

**OPTOMETRISTS
CONTACT LENS PRACTITIONERS
BEHAVIOURAL OPTOMETRY
CHILDREN'S VISION**

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ATROPINE DROPS FOR MYOPIA CONTROL

We have known for decades that atropine drops at 1% dosage slows down progression of myopia or short-sightedness. However, it has not been a popular option because of adverse side effects - permanently dilated pupils, light sensitivity and inability to focus close up are the most significant concerns, but there can also be rarer cases of fever, redness and swelling around the eye, facial flushing and delirium.

But new research published from Singapore (*A.Chia et al "Atropine for the Treatment of Childhood Myopia: Safety and Efficacy of 0.5%, 0.1% and 0.01% Doses" in American Academy of Ophthalmology 2011.07.031*) indicates that lower doses of Atropine seem to work almost as well as 1% and with the lowest dose of 0.01% there seem to be NO side effects!! Currently the only dose that is readily available in Australia is 1%, but the compounding pharmacy Slades at Epworth Hospital in Richmond (ph 9421 1055) are able to make up the lower dosages in a sterile 15ml bottle that would last one month, unfortunately at additional cost (between \$50 to \$60 at April 2012). Pharmacy Smart Compounding at 1/190 Belmore Rd Balwyn (ph 9857 3679) and Dartnell's Compounding Pharmacy at 376 Canterbury Rd Surrey Hills (ph 98885899) are also able to oblige.

Atropine is a non-specific muscarinic antagonist, but the exact mechanism as to why atropine drops are effective in reducing myopia progression is still unclear. At first it was thought to relate to effects on the focusing mechanism of the eye but it is now known that biomechanical effects on the retina and sclera are involved as well as blur patterns on the peripheral retina. Much research is being done in this area of vision research which is considered to be extremely important, particularly since the incidence of myopia is increasing rapidly in children in developed countries around the world – studies suggest that increasing time spent indoors engaged in visually demanding near activities like computers, reading and electronic hand-held games may be significant.

So make sure your children enjoy balanced lifestyles, with plenty of outdoor activities!

PROCEDURE

We recommend a 2 week trial of atropine drops – we expect that this treatment will not suit everyone, in which case other options will be discussed with you.

If using the low dose atropine drops, they will need to be instilled one drop in each eye every night.

If using the full strength 1% atropine drops, they will need to be instilled one drop in each eye three times per week, typically on Sunday, Tuesday and Thursday.

Certainly if using the 1% drops, you will observe your child's pupils to be fixed and dilated and they will be quite glare sensitive, so have sunglasses or fitovers and a hat or cap at the ready.

Reading glasses may also be needed, but your child may cope ok without.

After the 2 week trial, we may need to change the lenses in your child's glasses to multifocals, and a Transitions colour-change tint is generally very helpful with regards to glare.

If using the lower dose drops, there may be minimal or no side effects, but we will address as needed.

We would like you to ring us after the first day to advise us of your child's response to the drops.

If all is good, we will review your child in-office two weeks later, and then again typically every 6 months.

We are here to help in any way we can, so please feel free to ring us if you have any concerns.