The Journal for Nurse Practitioners 22 (2026) 105876

Contents lists available at ScienceDirect

The Journal for Nurse Practitioners

journal homepage: www.npjournal.org

Case Report

Nursing Care of a Neonate With Gastroschisis: A Case Study Report

Nutnicha Srilamai, Nujjaree Chaimongkol, Verna L. Hendricks-Ferguson, Caitlin Thornhill

Keywords:
case study
feeding protocol
gastroschisis
neonatal nurse practitioner
neonatal surgery
parenteral nutrition

A B S T R A C T

Gastroschisis is a congenital abdominal wall defect in which the bowel herniates through an opening typically located to the right of the umbilical cord. This case study describes the advanced nursing management of a preterm neonate with gastroschisis. Management of gastroschisis includes initial stabilization of the neonate through thermoregulation, bowel protection, gastric decompression, fluid resuscitation, and administration of prophylactic antibiotics. The defect was surgically treated using a staged silo reduction technique followed by complete abdominal wall closure. The neonate subsequently demonstrated restoration of bowel motility, tolerated gradual enteral feedings, and was discharged on full oral feeds with stable vital signs. This case highlights the vital role of the neonatal nurse practitioner in coordinating multidisciplinary care and implementing evidence-based interventions that optimize survival and developmental outcomes for neonates with gastroschisis.

Introduction

Gastroschisis is a significant congenital abdominal wall defect in neonates. Although it is relatively uncommon, it can be life-threatening if appropriate care is not provided immediately. According to a recent epidemiologic report by Schuh et al,[1] the birth prevalence of gastroschisis in the United States was approximately 1.6 per 10,000 live births, indicating a modest decline compared to prior decades. Conversely, numerous population-based studies from Europe, Asia, and low- to middle-income nations have indicated a rising trend in the incidence of gastroschisis.[2-4]

The term *gastroschisis* is derived from the Greek words *gastro*, meaning stomach, and *schisis*, meaning split or separation.[5] Gastroschisis is a congenital defect characterized by a protrusion of abdominal contents, such as the small intestine, large intestine, and/or stomach, outside the neonate's abdominal cavity, usually without a protective sac. This defect occurs during the intrauterine development of a neonate. This congenital birth defect is classified as a surgical emergency that requires immediate medical and nursing intervention to prevent potential life-threatening complications, such as sepsis, necrotizing enterocolitis, bowel necrosis, or death.[2]

International variations in the frequency of gastroschisis may reflect differences in maternal demographics, environmental exposures, and access to care. Understanding such global trends is essential for neonatal nurse practitioners (NNPs) and interdisciplinary teams. This article highlights the advanced practice role of the NNP in early stabilization, interdisciplinary coordination, and delivery of family-centered care to neonates with gastroschisis.

Neonates with gastroschisis at birth require highly specialized medical and surgical care and often experience prolonged hospitalization after birth. The mode of delivery for neonates with gastroschisis depends primarily on obstetric indications; routine cesarean delivery has not been shown to improve neonatal outcomes compared with planned vaginal birth.[6] Although primary surgical closure of gastroschisis is commonly attempted, approximately one-third of neonates require a staged reduction using a silo, and nearly 6% require additional surgical interventions.[2] Neonates diagnosed with complex gastroschisis are at risk for several complications, such as intestinal atresia, necrosis, perforation, or volvulus, and have significantly higher risks of morbidity and mortality. In one cohort study of 394 affected neonates, Dekonenko et al[7] reported that 20% of neonates were diagnosed with complex gastroschisis and experienced higher rates of sepsis, necrotizing enterocolitis, and shock and had an 11% mortality rate compared with neonates diagnosed with simple gastroschisis. The comprehensive health care needs of neonates with gastroschisis incur high financial costs; in the US, care delivery costs are estimated to be $60,000-$100,000 per neonate.[8]

Given the complexity, cost, and intensity of care for neonates with gastroschisis, early recognition, expert nursing management, and critical decision-making are essential for optimizing affected neonates' health outcomes. The purpose of this report is to present a clinical scenario involving a preterm neonate with gastroschisis and to describe the associated clinical management and nursing care. This article is presented as a case-based clinical report that integrates a composite clinical scenario with evidence-based management to illustrate advanced clinical

https://doi.org/10.1016/j.nurpra.2026.105876

reasoning, interdisciplinary coordination, and evidence-based decision-making relevant to NNPs.

