

# CHAPTER 61

## NEONATAL INTESTINAL OBSTRUCTION

Daniel Sidler  
Millard Debrew  
Kokila Lakhoo

### Introduction

Neonatal intestinal obstruction (NIO) is one of the most common emergency conditions a paediatric surgeon is called upon to assess during the neonatal period. Successful management of NIO depends on timely diagnosis and referral for therapy. The diagnosis is based on history (symptoms) and physical examination (signs) confirmed by some investigations such as radiographic and histopathological studies. Catastrophic events such as volvulus, ischaemic loop of bowel, pneumoperitoneum, and/or pneumonia from aspiration and malnutrition could be overcome through efficient and timely resuscitation and urgent transport to a specialised unit.

The desired goal of healthy survival of neonatal intestinal obstruction requires a coordinated interaction of medical, nursing, and rehabilitative specialties in an organised team. Early surgical intervention is paramount and may mean all the difference between intestinal salvage and crippling short gut syndrome. The typical case of neonatal bowel obstruction is generally straightforward, and the outcome is potentially excellent. Only very preterm babies and those of extremely low birth weight may succumb. However, in Africa, late presentations and poor resources lead to a mortality of up to 30%.<sup>1</sup> Few dedicated paediatric hospitals exist in developing countries.<sup>2</sup>

Intestinal obstruction can be complete (atresia, anorectal malformation (ARM)) or incomplete (stenosis, web). Obstruction may be intraluminal (meconium ileus or meconium plug syndrome) or functional (Hirschsprung's disease (HD)). Proximal obstruction presents with earlier vomiting and less abdominal distension, whereas distal bowel obstruction tends itself to late-onset and greater abdominal distension. This chapter provides an overview on neonatal bowel obstruction. Each specific condition is covered in chapters elsewhere in this book, specifically, Chapter 58 (inguinal and femoral hernias and hydrocoele), Chapter 62 (duodenal atresia and stenosis), Chapter 63 (intestinal atresia and stenosis), Chapter 65 (intestinal malrotation and midgut volvulus), Chapter 67 (meconium disease), Chapter 76 (Hirschsprung's disease), and Chapter 77 (anorectal anomalies).

### Demographics

The incidence of NIO is approximately 1 in 5,000 live births. The true incidence in Africa is unknown, but a recent report from Tanzania has shown that it is still the most common neonatal surgical emergency.<sup>1</sup> Many cases still die undiagnosed and untreated.

### Aetiology/Pathophysiology

Neonatal intestinal obstruction has varied aetiology, so the pathophysiology is diverse.

The gastrointestinal tract (GIT) arises from the yolk sac. At 3 to 4 weeks' gestation, it becomes a distinct entity. A connection, the vitelline (omphalomesenteric) duct, may persist as a Meckel's diverticulum. The alimentary tube is divided according to its blood supply into the foregut, midgut, and hindgut.

The foregut comprises the oesophagus, stomach, and duodenum. These are vascularised by multiple sources—the thyrocervical, intercostal, celiac axis, and superior mesenteric vessels.

The midgut comprises the jejunum and ileum as well as the ascending and proximal transverse colon. These are supplied by the superior mesenteric vessels.

The hindgut comprises the distal colon, which is supplied by the inferior mesenteric vessels, and the rectum, which is supplied by the internal iliac vessels.

Aberrations of foregut formation include duodenal stenosis, duodenal atresia, and annular pancreas. Maldevelopment of the midgut includes malrotation as well as jejunal and ileal atresia. Meconium ileus involves the distal ileum. Hirschsprung's disease (ganglionic megacolon), meconium plug syndrome, and imperforate anus involve the hindgut. Enteric duplications occur in all three locations.

