

SHAKEN BABY SYNDROME: WHAT CAN WE DO TO PREVENT IT ?

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did you know
these facts ?

STATISTICS

- 12 % Of all physical abuse
- 35 % Of all head injuries < 1
- 80 % Of all abuse related deaths

due
to
SBS

More statistics

- True incidence is unknown
- North Carolina research 2003: ~1,300 children experience severe or fatal head trauma from child abuse every year
 - ~30/100,000 children under 1 y/o
- Scotland research 1999:
 - ~25/100,000 children under 1 y/o

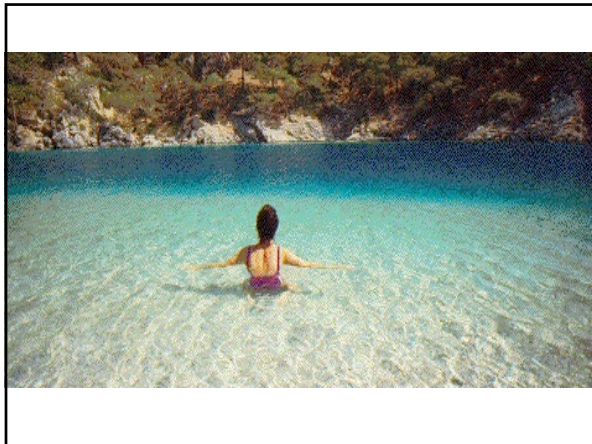
National Center for Shaken Baby Syndrome

University of Iowa database

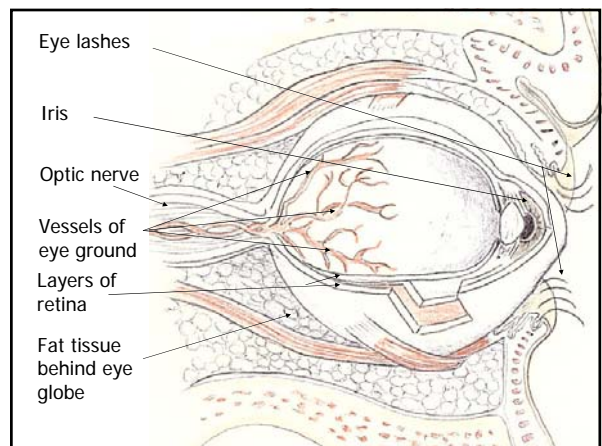
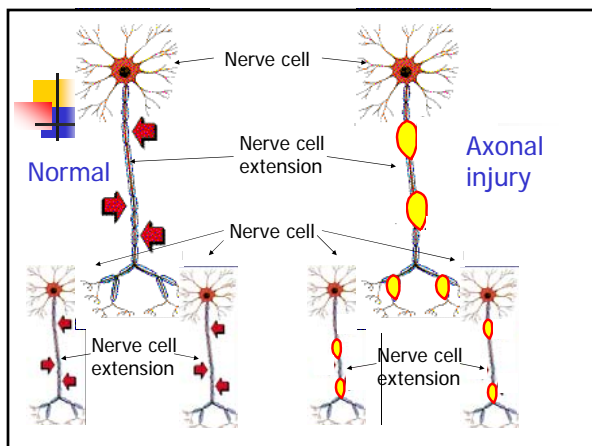
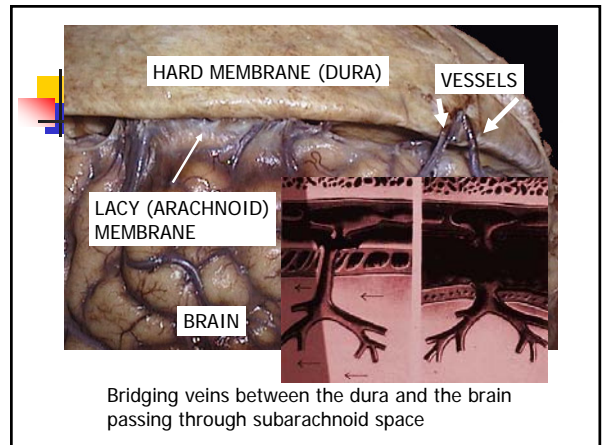
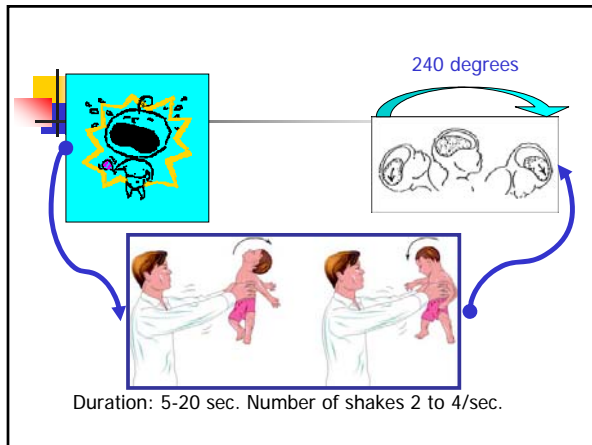
- 63 Children diagnosed with IHT between 10/17/03 and 8/12/08
- 40 males, 23 females
- Age range 1-62 m/o, 9 ± 10 m/o
 - 59% ≤ 6 m/o
 - 81% < 12 m/o
 - 92% < 24 m/o (25x3, 33, 34, 62 m/o)

