

Plenary Clinical Nursing Skills

School Nurse Summer Institute 2026

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Thriving & Surviving Ostomy Surgery

7/28/26

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Maine Medical Center- Portland
Maine Health

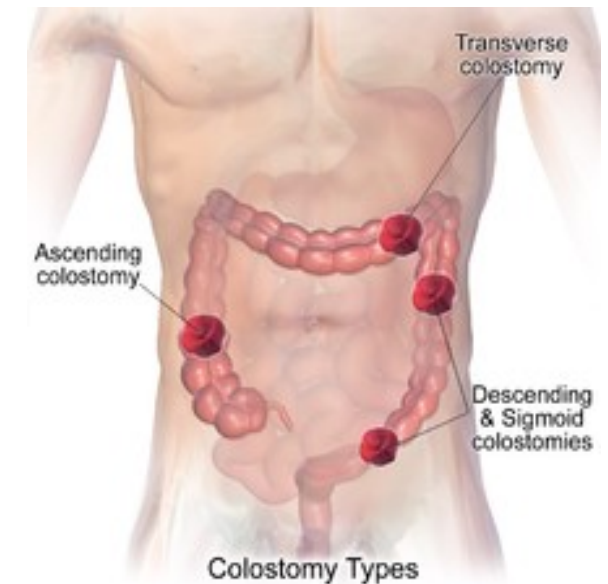
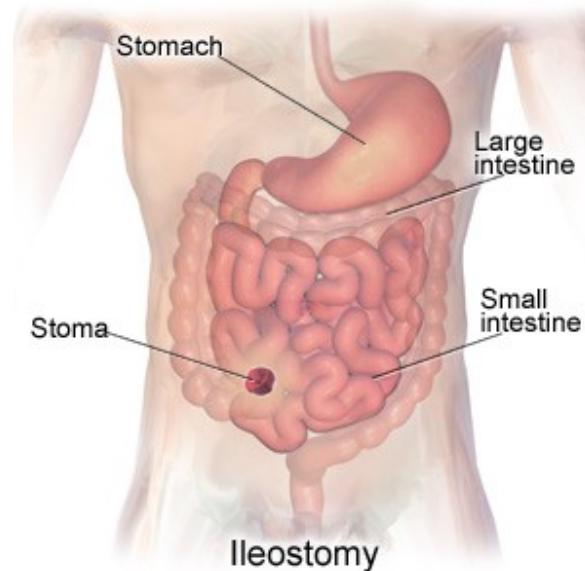


Objectives

- Identify indications for pediatric ostomy creation
- Describe key strategies to smooth the transition to school
- Differentiate between urgent ostomy issue versus non-urgent

Ostomy Indications in the Pediatric Population

- Crohn's disease
- Ulcerative colitis
- Trauma
- Necrotizing enterocolitis
- Hirschprung's Disease
- Imperforate anus



Pre-op Stoma Marking



Pre- op stoma marking is best practice and reduces ostomy complications including reducing incidence of skin complications.
(Ambe et al., 2022)

WOCN Society's Best Practice: Discharge Planning for a Patient with a New Ostomy



Teaching Basic Ostomy Skills



Teaching Ostomy Management



Assist with Transitions in Care



Provide information Re: Resources

Prinz et al., 2015

Transition Considerations

Undergoing Ostomy creation is a life-changing experience

- Physical body image, change in elimination function
- Psychosocial, dietary, odor, clothing, bathing and resuming activity
- Non-verbal reaction

Transitioning from Hospital to Home to School May be the Most Difficult Period

- May lack practical /emotional support
- Gain independence with self care, adjust to a new normal



Education and communication is **KEY** during this period of transition

Smoothing The Transition

- Meet/Communicate: (diet/activity restrictions, water bottle/intake, other)
- 504 Plan/accommodations : assistance from the school nurse with emptying and/or pouch changes, access to a separate bathroom, permission to leave class when needed to care for the ostomy, a secure place for extra supplies and clothing."
- Get Pouch change orders (& steps) in writing
- What is the normal appearance of student's stoma and pouch?
- What is their independence level currently and what is the goal?
- Do they want their classmates to know?
- Non-verbal communication (watch your face;)
- Have supplies in the nurse's office (at least 3 change kits [pouch, accessory items, barrier films if in use, scissors]) and a change of clothes
- Lean on the manufacturers for supplies and edu tools (VERY helpful)



Key Points

- The stoma size will shrink
- Pouches are odor proof expect odor during emptying
- Gas can be embarrassing (simethicone)
- Wear time will vary (age of pt, size of stoma, activity)
- Place pouch vertically
- Avoid baby wipes
- Empty pouch when 1/3 to 1/2 full
- Avoid Soap
- Plain water only for cleaning skin
- Ileostomy patients are at risk for blockage and dehydration



Deodorant drops



Clothing
Wraps muffle
sound
[Ostomysecrets®](#)

[Ostomy Wrap -
Girls - SIIL
Ostomy](#)

Key Points Continued

- Stoma has no feeling
- May bleed w/ cleansing/trauma
- Apply a cold compress
- Skin around stoma should look like the rest of skin on abdomen
- Adhesive will turn white when too wet-need to change
- Pouch wear time should be predictable
- Avoid taping a leaking pouch
- There are lots of options to improve pouch seal

Abnormal



Pouch cut too large



Developmental Considerations

School-aged children

- Fostering independence
- Ready to learn
- Manual dexterity, emotional maturity and cognitive function vary
- Have child remove the pouch themselves
- Use adhesive remover



Teens

- Developing identity
- Body image disturbance
- Foster independence
- May want to discuss issues in private without parents present
- May not plan ahead – may forget to bring supplies- ensure effective communication and plan
- Teens- **don't leave supplies in car!**

Peristomal skin irritation irritant contact dermatitis

- Skin damage caused from contact with urine or stool or products
- Starts with erythema and evolves into denuded skin
- Treat the underlying cause- change products or pouch
- Stoma powder 1st, liquid skin barrier 2nd
- Ostomy nurse referral
- Non emergent, non urgent



1



2



Pouch application



Peristomal skin irritation candidiasis

- Satellite lesions under wafer
- Caused from leaking pouch or perspiration
- Treat underlying cause of rash
- Anti-fungal powder 1st, liquid skin barrier 2nd
- Provider referral/need prescription powder
- Non emergent



1



2



Pouch Change Steps:

- Cleanse skin with plain water
- Pat the skin dry
- Measure stoma (cut wafer so it is ~ 1/8 of inch larger than stoma)
- Cut wafer
- Peel white part off of the wafer to expose the adhesive
- Apply SMALL piece of barrier ring to back of wafer (if needed)
- Press down to skin over stoma
- Place pouch over wafer
- Press and hold into place x 2 min



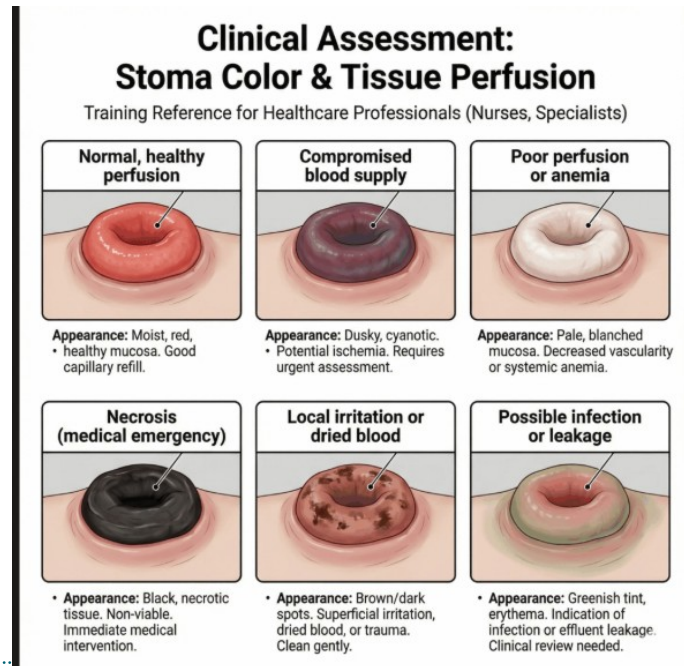
How to change a
pouch using a
One- Piece system

Stoma Prolapse

Well-Perfused Stoma Prolapse



- Telescoping of intestine out from the stoma
- Incidence 7-26%
- Difficulty in pouch placement
- Uncomplicated prolapse-conservative –cool compresses and osmotic agents to reduce edema
- **Ischemic- dark color (blue/purple/maroon)- EMERGENCY**



Food Blockage Prevention: Dietary Considerations for ileostomy patients

- Limit /Avoid
 - Raw veggies
 - Unpeeled fresh fruits
 - Cabbage
 - Celery
 - Corn, peas, popcorn, nuts, seeds,
 - Hot dogs or meats in casings
- Drink plenty of fluids
- Ileostomy patients lose NA, K, fluid
 - Dehydration is #1 for re-admission



Ileostomy Concerns: Blockage

Output

- Abdominal distension
- Accompanied by nausea and vomiting
- No output for 4-6 hours
- Partial obstructions can present as large volume watery stool with FOUL odor

Needs urgent attention



Ileostomy Concerns: Dehydration & Nutrition

Electrolyte imbalance/dehydration

- Muscle Cramps
- Weakness
- Confusion (needs emergency attention)
- Palpitations
- Fatigue
- Dark urine
- Little to no urine

