



All Under One Roof

Caring for Children with Medical Complexity Across Settings

Session #2 : Understanding Assistive Technology

2/24/21

Telehealth ROCKS

Rural Outreach for the Children of Kansas



All Under One Roof: Caring for Children with Medical Complexity Across Settings

Session #2

Welcome!

- ▶ Please introduce yourself by name and role in the chat. This is how we are recording attendance, so make sure to add your first and last name to the chat.
- ▶ Your microphone has been **muted**. Please use the chat or unmute yourself to communicate.
- ▶ We appreciate you keeping your camera on.
- ▶ Completion certificates will be emailed after all sessions are complete.
- ▶ Chat will be moderated and materials will be sent after the session.
- ▶ Don't forget to fill out the pre-evaluation survey. Link is in the chat.

Agenda

- ▶ Introduction & disclosures (12-12:05)
- ▶ Didactic presentation (12:05-12:25)
- ▶ Case Presentation (12:25-12:35)
- ▶ Group discussion (12:35-1:00)

Faculty & Presenters

Emily Goodwin MD



T. Ryan Smith MD



Dana Bakula PhD



Project Disclosure Statement

- ▶ We have no relevant financial relationships with the manufacturer(s) of any commercial product(s) and/or provider of commercial services discussed in this activity
- ▶ We do not intend to discuss an unapproved/investigative use of a commercial product/device in our presentation.

Mitigating Potential Bias

- ▶ The information and recommendations involving clinical medicine are based on evidence that is currently accepted within the profession and are not medical advice.

Assessment

- ▶ Surveys: please complete any survey assessments emailed to you related this ECHO series. We appreciate your feedback!
- ▶ Presentation materials: the slides and chat log will be emailed to you.

Caring for Children with Medical Complexity Across Settings

Session #2: Understanding Assistive Technology

T. Ryan Smith, MD

2/24/21



Objectives

1. Become familiar with the breadth of assistive technology found in children with medical complexity (CMC.)
2. Identify and troubleshoot, when permission allows, common issues with assistive technology in CMC.
3. Understand sizing and features of varied assistive technology

Word Cloud

Let us know what words come to mind when you hear
“Assistive Technology”

- ▶ Click the link in the chat
 - ▶ You can skip entering your name
 - ▶ Multiple words must be typed without a space
 - ▶ Example: Type “wordcloud” instead of “word cloud”

[View Poll](#)

Trachs, vents, and tubes, Oh my

A partial list of assistive technology

- ▶ Tracheostomy
- ▶ Ventilator
- ▶ Gastrostomy (G) tube
- ▶ Gastrostomy Jejunostomy (GJ) tube
- ▶ Nasogastric (NG) tube
- ▶ Central Venous Catheter (CVC)
- ▶ Urinary catheters
- ▶ Ventricular Peritoneal (VP) shunt
- ▶ Colostomy/ Ileostomy
- ▶ Baclofen pump
- ▶ Insulin pump
- ▶ Vagal-Nerve Stimulator
- ▶ Defibrillator
- ▶ Wheelchair
- ▶ Orthotics

Look at what I can do with a little help.....

Assistive technology may

- ▶ Facilitate core functions
 - ▶ Breathing
 - ▶ Circulation
 - ▶ Stooling
- ▶ Mobility/ Activities of Daily Living (ADLs)
 - ▶ Wheelchair
 - ▶ Walker
 - ▶ Orthotics
 - ▶ Elongated Straws
- ▶ Communication
 - ▶ Text- to- speech tools
- ▶ Assist medical care
 - ▶ Medication administration
 - ▶ Via feeding tube
 - ▶ Via central venous catheter
 - ▶ Pain control
 - ▶ Seizure treatment
 - ▶ Secretion management

Look at what I can do with a little help.....