**Jejunoleileal atresia** is a condition acquired during foetal development due to disruption of the mesenteric blood supply. In their classic work on foetal dogs in 1955, Lowry and Bernard from Cape Town, South Africa, clarified the pathophysiology of jejunoleileal atresia.<sup>3</sup> Other abdominal conditions occurring in utero, such as gastroschisis, volvulus, or intussusception, may be associated with intestinal atresia due to kinking, stretching, or otherwise disrupting the blood flow to the foetal bowel. Chromosomal anomalies are rare (<1%) in babies with jejunoleileal atresia.

**Meconium ileus** is the earliest manifestation of cystic fibrosis (CF), an autosomal recessive condition characterised by abnormalities in cellular membrane physiology and chloride ion transport that contribute to progressive respiratory failure, derangements in cellular secretory patterns, and diminished mucosal motility. In developed countries, 10–20% of newborns with CF present with meconium ileus, an association first described by Landsteiner in 1903.<sup>4</sup> A cystic fibrosis gene that is different from that in the Caucasian population has been identified in the Black African population,<sup>5</sup> however, the incidence in Africa is much reduced, and in many sub-Saharan countries, the disease is not reported.<sup>6</sup>

Abnormalities in the cystic fibrosis transmembrane regulator (CFTR) disrupt transmembrane flux of the chloride ion, which subsequently affects sodium transport as well. The meconium of affected babies is thick and sticky; this, coupled with the poor motility of an immature intestine, leads to intraluminal obstruction of the terminal ileum. A contrast enema might reveal the characteristic finding of a microcolon. It is essential to push the contrast up to the level of obstruction, namely, the distal ileum to be therapeutic by flushing out the meconium plugs (Figures 61.1 to 61.4).

**Meconium plug syndrome** refers to inspissated meconium obstructing the colon; it may denote HD but not CF. Conditions that predispose to dysfunction of the neonatal bowel (e.g., maternal pre-eclampsia, diabetes mellitus, administration of magnesium sulfate, prematurity, sepsis, and hypothyroidism) may be responsible for the formation of the meconium plug. A water-soluble contrast enema can be both diagnostic and therapeutic for this condition.

**Hirschsprung's disease** is a disorder of the neuroenteric pathways in the distal colon that results in a bowel that is tonically contracted. Bowel peristalsis is controlled by neuroenteric ganglion cells, which

# Chapter 61 Neonatal Intestinal Obstruction

**Ying Liu**



## **Chapter 61 Neonatal Intestinal Obstruction:**

Eventually, you will agreed discover a extra experience and success by spending more cash. nevertheless when? realize you acknowledge that you require to get those all needs following having significantly cash? Why dont you attempt to acquire something basic in the beginning? Thats something that will lead you to understand even more in the region of the globe, experience, some places, taking into consideration history, amusement, and a lot more?

It is your totally own mature to be active reviewing habit. accompanied by guides you could enjoy now is **Chapter 61 Neonatal Intestinal Obstruction** below.

[https://wwwnew.greenfirefarms.com/data/virtual-library/Documents/How\\_To\\_Ai\\_Seo\\_Tools\\_Tips\\_For\\_Experts.pdf](https://wwwnew.greenfirefarms.com/data/virtual-library/Documents/How_To_Ai_Seo_Tools_Tips_For_Experts.pdf)

## **Table of Contents Chapter 61 Neonatal Intestinal Obstruction**

1. Understanding the eBook Chapter 61 Neonatal Intestinal Obstruction
  - The Rise of Digital Reading Chapter 61 Neonatal Intestinal Obstruction
  - Advantages of eBooks Over Traditional Books
2. Identifying Chapter 61 Neonatal Intestinal Obstruction
  - Exploring Different Genres
  - Considering Fiction vs. Non-Fiction
  - Determining Your Reading Goals
3. Choosing the Right eBook Platform
  - Popular eBook Platforms
  - Features to Look for in an Chapter 61 Neonatal Intestinal Obstruction
  - User-Friendly Interface
4. Exploring eBook Recommendations from Chapter 61 Neonatal Intestinal Obstruction
  - Personalized Recommendations
  - Chapter 61 Neonatal Intestinal Obstruction User Reviews and Ratings
  - Chapter 61 Neonatal Intestinal Obstruction and Bestseller Lists
5. Accessing Chapter 61 Neonatal Intestinal Obstruction Free and Paid eBooks

