



Complete Summary

GUIDELINE TITLE

Evidence based clinical practice guideline for children with hypertrophic pyloric stenosis.

BIBLIOGRAPHIC SOURCE(S)

Cincinnati Children's Hospital Medical Center. Evidence based clinical practice guideline for hypertrophic pyloric stenosis. Cincinnati (OH): Cincinnati Children's Hospital Medical Center; 2001 Aug 8. 16 p. [186 references]

COMPLETE SUMMARY CONTENT

- SCOPE
- METHODOLOGY - including Rating Scheme and Cost Analysis
- RECOMMENDATIONS
- EVIDENCE SUPPORTING THE RECOMMENDATIONS
- BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS
- QUALIFYING STATEMENTS
- IMPLEMENTATION OF THE GUIDELINE
- INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT CATEGORIES
- IDENTIFYING INFORMATION AND AVAILABILITY

SCOPE

DISEASE/CONDITION(S)

Hypertrophic pyloric stenosis

GUIDELINE CATEGORY

- Diagnosis
- Evaluation
- Management
- Treatment

CLINICAL SPECIALTY

- Emergency Medicine
- Family Practice
- Gastroenterology
- Pediatrics
- Radiology
- Surgery

INTENDED USERS

Advanced Practice Nurses
Nurses
Pharmacists
Physician Assistants
Physicians

GUIDELINE OBJECTIVE(S)

To provide evidence based clinical practice guidelines for the management of children with hypertrophic pyloric stenosis

TARGET POPULATION

- Children <3 months of age with signs, symptoms or exam findings suggesting a diagnosis of hypertrophic pyloric stenosis

These guidelines are not intended for use in patients with:

- Suspected sepsis
- Billious vomiting suggesting intestinal obstruction
- History or presence of significant comorbidities or chronic conditions which would alter approaches to care

INTERVENTIONS AND PRACTICES CONSIDERED

Diagnostic assessment

1. Assessment of signs and symptoms with physical examination, palpation of the hypertrophic pyloric muscle mass, and estimation of dehydration
2. Laboratory assessment including electrolytes
3. Ultrasound exam (US)
4. Upper gastrointestinal series (UGI)

Surgical correction and postoperative management

1. Ramstedt pyloromyotomy
2. Anesthetic management
3. Pain assessment and management using the Neonatal Infant Pain Scale, wound infiltration with local anesthetic (e.g., bupivacaine), and administration of acetaminophen
4. Infection prophylaxis with cefazolin or clindamycin
5. Feeding advancement
6. Parent education and counseling

MAJOR OUTCOMES CONSIDERED

- Sensitivity, specificity, accuracy, and predictive value of diagnostic instruments
- Rates of postoperative infection

- Rates and severity of postoperative vomiting

METHODOLOGY

METHODS USED TO COLLECT/SELECT EVIDENCE

Searches of Electronic Databases

DESCRIPTION OF METHODS USED TO COLLECT/SELECT THE EVIDENCE

Not stated

NUMBER OF SOURCE DOCUMENTS

Not stated

METHODS USED TO ASSESS THE QUALITY AND STRENGTH OF THE EVIDENCE

Weighting According to a Rating Scheme (Scheme Given)

RATING SCHEME FOR THE STRENGTH OF THE EVIDENCE

Evidence Based Grading Scale:

A: Randomized controlled trial: large sample

B: Randomized controlled trial: small sample

C: Prospective trial or large case series

D: Retrospective analysis

E: Expert opinion or consensus

F: Basic laboratory research

S: Review article

M: Meta-analysis

Q: Decision analysis

L: Legal requirement

O: Other evidence

X: No evidence

METHODS USED TO ANALYZE THE EVIDENCE

Systematic Review

DESCRIPTION OF THE METHODS USED TO ANALYZE THE EVIDENCE

These recommendations were formulated by a working group including community and hospital based physicians, nurses, and pharmacists, who examined current local clinical practices and performed extensive and critical literature reviews using the evidence-based grading scale defined above and in the "Major Recommendations" field.

