

Kernicterus

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Kernicterus is damage to the brain centers of infants caused by elevated levels of bilirubin. This may be due to several underlying pathologic processes. Newborn babies are often polycythemic, meaning they have too many red blood cells. When they break down the cells, one of the byproducts is bilirubin, which circulates in the blood, and causes jaundice. Alternately, Rh incompatibility between mother and fetus may cause hemolysis of fetal red blood cells, thereby releasing unconjugated bilirubin into the fetal blood. Since the fetal blood brain barrier is not fully formed, some of this released bilirubin enters the brain and interferes with normal neuronal development. In adults and older children, jaundice is harmless in and of itself. However, the tissues protecting the brain are immature in newborns. Bilirubin penetrates the brain and is deposited in the basal ganglia, causing irreversible damage. Depending on the level of exposure, the effects range from unnoticeable to severe brain damage. Some medications, such as co-trimoxazole, a combination of trimethoprim/sulfamethoxazole may induce this disorder to the baby when taken by the mother or given directly to the baby. Due to displacement of bilirubin from binding sites on serum albumin. The bilirubin is then free to pass into the Central Nervous System, because the baby's blood-brain barrier is not fully developed. ([From the Wikipedia article Kernicterus](#).)

Recent Publications on Kernicterus:



- [Bilirubin screening for normal newborns: a critique of the hour-specific bilirubin nomogram.](#)
The introduction of exchange transfusion made it possible to prevent... 24th October, 2009
Department of Family and Community Medicine, Medical College of Wisconsin,- Pediatrics. 2009 Oct;124(4):1203-5. Epub 2009 Sep 28. ([DOI Direct Link](#))
- [Universal bilirubin screening, guidelines, and evidence.](#)
The introduction of exchange transfusion made it possible to prevent... 24th October, 2009
University of California, Department of Epidemiology and Biostatistics,- Pediatrics. 2009 Oct;124(4):1199-202. Epub 2009 Sep 28. ([DOI Direct Link](#))
- [Hyperbilirubinemia in the newborn infant > or =35 weeks' gestation: an update with clarifications.](#)
The introduction of exchange transfusion made it possible to prevent... 24th October, 2009
Department of Pediatrics, Oakland University William Beaumont School of- Pediatrics. 2009 Oct;124(4):1193-8. Epub 2009 Sep 28. ([DOI Direct Link](#))
- [Screening of infants for hyperbilirubinemia to prevent chronic bilirubin encephalopathy: US Preventive Services Task Force recommendation statement.](#)
DESCRIPTION: Recommendation on screening newborn infants, based on a... 24th October, 2009
- Pediatrics. 2009 Oct;124(4):1172-7. Epub 2009 Sep 28. ([DOI Direct Link](#))
- [Systematic review of screening for bilirubin encephalopathy in neonates.](#)
CONTEXT: Severe neonatal hyperbilirubinemia is associated with chronic... 24th October, 2009
Tufts Evidence-Based Practice Center and Center for Clinical Evidence- Pediatrics. 2009

- Oct;124(4):1162-71. Epub 2009 Sep 28. ([DOI Direct Link](#))
- [Children with chronic non-progressive encephalopathy: hearing evaluation and hearing aids.](#)
*AIM: to assess the auditory abilities of children with non-progressive...*20th October, 2009
Faculdade de Ciencias Medicas, Santa Casa de Misericordia de Sao Paulo.- Pro Fono. 2009
Jul-Sep;21(3):237-42.
 - [Neonatal hyperbilirubinemia and kernicterus - not gone but sometimes forgotten.](#)
*The introduction of exchange transfusion made it possible to prevent...*17th October, 2009
Department of Pediatrics, Oakland University William Beaumont School of- Early Hum Dev. 2009
Nov;85(11):727-32. ([DOI Direct Link](#))
 - [\[Guideline 'Prevention, diagnosis and treatment of hyperbilirubinemia in the neonate with a gestational age of 35 or more weeks'\]](#)
*Bilirubin encephalopathy and kernicterus are preventable conditions....*30th September, 2009
Universitair Medisch Centrum Groningen, Beatrix Kinderziekenhuis, afd.- Ned Tijdschr Geneesk. 2009;153. pii: Ned Tijdschr geneesk. 2009;153:A93.
 - [Severe hyperbilirubinaemia and kernicterus: more caution is needed in newborn jaundice surveillance.](#)
*Since the 1990s, there has been a re-emergence of cases of severe...*24th September, 2009
Department of Paediatrics, Rotunda Hospital, Dublin.- Ir Med J. 2009 Jul-Aug;102(7):228-9.
 - [Intervention guidelines for neonatal hyperbilirubinemia: an evidence based quagmire.](#)
*The American Academy of Pediatrics has proposed guidelines for treating...*17th September, 2009
Departments of Pediatrics and Statistics, University of Washington,- Curr Pharm Des. 2009;15(25):2939-45.
 - [Pharmacological therapies for unconjugated hyperbilirubinemia.](#)
*Severe unconjugated hyperbilirubinemia, seen mainly in neonates, may cause...*17th September, 2009
Department of Pediatrics, Center for Liver, Digestive, and Metabolic- Curr Pharm Des. 2009;15(25):2927-38.
 - [Total knee arthroplasty and Crigler-Najjar syndrome: A case report.](#)
*Crigler-Najjar (CN) syndrome is a rare genetic disease characterized by...*16th September, 2009
Division of Orthopedic Surgery, Department of Surgery, University of- Knee. 2009 Sep 12. ([DOI Direct Link](#))
 - [Obstetric outcome in Danish children with a validated diagnosis of kernicterus.](#)
*OBJECTIVE: To validate the use of the kernicterus diagnosis in a clinical...*16th September, 2009
Department of Epidemiology, School of Public Health, University of Aarhus,- Acta Obstet Gynecol Scand. 2009;88(9):1011-6. ([DOI Direct Link](#))
 - [Maternal IgG anti-A and anti-B titres predict outcome in ABO-incompatibility in the neonate.](#)
*Abstract Aim: To evaluate predictors for risk of severe...*26th August, 2009
. Department of Paediatrics, Oslo University Hospital, Ulleval, Oslo,- Acta Paediatr. 2009 Aug 24. ([DOI Direct Link](#))
 - [Spectrum and outcome analysis of marked neonatal hyperbilirubinemia with blood group incompatibility.](#)
*BACKGROUND: Blood group mismatch between a mother and newborn carries a...*12th August, 2009
Division of Neonatology, Department of Pediatrics, Chang Gung Children's- Chang Gung Med J. 2009
Jul-Aug;32(4):400-8.

