

Navajo Children & Family Services



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A photograph of the University of New Mexico Hospital building, a large multi-story structure with a modern architectural style. The building features a mix of grey, white, and green panels. A sign on the upper part of the building reads "UNIVERSITY HOSPITAL" and "TRAUMA CENTER". In the foreground, there is a paved area with a red curb and some greenery. A sign on the left side of the building points to "All Parking".

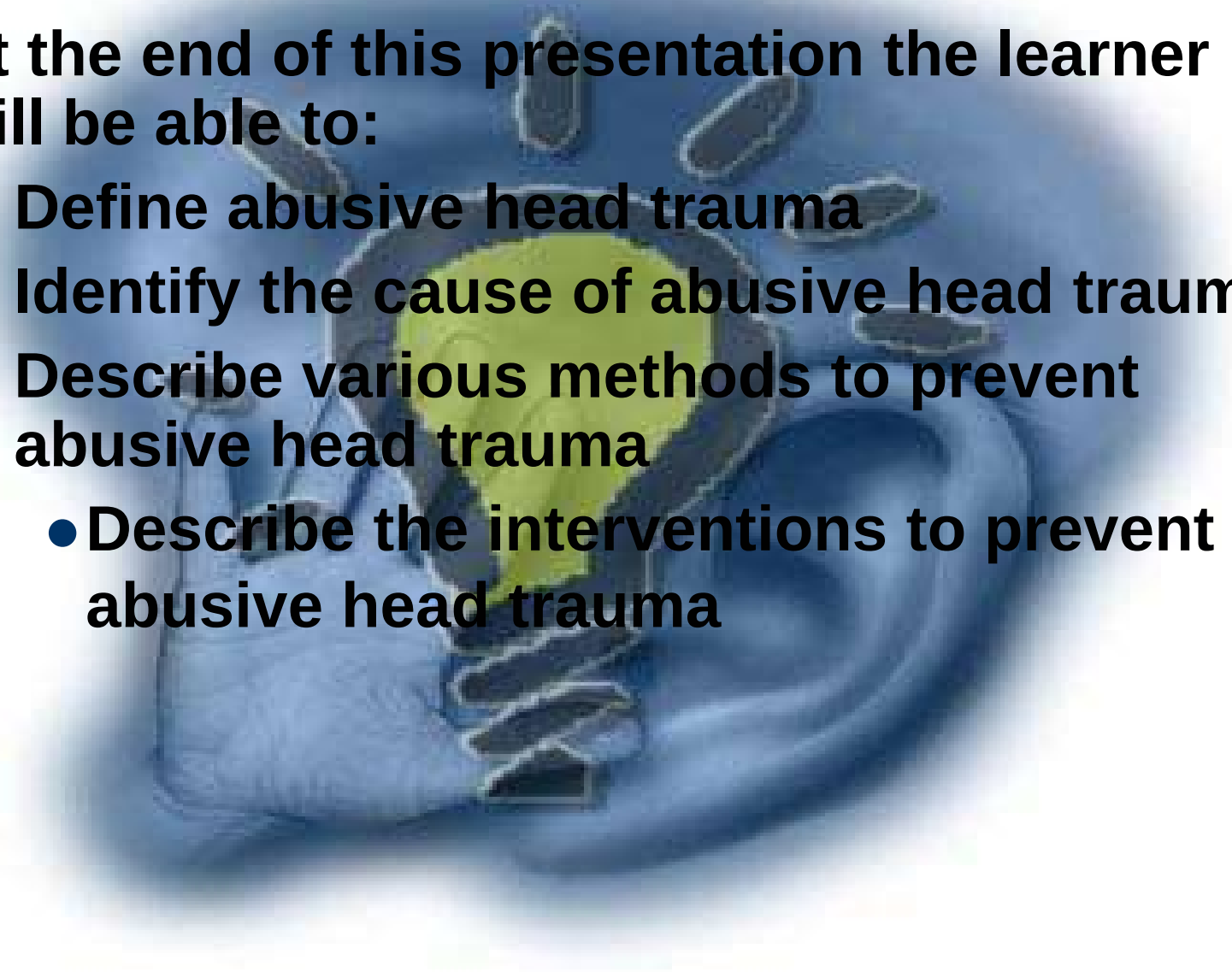
UNIVERSITY OF NEW MEXICO HOSPITALS

Shaken Baby Syndrome/Abusive Head
Trauma

Prevention and Awareness Program

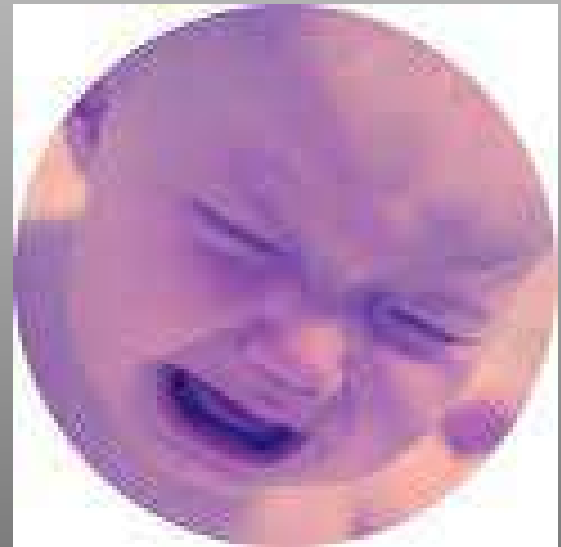
Presentation Objectives

- At the end of this presentation the learner will be able to:
 - Define abusive head trauma
 - Identify the cause of abusive head trauma
 - Describe various methods to prevent abusive head trauma
 - Describe the interventions to prevent abusive head trauma



Definitions

- **Shaken baby/shaken impact syndrome (SBS) is a form of inflicted head trauma.**
- **Head injury, as a form of child abuse, can be caused by direct blows to the head, dropping or throwing the child, or shaking the child.**
- **Head trauma is the leading cause of death in child abuse cases in the United States.**



The Problem



An estimated 1,200 to 1,400 babies suffer from preventable abusive head trauma or otherwise known as “Shaken Baby Syndrome (SBS).”