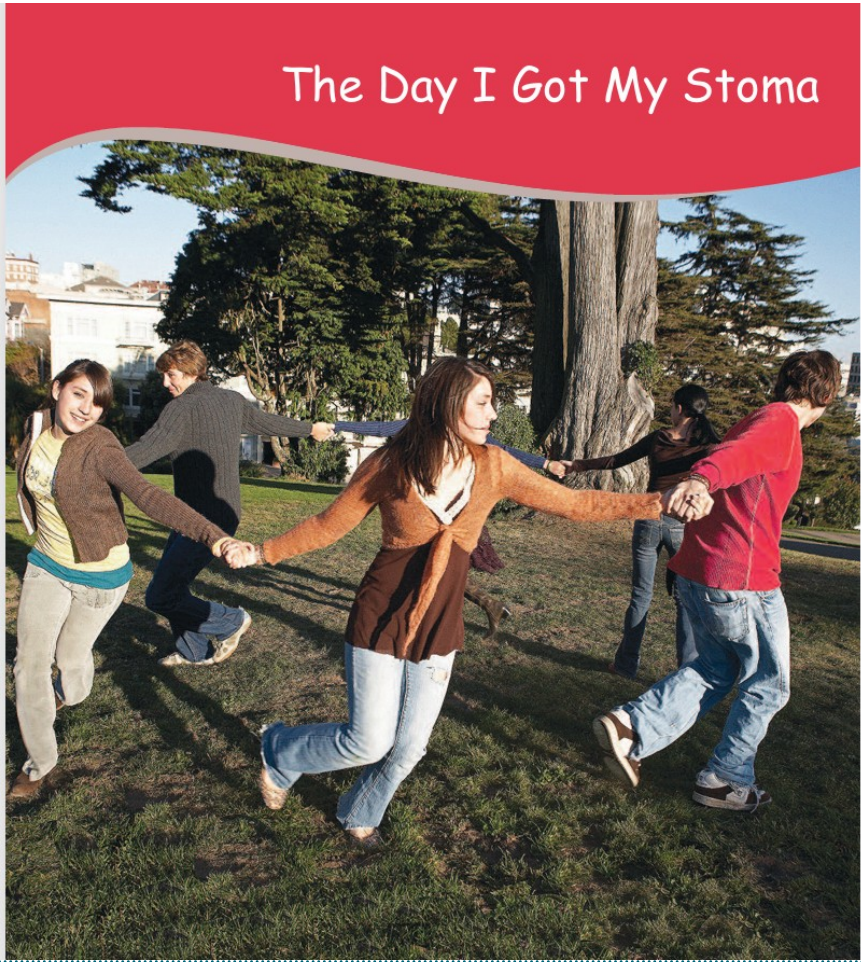
Micro-nutrient deficiency

- Vit B-12 (if terminal ileum removed) Fatigue, weakness, numbness, poor concentration
- Iron- pallor, fatigue, decrease exercise intolerance
- Zinc- Poor wound healing, thinning hair

Remember You Make a Difference!

- Often ileostomy surgery is curative for some patients (Ulcerative Colitis)
- Most Pediatric ostomies are reversible/temporary
- Attitude is everything

Pediatric Ostomate Testimonials



Resources:

Wound, Ostomy and Continence Nurses Society

Advancing the practice and guiding the delivery of expert health care to patients.

Pediatric Ostomy Care:

Best Practice for Clinicians



Wound
Ostomy and
Continence
Nurses

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WHERE TO FIND US

Careers

US - English

Sign Up Or Login

Basket

search

Contact Us

Products

Ostomy Care

Continence Care

Critical Care

Secure Start Services

About

Ostomy Care

Ostomy Care Professional Resources

Resources for Your Patients

Ostomy Care Pediatric Information



Pediatric Information

It is natural to be concerned when you learn your child needs ostomy surgery. We can help.

Resources for Children with Ostomies

Caring for Your Child with an

The Day I Got My Stoma

Shadow Buddies

Quick Links and Resources

CeraPlus™ Skin Barrier





MaineHealth

Barbara Bush Children's

PATIENT CENTERED

RESPECT

INTEGRITY

EXCELLENCE

OWNERSHIP

INNOVATION

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Manufacturer Contact Info & Other Resources

Coloplast www.coloplast.us.com 1-800-533-04464

ConvTec, Inc www.convatec.com 1-800-422-8811

Cymed www.cymedostomy.com 1-800-582-0707

Hollister, Inc www.holliser.com 1-888-740-8999

Marlen Manufacturing & Development www.marlenmfg.com 1-216-292-7060

Nu-Hope Laboratories Inc www.nu-hope.com 1800-899-5017

United Ostomy Associations of America | Support, Advocacy, Empowerment

- Virtual ostomy assistance
- Support groups
- Links to free pouches and more!

Outpatient Ostomy Resources

Central Maine Comprehensive Wound Center	795-2886	Lewiston	60 High Street	Victoria Friedman NP, CWOCN, Gisele Castonguay NP, CWOCN	Victoria Friedman NP, CWOCN, Gisele Castonguay NP, CWOCN	Central Maine Healthcare
St. Marys Center for Hyperbaric and Wound Center	777-8331	Lewiston	93 Campus Ave.	Stephen Gallagher MD, Lane Kaplan DO, Virginia Coleman NP	Sarah Szott, RN, CWOCN	Covenant Health
Stevens Memorial Hospital	207-743-5933	Norway	181 Main street		Beth Paradis CWOCN	
MMC Wound Care & Hyperbaric Medicine	662-4325	Portland	335 Brighton Ave.	Holland Hughes, NP, Zorica Bajic PA	Erin Theriault CWOCN, Lindsey Cheney CWOCN	Maine Health
Advanced Vein & Wound Center	531-4135	Portland	1945 Congress Street	Robert Abrahamsen MD		
Mercy Wound and Hyperbaric Medicine	879-3190	Portland		Peter Carter MD, Sokharath Keller FNP	Katherine Hill, CWOCN, Tammy Hutchinson, RN, CWOCN	Northern Light
Northern Light AR Gould Hospital	768-4000 or 768-4735	Presque Isle	140 Academy Street	No Provider	Amy Medina, RN, CWOCN & Tammy Packard, RN, CWOCN	Northern Light
Pen Bay Wound Healing Center	301-5737	Rockport	4 Glen Cove Drive, Suite 103	Melissa Power, NP	Abbie Knickelbein CWOCN, Caitlin Miller, RN , Wesley Ehle CFCN	Maine Health
Rumford Hospital Wound Care	369-1106	Rumford	420 Franklin Street	Gisele Castonguay NP, CWOCN	Gisele Castonguay NP, CWOCN	Central Maine Healthcare
York Hospital Wound Healing & Hyperbaric Medicine	641-8100	Wells	112 Sanford Rd. (RT 109)	Evangeline Thibodeau MD, WCC, Talley Slate, FNP	Crystal Berry, CWO	York Hospital
Inland Hospital	872-6010	Waterville	180 Kennedy Memorial Drive	Hillary Lee FNP	Hillary Lee NP	Inland hospital

Outpatient Ostomy Resources

WOUND/OSTOMY CENTER	PHONE	Town	ADDRESS	PROVIDER	CERTIFIED RN	AFFILIATION
Maine General Wound Healing & Hyperbaric Medicine	623-6510	Augusta	35 Medical Center Parkway	Margaret Chapin NP Mary Johnson, RN	No	MaineGeneral Health
Northern Light Wound and Ostomy Care	973-6670	Bangor	489 State Street, Kagan Bldg, Level 2	Ann Parsons FNP	Susan Howard CWOCN	Northern Light
St. Joseph Hyperbaric and Wound Healing Center	907-1550	Bangor	360 Broadway	Michael Coyne MD, Marian Benner MD	Rose Cyr CWOCN, Jennifer Curley Bradford CFCN	Covenant Health
Waldo County General Hospital Wound Clinic	505-4491	Belfast	16 Fahy Street, Suite 201	Brad Samojla DPM, Kim Metcalf FNP, CWON	Kim Metcalf, FNP, CWON, Monica Loring, CWON	Maine Health
Southern Maine Health Care Wound & Ostomy Center	283-7980	Biddeford/ Sanford	1 Medical Center Drive	John P. Griffin, MD, Erin Cater, PA	Cari Girard WTA,	Maine Health
The Wound Center Boothbay Harbor	633-1600	Boothbay Harbor	19 St. Andrews Lane	Mark Mainella DO, Bonnie Rademacher-Flis		Maine Health
Bridgton Hospital Wound Care	647-4234	Bridgton	25 Hospital Drive	Jana Christman CWOCN	Jana Christman CWOCN	Central Maine Healthcare
Mid-Coast Medical Group - Wound & Ostomy Care	373-6155	Brunswick	121 Medical Drive, Suite 2500	Liz Phillips, FNP	Susan Cantara, RN CWOCN	Maine Health
The Wound Center Damariscotta	563-4250	Damariscotta	24 Miles Center Way	Mark Mainella DO, Bonnie Rademacher-Flis		Maine Health
Northern Light Maine Coast Wound Care	664-5950	Ellsworth	50 Union Steet			Northern Light

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- Salvadalena, G., Hendren, S., McKenna, L., Muldoon, R., Netsch, D., Paquette, I., Steinberg, G. (2015). WOCN Society and AUA position statement on preoperative stoma site marking for patients undergoing urostomy surgery. *Journal of Wound Ostomy & Continence Nursing*, 42(3), 253-256.



Thank You! Questions?

https://youtu.be/8_AKe07I7IE

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Pediatric Gastrointestinal Tubes

G-tube Use and Care for the School Nurse

School Nurse Summer Institute 2026

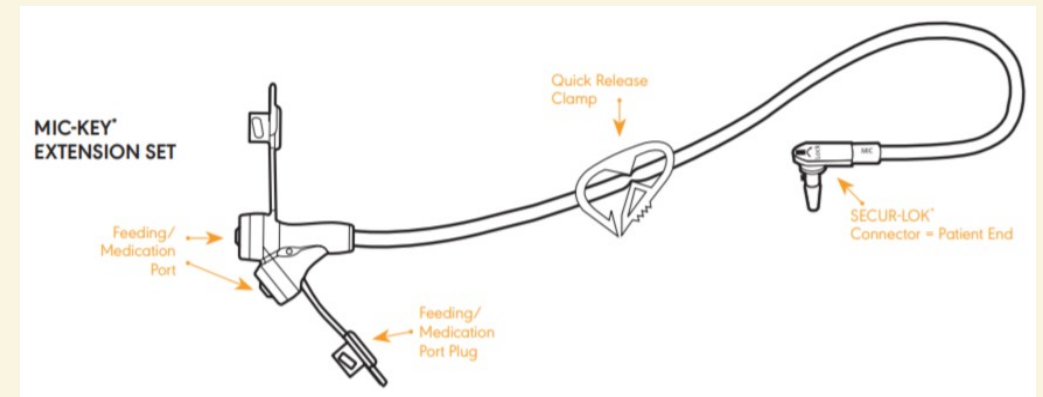
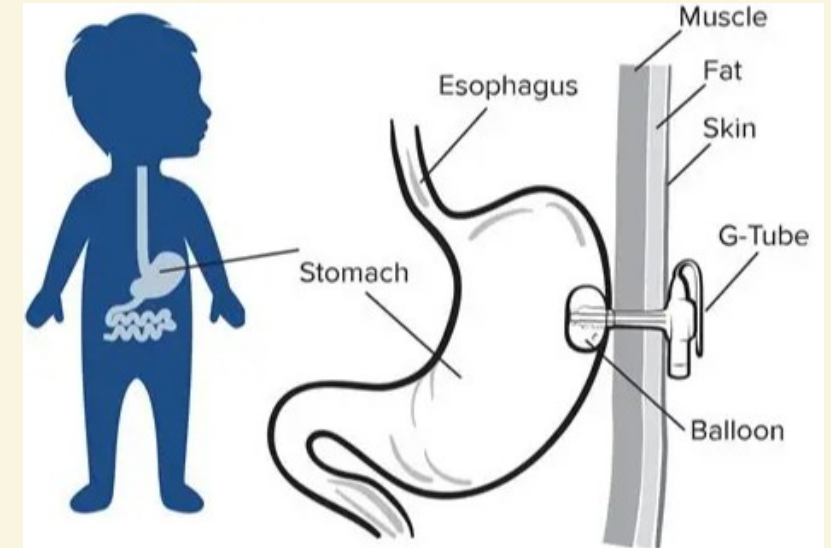
What is a G-tube?

