



Primary Congenital Hypothyroidism in Children Below 3 Years Old - Etiology and Treatment With Overtreatment and Undertreatment Risks, a 5-Year Single Centre Experience

OPEN ACCESS

Edited by:

Anna Małgorzata Kucharska,
Medical University of Warsaw, Poland

Reviewed by:

Gerd Tull,
Regina Margherita Hospital, Italy
Carla Bizzani,
Bambino Gesù Children's Hospital
(PICO), Italy
Mirjana Kocova,
Saints Cyril and Methodius University
of Skopje, North Macedonia
Lesley Tetlow, Manchester University
NHS Foundation Trust (MFT)
United Kingdom

*Correspondence:

Elżbieta Lipska
poradnia.endokrynologia@imc.med.pl

Specialty section:

This article was submitted to
Pediatric Endocrinology,
a section of the journal
Frontiers in Endocrinology

Received: 13 March 2022

Accepted: 18 May 2022

Published: 27 June 2022

Citation:

Lipska E, Lecka-Ambroziak A,
Witkowski D, Szamotuła K,
Mierzejewska E and Olfarzewski M
(2022) Primary Congenital
Hypothyroidism in Children Below 3
Years Old - Etiology and Treatment
With Overtreatment and
Undertreatment Risks, a 5-Year
Single Centre Experience.
Front. Endocrinol. 13:895507.
doi: 10.3389/fendo.2022.895507

Elżbieta Lipska^{1*}, Agnieszka Lecka-Ambroziak^{1,2}, Daniel Witkowski¹,
Katarzyna Szamotuła³, Ewa Mierzejewska² and Mariusz Olfarzewski⁴

¹ Endocrinology Outpatient Clinic, Institute of Mother and Child, Warsaw, Poland, ² Department of Endocrinology and
Diabetology, Children's Memorial Health Institute, Warsaw, Poland, ³ Department of Epidemiology and Biostatistics, Institute
of Mother and Child, Warsaw, Poland, ⁴ Department of Screening and Metabolic Diagnostics, Institute of Mother and Child,
Warsaw, Poland

Worldwide neonatal screening for congenital hypothyroidism (CH) is a gold standard of active surveillance in newborns. Prompt diagnosis, subsequent timely treatment implementation, and proper dosage of levothyroxine (L-T4) are crucial for normal growth and development, especially of the central nervous system. However, overtreatment may have a potential negative impact on further neurodevelopment. We retrospectively analysed data of 99 newborns with CH diagnosis, referred to the Endocrinology Outpatient Clinic of the Institute of Mother and Child in Warsaw, Poland from the CH screening program from 2017 to 2021. We evaluated the diagnostic process and treatment up to the age of 3 years. We compared groups of children from the first and the second screening groups (FSG, SSG) in the neonatal screening with an evaluation of ultrasound examination (thyroid dysgenesis vs. gland in situ, GtS). The overtreatment and undertreatment risks were assessed and an analysis of the new TSH thresholds was performed. Treatment was implemented at a median of 9 days of life (3 – 27); 8 days (3 – 17) in FSG and 19 (6 – 27) in SSG. The dose of L-T4 differed between FSG and SSG at all three analysed time points (start of the therapy, 12 months, and 3 years) with significantly higher doses in FSG. The same was observed for the patients with thyroid dysgenesis vs. GtS. Screening TSH level was $\geq 28\text{mIU/L}$ in 91.7% of patients with thyroid dysgenesis in comparison to 74.0% of patients with GtS ($p = 0.038$). The optimally treated group (fT4 in the upper half of the reference range, according to the guidelines) was up to 58.0% of the children during the follow-up. The risk for overtreatment was present in 1/5 of the study group after 12 months and 1/4 after 3 years of L-T4 therapy. Analysis of new TSH thresholds showed an increased prevalence of mild hypothyroidism, GtS, and either euthyroid state or overtreatment while treating with lower L-T4 doses in comparison to the

Research In Congenital Hypothyroidism

Michael Hoelscher



Research In Congenital Hypothyroidism:

Delve into the emotional tapestry woven by Emotional Journey with in Experience **Research In Congenital Hypothyroidism** . This ebook, available for download in a PDF format (*), is more than just words on a page; itis a journey of connection and profound emotion. Immerse yourself in narratives that tug at your heartstrings. Download now to experience the pulse of each page and let your emotions run wild.

