

## The Story of the New-born Red Reflex Examination

### How We Managed to Make It Mandatory in Israel and the Impact it had.

Congenital cataract used to be one of the leading causes for childhood blindness in the past. However, with the advancement of cataract surgery, the anatomic success of this surgery has improved dramatically. There are fewer complications and better long term stability in the results of cataract surgery. Nevertheless, there are two other components that dramatically influence the visual acuity outcome of these children: the time gap between the development of the cataract and its removal and the adherence of parents to amblyopia therapy.

If congenital cataract is present at birth, we know that it should be operated on quickly – within three months for bilateral cases and within two months for unilateral congenital cataract. Surgery done later, even if performed ideally, will not result in good visual outcome due to the development of severe deprivation amblyopia. Congenital cataract is not always apparent and can be easily missed by doctors and parents. In the past, many of us had to operate on babies with congenital cataract that was diagnosed late, and witnessed the frustration of not getting good visual outcome despite very good surgical technique.

The Red Reflex Examination is simple to carry out and is an accurate way of diagnosing even the smallest cataract. It can be done using an ophthalmoscope (ophthalmoscopes must be an integral part of any paediatrician's equipment). Ophthalmoscopes can also diagnose other life threatening conditions such as retinoblastoma and severe uveitis, or other anatomical defects such as severe coloboma.

The American Academy of Ophthalmology together with the American Academy of Paediatrics issued a statement in May 2002, declaring that all infants should have an examination of the red reflex of the eyes performed during the first 2 months of life by a paediatrician or other primary clinician. This statement was revised in 2008 to say that "All neonates, infants, and children should have an examination of the red reflex of the eyes performed by a paediatrician or other primary care clinician trained in this examination technique before discharge from the neonatal nursery and during all subsequent routine health supervision visits".

In Israel, despite these statements, red reflex examination was not performed in all nurseries as a part of the routine discharge examination. Some nurseries performed the test, but others and in particular the busiest ones did not. In 2010, the Israeli Association of Paediatric Ophthalmology started talks with the heads of the Israel Association of Paediatrics and Neonatology in order to convince them to carry out the test in every nursery in the country. Although some hospitals were persuaded to conduct the test, it was impossible to get the approval of all major hospitals to perform the test routinely. Shortage in qualified personnel, lack of equipment and other reasons were cited. We raised the issue of medico-legal liability and managed to persuade those who did not want to do the test to at least make a note on the discharge letter that a red reflex examination should be performed before the age of two months. This seemed like a good compromise and this recommendation was indeed written on every letter of discharge.

But this "compromise" quickly backfired. Thousands of worried parents were flooding the ophthalmologist's offices around the country asking for a red reflex examination. This in turn made the availability of ophthalmologists, which was not very good to begin with, even worse, and added thousands of new doctor-patient encounters. Since these encounters were paid by the public budget, the Ministry of Health had to intervene.

A special committee was formed and we managed to persuade all its members that red reflex examination should become mandatory in every hospital in Israel. At last, the ministry of health issued such an order in November 2011. All hospitals arranged tutorials by ophthalmologists explaining how to perform the test. It was quickly embedded in the routine work of the nurseries without problems.

As a result, today in Israel we rarely see congenital cataract diagnosed too late. All babies born with cataract are operated on during the first three months of life, which makes the outcome a lot better.

We strongly recommend this policy to be implemented in every country, since it was proven that following a short adjustment period this test can be done even in the busiest nurseries on a daily basis.