Case Presentation

Chief Complaint

A preterm male neonate was delivered via cesarean delivery at 34 weeks' gestation with visible abdominal organs protruding through an opening adjacent to the umbilical cord. The neonate also exhibited respiratory distress and cyanosis immediately after birth. Gastroschisis was not detected prenatally and was first identified at the time of delivery.

History of Presenting Illness

At a tertiary hospital in Thailand, this preterm male neonate was delivered via cesarean delivery at 34 weeks' gestation due to a nonreassuring fetal heart rate pattern. The neonate's birth weight was 2.3 kg, with Apgar scores of 7 and 8 at 1 and 5 minutes, respectively. Immediately after delivery, the neonate displayed cyanosis of the extremities, retractions, and tachypnea but had spontaneous limb flexion. Initial resuscitation included bulb suctioning followed by DeLee suctioning, stimulation, and administration of free-flow oxygen at 10 L/min via a flow-inflating bag positioned near the neonate's face, resulting in an improvement in oxygen saturation from 86% to 95% within several minutes. Continuous positive airway pressure was considered due to the presence of retractions and prematurity; however, respiratory distress improved with supplemental oxygen alone, and escalation of respiratory support was not required at that time in accordance with the Neonatal Resuscitation Program guidance.[9] The neonate exhibited herniation of the small bowel through a paraumbilical defect with no protective membrane and moderate serosal edema. The exposed bowel appeared pink and well perfused without dusky discoloration. The neonate was positioned in a right side-lying or supine position after silo placement to reduce torsion and vascular compromise. The neonate was subsequently transferred to a level IV neonatal intensive care unit (NICU) with pediatric surgical capabilities for ongoing management and surgical repair.[10]

Upon admission to the level IV NICU, the NNP performed the neonate's initial assessment and implemented the following stabilization measures for gastroschisis: (a) placement of the neonate in a radiant warmer; (b) assessment of the status of the sterile bowel bag that had been placed after delivery and before transfer to this NICU; (c) placement of an orogastric tube (8F, selected based on prematurity and birth weight <2.5 kg) for continuous low-pressure suction at 40-60 mm Hg; and (d) placement of a peripheral intravenous line to provide intravenous fluid management with 10% dextrose and 0.45% sodium chloride administered at 1.5 times the maintenance recommendation, defined as 150% of the calculated maintenance fluids based on the neonate's weight and gestational age, due to increased evaporative losses. This neonate was initially managed with peripheral intravenous fluids and later transitioned to a peripherally inserted central catheter for total parenteral nutrition (TPN) administration. The neonate was closely monitored with the following evaluation tests: (a) a glucose infusion rate was calculated to maintain the neonate in euglycemia, and the neonate's serum glucose levels were monitored every 2-4 hours; (b) sodium supplementation was adjusted based on serial electrolyte measurement results for this neonate; and (c) blood gas analyses were performed to monitor for the potential onset of metabolic acidosis. The neonate's clinical timeline is presented in the Table.

Table
Clinical Timeline (After Gastroschisis Stabilization Protocol)

Event	Postnatal Day	Intervention/Observation
Birth	0	Delivery, O_2, bowel bag applied, peripheral IV fluids, antibiotics and monitor electrolytes, glucose, and blood gas
Transfer	0	Transfer to level IV NICU
Surgical review	0	Diagnosis confirmed, planned silo placement
Surgery	1	Silo placement under sterile conditions
Nutrition	1-3	TPN initiated via PICC after initial peripheral IV access; liver enzymes and GIR monitored
Surgery	5	Final closure and observe for complications
Bowel motility	10	First bowel movement
Enteral feeding	12	Trophic feeds started (2 mL/h; breast milk)
Full feeds	24	TPN discontinued
Discharge	30	Stable weight gain, wound healed
Ventilator status	—	Supplemental oxygen only; no CPAP or mechanical ventilation required
Electrolyte trends	—	Dextrose-containing maintenance fluids (eg, D10W); isotonic boluses administered as needed; GIR calculated to maintain euglycemia; serial electrolyte and glucose monitoring Blood gas is monitored for metabolic acidosis.
Line access type	—	Initial peripheral IV access, later transitioned to PICC for TPN administration
Complication encountered	—	None

CPAP = continuous positive airway pressure; D10W = 10% dextrose in water; GIR = glucose infusion rate; NICU = neonatal intensive care unit; O_2 = oxygen; PICC = peripherally inserted central catheter; TPN = total parenteral nutrition.

