Bwrdd Iechyd Prifysgol Aneurin Bevan University Health Board

Information for Patients

Duane's Retraction Syndrome

The Orthoptic Department

Duane's Retraction Syndrome

What is Duane's Retraction Syndrome?

Duane's Retraction Syndrome, also referred to as Duane's Syndrome, is an eye movement problem in which one, or both, of the eyes have difficulty moving horizontally. If both eyes are affected, usually the limited range of movement is more obvious in one eye than the other. Duane's Syndrome is always present from birth, but can be difficult to detect in very young infants. It is usually noticed as the child becomes more visually aware.

Characteristics

- Limited outwards and/or inwards movement of the eye. Usually outwards movement is affected most.
- The person may turn their face to the side to keep their eyes aligned. This is so the eyes can be used together as a pair to develop 3D vision.
- The eye may retract slightly back into the eye socket when trying to move.
- The position of the eyelid may change as the eye retracts. Typically the lids seem to narrow as the eye moves inwards and widen as the eye moves outwards.

Causes

There are 6 muscles that move each eye. The 'Medial Rectus' moves the eye inwards and the 'Lateral Rectus' moves the eye outwards. Nerves send signals from the brain to the eye muscles to tell them to work. In Duane's Syndrome there is a 'mis-wiring' of the nerves, so that the two opposing muscles are powered by the same nerve. When the nerve sends a signal, both muscles try to work at the same time. This causes the eye to have limited range of movement. Duane's Syndrome can also be caused by thin, inelastic muscles which are abnormally attached to the eye.

Treatment

The majority of people with Duane's Syndrome require no treatment as they have normal vision and no symptoms. Sometimes glasses are needed to improve their vision. Often people with Duane's Syndrome keep their eyes straight and maintain good 3D vision by turning their face slightly. As adults, they are usually more aware of their limited eye movements and can disguise it by moving their head instead of their eyes.

Surgery is only necessary in a few cases. We would only consider surgery to reposition the eyes if:

- The turn in the eyes is becoming worse, making it difficult to keep using them together. This could lead to symptoms of eye strain and headaches if left untreated.
- The turn in the eyes is cosmetically poor. If the eyes have never worked together and the person has never developed any 3D vision, we could still consider surgery to improve the appearance of the turn of their eyes when looking straight ahead.
- The person uses a very uncomfortable head position to keep their eyes straight.
- The eye retracts dramatically back into the eye socket when moving the eye horizontally.

Surgery may not improve the limited movement of the eyes. Even if the eye muscles are repositioned, the 'mis-wiring' of the nerves still means that the opposing muscles will receive signals from the brain at the same time. Surgery is only intended to relieve symptoms for the straight ahead position.

Mae'r daflen hon hefyd ar gael yn y Gymraeg