

## VISUAL HYGIENE

### Posture and Visual Stress in the Development of Vision Disorders

There's more to vision than 20/20 eyesight. **Vision is how our eyes move together, converge, track, focus, and process information and how we derive meaning from the world around us, and direct the appropriate action.**

While many individuals feel that most vision disorders are either hereditary or naturally occurring, there is substantial evidence that many non-pathological (disease) vision disorders are related to how we use our eyes and the ergonomics (posture) we use in school and work. Commonly known conditions such as nearsightedness and astigmatism often develop from excessive near work and poor posture while reading or working at a desk. Other less known functional vision disorders involving focusing (accommodation), eye teaming (fusion), and eye tracking (saccadics) are also considered a breakdown in visual efficiency skills from prolonged visual stress and poor posture. While some visual conditions have obvious visual symptoms such as blur or double vision, many symptoms of visual or binocular breakdown can also create behaviors that normally might not be associated with a vision system problem. Just because an individual has 20/20 eyesight and a current eyeglass prescription is no guarantee that all critical visual skills are intact and functioning efficiently.

## SIGNS & BEHAVIORS INDICATING VISUAL DYSFUNCTION

- ✔ 1. Developed or acquired reading disorder
- ✔ 2. Headaches (tension or migraine)
- ✔ 3. Symptoms resembling ADD or ADHD
- ✔ 4. Chronic muscle tension in the neck or upper back
- ✔ 5. Motion or car sickness
- ✔ 6. Psychiatric conditions (such as depression)
- ✔ 7. Behavior problems in an academic setting
- ✔ 8. Avoidance of prolonged near work activities (such as reading, games or hobbies)

Many of the previously mentioned vision disorders can have multiple causes and some may stem from other systemic problems. Much like the daily routine of dental hygiene, we can also practice visual hygiene to help reduce the incidence and severity of many visual conditions that affect our health and lifestyle goals.



## ABOUT VISIONFIRST

Dr Appelbaum is a pioneer in neuro-optometry passionate about unlocking life's potential through vision. His expertise includes reorganizing the visual brain post-concussion to return to learn and return to life, remediating visual developmental delays interfering with reading and learning, and enhancing visual skills to elevate sports performance.

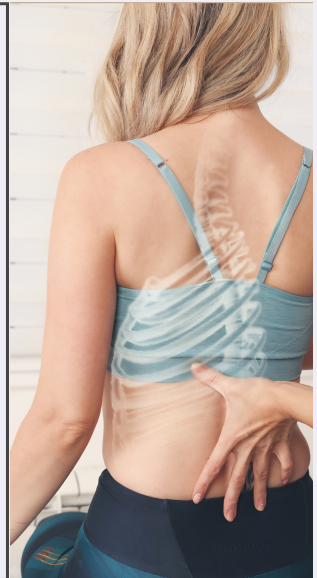
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# VISUAL HYGIENE TIPS

The following recommendations have been shown to be very helpful in developing good visual hygiene and a reduction in many of the visual and behavioral adaptations.

## POSTURE

Sit up straight to reduce muscle tension (stress) in the back, neck and shoulders. Do not read while lying on your back or stomach, or while resting the head on one hand with the elbow on the desk. Keep both eyes an equal distance from the desk or reading material, and your torso and hips parallel to the desk surface. The feet should be resting on the floor or on a support. The elbow should be rest on the writing surface and the arm should remain parallel to the sides of the paper. The chair must provide proper support, allow for balanced posture and equal weight on both buttocks (no leaning to one side), and should be adjustable in seat height/back alignment.



## WORKING SURFACE

A sloped work surface that is tilted between 20 and 25 degrees from the horizontal reduces tension and stress on the head, neck, shoulders and eyes. Inexpensive slant boards are available for this purpose.