Family History Start

The mother of the preterm male neonate was an 18-year-old primigravida with no known chronic illnesses. There was no family history of congenital anomalies, abdominal wall defects, or genetic disorders. The father of this neonate, aged 26 years, was healthy with no history of consanguinity or teratogenic exposure. Despite being unplanned, the pregnancy was monitored with regular prenatal visits, beginning at 12 weeks' gestation, and there was no reported history of smoking, alcohol, or illicit drug use.

Review of the Preterm Neonate's Symptoms

A complete review of systems was limited due to the male neonate's prematurity and immediate postnatal instability. However, clinical evaluation after initial stabilization revealed several physical assessment concerns. The neonate's respiratory system demonstrated mild respiratory distress characterized by tachypnea and subcostal retractions, which improved with supplemental oxygen under a radiant warmer. The neonate's cardiovascular system was stable with a regular heart rate and no audible murmurs. Examination of the neonate's gastrointestinal system demonstrated multiple loops of edematous small bowel protruding through a right-sided paraumbilical defect without a protective sac; no meconium passage was noted before surgical intervention. The genitourinary system appeared normal, with genitalia appropriate for gestational age and adequate urine output following fluid resuscitation. The neonate's neurologic assessment revealed spontaneous limb movements, appropriate muscle tone, and neonatal reflexes for a 34-week gestational age. The neonate's integumentary system was intact apart from mild periumbilical erythema surrounding the abdominal wall defect.

Case-Based Clinical Analysis

The following case-based questions are presented as an educational component to support clinical reasoning and evidence-based decision-making for NNPs managing complex surgical neonates, such as those with gastroschisis.

Case Study Questions

1. What differential diagnoses should the NNP consider when evaluating a neonate with an abdominal wall defect?
2. What advanced nursing assessments and interventions should the NNP initiate immediately after birth for a neonate with gastroschisis?
3. What are the essential components of evidence-based, NNP-led preoperative and postoperative management for a neonate diagnosed with gastroschisis?
4. What complications related to a diagnosis of gastroschisis require vigilant, NNP-directed monitoring during the postoperative recovery phase?
5. How should the NNP provide family-centered education and psychosocial support to parents of a neonate receiving treatment for gastroschisis?

Case Study Answers

Assessment and Differential Diagnosis of Gastroschisis

Simple gastroschisis in neonates refers to a congenital defect without intestinal complications such as atresia, necrosis, or perforation and is generally associated with shorter hospitalization and earlier achievement of full enteral feeding. Accurate clinical assessment and early differentiation are essential to guide management and predict outcomes. The differential diagnoses for congenital abdominal wall defects in neonates include omphalocele, umbilical hernia, cloacal exstrophy, and simple or complex gastroschisis associated with intestinal atresia or necrosis. Distinguishing these conditions is crucial for surgical planning and prognosis for these neonates. In this case-based clinical report, the abdominal wall defect was first identified at the time of the neonate's delivery rather than prenatally. However, prenatal ultrasound plays a key role in differentiating gastroschisis from omphalocele by identifying characteristic features, including the absence of a covering membrane, a right-sided paraumbilical location, and normal umbilical cord insertion.[2,3] Other diseases with similar characteristics can make diagnosis difficult, such as omphalocele, which typically presents in neonates with a midline defect containing a membranous sac and often coexists with chromosomal or cardiac anomalies.[11] Umbilical hernia involves a small protrusion of abdominal contents covered by skin, whereas cloacal exstrophy presents with severe genitourinary and intestinal malformations.

