2024 Rourke Baby Record Evidence Tables

The Rourke Baby Record team would like to thank the McMaster Evidence Review and Synthesis Team (MERST) for their instrumental role in supporting our team in synthesizing evidence on important aspects of preventive primary care for young children. MERST assisted with organizing and screening the literature using DistillerSR. A modified Shekelle approach was then used for the critical appraisal of the literature. This literature review table is an archive of the cumulative literature examined historically in generating the evidence informed guidance reported in the Rourke Baby Record.

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1.0 Well-Child Visit Schedule

Reference	GRADE
Shakib J, Buchi K, Smith E, Korgenski K, Young P.C. Timing of Initial Well-Child Visit and Readmissions of Newborns. Pediatrics 2015;135 (3): 469-474. https://pubmed.ncbi.nlm.nih.gov/25647673/	B

2.0 GROWTH

2.1 GROWTH MONITORING

Recommendations	Strength of Recommendation
Important: Corrected age should be used up to 24 to 36 months of age for premature infants born at <37 weeks gestation.	Good
Measuring growth: The growth of all term infants, both breastfed and non-breastfed, and preschoolers should be evaluated using the 2014 Canadian growth charts based on the WHO Child Growth Standards (birth to 5 years) For birth to 2 years, evaluation includes measurement of recumbent length, weight-for-length assessments and head circumference. For ages ≥ 2 years, use standing height, weight, and calculation of BMI.	Good
Time to regain birth weight depends on mode of delivery (C/S vs vaginal) and milk source (breast vs formula). Nomograms exist: e.g. NEWT tool	

References	Grade
Furlong KR, Anderson LN, Kang H, Lebovic G, Parkin PC, Maguire JL, O'Connor JL, Birken CS, on behalf of the TARGet Kids! Collaboration. BMI for-Age and Weight-for Length in Children 0 to 2 https://pubmed.ncbi.nlm.nih.gov/27343232/	1B
Roy SM, Spivack JG, Faith MS, Chesi A, Mitchell JA, Kelly A, Grant SF, McCormack SE, Zemel BS. Infant BMI or Weight-for Length and Obesity Risk in Early Childhood. Pediatrics 2016;137(5): e20153492. https://pubmed.ncbi.nlm.nih.gov/27244803/	1B
Marchand Valérie; Canadian Paediatric Society, Nutrition and Gastroenterology Committee. The toddler who is falling off the growth chart. Paediatr Child Health. 2012;17(8): 447. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3474389/	1C
1) For children and youth who are overweight or obese, we recommend that primary care practitioners not routinely refer for surgical interventions. https://canadiantaskforce.ca/guidelines/published-guidelines/obesity-in-children/	1C

2) For children and youth aged 2 to 17 years who are overweight or obese, we recommend that primary care practitioners offer or refer to formal, structured behavioural interventions aimed at healthy weight management.	2B
3) For youth aged 12 to 17 years who are overweight or obese, we recommend that primary care practitioners not routinely offer orlistat aimed at healthy weight management.	2B
4) Primary care practitioners not routinely offer structured interventions aimed at preventing overweight and obesity in healthy-weight children and youth aged 17 years and younger.	2C
Canadian Task Force on Preventive Health Care. Recommendations for growth monitoring, and prevention and management of overweight and obesity in children and youth in primary care. Canadian Medical Association Journal 2015;187(6): 411-421. https://www.cmaj.ca/content/187/6/411	As per above – 1-6
New 2024 Feldman-Winter, L., Kellams, A., Peter-Wohl, S., Taylor, J. S., Lee, K. G., Terrell, M. J., Noble, L., Maynor, A. R., Meek, J. Y., Stuebe, A. M. (2020). Evidence-Based Updates on the First Week of Exclusive Breastfeeding Among Infants >=35 Weeks Pediatrics, 145(4), 04. https://pubmed.ncbi.nlm.nih.gov/32161111/	3
Rifas-Shiman SL, Gillman MW, Oken E, Kleinman K, Taveras EM. Similarity of the CDC and WHO Weight for-Length Growth Charts in Predicting Risk of Obesity at Age 5 Years. Obesity 2012; 20(6)1261-1265https://pubmed.ncbi.nlm.nih.gov/22158005/	B
Taveras EM, Rifas-Shiman SL, Belfort MB, Kleinman KP, Oken E, Gillman MW. Weight Status in the First 6 Months of Life and Obesity at 3 Years of Age. Pediatrics 2009; ;123:1177– 1183. https://pubmed.ncbi.nlm.nih.gov/19336378/	B

