What’s New in Newborn Care

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FMF NOVEMBER 2017
Objectives

- To review recent guidelines in the areas of
  - Safe Sleep Environments (AAP)
  - Screening for Critical Congenital Heart Defects (CPCA/CCS)
  - Rotavirus and Meningococcal vaccines (CPS)
- To review changes to NRP in 2017
- To leave participants with resources for deeper understanding.
Conflicts

- No conflicts to declare
SIDS and Other Sleep-Related Infant Deaths: Updated 2016 Recommendations for a Safe Infant Sleeping Environment

TASK FORCE ON SUDDEN INFANT DEATH SYNDROME
Always on their back

All babies should be put down on their back to sleep for every sleep – A level recommendation

- What about rollers?
- At what age do we stop?
- A word about reflux and aspiration
On a firm surface

*Use a firm sleep surface – A level*

*Avoid use of commercial devices that are inconsistent with safe sleep recommendations – B level*

- Avoid memory foam, lamb’s wool, anything that indents
- Fitted sheet, nothing else
- Specially designed mattresses, no evidence no known harms
Scientifically Proven
Safest Crib Mattress for Babies

ORDER NOW

More Science, Proven Safer

Dr. Ron Somers
Dr. Gil Martin
Dr. Margie Andreae

HELPS STABILIZE BABY'S CORE BODY TEMPERATURE
NOT TOO HOT AND NOT TOO COLD!
Specifically designed for infant sleep

- Avoid non-sleep structures
- No evidence around co-sleepers
- Turn head in slings and carriers
- No evidence around twin co-sleeping
Free of entrapments

*Keep soft objects and loose bedding away from the infant’s sleep area – A level*

- Pillows, blankets, stuffed toys
- Bumper pads, even breathable, are unnecessary
- Cords, wide slats
Sharing a room ...

Room-sharing with the infant on a separate sleep surface is recommended – A level

- Ideally up to 1 year
- At least for 6 months
- Reduces SIDS by 50%
Avoid smoke exposure during pregnancy and after birth

Avoid alcohol and illicit drug use during pregnancy and after birth – A level

- Smoking
- Alcohol
- Sedating medications
- Sleep deprivation
Using a pacifier

Consider offering a pacifier at naptime and bedtime – A level

- Pacifiers reduce the incidence of SIDS – even when they fall out of the mouth and aren’t replaced
- Offer a pacifier once breastfeeding is established, or right away if bottle fed
- Unknown if finger sucking is protective
Without overheating

Avoid overheating – Level A

There is no evidence to recommend swaddling as a strategy to reduce the risk of SIDS – level C

- Same or one layer more than a sleeping adult
- Check chest for warmth or look for sweating
- Swaddling - no evidence to support benefit. No clear evidence arms in or arms out. Once a baby can roll, stop it
It is safest not to co-sleep

- but whether intentional or not, every baby does sleep with its parents at some point
- If you are going to, come as close as you can to perfect
Safer co-sleeping

- Bed safest place to co-sleep
- Bring baby into bed to breastfeed
- If you wake up, move the baby back
- Avoid entrapments – blankets, pillows, hair
- Can not comment on “safer bedsharing” devices
Riskier co-sleeping

- Before 4 months, premature babies
- Places other than beds – couches and arm chairs “extremely dangerous places for infants”
- Smokers
- Impaired (includes sleep) parents
- Non-parents (siblings, pets, grandparents)
More resources

Webinar produced by AAP freely available on YouTube
CPCA/CCS 2016 Position Statement - Pulse Oximetry Screening in Newborns to Enhance Detection of Critical Congenital Heart Disease

PRACTICE POINT

Pulse oximetry screening in newborns to enhance detection of critical congenital heart disease

Posted: Jul 7 2017
Why screen?

- Most common congenital defect, can be life threatening
- CCHD are usually cyanotic but it may not be clinically detectable
- POS is very specific (99.9% in well infants) and reasonably sensitive (76.5%), 7 times better PPV than physical exam
- POS will detect about 136 additional cases/year in Canada
We recommend that pulse oximetry screening should be routinely performed in all newborns to enhance the detection of CCHD in Canada (strong recommendation; moderate-quality evidence)

*CCS/CPCA position statement*
We recommend that the optimal screening for CCHD includes prenatal ultrasound examination, physical examination and pulse oximetry screening (Strong Recommendation; moderate-quality evidence)

*CCS/CPCA position statement*
Will it work?