Priority Nursing Assessments and Interventions

Nursing assessments and interventions are typically initiated by the NNP and implemented in collaboration with NICU nurses. Upon delivery, a 34-week preterm neonate with gastroschisis should be placed under a preheated radiant warmer to prevent hypothermia, which can occur rapidly due to significant heat and fluid losses from exposed abdominal organs. Continuous temperature monitoring should be initiated immediately to maintain normothermia within a range of 36.5-37.5 °C. Neonates with gastroschisis are at high risk for significant third-space and evaporative fluid losses due to exposed bowel, making early volume assessment and fluid management critical. Additionally, to address potential body fluid losses and the risk of dehydration, initial fluid management should include dextrose-containing maintenance fluids, such as 10% dextrose in water, to maintain euglycemia. Isotonic fluid boluses, such as normal saline 15-20 mL/kg, should be administered as needed to maintain adequate perfusion and urine output, consistent with established clinical pathways, although specific protocols may vary by institution.[12] Careful monitoring of the neonate's urine output, serum electrolytes, calculated glucose infusion rate to maintain euglycemia, and serum glucose levels is necessary to avoid the risk of hypovolemia and metabolic imbalance complications. Aggressive fluid resuscitation and close metabolic monitoring were initiated to address increased evaporation losses and to prevent hypovolemia and metabolic imbalance.[12] Fluid management required careful titration because preterm neonates with gastroschisis experience significant third-space and evaporative losses, placing them at risk for hypovolemia, electrolyte imbalance, and metabolic acidosis if not closely monitored. An orogastric tube was inserted for continuous low-pressure suction to decompress the neonate's stomach and bowel, reducing aspiration risk and intra-abdominal pressure.[9] Concurrently, supplemental oxygen or mechanical ventilation may also be required for neonates displaying respiratory distress symptoms. Perfusion status of the neonate's bowel was closely assessed by monitoring bowel color, capillary refill, and temperature, whereas pain cues, including facial grimacing, tachycardia, and irritability, were monitored using neonatal pain scales.[12]

The exposed bowel loops must be covered with a sterile plastic bowel bag or preformed silo extending up to the axilla area to minimize evaporative fluid loss, contamination, and ischemic injury. If a preformed silo is unavailable, the neonate's exposed intestines should be gently covered with sterile, warm, moist saline gauze and then wrapped with a transparent sterile plastic sheet or bag to prevent heat and fluid loss. The neonate should also remain under a radiant warmer with careful positioning to avoid torsion or compression of the bowel. Manual reduction is contraindicated, as attempting to push the exposed bowel back into the abdominal cavity can increase intra-abdominal pressure, compromise respiratory function, and cause bowel ischemia or perforation.[12] Empiric antibiotic therapy with ampicillin and gentamicin was initiated prophylactically due to the exposed bowel and increased risk of bacterial contamination and early-onset infection, even in the absence of clinical signs of sepsis.[12,13]

Throughout the stabilization phase of gastroschisis care, nursing care for neonates with gastroschisis should include vigilant monitoring for any changes in vital signs. NICU nurses are highly skilled to monitor the neonate's baseline physical status, including abdominal findings, such as perfusion status and bowel color, to detect early signs of ischemia or compromised circulation. Overall, stabilization priorities in this case centered on maintaining physiological stability, minimizing infection risk and heat loss, and preparing the neonate for surgical intervention.

Evidence-Based Preoperative and Postoperative Nursing Care

Preoperative and postoperative management of neonates with gastroschisis involves collaboration among NNPs, NICU nurses, and pediatric surgeons. Gastroschisis can be identified prenatally via ultrasound as early as 12 weeks of gestation to plan parents' prenatal counseling and delivery of the neonate.[2,3]

Evidence-based management of neonates with gastroschisis includes preoperative and postoperative strategies to minimize morbidity risks. Before surgical repair of gastroschisis, chest and

abdominal x-rays are recommended to determine the neonate's level of bowel protrusion through the abdominal defect and to rule out any signs of bowel perforation. During surgical repair of gastroschisis, the preferred approach is placement of a preformed silo to allow gradual bowel reduction before complete closure of the abdominal wall defect. According to the Johns Hopkins Pediatric Clinical Pathway,[12] evidence-based neonatal nursing interventions for gastroschisis include the following: (a) immediate protection of the exposed bowel using a sterile plastic covering or preformed silo to prevent fluid and heat loss; (b) careful fluid resuscitation and thermoregulation to maintain hemodynamic stability; (c) prompt administration of broad-spectrum antibiotics when infection is suspected or prophylaxis is indicated; and (d) secure airway management and respiratory support as clinically required. If standard NICU care interventions are absent or inconsistently applied, these neonates have a greater risk of developing complications such as hypothermia, dehydration, sepsis, bowel ischemia, bowel perforation, and possible death.[14]