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De Onis M, Garza C, Onyango AW, Borghi E. Comparison of the WHO child growth standards and the CDC 2000 growth charts. The Journal of Nutrition. 2007; 137: 144-148. www.pubmed.ncbi.nlm.nih.gov/17182816/
Lawrence S, Cummings E, Chanoine JP, Metzger DL, Palmert M, Sharma A, Rodd C; On behalf of the Canadian Paediatric Endocrine Group extension to WHO growth charts: Why bother? Paediatr Child Health. 2013;18(6):295-297. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3680249/
New 2024 Paul, I. M., Schaefer, E. W., Miller, J. R., Kuzniewicz, M. W., Li, S. X., Walsh, E. M., & Flaherman, V. J. (2016). Weight Change Nomograms for the First Month After Birth. Pediatrics, 138(6), e20162625. https://doi.org/10.1542/peds.2016-2625.
Secker D, C Armistead, L Corby, M de Groh, V Marchand, LL Rourke, E Misskey, Canadian Paediatric Society/Société Canadienne de pédiatrie, Adolescent Health Committee/Comité de la santé de l'adolescent. Promoting optimal monitoring of child growth in Canada: Using the new World Health Organization growth charts - Executive Summary. Paediatrics and Child Health. 2010;15(2):77- 83. www.ncbi.nlm.nih.gov/pmc/articles/PMC2865939
Williams R, J Clinton; Canadian Paediatric Society, Early Years TaskForce. Getting it right at 18 months: In support of an enhanced well-baby visit. Paediatr Child Health 2011;16(10):647-50. https://pubmed.ncbi.nlm.nih.gov/23204907/

WHO Multicentre Centre Growth Reference Study Group. Assessment of differences in linear growth among populations in the WHO Multicentre Growth Reference Study Acta Paediatr. 2006; S450(95): 56-65. https://pubmed.ncbi.nlm.nih.gov/16817679/
WHO Multicentre Growth Reference Study Group. WHO Child Growth Standards: Growth velocity based on weight, length and head circumference: Methods and development. Geneva: World Health Organization. 2009;242 pages. https://www.who.int/publications/i/item/9789241547635 (last accessed Dec 19, 2023)
World Health Organization. WHO growth charts adapted for Canada summary of changes. March 2014. https://www.dietitians.ca/growthcharts (last accessed Dec 19, 2023)
New 2024 Anderson N, Narvey M. Canadian Paediatric Society Position Statement. Fetus and Newborn Committee. Discharge planning of the preterm infant. Paediatr Child Health 2022 27(2):129.
New 2024 Casey L, Fenton T. Canadian Paediatric Society Practice Point. Nutrition and Gastroenterology Committee. Recognizing and addressing atypical growth. Paediatr Child Health 2023 28(8):495-501.

3.0 NUTRITION

3.1 NUTRITION GENERAL

Nutrition (General) Recommendations	Strength of Recommendation
1. Promote family meals with independent/self-feeding while offering a variety of healthy foods. 2. Milk consumption in excess of 750ml per day poses a risk for iron deficiency. 3. Avoid all sweetened fruit drinks, sports drinks, energy drinks and soft drinks 4. Restrict Fruit juices consumption to a maximum of ½ cup (125mls) a day. 5. Limit the consumption of prepared food and beverage products that are high in sugar content 6. Limit/avoid consuming highly processed foods that are high in dietary sodium. 7. Choose foods with healthy fats and limit foods containing saturated fat. 8. Avoid honey until 1 year of age to prevent botulism. 9. Promote family meals with independent/self-feeding while offering a variety of healthy foods.	

General Nutrition Resources
New 2024 Dietitians of Canada UnlockFood. https://www.unlockfood.ca/en/default.aspx
New 2024 Ontario Dietitians in Public Health. Pediatric Nutrition Guidelines 2025. https://www.odph.ca/PNG
New 2024 Nutristep questionnaires. https://www.nutristep.ca
New in 2024: Medical management of GE reflux in healthy infants (2022). https://cps.ca/en/documents/position/gastro-esophageal-reflux-in-healthy-infants

