NWC EMSS Continuing Education – March 2012

Children with Special Healthcare Needs (CSHCN)

Independent Study Materials – Part II

EMS, Home Health, and **Hospice Care – a team approach**

EMS has traditionally been tasked with assessing, treating and transporting patients with acute health care problems. Our primary objective is usually to recognize a problem and to fix it or stabilize it to the degree possible in the field within the practitioner's scope of practice without doing harm, and then to transport the patient to the nearest most appropriate hospital for a definitive work up and care. Our traditional roles are changing in some parts of the country as EMS takes on a broader scope.

Home health care is designed to improve the quality of life for patients with medical conditions that need of some type of ongoing monitoring and/or interventions outside of the hospital. This may include patients whose condition is anticipated to improve over a short period, i.e., following trauma, surgery, or stroke who may need point of care testing for blood clotting (INR), wound care, mobility assistance; etc. For others, it may involve long term care for debilitating chronic conditions that are not likely to improve but can be managed in the out-of-hospital environment.

It is becoming more and more common to find medical equipment in patient's homes. Equipment like ventilators, feeding tubes, vascular access devices that once only belonged in hospitals or nursing homes are now found throughout the community as a whole. Plus through advancements in technology, chronic illnesses are being controlled better with fewer exacerbations.

Hospice care is reserved for patients who are expected to die within six months. All medical curative attempts have been exhausted and the goal is to provide comfort and palliative care for the dying patient. Hospice workers help the patient and family come to terms with and plan for the patient's death.

All three have different goals, and in most instances, training. EMS personnel are experts in resuscitative care but do not routinely change a colostomy bag. On the other hand, a home care professional can provide the comfort measures and improve the quality of patients' lives on a daily basis but could not secure an advanced airway. The scopes of practice are different, but equally important.

Drill this down a little further…

Children with special health care needs (CSHCN) refers to children who have or are suspected of having a serious or chronic condition of physical, developmental, behavioral, or emotional health that requires health-related services of a type or amount beyond that generally required by children (based on national definition).

Technology-assisted/dependent children refers to those children who depend on medical devices to support bodily functions. These include, but are not limited to, ventilation devices, apnea monitoring/pulse oximetry, long term vascular access devices, dialysis shunts, nutritional support (i.e. gastric tubes), and elimination diversion appliances.

Physical challenges

Hearing impairments

Patients may present with complete or partial hearing impairments in one or both ears. These may be congenital or be due to a condition that developed after birth. They are categorized as conductive or sensorineural deafness.

Conductive deafness is a blockage of the transmission of sound waves from the external to the middle or inner ear. This cold be caused from recurrent scaring from otitis media (middle ear infection), change in air pressure, impacted cerumen (ear wax), foreign bodies in the external ear, hematomas, or bone displacement. Hearing might be restored if the blockage is removed.

Sensorineural deafness is caused by the inability of nerve impulses to reach the auditory center of the brain and usually results in a permanent hearing loss. This type of impairment can be caused by congenital defects, trauma during birth, fetal hypoxia, drugs (Lasix, gentamycin, aspirin), bacterial meningitis, labrynthitis (viral disease of the inner ear), prolonged exposure to loud noises, disease (Meniere's disease), tumors, repeated trauma to ear, Presbyscusis (naturally occurring hearing deficit after the age of 20), or fetal exposure to rubella in the mother during the first trimester.

Prehospital care

EMS responders should look for clues early during the patient assessment (hearing aids, poor diction, using hands frequently to gesture). If unsuspected, patients may improperly answer questions, leading to a suspicion of confusion.

If a hearing deficit is known, speak face to face with the patient. If they are looking away, gently touch their shoulder in a non-threatening manner to gain their attention. Speak slowly, in a normal voice. Do not yell or exaggerate your words. These actions distort the face and cause the patient difficulty in reading lips. If possible, eliminate background noise (TV, radio), use an alternate way to communicate: pen and paper, computer, pictures etc. If one is available, use a family member or neighbor who is fluent in sign language to help interpret. Remember to get the name of the interpreter for your documentation.

Visual impairments

Loss of visual function can be due to injury, disease, infection, or congenital/ degenerative disorder globe, optic nerve, or nerve pathways and may be permanent. Damage to the globe and surrounding tissues due to injury may result in enucleation (removal of eyeball from the socket – often due to penetrating trauma); chemical burns (acid, alkali {most serious}, air bag deployment); thermal burns; or corneal abrasions.