- A gastrostomy tube, often called a g-tube, is a medical device inserted through the abdomen directly into the stomach
- G-tubes can be used to help deliver nutrition, fluids, and medications to patients of all ages



Terminology

- **G-tube Button**
- **Feeding and Medication Port**
- **Silicone Retention Balloon and Balloon Port**
- **Extension Set**
- **Secur-lok Connection port**
- **Clamp**
- **Feeding Port**
- **Medication Port**





One Size Does Not Fit All

- Mini-ONE?
- Mickey?
- Mini?
- PEG?
- Know your tube! Different extensions fit different tubes.
- Never try to force an extension piece into the g-tube



What Are G-Tubes Used For?

- **Medication Administration:**
 - Daily Medications
 - As Needed Medications
 - Oral Chemotherapy
- **Nutrition:**
 - Supplemental feedings
 - Bolus feedings
 - Continuous feedings
 - Gravity vs. Pump
 - Fluids



Who Can Benefit From a G-Tube?

Kids with...

- Dysphasia
- Neurological Conditions
- Cancer
- Growth Faltering (*previously Failure to Thrive*)
- Aspiration Risk
- Congenital Heart Defect



G-Tube Management in the School Setting

- Orders!
 - Feeds
 - Medications
 - Daily Care
- Emergency Care
- Emergency Kit (*supplied by the family*)

DOB: 7/3/2020

This letter confirms that the above-named student has a gastrostomy tube (G-tube) and requires the following care and feeding during school hours.

Scheduled G-Tube Feeding — 11:00 AM and 2:00 PM

Formula: Pediasure Grow and Gain **Volume:** 240 mL per feed

Method: Bolus syringe

Flush with 60 mL water after feeding

Keep student upright (30–45°) during and 30 minutes after feeding

G-Tube Site Care

- Keep the site clean and dry.
- The tube should rotate freely. Do not force the tube if resistance is felt.
- Monitor for redness, swelling, drainage, or odor and report changes to the parent/guardian.

When to Contact Parent/Guardian Immediately

- Tube comes out: The stoma tract can begin to close within hours. To keep the tract open, gently insert a lubricated red rubber catheter (size 12 Fr) into the stoma tract. Do not force insertion. Secure the catheter with tape to the skin and contact the parent/guardian immediately for G-tube replacement.
- Clogged tube: Flush gently with warm water. If unresolved, contact parent/guardian.
- Pain, nausea, vomiting, or abdominal distension: Stop feeding, keep student upright, and contact parent/guardian.

Activity: The student may participate in regular activities. Protect the G-tube site during physical education and avoid direct abdominal contact sports unless cleared.

Sincerely,

Jordan Taylor, MD



G-tube Site Care

Keep it simple! Gentle soap and water will do the trick!

When Should the Doctor or Family be Called?

- Increasing redness and swelling around the stoma site
- Open areas of skin around the stoma site
- Bleeding at the stoma site
- Growing scar tissue around the stoma
- Increased leakage at the stoma site

Most Common Emergencies

Dislodgement

- If dislodgement occurs BEFORE it has been changed in the Pediatric Surgery office (10-12 weeks after surgery):
 - If comfortable, insert an appropriately sized red rubber catheter or silicone foley to prevent tract closure
 - Child will need to be transported to an Emergency Department for G-button replacement and contrast study
- If dislodgement occurs AFTER it has already been changed in the Pediatric Surgery office (10-12 weeks after surgery):
 - Retrieve the student's emergency kit
 - Insert the back-up G-button, red rubber catheter, or Foley catheter into the gastronomy tract to prevent closure. *Use lubrication!*
 - Tape the tube to the skin
 - Continue without need for medical intervention

Clog

- To help **prevent** clogging, flush the G-button with water after feeds or medication administration
- If clogging does happen, gently flush tube with warm water. If this does not resolve it, contact the parents for further management

Nausea/Vomiting/ Abdominal Pain

- Stop feeds immediately
- Keep student upright
- Contact Parent/Guardian

Emergency Kit



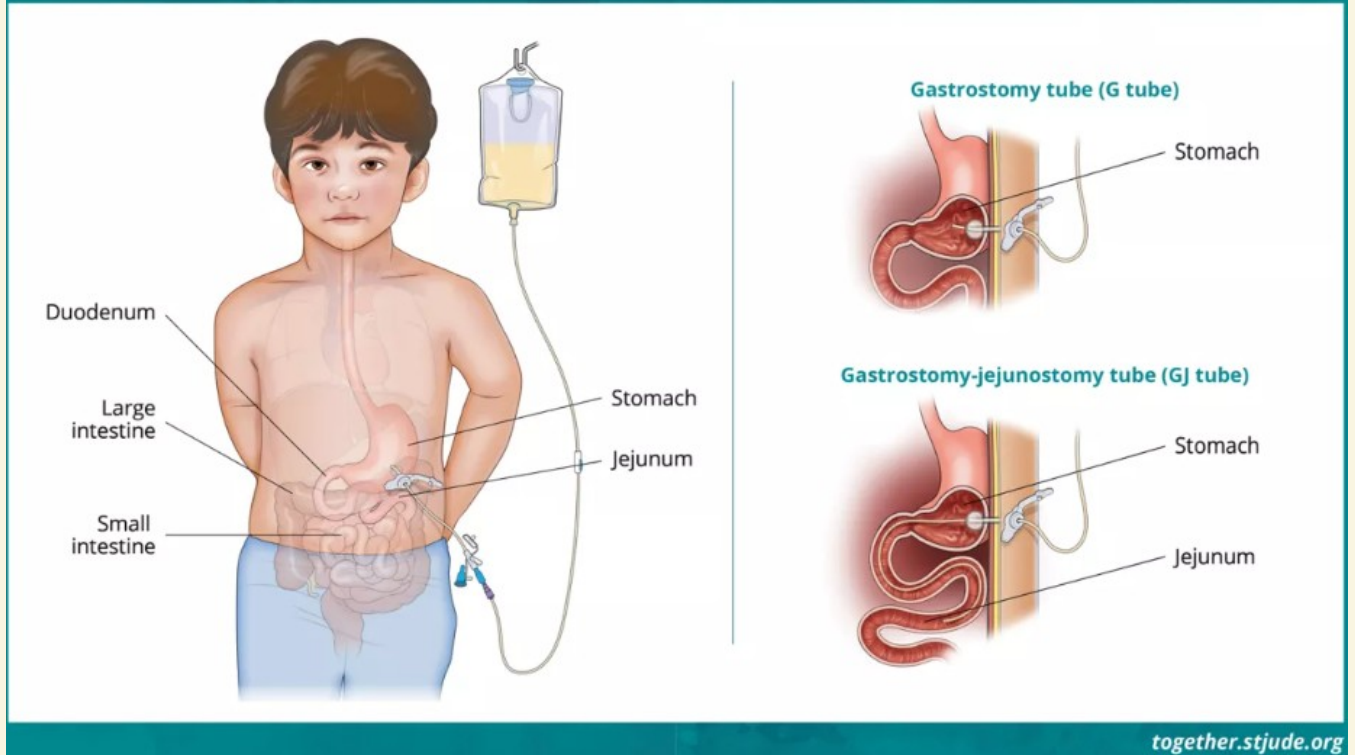
- Students with G-tubes should always have an emergency kit with them at school
- Parents should provide the kit
- Contents:
 - Back-up G-button
 - Red rubber catheter or silicone foley (for kiddos with spina bifida/CF)
 - Water soluble lubricant
 - Syringe for balloon inflation
 - Tape
 - Important phone numbers



J-Tubes

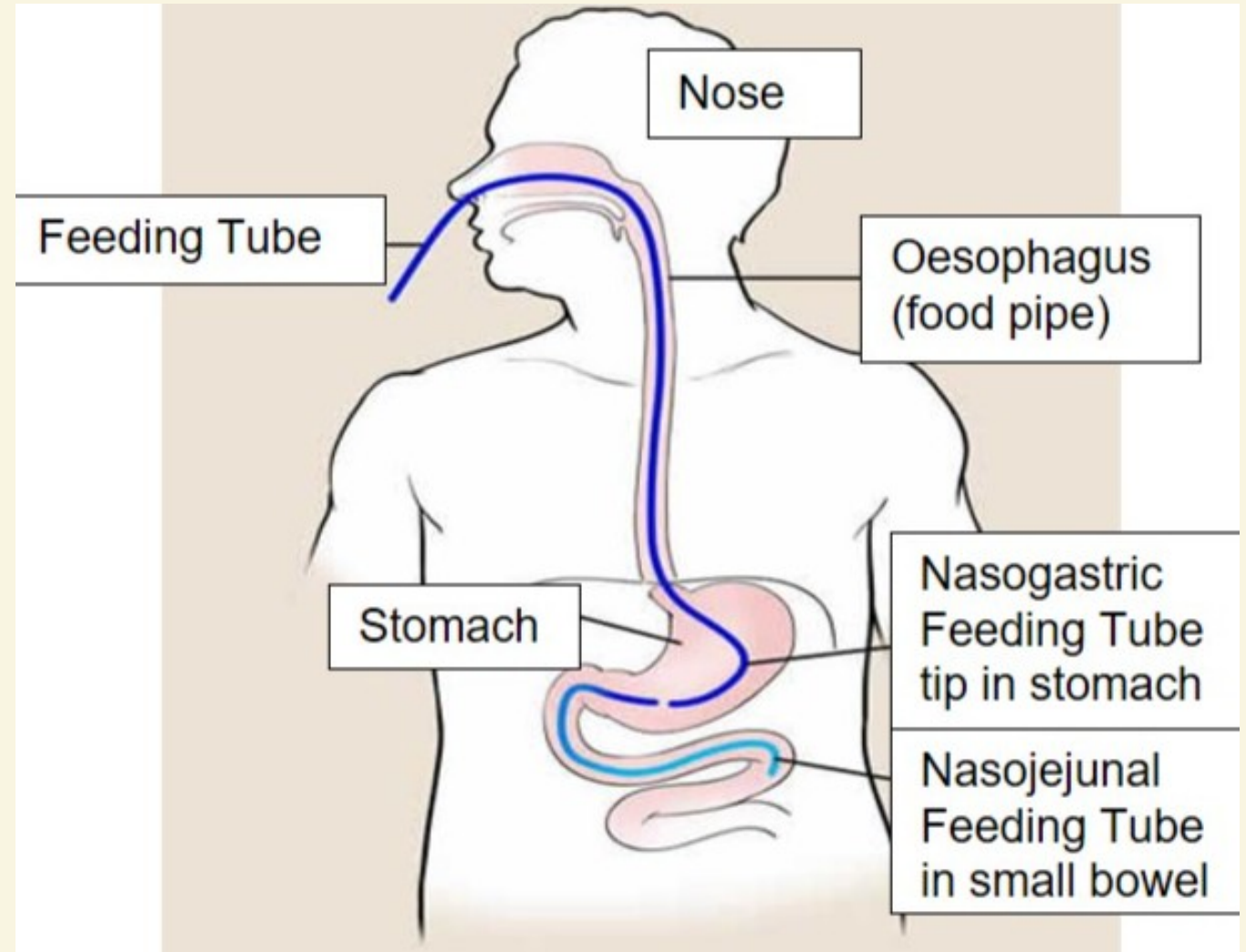
- Tube ends in the Jejunum not the stomach
- NO boluses of any kind
- Max. rate will be child specific
- If G/J: Know where medications are given? Not all medications are metabolized equally in both sites. Follow your orders!