(<http://aboutshakenbaby.com>)

The Cause

- Majority of incidents occur in infants who are younger than one year old.
- Average age of victims is between 3 and 8 months, although SBS is occasionally seen in children up to 4 years old.

The Cause of Shaken Baby

- Perpetrators in SBS are almost always parents or caregivers, who shake the baby out of frustration or stress when it is crying.



Statistics

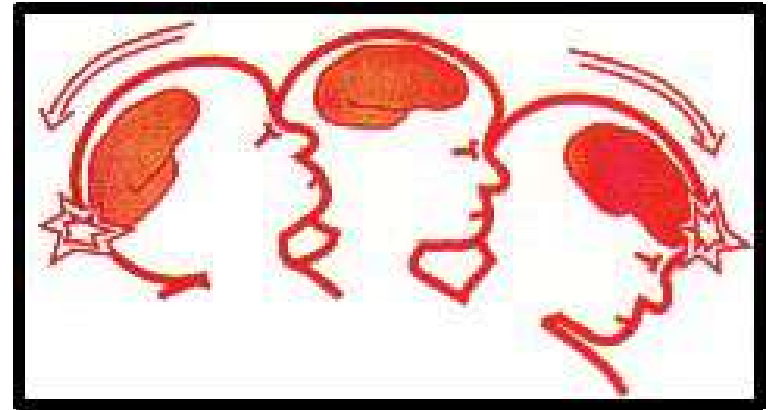
- More than 1 million children are severely abused annually. Shaken baby syndrome (SBS), one example of physical abuse, is a leading cause of morbidity and mortality in infants.
- The range of preventable head trauma is from 750 to 3,750 cases in the United States.
- Approximately 60% of shaken babies are male, and children of families who live at or below the poverty level.
- It is estimated that the perpetrators in 65% to 90% of cases are males - usually either the baby's father or the mother's boyfriend, often someone in his early 20's.

Statistics

- 70% of the perpetrators are MALE
 - (father, step-father, boyfriend, etc.)
- 56% of the victims are male babies.
- The average age of shaking is 3-8 months.
- 25% of the SBS victims die immediately after being shaken.
- 75% will live with complications because of the shaking.
- SBS is the leading cause of death in infants due to child abuse/neglect.

