ROURKE BABY RECORD INFANT/CHILD HEALTH MAINTENANCE SELECTED GUIDELINES/RESOURCES - May 2006

GROWTH

Measuring growth - Serial measurements of recumbent length (birth to ages 2 or 3) or height (≥ age 2), weight, and head circumference (birth to age 2) should be part of scheduled well-baby and well-child health visits in order to identify infants and children with disturbances in rates of weight gain or physical growth. Until internationally diverse growth charts are available and have been reviewed for use in Canada, the growth charts from the American Centers for Disease Control and Prevention (CDC) are recommended (set 2 with 3rd and 97th percentiles).

Important: Correct age if < 36 weeks gestation

- www.cdc.gov/nchs/about/major/nhanes/growthcharts/clinical_charts.htm#Clin%202
- Use of growth charts - www.cps.ca/english/statements/N/cps04-01.htm
- Guide to growth charts - www.cps.ca/english/statements/N/NutritionNoteGrowth.htm

NUTRITION

- Pediatric nutrition guidelines – Nutrition for Healthy Term Infants
  - www.hc-sc.gc.ca/fn-an/pubs/infant-nourrisson/nut_infant_nourrisson_term_e.html
- **Breastfeeding:** Exclusive breastfeeding is recommended for the first six months of life for healthy term infants. 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. 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.
- Routine **Vitamin D supplementation** of 10 µg = 400 IU/day (20 µg = 800 IU/day in northern communities) is recommended for all breastfed full term infants until the diet provides a sufficient source of Vitamin D (about 1 year of age).
  Breastfeeding - www.cps.ca/english/statements/N/BreastfeedingMar05.htm
  Weaning - www.cps.ca/english/statements/CP/cp04-01.htm
  Vitamin D - www.cps.ca/english/statements/II/ii02-02.htm
  Colic - www.cps.ca/english/statements/N/NutritionNoteSept03.htm
  Ankyloglossia and breastfeeding - www.cps.ca/english/statements/CP/cp02-02.htm
  Maternal medications during breastfeeding – Medications and Mothers' Milk by T. Hale (2005).
  Motherisk - www.motherisk.org
- *Transition to lower fat diet:* A gradual transition from the high-fat infant diet to a lower-fat diet (max 30% fat / 10% saturated fat) begins after age 2 years.
  - www.cps.ca/english/statements/N/n94-01.htm
- Encourage a healthy diet as per Canada's Food Guide
  - www.hc-sc.gc.ca/fn-an/food-guide-aliment/index_e.html

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, burns, choking, and falls.

Motor vehicle collisions

- Transport Canada 2002 recommendations for **Car seats:**
  Children < 13 years should sit in the rear seat. Keep kids away from all airbags.
  Use rear-facing infant seat until 10 kg (22 lb.) – birth to at least 1 year old
  Use forward-facing child seat from 10 kg (22 lb.) to 18-22 kg (40-48 lb.) – about 1-4½ years old - as per specific car seat model
  Use booster seat from 18-22 kg (40-48 lb.) to 27 kg (60 lb.) – about 4½ -8 years old
  Use lap and shoulder belt in the rear seat for older children
  - www.tc.gc.ca/roadsafety/childsafety/menu.htm, www.cmaj.ca/cgi/content/full/167/7/769
- **Bicycle:** wear **bike helmets**

Drowning

- *Bath safety***:** Never leave a young child alone in the bath. Do not use infant bath rings or bath seats.
- Water safety**:** Encourage swimming lessons (after age 4 years). Encourage pool, diving, and boating safety to reduce the risk of drowning.
  - www.cps.ca/english/statements/IP/IP03-01.htm

Burns*: Install smoke detectors in the home on every level.*
Keep hot water at a temperature < 49°C.

Choking: Use safe toys and safe food (avoid hard, small and round, smooth and sticky solid foods until age 3 years).

Falls: Assess home for hazards, e.g. never leave baby alone on change table or other high surface; do not use baby walkers; use window guards and stair gates.

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.*

Safe sleeping environment: www.cps.ca/english/statements/CP/cp04-02.htm

- **Sleep position and SIDS/Positional plagiocephaly:** Healthy infants should be positioned on their backs for sleep. Their heads should be placed in different positions on alternate days. While awake, infants should have supervised tummy time. Counsel parents on the dangers of other contributory causes of SIDS such as overheating, maternal smoking or second-hand smoke.
- Positional plagiocephaly - www.cps.ca/english/statements/IP/cps01-02.htm
- **Bed sharing:** Advise against bed sharing.
- **Co-sleeping:** Encourage putting infant in a government-approved crib in parents' room for the first 6 months of life. Room sharing is protective against SIDS.