Diseases resulting in visual loss include glaucoma (increased intra-ocular pressur e), diabetic retinopathy (disruption of blood supply to the retina caused by the disease progression); Chlamydia (leading cause of preventable blindness); severe conjunctivitis; or cytomegalovirus (sexually or perinatally transmitted herpes-type virus). Children may experience congenital/ degenerative visual disorders due to cerebral palsy or premature birth.

Prehospital care

Identify yourself in a calm voice. A blind person uses inflections in voice patterns to detect stress in the surroundings. Explain everything that you are doing. Let them know before you touch them.

Seeing eye (Mobility Guide) dogs: Do not pet the dog while the harness is attached without permission from the patient. Transport the dog with the patient if possible in a secure and safe manner (in a transport cage).

If the child is ambulatory with a cane, have them hold your arm for guidance. Do not grab their arm to lead them.

Children as young as 16 may be eligible for Guide Dog mobility training, but there are other ways for them to be introduced to Guide dogs long before that.

- K9 Buddy Program – Blind children are paired with dogs as pets. The children experience bonding with a dog and learn to be responsible for the dog's care and well-being. This connection can provide the motivation for the acquisition of many other skills necessary to lead a full life.
- Community canines – Dogs not destined to be mobility dogs are placed as pets with individuals and agencies (including professionals working with blind children) to expand their experiences and motivate them to learn. (Community canines are also placed with agencies for training as hearing or assistance dogs, search and rescue or police dogs, transportation security, and a host of other working dog careers.)

- Presentations – Guide Dogs Speakers Bureau offers local role models who can give presentations to schools, clubs and organizations. They have speakers that give their unique perspectives on the Guide Dog Lifestyle.
- Guide Dog Experience and Lifestyle seminars – Children learn what is involved in caring for and working with a Guide Dog.
- GDB 101 Classroom Education Projects – This PDF file is an age-specific educational curriculum about blindness and Guide Dog use for teachers and students.
- Guide Dogs for the Blind, Inc. can be contacted at 800-295-4050 and ask for the Outreach Office.
- Internships and job shadowing opportunities for blind/visually impaired teens – Summer Youth Internships Program applications are available thorough our Volunteer Department beginning in March. Job shadowing opportunities at either of our campuses are available through Guide Dogs' Human Resources Department.

Speech impairments

Language disorders present as the inability to understand written or spoken words. There are three types of disorders:

Sensory aphasia: Cannot understand the spoken word
Motor aphasia: Understands what is said but is unable to respond using words
Global aphasia: Combination of sensory and motor aphasia

Possible causes include congenital disorders, cerebral palsy, inadequate language stimulation in the first year of life, stroke, aneurysm, head trauma, brain tumor, emotional trauma, and hearing loss.

With **articulation disorders** (dysarthria), the spoken word is difficult to understand due to slurred speech or improper pronunciations. This could be caused by hearing impairments or loss of motor/nerve function to the muscles that control speech.

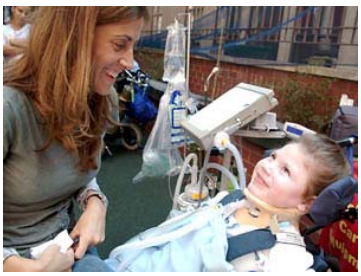
With voice production disorders, the quality of the voice is affected, often by cancer of larynx, trauma, or an infection or inflammation of vocal cords. Patients present with hoarseness, inappropriate pitch, nasal resonance or harshness of the voice.

Patients with **fluency disorders** will stutter. This condition is not fully understood. They may be able to sing their responses to your questions better than they can talk. Allow the patient to finish their own sentences, be patient.

Prehospital care

A speech impairment does not mean that the patient is non-decisional. Be patient; do not rush the patient for this may cause an increase of the disorder out of frustration. If you don't understand the patient, ask them respectfully to repeat what was said.

Tetraplegia/Paraplegia (chronic)



The degree of paralysis or paresis (weakness) depends on the affected nerve pathways. The cause may be caused by a medical (***iatrogenic***) or traumatic origin.

Prehospital care

Use caution when moving these patients for they may have significant contractures and pressure ulcers as well as be highly sensitive to position changes. Pad bony prominences during transport to prevent further skin breakdown and protect paralyzed or spastic limbs. The patient may have significant spasticity that requires careful restraint to the stretcher. Transport assistance devices (wheelchair) that patient may need at the hospital or to return home.

Ensure that medical devices attached to the patient do not get kinked, pulled upon or pinched during transport. For example, occlusion of the urinary catheter in a quadriplegic may result in a life-threatening condition called Autonomic Hyperreflexia.

