Rourke Baby Record: **RESOURCES 1:**

Growth, Nutrition, Injury Prevention, Environmental Health, Other (Ontario)

See RBR parent web portal for corresponding parent resources

GROWTH

- **Important:** Corrected age should be used at least until 24 to 36 months of age for premature infants born at <37 weeks gestation.
- *Measuring growth:* The growth of all term infants, both breastfed and non-breastfed, and preschoolers should be evaluated using Canadian growth charts from the 2006 World Health Organization Child Growth Standards (birth to 5 years) with measurement of recumbent length (birth to 2–3 years) or standing height (≥ 2 years), weight, head circumference (birth to 2 years) and calculation of BMI (2–5 years). WHO Growth Charts Adapted for Canada (DC) Growth Monitoring (CTFPHC) Optimal growth monitoring (CPS)

NUTRITION: Nutrition for healthy term infants (NHTI): 0–6 months 6–24 months NutriSTEP® Overview NHTI 0–6 months (CPS) Nutrition Guidelines 0-6 years (OSNPPH) Dietitians of Canada

- **Breastfeeding: Exclusive breastfeeding** is recommended for the first six months of life for healthy term infants. Introduction of solids should be led by the infant's signs of readiness – a few weeks before to just after 6 months. Breast milk is the optimal food for infants, and breastfeeding (with complementary foods) may continue for up to two years and beyond unless contraindicated. Breastfeeding reduces gastrointestinal and respiratory infections and helps to protect against SIDS. Maternal support (both antepartum and postpartum) increases breastfeeding and prolongs its duration. Early and frequent mother-infant contact, rooming in, and banning handouts of free infant formula increase breastfeeding rates.
  - Baby-Friendly Initiative (Breastfeeding Committee for Canada)
  - Ankyloglossia and breastfeeding (CPS)
  - Maternal medications when breastfeeding: Drugs and Lactation Database (TOXNET)
  - Weaning: Weaning from the breast (CPS)
- **Vitamin D supplementation** of 400 IU/day (800 IU/day in high-risk infants) is recommended for infants/children for as long as they are breastfed. Breastfeeding mothers should continue to take Vitamin D supplements for the duration of breastfeeding. Vitamin D supplementation (CPS)
- *Infant formula:* Discourage the use of homemade infant formulas.
  - Formula composition and use Alberta Health Services Compendium and Summary Sheet
  - Formula preparation and handling: Powdered formula preparation and handling (HC)
- Milk consumption range is consensus only & is provided as an approximate guide.
- Soy-based formula is not recommended for routine use in term infants as an equivalent alternative to cow's milk formula, or for cow milk protein allergy, and is contraindicated for preterm infants. Soy-based formulas (CPS)
- **Avoid all sweetened fruit drinks, sport-drinks, energy drinks and soft-drinks**; restrict fruit juice consumption to a maximum of 1/2 cup (125 mL) per day.
- Colic: Dietary interventions for colic (CPS)
- **Introduction to solids**: A few weeks before to just after 6 months, start iron containing foods to avoid iron deficiency. A variety of soft texture foods, ranging from purees to finger foods, can be introduced.
- **Allergenic foods**: Delaying the introduction of priority food allergens is not currently recommended to prevent food allergies, including for infants at risk of atopy. Dietary exposures & allergy prevention (CPS)
- **Avoid honey until 1 year of age** to prevent botulism.
- *Dietary fat content:* Restriction of dietary fat during the first 2 years is not recommended since it may compromise the intake of energy and essential fatty acids, required for growth and development. After 2 years, a gradual transition begins from a high fat milk diet to a lower fat milk diet, as per Canada's Food Guide.
- Promote family meals with independent/self-feeding while offering a variety of healthy foods. NHTI: 6–24 months
- Vegetarian diets: Vegetarian diets in children and adolescents (CPS)
- Fish consumption: 2 servings/week of low mercury fish: Fish consumption and mercury (HC)

