MCHB/NHTSA

ILLINOIS EMSC Emergency Medical Services for Children SM

Children with Special Health Care Needs

- Listen to the caregivers. They know their child best. Inquire about:
  - ***child's baseline abilities*** – ***syndromes/ diseases*** – ***what is different today***
  - ***devices & medications*** – ***usual vital signs*** – ***symptoms***
- Bring care plans or Emergency Information Forms (EIF) to the hospital with the patient.
- Assess and communicate directly with the child based on developmental age, not chronological age. DO NOT make assumptions about their level of understanding based on their appearance.
- Look for MedicAlert® jewelry or health forms, if usual caregiver is not available.
- Bring necessary specialized equipment and medications into the ED with the child if possible (ventilator, tracheostomy tube or gastrostomy tube, etc)
- Ask caregivers for the best way to move the child, particularly if the child is very prone to fractures, such as in *osteogenesis imperfecta* ('brittle bone disease'). If child suffers a fracture & has a brace or splint on the affected area, leave the brace or splint on & immobilize around it.
- *Down Syndrome* patients may have upper cervical instability and may be more prone to spinal cord injury. Immobilization is important in any mechanism of injury in which there has been significant movement of the neck.
- *Cardiac patients* may have absent pulses in limbs, may be chronically hypoxic or have hypoxic spells. Confirm the baseline assessment with caregiver.

TECHNOLOGY-ASSISTED CHILDREN: Among ***Children with Special Health Care Needs*** is a growing sub-population of children with chronic illnesses who are dependent on medical devices. Several of the most common devices are summarized below with information to assist in the care of children with those devices.

TRACHEOSTOMY: *Breathing tube into trachea through opening in neck*

Uses: Respiratory problems – narrow or obstructed airways, bronchopulmonary dysplasia (chronic lung disease seen in premature babies), etc.
Neurological or Neuromuscular conditions – brain damage, muscular dystrophy, etc.
May be ventilator dependent totally, part of the time or may breathe on own

Types: Uncuffed – infant & young child; Cuffed – older child (usually >age 8yr) & adolescent
Fenestrated – hole in stem allows breathing through vocal cords to permit talking, or weaning off tracheostomy
May be single tube or have inner cannula, which can be removed & cleaned

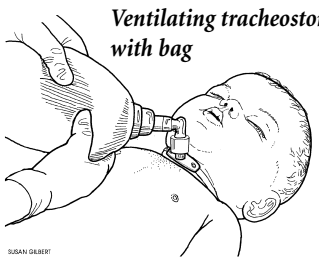
Assessment Issues: Evaluate for DOPE & Infection (tracheal or pulmonary). Reassess pulse/respiratory rates frequently.

- **Displaced** – total or partial removal of tube
- **Obstructed** – mucus plug, blood, foreign body, or moved against soft tissues
- **Pulmonary problems** – pneumothorax, pneumonia, reactive airway, aspiration
- **Equipment** – ventilator malfunction, oxygen depletion, tubing kinked

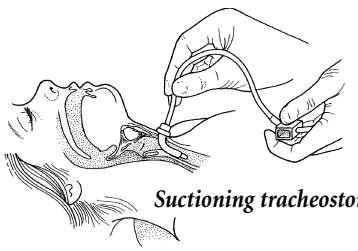
Treatment:

BLS: **If on ventilator**, disconnect and attempt to oxygenate with bag using tracheostomy adaptor (if present) or infant mask over trach opening or stoma (hole in neck). **Call ALS** if available, especially if respiratory distress present.
If not on ventilator, administer oxygen with bag or infant mask over trach as needed
Suction as needed – no more than 10 sec. Insert no more than 3/4 length of neck
If unable to suction because of thick secretions, request caregiver to instill 2-3 ml saline, then suction
If inner cannula present, request that caregiver remove and clean with saline
If unable to ventilate, cover opening with gauze and ventilate with bag and mask over mouth & nose

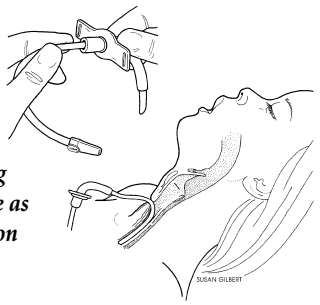
ALS: **If above does not work**, may remove tube and either reinsert new tube or use endotracheal tube of same approximate size. **If unable to find opening,** may thread suction catheter through new tracheostomy tube or endotracheal tube and use catheter tip to probe opening, sliding tube over catheter into opening and then removing catheter. Attempt to ventilate and check breath sounds.



Ventilating tracheostomy with bag


Suctioning tracheostomy

Threading suction tubing through trach tube to use as probe/guide for reinsertion



NOTE: This reference card should not replace or supercede regional prehospital medical treatment protocols. Development and printing of this card has been supported in part by a federal grant from the Assistant Secretary for Preparedness & Response (ASPR), U.S. Department of Health & Human Services. This card was adapted from a document developed by New York State EMSC. Drawings are primarily by Susan Gilbert and are adapted from the Teaching Resource for Instructors in Prehospital Pediatrics (TRIPP).