Gastrostomy Tube (G tube) and Gastrostomy-jejunostomy Tube (GJ tube)



Nasogastric/Nasojejunal Tubes

- Inserted through the nose
- Used similarly to G-tubes: for nutrition and medications
- Requires placement verification before feeds/medication administration

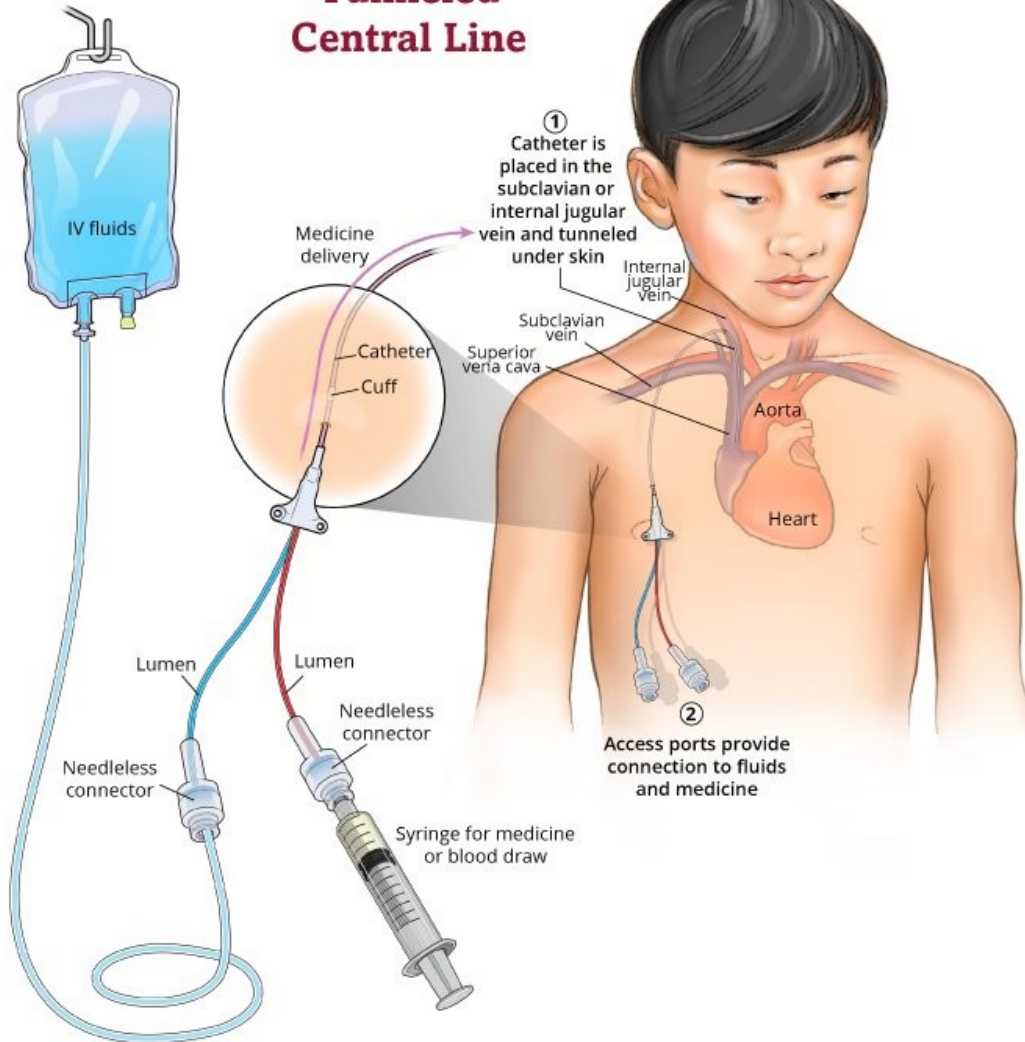




Questions?