## EYE TO DESK DISTANCE

The optimum distance for visual efficiency varies from person to person. This distance is measured from the center of the middle knuckle to the elbow, and all reading and desk activities should be done at this distance or slightly further. Prolonged nearwork conducted closer than this distance is a major cause of visual defects and functional vision breakdown.



## LIGHTING

Balanced and adequate lighting on the desk material and in the room is crucial. Reduced lighting and glare in the room has an effect of decreasing peripheral vision sensitivity



# VISUAL HYGIENE TIPS

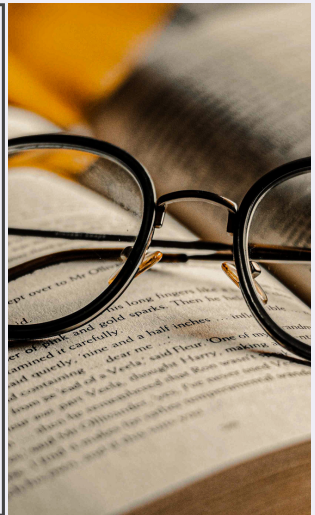
## PENMANSHIP AND PENCIL GRIP

The pencil/pen should be held no closer than  $\frac{3}{4}$  inch from the tip. The fingers and knuckles should not become white/red when writing. Ergonomically correct pencil grips are available for students in the early grades. Writing should involve mainly finger and wrist movement with little movement of the arm.



## STRESS RELIEVING LENSES

The lenses that are prescribed for distance use can often create neuromuscular stress when used for reading or deskwork. Specific low powered reading lenses can be prescribed in single vision or bifocal form, depending on visual status or lifestyle needs. Individuals who use such lenses often report less headaches, neck or back tension, and increased reading efficiency. The need for such lenses can be determined by a developmental optometrist specializing in vision therapy.



## VISUAL BREAKS

Practice "The 20/20/20 RULE." While studying and reading, periodically look up and away at an object at least 20 feet away, at least every 20 minutes, for at least 20 seconds. It is also recommended to get up and walk around for at least 5 minutes every hour. Relaxation of body muscles has a carry over effect on visual relaxation.



## TV VIEWING

Do not sit closer than 6-7 feet from the TV screen. Adequate room light is crucial because watching TV in a dim or dark room reduces peripheral vision sensitivity. Excessive TV viewing reduces total body muscular development, which has a carry over effect on visual neuromuscular development. Video game use should be limited to no longer than 20 minute sessions.





# VISUAL HYGIENE TIPS

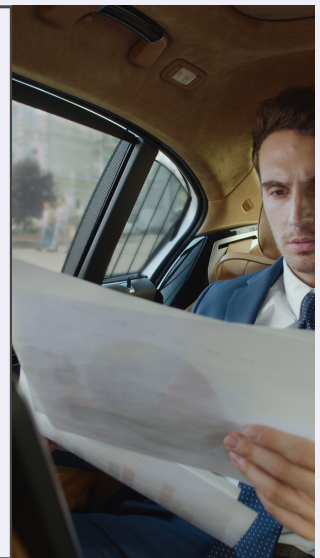
## READING WHILE IN MOTION

Reading while in motion requires substantially more effort and creates additional visual stress than reading while stationary. Peripheral vision movement needs to be suppressed in addition to vision disturbance from the vestibular system in the ears. Reading while in motion should be limited.



## COMPUTER USE

In addition to the previous suggestions (such as posture, taking breaks, lighting and working distance), the position of the terminal monitor is very crucial. The monitor should be placed as low as possible in relation to the head (eyes) position. When the monitor is too high, the eyes have a reduced ability to converge and the eyes tend to open more causing more drying of the ocular tissues. In the case of bifocal wearers, high monitors cause users to excessively raise their heads, causing more tension and stress in the neck and upper back.



Get your very own vision training program to train your eyes to perform better on screens. In just one week you'll see a reduction in the symptoms associated with over-use of screens and be well on your way to healthier, happier eyes.

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