Firearm safety/removal: There is evidence-based association between a firearm in the home and increased risk of unintentional firearm injury, suicide, or homicide.

For more safety information: www.safekidscanada.ca
www.cps.ca/english/publications/InjuryPrevention.htm

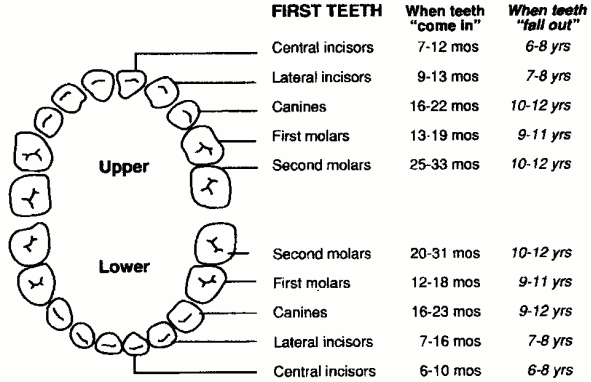
PROBLEMS AND PLANS (SCREENING)

Hemoglobin screening: All infants from high-risk groups for iron deficiency anemia require Hgb determination between 6 and 12 months of age, e.g. Lower SES; Asian; First Nations children; low-birth-weight infants, and infants fed whole cow's milk during their first year of life.

Hemoglobinopathy screening: Screen all neonates from high-risk groups, e.g. Asian, African, and Mediterranean.

OTHER

- **Second-hand smoke exposure:** contributes to childhood illnesses such as URTI, middle ear effusion, persistent cough, pneumonia, asthma, and SIDS.
- *Complementary and alternative medicine (CAM):* Questions should be routinely asked on the use of homeopathy and other complementary and alternative medicine therapy or products, especially for children with chronic conditions.
  - www.cps.ca/english/statements/DT/DT05-01.htm
  - Homeopathy - www.cps.ca/english/statements/CP/cp05-01.htm
- *Pacifier use***:** is a parental choice. Pacifier use may decrease risk of SIDS, but may lead to breastfeeding difficulties, and should be restricted in children with chronic and recurrent otitis media. - www.cps.ca/english/statements/CP/cp03-01.htm
- Fever advice/thermometers: Rectal temperature is the method of choice in those < 5 years and oral temperature thereafter. Fever ≥ 38°C in an infant < 3 months needs urgent evaluation. Acetaminophen remains the first choice for antipyresis. Ibuprofen is off-label therapy for children < 2 years.
  - Temperature measurement - www.cps.ca/english/statements/CP/cp00-01.htm
- Footwear: Shoes are for protection, not correction. Walking barefoot develops good toe gripping and muscular strength - www.cps.ca/english/statements/CP/cp98-02.htm
- Healthy Active Living: Encourage increased physical activity and decreased sedentary pastimes with parents as role models.
  - www.cps.ca/english/statements/HAL/HAL02-01.htm
  - Media use - www.cps.ca/english/statements/PP/pp03-01.htm
- 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; 6-12 months 10% apply maximum once daily.
- *Pesticides:* Avoid pesticide exposure. Encourage pesticide-free foods.
  - Pesticides/herbicides - www.ocfp.on.ca/english/ocfp/communications/publications/default.asp?s=1#EnvironmentHealth
- *Lead Screening* is recommended for children who:
  - in the last 6 months lived in a house or apartment built before 1950;
  - 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;
  - have been seen eating paint chips.
- Websites about environmental issues:
  - Canadian Partnership for Children's Health & Environment (CPCHE) - www.healthyenvironmentforkids.ca/
  - Health and housing - www.cmhc-schl.gc.ca/
  - Environmental health section of CDC - www.cdc.gov/node.do/id/0900f3ec8000e044
  - Commission for Environmental Cooperation – www.cec.org/children
- **Dental Care:**
  - **Dental cleaning:** After the eruption of the first tooth, clean with only water using a washcloth or soft brush until age 2 years; thereafter using only a pea-sized amount of fluoridated dentifrice; independent brushing should occur under parental supervision.
  - **Fluoride** supplements are recommended where ingestion from all sources is low. Sources include fluoridated dentifrice and all home and child-care water sources. Fluoride is to be started only after the eruption of the first primary tooth. Dose for those at high risk for dental caries with water < 0.3 ppm fluoride is 0.25 mg for children 6 months to 3 years, 0.50 mg for age 3 to 6 years, and 1 mg for children > 6 years.
  - *To prevent dental caries*: avoid sweetened liquids and constant sipping of milk or natural juices in both bottle and cup.



