CNFUN Newsletter May 2019

In this newsletter:

- CNFUN Parent-EPIQ First Annual Meeting
- CNFUN network updates
- Meeting and conferences
- CHILD-BRIGHT updates
- Research highlights
- Latest publications

CNFUN Updates

CNFUN Parent-EPIQ First Annual Meeting

CNFUN sites have successfully collaborated via email and teleconference to date. It is even better to meet in person! Thanks to the Preterm Birth Network, funding was available for CNFUN contributing sites to attend the EPIQ conference in Toronto in February. Thirteen sites attended and shared their progress and challenges. We are very thankful for the work , especially research ethics board applications, that all members have accomplished.

We really appreciated the participation of parent representatives and allied health care professionals.

CNFUN Newsletter May 2019

CNFUN Updates

Website and Logo

CNFUN is currently updating the website. The new site will have an open access page for the community, families and patients and a restricted site for CNFUN members.

The main goal of the new site will be to be more engaging with more visual materials and update news. We also want to be able to share and highlight the work of the CNFUN members.

Parents provided feedback that the logo doesn't represent typical children born extremely preterm. The Canadian Premature Babies Foundation has offered to help us find more appropriate images to redesign a new logo. This idea was enthusiastically accepted.

All the ideas are welcome!

Annual report

The CNFUN will release the Second Annual Report fall 2019. Incomplete data from some sites was identified as a problem in the first annual report and we will strive to improve this.

To meet reporting deadlines, we are requesting sites to complete data uploads for all CNFUN eligible (< 29 weeks gestation) children born before Dec 31, 2016 by May 1st, 2019. Data checking and verification will occur May 2019, analyses in June 2019 and report writing over the summer with a goal of completing the report by Sep 30, 2019

If I can be of assistance or you require any further information, please do not hesitate to contact Carolina Segura, the CNFUN national coordinator.

Bayley Scales of Infant and Toddler Development 4th edition

The Bayley-IV is expected to be released in the fall of 2019. We do not know yet how the Bayley-IV will compare with the Bayley-III. For our Parent-EPIQ studies we will be comparing Bayley-III outcomes over time between parent-EPIQ intervention and non-intervention sites. It is important that we don't confound our results by changing to the Bayley-IV during the study. The CNFUN steering committee therefore recommends to continue using the Bayley-III until we have completed Parent EPIQ 2020-2021.

CNFUN Newsletter May 2019

Meeting and Conferences

Redefining outcomes of very preterm birth: including the parent's voice in research

CHILD-BRIGHT webinar
Parent –EPIQ Aim1

View the webinar and share with others

https://ken.childrenshealthcarecanada.ca/xwiki/bin/view/CAPHC+Presents%21/Redefining+outcomes+of+very+preterm+birth%3A+including+the+parent%E2%80%99s+voice+in+research

Time for ideas

Time to think in some ideas for the next conferences:

- PAS 2020
- Evidence-based Practice for Improving Quality (EPIQ) conference 2020
- CHILD-BRIGHT conference 2020

CHILD-BRIGHT UPDATES

CHILD-BRIGHT at CIHR SPOR Summit
CHILD-BRIGHT representatives recently gathered in Ottawa for the CIHR SPOR Summit. Our team, which included several patient-partners, had the opportunity to exchange with fellow SPOR community members, learn more about ongoing patient-oriented work, and promote our network. Thank you to all who joined us!

CIHR Highlights CHILD-BRIGHT
Last December, in honour of the International Day of Persons with Disabilities, CIHR published an article highlighting our work at CHILD-BRIGHT. http://www.cihr-irsc.gc.ca/e/51263.html

Partnering to Support Ontario First Nation Communities
CHILD-BRIGHT announces new network project to better support children with prenatal opioid exposure and their families

The CHILD-BRIGHT Network is pleased to announce funding for a thirteenth project: *Prenatal Opioid Exposure and Neonatal Abstinence Syndrome: A Research Project with Indigenous Peoples in Ontario First Nations*. This new network project joins our *BRIGHT Beginnings* research theme, which funds projects that aim to optimize brain and developmental outcomes.

Research Highlights

Early Caffeine Administration and Neurodevelopmental Outcomes in Preterm Infants

Abhay Lodha, MD, MSc, a, b, c Rebecca Entz, BSc, d Anne Synnes, MDCM, MHSc, e Dianne Creighton, PhD, Kamran Yusuf, MD, a, c Anie Lapointe, MD, f Junmin Yang, MSc, g Prakesh S. Shah, MD, MSc; on behalf of the investigators of the Canadian Neonatal Network (CNN) and the Canadian Neonatal Follow-up Network (CNFUN)

BACKGROUND: Although caffeine use for apnea of prematurity is well studied, the long-term safety and benefit of routine early caffeine administration has not been explored. Our objective was to determine the association between early (within 2 days of birth) versus late caffeine exposure and neurodevelopmental outcomes in preterm infants.

METHODS: Infants of <29 weeks' gestation born between April 2009 and September 2011 and admitted to Canadian Neonatal Network units and then assessed at Canadian Neonatal Follow-up Network centers were studied. Neonates who received caffeine were divided into early- (received within 2 days of birth) and late-caffeine (received after 2 days of birth) groups. The primary outcome was significant neurodevelopmental impairment, defined as cerebral palsy, or a Bayley Scales of Infant and Toddler Development, Third Edition composite score of <70 on any component, hearing aid or cochlear implant, or bilateral visual impairment at 18 to 24 months' corrected age.