References	**GRADE**
World Health Organization. Guideline: Sugar intake for adults and children. 2015. Available from: http://apps.who.int/iris/bit stream/10665/149782/1/9 789241549028_eng.pdf?ua=1 https://www.who.int/publications/i/item/9789241549028	1B 1B 2C
Huh SY, Rifas-Shiman SL, Rich-Edwards JW, Taveras EM, Gillman MW. Prospective association between milk intake and adiposity in preschool-aged children. J Am Diet Assoc. 2010 Apr;110(4):563-70. https://pubmed.ncbi.nlm.nih.gov/20338282/	C
O'Connor TM1, Yang SJ, Nicklas TA. Beverage intake among preschool children and its effect on weight status. Pediatrics. 2006 Oct;118(4):e1010-8. https://pubmed.ncbi.nlm.nih.gov/17015497/	C
Persaud N, Maguire JL, Lebovic G, Carsley S, Khovratovich M, Randall Simpson JA, McCrindle BW, Parkin PC, Birken C; TARGet Kids! collaboration. Association between serum cholesterol and eating behaviours during early childhood: a cross- sectional study. CMAJ. 2013 Aug 6;185(11):E531-6. https://pubmed.ncbi.nlm.nih.gov/23775611/	C
Scharf RJ, Demmer RT, DeBoer MD. **Longitudinal evaluation of milk type consumed and weight status in preschoolers.** Arch Dis Child. 2013 May;98(5):335-40. https://pubmed.ncbi.nlm.nih.gov/23508869/	C
Watson-Jarvis K, Fenton TR, McNeil D, Campbell K. Preschool nutrition risk in Calgary. Can J Diet Pract Res. 2011 Spring;72(1):e101-6. https://pubmed.ncbi.nlm.nih.gov/21382227/	C
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term-infants/nutrition-healthy-term-infants-recommendations-birth-six-months.html (Accessed April 10, 2024)
New 2024: Health Canada, Canadian Paediatric Society, Dietitians of Canada and Breastfeeding Committee for Canada. **Nutrition for healthy term infants - recommendations from 6 to 24 months.** 2014. https://www.canada.ca/en/health-canada/services/canada-food-guide/resources/nutrition-healthy-term-infants/nutrition-healthy-term-infants-recommendations-birth-six-months.html (accessed April 10, 2024)
Health Canada. **Eating Well with Canada's Food Guide.** Health Canada https://food-guide.canada.ca/en/ (Accessed April 10, 2024)
Hertzman C., J Clinton, A Lynk; Canadian Paediatric Society, Early Years Task Force. **Measuring in support of early childhood development.** Paediatr Child Health 2011;16(10):655-7. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3225478/
Lawrence S, Cummings E, Chanoine JP, Metzger DL, Palmert M, Sharma A, Rodd C; On behalf of the Canadian Paediatric EndocrineGroup. **Canadian Paediatric Endocrine Group extension to WHO growth charts: Why bother?** Paediatr Child Health. 2013;18(6):295-297. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3680249/
Ontario Society of Nutrition Professionals in Public Health (OSNPPH). Pediatric Nutrition Guidelines for Primary Health Care Providers. Revised May 2011. https://www.beststart.org/OnTrack_English/local_resources/Pediatric%20Nutrition%20Guidelines%20for%20Primary%20Health%20Care%20Providers.pdf
Randall Simpson JA, Keller HH, Rysdale LA, Beyers JE. **Nutrition Screening Tool for Every Preschooler (NutriSTEP): validation and test-retest reliability of a parent-administered questionnaire assessing nutrition risk of preschoolers.** Eur J Clin Nutr. 2008 Jun;62(6):770- https://pubmed.ncbi.nlm.nih.gov/17554250/
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Williams R., J Clinton; Canadian Paediatric Society, Early Years Task Force. **Getting it right at 18 months: In support of an enhanced well-baby visit.** Paediatr Child Health 2011;16(10):647-50. https://pubmed.ncbi.nlm.nih.gov/23204907/

3.2 BREASTFEEDING

3.2.1 BREASTFEEDING GENERAL

Breastfeeding Recommendations	Strength of Recommendation
1. Support **exclusive breastfeeding** 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.	Good
2. Breast milk is the optimal food for infants, and breastfeeding (with complimentary foods) may continue for up to two years and beyond unless contraindicated.	Consensus
3. Breastfeeding is associated with better health outcomes (e.g. fewer gastrointestinal and respiratory illness, lower incidence of SIDS)	Good
4. Maternal support, both antepartum and postpartum, increases breastfeeding and prolongs its duration. Early and frequent parent-infant skin-to-skin contact, rooming in, and banning handouts of free infant formula increase breastfeeding rates.	Consensus