PHYSICAL EXAMINATION

- *Eyes – Corneal light reflex/Cover-uncover test and 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 covered eye "wanders" and when uncovered moves inward or outward to focus or "fix" on the light source.
- *Vision screening* – Children should be screened in their preschool years for amblyopia or its risk factors, as well as for serious ocular diseases, such as retinoblastoma and cataracts.
  - www.cps.ca/english/statements/CP/cp98-01.htm
- *Hearing screening/inquiry* – Questions on hearing acuity are recommended for all infants and children. In the absence of universal newborn screening, formal audiology testing should be performed in all high-risk infants. Older children should be screened if clinically indicated.
  - http://aappolicy.aappublications.org/cgi/content/full/pediatrics;111/2/436
- Muscle tone – Evaluation for spacticity, rigidity, and hypotonia should occur.
- Adenotonsillar hypertrophy and presence of sleep-disordered breathing warrants assessment re. obstructive sleep apnea.
  - http://aappolicy.aappublications.org/cgi/reprint/pediatrics;109/4/704.pdf

ROURKE BABY RECORD HEALTHY CHILD DEVELOPMENT SELECTED GUIDELINES/RESOURCES - May 2006

DEVELOPMENT

Maneuvers are based on the Nipissing District Development Screen (www.ndds.ca) and other developmental literature. 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 the need for further developmental assessment, as does parental concern about development at any stage.

- "Best Start" website contains resources for maternal, newborn, and early child development - www.beststart.org/
- OCFP Healthy Child Development: Improving the Odds publication is a toolkit for primary healthcare providers - www.beststart.org/resources/hlthy_chld_dev/pdf/HCD_complete.pdf

BEHAVIOUR

Night waking/crying:

Night waking/crying 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/crying, especially when this counselling begins in the first 3 weeks of life.

- www.mja.com.au/public/issues/182_05_070305/sym10800_fm.html

PARENTING/**DISCIPLINE**

Promote effective discipline through evaluation, anticipatory guidance and counseling using the following principles: respect for parents, cultural sensitivity, improving social supports, increasing parental confidence, increasing parental pleasure in children, and supporting and improving parenting skills.

- www.cps.ca/english/statements/PP/pp04-01.htm
- OCFP Healthy Child Development www.beststart.org/resources/hlthy_chld_dev /pdf/HCD_complete.pdf (section 3)

TOILET LEARNING

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

- www.cps.ca/english/statements/CP/cp00-02.htm

LITERACY

Physicians can promote literacy and early childhood reading by facilitating reading in the office. Encourage parents to watch less television and read more to their children.

- www.cps.ca/english/statements/PP/pp02-01.htm

AUTISM SPECTRUM DISORDER

When developmental delay is suspected in an 18-month child, assess for autism spectrum disorder using the Checklist for Autism in Toddlers (CHAT) – Journal of Autism and Developmental Disorders 2001;31(2).

- www.beststart.org/resources/hlthy_chld_dev/pdf/HCD_complete.pdf (appendix L)

PARENTAL/FAMILY ISSUES AFFECTING DEVELOPMENT

- Maternal depression - Physicians should have a high awareness of maternal depression, which is a risk factor for the socioemotional and cognitive development of children. Although less studied, paternal factors may compound the maternal-infant issues.
  - www.cps.ca/english/statements/PP/pp04-03.htm
- Shaken baby syndrome - A high index of suspicion is suggested.
  - www.cps.ca/english/statements/PP/cps01-01.htm
- Fetal alcohol syndrome/effects (FAS/FAE) - Canadian Guidelines published in CMAJ supplement
  - Mar. 1/05 - www.cmaj.ca/cgi/content/full/172/5_suppl/S1

High-risk infants/children

- **Day Care:** Specialized day care or preschool is beneficial for children living in poverty (family income at or below Statistics Canada low-income cut-off). These disadvantaged children are at an increased risk of mortality and morbidity, including physical, emotional, social and education deficits.
- **Home Visits:** 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. Canadian Task Force on Preventative Health Care - www.cmaj.ca/cgi/content/full/163/11/1451