In this case-based clinical feature report, the neonate underwent staged silo placement followed by delayed abdominal closure due to bowel edema, a strategy consistent with best practice for improving bowel perfusion and reducing abdominal compartment pressure.[12] Postoperatively, the NNP monitored intestinal perfusion, abdominal girth, electrolyte balance, and bowel function. TPN was initiated via a peripherally inserted central catheter and was gradually transitioned to enteral feeding once bowel motility returned to promote intestinal adaptation and reduce prolonged parenteral nutrition exposure. Because central venous access was required for TPN, adherence to central line–associated bloodstream infection prevention practices was emphasized throughout the postoperative course. Laboratory monitoring included bilirubin levels and liver enzymes to screen for TPN-associated cholestasis.[2,15] In this case-based clinical report, the NNP contributed to time-sensitive clinical management through coordination, monitoring, and implementation of evidence-based interventions in collaboration with the interprofessional team. Immediate nursing interventions implemented after birth and throughout the preoperative and postoperative care phases are critical in reducing mortality and morbidity among neonates with gastroschisis.[16]

Complications Requiring Monitoring

Neonates with gastroschisis are at risk of developing multiple complications, including hypothermia, dehydration, sepsis, bowel obstruction, necrotizing enterocolitis, and short bowel syndrome. Additional high-risk complications may include abdominal compartment syndrome, vascular compromise of the bowel, and TPN-associated cholestasis, especially in preterm neonates with prolonged hospital stays.[7,14] Therefore, complications associated with gastroschisis should be monitored through (a) serial abdominal examinations; (b) measurement of abdominal girth; (c) assessment of vital signs and pulse oximetry; and (d) evaluation of complete blood count, C-reactive protein, electrolytes, and bilirubin to detect any signs of infection, impaired perfusion, and metabolic status alterations. Early initiation of trophic feedings in affected neonates may help reduce prolonged parenteral nutrition exposure and the risk of parenteral nutrition-associated cholestasis. Because central venous access is frequently required for affected neonates, adherence to central line–associated bloodstream infection prevention practices is essential. Monitoring for abdominal compartment syndrome after closure of a gastroschisis defect should also include assessment of the neonate's urine output, perfusion status, and ventilatory status. Multimodal pain management approaches may be used to optimize the neonate's recovery.[12] Prompt recognition and multidisciplinary coordination are essential to prevent deterioration and improve long-term gastrointestinal and developmental outcomes for affected neonates.[2,7]

Family-Centered Education and Psychosocial Support

The NNP plays a vital role in delivering family-centered care to affected neonates by providing anticipatory guidance to family members regarding infection risks, feeding progression, and developmental outcomes. The NNP also facilitates daily communication with parents by providing updates on the neonate's clinical status and supporting emotional coping throughout hospitalization. Effective communication with parents and the multidisciplinary team, along with ongoing emotional support, can help reduce parental stress and anxiety. Evidence-based psychosocial interventions for parents of affected neonates include clear, compassionate, and supportive communication strategies; use of NICU diaries; structured family meetings; and teaching coping strategies to enhance parental resilience.[17] Delivery of evidence-based psychosocial interventions can help parents to (a) decrease their uncertainty regarding their neonate's recovery and feeding tolerance; (b) increase their caregiving confidence to care for their neonate; and (c) improve their emotional well-being during their neonate's prolonged hospitalization. The NNP's expert knowledge in the care of neonates with gastroschisis can also have a positive impact on the survival of affected neonates and on their long-term gastrointestinal and developmental outcomes.

Discussion

Effective neonatal nursing care plays a critical role in optimizing survival and clinical outcomes in neonates with gastroschisis. In this instance, early detection, stabilization, infection control, and nutritional management were core responsibilities collaboratively implemented by NICU nurses and NNPs, consistent with evidence-based practice guidelines.[16] Furthermore, addressing the psychosocial needs of parents through organized education and family assistance can facilitate comprehensive care for affected neonates and their family members.

This case-based clinical report is unique because it involved managing a preterm neonate with gastroschisis in a tertiary care setting in Thailand, where the availability of resources, interhospital transfer, and surgical coordination required timely clinical judgment and multidisciplinary communication. Despite the absence of a prenatal diagnosis, the rapid postbirth recognition of the gastroschisis defect in the affected neonate and immediate stabilization minimized preventable delays in care. However, earlier antenatal detection could have facilitated prenatal counseling and planned delivery at a surgical center, which may have further reduced neonatal risk. Therefore, the clinical outcome in this case-based clinical report was favorable. The described neonate progressed to tolerate oral feedings, demonstrated physiological stability, and was discharged after approximately 28 days with appropriate weight gain and neuromuscular development for corrected gestational age. There were no postoperative complications at the time of discharge.