During formulation of the guidelines, the committee members remained cognizant of controversies and disagreements over the management of patients with hypertrophic pyloric stenosis. They tried to resolve controversial issues where possible and, when not possible, to offer optional approaches to care in the form of information that includes best supporting evidence of efficacy for alternative choices.

METHODS USED TO FORMULATE THE RECOMMENDATIONS

Expert Consensus

DESCRIPTION OF METHODS USED TO FORMULATE THE RECOMMENDATIONS

The recommendations contained in this document were formulated by a working group including community and hospital based physicians, nurses, and pharmacists, who examined current local clinical practices and performed extensive and critical literature reviews.

During formulation of these guidelines, the committee members have remained cognizant of controversies and disagreements over the management of these patients. They have tried to resolve controversial issues where possible and, when not possible, to offer optional approaches to care in the form of information that includes best supporting evidence of efficacy for alternative choices.

RATING SCHEME FOR THE STRENGTH OF THE RECOMMENDATIONS

Not applicable

COST ANALYSIS

A formal cost analysis was not performed and published cost analyses were not reviewed.

METHOD OF GUIDELINE VALIDATION

Peer Review

DESCRIPTION OF METHOD OF GUIDELINE VALIDATION

The guidelines have been reviewed and approved by senior management, Legal Services, the Institutional Review Board, the hospital's Pharmacy and Therapeutics, Clinical Practices, Executive, and other committees and other individuals as appropriate to their intended purposes.

RECOMMENDATIONS

MAJOR RECOMMENDATIONS

Each recommendation is followed by evidence grades (A-X) identifying the type of supporting evidence. Definitions of the evidence grades are presented at the end of the Major Recommendations field.

Clinical Assessment

History of Symptoms

1. It is recommended that practitioners consider the diagnosis of hypertrophic pyloric stenosis in an otherwise healthy infant between the age of 2 and 12 weeks of life who presents with projectile and/or frequent episodes of non-bilious emesis with or without associated weight loss. Increasing frequency and volume of vomiting, despite trials of small frequent feedings of formula, breast milk and Pedialyte, often are suggestive of hypertrophic pyloric stenosis (Smith, Mihalov, & Shields, 1999 [D]; Breaux & Georgeson, 1986 [D]).

Physical Exam

1. In an infant with the above history, palpation of the hypertrophic pyloric muscle mass (also called the olive) in the epigastrium or right upper quadrant (RUQ) by a skilled examiner is pathognomonic for the diagnosis of hypertrophic pyloric stenosis. If the olive is palpated, no additional diagnostic testing may be necessary. Gastric distension or visible gastric peristalsis, seen as a wave of contraction from the left upper quadrant to the epigastrium, may be seen in some cases (Murtaugh et al., 1992 [S]; Spicer, 1982 [S]). The inability of a clinician to palpate an olive does not rule out the diagnosis of hypertrophic pyloric stenosis (Forman, Leonidas, & Kronfeld, 1990 [C,D]).
 - Note 1: Several methods for olive palpation are recommended (Garcia & Randolph, 1990 [S], Spicer, 1982 [S]). One method is described below.
 - Remove the child's clothing so as to expose the abdomen. Allow patient to relax by sucking on sugar water while lying supine in the parent's lap.
 - Gently elevate the child's feet and flex the legs (this relaxes the abdominal wall).
 - Place examining hand between the child's legs so that the fingers rest on the abdominal wall. Using fingertips, palpate the inferior margin of the liver edge,

- Slide fingertips under the liver edge and superiorly under liver, then posteriorly to the back of the abdomen.
- With fingers flexed and palpating the posterior abdomen, draw fingers inferiorly along abdominal wall. The "olive" will pop under the fingers.
- The mobility of the pyloric olive in all 4 directions distinguishes hypertrophic pyloric stenosis from a retroperitoneal mass.
- When palpable, the olive will feel smooth and hard, oblong, and approximately 1.5 to 2.0 centimeters in size.
- Note 2: The ability to palpate the olive varies with the experience and persistence of the examiner and ranges from 40% to 100% (Murtaugh et al., 1992 [S]).