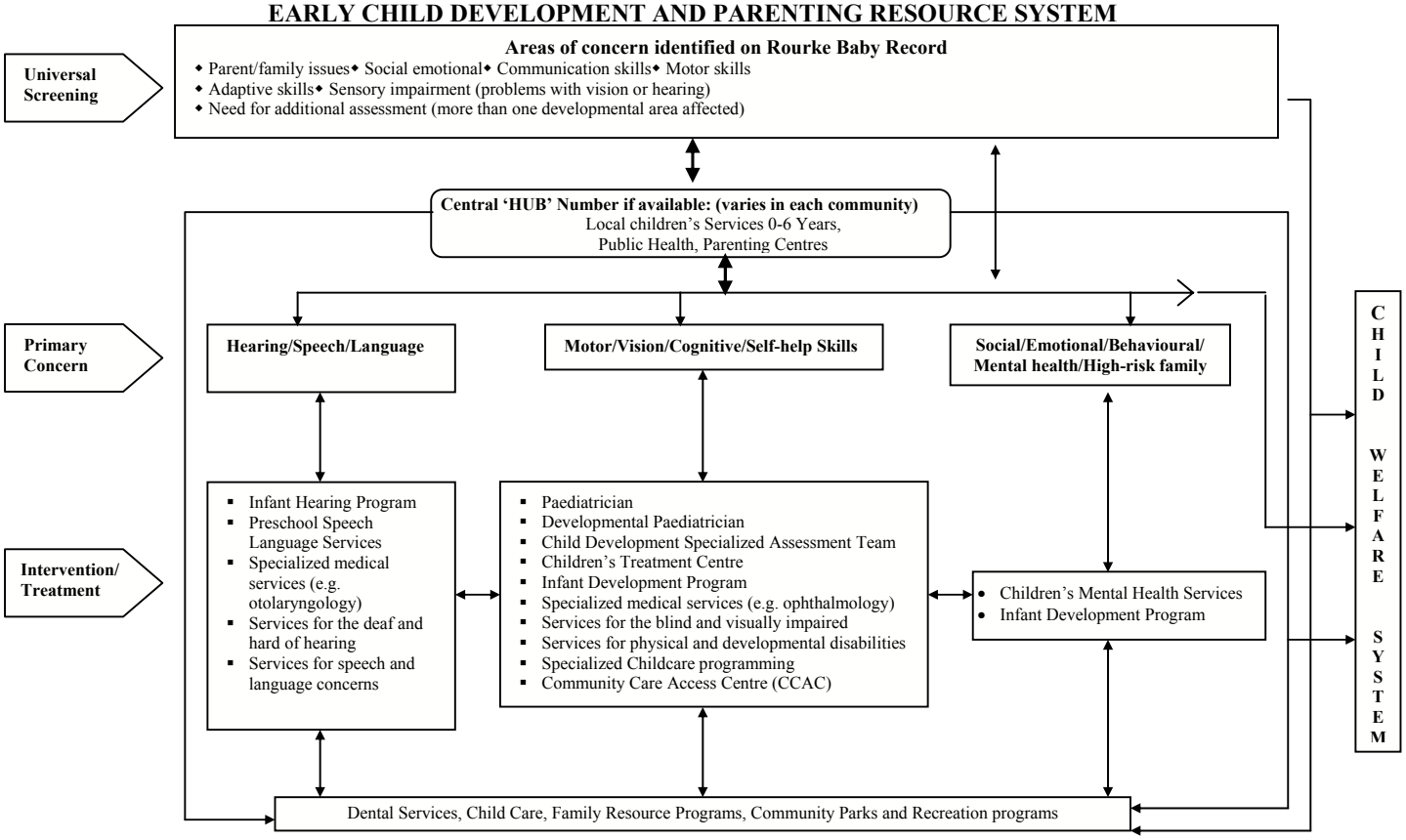
Risk factors for physical abuse:

- low SES
- young maternal age (< 19 years)
- single parent family
- parental experiences of own physical abuse in childhood
- spousal violence
- lack of social support
- unplanned pregnancy or negative parental attitude towards pregnancy

Risk factors for sexual abuse:

- living in a family without a natural parent
- growing up in a family with poor marital relations between parents
- presence of a stepfather
- poor child-parent relationships
- unhappy family life

EARLY CHILD DEVELOPMENT AND PARENTING RESOURCE SYSTEM



ROUTINE IMMUNIZATION

National Advisory Committee on Immunization (NACI) recommended immunization schedules for infants, children and youth can be found at the following website: www.phac-aspc.gc.ca/naci-ccni/.

