

Children's Heart Institute

## Background

- Critical Congenital Heart Disease (CCHD) can have a significant impact on the gastrointestinal system. Many neonates and infants struggle to tolerate feeds due to significant GERD and slow gastric motility, and often require Transpyloric Tube (TPT) feeds.
- Previous institutional practice of TPT placement had several limitations: a) Transporting of the patient off the Cardiac ICU to a fluoroscopy suite, b) Exposure to increased radiation and c) Availability limited to only weekdays.
- Utilizing a previously published technique, our Cardiothoracic Intensive Care Unit (CTICU) sought to initiate a training program for RN driven, bedside, TPT placement process to overcome the above limitations.

## Methods

- Neonates and infants with CCHD over a 14-month period were included.
- Three RNs were identified to complete the training.
- All RNs had to complete three supervised TPT attempts to complete their competency as shown in *Table 1*.
- A 6Fr, CORFLO TPT with stylet was used in all patients.
- A prokinetic was administered one hour prior to the procedure.
- TPT Positioning was confirmed with an X-ray.
- Patients were monitored for complications.
- Duration of procedure was recorded (*i.e. time from*) nasal insertion to X-ray confirmation).

# Transpyloric Feeding Tube Placement-Mastering the Technique at the Bedside

Jessica Yanto MSN, Elyse Mathis BSN, Shawna Simkins MSN, Constantinos Chrysostomou MD, Children's Heart Institute, MemorialCare Miller Children's & Women's Hospital Long Beach

- All three RNs successfully completed the TPT training.
- duodenum.
- second attempt.
- nine minutes on the second attempt.
- There were no complications.

tients (N)	Age* (mos)	Weight (kg)
25	2 ± 4	4.23 ± 1.06
*11/25 p	atients < on	e-month-of-age
		Table 1 Clinical Comp
		Name:
	1.	The RN is required to participate supervision of a TPT competency
		<ol> <li>Gathers appropriate equipment</li> <li>Non-weighted bullet-tip</li> <li>Water</li> <li>Gloves- follow standard</li> <li>5 mL (&lt;1 mo) or 10 mL s</li> <li>Duoderm &amp; Tegaderm</li> </ol>
		<ol> <li>Measures with the TPT from an xiphoid process and umbilicus) xiphoid process to right poster (transpyloric mark).</li> </ol>
		3. Positions child in the right later
		<ol> <li>Moistens tip and first few cent lubricant.</li> </ol>
		<ol> <li>Gently advances TPT through a should be closed with cap durin air. Listen with stethoscope ov placement.</li> </ol>
		<ol> <li>While insufflating stomach with second marks (transpyloric marks)</li> </ol>
		<ol><li>If "+ snap", secure TPT with sty to confirm placement.</li></ol>
		8. DOES NOT USE TUBE UNLESS P
		9. CAUTION: Ensures Stylet is NEV

All 25 TPTs (100%) were successfully placed past the first part of the

Twenty-four (96%) TPTs were placed on first attempt and one on the

Procedure duration was < four minutes during all first attempts, and

	Insertion Attempts	Successful IFI Flacement (10)
	1 ± 0.28	25 (100)
ten of	cy for the Registered Nurse Performing Inserti a Transpyloric Tube (TPT)	ion MemorialCare- Miller Crockram & Registed Long Reals
in 1 : valic	imulation and demonstrate 2 successful TPT inserti ated RN to complete initial and annual competency	ions under the y validation.
	Critical Elements	
t for	procedure: ding tube with stylet	
l pre syrin	cautions ge (>1 mo)	
n ear . Not ior a	lobe tragus to the tip of the nose to a point mic e measurement (gastric mark). Measures with cillary line at the ileac crest. Note TPT at this mo	dway between the the TPT from the easurement
al re	cumbent position, if possible.	
imet	ers of the TPT by passing TPT in sterile water. D	Do not use
ng in er ga	e to the first measurement (gastric mark). Side sertion. Attach syringe to stylet end to insufflat stric area while insufflating air into stomach to	port of TPT te stomach with confirm proper
h 5 to rk).	o 10 mL of air, advances TPT with a twisting mo	otion to the
let i	n place with tape and obtains a KUB (flat plate o	of abdomen) x-ray
LACE	MENT VERIFIED AND CONFIRMED BY ATTENDI	ING PHYSICIAN.
_	Stormer and the memory will be all and the	





### Conclusions

Following a strict training protocol, a nurse driven process for inserting TPTs can be safely implemented.

In our series, there were no complications. None of the patients needed off the unit transport, radiation was minimized to a single X-ray and TPTs were placed at any day of the week.

Additionally, all TPTs were placed within minutes, ensuring timely initiation of feeds.

MJ, Sanders SV, Dean JM, Jackson D. Bedside transpyloric tube placement in the pediatric intensive care unit. JPEN J ter Enteral Nutr. 1996 Jan-Feb;20(1):88-90

ier Performance Manager - Clinical Skills. (2021, October). Feeding Tube: Transpyloric Insertion (Pediatric). Elsevier Clinical Phipps LM, Weber MD, Ginder BR, Hulse MA, Thomas NJ. A randomized controlled trial comparing three different iques of nasojejunal feeding tube placement in critically ill children. JPEN J Parenter Enteral Nutr. 2005 Nov-Dec;29(6),