Breastfeeding Resources
New 2024: Breastfeeding Matters (Best Start) https://resources.beststart.org/wp-content/uploads/2017/01/B04-E_BF_matters_EN_2020.pdf
New 2024: Considerations: "Donor human milk considerations (CPS)" https://cps.ca/en/documents/position/pasteurized-and-unpasteurized-donor-human-milk

References	GRADE
New 2024: Dos Reis Buzzo Zermiani, A. P., de Paula Soares, Alpp, da Silva Guedes de Moura, B. L., Miguel, E. R. A., Lopes, L. D. G., de Carvalho Scharf Santana, N., da Silva Santos, T., Demarchi, I. G., Teixeira, J. J. (2021). Evidence of Lactobacillus reuteri to reduce colic in breastfed babies: Systematic review and meta-analysis Complementary Therapies in Medicine, 63, 102781. https://www.sciencedirect.com/science/article/pii/S0965229921001229?via%3Dihub	1A
Kramer MS, Kakuma R. Optimal duration of exclusive breastfeeding. Cochrane Database of Systematic Reviews 2012, Issue 8. Art. No.: CD003517. https://pubmed.ncbi.nlm.nih.gov/22895934/	1A
American Academy of Pediatrics. Joan Younger Meek, Lawrence Noble, Section on Breastfeeding; Policy Statement: Breastfeeding and the Use of Human Milk. Pediatrics July 2022; 150 (1): e2022057988. 10.1542/peds.2022-057988	1B
New 2024: Linde K, Lehnig F, Nagl M, Kersting A. The association between breastfeeding and attachment: A systematic review. Midwifery. 2020 Feb;81:102592. doi: 10.1016/j.midw.2019.102592. Epub 2019 Nov 30. PMID: 31830673. https://doi.org/10.1016/j.midw.2019.102592	2

New 2024: Patro-Gołąb B, Zalewski BM, Polaczek A, Szajewska H. Duration of Breastfeeding and Early Growth: A Systematic Review of Current Evidence. Breastfeed Med. 2019 May;14(4):218-229. doi: 10.1089/bfm.2018.0187. Epub 2019 Mar 5. PMID: 30835494. https://www.liebertpub.com/doi/10.1089/bfm.2018.0187?url_ver=Z39.88-2003&rfr_id=ori%3Arid%3Acrossref.org&rfr_dat=cr_pub++0pubmed	2
New 2024: Feldman-Winter, L., Kellams, A., Peter-Wohl, S., Taylor, J. S., Lee, K. G., Terrell, M. J., Noble, L., Maynor, A. R., Meek, J. Y., Stuebe, A. M. (2020). Evidence-Based Updates on the First Week of Exclusive Breastfeeding Among Infants >=35 Weeks Pediatrics, 145(4), 04. Practical article with clinical pearls such as NEWT tool: https://www.newbornweight.org	3
New 2024: Harvey SM, Murphy VE, Whalen OM, Gibson PG, Jensen ME. Breastfeeding and wheeze-related outcomes in high-risk infants: A systematic review and meta-analysis. Am J Clin Nutr. 2021 Jun 1;113(6):1609-1618. doi: 10.1093/ajcn/nqaa442. PMID: 33826694. https://pubmed.ncbi.nlm.nih.gov/33826694/	3
New 2024: Hoang MP, Samuthpongtorn J, Seresirikachorn K, Snidvongs K. Prolonged breastfeeding and protective effects against the development of allergic rhinitis: a systematic review and meta-analysis. Rhinology. 2022 Apr 1;60(2):82-91. doi: 10.4193/Rhin21.274. PMID: 34783797. https://www.rhinologyjournal.com/Abstract.php?id=2948	3
New 2024: Xue M, Dehaas E, Chaudhary N, O'Byrne P, Satia I, Kurmi OP. Breastfeeding and risk of childhood asthma: a systematic review and meta-analysis. ERJ Open Res. 2021 Dec 13;7(4):00504-2021. doi: 10.1183/23120541.00504-2021. PMID: 34912884; PMCID: PMC8666625. https://pubmed.ncbi.nlm.nih.gov/34912884/	3