This case discusses the importance of coordinated interprofessional care, timely surgical intervention, and structured postoperative monitoring in achieving favorable outcomes. The NNP role includes initiating stabilization, coordinating diagnostic evaluations, managing fluid and antibiotic therapy, and supporting shared decision-making with pediatric surgeons and family members. These contributions reflect the advanced practice role of the NNP within the interprofessional team in managing complex

neonatal conditions in the NICU and highlight their role as key members of interdisciplinary teams working to improve outcomes in high-risk neonatal conditions. This case analyzes important clinical decision points, including early stabilization strategies, fluid management adjustments, and interdisciplinary coordination, which are critical learning considerations for the NNP managing complex surgical neonates. Standardized clinical paths, such as those from Johns Hopkins Medicine, and ongoing professional development for NNPs can make care better in both high- and low-resource settings.

Recommendations

The following recommendations are derived from the clinical insights of this case report and supported by current evidence to inform NNP practice.[12] The NNPs in the NICU are positioned to translate clinical lessons from this case report into targeted practice improvements that strengthen both prenatal detection and postnatal management of gastroschisis. The following recommendations are offered based on the occurrence of a delayed prenatal diagnosis case and the need for urgent postnatal stabilization. Simulation-based training in thermoregulation, bowel protection techniques, fluid management, and airway stabilization may further strengthen readiness for high-risk neonatal scenarios. Case-based learning modules focused on postoperative monitoring, parenteral nutrition management, and complication surveillance may also enhance clinical judgment and support ongoing professional development of NNPs.

Prenatal Screening and NICU Care Coordination

The need for better coordination between obstetric and neonatal providers is clear in this case report because there was no prenatal diagnosis of gastroschisis. The NNP should collaborate with obstetric teams to support education in sonographic early recognition of gastroschisis in affected neonates and participate in interdisciplinary case reviews of abnormal prenatal findings. When gastroschisis is suspected antenatally, the NNP should assist in planning a timely referral to tertiary centers with pediatric surgical capabilities, ensuring delivery occurs in a setting equipped for immediate neonatal stabilization and surgical consultation. The family described in this case may have benefited from structured bedside education and consistent communication from the neonatal care team. Standardized family education approaches should be established to support NNPs in providing anticipatory guidance on infection prevention, feeding progression, and expected postoperative recovery milestones. Incorporating clear, compassionate, and supportive communication, along with structured counseling and caregiver coaching, may further enhance family coping and engagement throughout hospitalization and during discharge transitions for neonates with gastroschisis.

The focused recommendations support the expansion of the NNP role as a clinical leader in complex neonatal care, ensuring preparedness for rare surgical emergencies while promoting consistency in evidence-based practice across prenatal and NICU settings.

Conclusion

In summary, gastroschisis is a life-threatening congenital anomaly that requires prompt, skilled, and coordinated neonatal and surgical care. In this case-based clinical report of a 34-week preterm male neonate, timely stabilization, staged surgical intervention, and structured postoperative management contributed to a favorable clinical course. This case underscores the importance of early recognition when prenatal diagnosis is absent, rapid implementation of stabilization measures, and vigilant postoperative monitoring to prevent secondary complications. It also highlights the essential role of the NNP in advanced assessment, clinical decision-making, surgical coordination, and family guidance throughout hospitalization. Continued use of standardized clinical pathways, simulation-based training, and family-centered care approaches may strengthen care for neonates with gastroschisis in the NICU.

Consent Statement

This case represents a composite of the author's clinical experiences and evidence-based practice scenarios in NICU nursing care for a fictitious neonate case diagnosed with gastroschisis and the recommended care needs of this population. No identifiable patient data are presented. Ethical approval and patient consent were not required for this fictitious case report.

CRediT authorship contribution statement

Nutnicha Srilamai: Writing – original draft, Visualization, Resources, Project administration, Methodology, Data curation, Conceptualization. **Nujjaree Chaimongkol:** Writing – review & editing, Visualization, Validation, Supervision. **Verna L. Hendricks-Ferguson:** Writing – review & editing, Visualization, Validation, Supervision, Investigation. **Caitlin Thornhill:** Writing – review & editing, Visualization, Validation.

Declaration of Competing Interest

In compliance with standard ethical guidelines, the authors report no relationships with business or industry that may pose a conflict of interest.

Funding

This paper was not funded.