Arthritis

Juvenile idiopathic arthritis (JIA also known as **juvenile rheumatoid arthritis**, or **JRA**) is a progressive connective tissue disorder that affects about 50,000 children between the ages of 6 months and 16 years and is very different from adult rheumatoid arthritis.

It's not known exactly what causes JIA in kids. Research indicates that it is an autoimmune disease. In these types of diseases, white blood cells can't tell the difference between the body's own healthy cells and germs like bacteria and viruses. The immune system, which is supposed to protect the body from these harmful invaders, instead releases chemicals that can damage healthy tissues and cause inflammation and pain.

The first signs of arthritis can be subtle or obvious and include limping or a sore wrist, finger, or knee. Joints may suddenly swell and remain enlarged. Stiffness in the neck, hips, or other joints also can occur. Rashes may suddenly appear and disappear, developing in one area and then another. High fevers that tend to spike in the evenings and suddenly disappear are characteristic of systemic JIA.

Treatments

In many cases, JIA is treated with a combination of medication, physical therapy, and exercise. In some cases, a child may require corticosteroid injections into the joint or surgery. The goals of treatment are to relieve pain and inflammation, slow down or prevent the destruction of joints, and restore use and function of the joints to promote optimal growth, physical activity, and social and emotional development. But steroids suppress the immune system.

For inflammation and pain, the doctor may prescribe nonsteroidal anti-inflammatory drugs (NSAIDs), like ibuprofen (such as Advil or Motrin). These can help reduce inflammation and pain by limiting the release of harmful chemicals from white blood cells. If NSAIDs do not control joint inflammation, the doctor may prescribe other medications such as methotrexate. Long-term use of NSAIDS may cause gastric erosion and GI complications.

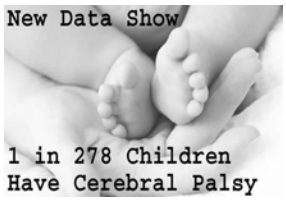
Treatment options include a new class of medications such as ENBREL, which became the first *biologic* medication approved to treat moderate to severe JIA in children ages 2 years and older. ENBREL can lower the ability of the immune system to fight infections and may raise other safety concerns. The chances of getting lymphoma or other unusual cancers may increase for children and teenagers taking ENBREL. Patients with RA and psoriasis may be more likely to get lymphoma.**References**
http://www.mayoclinic.com/health/juvenile-rheumatoid-arthritis/DS00018

Cancer

The diagnosis of cancer in a child or teenager can be a devastating blow to parents and other family members. Cancer can arise in any type of tissue and can spread anywhere in the body depending on the type. Most cancers are treated by chemotherapy, radiation therapy, surgery, stem cell transplants, or a combination of therapies. These treatments usually cause hair loss (alopecia), nausea; decreased appetite; weight loss; extreme fatigue and weakness and “Chemo fog”: Patients may have difficulty processing information and some have some word retrieval difficulty. Allow them time to answer questions.

Because of changes in their platelet counts, these patients may bruise very easily. Handle them gently with draw sheets to prevent soft tissue and/or musculoskeletal trauma. They may also have leucopenia (low white blood cell count) that will result in a suppressed immune system. Place a surgical mask on the patient and yourself to prevent the transmission of respiratory bacteria and viruses to the patient. Use strict aseptic technique when starting an IV to prevent introduction of skin bacteria into the general circulation. Provide encouragement and emotional support. These patients are often experiencing a roller coaster of emotions and may be very fearful.

Cerebral palsy



General term for nonprogressive disorders of movement and posture. It is characterized by damage to the cerebellum during the later months of pregnancy, during birth, during the newborn period, or in early childhood. Causes could include trauma in utero, trauma during the birth process, fetal hypoxia, infection of the CNS (encephalitis, meningitis, or head injury), excessive fetal bilirubin (Kernicterus) associated with hemolytic disease or the mother's exposure to rubella (German measles) during pregnancy.