RESULTS: Of 2108 neonates who were eligible, 1545 were in the early-caffeine group and 563 were in the late-caffeine group. Rates of bronchopulmonary dysplasia, patent ductus arteriosus, and severe neurologic injury were lower in the early-caffeine group than in the late-caffeine group. Significant neurodevelopmental impairment (adjusted odds ratio 0.68 [95% confidence interval 0.50–0.94]) and odds of Bayley Scales of Infant and Toddler Development, Third Edition cognitive scores of <85 (adjusted odds ratio 0.67 [95% confidence interval 0.47–0.95]) were lower in the early-caffeine group than in the late-caffeine group. Propensity score–based matched-pair analyses revealed lower odds of cerebral palsy and hearing impairment only.

CONCLUSIONS: Early caffeine therapy is associated with better neurodevelopmental outcomes compared with late caffeine therapy in preterm infants born at <29 weeks' gestation.

Latest publications

Congratulations to the CNFUN members for your hard work and contribution to the network

Intrapartum magnesium sulfate is associated with neuroprotection in growth-restricted fetuses.
Stockley EL, Ting JY, Kingdom JC, McDonald SD, Barrett JF, Synnes AR, Monterrosa L, Shah PS; **Canadian Neonatal Network**; **Canadian Neonatal Follow-up Network**; **Canadian** Preterm Birth **Network** Investigators. Am J Obstet Gynecol. 2018 Dec;219(6):606.e1-606.e8. doi: 10.1016/j.ajog.2018.09.010

Outcomes after **Neonatal** Seizures in Infants Less Than 29 Weeks' Gestation: A Population-Based Cohort Study.
Iwami H, Isayama T, Lodha A, Canning R, Abou Mehrem A, Lee SK, Synnes A, Shah PS; **CanadianNeonatal Network** and **Canadian Neonatal Follow-Up Network** Investigators. Am J Perinatol. 2019 Jan;36(2):191-199. doi: 10.1055/s-0038-1667107.

Early Caffeine Administration and Neurodevelopmental Outcomes in Preterm Infants.
Lodha A, Entz R, Synnes A, Creighton D, Yusuf K, Lapointe A, Yang J, Shah PS; investigators of the **Canadian Neonatal Network** (CNN) and the **Canadian Neonatal Follow-up Network** (CNFUN). Pediatrics. 2019 Jan;143(1). pii: e20181348. doi: 10.1542/peds.2018-1348.

Extensive cardiopulmonary resuscitation of preterm neonates at birth and mortality and developmental outcomes.
Fischer N, Soraisham A, Shah PS, Synnes A, Rabi Y, Singhal N, Ting JY, Creighton D, Dewey D, Ballantyne M, Lodha A; **Canadian Neonatal Network™** (CNN); **Canadian Neonatal Follow-up Network** (CNFUN); Investigators **Canadian Neonatal Network** (CNN) Site Investigators. Resuscitation. 2019 Feb;135:57-65. doi: 10.1016/j.resuscitation.2019.01.003

Maternal smoking and neurodevelopmental outcomes in infants <29 weeks gestation: a multicenter cohort study.
Ediger K, Hasan SU, Synnes A, Shah J, Creighton D, Isayama T, Shah PS, Lodha A; **CanadianNeonatal Network**; **Canadian Neonatal Follow-Up Network**. J Perinatol. 2019 Apr 17. doi: 10.1038/s41372-019-0356-3

Very Preterm Infants with Technological Dependence at Home: Impact on Resource Use and Family.
Nassel D, Chartrand C, Doré-Bergeron MJ, Lefebvre F, Ballantyne M, Van Overmeire B, Luu TM; on behalf of the **Canadian Neonatal Network** and the **Canadian Neonatal Follow-Up Network**. Neonatology. 2019 Mar 25;115(4):363-370. doi: 10.1159/000496494.

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Am J Obstet Gynecol. 2018 Dec;219(6):606

Erratum to: Outcomes after Neonatal Seizures in Infants Less Than 29 Weeks' Gestation: A Population-Based Cohort Study.
Iwami H, Isayama T, Lodha A, Canning R, Abou Mehrem A, Lee SK, **Synnes A**, Shah PS; Canadian Neonatal Network and Canadian Neonatal Follow-Up Network Investigators. Am J Perinatol. 2019 Jan;36(2)

Outcomes after Neonatal Seizures in Infants Less Than 29 Weeks' Gestation: A Population-Based Cohort Study.
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Am J Perinatol. 2019 Jan;36(2):191-199

Does the Movement Assessment Battery for Children-2 at 3 years of age predict developmental coordination disorder at 4.5 years of age in children born very preterm?
Kwok C, Mackay M, Agnew JA, **Synnes A**, Zwicker JG. Res Dev Disabil. 2019 Jan;84:36-42.

Very Preterm Infants with Technological Dependence at Home: Impact on Resource Use and Family.
Nassel D, Chartrand C, Doré-Bergeron MJ, Lefebvre F, Ballantyne M, Van Overmeire B, Luu TM; on behalf of the **Canadian Neonatal Network** and the **Canadian Neonatal Follow-Up Network**.
Neonatology. 2019 Mar 25;115(4):363-370