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Horta, B. L., & Victora, C. G. Long-term effects of breastfeeding-a systematic review. 2013. Retrieved from: http://apps.who.int/iris/bit strea m/10665/79198/1/978924 1505 307_eng.pdf https://www.who.int/publications/i/item/9789241505307
Horta, B. L., & Victora, C. G. Short-term effects of breastfeeding: A systematic review on the benefits of breastfeeding on diarrhoea and pneumonia mortality. 2013. Retrieved from: http://apps.who.int/iris/bit strea m/10665/95585/1/978924 1506 120_eng.pdf https://www.who.int/publications/i/item/9789241506120
Smith HA, Becker GE. Early additional food and fluids for healthy breastfed full- term infants. Cochrane Database Systematic Review 2016. DOI: 10.1002/14651858.CD 006462.pub4 https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8588276/
US Preventive Services Task Force, Bibbins-Domingo K, Grossman D, Curry S, Davidson K, Epling JW Jr, García FA, Kemper AR, Krist AH, Kurth AE, Landef eld CS, Mangione CM, Phillips WR, Phipps MG, Pignone MP. Primary Care Interventions to Support Breastfeeding: US Preventive Services Task Force Recommendation Statement. JAMA. 2016 Oct 25;316(16):1688-1693. doi: 10.1001/jama.2016.14697 https://pubmed.ncbi.nlm.nih.gov/27784102/

3.2.2 BREASTFEEDING AND SIDS

Breastfeeding and SIDS Recommendations	**Strength of Recommendation**
1. Breastfeeding helps protect against SIDS	Good

References	**GRADE**
Task Force On Sudden Infant Death Syndrome. SIDS and Other Sleep- Related Infant Deaths: Expansion of Recommendations for a Safe Infant Sleeping Environment. Pediatrics. 2011;128:1030–1039. https://publications.aap.org/pediatrics/article/128/5/1030/30941/SIDS-and-Other-Sleep-Related-Infant-Deaths?autologincheck=redirected	1B, C
Jaafar SH, Jahanfar S, Angolkar M,Ho JJ. Effect of restricted pacifier use in breastfeeding term infants for increasing duration of breastfeeding. Cochrane Database of Systematic Reviews 2016, Issue 8. https://pubmed.ncbi.nlm.nih.gov/27572944/	2B
Kair LR, Kenron D, Etheredge K, Jaffe AC, Phillipi CA. Pacifier restriction and exclusive breastfeeding. Pediatrics. 2013 Apr;131(4):e1101-7. https://pubmed.ncbi.nlm.nih.gov/23509161/	B

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Alm, B., Wennergren, G., Möllborg, P., & Lagercrantz,H. (2016). Breastfeeding and dummy use have a protective effect on sudden infant death syndrome. Acta Paediatrica, 105(1),31-38. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5049485/

3.2.3 BREASTFEEDING AND PACIFIERS See also 4.1.7 Counsel on Pacifier use and 4.1.1 Injury Prevention General

Breastfeeding and Pacifiers Recommendations	Strength of Recommendation
1. Counsel on safe and appropriate use. 2. 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.	Fair Consensus

References	GRADE
Jaafar SH, Jahanfar S, Angolkar M,Ho JJ. Effect of restricted pacifier use in breastfeeding term infants for increasing duration of breastfeeding. Cochrane Database of Systematic Reviews 2016, Issue 8. https://pubmed.ncbi.nlm.nih.gov/27572944/	2B
Kair LR, Kenron D, Etheredge K, Jaffe AC, Phillipi CA. Pacifier restriction and exclusive breastfeeding. Pediatrics. 2013 Apr;131(4):e1101-7. https://publications.aap.org/pediatrics/article-abstract/131/4/e1101/31885/Pacifier-Restriction-and-Exclusive-Breastfeeding?redirectedFrom=fulltext	B