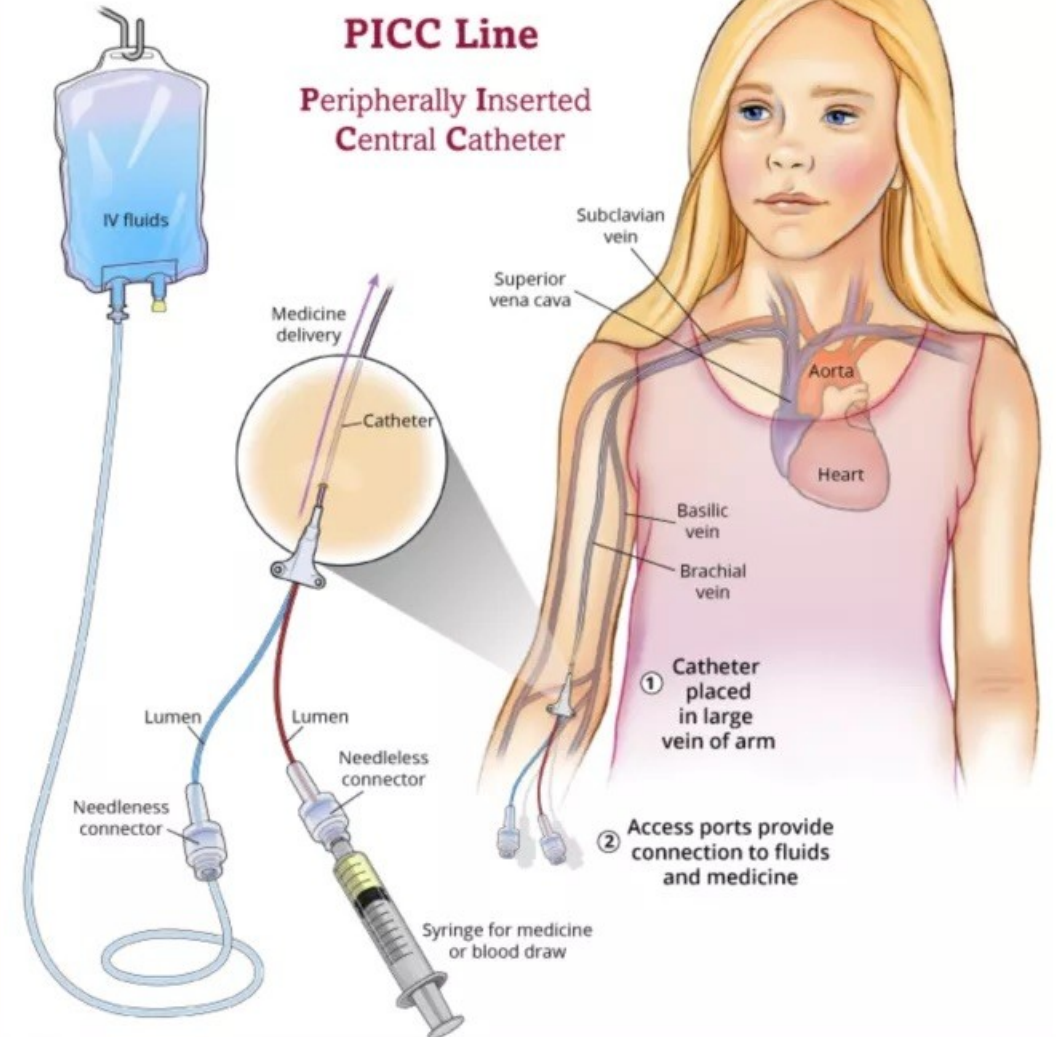
Central Lines

Tunneled Central Line



together.stjude.org

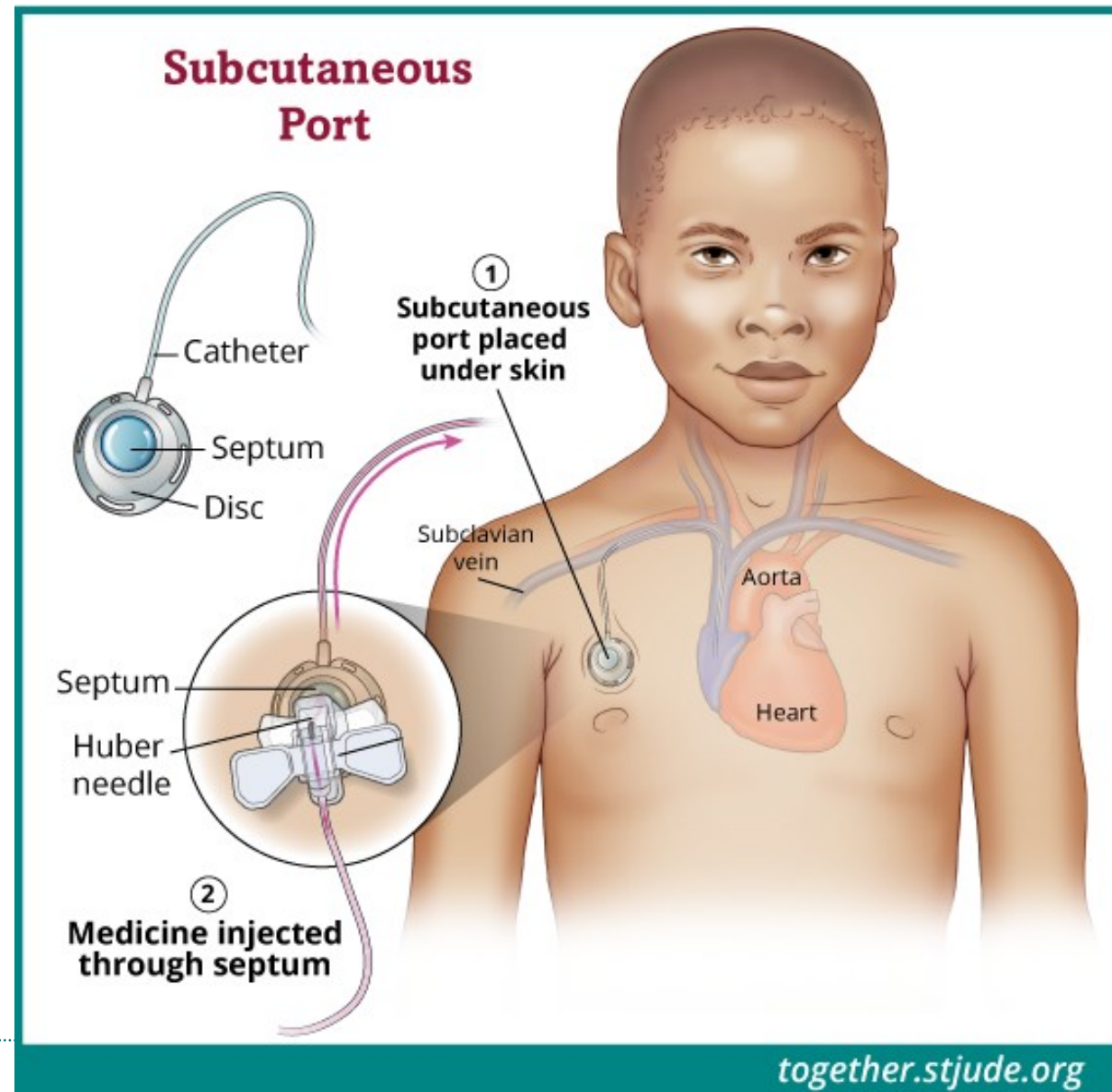
PICC Line Peripherally Inserted Central Catheter



together.stjude.org

Central Venous Catheters (CVC) and PICC Lines

- A Central Venous Catheter (Broviac, Hickman) is a catheter placed under the skin of the chest and ends in the superior vena cava. The access port of the line is outside of the skin. This line is placed in the operating room and is for children who need intravenous access for months or years
- Often used in oncology patients
- Can be single lumen or double lumen
- A Percutaneous inserted central line catheter (PICC line) enters the vein in the bend of the elbow or higher up the arm. It also ends in the superior vena cava. This line is placed by trained nurses or other health professionals. PICC lines are for children who need IV access for weeks to months.
- Often used for a long course of IV antibiotics for an infection or illness
- Could be used for patients that require TPN for a short time
- Can be single lumen or double lumen



Ports

- A portacath or mediport has 2 parts: a fluid reservoir placed under the skin of the chest and a tube that connects to the reservoir and ends in the superior vena cava
- Ports are entirely under the skin
- When a child needs IV access, a needle will be poked through their skin to enter the reservoir.
- Ports are placed in the operating room and are for children who need IV access for months to years.
- Most ports will be de-accessed when patients are at school or home (if they remain accessed, you can treat them similarly to a Broviac/Hickman/PICC Line)
- Most children with ports can swim in swimming pools and clean water as long as their port is not accessed and their surgical scars are healed
- Often used in oncology patients
- Other patients with ports might include children with difficult IV access that will require frequent infusions, or children that require frequent medications that need to be given centrally

How do I take care of a central line?

- The central line must be kept clean, dry, and safe
- The dressing that covers the central line should always be stuck to the skin all the way around. If it lifts up or gets wet underneath, it must be changed.
- External central lines need to be flushed once a day with saline and heparin (normally done by parents at home)
 - If ports remain accessed, they also need to be flushed once a day with saline and heparin
- Try to keep sharp objects like pins or scissors away from the central line

General Knowledge

- **Always wash your hands and wear gloves when touching a CVL!**
- Access and dressing changes done by **specialty trained staff**
- All central line dressings are changed every 7 days or if soiled/compromised (typically done by home nursing or specialty clinic)
- Children should NOT take probiotics with a central line in place
- Some children may not be able to take Tylenol or Ibuprofen so as not to mask a fever
- Students can use an ace wrap or surgical netting on CVCs or PICC lines to secure tubing close to body
- A student specific supplies kit should remain with the student or trained adult at all times if appropriate
- Most children have a passbook that should go with them to doctor appointments or the hospital which explains how to properly care for their central line

Items that might be included in supply kit



Restrictions

- Avoid contact sports, rough play, or high-risk activities in PE and recess that could snag, pull, or damage the line
- Children with external catheters cannot swim
- Children with ports that are not accessed may swim but not in stagnant water
- No probiotics!
- Check to see if it's okay to administer tylenol or ibuprofen to children with central lines
- Keep sharp objects away from kids with external catheters

When should I call the parents or the physician/clinic responsible for central line?

- Redness, warmth, swelling, drainage, or tenderness where the central line enters the skin
- Fever over 100.4 C
- The central line breaks
- The dressing is starting to fall off or has come off completely
- The clave at the end of the catheter falls off



What to do if a line breaks or a clave falls off

- If there is a break in the central line or it is leaking, it is an emergency and must be taken care of immediately. A broken line can allow germs to get into the child's bloodstream and cause infection.
- Use the clamp on the child's central line if possible to clamp above the break (if unable to do so, use Kelly clamps above the break to prevent blood from exiting line and prevent germs from entering line)
- Follow the same steps if the child's clave falls off at the end of their line.

Straight Catheterization in Pediatrics

Urinary Catheterization for Maine School Nurses

School Nurse Summer Institute 2026

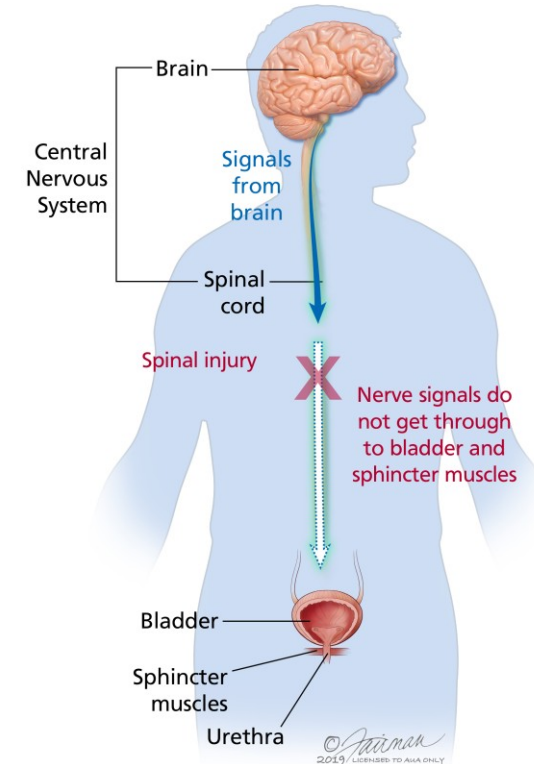
What is Straight Catheterization?



- Straight Catheterization (Cath) is a way to completely empty your bladder when you cannot do so on your own
- A urinary catheter is a small, flexible tube that is placed into the bladder through the urethra
- The catheter does not stay in the bladder after it is empty

Reasons for Straight Catheterizations

- Neurogenic bladder (spina bifida, spinal cord injuries, etc.)
 - A condition in which the child cannot empty their bladder due to nerve damage or nerve dysfunction
- Chronic Urinary Retention
- Acute urinary retention
 - Medication side effect
 - Surgical complication



Guidelines for Cathing

- Performed roughly every 4-6 hours depending on the child and their routine
- Use correct size catheter based on child's size/weight
- Use non-latex supplies (common latex allergies)

Age/Weight	Usual Catheter Size
Newborn/3-5kg	5-6 fr
Sm Infant/6-7kg	6-8 fr
Infant/8-9kg	6-8 fr
Toddler/10-11kg	8-10 fr
Sm Child/12-14kg	8-10 fr
Child/15-18kg	10 fr
Child/19-23kg	10-12 fr
Lrg Child/24-29kg	12 fr
Adult/30-36kg	14 fr

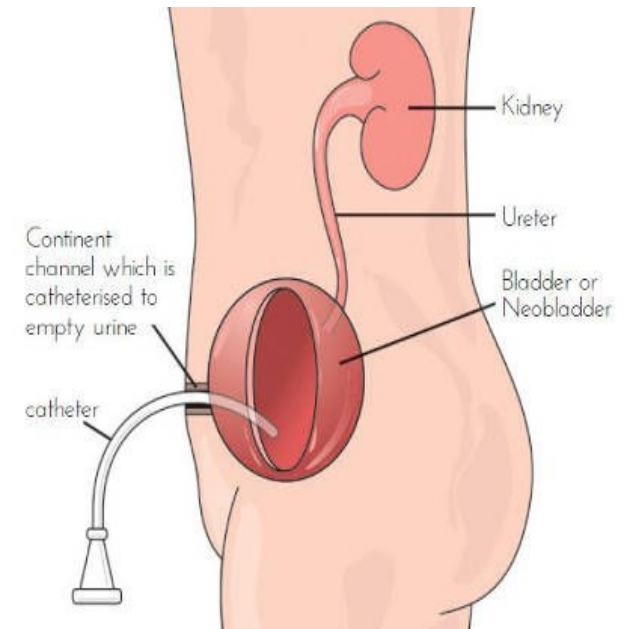
Different Anatomy for Straight Cathing

Vesicostomy

- A type of stoma created by bringing a part of the bladder wall to the surface of the abdomen under the belly button to allow urine to be drained
- Usually for smaller children
- Sometimes need to be stretched with a catheter periodically to ensure it stays open
- Usually a temporary solution to allow the bladder to empty in children with certain conditions
- Drains directly into a diaper

Appendicovesicostomy

- A type of stoma created by connecting the appendix to the bladder and opening through the abdomen
- Stoma is often in the lower abdomen or belly button
- Cathed by placing catheter through the stoma and removing once urine is drained
- Permanent



Other Types of Catheters

Suprapubic Catheter

- A type of catheter that is placed into the bladder through a small hole in the abdomen to drain urine
- Sometimes seen in children with spina bifida when the urethra cannot be used
- These STAY IN PLACE
- May need to monitor for signs of infection while at school

Foley Catheter

- A type of catheter that is placed into the bladder through the urethra
- Indwelling
- Used for acute urinary retention, strict output monitoring or when recovering from different types of surgeries/trauma