- Chapter 61 Neonatal Intestinal Obstruction Public Domain eBooks
  - Chapter 61 Neonatal Intestinal Obstruction eBook Subscription Services
  - Chapter 61 Neonatal Intestinal Obstruction Budget-Friendly Options
6. Navigating Chapter 61 Neonatal Intestinal Obstruction eBook Formats
    - ePub, PDF, MOBI, and More
    - Chapter 61 Neonatal Intestinal Obstruction Compatibility with Devices
    - Chapter 61 Neonatal Intestinal Obstruction Enhanced eBook Features
  7. Enhancing Your Reading Experience
    - Adjustable Fonts and Text Sizes of Chapter 61 Neonatal Intestinal Obstruction
    - Highlighting and Note-Taking Chapter 61 Neonatal Intestinal Obstruction
    - Interactive Elements Chapter 61 Neonatal Intestinal Obstruction
  8. Staying Engaged with Chapter 61 Neonatal Intestinal Obstruction
    - Joining Online Reading Communities
    - Participating in Virtual Book Clubs
    - Following Authors and Publishers Chapter 61 Neonatal Intestinal Obstruction
  9. Balancing eBooks and Physical Books Chapter 61 Neonatal Intestinal Obstruction
    - Benefits of a Digital Library
    - Creating a Diverse Reading Collection Chapter 61 Neonatal Intestinal Obstruction
  10. Overcoming Reading Challenges
    - Dealing with Digital Eye Strain
    - Minimizing Distractions
    - Managing Screen Time
  11. Cultivating a Reading Routine Chapter 61 Neonatal Intestinal Obstruction
    - Setting Reading Goals Chapter 61 Neonatal Intestinal Obstruction
    - Carving Out Dedicated Reading Time
  12. Sourcing Reliable Information of Chapter 61 Neonatal Intestinal Obstruction
    - Fact-Checking eBook Content of Chapter 61 Neonatal Intestinal Obstruction
    - Distinguishing Credible Sources
  13. Promoting Lifelong Learning
    - Utilizing eBooks for Skill Development

- Exploring Educational eBooks
14. Embracing eBook Trends
- Integration of Multimedia Elements
  - Interactive and Gamified eBooks

### **Chapter 61 Neonatal Intestinal Obstruction Introduction**

Free PDF Books and Manuals for Download: Unlocking Knowledge at Your Fingertips In today's fast-paced digital age, obtaining valuable knowledge has become easier than ever. Thanks to the internet, a vast array of books and manuals are now available for free download in PDF format. Whether you are a student, professional, or simply an avid reader, this treasure trove of downloadable resources offers a wealth of information, conveniently accessible anytime, anywhere. The advent of online libraries and platforms dedicated to sharing knowledge has revolutionized the way we consume information. No longer confined to physical libraries or bookstores, readers can now access an extensive collection of digital books and manuals with just a few clicks. These resources, available in PDF, Microsoft Word, and PowerPoint formats, cater to a wide range of interests, including literature, technology, science, history, and much more. One notable platform where you can explore and download free Chapter 61 Neonatal Intestinal Obstruction PDF books and manuals is the internet's largest free library. Hosted online, this catalog compiles a vast assortment of documents, making it a veritable goldmine of knowledge. With its easy-to-use website interface and customizable PDF generator, this platform offers a user-friendly experience, allowing individuals to effortlessly navigate and access the information they seek. The availability of free PDF books and manuals on this platform demonstrates its commitment to democratizing education and empowering individuals with the tools needed to succeed in their chosen fields. It allows anyone, regardless of their background or financial limitations, to expand their horizons and gain insights from experts in various disciplines. One of the most significant advantages of downloading PDF books and manuals lies in their portability. Unlike physical copies, digital books can be stored and carried on a single device, such as a tablet or smartphone, saving valuable space and weight. This convenience makes it possible for readers to have their entire library at their fingertips, whether they are commuting, traveling, or simply enjoying a lazy afternoon at home. Additionally, digital files are easily searchable, enabling readers to locate specific information within seconds. With a few keystrokes, users can search for keywords, topics, or phrases, making research and finding relevant information a breeze. This efficiency saves time and effort, streamlining the learning process and allowing individuals to focus on extracting the information they need. Furthermore, the availability of free PDF books and manuals fosters a culture of continuous learning. By removing financial barriers, more people can access educational resources and pursue lifelong learning, contributing to personal growth and professional development. This democratization of knowledge promotes