ENVIRONMENTAL HEALTH

- **Second-hand smoke exposure:** There is no safe level of exposure. Advise caregivers to stop smoking and/or reduce second-hand smoke exposure, which contributes to childhood respiratory illnesses, SIDS and neuro-behavioural disorders. Offer smoking cessation resources.
- Sun exposure/sunscreens/insect repellents: Minimize sun exposure. Wear protective clothing, hats, properly applied sunscreen with SPF ≥ 30 for those > 6 months of age. No DEET in < 6 months; 6–24 months 10% DEET apply max once daily; 2–12 years 10% DEET apply max TID. Preventing mosquito and tick bites (CPS)
- *Pesticides*: Avoid pesticide exposure. Encourage pesticide-free foods. Pesticide Exposure in Children (AAP)
- *Lead:* There is no safe level of lead exposure in children. Evidence suggests that low blood lead levels can have adverse health effects on a child's cognitive function. Prevention of Childhood Lead Toxicity (AAP), Lead and Children (CFP)
  Blood Lead Screening is recommended for children who:
  - in the last 6 months lived in a house or apartment built before 1978;
  - live in a home with recent or ongoing renovations or peeling or chipped paint;
  - have a sibling, housemate, or playmate with a prior history of lead poisoning;
  - live near point sources of lead contamination;
  - have household members with lead-related occupations or hobbies;
  - are refugees aged 6 months–6 years, within 3 months of arrival and again in 3–6 months.
- Websites about environmental issues:
  - Canadian Partnership for Children's Health and Environment (CPCHE)
  - AAP Council on Environmental Health

INJURY PREVENTION: In Canada, unintentional injuries are the leading cause of death in children and youth. Most of these preventable injuries are caused by motor vehicle collisions, drowning, choking, burns, poisoning, and falls. Unexplained injuries (e.g. fractures, bruising, burns) or injuries that do not fit the rationale provided or developmental stage raise concern for child maltreatment.

- **Transportation in motorized vehicles including cars, ATVs, snowmobiles, etc.:** Child passenger safety (AAP) Preventing ATV injuries (CPS) Snowmobile safety (CPS)
  - Children < 13 years should sit in the rear seat. Keep children away from all airbags.
  - Install and follow size recommendations as per specific car seat model and keep child in each stage as long as possible.
  - Use rear-facing infant/child seat that is manufacturer approved for use until at least age 2 years.
  - Use forward-facing child seat after 2 years for as long as manufacturer specifications will allow.
  - After this, use booster seat for children 18-36 kg (40-80 lbs) and up to 145 cm (4'9").
  - Use lap and shoulder belt in the rear middle seat for children over 8 years who are at least 36 kg (80 lb) and 145 cm (4' 9") and *fit vehicle restraint system.*
- **Bicycle**: wear **bike helmets** and advocate for helmet legislation for all ages. Replace if heavy impact or damage. Bicycle helmet legislation (CPS)
- Drowning: Prevention of drowning (AAP)
  - *Bath safety:* Never leave a young child alone in the bath. Do not use infant bath rings or bath seats.
  - *Water safety*: Recommend adult supervision, training for adults, 4-sided pool fencing, lifejackets, swimming lessons, and boating safety to decrease the risk of drowning.
- Choking: Avoid hard, small and round, smooth and sticky solid foods until age 3 years. Encourage child to remain seated while eating and drinking. Use safe toys, follow minimum age recommendations, and remove loose parts and broken toys. Preventing choking and suffocation in children (CPS)
- *Burns:* Install smoke detectors in the home on every level. Keep hot water at a temperature < 49ºC.
- **Poisons:** Keep medicines and cleaners locked up and out of child's reach. Have Poison Control Centre number handy. Use of ipecac is contraindicated in children.
- *Falls:* Assess home for hazards – never leave baby alone on change table or other high surface; use window guards and stair gates. Baby walkers are banned in Canada and should never be used. Ensure stability of furniture and TV. Advise against trampoline use at home. Trampoline use (CPS)
- **Safe sleeping environment:** Joint statement on safe sleep (CPS/CFSIDS/CICH/HC/PHAC)
  - **Sleep position, bed sharing and SIDS:** Healthy infants should be positioned on their backs for sleep. Counsel parents on the dangers of other contributory causes of SIDS such as bed sharing, overheating, maternal smoking or second-hand smoke.
  - **Positional plagiocephaly:** While supine for sleep, the orientation of the infant's head should be varied to prevent positional plagiocephaly. Sleep positioners should not be used. After umbilical cord stump has detached, infants should have supervised tummy time while awake.
  - **Crib safety/Room sharing:** Infants should sleep in a crib, cradle or bassinette, without soft objects, loose bedding and similar items that meet current 2016 Health Canada regulations in parents' room for the first 6 months of life. Room sharing is protective against SIDS.
  - Swaddling: Proper swaddling of the infant for the first 2 months of life may promote longer sleep periods but could be associated with adverse events (hyperthermia, SIDS, or development of hip dysplasia) if misapplied. A swaddled infant must always be placed supine with free movement of hips and legs, and the head uncovered. Swaddling (AAP)
  - *Pacifier use* may decrease risk of SIDS and should not be discouraged in the 1st year of life after breastfeeding is well established, but should be restricted in children with chronic/recurrent otitis media. Pacifier recommendations (CPS)
- **Firearm safety:** Advise on removal of firearms from home or safe storage to decrease risk of unintentional firearm injury, suicide, or homicide. Youth and firearms in Canada (CPS)