Equipment

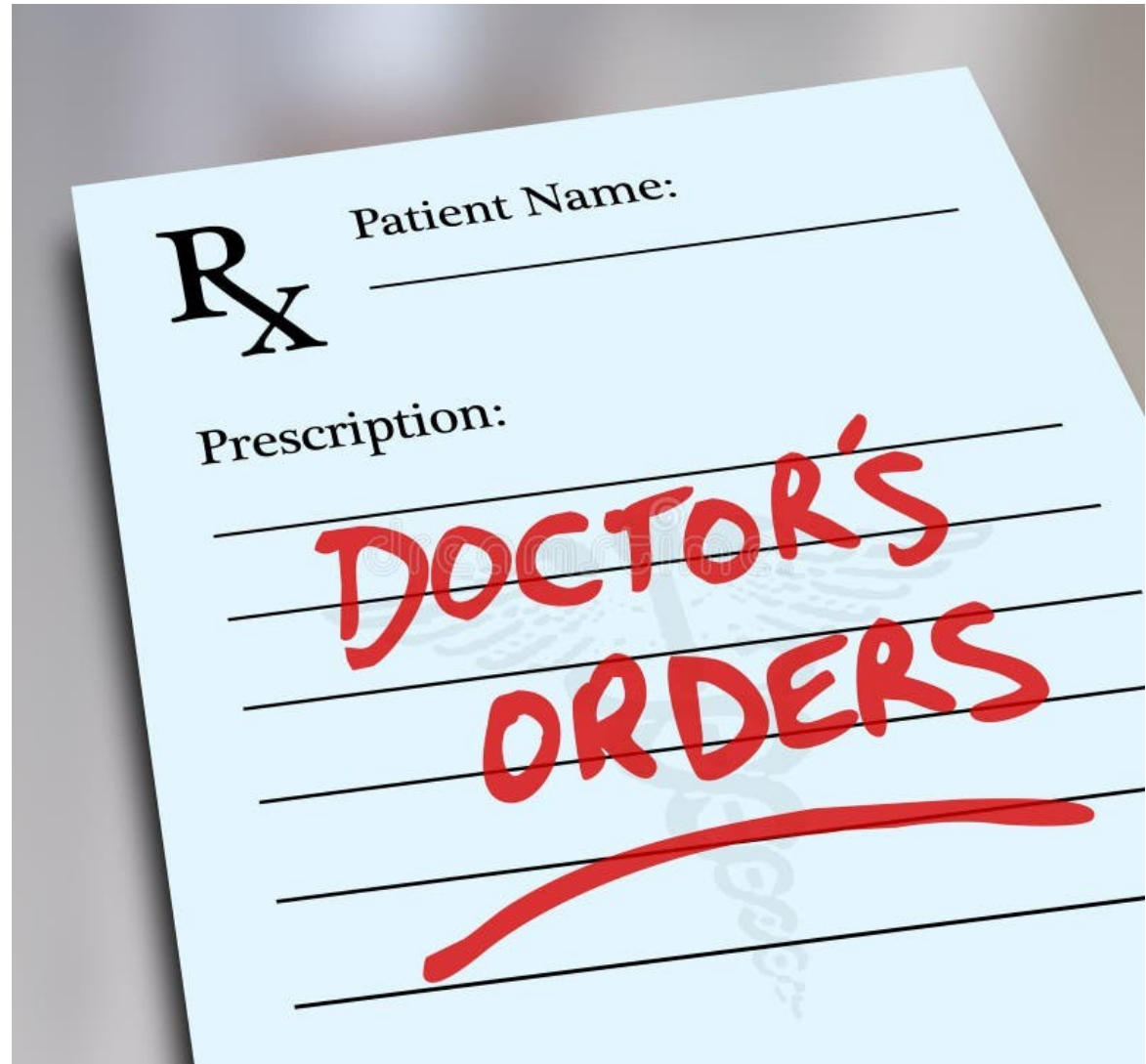
- You will need:
 - Correct size catheter (provided by family/child; typically, 10-12 French)
 - May be straight or coudé (curved) if the child's anatomy is difficult to cath
 - Lubricant
 - Rubber Gloves
 - Urine collection vessel (if not a closed system)
 - 3 Iodine swabs or sticks

Catheter supplies should be provided by student/family



Orders

- Your student's PCP or Urologist will have orders for how often to cath the child
- The order will have instructions on:
 - When to cath
 - Size of catheter used
 - CLEAN technique
 - If the child is able to cath themselves



When to Call Parents or Doctor



- Difficulty or inability to pass the catheter
- Unable to drain any urine or significant drop in urine output
- Bloody urine
- New pain when catheterizing child
- Fever of 100.4 F (38 C) or greater

Wong-Baker FACES® Pain Rating Scale



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Thank You!

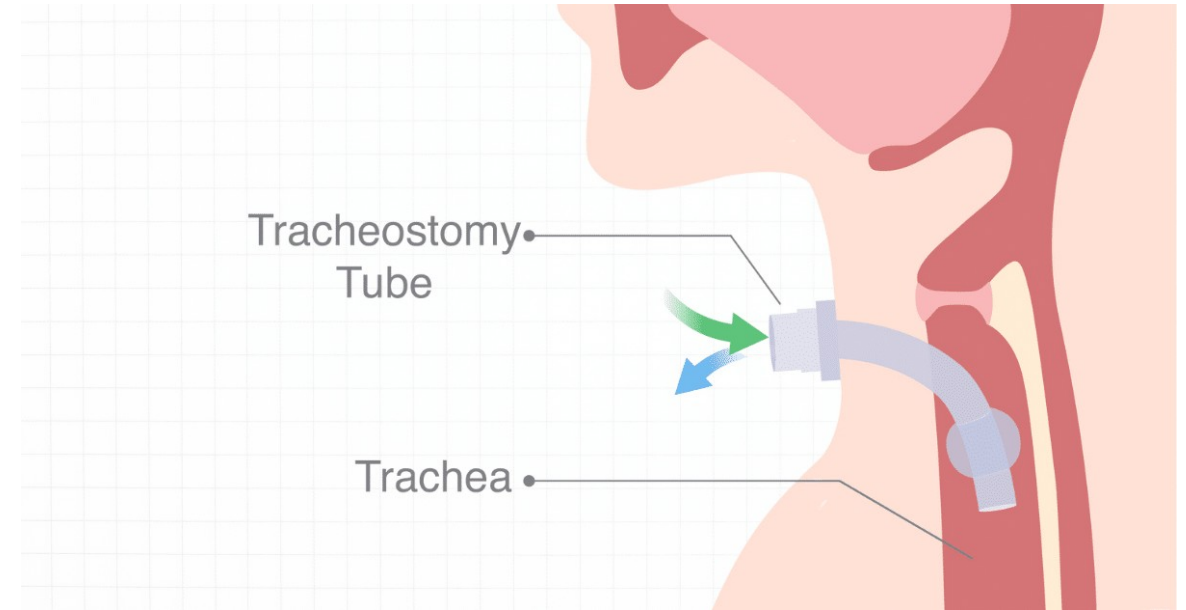
Pediatric Tracheostomies

High risk, low frequency population

Dana Orkin MSN, RN, CNL, CPN

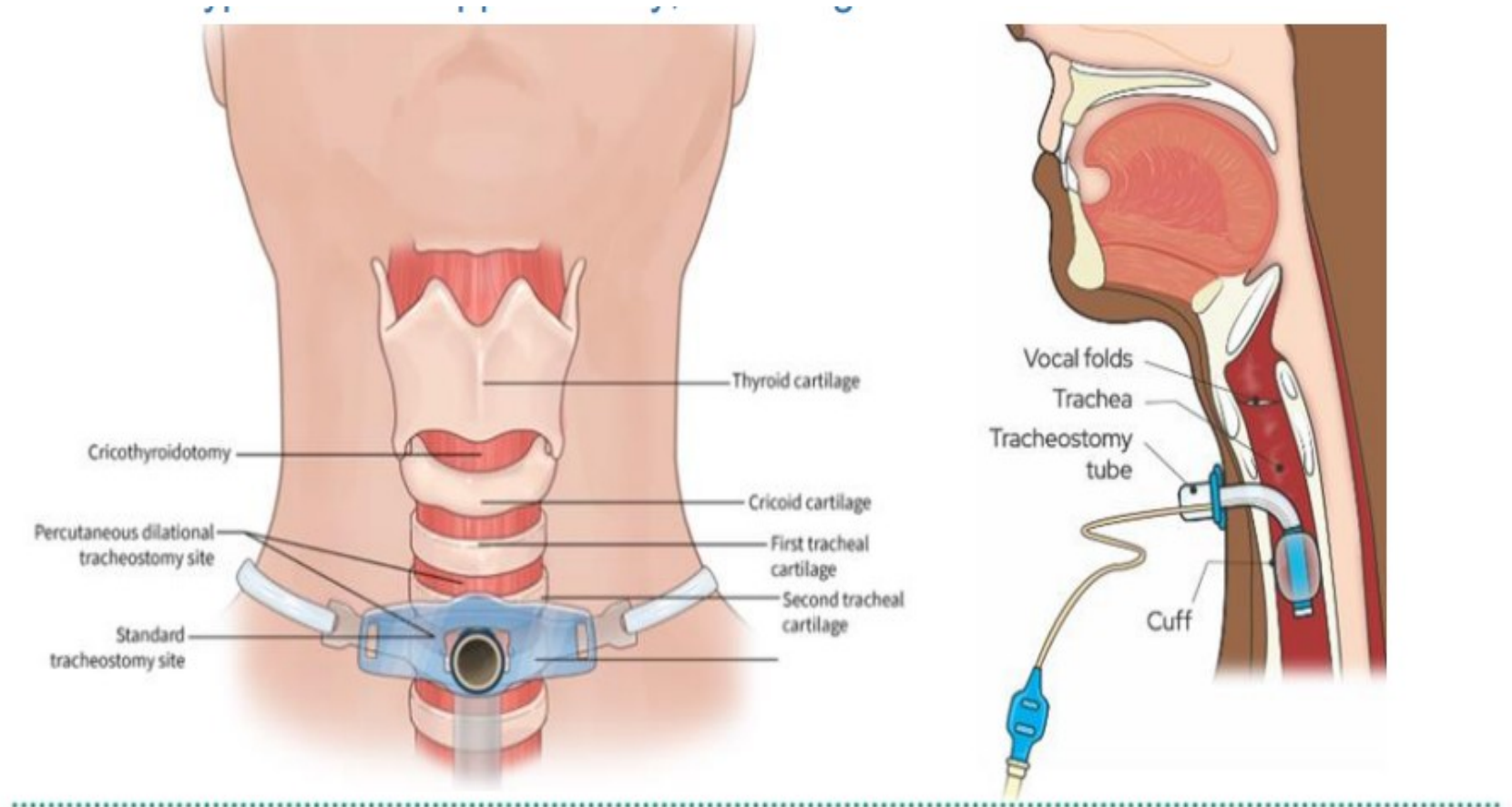
What is a tracheostomy

- A tracheostomy is the surgical opening made into the trachea for respiration. This hole is known as the “stoma”
- A tracheotomy is the surgical procedure that creates an opening into the trachea
- A tracheostomy tube, frequently called a “trach” is the tube that goes into the stoma to maintain an artificial airway for breathing.



