



# SHAKE study: Subdural Hematoma: Age, Kinematics and Evolution

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# Content

- Case
- Forensic pediatrics in the Netherlands
- Research
- SHAKE study



## Case

Baby 4 weeks old

Fell off sofa

Bruise on leg, no other abnormalities

Normal behavior, not painful

Nice parents

## Bruises in Infants and Toddlers Those Who Don't Cruise Rarely Bruise

Naomi F. Sugar, MD; James A. Taylor, MD; Kenneth W. Feldman, MD; [et al](#)

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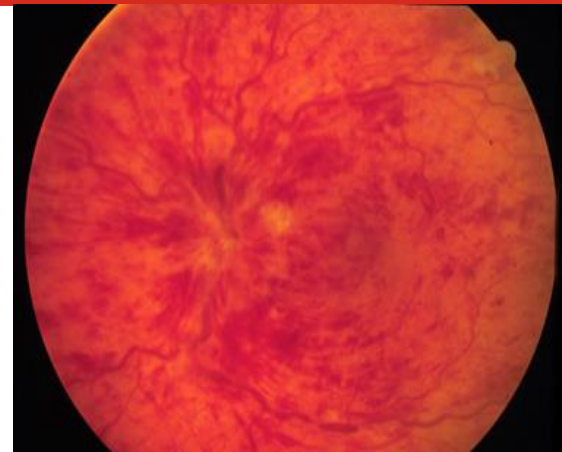
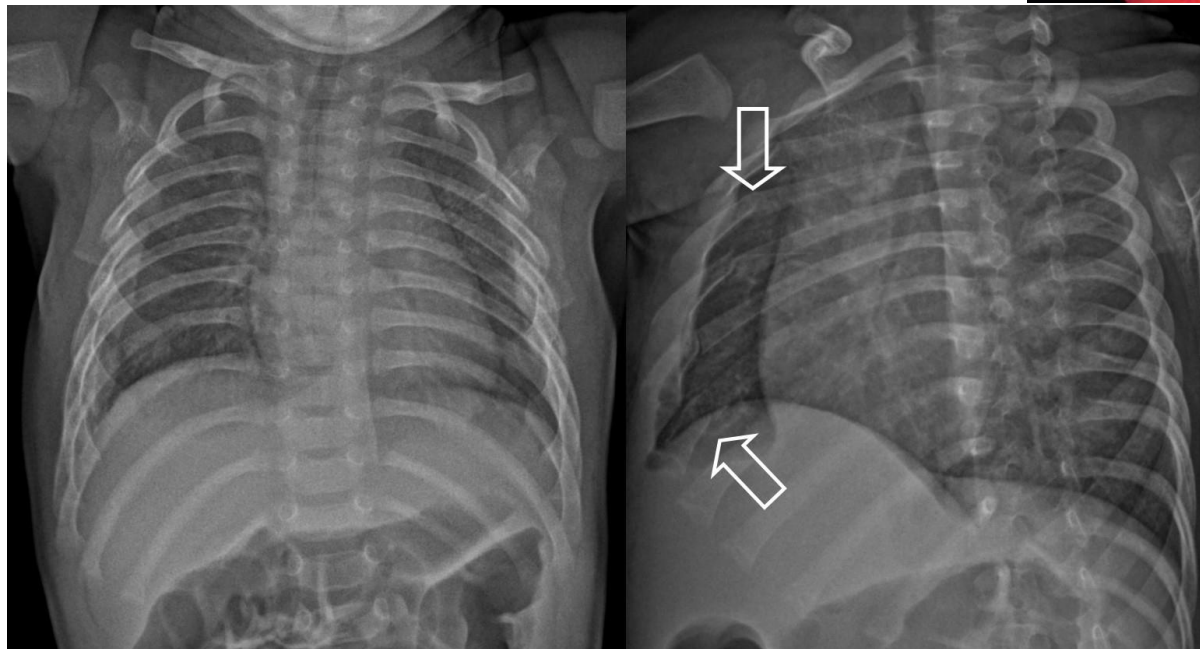
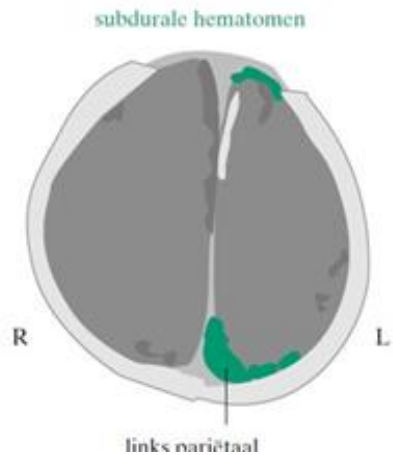
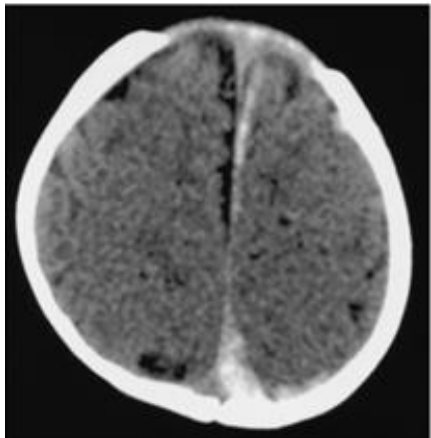
*Arch Pediatr Adolesc Med.* 1999;153(4):399-403. doi:10.1001/archpedi.153.4.399