<https://pinsupreme.com/data/detail/default.aspx/Prairie%20Path%20Priest.pdf>

Table of Contents Research In Congenital Hypothyroidism

1. Understanding the eBook Research In Congenital Hypothyroidism
 - The Rise of Digital Reading Research In Congenital Hypothyroidism
 - Advantages of eBooks Over Traditional Books
2. Identifying Research In Congenital Hypothyroidism
 - 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 Research In Congenital Hypothyroidism
 - User-Friendly Interface
4. Exploring eBook Recommendations from Research In Congenital Hypothyroidism
 - Personalized Recommendations
 - Research In Congenital Hypothyroidism User Reviews and Ratings
 - Research In Congenital Hypothyroidism and Bestseller Lists
5. Accessing Research In Congenital Hypothyroidism Free and Paid eBooks
 - Research In Congenital Hypothyroidism Public Domain eBooks
 - Research In Congenital Hypothyroidism eBook Subscription Services
 - Research In Congenital Hypothyroidism Budget-Friendly Options

6. Navigating Research In Congenital Hypothyroidism eBook Formats
 - ePub, PDF, MOBI, and More
 - Research In Congenital Hypothyroidism Compatibility with Devices
 - Research In Congenital Hypothyroidism Enhanced eBook Features
7. Enhancing Your Reading Experience
 - Adjustable Fonts and Text Sizes of Research In Congenital Hypothyroidism
 - Highlighting and Note-Taking Research In Congenital Hypothyroidism
 - Interactive Elements Research In Congenital Hypothyroidism
8. Staying Engaged with Research In Congenital Hypothyroidism
 - Joining Online Reading Communities
 - Participating in Virtual Book Clubs
 - Following Authors and Publishers Research In Congenital Hypothyroidism
9. Balancing eBooks and Physical Books Research In Congenital Hypothyroidism
 - Benefits of a Digital Library
 - Creating a Diverse Reading Collection Research In Congenital Hypothyroidism
10. Overcoming Reading Challenges
 - Dealing with Digital Eye Strain
 - Minimizing Distractions
 - Managing Screen Time
11. Cultivating a Reading Routine Research In Congenital Hypothyroidism
 - Setting Reading Goals Research In Congenital Hypothyroidism
 - Carving Out Dedicated Reading Time
12. Sourcing Reliable Information of Research In Congenital Hypothyroidism
 - Fact-Checking eBook Content of Research In Congenital Hypothyroidism
 - 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

Research In Congenital Hypothyroidism Introduction

Research In Congenital Hypothyroidism Offers over 60,000 free eBooks, including many classics that are in the public domain. Open Library: Provides access to over 1 million free eBooks, including classic literature and contemporary works. Research In Congenital Hypothyroidism Offers a vast collection of books, some of which are available for free as PDF downloads, particularly older books in the public domain. Research In Congenital Hypothyroidism : This website hosts a vast collection of scientific articles, books, and textbooks. While it operates in a legal gray area due to copyright issues, its a popular resource for finding various publications. Internet Archive for Research In Congenital Hypothyroidism : Has an extensive collection of digital content, including books, articles, videos, and more. It has a massive library of free downloadable books. Free-eBooks Research In Congenital Hypothyroidism Offers a diverse range of free eBooks across various genres. Research In Congenital Hypothyroidism Focuses mainly on educational books, textbooks, and business books. It offers free PDF downloads for educational purposes. Research In Congenital Hypothyroidism Provides a large selection of free eBooks in different genres, which are available for download in various formats, including PDF. Finding specific Research In Congenital Hypothyroidism, especially related to Research In Congenital Hypothyroidism, might be challenging as theyre often artistic creations rather than practical blueprints. However, you can explore the following steps to search for or create your own Online Searches: Look for websites, forums, or blogs dedicated to Research In Congenital Hypothyroidism, Sometimes enthusiasts share their designs or concepts in PDF format. Books and Magazines Some Research In Congenital Hypothyroidism books or magazines might include. Look for these in online stores or libraries. Remember that while Research In Congenital Hypothyroidism, sharing copyrighted material without permission is not legal. Always ensure youre either creating your own or obtaining them from legitimate sources that allow sharing and downloading. Library Check if your local library offers eBook lending services. Many libraries have digital catalogs where you can borrow Research In Congenital Hypothyroidism eBooks for free, including popular titles. Online Retailers: Websites like Amazon, Google Books, or Apple Books often sell eBooks. Sometimes, authors or publishers offer promotions or free periods for certain books. Authors Website Occasionally, authors provide excerpts or short stories for free on their websites. While this might not be the Research In Congenital Hypothyroidism full book , it can give you a taste of the authors writing style. Subscription Services Platforms like Kindle Unlimited or Scribd offer subscription-based access to a wide range of Research In Congenital Hypothyroidism eBooks, including some popular titles.