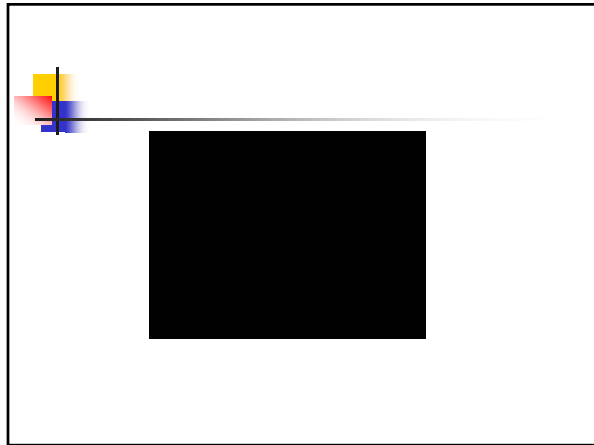
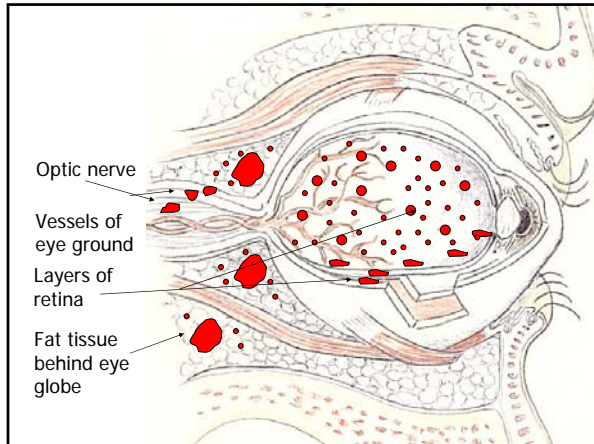
University of Iowa database

- 13% (8) fatality
 - All had chronic abuse
 - 5 had missed diagnosis of past abuse
- Perpetrators:
 - 60% unknown
 - 40% identified
 - 44% father
 - 32% babysitter
 - 20% mother's boyfriend
 - 4% mother



MECHANISM OF INJURY IN SBS





MECHANISMS of INJURY in SBS

- Large size of head relative to body
- Weak neck muscles
- Higher water content of brain (softer)
- Insulation of nerve cells incomplete
- Brain more gelatinous

Presentation of cases of SBS

- coma
- head injury
- low body temperature
- knife wounds
- malnutrition
- meningitis signs
- multiple trauma
- near-miss SIDS
- overdose/ingestion
- respiratory failure
- seizures
- SIDS
- strangulation