Trach Placement

A trach completely bypasses the upper airway, including the vocal cords so the child may not be able to use their voice.

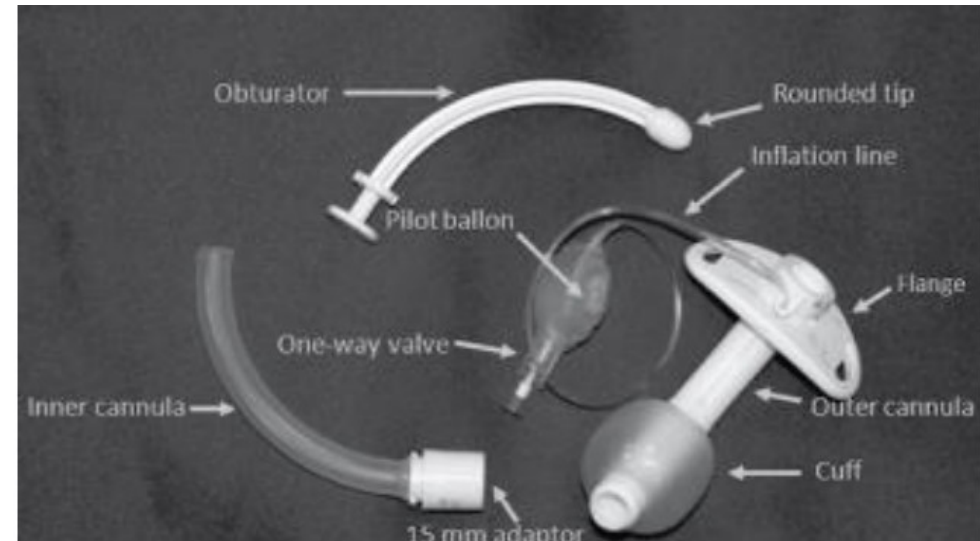


Pediatric vs Adult trach

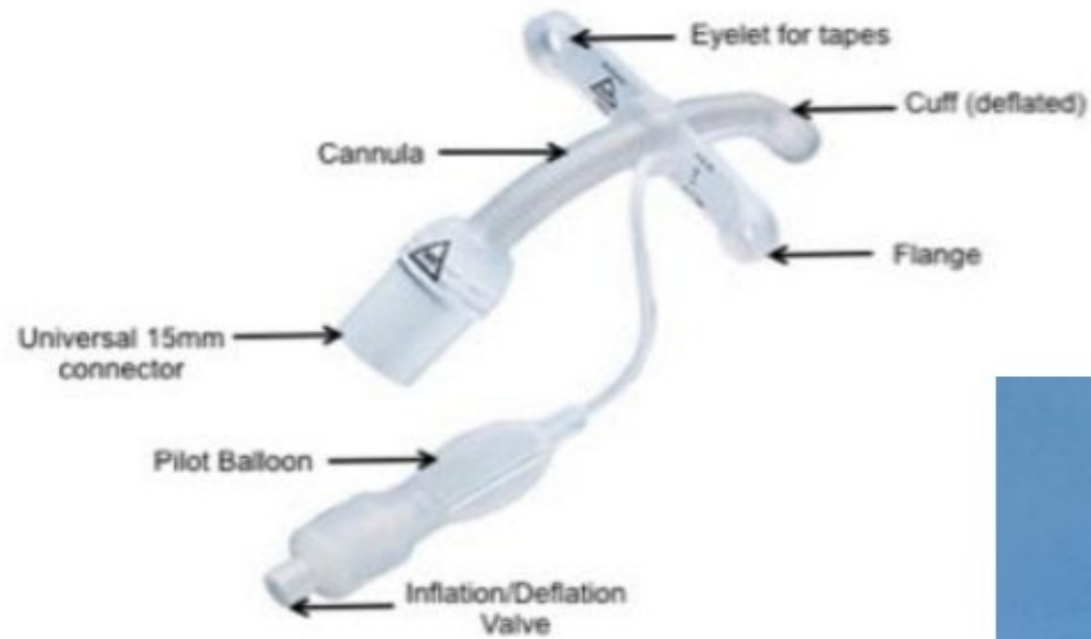
Pediatric trachs are generally placed in children under 12 and adult trachs are used for teenagers.

Adult trachs typically have an inner cannula, that acts as a liner, that gets changed every 12 hours and as needed for mucous plugging. The outer canula should never be removed and only replaced in an emergency if dislodged.

The care of the stoma site is the same.

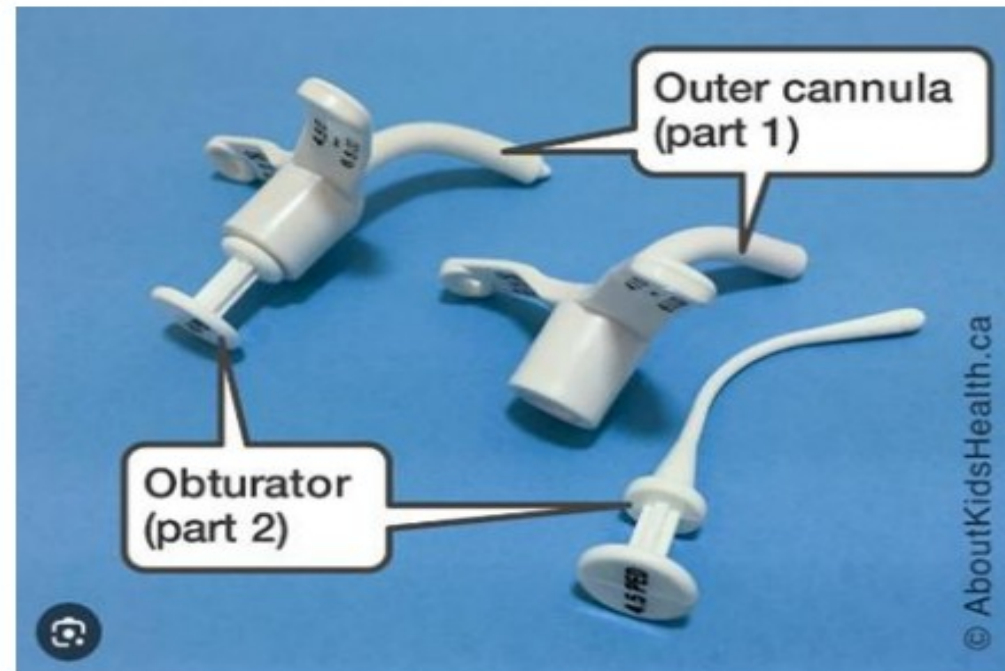


Parts of a Trach



Example of a Bivona, cuffed (TTS), Flextend Neo/Pedi trach

Example of a Shiley, Uncuffed Neo/Pedi trach



Parts of a Trach

Cuffed vs Uncuffed Trachs

Cuffed trachs have a balloon that is inflated with a specific amount of sterile water



Cuffed

Uncuffed trachs do not have a balloon

Type of trach is determined by the physician based on the child's ventilation needs.

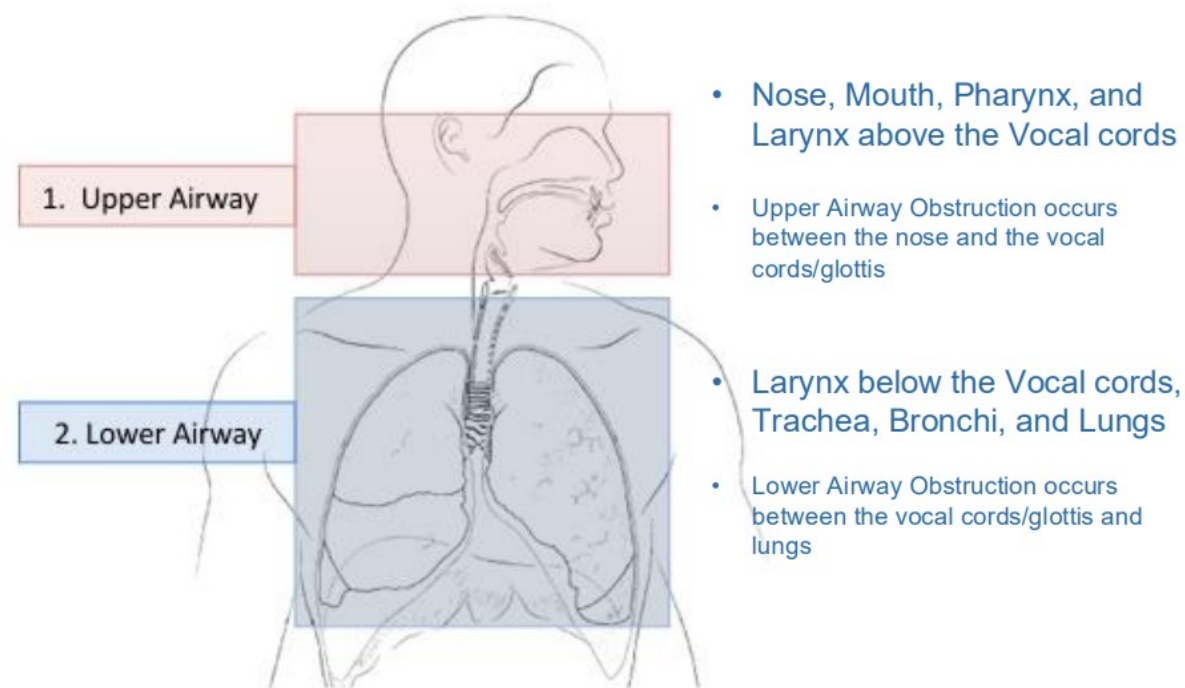


uncuffed

Why would a child need a Trach?

