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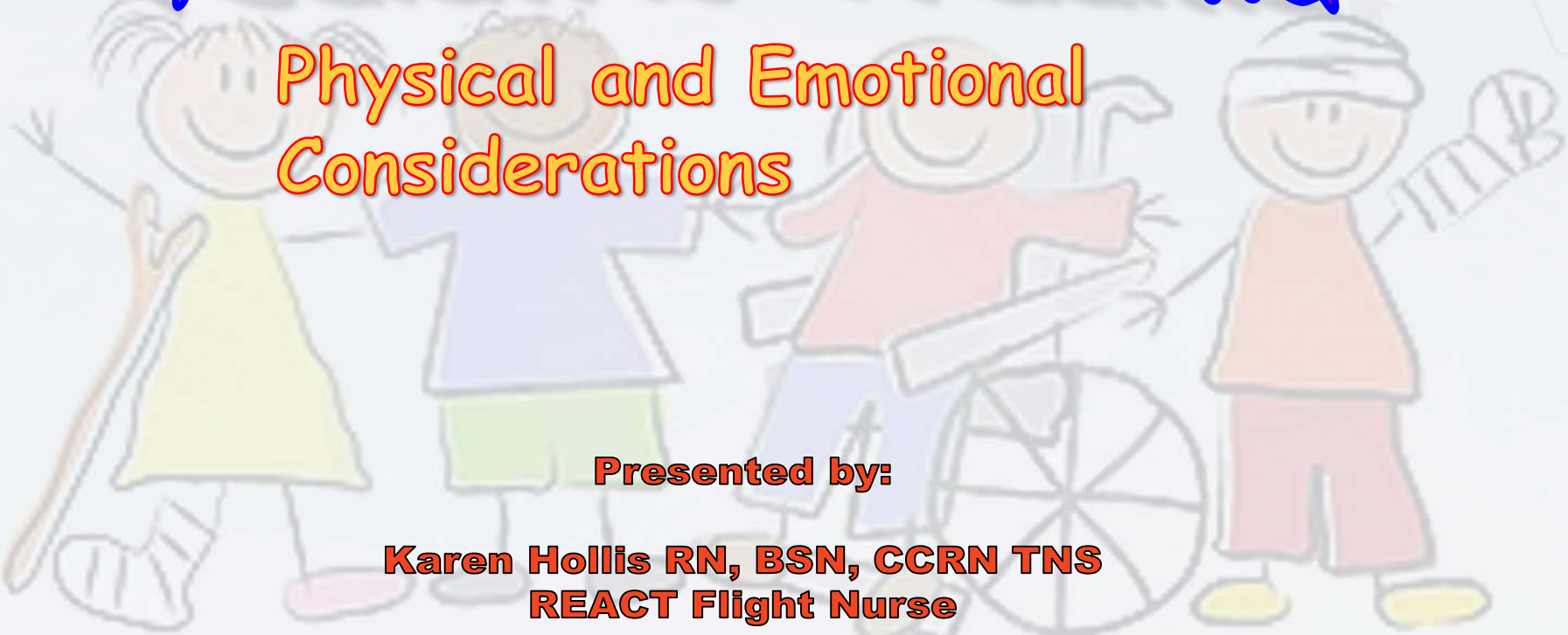
# Pediatric Trauma

## Physical and Emotional Considerations



**Presented by:**

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**REACT Flight Nurse**

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# What we Will Discuss

- Adaptations to the trauma team approach
- The physiological and psychological differences when treating pediatric trauma patients.
- Impact of trauma on the patient and family unit.
- A challenge to all of you to think about how you practice and what changes we could all make.

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# Does this look like your Trauma Room

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# Special Considerations for Pediatric Patients

- Children are not small adults- require specific skills, knowledge and equipment
- Remember the family and involve them in their care
- Needs and responses will be based on their developmental level

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# Psychological aspects of pediatric emergencies

- **Child:**
  - Terrified and Anxious
- **Parents:**
  - Frightened
  - Loss of Control
- **Care Givers:**
  - Fear
  - Performance anxiety
  - Emotional stress

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# How to Balance Physical and Emotional Priorities

- ABC's of Trauma
- Caregiver dedicated to child
- Care giver with family
- Utilize all resources available to you.