OTHER

- Advise parents against using **OTC cough/cold medications**: Restricting Cough and Cold Medicines in Children (PCH)
- *Complementary and alternative medicine (CAM):* Questions should be routinely asked about the use of complementary and alternative medicine, therapy, or products, especially for children with chronic conditions. Natural Health Products (CPS); Homeopathy (CPS); Chiropractic care (CPS)
- Fever advice/thermometers: Fever ≥ 38ºC in an infant < 3 months needs urgent evaluation. Ibuprofen and acetaminophen are both effective antipyretics. Acetaminophen remains the first choice for antipyresis under 6 months of age; thereafter ibuprofen or acetaminophen may be used. Alternating acetaminophen with ibuprofen for fever control is not recommended in primary care settings as this may encourage fever phobia, and the potential risks of medication error outweigh measurable clinical benefit. Temperature measurement (CPS)
- Footwear: Shoes are for protection, not correction. Walking barefoot develops good toe gripping and muscular strength. Footwear for children (CPS)
- **Oral Health - Smiles for Life**
  - **Dental Cleaning:** As excessive swallowing of toothpaste by young children may result in dental fluorosis, children under 3 years of age should have their teeth and gums brushed twice daily by an adult using either water (if low risk for tooth decay) or a rice grain sized portion of fluoridated toothpaste (if at caries risk). Children 3–6 years of age should be assisted during brushing and only use a small amount (e.g., pea-sized portion) of fluoridated toothpaste twice daily. Caregiver should brush child's teeth until they develop the manual dexterity to do this alone, and should continue to intermittently supervise brushing after children assume independence. Begin flossing daily when teeth touch.
  - Caries risk factors include: child has caries or enamel defects, hygiene or diet is concerning, parent has caries, premature or LBW infant, or no water fluoridation.
  - **To prevent early childhood caries**: avoid juices/sweetened liquids and constant sipping of milk or natural juices in both bottle and cup.
  - Fluoride varnish should be used for those at caries risk. Consider dietary fluoride supplements only for high risk children who do not have access to systemic community water fluoridation. Caries-risk assessment (AAPDA), Fluoride and your child (CDA)
  - Consider the first dentist visit by 6 months after eruption of 1st tooth or at age 1 year.

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Rourke Baby Record: RESOURCES 2: Family, Behaviour, Development, Physical exam, Investigations/Screening

See RBR parent web portal for corresponding parent resources (Ontario)

BEHAVIOUR

Crying: Excessive crying may be caused by behavioural or physical factors or be the upper limit of the normal spectrum. Caregiver frustration with infant crying can lead to child maltreatment/inflicted injury (head injury, fractures, bruising). The Period of Purple Crying. See Prevention of child maltreatment.

Assess healthy sleep habits: Normal sleep (quality and quantity for age) is associated with normal development and leads to better health outcomes. Sleeping Behaviour (EECD).

Recommended sleep duration per 24 hrs: 12-14 hrs (infants 4–12 months); 11-14 hrs (1–2 yrs); 10-13 hrs (3–5 yrs); 9-12 hrs (6–12 yrs); 8-10 hrs (13–18 yrs). Turn off computer/TV screens 60 minutes before bedtime. No computer/TV screens in bedroom. Recommended amount of sleep (AASM)

Night waking: occurs in 20% of infants and toddlers who do not require night feeding. Counselling around positive bedtime routines (including training the child to fall asleep alone), removing nighttime positive reinforcers, keeping morning awakening time consistent, and rewarding good sleep behaviour has been shown to reduce the prevalence of night waking, especially when this counselling begins in the first 3 weeks of life. Behaviour modification & sleep (MJA) Sleep problems & night wakings (Sleep)

PARENTING/DISCIPLINE

Inform parents that warm, responsive, flexible & consistent discipline techniques are associated with positive child outcomes. Over reactive, inconsistent, cold & coercive techniques are associated with negative child outcomes. Use of any physical punishment including spanking should be discouraged in all ages. Effective discipline for children (CPS)

Refer parents of children at risk of, or showing signs of, behavioural or conduct problems to structured parenting programs which have been shown to increase positive parenting, improve child compliance, and reduce general behaviour problems. Access community resources to determine the most appropriate and available research-structured programs. Parenting skills (EECD)

e.g., The Incredible Years®, Right from the Start, COPE program, Triple P®, Strongest Families