Kernicterus Clinical Trials:



- [Efficacy of High-dose Intravenous Immunoglobulin Therapy for Hyperbilirubinemia Due Rh Hemolytic Disease](#)



Kernicterus Patents:

- 4668670- [Tin diiododeuteroporphyrin and therapeutic use thereof](#)
- 5496836- [Use of famotidine and related compounds in the treatment of movement disorders](#)
- 5516526- [Compositions containing DMSO and Fructose 1,6-diphosphate](#)
- 5804405- [Bilirubin detection](#)
- 5919907- [Preparation and utilization of a novel sterile albumin](#)
- 5935805- [Measurement of bilirubin albumin binding](#)
- 6046200- [Compositions having neuroprotective and analgesic activity](#)
- 6066333- [Pharmaceutical control of inflammation](#)
- 6171855- [Vectors](#)
- 6277974- [Compositions and methods for diagnosing and treating conditions, disorders, or diseases involving cell death](#)
- 6305804- [Non-invasive measurement of blood component using retinal imaging](#)
- 5368555- [Organ support system](#)
- 5353790- [Method and apparatus for optical measurement of bilirubin in tissue](#)
- 5290684- [Permanent human hepatocyte cell line and its use in a liver assist device \(LAD\)](#)
- 4684637- [Method of decreasing rate of heme metabolism](#)
- 4692439- [Therapeutic use of tin diiododeuteroporphyrin](#)
- 4692440- [Therapeutic use of tin mesoporphyrin](#)
- 4699903- [Therapeutic use of tin diiododeuteroporphyrin](#)
- 4872752- [Diagnosis of free fatty acid toxicity by monitoring red blood cells morphologic changes](#)
- 4895799- [Process and reagent for the determination of total bilirubin](#)
- 4930516- [Method for detecting cancerous tissue using visible native luminescence](#)
- 5010073- [Use of liposomes as carriers for metalloporphyrins](#)
- 5042494- [Method and apparatus for detecting cancerous tissue using luminescence excitation spectra](#)
- 5259382- [Optical transcutaneous bilirubin detector](#)
- 6326208- [Assay for total and direct bilirubin](#)
- 6395481- [Methods for detection of promoter polymorphism in a UGT gene promoter](#)
- 7131990- [Phototherapy system and device](#)
- 7189696- [Peptide antagonists of zonulin and methods for use of the same](#)
- 7232667- [Keratinocyte growth factor-2 polynucleotides](#)
- 7407742- [Plasma or serum separator, plasma or serum sampling method, plasma or serum separating method, test carrier and glass fiber](#)
- 7416896- [Determination of plasma total and unbound bilirubin using zone fluidics](#)
- 7438719- [Phototherapy system and device](#)
- 7504243- [Methods for the production of biliverdin](#)
- 7508999- [Fiber optic sensor device for measuring chromophoric compounds in biological fluid](#)
- 7531504- [Pharmaceutical composition and method for inhibiting gastrointestinal inflammation](#)
- 7582603- [Method for treating or inhibiting intestinal inflammation](#)
- 6936689- [Peptide antagonists of zonulin and methods for use of the same](#)
- 6811563- [Portable light delivery apparatus and methods for delivering light to the human body](#)
- 6693077- [Keratinocyte growth factor-2](#)
- 6410537- [Compositions having neuroprotective and analgesic activity](#)
- 6416783- [Aspartic and malic acid inhibition of ss-glucuronidase](#)
- 6458925- [Peptide antagonists of zonulin and methods for use of the same](#)

- 6472157- [Methods for detection of promoter polymorphism in a UGT gene promoter](#)
- 6477394- [Non-invasive measurement of blood components using retinal imaging](#)
- 6479236- [Genotyping the human UDP-glucuronosyltransferase 1 \(UGT1\) gene](#)
- 6596016- [Phototherapy of jaundiced newborns using garments containing semiconductor light-emitting devices](#)
- 6599744- [Viral expression vectors comprising a ribosomal promoter sequence](#)
- 6627213- [Inhibition of neonatal hyperbilirubinemia in breast fed infants](#)
- 6670448- [Peptide antagonists of zonulin and methods for use of the same](#)
- 7604797- [Compositions and methods for treating burns](#)

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Send comments and feedback to:

Peter Barfoot Managing Director, BioPortfolio Ltd.

UK Tel: (+44) 1300 321501

USA Voicemail and Fax: (+1) 415 680 2472

[Peter Barfoot peter.barfoot@bioportfolio.com](mailto:peter.barfoot@bioportfolio.com)

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