

## Hypertrophic Pyloric Stenosis Care Pathway

Version: 2

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### 1.0 Introduction

#### 1.1 Target Population:

- This pathway is for use with children aged 2-8 weeks old with no underlying disease or comorbidity who have been diagnosed with hypertrophic pyloric stenosis by the General Surgery Team who require open or laparoscopic pyloromyotomy.
- Patients are to be removed from this pathway if there are significant postoperative complications for example bowel obstruction or prolonged TPN; or a change in diagnosis.

#### 1.2 Target users:

- Surgeons, medical trainees (residents and fellows), Nurse Practitioners, and bedside nurses.

## 2.0 Guideline

### Hypertrophic Pyloric Stenosis Care Pathway

Expected Date of Discharge:

	PRE-OPERATIVE	RECOVERY	DISCHARGE
GOALS	<ol style="list-style-type: none"> <li>1. Hydration maintained</li> <li>2. Electrolyte correction</li> <li>3. Patient prepared for OR</li> <li>4. Child and family to complete pre-op bath (wipes provided upon arrival); Refer to <a href="#">procedure document</a></li> </ol>	<ol style="list-style-type: none"> <li>1. Afebrile with vital signs stable</li> <li>2. Adequate pain control</li> <li>3. Begin feeding as tolerated</li> <li>4. Incision intact and no drainage</li> </ol>	<ol style="list-style-type: none"> <li>1. Afebrile</li> <li>2. Adequate pain control</li> <li>3. Ambulating</li> <li>4. Able to tolerate diet</li> <li>5. Incision dry and intact</li> <li>6. Child/ caregiver teaching completed</li> <li>7. Family understands discharge teaching</li> </ol>
PHYSICAL EXAM	<ul style="list-style-type: none"> <li>• Obtain history</li> <li>• Complete physical exam</li> <li>• Obtain weight and height</li> <li>• Assess vital signs</li> <li>• Complete pain assessment (refer to <a href="#">Pain Assessment Guidelines</a>)</li> <li>• Obtain in and out</li> </ul>	<ul style="list-style-type: none"> <li>• Complete pain assessment every 4 hours</li> <li>• Ensure child has adequate pain control (refer to <a href="#">Pain Management Guidelines</a>)</li> <li>• Monitor vital signs as per BPews</li> <li>• Obtain accurate in and out</li> <li>• Complete wound assessment</li> <li>• Obtain daily weights</li> <li>• Remove surgical dressing and leave steristrips</li> </ul>	
DIET & IV FLUIDS	<ul style="list-style-type: none"> <li>• Ensure NPO</li> <li>• Set NG tube to low intermittent suction</li> <li>• Administer D5W/0.9 NaCl with 20mmol KCL/L at maintenance</li> <li>• Bolus as indicated</li> <li>• Refer to <a href="#">Fluid and Electrolyte Guidelines</a></li> </ul>	<ul style="list-style-type: none"> <li>• Administer D5W/0.9 NaCl with 20mmol KCL/L at maintenance until adequate fluid intake</li> <li>• Bolus as indicated</li> <li>• Refer to <a href="#">Fluid and Electrolyte Guidelines</a></li> <li>• Initiate feeds 2 hours post-op or when child is alert (full strength formula or breast milk); obtain pre-post weight; ideal volume feed based on 150 mL/Kg/day</li> <li>• If child tolerating feeds, continue towards goal of ideal volume feed (breast feed or formula every 3 hours); and continue until discharge</li> <li>• If child <u>not</u> tolerating feeds (if vomit ≥25% of ideal feed volume), wait 1 hour and repeat</li> <li>• Refer to <a href="#">feeding algorithm</a></li> </ul>	
LABS & MEDICATION	<ul style="list-style-type: none"> <li>• Complete CBC and differential</li> <li>• Order electrolytes (K<sup>+</sup>, Cl<sup>-</sup>, Na<sup>+</sup>, VBG, urea, creatinine)</li> </ul>	<ul style="list-style-type: none"> <li>• Complete labs as indicated</li> <li>• Ensure adequate pain control</li> <li>• If pain/fever, administer Acetaminophen as indicated</li> <li>• If signs of wound infection, assess need for antibiotics (refer to r-formulary)</li> </ul>	<ul style="list-style-type: none"> <li>• Provide prescription for oral antibiotics if indicated</li> </ul>
EDUCATION	<ul style="list-style-type: none"> <li>• Provide caregiver education i.e. diagnosis is not a surgical emergency and that child may have to wait for surgery; and review pre-operative process</li> <li>• Review and obtain informed consent for surgery</li> </ul>	<ul style="list-style-type: none"> <li>• Review incision care: leave steristrips in until they fall off or remove after 10 days; and gently wash incision with soap and water</li> <li>• Review signs and symptoms of wound infection: fever, redness around incision. Drainage from incision, and increasing pain around incision</li> <li>• Review bathing i.e. may bathe 48 hours after surgery</li> </ul>	<ul style="list-style-type: none"> <li>• Review when to call surgeon's office: wound infection, increase in vomiting from baseline, and fever</li> </ul>