CCHD Detection Rates

- Diagnostic Gap
- Pulse Oximetry
- Clinical Exam
- Prenatal Ultrasound

Detection Methods

DOI: http://dx.doi.org/10.1016/j.cjca.2016.10.006

Modified from Reide et al, Eur J Pediatrics 2010; 975

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How to screen with oximetry

- All term and late preterm infants
- Pulse oximetry on right hand/wrist and one foot
- Between 24-36 hours of age
- Babies discharged before 24 hours of age?
What constitutes a failed screen?

- Based on absolute value **AND** on difference between hand and foot

- **<90% in right hand or foot is ABNORMAL**
- **90-94% in right hand and foot OR >3% difference between right hand and foot is BORDERLINE**
- **≥95% in right hand or foot AND ≤3% difference between right hand and foot is NORMAL**
<90% in right hand or foot is ABNORMAL

90-94% in right hand and foot OR >3% difference between right hand and foot is BORDERLINE

Repeat screen in 1 hour

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FAILED Screen
CALL the most responsible health care provider.

PASSED Screen
Continue with NORMAL newborn care
We recommend that newborns with an abnormal screening result should undergo a comprehensive evaluation by the most responsible health care provider. If a cardiac diagnosis cannot be confidently excluded, referral to a pediatric cardiologist for consultation and echocardiogram is advised (Strong Recommendation; moderate-quality evidence).
Addressing concerns

- It will take too long
  - Studies show an extra 5 minutes of time to screen

- There will be too many false positives
  - FP rate of 0.5% overall from meta-analysis
  - Toronto example: 31291 births annually, 156 FP/year, 13/month
  - For rural centres, a false positive may be seen every couple of years-decade

- What about false negatives
  - Very few, beware of coarctation, good assessment of pulses
Educational Slide Decks

Our slide decks are designed to educate practitioners on the essential diagnostic and treatment recommendations and are usually developed in a case based format. We welcome the reuse of our educational slide deck for medical institution internal education or training (i.e. grand rounds, medical college/classroom education, etc.).

https://www.newbornscreening.on.ca/sites/default/files/cchd_training_presentation.pdf
TEXTBOOK OF

Neonatal Resuscitation®

7th Edition

American Heart Association, Inc.
Canadian Paediatric Society
American Academy of Pediatrics
A few small changes in terminology/approach
Some changes made in 6th edition taken a bit further
A few bigger changes – especially management of meconium
Preparation

- Before – discussion with obstetric team and gather relevant history
- Now – Antenatal counselling, gather pertinent history, team briefing and equipment check

Rationale
- Includes the mother and family in preparation
- Includes equipment check
Management of Meconium

- Before – non-vigorous babies born through meconium was don’t stimulate, intubate and suction below cords
- Now – treat all babies the same, routine steps including suction of oropharynx as needed. Intubation may be required as part of resus
- Rationale
  - No evidence of benefit
  - Meconium as sign of the need for resus, not the cause
  - Deep suction and intubation have potential for harm
  - Delayed more important elements of resus
Initial steps

- Before – Warm, clear airway as required, dry and stimulate
- Now – Warm and maintain normal temperature, position airway, clear secretions if needed, dry and stimulate
- Rationale
  - Highlights risks of overheating
  - Focus on creating an open airway, not just on suctioning
Ineffective Resps or HR<100

- Before – PPV and pulse oximetry
- Now – PPV, pulse oximetry and consider cardiac monitor
- Rationale
  - More accurate measurement
  - Frees up a nurse,
  - allows whole team to see it when they need it
HR remains < 100

- **Before** - ventilation corrective steps
- **Now** –
  - check chest movement, ventilation corrective steps
  - ETT or **LMA** if required
  - Reassess after 15 seconds
  - If HR not increasing and chest not moving, ventilation corrective steps