Provincial/territorial immunization schedules may differ based on funding differences. For provincial/territorial immunization schedules, see Canadian Nursing Coalition on Immunization chart on the website of the Public Health Agency of Canada: www.phac-aspc.gc.ca/im/ptimprog-progimpt/table-1_e.html.

For review, see "Immunization update 2005: Stepping forward" available on-line at www.cps.ca/english/statements/ID/PIDNoteImmunization2005.htm.

Vaccine Notes (Adapted from NACI):

Diphtheria, Tetanus, acellular Pertussis and inactivated Polio virus vaccine (DTaP-IPV): DTaP-IPV vaccine is the preferred vaccine for all doses in the vaccination series, including completion of the series in children < 7 years who have received ≥ 1 dose of DPT (whole cell) vaccine (e.g., recent immigrants).

Haemophilus influenzae type b conjugate vaccine (Hib): Hib schedule shown is for the Haemophilus b capsular polysaccharide – PRP conjugated to tetanus toxoid (Act-HIB™) or the Haemophilus b oligosaccharide conjugate - HbOC (HibTITER™) vaccines. This vaccine may be combined with DTaP in a single injection.

Measles, Mumps and Rubella vaccine (MMR): A second dose of MMR is recommended, at least 1 month after the first dose for the purpose of better measles protection. For convenience, options include giving it with the next scheduled vaccination at 18 months of age or at school entry (4-6 years) (depending on the provincial/territorial policy), or at any intervening age that is practical. The need for a second dose of mumps and rubella vaccine is not established but may benefit (given for convenience as MMR). The second dose of MMR should be given at the same visit as DTaP-IPV (± Hib) to ensure high uptake rates. 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 one dose of varicella vaccine. Unvaccinated individuals ≥ 13 years who have not had varicella should receive two doses at least 28 days apart. Varicella and MMR vaccines should be administered concurrently (at different sites) or separated by at least 4 weeks.

Hepatitis B vaccine (Hep B): Hepatitis B vaccine can be routinely given to infants or preadolescents, depending on the provincial/territorial policy. For infants born to chronic carrier mothers, the first dose should be given at birth (with Hepatitis B immune globulin), otherwise the first dose can be given 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. A two-dose schedule for adolescents is an option. (See also SELECTED INFECTIOUS DISEASES RECOMMENDATIONS below.)

Pneumococcal conjugate vaccine - 7-valent (Pneu-Conj): Recommended schedule, number of doses and subsequent use of 23 valent polysaccharide pneumococcal vaccine depend on the age of the child, if at high risk for pneumococcal disease, and when vaccination is begun.

Meningococcal C conjugate vaccine (Men-Conj): Recommended schedule and number of doses of meningococcal vaccine depend on the age of the child. If the provincial/territorial policy is to give Men-Conj after 12 months of age, 1 dose is sufficient.

Diphtheria, Tetanus, acellular Pertussis vaccine - adult/adolescent formulation (dTap): a combined adsorbed "adult type" preparation for use in people ≥ 7 years of age, contains less diphtheria toxoid and pertussis antigens than preparations given to younger children and is less likely to cause reactions in older people. This vaccine should be used in individuals > 7 years receiving their primary series of vaccines.

Influenza vaccine (Flu): Recommended for all children between 6 and 23 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.

SELECTED INFECTIOUS DISEASES RECOMMENDATIONS

See CPS position statements of the Infectious Diseases and Immunization Committee: www.cps.ca/english/publications/InfectiousDiseases.htm.

- **Hepatitis B immune globulin and immunization:**
  Infants with HBsAg-positive parents or siblings require Hepatitis B vaccine at birth, at 1 month, and 6 months of age.
  Infants of HBsAg-positive mothers also require Hepatitis B immune globulin at birth.

  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.

- **Human Immunodeficiency Virus type 1 (HIV-1) maternal infections:**
  Breastfeeding is contraindicated for an HIV-1 infected mother even if she is receiving antiretroviral therapy.

- **Hepatitis A or A/B combined (when Hepatitis B vaccine has not been previously given):**
  These vaccines should be considered when traveling to countries where Hepatitis A or B are endemic.

- **Tuberculosis - TB skin testing:**
  TB skin testing should be done if the infant is living with anyone being investigated or treated for TB. TB skin testing should also be considered in high-risk groups, including Aboriginal people, immigrants and long-term travellers from areas with a high prevalence of TB.