Estimating Dehydration in Hypertrophic Pyloric Stenosis

1. Dehydration may be encountered in patients with hypertrophic pyloric stenosis. Estimating dehydration is an important first step in determining optimal approaches to diagnose hypertrophic pyloric stenosis. Acute body weight changes provide the best measure of dehydration in a young child (Duggan et al., 1996 [C]; Gorelick, Shaw, & Murphy,* 1997 [C]). Mucous membrane hydration, capillary refill time (Saavedra, Harris, & Finberg, 1991 [D]), absence of tears, and alterations in mental status are the next best associated measures. The presence of any three or more of these latter four signs has a sensitivity of 87% and specificity of 82% for detecting a deficit of 5% or more (Duggan et al., 1996 [C]; Gorelick, Shaw, & Murphy,* 1997[C]). (See Table 1 titled "Physical Parameters Associated with Degree of Dehydration" in the original guideline document for more information.)

Laboratory Assessment

1. The assessment of electrolyte status is not routinely indicated in the early diagnosis of hypertrophic pyloric stenosis. Once a diagnosis is confirmed, it is recommended that the electrolyte status of the patient be checked pre-operatively and any significant abnormalities in electrolytes or hydration status be addressed prior to surgery. The Cincinnati Children's Hospital Medical Center Department of Anesthesiology suggests a pre-operative bicarbonate level of ≤ 30 mEq/L, be achieved before surgical correction is performed (Local expert consensus [E]; Bissonnette & Sullivan, 1991 [S]; Habre et al., 1999 [D]; Goh et al., 1990 [C]; Graham et al., 1993 [D]).
 - Note 1: Earlier studies indicated that up to 10% of patients with hypertrophic pyloric stenosis present with electrolyte abnormalities including hypokalemia and hypochloremic alkalosis (Chen et al., 1996 [D]; Papadakis et al., 1999 [D]). More recent studies report fewer metabolic derangements (Poon et al., 1996 [D]).

Referral for Further Evaluation of Hypertrophic Pyloric Stenosis

1. In children who present with hypertrophic pyloric stenosis symptoms but are deemed to be well hydrated, factors influencing the next step include the time of day, severity of symptoms and social situation. If the child is well hydrated and the social situation permits, the patient may be scheduled for an elective outpatient radiologic evaluation or direct referral to a pediatric surgeon within

24 hours of this visit. Under these circumstances, parents are instructed to call if signs and symptoms of dehydration develop (Abbas, 1999 [D]).

- Note 1: Palpation of an olive by an experienced examiner, such as a pediatric surgeon, may obviate need for a confirmatory imaging study. This is due to the high specificity of positive exam (Forman, Leonidas, & Kronfeld, 1990 [C, D]; Breaux & Georgeson, 1986 [D]; Macdessi & Oates, 1993 [D]; Godbole et al., 1996 [C]; Hulka et al., 1997 [Q]; White et al., 1998 [Q]).
2. It is recommended that the infant be referred to the Emergency Department for evaluation and treatment with intravenous fluids if dehydration is suspected clinically or the social situation warrants more immediate action (Local expert consensus [E]).