SBS

- When someone forcefully shakes a baby, the child's head rotates about uncontrollably because infants' neck muscles aren't well developed and provide little support for their heads.
- The violent movement pitches the infant's brain back and forth within the skull, rupturing blood vessels and nerves throughout the brain and tearing the brain tissue.
- The brain strikes the inside of the skull, causing bruising and bleeding to the brain.



SBS

- Damage is even greater when the shaking ends with an impact (e.g., hitting a wall or a crib mattress)
- This is because the forces of acceleration and deceleration associated with an impact are so strong.
- After the shaking, swelling in the brain can cause enormous pressure within the skull, compressing blood vessels and increasing overall injury to its delicate structure.

Other causes of SBS

- ❖ A hand slap on the face of an infant under 15 months can cause similar damage
- ❖ Throwing a child up in the air and catching it
- ❖ Twirling a child under age 2 by it's arms or legs
- ❖ Roughly bouncing a child on knee/foot can also have damaging affect on a baby



Damage

- SBS often causes irreversible damage. In the worst cases, the death rate is almost half of all babies involved.

Damage

- Children who survive may have:
 - partial or total blindness
 - hearing loss
 - seizures
 - developmental delays
 - impaired intellect
 - speech and learning difficulties
 - problems with memory and attention
 - severe mental retardation
 - Paralysis (Some particularly traumatic episodes leave children in a coma.)

Signs and Symptoms

- The signs and symptoms depend on:
 - the duration and force of the shaking
 - the number of episodes
 - whether impact is involved
- In the most violent cases, children may arrive at the emergency room unconscious, suffering seizures, or in shock.
- But, in many cases, infants may never be brought to medical attention if they don't exhibit such severe symptoms.

Signs and Symptoms

- In less severe cases, a baby who has been shaken may experience:
 - Lethargy
 - Irritability
 - Vomiting
 - Poor sucking or swallowing
 - Decreased appetite
 - Lack of smiling or vocalizing
 - Rigidity
 - Seizures
 - Difficulty breathing
 - Altered consciousness
 - Unequal pupil size
 - An inability to lift the head
 - An inability to focus the eyes or track movement.

Summary of Symptoms

- Concussion
- Vomiting
- Irritability
- Lethargy
- Trouble feeding
- Sleepy
- Coma

Diagnosis

- It may be difficult to diagnose this head trauma.
- Many cases of SBS are brought in for medical care as
 - "silent injuries"
 - or parents who do not provide a history that the child has had abusive head trauma or a shaking injury.
- This "silent epidemic" can result in children having injuries that aren't identified in the medical system.
- Unfortunately, unless a doctor has reason to suspect SBS, mild cases are often misdiagnosed as:
 - a viral illness
 - colic.
- Without a diagnosis of shaken baby syndrome and any resulting intervention with the parents or caregivers, these children may be shaken again, worsening any brain injury or damage.

Prevention

- **Know the Cries**

Hungry Cry

- Rhythmical rise & fall - demanding not desperate

Cry of Pain

- Loud gasp - shrieks

Bored or Grumbling Cry

- Low pitched - not demanding - increases when ignored

Angry Cry

- Loud - demanding - not a type of cry until about 6 months of age



Prevention

- Always support the neck of infants, babies and small children.
- If upset, CALM DOWN before dealing with your child.
- When playing, never throw or toss your child.
- Screen all babysitters carefully. Know their temperament.



Prevention

- When a baby is crying make sure that their basic needs have been met.
- Are they:
 - Hungry
 - Burped
 - Crying to release stress (Pacifier)
- Is their:
 - Clothing comfortable
 - Room too hot or cold
 - Diaper Changed
- Do they:
 - Want to be held

Prevention

- If they are still crying, are they sick?
- Check:
 - Temperature
 - Gums
 - Swollen
 - Red
 - Drooling (teething)
 - Ears
 - Red
 - Warm
 - Draining
 - Vomiting
 - Diarrhea
 - Allergies
 - Runny nose
 - Red eyes
 - Clear = Allergies
 - Green = Infection

Prevention

When a care giver is tired and a baby cries a lot, it is natural to feel frustrated and is easy to loose control. It is important that you plan ahead for situations like this and to remember to stay in control of your temper.