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Alejandro G. Jenik, MD, Nestor E. Vain, MD, Adriana N. Gorestein, MD, and Noemı´ E. Jacobi, MD, for the Pacifier and Breastfeeding Trial Group. Does the Recommendation to Use a Pacifier Influence the Prevalence of Breastfeeding? J Pediatrics 2009; 155: 350-354. https://pubmed.ncbi.nlm.nih.gov/19464025/
Buccini, G. et al. Pacifier Use and Interruption of exclusive breastfeeding: Systematic Review and Meta-Analysis. Maternal and Child Nutrition. 2016. 13. https://pubmed.ncbi.nlm.nih.gov/27863027/
Eglash, A., Simon, L., & the ABM, ABM Clinical Protocol #8: Human Milk Storage Information for Home Use for Full-Term Infants, Revised 2017. 2017. 12(7):390-395 https://abm.memberclicks.net/assets/DOCUMENTS/PROTOC OLS/8-human-milk-storage- protocol-english.pdf https://abm.memberclicks.net/assets/DOCUMENTS/PROTOCOLS/8-human-milk-storage-protocol-english.pdf
Kramer MS, Barr RG, Dagenais S, Yang H, Jones P, Ciofani L, Jané F. Pacifier use, early weaning and cry/fuss counselling: A randomized controlled trial. JAMA. 2001; 286: 322-326. https://pubmed.ncbi.nlm.nih.gov/11466098/
O'Connor NR, Tanabe KO, Siadaty MS, Hauck FR. Pacifiers and Breastfeeding. A Systematic Review. Arch Pediatr Adolesc. 2009; 163: 378-382. https://pubmed.ncbi.nlm.nih.gov/19349568/
Paduraru, L., et al. Influence of refrigeration or freezing on human milk macronutrients and energy content in early lactation: Results from a tertiary centre survey. Pediatrics & Child Heatlh. 2018. 24(4): 250-257. https://academic.oup.com/pch/article-abstract/24/4/250/5261253?redirectedFrom=fulltext

3.2.4 BREASTFEEDING AND MATERNAL MEDICATIONS RESOURCES

Breastfeeding and Material Medications Resources
1. United States National Library of Medicine Drugs and Lactation Database (LactMed®) - NCBI Bookshelf (nih.gov)

Additional References
Sachs, H. C., Frattarelli, D. A., Galinkin, J. L., Green, T.P., Johnson, T., Neville, K.,... & Van den Anker, J. (2013). The transfer of drugs and therapeutics into human breast milk: An update on selected topics. Pediatrics, 132(3), e796- e809. https://pubmed.ncbi.nlm.nih.gov/23979084/

3.2.5 WEANING OF BREASTFEEDING

Weaning of Breastfeeding Recommendations	**Strength of Recommendation**
1. Advise slow, progressive, natural weaning whenever possible.	Consensus

Weaning of Breastfeeding Resources
New 2024: Canadian Paediatric Society: Caring for Kids. Weaning your child from Breastfeeding. https://caringforkids.cps.ca/handouts/pregnancy-and-babies/weaning_breastfeeding

Reference	Grade
Grueger, B; Canadian Paediatric Society, Community Paediatrics Committee. Weaning from the breast. Paediatrics & Child Health. 2013;18(4):210. Reaffirmed February 1, 2016. https://cps.ca/en/documents/position/weaning-from-the-breast	1C

3.2.6 ANKYLOGLOSSIA (TONGUE-TIE) AND BREASTFEEDING

Ankyloglossia (tongue-tie) and Breastfeeding Recommendations	**Strength of Recommendation**
1 Inspect tongue mobility for ankyloglossia if breastfeeding problems	Consensus
2. Frenotomy is not universally recommended for ankyloglossia.	Consensus

Ankyloglossia (tongue-tie) and Breastfeeding Resources
1. Ankyloglossia and breastfeeding (CPS) https://cps.ca/en/documents/position/ankyloglossia-breastfeeding

References	Grade
Buryk M, Bloom D, Shope T. Efficacy of neonatal release of ankyloglossia: a randomized trial. Pediatrics. 2011 Aug;128(2):280-8. https://publications.aap.org/pediatrics/article-abstract/128/2/280/30552/Efficacy-of-Neonatal-Release-of-Ankyloglossia-A?redirectedFrom=fulltext	1A
Community Paediatrics Committee, Canadian Pediatric Society. Ankyloglossia and breastfeeding. Paediatrics & Child Health. 2015;20(4):209-13 Reaffirmed Feb 1 2018 https://cps.ca/en/documents/position/ankyloglossia-breastfeeding	1C

Additional References -none

3.3. VITAMIN D SUPPLEMENTATION

Vitamin D Supplementation Recommendations	Strength of Recommendation
1. 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. **2.** Breastfeeding mothers should consume a daily supplement that contains at least 400-600 IU vitamin D.	Good Consensus

Vitamin D Supplementation Resources
New 2024 Canadian Paediatric Society, Preventing symptomatic vitamin D deficiency and rickets among Indigenous infants and children in Canada (2022). https://cps.ca/en/documents/position/vitamin-d-deficiency-and-rickets-among-indigenous-infants-and-children
New 2024 Canadian Paediatric Society Caring for Kids. Vitamin D. https://caringforkids.cps.ca/handouts/pregnancy-and-babies/vitamin_d
New 2024 Canadian Paediatric Society Caring for Kids New to Canada. Vitamin D Deficiency. https://kidsnewtocanada.ca/conditions/d#:~:text=In%20babies%201%20year%20of,the%20CPS%20recommends%20the%20