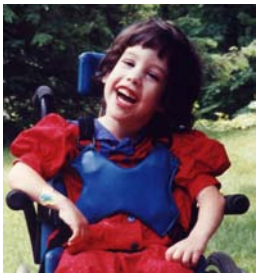
Child will have one of the following:

- **Diplegia**: Affects all four limbs; legs more than arms
- **Hemiplegia:** Affecting limbs on one side only; arm more than leg
- **Quadriplegia:** Affects all four limbs severely; nor necessarily symmetrically
- **Spastic paralysis:** Affected muscles are permanently stiff and contracted - most common type
- **Athetosis:** Uncontrolled writhing movements of face, torso, extremities
- **Ataxia**: Problems with gait, coordination and balance

Some people with cerebral palsy are highly intelligent (even gifted) but up to ⅔ have some sort of cognitive delay. Many also have hearing deficits, epilepsy, and other CNS disorders. Those with severe forms of the disease never learn to walk or effectively communicate and require lifelong skilled nursing care.

Prehospital care – Use care in supporting contracted extremities with pillows and padding during transport.

Previous head injuries



These patients may have cognitive, physical, and psychological deficits. Signs and symptoms will depend on the extent of the brain injury. Cognitive deficits of language and communication, information processing, memory, and perceptual skills are common. Physical deficits can involve ambulation, balance, coordination, fine motor skills, strength and endurance.

The patient may have the same signs and symptoms as a person who experienced a stroke (speech disorder, aphasia, unilateral weakness or sensory deficit, memory loss or cognitive disorders). They may appear normal and deficits may not be apparent until after speaking with them.

Prehospital care:

Speak directly to the patient. EMS may need to gather information from care givers to determine if the patient's present state is "normal" for them. Allow the patient time to process instructions and answer if possible. If they have movement deficits, protect the limbs; some may require restraints. They may be wearing a helmet to protect against further trauma. Observe seizure precautions

Developmental disabilities

These are disorders caused by impaired or insufficient development of the brain that causes an inability to learn at the usual rate (developmental delay). They can be caused by unsatisfactory parental interaction, severe vision or hearing impairment, mental retardation, hypoxia, trauma, birth trauma, fetal distress, congenital anomalies, and/or genetic disorders. Although faced with special challenges, many of these patients are able to live productive lives.

Most patients with a developmental disability may appear normal. You may not discover a disability until obtaining the history or observing their ability to walk upright, use fine hand-eye coordination, listening to the language and speech or observing their social interaction with parents and caregivers.

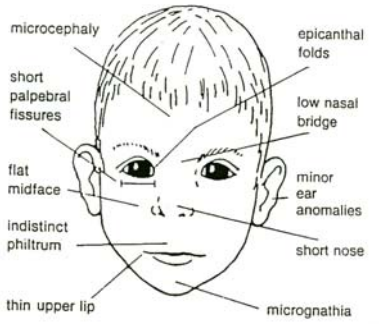
Talk with the patients in terms that they understand. Be careful to convey acceptance and respect in your tone of voice and body language.

Some patients also suffer from a severe cognitive disability. Their abilities and behavior may resemble an infant or young child. Obtain information from caregivers regarding the patient's baseline level of functioning. Speak to the patient and the caregiver. Allow caregivers to remain close to the patient so they feel more secure.

Causes of mental retardation

Genetic conditions: Phenylketonuria; chromosomal disorders; Fragile X syndrome

Problems during pregnancy: Use of alcohol (fetal alcohol syndrome – see illustration right for clinical presentation), tobacco, or other drugs by the mother
Illness and infections of the mother during pregnancy



Problems at birth: Brain injury, prematurity, low birth weight

Problems after birth: Childhood diseases, injury, exposure to lead, mercury, and other environmental toxins

Poverty and cultural deprivation: Malnutrition, disease-producing conditions; inadequate medical care, environmental health hazards, lack of stimulation

Be vigilant in performing a thorough physical exam. The patient may not be able to tell you what is wrong and the caregiver may only provide vague clues, such as, "He just doesn't seem right to me today," or "I think that he may have swallowed something".

Down syndrome

Down Syndrome is the most frequently occurring genetic chromosomal disorder. Most often, it results from an extra chromosome on #21 (Trisomy 21) or 22 thus giving the person 47 chromosomes instead of the usual 46. It causes delays in physical and intellectual development that range in severity from moderate to severe.

It occurs in 1 out of every 691 live births. Mothers older than 40 are at higher risk of having children with Down syndrome. However, 80% of the cases occur in mothers younger than 35. Fifteen percent of infants with Down Syndrome die within the first year of life and 50% are expected to live beyond 50 years of age.

The most important fact to know about persons with Down syndrome is that they are more like others than they are different.

Characteristic physical traits: These include low muscle tone, a single crease across the palm of the hand, almond shaped eyes that slope up at the corners; a large protruding tongue; small face and features; a slightly flattened facial profile with folds of skin at the sides of the nose that may cover the inner corner of the eye; short broad hands; and flattening of the back of the head.