REMEMBER, IT'S OK FOR BABIES TO CRY; IT'S NORMAL AND WON'T HURT THEM!

Keeping Control

- Dr. Harvey Karp's "five S's":
 - **Shushing**
 - Using "white noise," or rhythmic sounds that mimic the constant whir of noise in the womb, with things like vacuum cleaners, hair dryers, clothes dryers, a running tub, or a white noise CD.
 - **Side/stomach positioning**
 - Placing the baby on the left side - to help digestion - or on the belly while holding him or her, then putting the sleeping baby in the crib or bassinet on his or her back.
 - **Sucking**
 - Letting the baby breastfeed or bottle-feed, or giving the baby a pacifier or finger to suck on.
 - **Swaddling**
 - Wrapping the baby up snugly in a blanket to help him or her feel more secure.
 - **Swinging gently**
 - Rocking in a chair, using an infant swing, or taking a car ride to help duplicate the constant motion the baby felt in the womb.

Keeping Control

- Tips for when your baby won't stop crying:
 - Put the baby in a safe place, like a crib or playpen and leave the room for a while.
 - Check on the baby every 10-15 minutes.
 - Listen to music, watch TV, exercise or just relax.
 - Call a relative or friend. They may offer advice or watch the baby for a while.
 - All parents get stressed at one time or another. Be sure to set aside some time for yourself. It's important to take care of your needs, as well as your baby's, so you will be able to handle the most stressful situations.

Conclusion

- If you are frustrated take some time to calm down before trying to calm the baby
- Make sure the baby's basic needs are met and don't forget that it is okay for a baby to cry - it is normal.
- **NEVER** shake a baby or toddler!



Dias Model

- This study introduced an SBS prevention program to 16 maternity hospitals in 8 counties of upstate New York.
- The program was administered to all parents of newborn infants prior to discharge from the hospital. Medical personnel were asked to provide parents with the following materials:
 - 1) a one-page leaflet about preventing SBS
 - 2) an 11-minute video called Portrait of Promise: Preventing Shaken Baby Syndrome.

Dias Model

- The 11-minute video, Portrait of Promise: Preventing Shaken Baby Syndrome, featured 3 families whose lives were affected by SBS and a message from Carolyn Levitt, a nationally recognized child abuse specialist, who addressed the effects of violent shaking and the potentials of prevention.
- Posters were placed in the maternity wards and both parents were asked to voluntarily sign a CS confirming their receipt and understanding of the materials.

Dias Model

- Dias and colleagues reported a positive result from their maternity-based program.
- Comparing the rates of SBS following the introduction of the program to rates in the 6 years prior to the program (historical controls), the rate of SBS dropped from an average of 8.2 cases per year to 3.8 cases per year, a 53% reduction.
- This percentage represented a decrease of 22.2 cases per 100,000 live births (a 47% reduction).

The UNMH Program

- This research protocol is a research intervention to prevent this head trauma.
- This will be a duplication of an epidemiological study conducted by Dr. Mark Dias.
- From 1998 to 2004, Mark Dias, MD, FAAP and colleagues implemented a hospital-based, parent educational program in upstate New York to teach new parents about the dangers of infant shaking.

The UNMH Program

- The goals of the program were:
 - (1) to provide educational materials about SBS to the parents of newborn infants
 - (2) to assess parents' comprehension of the dangers of violent infant shaking
 - (3) to track penetration of the program through the collection of returned commitment statements (CS)
 - (4) to evaluate the program's affect on the regional incidence of SBS.

The Forms

- Throughout the process, a number of handouts and surveys will be given out to the participants in the study. These are:
 - Portrait of Promise: Preventing Shaken Baby Syndrome
 - An 11-minute video that educates the participant about the dangers of SBS.
 - The Commitment Letter
 - States that the participant agrees to follow certain rules to take part in the study.
 - The Follow-up Telephone Survey
 - A number of questions regarding the participant's hospital visit and the information they received. Additional questions will be asked about the baby's care and well-being.

Data Collection

- About 1,200 to 1,400 babies suffer from SBS per year. All of this trauma is 100% preventable.
- In areas where the Dias Model was used, the number of Shaken Baby incidents decreased by about 47% during the 5.5 years.