Radiologic Assessment

1. The diagnosis of hypertrophic pyloric stenosis can be made with imaging by an ultrasound exam (US) or fluoroscopic upper gastrointestinal series (UGI). These imaging tests have similar performance in terms of sensitivity and specificity for the diagnosis of hypertrophic pyloric stenosis (see Table 2 titled "Diagnostic Performance of Imaging Studies for HPS" in the original guideline document). In the absence of a large prospective comparison study with receiver operating characteristic (ROC) analysis or a meta-analysis of existing studies, neither test can be proved as clearly superior in the diagnosis of hypertrophic pyloric stenosis. Upper gastrointestinal series is superior to ultrasound exam in diagnosing some other conditions associated with vomiting in infants, such as gastroesophageal reflux, malrotation, and gastric webs (Cohen et al., 2000 [E]). However, sonography has certain advantages over upper gastrointestinal series, including the absence of ionizing radiation exposure and lack of oral contrast use which eliminates the risk of barium aspiration or intraperitoneal barium spillage during surgery. This has led to ultrasound exam becoming the standard or preferred initial imaging method when hypertrophic pyloric stenosis is the most likely diagnosis (Blumhagen & Noble, 1983 [C & D]; Khamapirad & Athey, 1983 [D]; Hayden et al., 1984 [D]; Stunden, LeQuesne, & Little, 1986 [C]; Weiskittel, Leary, & Blane, 1989 [O]; Garcia & Randolph, 1990 [S]; Rollins et al., 1991 [C]; Hernanz-Schulman et al., 1994 [D]; Cohen et al., 2000 [E]).
2. A persistent pyloric muscle thickness >3 to 4 millimeters or pyloric length >15 to 18 millimeters in the presence of functional gastric outlet obstruction is generally considered in the diagnostic range for hypertrophic pyloric stenosis by ultrasound exam. There is not strong agreement in the literature regarding the optimal size threshold for diagnosis. Many studies show pyloric size overlap between hypertrophic pyloric stenosis and non-hypertrophic pyloric stenosis cases, and the diagnostic performance of specific size thresholds varies across studies (Haller & Cohen, 1986 [E]; Stunden, LeQuesne, & Little, 1986 [C]; Mollitt et al., 1987 [D]; Lund Kofoed et al., 1988 [C]; Blumhagen et al., 1988 [C & D]; Westra et al., 1989 [C]; Philippin & Zieger, 1989 [D]; O'Keefe et al., 1991 [D]; Lamki et al., 1993 [C & D]; Hernanz-Schulman et al., 1994 [D]; Neilson & Hollman, 1994 [D]; Godbole et al., 1996 [C]; Rohrschneider et al., 1998 [C]; Cohen et al., 1998 [D]). The use of smaller diagnostic size thresholds may be more applicable in younger or smaller neonates (Cohen et al., 2000 [E]). With any size cut-off there is a reciprocal relationship of sensitivity and specificity, where a larger size cut-off

will increase specificity at the expense of sensitivity, and a smaller size cut-off will increase sensitivity at the expense of specificity. The dynamic evaluation of gastric emptying by real-time ultrasound exam is important, particularly in cases with borderline size measurements (Strauss et al., 1981 [D]; Ball, Atkinson, & Gay, 1983 [C]; Stunden, LeQuesne, & Little, 1986 [C]; Mollitt et al., 1987 [D]; Hernanz-Schulman et al., 1994 [D]; Nielson & Hollman, 1994 [D]; Godbole et al., 1996 [C]; Cohen et al., 1998 [D]; Rohrschneider et al., 1998 [D]). Many experienced sonologists rely more on a subjective visual impression of the pyloric size and gastric emptying than on pyloric measurements (Hayden et al., 1984 [D]; Blumhagen, 1986 [E]; Westra et al., 1989 [C]; Godbole et al., 1996 [C]).

- Note 1: An ultrasound exam is technically nondiagnostic when the pyloric region is inadequately visualized. This may occur from excessive patient motion or from obscuration or displacement out of the field of view by excessive gastric contents. At the discretion of the sonologist, a nasogastric tube may be placed to empty the stomach and facilitate pyloric visualization. If the ultrasound exam remains nondiagnostic due to technical factors, an upper gastrointestinal series is suggested.
 - Note 2: Cases with borderline pyloric size measurements by ultrasound may represent pylorospasm or hypertrophic pyloric stenosis in evolution. Persistent pyloric muscular thickening and functional gastric outlet obstruction suggests hypertrophic pyloric stenosis. If pyloric muscular thickening and gastric outlet obstruction are transient, pylorospasm is implied (Cohen et al., 1998 [D]).
 - Note 3: Despite careful attention to pyloric size measurements and pyloric function by real-time ultrasound observation, some ultrasound exams may be inconclusive, particularly those with borderline size measurements. Patients with an inconclusive ultrasound exam may undergo an upper gastrointestinal series or may be followed closely clinically with repeated physical exams and/or additional imaging studies as indicated. Follow-up is highly recommended as some of these cases may progress to frank hypertrophic pyloric stenosis, with reported time periods ranging from a few days to greater than one month (Tunell & Wilson, 1984 [C]; Blumhagen et al., 1988 [D]; O'Keefe et al., 1991 [D]; Lamki et al., 1993 [C & D]; Hallam et al., 1995 [D]; Godbole et al., 1996 [C]; Bergami et al., 1996 [C]).
3. An upper gastrointestinal series is favored over ultrasound as the most cost-effective initial imaging study when:
- a. The clinical presentation of the vomiting infant is atypical for hypertrophic pyloric stenosis (e.g. bilious emesis, emesis present since birth, patient age extreme) and favors other conditions more amenable to diagnosis by upper gastrointestinal series such as gastroesophageal reflux (GER) or malrotation (Olson, Hernandez, & Hirschl, 1998 [Q]; Hulka et al., 1997 [D]; Foley et al., 1989 [C]; Forman, Leonidas, & Kronfeld, 1990 [C & D]).
 - b. An upper gastrointestinal series is planned if the ultrasound is negative (a negative ultrasound leading to an upper gastrointestinal series does not save the patient radiation exposure and increases the overall cost of imaging (Cohen et al., 2000 [E])).
 - Note 1: The primary criterion for the diagnosis of hypertrophic pyloric stenosis by upper gastrointestinal series is a narrowed, elongated pyloric channel with pyloric mass effect on the