## Case

- Child abuse workup was performed:
  - Fundoscopy
  - CT-head
  - Skeletal survey

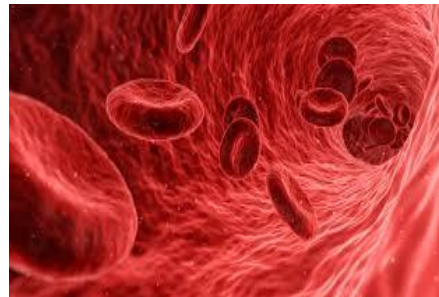
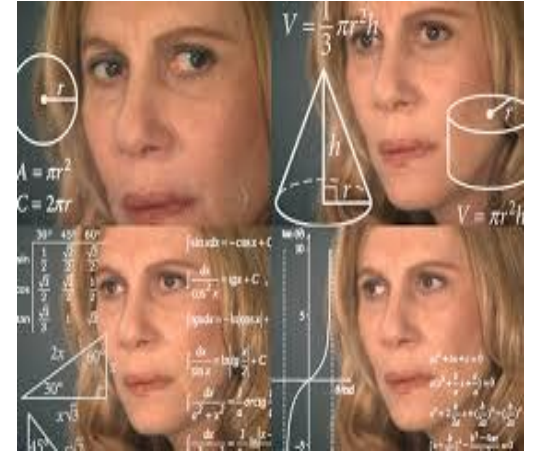




# Complex child abuse?

Judicial

Medical





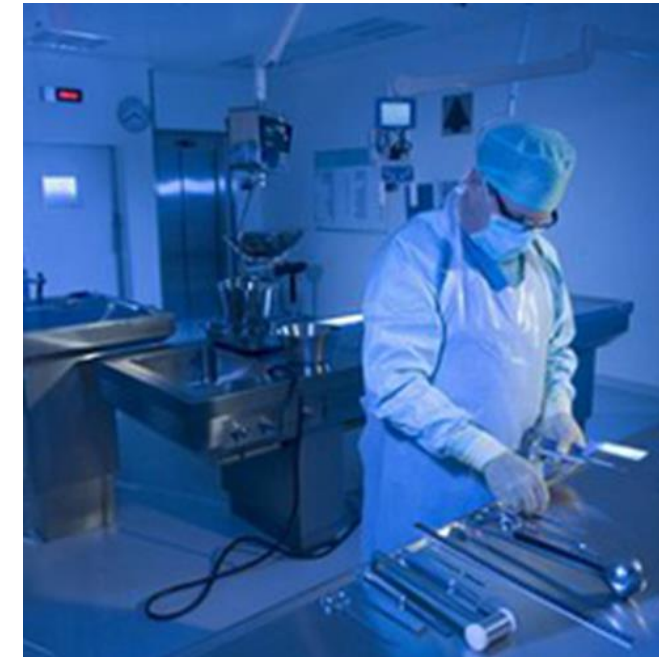
## Centralization forensic evaluations complex child abuse cases