Assistive technology may

- ▶ Facilitate core functions
 - ▶ Breathing → ventilator/ bipap/cpap
 - ▶ Circulation → defibrillator
 - ▶ Stooling → colostomy/ ileostomy
- ▶ Mobility / Activities of Daily Living (ADLs)
 - ▶ Wheelchair
 - ▶ Walker
 - ▶ Orthotics
 - ▶ Pencil grips
 - ▶ Elongated straws
- ▶ Assist medical care
 - ▶ Medication administration
 - ▶ Via feeding tube- NG, G, GJ
 - ▶ Via central venous catheter
 - ▶ Spasticity control- baclofen pump
 - ▶ Seizure treatment → vagal nerve stimulator
 - ▶ Secretion management- via tracheostomy

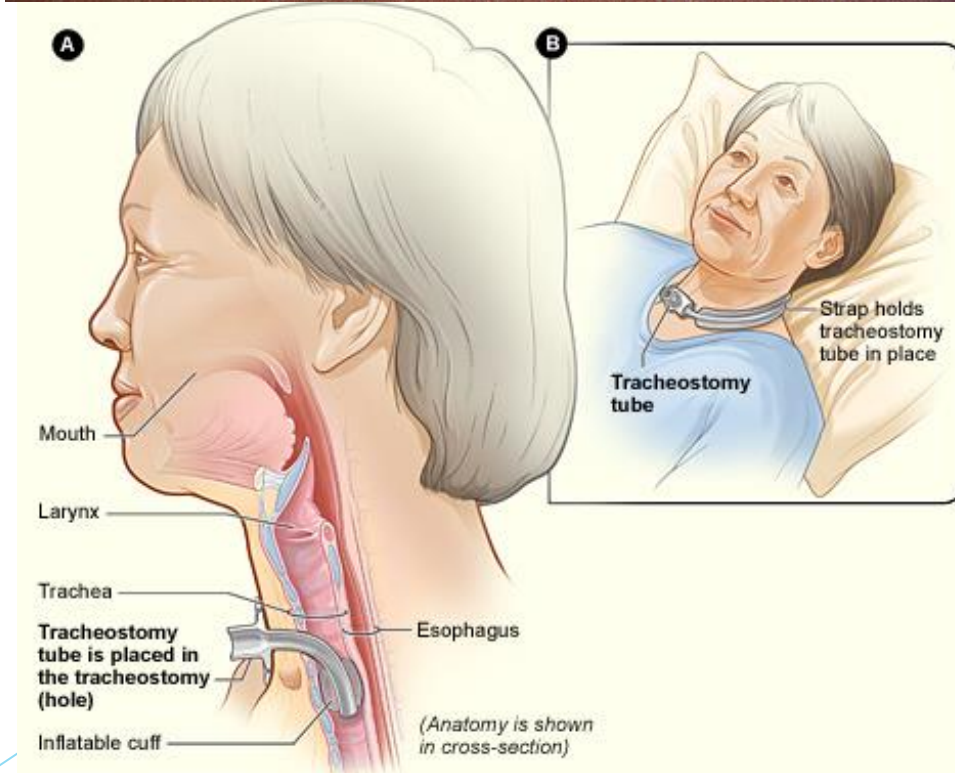
Focus on the Why, Uncover the How

Indications Vary

- ▶ Tracheostomy
 - ▶ Prolonged ventilator need
 - ▶ Fragile airway
 - ▶ Aspiration protection
 - ▶ Suctioning Need
 - ▶ Anatomic reasons
- ▶ Gastrostomy tube
 - ▶ Low weight
 - ▶ Poor oral intake
 - ▶ Dysphagia/ difficulty swallowing
 - ▶ Anatomic reasons

A closer look.... Tracheostomy

- ▶ Size
- ▶ Cuffed vs Uncuffed
- ▶ Lumens- Single vs Double
- ▶ Accessories
 - ▶ Speaking valve (eg Passy- Muir Valve)
 - ▶ Artificial nose

