

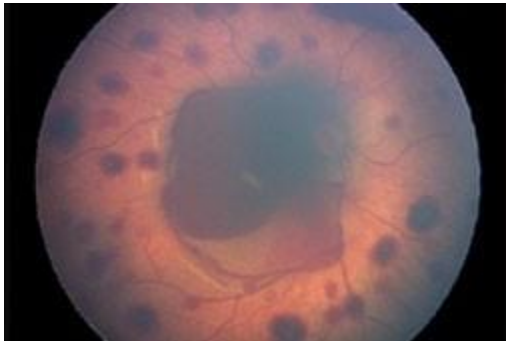
# Shaken Baby Syndrome

## WHAT IS SHAKEN BABY SYNDROME?

Shaken baby syndrome (SBS), also known as non-accidental trauma (NAT), is a diagnosis that may include a combination of findings including broken long bones such as arms or legs, skull fractures, brain bleeding and retinal hemorrhages. SBS occurs when a baby is shaken repeatedly, often by a frustrated caretaker in an effort to quiet an inconsolable baby. A baby's head is disproportionately large and the blood vessels are fragile, which makes the brain and eyes more susceptible to bleeding from a shaking injury. Most children who are victims of SBS are under one year of age, with many of them being under six months of age. Injuries from SBS can lead to permanent visual and developmental disabilities, or even death.

## WHY IS AN EYE EXAMINATION DONE?

The eyes are examined in suspected cases of SBS as part of an overall examination of a child when abuse is suspected. An eye exam may show bleeding in the back of the eyes. The bleeding may be above, within, or below the retina (Figure 1). The layers of the retina may also be split apart as a result of the injury (retinoschisis). The vitreous, or jelly-like filling inside the eye, may also fill with blood.



**Fig. 1:** Blood vessels in babies are fragile which makes the brain and eyes more susceptible to bleeding from non-accidental trauma.

## HOW IS THE INSIDE OF THE EYE EXAMINED?



Dilating eye drops are administered to enlarge the pupils of the eyes to allow a view of the retina and vitreous. An indirect ophthalmoscope and a specialized lens are used to visualize the back of the eyes. Photographs of the back of the eyes are sometimes taken.

### **ARE OTHER TESTS DONE TO EVALUATE FOR SBS?**

An eye examination by a trained examiner is part of an overall evaluation of a baby when abuse is suspected. Other tests may include imaging tests of the brain (CT or MRI), bone x-rays (to check for old and new fractures), and a social services evaluation. Blood tests may also be done to check for other conditions such as a bleeding disorder. Other specialists may also be involved if another medical condition is suspected.

### **DO BABIES SUFFER PERMANENT DAMAGE FROM SHAKEN BABY SYNDROME?**

Retinal hemorrhages often resolve without treatment, but a vitreous hemorrhage may not. A vitreous hemorrhage can quickly cause [amblyopia](#) (“lazy eye”) by blocking the vision out of the eye. Surgery may be needed to clear a vitreous hemorrhage in an attempt to reverse the amblyopia.

Permanent damage to vision can also occur as a result of direct injury to the eye or the brain. Damage to the brain is the main reason for poor vision. Scarring of the retina or atrophy of the optic nerve may show up months after the injury and is usually irreversible. Brain injury may also lead to developmental delays, seizures, paralysis, and even death. Nearly a quarter of shaken infants can die from their injuries. For any child suspected to have suffered non-accidental trauma, the physician is required by law in the US to report the case to a designated governmental agency.

### **WHERE CAN I LEARN MORE ABOUT SHAKEN BABY SYNDROME?**

- [The National Center on Shaken Baby Syndrome](#)

**Updated 05/2020**