intellectual curiosity and empowers individuals to become lifelong learners, promoting progress and innovation in various fields. It is worth noting that while accessing free Chapter 61 Neonatal Intestinal Obstruction PDF books and manuals is convenient and cost-effective, it is vital to respect copyright laws and intellectual property rights. Platforms offering free downloads often operate within legal boundaries, ensuring that the materials they provide are either in the public domain or authorized for distribution. By adhering to copyright laws, users can enjoy the benefits of free access to knowledge while supporting the authors and publishers who make these resources available. In conclusion, the availability of Chapter 61 Neonatal Intestinal Obstruction free PDF books and manuals for download has revolutionized the way we access and consume knowledge. With just a few clicks, individuals can explore a vast collection of resources across different disciplines, all free of charge. This accessibility empowers individuals to become lifelong learners, contributing to personal growth, professional development, and the advancement of society as a whole. So why not unlock a world of knowledge today? Start exploring the vast sea of free PDF books and manuals waiting to be discovered right at your fingertips.

### **FAQs About Chapter 61 Neonatal Intestinal Obstruction Books**

How do I know which eBook platform is the best for me? Finding the best eBook platform depends on your reading preferences and device compatibility. Research different platforms, read user reviews, and explore their features before making a choice. Are free eBooks of good quality? Yes, many reputable platforms offer high-quality free eBooks, including classics and public domain works. However, make sure to verify the source to ensure the eBook credibility. Can I read eBooks without an eReader? Absolutely! Most eBook platforms offer webbased readers or mobile apps that allow you to read eBooks on your computer, tablet, or smartphone. How do I avoid digital eye strain while reading eBooks? To prevent digital eye strain, take regular breaks, adjust the font size and background color, and ensure proper lighting while reading eBooks. What the advantage of interactive eBooks? Interactive eBooks incorporate multimedia elements, quizzes, and activities, enhancing the reader engagement and providing a more immersive learning experience. Chapter 61 Neonatal Intestinal Obstruction is one of the best book in our library for free trial. We provide copy of Chapter 61 Neonatal Intestinal Obstruction in digital format, so the resources that you find are reliable. There are also many Ebooks of related with Chapter 61 Neonatal Intestinal Obstruction. Where to download Chapter 61 Neonatal Intestinal Obstruction online for free? Are you looking for Chapter 61 Neonatal Intestinal Obstruction PDF? This is definitely going to save you time and cash in something you should think about. If you trying to find then search around for online. Without a doubt there are numerous these available and many of them have the freedom. However without doubt you receive whatever you purchase. An alternate way to get ideas is always to check another Chapter 61 Neonatal Intestinal Obstruction. This method for see exactly what may be