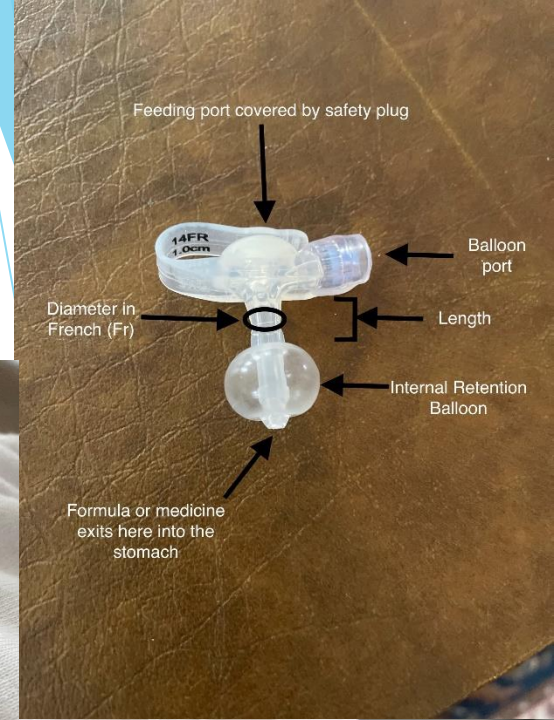


A closer look Gastrostomy

- ▶ Length
- ▶ Width (Fr)
- ▶ Gastric (G) vs Gastric/ Jejunal (GJ)
- ▶ Type
 - ▶ Balloon (Mic-Key and AMT Mini)
 - ▶ Non-balloon (Bard and AMT mini-capsule)



Thanks to Dr. Goodwin for the photos!



Malfunction

- ▶ Infection
- ▶ Bleeding
- ▶ Clotting
- ▶ Return/ Worsening symptoms

More ways than one Medication administration

- ▶ Oral
- ▶ Sublingual
- ▶ Gastrostomy
- ▶ Dermal Patch
- ▶ Rectal
- ▶ Injector
- ▶ Subcutaneous
- ▶ Intravenous
- ▶ Nebulized

Working together under one or many roofs

- ▶ Child
- ▶ Parents/Family
- ▶ Private Duty Nursing
- ▶ School administration
- ▶ School health personnel
- ▶ Teachers
- ▶ Health Care Team

Key Takeaways

- ▶ Multiple assistive technologies may be required for CMC
- ▶ Understanding what and why is critical for addressing problems
- ▶ Communication with family and medical team is critical to troubleshoot malfunction in assistive technology

Key Resources

- ▶ Medical Home Portal- <https://www.medicalhomeportal.org/living-with-child/assistive-technology>
- ▶ Gastrostomy tube video by Children's Mercy Surgery- <https://www.youtube.com/watch?v=uUWLsa5surA&feature=youtu.be>
- ▶ Feeding Tube Awareness- <https://www.feedingtubeawareness.org/>
- ▶ Oley Foundation Troubleshooting a feeding tube- <https://www.feedingtubeawareness.org/>
- ▶ Toronto Sick Kids tracheostomy education- <https://www.aboutkidshealth.ca/article?contentid=3264&language=english>
- ▶ Parent decision guide for tracheostomy - <https://courageousparentsnetwork.org/guides/child-tracheostomy-decision-guide>

Questions?

- ▶ Tracheostomy
- ▶ Ventilator
- ▶ Gastronomy (G) tube
- ▶ Gastrostomy Jejunostomy (GJ) tube
- ▶ Nasogastric (NG) tube
- ▶ Central Venous Catheter
- ▶ Urinary catheters
- ▶ Ventricular Peritoneal (VP) shunt
- ▶ Colostomy/ Ileostomy
- ▶ Baclofen pump
- ▶ Vagal-Nerve Stimulator
- ▶ Defibrillator
- ▶ Wheelchair
- ▶ Orthotics
- ▶ Insulin pump

Case Presentation Discussion

Guest Experts:

Mike Kellogg, RN

Alannah Yoder, PharmD



Case Presentation

Presented by Samantha Moore, BSN, RN

4th grade girl

- ▶ **Diagnoses:** Cerebral palsy, Dysphagia, Epilepsy, Global Developmental Delay, Hydrocephalus s/p VP shunt, Cortical blindness, and Microcephaly.
- ▶ **Medical Concern:** The school team believes there is a significant increase in the intensity and duration in the child's seizure activity. Mom's perception is that they are not seizures. The school team is unclear how to proceed to work with the medical team and support the child.
- ▶ **Equipment:** G-tube, wheelchair, VP shunt, Suctioning PRN, TLSO
- ▶ **Additional info:** Child and mom are refugees. The original shunt was placed for hydrocephalus. The next year, Mom reported a seizure and child began seizure medications. Both diagnoses were before arriving in the US. There seems to be difficulty determining if what we are seeing now is truly a seizure or dystonia.

Case presentation

Next steps:

- ▶ Clarifying questions
- ▶ Recommendations
- ▶ Summary

Participants: type any questions and recommendations you have in the chat

Questions?



All Under One Roof

Thank you for participating!
Slides and materials will be sent to your email.

See you for Session #3 on
March 31st on Educational & Medical Support

Please don't forget to complete survey assessments related to this ECHO series. We value your feedback!