



# Bibliography 2023-2024

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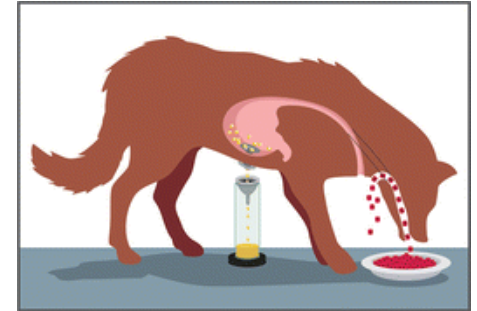
# ERNICA-ESPGHAN Joint Educational Session on Feeding, Nutrition and Growth in Esophageal Atresia Patients – 10 April 2024

- ❑ How to prevent feeding problems in the peri/post-operative period: Replogle tube management pre-operative, Sham feeding programs, breastfeeding – Jan F Svensson & Anna-Maria Tollne, Karolinska University Hospital, Stockholm
  
- ❑ → Search PUBMED: Esophageal atresia and "sham feeding"
  - Soyer T, Arslan SS, Boybeyi Ö, Demir N, Tanyel FC. The Role of Oral Feeding Time and Sham Feeding on Oropharyngeal Swallowing Functions in Children with Esophageal Atresia. **Dysphagia**. 2023 Feb;38(1):247-252
  - Tollne A, Nilsson T, Svensson JF, Almström M, Öst E. Parents' experiences of sham feeding their child with esophageal atresia at home while awaiting reconstructive surgery. A qualitative interview study. **Pediatr Surg Int**. 2024 Feb 29;40(1):61.

# Sham feeding

- ❑ **Any procedure that mimics normal food consumption** but where food and drink are not actually digested or absorbed
  - Stimulates gastric, duodenal and rectal motility
  - Produces saliva and pancreatic secretions
  - Trigger gastrointestinal hormone release
- ❑ **In animal research : insertion of a tube into either the oesophagus or stomach, that leaks out anything that has been swallowed**
- ❑ **In humans**
  - **chewing gum also considered sham feeding** : stimulates digestive system nerves which trigger the release of gastrointestinal hormones, and increase the production of both saliva and pancreatic secretions
  - **modified sham feeding (MSF)** involves smelling, tasting and chewing food, then spitting it out when it would normally be swallowed

Sham feeding experiment to demonstrate initiation of cephalic phase of gastric secretion



## In adults, sham feeding or modified sham feeding

- ❑ Effects of Postoperative Gum Chewing on Recovery of Gastrointestinal Function Following Laparoscopic **Gynecologic** Surgery: Systematic Review and Meta-Analysis of Randomized Controlled Trials. Tuscharoenporn T et al, J Clin Med. 2024 May 12;13(10):2851
  - Nine RCTs (1011 patients); 3 studies with low risk of bias, 3 some concerns, 3 high risk of bias
  - Time to the presence of bowel sounds (mean difference [MD]  $-2.66$  h, 95% confidence interval [CI]  $-3.68$  to  $-1.64$ ,  $p < 0.00001$ ) and time to the first passage of flatus (MD  $-4.20$  h, 95% CI  $-5.79$  to  $-2.61$ ,  $p < 0.00001$ ) significantly shorter in the gum-chewing group.
  - No statistical difference for the time to the first defecation, the first postoperative mobilization, postoperative ileus, and length of hospital stay
- ❑ The Impact of Sham Feeding with Chewing Gum on Postoperative Ileus Following **Colorectal Surgery**: a Meta-Analysis of Randomised Controlled Trials. Roslan F et al, J Gastrointest Surg. 2020 Nov;24(11):2643-2653
  - Ten studies (970 patients)
  - The incidence of post operative ileus significantly reduced (RR 0.55, 95% CI 0.39, 0.79,  $p = 0.0009$ ); significant reduction in time to passage of flatus (WMD  $-0.31$ , 95% CI  $-0.36$ ,  $-0.26$ ,  $p < 0.00001$ ) and time to defecation (WMD  $-0.47$ , 95% CI  $-0.60$ ,  $-0.34$ ,  $p < 0.00001$ )
  - no significant differences in the total length of hospital stay or mortality

## In neonates with EA

- ❑ **Failure to establish sucking and swallowing skills** as a consequence of primary esophageal repair is the common cause of **feeding difficulties and food aversion** during infancy in patients with EA
- ❑ Golonka et al. Am J Surg. 2008;195:659–62
  - sham feeding protocol for neonates requiring a delayed primary esophageal repair
  - offer small volume of feedings orally while a Replogle suction system was concomitantly placed nasally into the upper esophageal pouch to perform a continuous suction during swallowing
  - 4 infants successfully completed the sham feeding protocol before undergoing delayed primary esophageal repair. After repair, they had a shortened time to full oral feeding.