Pathology  
Toxicology  
Anthropology  
Radiology

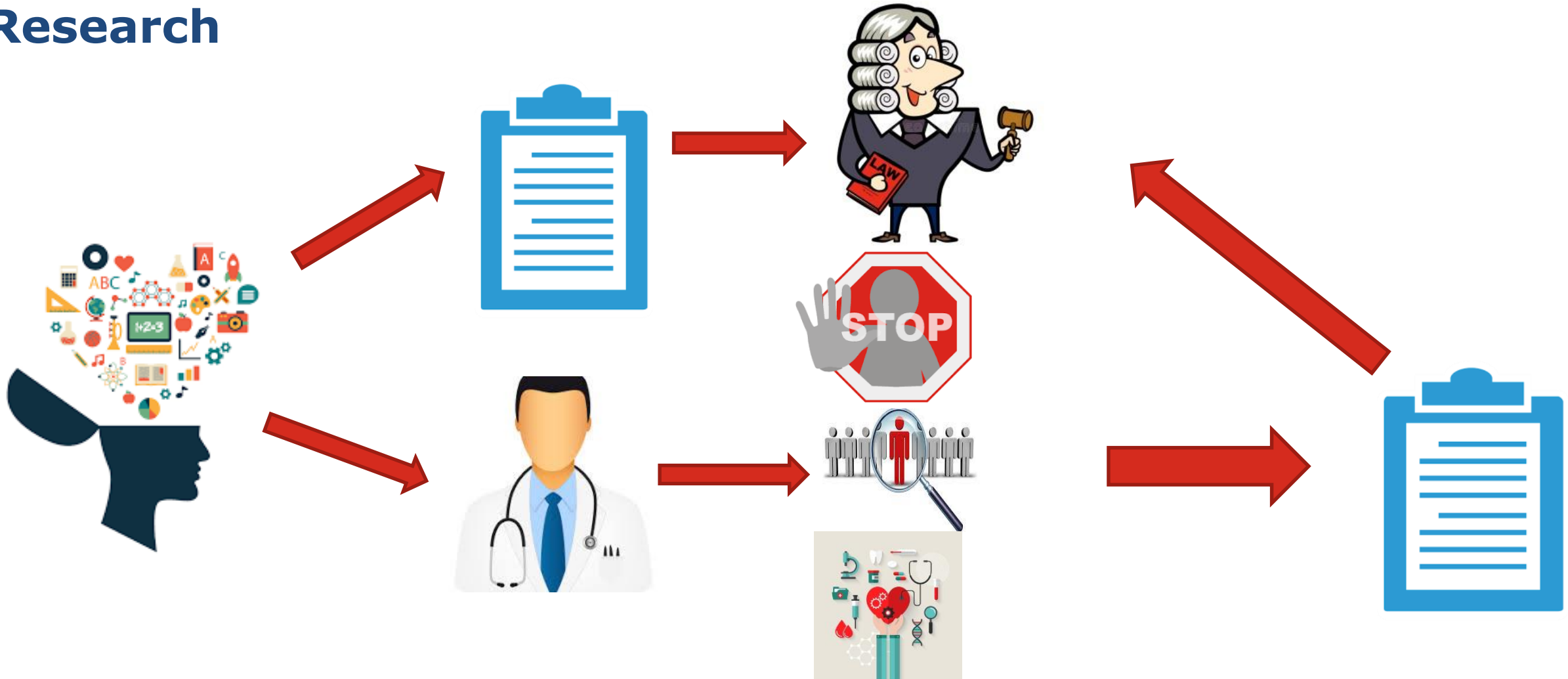


# Forensic evaluation of child abuse





# Research





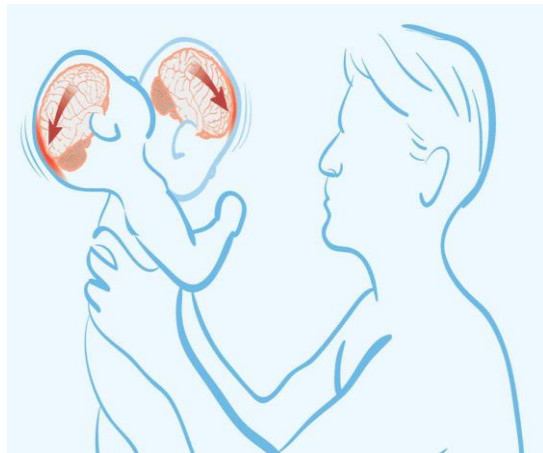


## Several research topics

- Screening Emergency room department
- Detection of child abuse in trauma cases
- Fractures in children
- Child Sexual Abuse
- Abusive Head Trauma



# SHAKE study- Abusive Head Trauma

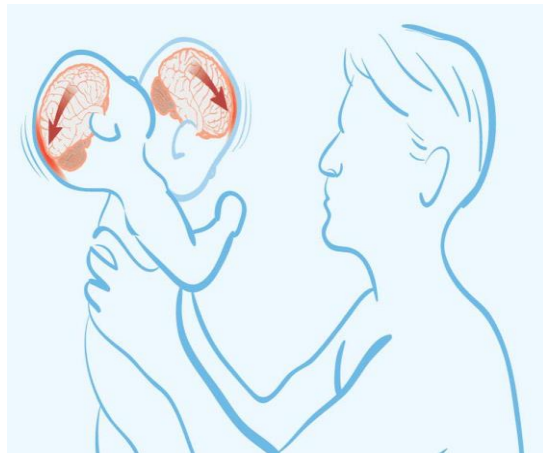


OR





# SHAKE study- Abusive Head Trauma



AND





# Cases Netherlands Forensic Institute 2010-2020

- Approximately 200 children, 0-4 years old