included and adopt these ideas to your book. This site will almost certainly help you save time and effort, money and stress. If you are looking for free books then you really should consider finding to assist you try this. Several of Chapter 61 Neonatal Intestinal Obstruction are for sale to free while some are payable. If you arent sure if the books you would like to download works with for usage along with your computer, it is possible to download free trials. The free guides make it easy for someone to free access online library for download books to your device. You can get free download on free trial for lots of books categories. Our library is the biggest of these that have literally hundreds of thousands of different products categories represented. You will also see that there are specific sites catered to different product types or categories, brands or niches related with Chapter 61 Neonatal Intestinal Obstruction. So depending on what exactly you are searching, you will be able to choose e books to suit your own need. Need to access completely for Campbell Biology Seventh Edition book? Access Ebook without any digging. And by having access to our ebook online or by storing it on your computer, you have convenient answers with Chapter 61 Neonatal Intestinal Obstruction To get started finding Chapter 61 Neonatal Intestinal Obstruction, you are right to find our website which has a comprehensive collection of books online. Our library is the biggest of these that have literally hundreds of thousands of different products represented. You will also see that there are specific sites catered to different categories or niches related with Chapter 61 Neonatal Intestinal Obstruction So depending on what exactly you are searching, you will be able to choose ebook to suit your own need. Thank you for reading Chapter 61 Neonatal Intestinal Obstruction. Maybe you have knowledge that, people have search numerous times for their favorite readings like this Chapter 61 Neonatal Intestinal Obstruction, but end up in harmful downloads. Rather than reading a good book with a cup of coffee in the afternoon, instead they juggled with some harmful bugs inside their laptop. Chapter 61 Neonatal Intestinal Obstruction is available in our book collection an online access to it is set as public so you can download it instantly. Our digital library spans in multiple locations, allowing you to get the most less latency time to download any of our books like this one. Merely said, Chapter 61 Neonatal Intestinal Obstruction is universally compatible with any devices to read.

### **Find Chapter 61 Neonatal Intestinal Obstruction :**

#### **how to ai seo tools tips for experts**

~~best way to sleep hygiene tips step plan for creators~~

~~expert gut health foods for small business for beginners~~

#### **best way to ai video generator for moms**

#### **top method for ai tools usa for experts**

how to start capsule wardrobe usa for creators

[ultimate sleep hygiene tips for small business for beginners](#)

**easy credit score improvement for beginners for creators**

**top method for index fund investing full tutorial for creators**

*best way to blog post ideas for small business*

**beginner friendly budgeting tips for small business for beginners**

[how to ai seo tools for small business for experts](#)

[how to ai seo tools for creators for experts](#)

[easy anti inflammatory diet for moms for workers](#)

**how to start blog post ideas for moms for workers**

## Chapter 61 Neonatal Intestinal Obstruction :

Fit Girl's Guide FitGirlsGuide: Join the challenge! Easy recipes, simple workouts, and community. Follow @fitgirlsguide on Instagram to see what everyone is talking about. Fit Girl's Guide FitGirlsGuide: Join the challenge! Easy recipes, simple workouts, and community. Follow @fitgirlsguide on Instagram to see what everyone is talking about. FITGIRLS.COM (@fitgirlsguide) Body Positive Health! Everything Bundle (25% off) \* New Meal Plan + FG Yoga Link . fitgirls.com. 9,848 posts; 4.2M followers; 0 following ... Fit Girls Guide Fit Girls Guide. 1187381 likes · 14 talking about this. Easy recipes, simple workouts, and community! What is Fit Girls Guide + My Review Aug 27, 2021 — Each workout guide comes with recipes and there are also separate cookbooks you can buy for meal planning. Egg McFit Fun, Pita Pizza, Elvis ... Has anyone tried Fit Girls Guide? : r/xxfitness To get fit: \*Lift weights. Try Starting Strength. \*Track your calories and be honest about it. I prefer to use myfitnesspal.com \*Eat veggies and ... Fit Girls Guide 28 Day Jumpstart May 4, 2021 - Explore Taylor Culvey's board "Fit Girls Guide 28 Day Jumpstart" on Pinterest. See more ideas about fit girls guide, fit girls guide recipes, ... Fit Girls Guide Mar 11, 2020 - Explore Jessica Urvina-Smith's board "Fit Girls Guide", followed by 118 people on Pinterest. See more ideas about fit girls guide, fit girls ... Hole's Human Anatomy & Physiology | Multiple Choice Quiz A web site to accompany the McGraw-Hill college textbook Hole's Human ... Multiple Choice Quiz. Please answer all questions. 1. Which field, when compared to ... Chapter Assessment Answers Hole's Human Anatomy and Physiology (Shier), 13th Edition. Chapter Assessment Answers. Chapter 01 Assessment Answers (46.0K) Anatomy and physiology Mcgraw Hill Exam 1 Flashcards See an expert-written answer! We have an expert-written solution to this problem! Which one of the following is not in the correct anatomical position? Chapter 1 Anatomy & Physiology (McGraw Hill) Flashcards Study with Quizlet and memorize flashcards containing terms like Ultrastructure, Histopathology, Histology and more. Practice Question Answers Hole's Human Anatomy and Physiology (Shier), 13th Edition. Practice Question Answers. Preview Chapter (24.0K) · Chapter 1 (33.0K) · Chapter 2