stomach and duodenum. This may produce a string sign, double tract sign, beak sign, or pyloric teat sign. Ancillary findings of hypertrophic pyloric stenosis on upper gastrointestinal series are gastric hyperperistalsis, large volume gastric residue, and delayed gastric emptying (Shuman, Darling, & Fisher, 1967 [D]; Cremin & Klein, 1968 [D]).

- Note 2: As with ultrasound, some upper gastrointestinal series studies may be inconclusive. These cases may undergo an ultrasound or be followed closely clinically with repeated physical exams and/or additional imaging studies as indicated.

Surgical Correction:

Hypertrophic pyloric stenosis is corrected surgically by Ramstedt pyloromyotomy. The pylorus may be accessed by various incision techniques including transverse right upper quadrant, vertical midline, circumumbilical, and laparoscopic. All methods are considered acceptable practice with minimal differences in outcomes noted (Hingston, 1996 [D]; Tan & Bianchi, 1986 [C]; Poli-Merol et al., 1996 [C]; Leinwand, Shaul, & Anderson, 1999 [D]; Fujimoto et al., 1999 [C]; Fitzgerald et al., 1990 [D]).

Anesthetic Management

1. Infants with hypertrophic pyloric stenosis have a functional gastric outlet obstruction that may place them at a greater risk for aspiration of gastric contents during induction of anesthesia (Cook-Sather et al., 1998 [E]). Regardless of whether the stomach contents were aspirated prior to the infant's arrival in the operating theater, it is recommended that precautions be taken to prevent pulmonary aspiration. These maneuvers include oral/nasogastric suction prior to induction of anesthesia and maintaining cricoid pressure (Sellick's maneuver) during induction of anesthesia (Bissonnette & Sullivan, 1991[S]).

Pain Management

1. Pain management is important for optimal patient outcomes. It is recommended that pain be routinely assessed using standard age appropriate scales (Salentera et al., 1999 [C]; AHCPR Guidelines, 1992 [E]).
2. It is recommended that the "Neonatal Infant Pain Scale" be utilized for pain assessment.
 - Note 1: Valuable information regarding pain management may also be obtained through the measurement of physiologic changes, behavioral observation, and caregiver/parental input (Finley & McGrath, 1998 [S]).
3. It is recommended that the wound be infiltrated with a local anesthetic (i.e., bupivacaine 0.125% up to 1ml/kg) at the conclusion of the surgical procedure. Wound infiltration with local anesthetic has been shown to decrease postoperative analgesic requirements (Habre et al., 1999 [D]).
4. Further analgesia, if necessary, may be accomplished via the administration of acetaminophen (15 mg/kg/dose every 4 to 6 hours. Not to exceed 5 doses in 24 hours.) (Bissonnette & Sullivan, 1991 [S]; Habre et al., 1999 [D]). Use of opioids may potentiate the risk of respiratory depression in infants

undergoing pyloromyotomy (Habre et al., 1999 [D]). Therefore, it is recommended that narcotics not be administered in the routine post-operative pain management of these infants.