HIGH RISK INFANTS/CHILDREN/PARENTS/CAREGIVERS/FAMILIES

- **Maternal depression**: Physicians should have a high awareness of maternal depression, which is a risk factor for the socio-emotional and cognitive development of children. Although less studied, paternal factors may compound the maternal-infant issues. Maternal depression and child development (CPS)
- Fetal alcohol spectrum disorder (FASD). Fetal alcohol syndrome (CPS)
- Adoption/Foster care: Children newly adopted or entering foster care are a high risk population with special needs for health supervision. Foster Care (CPS); Transracial Adoption (CPS)
- Immigrants/refugees: Caring for kids new to Canada (CPS); CCIRH-Clinical Guidelines
- Aboriginal children: Social determinants of health in Aboriginal children in Canada (PCH)
- **Social determinants of health (SDH):** Inquiry about impact of poverty: "Do you have difficulty in making ends meet? Do you have trouble feeding your family?" Child Poverty Tool (OCFP)
  Social determinants of health (CFPC) Infrastructure to address SDH (PCH)
- Prevention of child maltreatment:
  - Risk factors for child maltreatment:
    - Parent (low socio-economic status, maternal age <19 years, single parent family, non-biological parents, abused as child, substance abuse, lack of social support, unplanned pregnancy or negative parental attitude towards pregnancy).
    - Family (spousal violence, poor marital relations, poor child-parent relationship, unhappy family life).
    - Child (behaviour problems, disability).
  - Discuss with parents of preschoolers teaching names of genitalia, appropriate and inappropriate touch, and normal sexual behaviour for age.
  - Exposure to personal violence and other forms of violence has significant impact on physical and emotional well-being of children.
  - **Assess home visit need**: There is good evidence for home visiting by nurses during the perinatal period through infancy for first-time mothers of low socioeconomic status, single parents or teenaged parents to prevent physical abuse and/or neglect.
    Child maltreatment interventions (USPSTF) Bruising in suspected maltreatment cases (CPS)
    Abusive head trauma (CPS) INSPIRE: 7 strategies for ending violence against children (WHO)

NONPARENTAL CHILD CARE

Inquire about current child care arrangements. High quality child care is associated with improved paediatric outcomes in all children.

Factors enhancing quality child care include: practitioner general education and specific training; group size and child/staff ratio; licensing and registration/accreditation; infection control and injury prevention; and emergency procedures.

- Health implications of children in child care centres (CPS): Part A and Part B
- Guide to child-care in Canada (CPS): Well Beings

LITERACY

Encourage parents to read to their children within the first few months of life and to limit TV, video and computer games to provide more opportunities for reading.

- Read, speak, sing: promoting literacy (CPS)
- Literacy Promotion (AAP)
- Reading aloud to children: the evidence (Arch Dis Child)

FAMILY HEALTHY ACTIVE LIVING/SEDENTARY BEHAVIOUR/SCREEN TIME

Encourage increased physical activity, with parents as role models, through interactive floor-based play for infants and a variety of activities for young children, and decreased sedentary pastimes.

- **Media use** – Counsel on appropriate screen time: <2 years avoid; 2–4 years <1 h/day. Less is better. Educational and prosocial programming is better.
- Healthy active living (CPS) CSEP guidelines

DEVELOPMENT

Maneuvers are based on evidence-based literature on milestone acquisition. Evidence-based milestone ages (PCH). They are not a developmental screen, but rather an aid to developmental surveillance. They are set after the time of normal milestone acquisition. Thus, absence of any one or more items is considered a high-risk marker and indicates consideration for further developmental assessment, as does parental or caregiver concern about development at any stage.

- Best Start website contains resources for maternal, newborn, and early child development
- Improving the Odds: Healthy Child Development (OCFP) toolkit for primary healthcare providers
- Centre of Excellence for Early Childhood Development Encyclopedia on Early Childhood Development
- Getting it right at 18 months (CPS) Measuring in support of early childhood development (CPS)

TOILET LEARNING

The process of toilet learning has changed significantly over the years and within different cultures. In Western culture, a child-centred approach is recommended, where the timing and methodology of toilet learning is individualized as much as possible.