References	Grade
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Health Canada, Canadian Paediatric Society,Dietitians of Canada and Breastfeeding Committee for Canada. Nutrition for healthy term infants - recommendations from 6 to 24 months. 2014. Nutrition for Healthy Term Infants: Recommendations from Six to 24 Months - Canada.ca (accessed April 4, 2024)	1B
Hollis, B. W., Wagner, C. L., Howard, C. R., Ebeling, M., Shary, J. R., Smith, P. G., ... & Hulsey, T. C. Maternal versus infant vitamin D supplementation during lactation: A randomized controlled trial. Pediatrics 2015;136(4), 625-634. https://pubmed.ncbi.nlm.nih.gov/26416936/	1B
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Darmawikarta D, Chen Y, Lebovic G, Birken C, Parkin PC, Maguire JL. Total Duration of Breastfeeding, Vitamin D Supplementation, and Serum Levels of 25- Hydroxyvitamin D. Am J Public Health 2016;106:714–719. https://pubmed.ncbi.nlm.nih.gov/26890167/	C

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Taylor SN, Wagner CL, Hollis BW. Vitamin D supplementation during lactation to support infant and mother. Journal of the American College of Nutrition. 2008; 27(6): 690-701.https://pubmed.ncbi.nlm.nih.gov/19155428/

3.4 FORMULA FEEDING

3.4.1 INFANT FORMULA

Infant Formula Recommendations	Strength of Recommendation
1. Formulas generally contain iron: 0.4mg-1.3mg/100ml. 2. Discourage the use of homemade infant formulas; https://albertahealthservices.ca/assets/info/nutrition/if-nfs-ng-healthy-infants-homemade-infant-formula.pdf 3. Milk consumption in excess of 750ml per day poses a risk for iron deficiency. 4. Soy-based formula is not recommended for use in cow milk protein allergy or in preterm infants and may interfere with absorption of T4 replacement therapy in infants with congenital hypothyroidism. 5. Plant-based beverages are not a nutrition-equivalent replacement for milk, especially for infants/children <2 yrs due to low protein, energy and nutrient content. If a parent chooses not to provide breastmilk or cow's milk at 9-12 mos, a soy-based formula is recommended until age 2 yrs.	Consensus

Infant Formula Resources
1. For formula composition and algorithm regarding use: Alberta Health Services Compendium and Summary Sheet; https://albertahealthservices.ca/assets/info/nutrition/if-nfs-infant-formulas-summary-sheet.pdf

2. Infant Formula: What you need to know (Best Start)
3. Preparation Video and Tips Sheet (Best start)
4. Soy-based formulas (AAP)
5. New 2024 Alberta Health Services. Nutrition Information including Infant Formula. https://www.albertahealthservices.ca/nutrition/Page8567.aspx
6. New 2024 Alberta Health Services. Infant formula Ingredients and Indications https://www.albertahealthservices.ca/assets/info/nutrition/if-nfs-infant-formulas-ingredients-indications.pdf
7. New 2024 Alberta Health Services. Infant formula Summary sheet. https://www.albertahealthservices.ca/assets/info/nutrition/if-nfs-infant-formulas-summary-sheet.pdf

Reference	Grade
Health Canada, Canadian Paediatric Society,Dietitians of Canada and Breastfeeding Committee for Canada. Nutrition for healthy term infants - recommendations from 6 to 24 months. 2014. Nutrition for Healthy Term Infants: Recommendations from Six to 24 Months - Canada.ca (accessed April 4, 2024)	1B

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Skorka, A., Piescik-Lech, M.,Kolodziej, M., Szajewska, H. Infant formulae supplemented with prebiotics: Are they better than unsupplemented formulae? An updated systematic review. British Journal of Nutrition. 2018; 119(7): 810-825 https://www.sciencedirect.com/science/article/abs/pii/S0899900718304866?via%3Dihub
Vandenplas, Y., Latiff, A. H. A. Fleischer, D. M., Gutierrez- Castrellon, P., Miqdady, M. S. Smith, P. K., von Berg, A. Greenhawt, M. J. Partially hydrolyzed formula in non- exclusively breastfed infants: A systematic review and expert consensus. Nutrition. 2019; 57; 268-274 https://www.sciencedirect.com/science/article/abs/pii/S0899900718304866?via%3Dihub
Wilkinson, T.A, Scott, E.K., Carroll A.E., Mixed Message on Formula Mixing. Pediatrics. 2019; 143(6) e20182525. https://publications.aap.org/pediatrics/article-abstract/143/6/e20182525/37124/Mixed-Message-on-Formula-Mixing?redirectedFrom=fulltext