Health Issues

Children with Down syndrome can have a variety of complications, some of which become more prominent as they get older. Many have health complications beyond the usual childhood illnesses. Approximately 40% have congenital heart defects. Some of the heart conditions require surgery while others only require careful monitoring.

Children with Down syndrome have abnormalities in their **immune system** so are much more susceptible to infectious diseases, such as pneumonia. They are more at risk for **vision** and **hearing** problems. Cataracts are four times more common and may begin to develop in adolescence. More than 50% of patients with Down syndrome may have mild-to-severe hearing loss. Conductive and/or sensorineural loss can begin at any age. They may also experience **GI blockages, hypothyroidism,** and are more likely to develop **leukemia** than are other children.

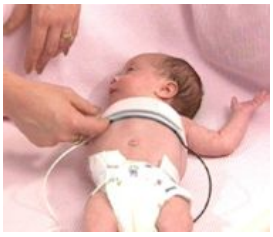
Because of **soft tissue and skeletal alterations** that lead to the **obstruction of their airways**, up to 50% of children with Down syndrome may experience of obstructive sleep apnea. They also have a greater tendency to be obese than does the general population. Sleep apnea can occur in the absence of obesity and can manifest as a change in behavior, such as increased irritability, daytime sleepiness, or psychological symptoms -- such as depression.

With appropriate medical care most children and adults with Down syndrome can lead healthy lives. The average life expectancy of individuals with Down syndrome is 55 years, with many living into their sixties and seventies. Later in life, people with Down syndrome have a greatly increased risk of early menopause, premature aging and dementia. Signs and symptoms of dementia often appear before age 40 in people with Down syndrome. Those who have dementia also have a higher rate of seizures. Disorders, such as depression, obsessive-compulsive disorder, abuse, and conduct disorder,[34] occur more frequently than other mental health disorders in individuals with Down syndrome.

What to say to a parent who delivers a baby with Down Syndrome: "I know you will have some challenges, but I guarantee you that this little angel will be worth it; there is no crystal ball. Love your child just like any other child." (Michelle Pusatera, http://www.nads.org/nursing/index.html)

TECHNOLOGY ASSISTED DEPENDENT CHILDREN

Apnea monitors (EMSC, p. 13)



- Establish patient responsiveness; Peds IMC.
- If apneic, open airway using BLS maneuvers and ventilate with peds BVM.
- If pulseless, begin chest compressions
- If breathing and pulse present: ask caregiver for child's baseline VS
- Inspect apnea monitor and determine the alarm code (heart rate, apnea, etc.)
- Check the electrodes or monitor chest belt and ensure proper placement.
- Make sure that monitor is powered and does not have low battery charge
- ECG monitor; treat dysrhythmias per SOP
- May need to disconnect power from the apnea monitor to prevent interference. Transport child with apnea monitor.
- Bring child's medical forms and "Go Bag" to hospital

Airways -- Tracheostomy tubes – See SOP p. 10 & Independent study materials Part I on trachs

Refer to respiratory arrest or cardiac arrest protocols as indicated. Follow general patient care guidelines.

Establish patient responsiveness. If C-spine trauma is suspected, manually stabilize the spine.

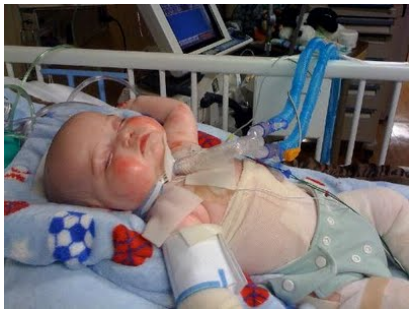
Ask caregiver for the child's baseline vital signs, and if the child is on home oxygen, apnea monitor, determine the amount and method by which the child receives O_2.

Obtain a complete history including a history of present illness, PMH, and interventions taken to correct the emergency before EMS arrived. Obtain any medical information forms that the caregivers may have for emergency medical providers. Do NOT delay treatment or transport to obtain a complete history.