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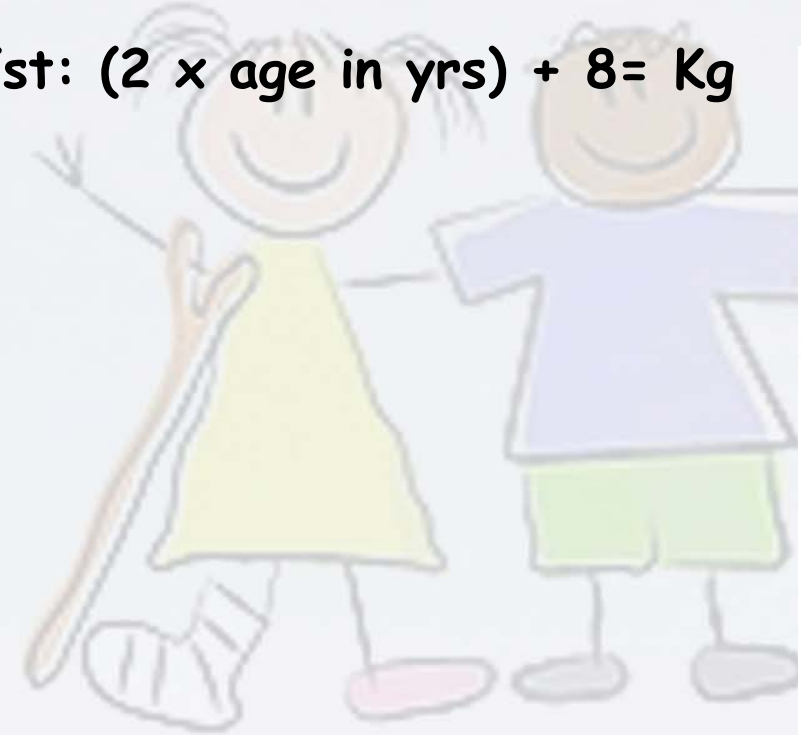
# Children are Different


**Weight: critical to calculate for fluid boluses and drug dosages**

**Est: (2 x age in yrs) + 8= Kg**



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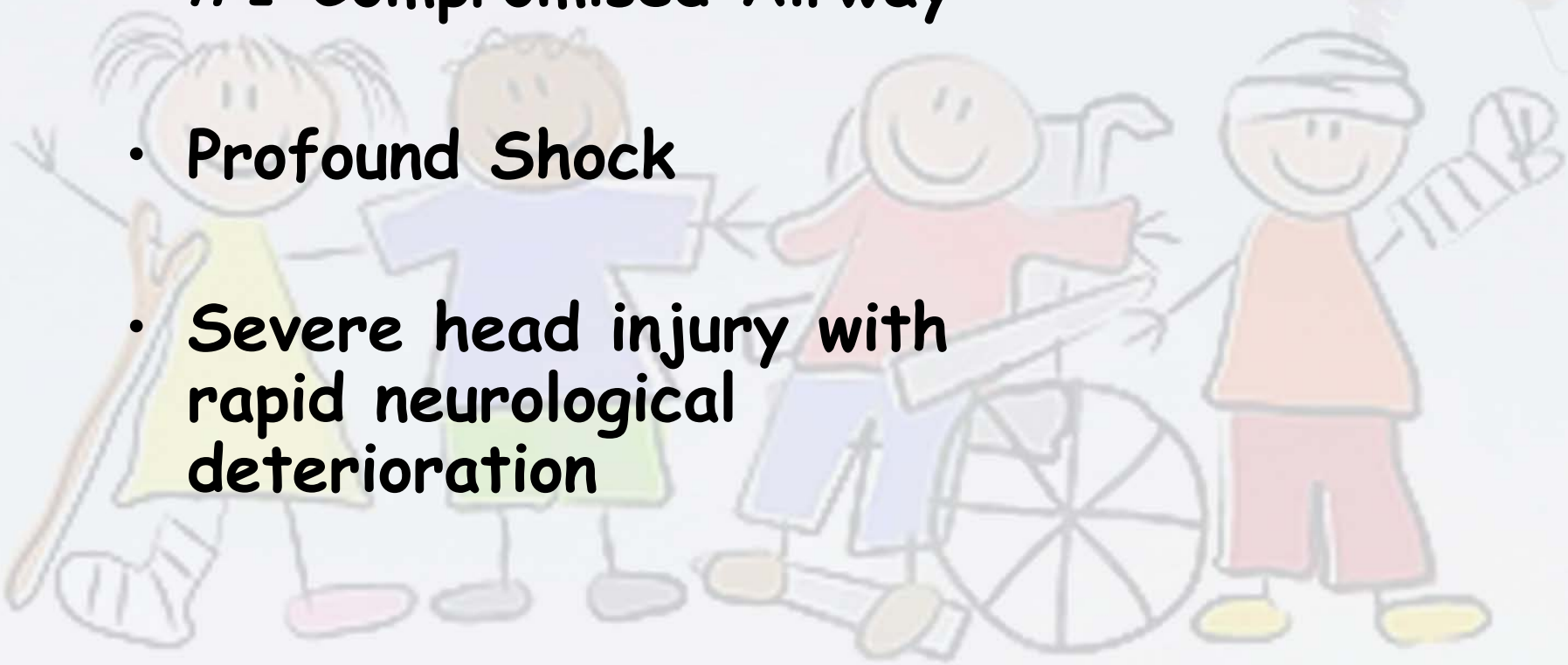
# Most common causes of traumatic arrest