CENTRAL INTRAVENOUS CATHETERS: *Indwelling intravenous access*

Uses: Medication administration, parenteral (IV) hydration/nutrition administration

Types: Totally Implanted (such as Mediport ®); multilumen catheters (such as Hickman® or Broviac® catheters); or peripherally inserted central catheter (PICC) lines

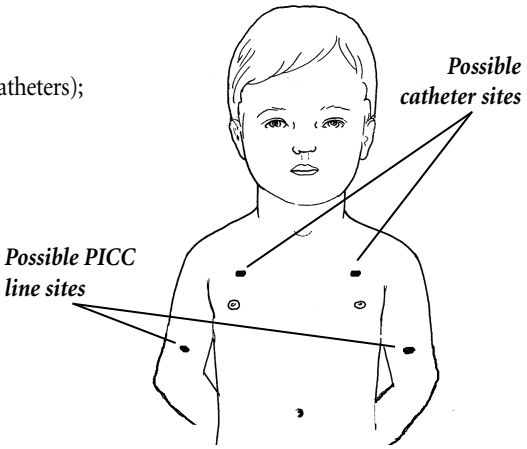
Assessment Issues: Evaluate for DOPE & Infection

- **Displaced**– total or partial dislodgement or movement out of vein into internal tissues
- **Obstructed** – blood clot, protein, crystallized medications / IV nutrition
- **Pericardial Tamponade** - fluid in the pericardial sac due to perforation by catheter
- **Pulmonary problems** – pneumothorax, pulmonary embolism from clot or catheter shear
- **Equipment** – tubing kinked or cracked, infusion pump failure

Treatment:

BLS: Direct pressure if bleeding at site or clamp/tie if tubing leaking. Administer oxygen as needed.

ALS: Aspirate / flush only if permitted by local protocols. Administer IV or IO fluids if signs of shock



CSF SHUNT *(Ventriculoperitoneal or V-P shunt): Drains excess fluid from brain*

Uses: Post meningitis, brain injury/surgery/tumors, hydrocephalus ("water on the brain")

Types: Polyethylene tubing with reservoir from brain ventricles to abdomen or heart

Assessment Issues: Evaluate for infection and signs of increased intracranial pressure:
Apnea, Headache, Nausea, Vomiting, Lethargy, Drowsiness, Downward Deviation of Eyes

Treatment:

BLS & ALS: Administer oxygen as needed. Perform mild hyperventilation if signs of brain herniation such as unresponsiveness with unequal pupils, fixed dilated or unresponsive pupils, or increased BP and decreased heart rate.

Shunt from ventricle of brain to abdominal cavity

GASTROSTOMY: *Feeding tube*

Uses: Total or enhanced feeding & / or medication administration
Abdominal/gastrointestinal problems
Neurological or neuromuscular – brain damage, muscular dystrophy, etc.

Types: Button/catheter type gastrostomy (G) tube – (stomach) or jejeunal (J) tube – (intestine)

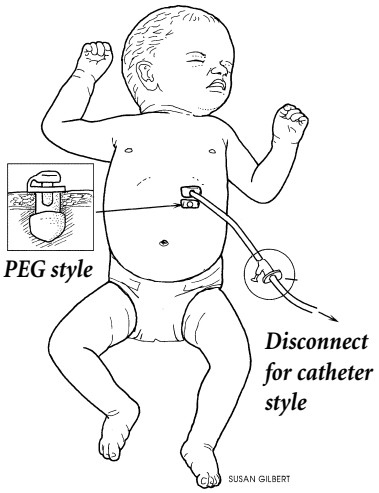
Assessment Issues: Evaluate for DOPE & Infection

- **Displaced** – total or partial removal of tube
- **Obstructed** – blood, crystallized feeding / medications, abdominal tissues
- **Peritonitis or Perforation of stomach/bowel**
- **Equipment** – tubing kinked or cracked, feeding infusion pump failure

Treatment:

BLS: Direct pressure if bleeding at site. Dry sterile dressing over area if tube is dislodged, or tape partially dislodged tube in place. Transport for evaluation of abdominal symptoms or for reinsertion/replacement of tube. (Stoma can close off within hours). If tube blocked, abdominal distension or vomiting – stop feeding. Attach the connector to the tube and leave tube open and draining into a cup. Bring old tube to ED for sizing purposes.

ALS: Administer IV or IO fluids if signs of dehydration or shock. Transport with patient on right side or sitting up to avoid potential aspiration.



COLOSTOMY OR ILEOSTOMY: *Drainage of fecal material*

Uses: Temporary or permanent malfunction or obstruction of intestine or urinary system

Types: Open stoma draining into plastic pouch

Assessment Issues: Evaluate infection, irritation/trauma, peritonitis

Treatment:

BLS: Direct pressure if bleeding at site. Saline moistened sterile dressing covered by dry dressing if stoma exposed

ALS: Administer IV or IO fluids if signs of dehydration or shock

URETEROSTOMY OR NEPHROSTOMY TUBE OR FOLEY CATHETER: *Drainage of urine*

Uses: Temporary or permanent malfunction or obstruction of urinary system

Types: Open stoma draining into plastic pouch or through catheter in urethra

Assessment Issues: Evaluate infection, irritation / trauma, peritonitis, blocked urinary drainage.

Treatment:

BLS: Direct pressure if bleeding at site. Saline moistened sterile dressing covered by dry dressing if stoma exposed

ALS: Administer IV or IO fluids if signs of dehydration or shock.

Drawings by Susan Gilbert