Toilet learning (CPS) Toilet-training strategy (PCH): Part A Part B

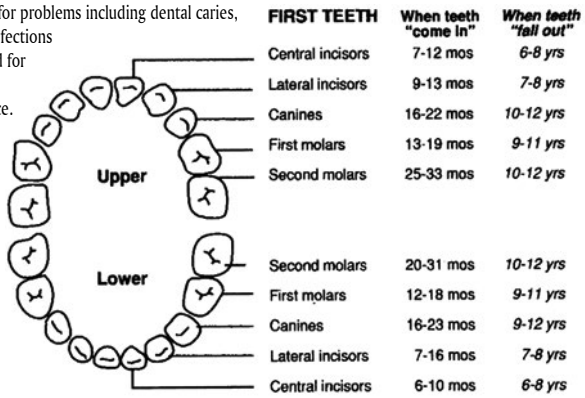
AUTISM SPECTRUM DISORDER

Specific screening for ASD at 18–24 months should be performed on all children with any of the following: failed items on the social/emotional/communication skills inquiry, sibling with autism, or developmental concern by parent, caregiver, or physician.

Use the revised M-CHAT-R™ and if abnormal, use the follow-up M-CHAT-R/F™ to reduce the false positive rate and avoid unnecessary referrals and parental concern. Electronic M-CHAT-R™ is available.

PHYSICAL EXAMINATION

- *Jaundice:* Bilirubin testing (total and conjugated) if persists beyond 2 wks of age.
  Neonatal Hyperbilirubinemia Guidelines (CPS) Newborn screening for biliary atresia (AAP).
- Bruising: Unexplained bruising warrants evaluation re child maltreatment or medical illness.
- *Check blood pressure if at risk* – High blood pressure in children (NIH Working Group)
- Fontanelles: The posterior fontanelle is usually closed by 2 months and the anterior by 18 months.
- **Vision inquiry/screening:** Vision screening (CPS)
  - Check **Red Reflex** for serious ocular diseases such as retinoblastoma and cataracts.
  - **Corneal light reflex/cover–uncover test & inquiry for strabismus**: With the child focusing on a light source, the light reflex on the cornea should be symmetrical. Each eye is then covered in turn, for 2–3 seconds, and then quickly uncovered. The test is abnormal if the uncovered eye "wanders" OR if the covered eye moves when uncovered.
  - **Check visual acuity at age 3–5 years.**
- *Hearing inquiry/screening:* Any parental concerns about hearing acuity or language delay should prompt a rapid referral for hearing assessment. Formal audiology testing should be performed in all high-risk infants, including those with normal UNHS. Older children should be screened if clinically indicated.
- Inspect tongue mobility for ankyloglossia. Ankyloglossia and breastfeeding (CPS)
- Check neck for torticollis.
- **Tonsil size/sleep-disordered breathing**: Screen for sleep problems. Behavioural sleep problems and snoring in the presence of sleep-disordered breathing warrants assessment re obstructive sleep apnea (OSA). OSA (AAP)
- Muscle tone: Physical assessment for spasticity, rigidity, and hypotonia should be performed.
- Hips: There is insufficient evidence to recommend routine diagnostic imaging for screening for developmental dysplasia of the hips, but examination of the hips should be included until at least one year, or until the child can walk. Screening for developmental hip dysplasia (USPSTF) DDH (CTFPHC)
- Dental: Examine for problems including dental caries, oral soft tissue infections or pathology; and for normal teeth eruption sequence.



INVESTIGATIONS/SCREENING

Anemia screening: All infants/children from high-risk groups for iron deficiency anemia require screening between 6 and 18 months of age. E.g. Lower SES; Asian; First Nations children; low-birth-weight and premature infants; infants/children fed whole cow's milk before 9 months of age or at quantities > 750 mls/day, or if iron containing foods are not provided.

Hemoglobinopathy screening: Screen all neonates from high-risk groups: Asian, African & Mediteranean.

Universal newborn hearing screening (UNHS) effectively identifies infants with congenital hearing loss and allows for early intervention & improved outcomes. Universal newborn hearing screening (CPS)

Tuberculosis – TB skin testing: for up-to-date information, see Tuberculosis (Gov't Canada)

Canadian TB Standards: 7th Edition 2013

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Rourke Baby Record: RESOURCES 3: Immunization (Ontario)

See RBR parent web portal for corresponding parent resources

ROUTINE IMMUNIZATION

- **See the** Canadian Immunization Guide **for recommended immunization schedules for infants, children, youth, and pregnant women, from the** National Advisory Committee on Immunization (NACI)
- **Provincial/territorial immunization schedules** may differ based on funding differences. Provincial/territorial immunization schedules are available at the Public Health Agency of Canada. Ontario Immunization Schedule
- **Immunization pain reduction strategies**: During vaccination, pain reduction strategies with good evidence include breastfeeding or use of sweet-tasting solutions, use of the least painful vaccine brand, and consideration of topical anaesthetics. Reducing vaccine pain (CMAJ)
- Acetaminophen or ibuprofen should not be given prior to, but after vaccination as required. Prophylactic Antipyretic Administration (PLOS ONE)
- Information for physicians on vaccine safety:
  - Canada's vaccine safety program (CPS)
  - Autism spectrum disorder: No causal relationship with vaccines (CPS)
- Information for parents on vaccinations can be accessed through:
  - ImmunizeCA
  - Caring for Kids website (CPS) including Your Child's Best Shot
  - A Parent's Guide to Vaccination (PHAC)
  - Working with vaccine-hesitant parents (CPS)