## The Role of Oral Feeding Time and Sham Feeding on Oropharyngeal Swallowing Functions in Children with Esophageal Atresia

Tutku Soyer<sup>1</sup> · Selen Serel Arslan<sup>2</sup> · Özlem Boybeyli<sup>1</sup> · Numan Demir<sup>2</sup> · Feridun Cahit Tanyel<sup>1</sup>

- ❑ Background: ERNICA consensus report recommends early oral stimulation, including sensory stimulation and sham feeding to avoid abnormal feeding behavior in patients with delayed repair. However, there is no evidenced-based study showing that early oral feeding and sham feeding contributes positively to the development of oro-pharyngeal functions in EA patients.
- ❑ Aim: Retrospective study to evaluate the role of oral feeding time and SF on oral-pharyngeal swallowing functions in children with EA
- ❑ 55 EA patients with videofluoroscopic evaluation (VFSE) performed three to six weeks after full oral feeding
  - 3 ml liquid and pudding barium
  - Penetration and Aspiration Score (PAS) (score 1 to 8 → 1='no penetration and aspiration', 2 to 5 = 'penetration', 6 to 8 = 'aspiration')
  - Delay in swallowing reflex
  - Residue after liquid and pudding consistency

## Clinical characteristics

Parameters	Early Primary repair ( <i>n</i> = 30)	Delayed primary repair ( <i>n</i> = 13)	Esophageal replacement ( <i>n</i> = 12)	<i>p</i> values
Age (month, min–max)	7.3 (5–10)	10.8 (9–12)	14.63 (12–16)	–
Sex (M:F)	17:13	6:7	8:4	–
Gross type of atresia ( <i>n</i> , %)				–
A	–	11 (84,6)	7 (58.3)	
B	–	–	1 (8.3)	
C	23 (76.6)	2 (15.8)	4 (33.3)	
D	1 (3.3)	–	–	
The mean time of operations (days)	2,6 (2–4)	71.8 (32–102)	378,9 (301–482)	<b>&lt;0.05</b>
Mean gestational age (weeks)	37,2 (35–39)	36,7 (34–38)	36 (32–38)	>0.05
Oral feeding time after repair ( <i>n</i> )				
< 7 days	24 (80)	-	-	<b>&lt;0.05</b>
8 to 30 days	5 (16.6)	-	-	
> 30 days	1 (3.3)	13 (100)	12 (100)	

# Results - Videofluoroscopic evaluation (VFSE)

Parameters	Early Primary repair (n= 30)	Delayed primary repair (n= 13)	Esophageal replacement (n= 12)	p values
Mean time of VFS evaluation after repair (months)	1.2 (1–2)	3.57 (2–6)	3.25 (2–5)	>0.05
PAS liquid	1 (1–8)	2 (1–8) <sup>β</sup>	1 (1–1) <sup>β</sup>	<b>= 0.032</b>
PAS pudding consistency	1 (1–1) <sup>α</sup>	1 (1–7) <sup>α</sup>	1 (1–1)	<b>= 0.030</b>
Oral dysphagia (n, %)	2 (6.6) <sup>ω</sup>	3 (23)	4 (33.3) <sup>ω</sup>	<b>= 0.017</b>

- ❑ Sham feeding in patients with and without sham feeding in colonic interposition group
  - no significant difference
- ❑ ➔ To define the real role of sham feeding on oro-pharyngeal functions, studies including large cohort of patients are needed. Also, not only patients with CI, the results of sham feeding in patients with EPR and DPR should be investigated.

Parameters	With SF (n= 6)	Without SF (n= 6)	p values
Mean time of VFS evaluation after repair (months)	3 (2–4)	3.25 (2–5)	>0.05
PAS liquid	1 (1–1)	1 (1–1)	>0.05
PAS pudding consistency	1 (1–1)	1 (1–1)	>0.05
Oral dysphagia (n, %)	2 (33.2)	2 (33.2)	>0.05
Swallowing reflex problem	0,0	1 (16.6)	>0.05





## Parents' experiences of sham feeding their child with esophageal atresia at home while awaiting reconstructive surgery. A qualitative interview study

AnnaMarla Tollne<sup>1</sup> · Tuva Nilsson<sup>1</sup> · Jan F. Svensson<sup>1,2</sup> · Markus Almström<sup>1,2</sup> · Elin Öst<sup>1,2</sup>

- ❑ Qualitative study to explore parents' experience of sham feeding their baby born with esophageal atresia at home, waiting for reconstructive surgery
- ❑ interview by speaker phone or digitally, 20 to 55 min
- ❑ semi-structured guide with background questions and open-ended questions about parents' experience of sham feeding at home
- ❑ between 2018 and January 2023,
  - 8 patients with sham feeding considered to the study,
  - 6 included

## Parents experienced that sham feeding reinforced the infants' healthy abilities

- ❑ parents were grateful for having sham fed their children
- ❑ belief that sham feeding had an impact on how well the child was able to eat after reconstructive surgery
- ❑ feeling of trust in their child's own abilities
- ❑ resource demanding and challenging
- ❑ feeling of confidence in their own or in their partners' parenting abilities

## To see healthy abilities

- ❑ feeling of closeness and normality
- ❑ strong *desire to live a normal life*
- ❑ *sense of connection with their child*
- ❑ difficult to sham-breastfeed, easier for the child to take the bottle instead
- ❑ sham feeding was a two-person job, stressful to integrate sham feeding into everyday life
- ❑ opportunity for siblings to be involved

## Resources and skills

- ❑ child's learning curve was similar to that of a healthy child
- ❑ feeling of trust and confidence in their own parenting skills

# Hindrances

- ❑ *complications dimmed the experience* of sham feeding
- ❑ *health care system as a hindrance* when the nursing staff sometimes lacked competence regarding sham feeding
- ❑ In some cases, the parents felt that they had great confidence in their abilities to care for their child, but that health care professionals rather held them back, which resulted in the parents' feeling controlled and distrusted
- ❑ private moment with their baby and that it was difficult to keep it that way when a lot of nursing staff would be present
- ❑ stressful feeling to be observed