- 20%-30% deceased children
- Database Castor EDC
  - +-2000 variables





## Primary objectives

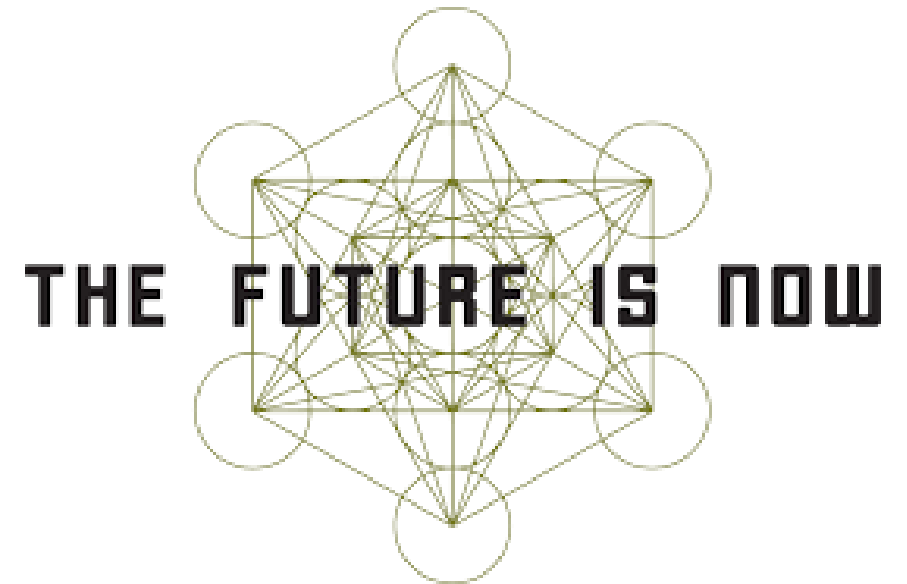
- Dating brain injuries
- Comparison accidental vs non-accidental head trauma
- Presence of prior injuries and opportunities to diagnose child abuse
- Planning: Q1 2023





## Future perspectives

- Prospective studies
- Multidisciplinary collaborations
  - Medical
  - Legal
  - Big data/arteficial intelligence
  - ..?
- International collaborations





# Questions?

Questions or interested in research/internships?

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