VACCINE NOTES

(Adapted websites of NACI and the Canadian Immunization Guide October 2016)

- **Diphtheria, Tetanus, acellular Pertussis, inactivated Polio virus vaccine and Haemophilus influenzae B (DTaP-IPV-Hib):** DTaP-IPV-Hib vaccine may be used for all doses in the vaccination series in children < 2 years of age, and for completion of the series in children < 5 years old who have received ≥ 1 dose of DPT (whole cell) vaccine (e.g., recent immigrants).
- **Diphtheria, Tetanus, acellular Pertussis, inactivated Polio virus vaccine, Haemophilus influenzae B and Hepatitis B (Hep B) (DTaP-IPV-Hib-Hep B)** is used for 3 of the 4 initial doses in some jurisdictions with routine infant Hep B vaccination programs.
- **Diphtheria, Tetanus, acellular Pertussis, inactivated Polio virus vaccine (DTaP-IPV)** may be used up to age 7 years and for completion of the series in incompletely immunized children 5-7 years old (healthy children ≥5 years of age do not require Hib vaccine).
- **Tetanus, Diphtheria, Pertussis, Polio (Tdap-IPV) Vaccine**, a quadrivalent vaccine containing less pertussis and diphtheria antigen than the preparations given to younger children and less likely to cause local reactions, is used for the preschool booster at 4-6 years of age in some jurisdictions and should be used in all individuals > 7 years of age receiving or completing their primary series.
- **Diphtheria, Tetanus, acellular Pertussis vaccine – (dTap)**: is used for booster doses in people ≥ 7 years of age. All adults should receive at least one dose of pertussis containing vaccine (excluding the adolescent booster). Immunization with dTap should be offered to pregnant women (≥26 weeks of gestation) who have not received an adult dose of pertussis vaccine, to provide immediate protection to infants less than 6 months of age. In an outbreak situation it may be offered regardless of immunization history.
- **Haemophilus influenzae type b conjugate vaccine (Hib)**: Hib is usually given as a combined vaccine (DTaP-IPV-Hib above). If required and not given in combination, Hib is available as Haemophilus b capsular polysaccharide – PRP conjugated to tetanus toxoid (Act-HIBTM or HiberixTM). The number of doses required depends on the age at vaccination and underlying health status.
- **Rotavirus vaccine**: Universal rotavirus vaccine is recommended by NACI and CPS. Two oral vaccines are currently authorized for use in Canada: Rotarix (2 doses) and RotaTeq (3 doses). Dose #1 is given between 6 weeks and 14 weeks/6 days with a minimum interval of 4 weeks between doses. Maximum age for the last dose is 8 months/0 days. Recommendations for the use of rotavirus vaccines in infants (CPS)
- **Measles, Mumps and Rubella vaccine (MMR) and MMR-varicella (MMRV):** The first dose is given at 12-15 months and a second dose should be given with the 18 month or preschool dose of DTaP-IPV (±Hib) (depending on the provincial/territorial policy), or at any intervening age that is practical but at least 4 weeks after the first if MMR, or 3 months after the first if MMRV. If MMRV is not used, MMR and varicella vaccines should be administered concurrently, at different sites, or separated by at least 4 weeks.
- **Varicella vaccine**: Children aged 12 months to 12 years who have not had varicella should receive 2 doses of varicella vaccine (univalent varicella or MMRV). Unvaccinated individuals ≥ 13 years who have not had varicella should receive two doses at least 28 days apart (univalent varicella only). Consult NACI guidelines for recommended options for catch-up varicella vaccination. Varicella and MMR vaccines should be administered concurrently, at different sites if the MMRV [combined MMR/varicella] vaccine is not available, or separated by at least 4 weeks. Preventing varicella (CPS)
- **Hepatitis B vaccine (Hep B)**:
  - Hepatitis B vaccine can be routinely given to infants or preadolescents, depending on the provincial/territorial policy. The first dose can be given at 1 month, or at 2 months of age to fit more conveniently with other routine infant immunization visits. The second dose should be administered at least 1 month after the first dose, and the third at least 2 months after the second dose, but again may fit more conveniently into the 4- and 6-month immunization visits. Alternatively, Hep B can be administered as DTaP-IPV-Hib-HepB vaccine in infants, with the first dose at 2 months of age. A two-dose schedule for adolescents is an option.
  - For high-risk children, 3 or 4 doses of higher dose of monovalent hepatitis B vaccine is recommended (immunocompromising conditions, chronic renal failure, dialysis).
  - For infants born to a mother with acute or chronic hepatitis B (HBsAg-positive), the first dose of Hep B vaccine should be given at birth (with Hepatitis B immune globulin, below) and repeat doses of vaccine at 1 and 6 months of age. Premature infants of birthweight less than 2,000 grams, born to HB- infected mothers, require four doses of HB vaccine at 0, 1, 2 and 6 months. The last dose should not be given before 6 months of age. Infants of HBsAg-positive mothers also require Hepatitis B immune globulin at birth and follow-up immune status at 9–12 months for HBV antibodies and HBsAg.