References

1. Schuh JM, Cabacungan E, Wagner AJ. Birth prevalence of gastroschisis in the United States: 2016–2022. *Pediatrics.* 2025;155(4):e2024068696.
2. Ferreira RG, Mendonça CR, Goncalves Ramos LL, de Abreu Tacon FS, Naves do Amaral W, Ruano R. Gastroschisis: a systematic review of diagnosis, prognosis, and treatment. *J Matern Fetal Neonatal Med.* 2022;35(25):6199-6212.
3. Jaczyńska R, Mydlak D, Mikulska B, Nimer A, Maciejewski T, Sawicka E. Perinatal outcomes of neonates with complex and simple gastroschisis after planned preterm delivery—a single-centre retrospective cohort study. *Diagnostics (Basel).* 2023;13(13):2225.
4. Wesonga A, Situma M, Lakhoo K. Reducing gastroschisis mortality: a quality improvement initiative at a Ugandan pediatric surgery unit. *World J Surg.* 2020;44(5):1395-1399.
5. Papalois AE. Practical and comprehensive analysis of the etymology and the meaning of Greek words and terms used in the international gastroenterological literature. *World J Gastroenterol Hepatol Endosc.* 2025;3(1):1-39.
6. Chen Y, Zhao J, Alganabi M, et al. Elective delivery versus expectant management for gastroschisis: a systematic review and meta-analysis. *Eur J Pediatr Surg.* 2023;33(1):2-10.
7. Dekonenko C, Fraser JD, Deans KJ, et al. Outcomes in gastroschisis: expectations in the postnatal period for simple vs complex gastroschisis. *J Perinatol.* 2021;41(7):1755-1759.
8. Wong M, Oron AP, Faino A, et al. Variation in hospital costs for gastroschisis closure techniques. *Am J Surg.* 2020;219(5):764-768.
9. American Academy of Pediatrics, & American Heart Association. *Neonatal Resuscitation Program (NRP) Textbook.* 8th ed. American Academy of Pediatrics; 2021.
10. Stark AR, Pursley DM, Papile LA, et al. Standards for levels of neonatal care: II, III, and IV. *Pediatrics.* 2023;151(6):e2023061957.

11. Bence CM, Wagner AJ. Abdominal wall defects. *Transl Pediatr.* 2021;10(5):1461-1469.
12. Johns Hopkins Medicine. Gastroschisis Clinical Pathway. 2022. Accessed October 25, 2025. https://www.hopkinsmedicine.org/-/media/files/allchildrens/clinical-pathways/gastroschisis-12-15-final-with-algorithm.pdf
13. Daniels K, Arrieta A, Nieves DJ, et al. Ampicillin and gentamicin treatment for early onset neonatal sepsis: when one size does not fit all. *Clin Pediatr (Phila).* 2023;62(9):1027-1031.
14. Baerg J, McAteer J, Miniati D, Somme S, Slidell M. Improving outcomes for uncomplicated gastroschisis: clinical practice guidelines from the American Pediatric Surgical Association Outcomes and Evidence-based Practice Committee. *Pediatr Surg Int.* 2024;40(1):246.
15. World Health Organization. WHO Recommendations for Care of the Preterm or Low-Birth-Weight Infant. World Health Organization; 2022.
16. Coelho ASF, de Andrade Silvestre M, Figueira VB, et al. Profile of newborns with gastroschisis and the implications to nursing care: integrative review. *Int J Med Rev Case Rep.* 2020;4(3):1.
17. Yang TY, Chien CH, Liu YY, Tsai SY. Nursing experience applying transition theory to assist the family of an infant with complex congenital gastroschisis. *Hu Li Za Zhi.* 2024;71(4):104-111.

Nutnicha Srilamai, PhD(c), RN, is affiliated with the Faculty of Nursing at Burapha University, Chon Buri, Thailand, and can be reached at nutnicha@bnc.ac.th. Nujjaree Chaimongkol, PhD, RN, is an associate professor at the Faculty of Nursing, Burapha University in Chon Buri, Thailand. Verna L. Hendricks-Ferguson, PhD, RN, FPCN, FAAN, is a professor at the Trudy Busch Valentine School of Nursing at Saint Louis University in St. Louis, MO. Caitlin Thornhill, DNP, RN, CNP, NPD-BC, is a program manager at the Neonatal Intensive Care Unit, St. Louis Children's Hospital, One Children's Place St. Louis, MO in St. Louis, MO.