- #1 Compromised Airway
- Profound Shock
- Severe head injury with rapid neurological deterioration



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# PEDIATRIC AIRWAY

**Table 1. Differences Between The Pediatric And Adult Airway**

- Disproportionally larger heads
- Disproportionally bigger tongues
- The narrowest region is the subglottic airway
- Poor cervical spine support
- The epiglottis is more floppy and U-shaped
- The larynx is more anterior and cephalad
- Smaller tracheal length

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# PEDIATRIC Airway Interventions

- Position and patency?
- RSI?
- Why… pre treatment with Atropine?
- How do you determine tube size?
- What about gastric distention?

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# Pediatric Breathing Specifics

Tachypnea

Bradyapnea

Immature Intercostals Muscle development

More reliance on the Diaphragm

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# Pediatric Circulatory Specifics

- Blood pressure
- Circulating blood volume
- Signs of perfusion
- Heart rate

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# PEDIATRIC SPECIFICS

## Hypothermia accelerates hypoxia, bradycardia and acidosis

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# Disability Specifics

| Table 1. Glascow Coma Scale Modified For Pediatric Patients[50] | |
|---|---|
| **Eye Opening Response** | **< 1 year** |
| 4 | Spontaneous |
| 3 | To shout |
| 2 | To pain |
| 1 | None |
| **Verbal Response** | **0 to 2 years** |
| 5 | Babbles, coos appropriately |
| 4 | Cries but is inconsolable |
| 3 | Persistent crying or screaming in pain |
| 2 | Grunts or moans to pain |
| 1 | None |
| **Motor Response** | **< 1 year** |
| 6 | Spontaneous |
| 5 | Localizes pain |
| 4 | Withdraws to pain |
| 3 | Abnormal flexion to pain (decerebrate) |
| 2 | Abnormal extension to pain (decorticate) |
| 1 | None |

- AVPU
- Check pupils
- Age appropriate behavior
- Muscle tone
- Inability or ability to console
- Interactions with the environment

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# The Brain NEVER Forgives not even for cute adorable babies


Prevent the "4-H's" to reduce secondary brain injury:

1. Hypoxia
2. Hypotension
3. Hypercapnea
4. Hypermetabolic

In Children 2 yrs or younger Physical abuse is the most common cause of serious head injury.

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# Potential Signs of Intentional Abuse

- Unexplained or repeated injuries
- Injuries in the shape of an object
- Injuries that don't correlate with age
- Stories and explanations
- Other signs of neglect
- Frequent hospital admissions

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# Traumatic Brain Injuries

- Even mild to moderate head injuries can have lasting effects
- Poor concentration
- Headaches/migraines
- Photophobia
- Behavioral changes hyperactivity/ poor socialization skills

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# Behavioral Issues and Stress in Hospitalized Patients

Traumatized pediatric patients report high rates of behavior and emotional dysfunction.

Signs and Symptoms

Acute Stress Disorder

Children will model the caregivers behavior

Avoidance of the memories may lengthen the stress response

Change in the family dynamics

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# Post Traumatic Stress Disorder

Symptoms/ behavioral disturbances that persist greater than a month.