  - Infants with HBsAg-positive fathers, siblings or other household contacts require Hepatitis B vaccine at birth, and at 1 month, and 6 months of age.
  - Hepatitis B vaccine should also be given to all infants from high-risk groups, such as:
    - infants where at least one parent has emigrated from a country where Hepatitis B is endemic;
    - infants of mothers positive for Hepatitis C virus;
    - infants of substance-abusing mothers.
  - Children in other high risk groups, if not vaccinated in infancy, should be vaccinated as soon as the risk factor is recognized. See Hepatitis B chapter in the Canadian Immunization Guide for a list of high risk groups.
- **Hepatitis A or A/B combined (HAHB - when Hepatitis B vaccine has not been previously given):**
  - Children 6 months and older in high-risk groups should receive 2 doses of the hepatitis A vaccine given 6-36 months apart (depending on product used). HAHB is the preferred vaccine for individuals with indications for immunization against both hepatitis A and hepatitis B, who are ≥12 months unless medical condition indicates high dose Hep B vaccine required.
  - These vaccines should also be considered when traveling to countries where Hepatitis A or B are endemic.
  - Possible HAHB schedules include 12 months to 18 years: 2 doses at months 0 and 6-12; OR 3 doses at months 0, 1, and 6 depending on age and product used.
- **Pneumococcal vaccine: conjugate (Pneu-C-13) and polysaccharide (Pneu-P-23):** Recommended schedule, number of doses and product depend on the age of the child, risk for pneumococcal disease, and when vaccination is begun. Consult NACI guidelines. Routine infant immunization: administer three doses of Pneu-C-13 vaccine at minimum 8-week intervals beginning at 2 months of age, followed by a fourth dose at 12 to 15 months of age. For healthy infants, a three-dose schedule may be used, with doses at 2 months, 4 months, and 12 months of age. Children 2 years and above who are at highest risk of invasive pneumococcal disease should receive Pneu-P-23. Consult NACI guidelines for eligibility and dosing schedule.
- **Meningococcal vaccine**:
  - Canadian children should be immunized with a MCV-C at 12 months of age, or earlier depending on provincial/territorial vaccine programs; suggested one dose at 12 months of age.
  - MCV-4 (A, C, Y, W) should be given to children two months of age and older who are at increased risk for meningococcal disease or who have been in close contact with a case of invasive meningococcal A,C,Y or W disease. MCV-4-CRM (MenveoTM) should be used for those less than 2 years old; any MCV-4 may be used for older children.
  - A routine booster dose with MCV-4 or MCV-C is recommended at approximately 12 years of age. High risk children require boosters at 5 year intervals.
  - MCV-4 should be given to children two months of age and older travelling to areas where meningococcal vaccine is recommended. MCV-4 CRM is recommended for immunization of children 2 months to less than 2 years of age. Any MCV-4 may be used for older children.
  - Multi-component meningococcal serogroup B (4CMenB) vaccine should be considered for active immunization of children ≥ 2 months of age who are at high risk of meningococcal disease or who have been in close contact with a case of invasive meningococcal B disease or travelling to an area where risk of transmission of meningococcus B is high. Two to 3 doses are required at 4 or 8 wk intervals depending on age.
  - Routine prophylactic administration of acetaminophen after immunization and/or separating 4CMenB vaccination from routine vaccination schedule may be considered for preventing fever in infants and children up to 3 years of age.
- **Influenza vaccine**: Recommended for all children between 6 and 59 months of age, and for older high-risk children.
  - Previously unvaccinated children up to 9 years of age require 2 doses with an interval of at least 4 weeks. The second dose is not required if the child has received one or more doses of influenza vaccine during the previous immunization season. A quadrivalent vaccine should be used if available.
  - For children between 6 and 23 months, the quadrivalent inactivated influenza vaccine (QIV) should be used, and if not available, either unadjuvanted or adjuvanted trivalent inactivated vaccine (TIV).
  - Children 2-18 years of age should be given QIV, or quadrivalent live attenuated influenza vaccine (LAIV) if not contraindicated. Egg allergy is not a contraindication to vaccination with QIV, TIV, or LAIV.
  - Immunization with TIV or QIV in the second or third trimester to provide protection for the pregnant woman and infant <6 months of age.
- **Respiratory syncytial virus (RSV) vaccine**: Palivizumab (Synagis) prophylaxis during RSV season for children with chronic lung disease, congenital heart disease or born preterm. Preventing hospitalizations for respiratory syncytial virus infection (CPS)