FAQs About Research In Congenital Hypothyroidism Books

1. Where can I buy Research In Congenital Hypothyroidism books? Bookstores: Physical bookstores like Barnes & Noble, Waterstones, and independent local stores. Online Retailers: Amazon, Book Depository, and various online bookstores offer a wide range of books in physical and digital formats.
2. What are the different book formats available? Hardcover: Sturdy and durable, usually more expensive. Paperback: Cheaper, lighter, and more portable than hardcovers. E-books: Digital books available for e-readers like Kindle or software like Apple Books, Kindle, and Google Play Books.
3. How do I choose a Research In Congenital Hypothyroidism book to read? Genres: Consider the genre you enjoy (fiction, non-fiction, mystery, sci-fi, etc.). Recommendations: Ask friends, join book clubs, or explore online reviews and recommendations. Author: If you like a particular author, you might enjoy more of their work.
4. How do I take care of Research In Congenital Hypothyroidism books? Storage: Keep them away from direct sunlight and in a dry environment. Handling: Avoid folding pages, use bookmarks, and handle them with clean hands. Cleaning: Gently dust the covers and pages occasionally.
5. Can I borrow books without buying them? Public Libraries: Local libraries offer a wide range of books for borrowing. Book Swaps: Community book exchanges or online platforms where people exchange books.
6. How can I track my reading progress or manage my book collection? Book Tracking Apps: Goodreads, LibraryThing, and Book Catalogue are popular apps for tracking your reading progress and managing book collections. Spreadsheets: You can create your own spreadsheet to track books read, ratings, and other details.
7. What are Research In Congenital Hypothyroidism audiobooks, and where can I find them? Audiobooks: Audio recordings of books, perfect for listening while commuting or multitasking. Platforms: Audible, LibriVox, and Google Play Books offer a wide selection of audiobooks.
8. How do I support authors or the book industry? Buy Books: Purchase books from authors or independent bookstores. Reviews: Leave reviews on platforms like Goodreads or Amazon. Promotion: Share your favorite books on social media or recommend them to friends.
9. Are there book clubs or reading communities I can join? Local Clubs: Check for local book clubs in libraries or community centers. Online Communities: Platforms like Goodreads have virtual book clubs and discussion groups.
10. Can I read Research In Congenital Hypothyroidism books for free? Public Domain Books: Many classic books are available for free as they're in the public domain. Free E-books: Some websites offer free e-books legally, like Project Gutenberg or Open Library.

Find Research In Congenital Hypothyroidism :

prairie path priest

practical microbiological risk abatement how to abate manage and communicate microbiological risks in foods

practical guide to the study of the productivity of large herbivores

practice of child protection australian approach

practice of love lesbian sexuality and perverse desire

practical use of mathcad solving mathematical problems with a computer algebra system

practical ship design

practical home theater a guide to video and audio systems

practice and activities workbook for mathematics essentials and application s

practice masters for merrill pre-algebra a transition to algebra

practical implications of calvinism

pravo na svobodu i lichnuu neprikosновенost normy i deistvitelnost

practical rock gardening

practicing effective management

practical holography xii practical holography xii

Research In Congenital Hypothyroidism :

Strategic Leadership: The Essential Skills Strategic leaders must be adept at finding common ground and achieving buy-in among stakeholders who have disparate views and agendas. This requires active ... Top 6 Leadership Skills for Strategic Management | CMOE What Makes a Good Manager? · 1. Learn To Delegate · 2. Care about Communication · 3. Exude Confidence · 4. Customize Your Approach · 5. Strategic Thinking and ... Strategic Management: Definition, Purpose and Example Mar 10, 2023 — Five steps of strategic management · 1. Identification · 2. Analysis · 3. Formation · 4. Execution · 5. Evaluation. What is strategic thinking? How do management see this ... May 14, 2017 — Key fundamentals include a deep understanding of your objectives, a clear vision of where you want to go, the ability to assess your current ... Strategic Management Skills - ReadyToManage Mar 8, 2013 — Strategic Management Skills · Big picture thinking · Listening skills · Commercial acumen · Planning and Organizing · Collaboration ability. What are the strategic skills ? Feb 21, 2023 — These skills involve the ability to think critically, analyze data, and make decisions based on a clear understanding of the business landscape, ... 6 Skills of Strategic Planning Skills Required and Utilized in Strategic Planning · Development and Marketing

