also related to contact lens wear, the weather, your indoor environment, and your general health and nutrition.

Tear quality (associated with the health of the eyelids and the tear-secreting glands within them) is often more important than tear production quantity.

Many patients come into the office thinking they need a new glasses prescription when the underlying problem is dry eye syndrome.

The condition of the eyelids and eyelashes (both at and beneath the surface) plays a huge role in the diagnosis of dry eye and related problems.

Interestingly, dry eye is becoming increasingly prevalent at younger ages. While multiple factors may be implicated, screen time is thought to contribute.

Fortunately, we have the technology to photodocument and demonstrate to patients the pertinent findings. And we have the technology to successfully treat the condition and resolve patients' symptoms.

THE MYOPIA EPIDEMIC IS REAL

Myopia (nearsightedness), the vision condition where things far away are blurry, is occurring at a much higher rate than several years ago. Current incidence in the United States is near 40% whereas the incidence was closer to 25% only 50 years ago.

Definitive analysis of causation is inconclusive; however, research has identified several associated factors.

Yes, we can almost always make a stronger lens to correct nearly any visual condition. However, becoming nearsighted (or becoming more nearsighted) involves the physical lengthening of the eye and this significantly increases the risk of eye pathology including cataract, glaucoma, macular degeneration, and retinal detachments over one's lifetime.

Fortunately, better treatments than ever before are now available to slow down the progression of myopia.

WITH KIDS - THERE IS SO MUCH MORE THAN 20/20

I can't tell you how many times a child reports having difficulty in school, reports having passed the school vision screening, yet there is an underlying functional problem. What do I mean by functional? Stability of fixation, efficiency of tracking, flexibility of focusing, stamina of ability to converge and hold gaze on a target, and more. There is so much to look at and examine, so much more than the ability to read the 20/20 line tells us. With kids, it's all about function!

THE VALUE OF PERSONALIZED CARE AND OF CONTINUITY OF CARE FROM THE SAME PHYSICIAN

Don't let the commoditization of eye care - and health care in general - remove the personal aspect that your eye care professional strives to provide. Even though findings may be normal, nuances within examination findings highlight salient points to revisit during the next examination, regardless of the presence of 20/20 vision and good eye health.

We care about your eye and vision health, now and in the future!

After decades in this industry and many lessons learned, I am happy to share with you these very important points to consider when you think about eye health and vision care for your family.

If we can be of service, please call or text us at (989) 667-9393 for the eye care experience that your family deserves!

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