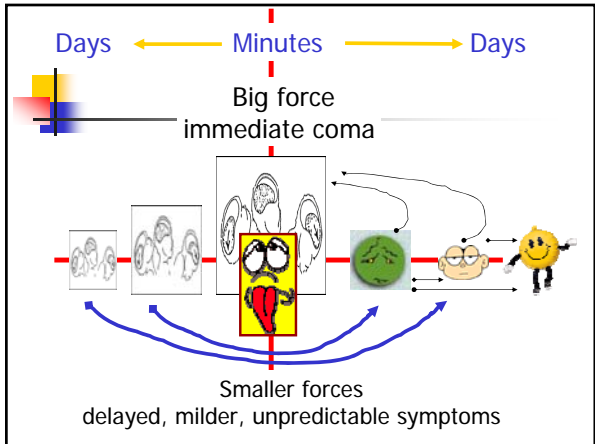
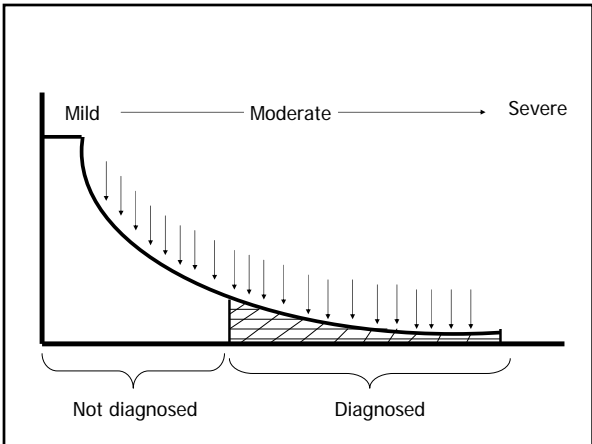
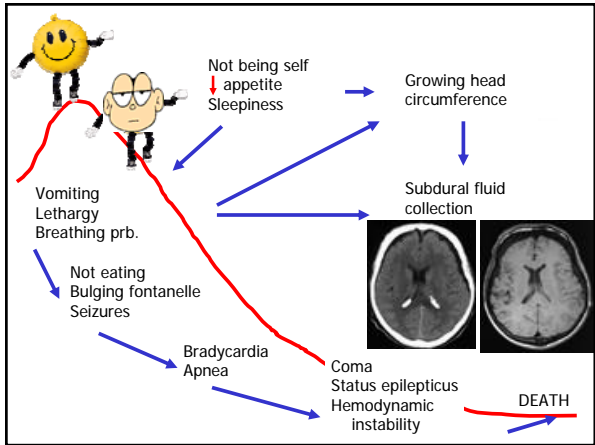
Outcome

- Subdural bleeding, retinal bleeding
- Damage to nerve cells (by trauma & lack of O₂)
- Damaged cells release substances harmful to brain: further O₂ deprivation
- The combined effect:
 - Diffuse or focal traumatic destruction of brain tissue
 - Brain swelling with increased pressure within skull
 - Worsening of reduced blood and O₂ supply
- Coma, herniation of brain into spine



DIAGNOSTIC CONSTELLATION in SBS

- ## SHAKEN BABY SYNDROME
- Subdural bleeding
 - Retinal bleeding
 - **Brain injury**
 - \pm Soft tissue injury (bruises, welts)
 - \pm Fractures (Rib, leg/arm bones)



POOR PROGNOSIS

- Unresponsive on admission
- Need for intubation
- < 6 m/o
- Diffuse retinal bleed on admission
- Diffuse brain swelling on initial CT

Conway '98, Kivlin '00

OUTCOME

- 1/5 DIE!!
- 2/5 survive with major handicaps
- 2/5 recover without handicaps ?

Conway '98, Fitzpatrick '98, AAP '00

Online resources

- <http://www.expertdigital.com/shakenbaby.html>
- <http://www.dontshake.com/>
- <http://www.sbsprevention.com/>
- <http://www.hmc.psu.edu/shakenbaby/>
- <http://www.sbscentralmass.com/>
- <http://shakenbaby.org/>

Prevention

- SBS is preventable
- Shaking occurs: Frustrated care giver + loss of control + inconsolable crying baby
- Saying "don't shake a baby" is not enough
- A plan of action to deal with situations needed

National Center for Shaken Baby Syndrome