Printable versions of:

[Hypertrophic Pyloric Stenosis Pathway](#)  
[Post-op Feeding Algorithm](#)

## 3.0 References

1. Ostle, D. J & Holcomb, GW. (2007). Open versus laparoscopic pyloromyotomy for hypertrophic pyloric stenosis. *Advances in Surgery*, 41, 81-91.
2. Adibe, O, Nichol, P, Lim, F, Mettei, P. (2007). Ad libitum feeds after laparoscopic pyloromyotomy: a retrospective comparison with a standardized feeding regimen in 227 infants. *Journal of Laparoendoscopic and Advanced Surgical Techniques Part A*. 17, (2) 235-7.
3. Aseplund, G. & Langer, J. Current Management of hypertrophic pyloric stenosis. *Seminars in Pediatric Surgery*, 16 (1), 27-33.
4. Helton, K., Strife, J., Warner, B., Byczkowski, T. & Donovan, E. (2004). The impact of a clinical guideline on imaging children with hypertrophic pyloric stenosis. *Pediatric Radiology*, 34, 733-736.
5. Puapong, D., Kahng, D., Ko, A. & Applebaum, H. (2002). Ad libitum feeding: Safely improving the cost-effectiveness of pyloromyotomy. *Journal of Pediatric Surgery*, 37, 1667-1668.
6. Garza, J., Morash, D., Dzakovic, A., Mondschein, J. & Jaksic, T. (2002). Ad libitum feeding decreases hospital stay in neonates after pyloromyotomy. *Journal of Pediatric Surgery*, 37, 493-495.
7. Michalsky, M., Pratt, D., Caniano, D. & Teich, S. (2002). Streamlining the care of patients with hypertrophic pyloric stenosis: Application of a clinical pathway. *Journal of Pediatric Surgery*, 37, 1072-1075.

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8. Cincinnati Children's Hospital Medical Center. (2001). Evidence based clinical practice guideline for hypertrophic pyloric stenosis. Cincinnati (OH): Cincinnati Children's Hospital Medical Center; Aug 8.
9. Children's Hospital Central California Pyloric Stenosis Surgical Pathway
10. University of Maryland Medical Systems Physician Order Sheet – Pyloric Stenosis
11. Hall, N., Pacilli, M., Eaton, S., Reblock, K., Gaines, B., Pastor, A., Langer, J., Koivusalo, A., Pakarinen, M., Stroedter, L., Beyerlein, S., Haddad, M., Clarke, S., Ford, H. & Pierro, A. (2009). Recovery after open versus laparoscopic pyloromyotomy for pyloric stenosis: a double-blind multicentre randomised controlled trial. *Lancet*, 373, 390-98.
12. International Pediatric Endosurgery Group.(2004). IPEG Guidelines for surgical treatment of infantile hypertrophic pyloric stenosis. *Pediatric Endosurgery & Innovative Techniques*, 7(2): 214-7.
13. Jobson, M & Hall, NJ (2016). Contemporary management of pyloric stenosis. *Seminars in Pediatric Surgery*. 25, 219-224. <https://doi.org/10.1053/j.sempedsurg.2016.05.004>

## 4.0 Guideline Group and Reviewers

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### **Attachments:**

[py stenosis final 2019.pdf](#)

[Pyloric Stenosis Post-op Feeding Algorithm.pdf](#)