(31.0K) Anatomy And Physiology Mcgraw Hill Quiz Answers Pdf Anatomy And Physiology Mcgraw Hill Quiz Answers Pdf. INTRODUCTION Anatomy And Physiology Mcgraw Hill Quiz. Answers Pdf FREE. Anatomy And Physiology Mcgraw Hill Quiz Answers Pdf Page 1. Anatomy And Physiology Mcgraw Hill Quiz Answers Pdf. INTRODUCTION Anatomy And Physiology Mcgraw Hill Quiz. Answers Pdf Copy. Test Banks Hole's Human Anatomy and Physiology (Shier), 13th Edition. Test Banks. Use the ... Practice Question Answers; Chapter Assessment Answers; Integrative Assessment ... Study Tools | AccessMedicine | McGraw Hill Medical Generate multiple-choice quizzes from the resources below. Clinical Neuroanatomy, 29e 100 Questions. New! Clinical Neuroanatomy, 30th Edition Anatomy And Physiology Mcgraw Hill Quiz Answers Pdf Anatomy And Physiology Mcgraw Hill Quiz. Answers Pdf. INTRODUCTION Anatomy And Physiology Mcgraw Hill Quiz. Answers Pdf (2023) The Queen's Commonwealth Essay Competition The Queen's Commonwealth Essay Competition is the world's oldest international writing competition for schools, proudly delivered by the Royal Commonwealth ... Enter the QCEC2023 The Queen's Commonwealth Essay Competition is the world's oldest international writing competition for schools, proudly delivered by the Royal Commonwealth The Queen's Commonwealth Essay Prize Nov 16, 2023 — The Queen has celebrated 140 years of The Queen's Commonwealth Essay Prize with winners, supporters and a host of well-known writers at ... The Queen's Commonwealth Essay Competition 2023 We are delighted to share that the 2023 Queen's Commonwealth Essay Competition is open to entries for writers aged under 18, who are nationals or residents ... Royal Commonwealth Society | London QCEC Essay Competition enhances writing skills, fostering clarity, coherence, and effective communication. Royal Commonwealth Society . The Queen's Commonwealth Essay Competition 2023 ... 386 likes, 8 comments - royalcwsociety on March 16, 2023: "The Queen's Commonwealth Essay Competition 2023 is now live! The theme for the #QCEC2023 is 'A .. Queen's Commonwealth Essay Competition 2024 (Prize + ... The Queen's Commonwealth Essay Competition 2024 is the world's oldest international writing competition for schools, established in 1883. With thousands of ... 140 years of The Queen's Commonwealth Essay Competition Queen's Essay Competition — Royal Commonwealth Society The competition is used by individuals and teachers to build confidence, develop writing skills, support creativity and encourage critical thinking, using ... The Queen's speech at The Queen's Commonwealth ... Nov 16, 2023 — The Queen's speech at The Queen's Commonwealth Essay Competition 2023. Published 16 November 2023. Well done to each and every one of you - you ...