Surgical Site Infection Prophylaxis

1. It is recommended that one dose of Cefazolin, 25 mg/kilogram of body weight, be used to decrease the risk of surgical site infection in all patients. In the event of penicillin allergy, it is recommended that Clindamycin, 10 mg/kilogram of body weight, be the alternative antibiotic of choice.
 - Note 1: Staphylococcus aureus is the most common organism associated with wound infections in patients who have undergone pyloromyotomy (Rao & Youngson, 1989 [D]; Mangram et al., 1999 [E])
2. To assure adequate blood level at the time of incision, it is recommended that antibiotics be given approximately 30 minutes prior to surgery (Mangram et al., 1999 [E]; Anonymous, 1997 [S]). Therefore, it is recommended that prophylactic antibiotics be given in the perioperative care before induction and the practice of giving antibiotics "on call to the operating room" be discouraged as delays in patient transport or schedule changes may result in suboptimal blood and tissue levels (Page et al., 1993 [S]; Silver et al., 1996 [D]).
 - Note 1: For cephalosporins, adequate blood levels are achieved and sustained for 3-4 hours. If the interval between antibiotic administration and closure of the surgical incision is greater than 4 hours, the administration of an additional dose may be considered (Mangram et al., 1999 [E]).
 - Note 2: Although rates of infection appear to be higher in the umbilical route, the administration of antibiotics reduced the risk of infection in both groups (Leinwand, Shaul, & Anderson, 2000 [D]).

Feeding Advancement

1. Vomiting following pyloromyotomy is usually self limiting. Although frequency of vomiting is related to type of feeding regimen, duration is independent of the timetable or composition of post-operative dietary regimen (Carpenter et al., 1999 [D]; Georgeson et al., 1993 [D]; Gollin et al., 2000 [D]; Wheeler et al., 1990 [C]). It is recommended that following pyloromyotomy, infants be fed early and with regular formula or breast milk.
 - Note 1: The composition of feeding, and the rate of advancement (Georgeson et al., 1993 [D]; Leinwand, Shaul, & Anderson, 2000 [D]; Gollin et al., 2000 [D]) may affect the incidence or severity of vomiting post-regimen, but ultimately does not affect time to full feedings, discharge or post operative weight gain (Foster & Lewis, 1989 [D]). (See Table 3 titled "Comparison of Feeding Regime on Post-op Vomiting" in the original guideline document.)
 - Note 2: Duration of post-procedure vomiting is variable, with reports of 3.5% to 24% of infants with continued emesis more than 48 hours after surgery (Carpenter et al., 1999 [D]; Scharli & Leditschke, 1968 [C]; Wheeler et al., 1990 [C]).

- Note 3: The most significant predictor of post-operative emesis is the duration and severity of pre-operative vomiting and is frequently manifested by electrolyte abnormalities (Gollin et al., 2000 [D]).
- Note 4: Postoperatively, infants may be fed volumes based on feedings taken pre-operatively (Local expert consensus, [E]).

Discharge Criteria

1. Otherwise healthy infants may be discharged once they have tolerated two full feedings (Carpenter et al., 1999 [D]). Infants with significant pre-operative vomiting, severe electrolyte imbalance, or malnutrition may need a longer period of recovery.
2. Counseling of parents regarding post-operative emesis, assessment of hydration status, and signs and symptoms of infection are essential components of patient/family education (Local expert consensus, [E]).

Definitions:

Evidence Based Grading Scale:

A: Randomized controlled trial: large sample

B: Randomized controlled trial: small sample

C: Prospective trial or large case series

D: Retrospective analysis

E: Expert opinion or consensus

F: Basic laboratory research

S: Review article

M: Meta-analysis

Q: Decision analysis

L: Legal requirement

O: Other evidence

X: No evidence

CLINICAL ALGORITHM(S)

An algorithm is provided for the diagnosis of hypertrophic pyloric stenosis.