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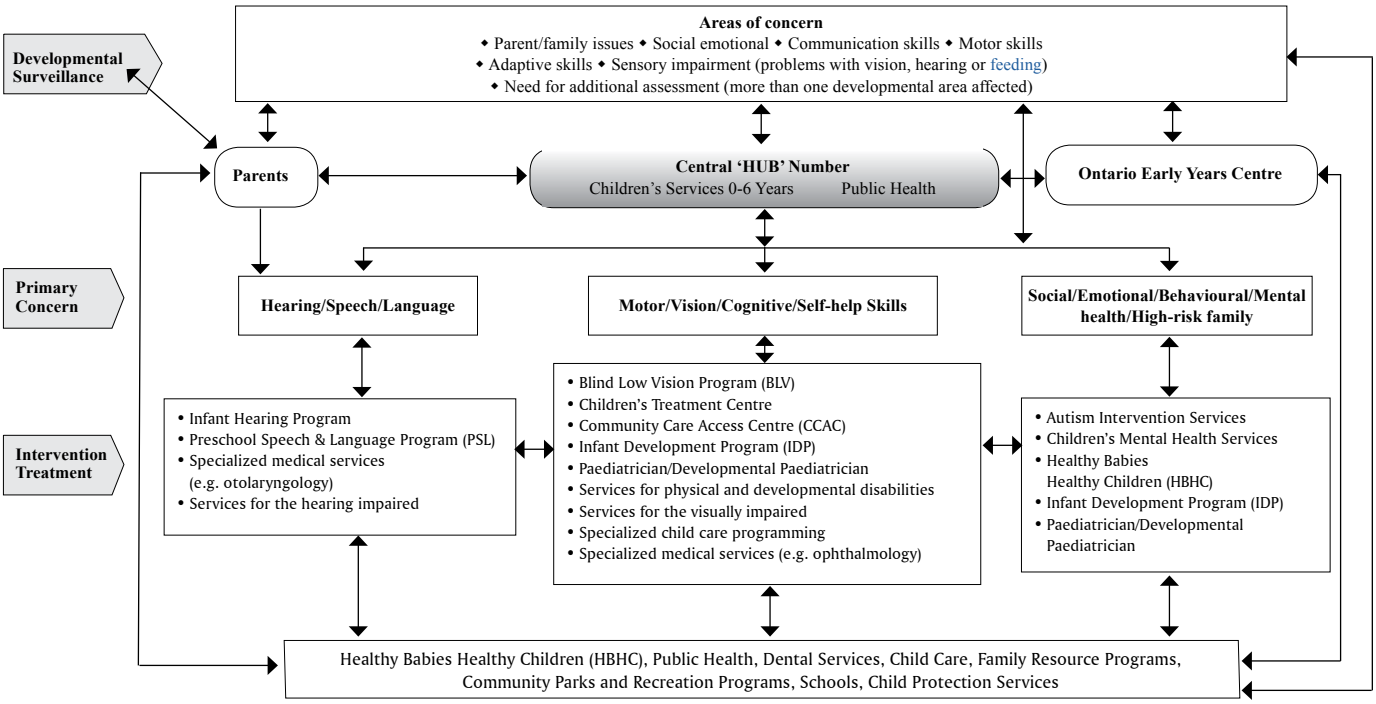
Rourke Baby Record: RESOURCES 4: (Ontario)

Early Child Development and Parenting Resource System and Local Resources/Referrals Table

See RBR parent web portal for corresponding parent resources

Early Child Development and Parenting Resource System



Local Resources and Referrals

Service	Contact person	Phone number	Website	Other

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