Skills · Research, Analytical and Critical Thinking Skills · Information Systems ... 6 Skills You Need to Become A Strategic Leader | TSI Jun 7, 2021 — 1. The Conversation Guide - Building space for deeper and focused conversations · 2. The Questioner - Framing appreciative questions · 3. The ... 4 Ways to Develop Your Strategic Thinking Skills | HBS Online Sep 10, 2020 — Strategic thinking skills are any skills that enable you to use critical thinking to solve complex problems and plan for the future. These ... The First-Time Manager by McCormick, Jim The book addresses the needs of new managers and it does a very good job at point out the most common mistakes new managers make and how to avoid them. But it's ... The First-Time Manager The trusted management classic and go-to guide for anyone facing new responsibilities as a first-time manager. Learn to conquer every challenge like a seasoned ... The First-Time Manager (First-Time Manager Series) Learn to conquer every challenge like a seasoned pro with the clear, candid advice in The First-Time Manager. For nearly four decades, this expert guide has ... The First-Time Manager by Jim McCormick, Paperback The updated seventh edition delivers new information that helps you manage across generations, use online performance appraisal tools, persuade with stories, ... The First-time Manager by Loren B. Belker Clear and concise, the book covers all the fundamentals you need for success, with indispensable advice on topics including hiring and firing, leadership, ... The First-Time Manager - Audiobook The trusted management classic and go to guide for anyone facing new responsibilities as a first time manager. Learn to conquer every challenge like a pro ... The First-Time Manager - Loren B. Belker, Jim McCormick ... The First-Time Manager is the answer, dispensing the bottom-line wisdom they need to succeed. A true management classic, the book covers essential topics such ... 5 Pieces of Advice for First-Time Managers Jun 2, 2022 — 1) Build a culture of feedback from the start. · 2) Know that trust is given, not earned. · 3) Create team rituals to build trust with your ... The First-Time Manager: Leading Through Crisis Sep 5, 2023 — Paul Falcone, author of 101 Tough Conversations to Have with Employees and HR and leadership expert will help you master unforeseen challenges ... Nissan Lafesta 2005 Owners Manual | PDF nissan lafesta 2005 owners manual - Read online for free. Nissan lafesta user manual by kazelink570 Jan 22, 2018 — Read Nissan lafesta user manual by kazelink570 on Issuu and browse thousands of other publications on our platform. Start here! All Nissan Owners Vehicle Manuals & Guides Visit site to download your Nissan vehicle's manuals and guides and access important details regarding the use and care of your vehicle. Nissan Automobile 2005 nissan lafesta owners manual Mar 22, 2013 — Auto and car manuals and free pdf automotive manual instructions. Find the user manual you need for your automobile and more at ... Nissan Quest 2004 2005 2006 2007 2008 2009 Nissan Quest 2004 2005 2006 2007 2008 2009 Service Manual PDF · Uploaded by · Document Information · Share this document · Sharing Options · Copyright: · Available ... Nissan Lafesta - B30 This repair manual contains sections on brakes, engine, the suspension, clutch, transmissions, steering, exhaust system, wheels and tires, the electrical ... Request Repair manual nissan lafesta b30 2004-2012 Feb 2, 2016 — Hi request the repair manual nissan lafesta b30 or the wiring diagram thanx you. Reply. Possibly Related Threads... Nissan Owner's

Manuals Owner's Manual in PDF! Nissan Owner's Manuals - view owner's manuals for Nissan cars in PDF for free! Choose your car: Altima, Rogue, Qashqai, Primera, Teana, Juke, Murano, Micra! Nissan lafesta manual in english Jul 29, 2023 — There are currently 23 owners manuals for a 1989 Nissan Maxima in English on Ebay. The price range is from \$5 to \$15. Go to Ebay.com and enter " ...