EVIDENCE SUPPORTING THE RECOMMENDATIONS

REFERENCES SUPPORTING THE RECOMMENDATIONS

[References open in a new window](#)

TYPE OF EVIDENCE SUPPORTING THE RECOMMENDATIONS

The type of evidence is identified and graded for each recommendation (see "Major Recommendations").

BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS

POTENTIAL BENEFITS

Successful treatment of hypertrophic pyloric stenosis

POTENTIAL HARMS

- Upper gastrointestinal series carries the risk of ionizing radiation exposure, barium aspiration, and intraperitoneal barium spillage during surgery.
- Infants with hypertrophic pyloric stenosis have a functional gastric outlet obstruction that may place them at a greater risk for aspiration of gastric contents during induction of anesthesia.
- Surgical procedures carry a risk of infection

QUALIFYING STATEMENTS

QUALIFYING STATEMENTS

These recommendations result from review of literature and practices current at the time of their formulations. This protocol does not preclude using care modalities proven efficacious in studies published subsequent to the current revision of this document. The guideline document is not intended to impose standards of care preventing selective variances from the guidelines to meet the specific and unique requirements of individual patients. Adherence to this pathway is voluntary. The physician in light of the individual circumstances presented by the patient must make the ultimate judgment regarding the priority of any specific procedure.

IMPLEMENTATION OF THE GUIDELINE

DESCRIPTION OF IMPLEMENTATION STRATEGY

An implementation strategy was not provided.

INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT CATEGORIES

IOM CARE NEED

Getting Better

IOM DOMAIN

Effectiveness
Patient-centeredness

IDENTIFYING INFORMATION AND AVAILABILITY

BIBLIOGRAPHIC SOURCE(S)

Cincinnati Children's Hospital Medical Center. Evidence based clinical practice guideline for hypertrophic pyloric stenosis. Cincinnati (OH): Cincinnati Children's Hospital Medical Center; 2001 Aug 8. 16 p. [186 references]

ADAPTATION

Not applicable: The guideline was not adapted from another source.

DATE RELEASED

2001 Aug 8

GUIDELINE DEVELOPER(S)

Cincinnati Children's Hospital Medical Center - Hospital/Medical Center

SOURCE(S) OF FUNDING

Cincinnati Children's Hospital Medical Center

GUIDELINE COMMITTEE

Clinical Effectiveness Committee for Hypertrophic Pyloric Stenosis

COMPOSITION OF GROUP THAT AUTHORED THE GUIDELINE

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FINANCIAL DISCLOSURES/CONFLICTS OF INTEREST

Not stated

GUIDELINE STATUS

This is the current release of the guideline.

An update is not in progress at this time.

GUIDELINE AVAILABILITY

Electronic copies: Available from the [Cincinnati Children's Hospital Medical Center](#).

For information regarding the full-text guideline, print copies, or evidence-based practice support services contact the Children's Hospital Medical Center Health Policy and Clinical Effectiveness Department at HPCEInfo@chmcc.org.

AVAILABILITY OF COMPANION DOCUMENTS

The following are available:

- Post operative orders for hypertrophic pyloric stenosis. Cincinnati (OH): Children's Hospital Medical Center, 2001 Jul. 1 p.
- Hypertrophic pyloric stenosis discharge instructions. Cincinnati (OH): Children's Hospital Medical Center, 2002 May. 1 p.
- Hypertrophic pyloric stenosis education record. Cincinnati (OH): Children's Hospital Medical Center, 2001 Jul. 2 p.
- Hypertrophic pyloric stenosis clinical pathway. Cincinnati (OH): Children's Hospital Medical Center, 2002 Feb. 4 p.
- Pre operative admission orders for hypertrophic pyloric stenosis. Cincinnati (OH): Children's Hospital Medical Center, 2001 Jul. 1 p.

For information contact the Children's Hospital Medical Center Health Policy and Clinical Effectiveness Department at HPCEInfo@chmcc.org.

PATIENT RESOURCES

None available

NGC STATUS

This summary was completed by ECRI on March 28, 2002. The information was verified by the guideline developer on June 21, 2002.

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The logo for FIRSTGOV, featuring the word "FIRST" in blue and "GOV" in red, with a small red star above the "I" in "FIRST".