1. **IMC special considerations: Assess the following:**
   - Airway patency and clearance; RR; WOB (effort); oxygenation by skin color and ***SpO_2;*** ventilatory status via ***capnography*** as indicated; auscultate for normal and adventitious breath sounds (crackles and wheezes); need to suction. Do not delay treatment to obtain a reading, especially on patients with poor perfusion.
   - Tube position; ensure that it is in place. If dislodged, dress the trauma wound.
   - Tracheostomy cuff to ensure that it is deflated unless pt is on a ventilator or if pt has excessive secretions

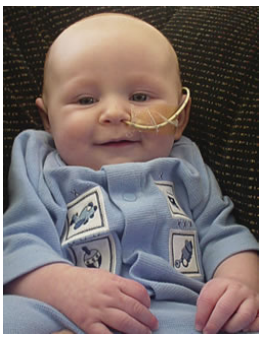
- Tracheostomy site
  - Redness, swelling; character & amount of secretions
  - Tracheostomy ties should be secure but not too tight
  - Subcutaneous emphysema around site
- Stoma for purulence or bleeding
- Need of tracheostomy care: If the obturator has been left in place, remove it to open the trach tube. If a fenestrated tube, make sure the decannulation plug is removed. Suction as needed.
- Consider need for ECG

2. **If airway patent and respiratory effort/ventilation adequate:**
   - Support ABCs, complete IMC; suction as needed to clear secretions
   - Maintain adequate humidity to prevent thick, viscous secretions
   - Position head of stretcher up 45 degrees or sitting position as pt tolerates
   - Provide oral care and remove oral secretions if necessary
   - Keep stoma clean and dry, change tube as needed.
3. **Report to OLMC:**
   - Significant respiratory distress
   - S&S of local inflammation/infection (redness, swelling, purulent drainage)
   - Changes in character and amount of secretions
   - Dislodgement of tracheostomy tube
   - Damage to tracheostomy cuff line
   - Subcutaneous emphysema



4. **Respiratory distress:**
   - Assess tube patency
   - If secretions are present: Use strict aseptic technique - Suction after removing inner cannula if present. Limit suction application to 5 seconds in a child.
   - O_2 per tracheostomy collar; place inner cannula back in tracheostomy to allow attachment of BVM; attempt assisted ventilation via BVM prn using 15 L O_2 The BVM mask should fit easily onto the inner cannula.
   - Maintain head position to open airway maximally - Position child in a neutral position with a towel roll underneath the shoulders as needed.
   - Have second tracheostomy tube available if possible
   - **For completely obstructed or absent inner cannula:**
     - If inner cannula is cuffed, deflate the cuff with a 10-mL syringe.
     - Remove inner cannula
     - Insert appropriate size ETT into stoma. Pass ETT cuff 1-2 cm inside the trachea. Check placement as with any other intubation (EtCO2, auscultation). Inflate ETT cuff.
     - **Dislodgement of trach tube**: In an emergency, insert the replacement trach tube or insert appropriately sized ETT into stoma; reassess patency
5. **If continued obstruction and/or ventilation/effort inadequate:**
   - If trach not patent after changing tubes; ventilate mask to mouth
     If no chest rise, ventilate with infant mask to stoma
   - If chest rise inadequate: reposition airway, compress bag further and/or depress pop-off valve
   - Transport ASAP
   - Refer to respiratory arrest or cardiac arrest protocols as indicated

Nasogastric tube (NG) or Orogastric (OG) tubes



In the acute care setting, they are used for gastric decompression, removal of GI toxins or blood and rarely for feeding. While not yet approved in Region IX, some EMS systems allow insertion of NG tubes (especially for peds). Already placed tubes can be monitored by paramedics in the NWC EMSS.

Indications for emergent care: Threat of aspiration, decompress stomach, need for lavage

Contraindications

- Extreme caution in esophageal disease or trauma
- NG: Facial trauma or anterior basilar skull fracture – these patients may have an OG tube
- Esophageal obstruction

Advantages	Disadvantages
• Tolerated by conscious patients • Doesn't interfere with intubation • Prevents recurrent gastric distention • Patient can still talk	• Uncomfortable for patient • May cause vomiting during insertion • Interferes with BVM seal

NG/OG tube equipment	
• BSI • Gastric tube - Sizes Newborn/infant: #8 French Toddler/ preschool: #10 French School-age children: #12 French Adolescents: 14 French Adults: 14 – 18 French	• Topical anesthetic • Lubrication • 30-50 mL syringe • Stethoscope • Suction • Tape

Procedure steps for insertion (based on allowed scope of practice):

Determine length of tube needed. Measure from tip of nose to ear then from ear to xiphoid process. This is the length of tube needed for proper placement into stomach.

Lubricate tube and pass downward along nasal floor. It may be inserted into the mouth as well if the nasal approach is contraindicated.