- **Rationale**
  - Emphasizes the importance of effective ventilation
  - Early intubation/airway control (before compressions)
HR <60

- **Before**
  - consider intubation
  - Chest compressions – two fingers or thumb method

- **Now**
  - Intubate if not already done
  - Compressions - two thumb technique

- **Rationale**
  - Again, early airway control
  - Far more effective compressions, more control
HR remains below 60

- Before – reassess after 45-60 seconds. IV epinephrine (single dose ET while securing line)

- Now
  - Reassess after 60 seconds
  - IV epinephrine – use IO if unable to get IV
  - Persistent bradycardia – consider hypovolemia/pneumo

- Rationale
  - Clearer time, consistent with other reassessments in algorithm
  - IO fast, most useful, more consistent drug delivery
  - Prompts to remember to assess for cause
FiO2

- **Before**
  - For term babies, start on room air and titrate to age specific nomogram
  - For preterm babies, unclear. Anywhere between 21-100%

- **Now**
  - No change for term
  - For preterm (below 35 ws) – start at 21-30%

- **Rationale**
  - Clearer guideline
  - Recognizes the impact of excessive O2
Additional Resources

PRACTICE POINT

Update for Canadian NRP providers: A case-based review

7th edition resources - New!

- 7th edition Canadian NRP Update - Powerpoint presentation
- Main Clinical changes for NRP - infographic
  - Webinar recording: https://healthstream.wistia.com/medias/rdf5d74kzc
  - Webinar Slides

Podcasts available on iTunes
or at Pedscases.com
Position Statement

Recommendations for the use of rotavirus vaccines in infants

Nicole Le Saux

Canadian Paediatric Society. Infectious Diseases and Immunization Committee. Ottawa. Ontario
Both licensed rotavirus vaccines are efficacious, and there are no interchangeability data. Whenever practical, the rotavirus vaccination series should be completed using the same product. However, if any dose in the series was the RV5 vaccine, a total of three doses of vaccine should be administered.
Doses are usually administered as part of the routine infant vaccine schedule at 2 and 4 months of age if using RV1, with a third dose at 6 months if using RV5.

On the rare occasion that a first dose of RV1 (Rotarix) has been delayed beyond 15 weeks, NACI has indicated that a catch-up first dose of RV1 can be given up to 20 weeks chronological age.

This extension regarding the timing of doses does not apply to RV5 at the present time.
Parents and caregivers of infants should be informed of the slightly higher temporal risk for intussusception, especially in the week after receiving rotavirus vaccine. All cases of intussusception should be reported to local public health authorities.
Position statement

Update on invasive meningococcal vaccination for Canadian children and youth

Joan L Robinson; Canadian Paediatric Society, Infectious Diseases and Immunization Committee
Posted: Aug 15 2017
Meningococcal

- All children in Canada should be immunized with one dose of Men-C-C (Menjugate) at 12 months of age. Children may receive additional Men-C-C immunizations at an earlier age if recommended by provincial or territorial vaccine programs.[7]
- All adolescents should be offered one booster dose with Men-C-C or Men-C-ACYW (Menactra) (as per provincial or territorial programs).
- 4CMenB (Bexsero) is not recommended for routine use due to low incidence, slow response and short duration of protection.
For those at risk

- Children at increased risk for I should begin Men-C-ACYW (Menveo) and 4CMenB (Bexsero) immunization at the time of diagnosis of this condition
- Increased risk
  - Asplenia or functional asplenia
  - Immunocompromised
  - Organ transplant
Meningococcal vaccines and travel

- Increased vaccines for travelers to endemic areas – sub-Saharan Africa and Hajj pilgrims
- Usually just Men-C-ACYW (Menveo) but 4CMenB (Bexsero) may be indicated
- Recommendations for frequency of boosters for frequent travelers
Additional Resources

Podcasts available on iTunes or at Pedscases.com

Family Physician Maternity & Newborn Care listserv

• Discussion Group for CFPC members and family physicians involved with the Section of Communities of Practice in Family Medicine (CPFM)

• provides a focused clinical discussion group among family physician colleagues.

requests to join may be sent to MNCPC@cfpc.ca