Humans would not have evolved as hunters and food gatherers if they were myopic (i.e. blurry distance vision would have made catching game or finding food while avoiding getting eaten very difficult). Myopia is one of the most investigated areas within vision science. Yet we still do not fully understand why myopia develops and how to stop it.

Possible Causes:
- For myopia to occur the eyeball has to grow longer (change in axial length).
- In the past this axial length change was considered to be due to genetics, as myopia tends to run in families.
- The rapid increase of myopia over the last 50 years seems to coincide with the increase in literacy and industrialisation in most countries.
- This could indicate that high near visual demands and visual stress may also be a causal factor in developing myopia in some individuals.
- The general conclusion is that myopia is due to a combination of genetic and environmental factors.

Management Alternatives:
There is no one treatment that has been found to be effective in stopping the development myopia. This is understandable if we consider that there is probably more than one causal factor.

Based on all the accepted research we recommend the following treatment options as most likely to stop or slow the progression of myopia:

1. Good Visual Hygiene:
   - Good visual habits will reduce any near visual stress and may or may not be contributing to the development or progression of myopia. Either way, reducing near visual stress is a good thing for any visual system.
   - Good visual hygiene includes not getting too close to near work (not inside your knuckle to elbow distance)
   - Take regular breaks by looking away from your near work every 5 mins. If you notice a blur when you first look away it is time to take a longer break.
   - Avoid prolonged close work while tired or sick as this may also increase near point stress and stimulate more myopic development.

2. More outdoor activity, especially if you have myopic parents:
   - A recent Australian study found that students who combined high levels of near work with low levels of outdoor activity were more likely to go myopic, whereas students who combined low levels of near work with high levels of outdoor activity were more likely to stay longsighted.
   - This was confirmed by a Singapore study which also found that lower amounts of sports and outdoor activity increased the odds of becoming myopic in those children with two myopic parents more than in those children with none or one myopic parent.

3. Spectacle Lenses to Compensate for the Distance Blur:
   - Spectacles or contacts lenses should be prescribed to clear blurry distance vision if 6/9 VA or worse.
• Research shows that putting up with the blurry vision because you don’t want spectacles or wearing a weaker (under – prescribed) lens than required will not stop myopia from increasing.
• It may in fact cause the myopia to get worse because of peripheral retinal blur.

4. Spectacle lenses to reduce Near Visual Stress:
• Wearing plus lenses (or less minus) for close work has the effect of reducing the focusing (accommodative) demand and makes it easier to keep the eyes turned in (converged). This will reduce near visual stress.
• Studies have found this to be effective way of slowing / reducing the rate of myopic progression in Caucasians.
• While other studies in China found that using progressive lenses retarded the myopic progressing in children who do not have moderately or highly myopic parents.

5. OrthoK:
• The OrthoK technique uses special hard contact lenses which change the curvature of the cornea to neutralise the myopic prescription.
• These lenses are worn all night and removed each morning.
• As the day goes on the cornea slowly returns to its original curvature and the myopic blur returns. How fast this happens varies with individuals.
• There is some evidence that ortho-K may slow the rate of progression of myopia in some individuals.

6. Refractive Laser Techniques:
• Laser surgery can change the front surface of the eye (Cornea) to compensate for Myopia.
• It does not cure myopia or prevent it from progressing.
• Patients must be:
  • Over the age of twenty one.
  • Have stable myopia for at least twelve months.
  • Have corneas of a certain thickness and not have keratoconus.

If you require any further information any of these treatment options please do not hesitate to ask your optometrist.