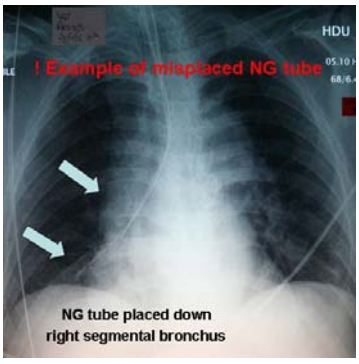
The tube should be inserted up to the measurement point.

Instill 10-20 mL of air into the tube with a 20 mL syringe tip catheter while auscultating for "air" sounds in the stomach at the epigastric region.

Low suction may be applied to tube for gastric decompression according to local protocols or may secure an empty glove around the distal tube and put to gravity drainage.

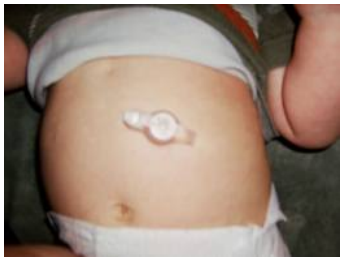
Secure the tube to the nose

Complications



- Soft tissue trauma from poor technique
- Tube obstruction
- Misplaced tube: Tube may have been accidentally inserted into the trachea or a bronchus.
  - Use a 60-mL syringe and instill air into the NG tube. Listen over the epigastric area for air movement into the stomach.
  - Aspirate syringe for gastric contents
  - If the tube is misplaced, contact OLMC to see if the tube can be removed. If not, leave tube in place and ensure nothing gets instilled into the tube.
- Make sure tube is secure prior to transport
- If patient is non-decisional or combative apply soft wrist restraints to protect tube

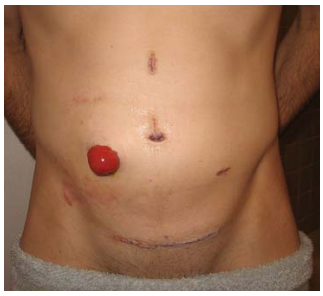
G/J Tube – See Student handout

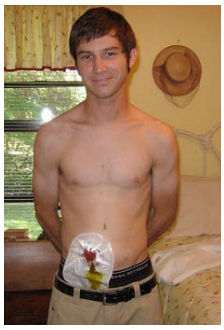


Elimination Diversion –Colostomy (EMSC, 29-30)

A colostomy is a temporary or permanent bypass of the large intestine. The bypass allows the drainage of fecal contents outside of the body into a collection bag. The opening is called a stoma.

Common indications:



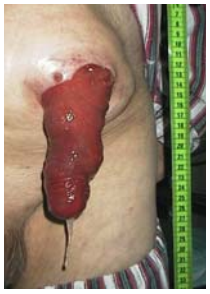


- Crohn's disease
- Colon cancer
- Trauma
- Diverticulitis
- Ulcerative colitis
- Rectal cancer

Complications

The colon and/or stoma can become infected. There might be stomal or intestinal bleeding or the stoma could become obstructed.

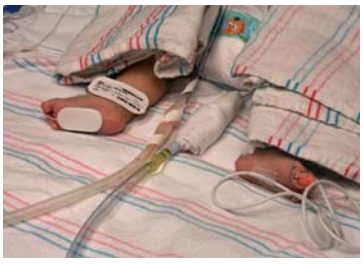
- Assess the colostomy container and note any damage to the container or irritation/trauma around the site.
- If the colostomy site appears irritated or infected (red warm, tender skin spreading away from the stoma site), empty the colostomy container (or ask the caregivers to empty the container) and transport immediately.
- If the collection container breaks or is torn off, ask the caregivers for a replacement container and ensure that it fits and seals over the stoma. If a replacement container is not available, place moist gauze over the stoma opening and place a plastic bag over the gauze to collect any contents. Alternatively, several layers of dressing may be applied over the stoma to collect any contents.
- Assess abdomen for S&S of peritonitis; note/document significant positive and negative findings.
- Obtain a complete PHM and include history of present illness (HPI). Ask the time and amount of the last feeding.
- Assess for S&S of dehydration. If volume depleted, obtain IV access. IVF 20 mL/kg NS bolus X 1.
- If S&S of shock: IVF 20 mL/kg NS bolus. May be repeated up to two times.
- In rare circumstances the colon may prolapsed from the surgical opening. If the prolapse does occur, treat as if it were an evisceration.



One of the biggest challenges for these patients is the stigma associated with a colostomy. They are very self-conscious due to the smell and unpleasant appearance of their devices. Provide empathy for these patients, avoid making disgusted facial gestures. Protect the site and preserve modesty during transport.