- Upper Airway obstruction: tumors, vascular malformations, stenosis (narrowing), laryngomalacia (floppy airway)
- Lower airway obstructions: tracheomalacia, bronchomalacia, bronchopulmonary dysplasia
- Neuromuscular weakness
 - Inability to protect airway/manage secretions
- Decreased neurological function causing
 - Inability to protect airway/manage secretions
 - Impaired respiratory drive
 - Central apnea
- Long term ventilator needs
 - Need for positive pressure or chronic oxygen
- Facilitate ventilator weaning such as after brain injury

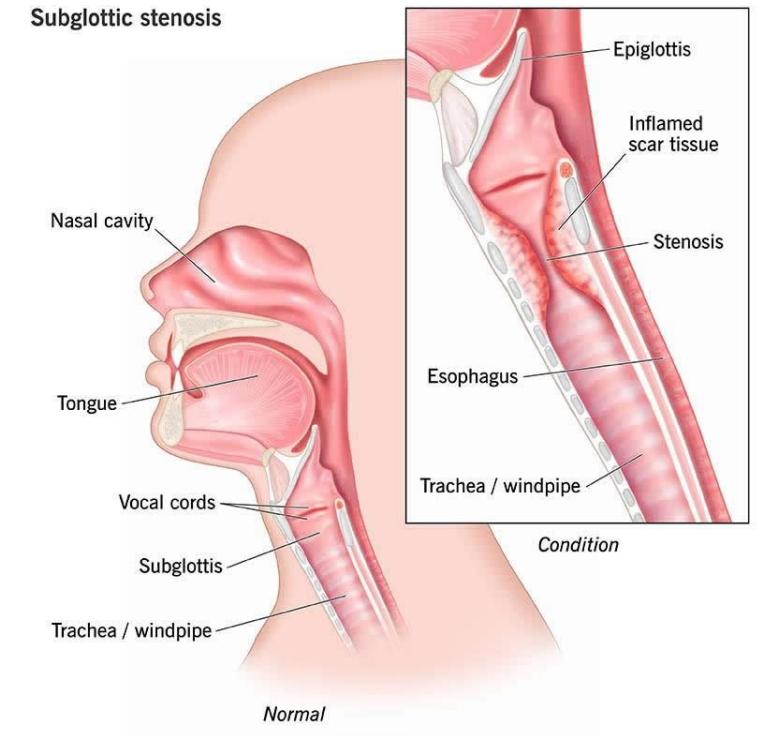
Upper vs Lower Airway



Critical Airway

Can my student be bagged by their mouth and nose in an emergency?

- It is crucial to know why the child needs a trach and if the child has a patent airway above the trach.
- Some children can be ventilated through their mouth and nose during a trach emergency, and some rely on their trach stoma completely.



Routine Trach Care



Trach Orders

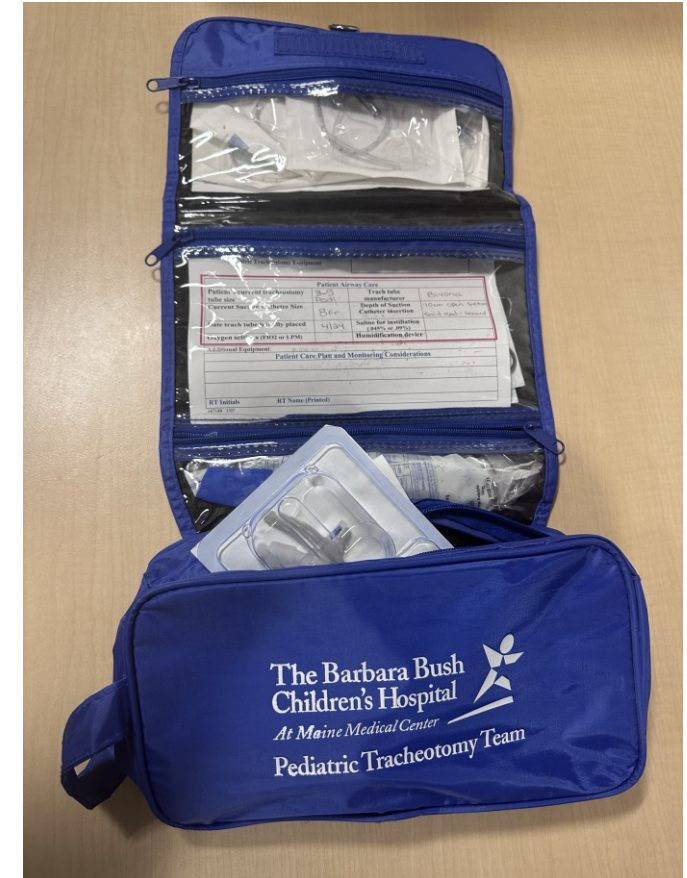
- No standardized order sets for schools.
- If specific orders are needed, the pediatric pulmonology office can send them

Trach Bag

- Every child with a trach will have an emergency trach bag. The bag is typically blue.
- The child should NEVER go anywhere without their trach bag AND a trained caregiver.
- The trach bag contains extra trachs, trach supplies, suction supplies, etc.



This life saving equipment must **always** remain with the child.



Stoma Care

How to Change Trach Ties/ Perform Stoma Care

Ties should be changed daily at a minimum and as needed when soiled

- Two people are needed for a trach tie change.
- One person is responsible for holding the tube in place **at all times**.
- The second person removes the ties, performs stoma care, and replaces ties
 - Clean the stoma and surrounding skin with gauze and sterile water or saline. Dry well with gauze. Never use cotton tipped applicators or anything with loose fibers.
- Ties should be tight enough to fit one finger under it. The tie is the only thing holding this patient's airway in place so it is critical to ensure it is tightened properly.



Suctioning

Suctioning is the most common trach intervention that a child will need at school

How to identify when a child needs suctioning:

- Increased work of breathing
- Decreased oxygen saturation
- Cyanosis
- Unproductive cough with inability to clear secretions



Suctioning

Suctioning Procedure

- Suctioning a trach tube is a clean procedure
- Pediatric trach tubes need to be suctioned to a certain depth, which should be listed on their trach card in their blue trach bag
- Only suction on the way out
- Suction for no more than 5 seconds
- You may need more than one pass to clear secretions, allow patient to recover between suction passes.

Maine Medical Center
Division of Pulmonary Medicine
Pediatric Tracheostomy Equipment

Patient sticker

Patient Airway Care			
Patient's current tracheostomy tube size	3-5 Pedi	Trach tube manufacturer	Bivona
Current Suction Catheter Size	8Fr	Depth of Suction Catheter insertion	10cm open suction Solid Red - ballard
Date trach tube initially placed	4/24	Saline for instillation (.045% or .09%)	
Oxygen settings (FIO2 or LPM)		Humidification device	
Additional Equipment:			
Patient Care Plan and Monitoring Considerations			
RT Initials		RT Name (Printed)	

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Trach Humidification

- The Upper Airway functions as a filter, heater, and humidifier to inspired air. When we bypass the upper airway with a trach tube, we need to provide that filter, heat, and humidity artificially.
- Without humidification, mucous dries out and can cause plugging
- For children who do not need ventilatory support, an HME or “artificial nose”, may be used during the day.
- Active humidification may be given through the direct connect airvo.
- Or the child may be connected to a ventilator with a humidifier



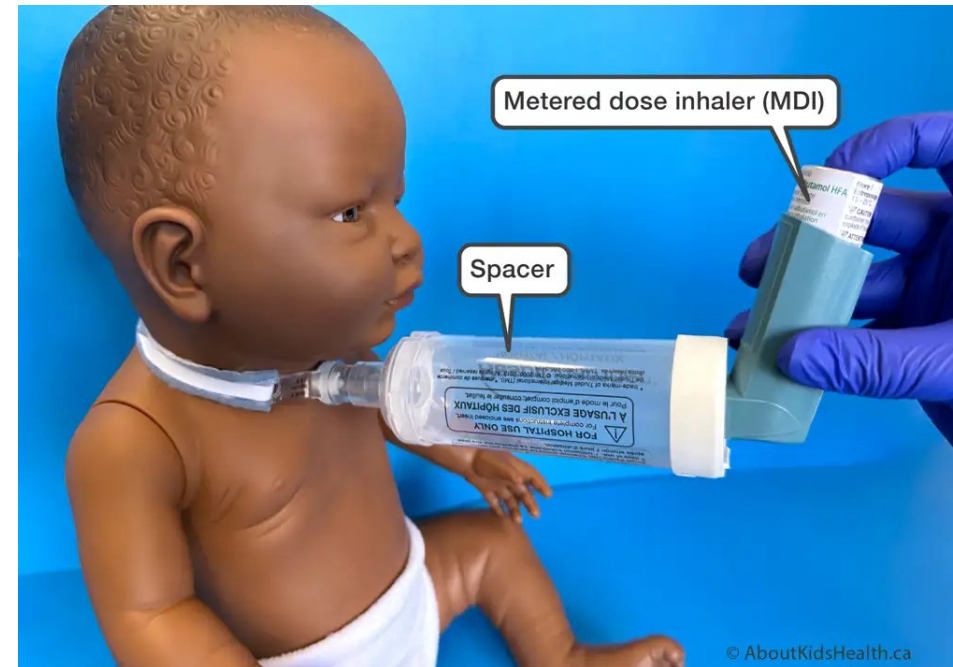
Speaking valves

- Some children with stable trachs can use speaking valves to vocalize.
- One-way valves are placed on to the end of a trach tube, where inhaled air goes in through the valve and then is exhaled through the upper airway and vocal cords, allowing for phonation.
- Speaking valves require an order from a doctor as testing needs to occur to ensure it is safe to use.



Inhalers

- Non vented children needing inhalers will use a specific spacer to attach directly to their trach.
- Vented children will have an inline port



Trach Emergencies

All children with a trach need to have a trained caregiver directly with them 100% of the time to respond to emergencies

There are multiple scenarios that can cause emergencies in children with trachs.

- Mucous Plugs
- Dislodgement
- Equipment malfunction

Trach Emergencies

Mild or Gradual Increased Work of Breathing

If a child presents with mild increased work of breathing but is otherwise stable or is having a gradual increase in cold like symptoms- attempt to suction and then call parent and possibly pulmonary office if needed for guidance.

- Suction the trach tube
- Consider replacing the trach
- Monitor work of breathing and oxygen saturations

Trach Emergencies

Acute Decompensation and Distress

- Quickly assess that all equipment is functioning, if applicable
- Suction the trach
- Replace the trach
 - If unable to replace the same size trach, insert smaller size (located in their blue trach bag)
- Ventilate child with BVM if indicated

When in doubt, change the trach!

How to Change the Trach Tube

- Pediatric Tracheotomy Change (1)



Takeaways

Most important takeaways:

- The child should be with a trained caregiver, who is familiar with the emergency equipment, 100% of the time
- The emergency trach bag should be with the child 100% of the time
- When in doubt, change the trach



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Thank You!