Compromised healthy mental development

Grieving process

Poor family coping mechanisms

Need for proper assessment for child or parents at risk for PTSD and resources available to them

Long Term Effects

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# Benefits for Family being present

- Family
  - Removal of doubt
  - Reducing fears and anxiety
  - Maintaining family together
  - Being able to talk and listen
  - Knowing their child was not alone
- Staff
  - Discuss pt condition in real time
  - Served as a reminder of dignity
  - Encouraged professional behavior at the bedside

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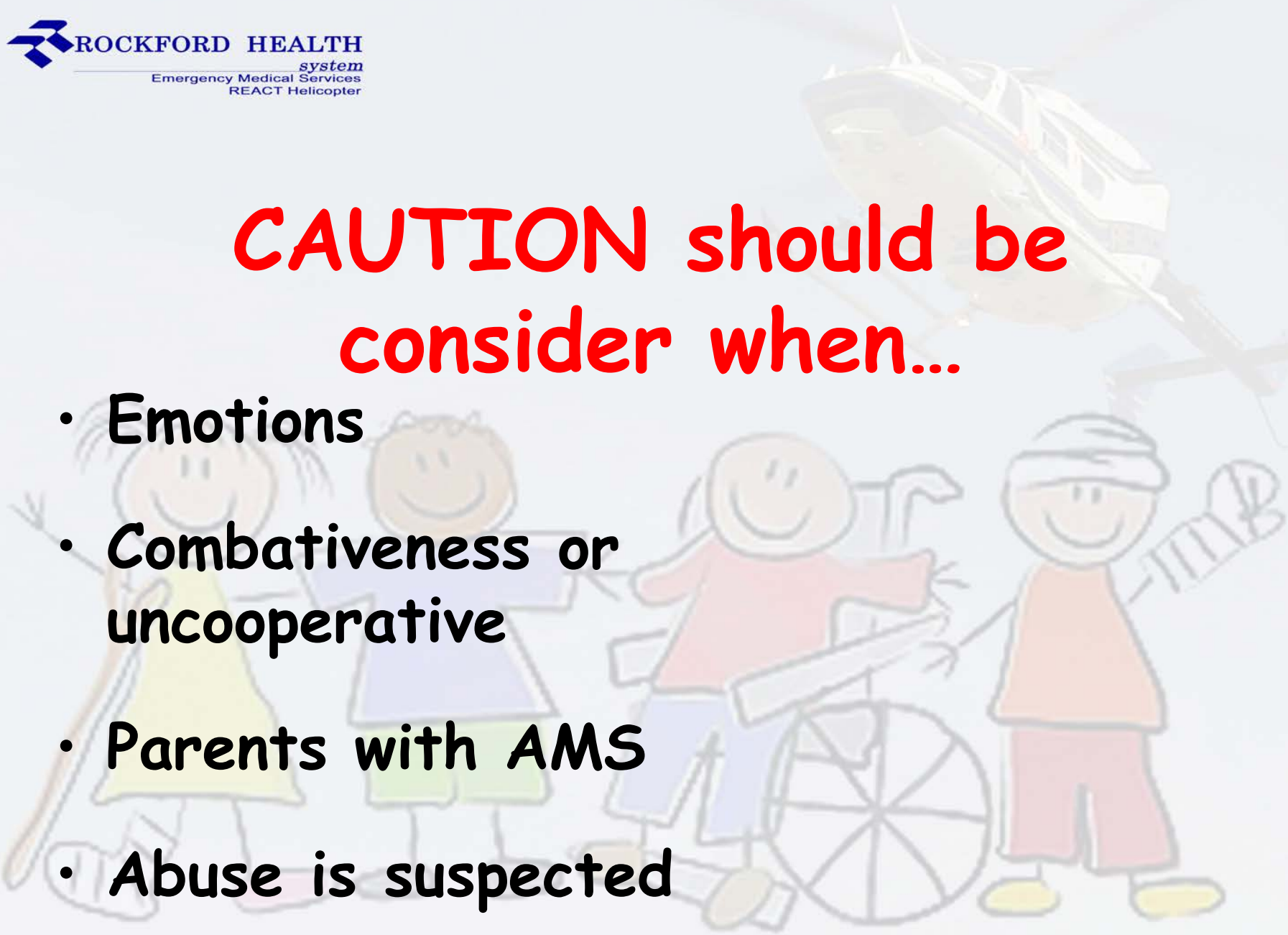
# CAUTION should be consider when…

- Emotions
- Combativeness or uncooperative
- Parents with AMS
- Abuse is suspected



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# Guidelines should be in place

- Family presence during emergency care
- When and how pronouncement is explained to families
  - assigning a family support person

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# What Families View as Important when Caring for their Child

- Social bonds
- Being patient with them
- Timely and truthful information.
- Allowing time with their child
- Privacy when needed

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# Taking Care of Ourselves

- Know your limits
- Encourage CISM
- Support for each other
- Deal with the stress


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Questions??