Genitourinary devices

Indications for inserting an indwelling urinary catheter



- Urinary retention or incontinence
- Surgical patient (drainage of urine)
- Epidural
- Clinical need/unstable/sacral or perineal wound
- Medications
- Strict output
- Comfort care

Complications

- Infection (common)
- Bleeding
- Abdominal pain
- May be pulled out accidentally
- Inflated balloon can cause significant trauma
- Impotence

Risk factors for infection	S&S UTI
• Prolonged dwell time • Female • Insertion outside of OR • Diabetes • Malnutrition • Renal problems • Older age • Fecal incontinence • Co-existing infection • Faulty catheter management • Bacterial colonization of collection bag	• Pain • Change in urine color • Abdomen/flank discomfort • Temp > 38° C • Clots/mucous in urine

Care for all GU devices

- Maintain closed system
- Make sure tubing is never kinked!!!
- Secure the tube with tape to the patient's leg, allowing for slack to avoid tugging of the balloon and possible dislodgment.
- Make sure drainage bag is below the level of the bladder
- Don't place bag between patient's legs
- Don't let bag lay on floor
- Do not allow drainage tube to fall below bag (no dangling or looping)
- Wash hands before & after emptying bag, change gloves - avoid touching spout to container
- Secure catheter properly to avoid tension/in & out movement on urethra
- Drain urine out of bag before transfer

References

Adirim, T.A. and Smith, E. (2006). Special Children's Outreach and Prehospital Education. Boston: Jones and Bartlett Publishers.

Aehlert, B. (2007). Children with special healthcare needs. In Mosby's Comprehensive Pediatric Emergency Care (pp. 639-670). St. Louis: Elsevier Mosby JEMS.

Bledsoe, B.E., Porter, R.S. and Cherry, R.A. (2011). Infants and children with special needs. In, *Paramedic Care: Principles & Practice* (2nd ed update) (pp. 1661-1663). Upper Saddle River: Brady.

Chen, H. (November 15, 2002). Down Syndrome. www.*eMedicine.com* .

Chern, J.J., Macias, C.G., Jea, A., Curry, D.j., Luerssen, T.G., and Whitehead, W.E. (2010). Effectiveness of a clinical pathway for patients with cerebrospinal fluid shunt malfunction. J of MNeurosurgery Pediatrics, 6(4), 318-324.

Lerner, C., Kelly, R.B., Hamilton, L.J., and Klizner, T.S. (2012). Medical transport of children with complex chronic conditions. Emergency Medicine International, Vol. 2012, Article ID 837020, 1-6.

Posner, J.C., Cronan, K., Badaki, O., and Fein, J.A. (2006). Emergency care of the technology-assisted child. Journal of Clinical Pediatric Emergency Medicine, 38-51.

Rundle, R.L. (2002). U.S.'s obesity woes put a strain on hospitals in unexpected ways. Accessed on line May 1, 2002, *The Wall Street Journal Online*.

Sanders, M.J. (2012). Acute interventions for home care. In Mosby's Paramedic Textbook (4th ed) (pp. 1445-1464). St. Louis: Elsevier Mosby JEMS.

Singh, T. (June, 2002). Prehospital protocols for children with special health care needs (Version3). Washington DC: Center for Prehospital Pediatrics Children's National Medical Center in cooperation with EMSC, HRSA, and NHTSA. These protocols are referenced as "EMSC".

Note: The above were also published as below:

Singh, T., Wright, J.L., and Adirim, T.A. (2003). Children with special health care needs: A template for prehospital protocol development. Prehospital Emergency Care, 7(3), 336-351.

Woodnorth, G.H., (Oct. 2004). Assessing and managing medically fragile children: Tracheostomy and ventilatory support. Language, Speech, and Hearing Services in Schools, 35, 363-372.

Wright, J.A. Tracheostomy care for school nurses slide presentation. Accessed on line Feb. 2012.

On-line sources of information:

http://www.cancer.org/Cancer/CancerinChildren/index
http://www.cancer.org/Cancer/CancerinChildren/DetailedGuide/index
Cancer in Children: MedlinePlus (via www.nlm.nih
Children's Cancer Association: http://www.joyrx.org/

National Down Syndrome Society: http://www.ndss.org/
National Association for Down Syndrome: http://www.nads.org/
National Dissemination Center for Children with Disabilities: http://nichcy.org/state-organization-search-by-state