3.4.2 LONG-CHAIN POLYUNSATURATED FATTY ACIDS (LCPUFA) SUPPLEMENTATION IN INFANT FORMULA

References	Grade
Qawasmi A, Landeros- Weisenberger A, Leckman JF, and Bloch MH. Meta- analysis of Long-Chain Polyunsaturated Fatty Acid Supplementation of Formula and Infant Cognition. Pediatrics 2012;129;1141. https://publications.aap.org/pediatrics/article-abstract/129/6/1141/32197/Meta-analysis-of-Long-Chain-Polyunsaturated-Fatty?redirectedFrom=fulltext	2A
Qawasmi A, Landeros- Weisenberger A, Bloch MH. Meta-analysis of LCPUFA Supplementation of Infant Formula and Visual Acuity. Pediatrics. (2013) 131 (1): e262–e272. https://publications.aap.org/pediatrics/article-abstract/131/1/e262/30807/Meta-analysis-of-LCPUFA-Supplementation-of-Infant?redirectedFrom=fulltext	2B

Additional Reference
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3.4.3 SOY-BASED FORMULA AND PLANT-BASED BEVERAGES

Soy-based Formula and Plant-based Beverages Recommendations	**Strength of Recommendation**
1. Soy-based formula is not recommended for use in cow milk protein allergy or in preterm infants, and may interfere with absorption of T4 replacement therapy in infants with congenital hypothyroidism. 2. Plant-based beverages are not a nutrition-equivalent replacement for milk, especially for infants/children <2 yrs due to low protein, energy and nutrient content. If a parent chooses not to provide breastmilk or cow's milk at 9-12 mos, a soy-based formula is recommended until age 2 yrs.	Consensus

Plant-based beverages Resources
New 2024: https://www.albertahealthservices.ca/assets/info/nutrition/if-nfs-ng-healthy-infants-other-milks-fluid-plant-based-beverages.pdf AND https://www.albertahealthservices.ca/assets/info/nutrition/if-nfs-plant-based-beverages-for-children.pdf
New 2024 Dietitians of Canada. UnlockFood. Nutritional content of Plant-based beverages. https://www.unlockfood.ca/en/Articles/Allergies-and-Intolerances/Nutritional-Content-of-Plant-Based-Beverages.aspx

References	Grade
Health Canada, Canadian Paediatric Society,Dietitians of Canada and Breastfeeding Committee for Canada. Nutrition for healthy term infants - recommendations from 6 to 24 months. 2014.	1B

Nutrition for Healthy Term Infants: Recommendations from Six to 24 Months - Canada.ca (accessed April 4, 2024)	
Andres A et al. Developmental Status of 1- Year-Old Infants Fed Breast Milk, Cow's Milk Formula, or Soy Formula. Pediatrics. 2012;129(6):1134 -1140. https://pubmed.ncbi.nlm.nih.gov/22641754/	B

Additional References
Badger TM Gilchrist JM, Pivik RT, Andres A, Shankar K, Chen JR, Ronis MJ. The health implications of soy infant formula. American Journal of Clinical Nutrition. 2009; 89(Suppl): 1668S-72S. https://pubmed.ncbi.nlm.nih.gov/19357221/
Bhatia J, Greer F. American Academy of Pediatrics Committee on Nutrition. Use of soy protein-based formulas in infant feeding. Pediatrics. 2008; 121: 1062-1068. https://pubmed.ncbi.nlm.nih.gov/18450914/
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Osborn DA, Sinn JKH. Soy formula for prevention of allergy and food intolerance in infants (Review). Cochrane Database of Systematic Reviews. 2006, Issue 4 Art No.:CD003741. http://onlinelibrary.wiley.com/doi/10.1002/14651858.CD003741.pub4/abstract

3.5 INTRODUCTION OF SOLID AND ALLERGENIC FOODS

Introduction of Solid and Allergenic Foods Recommendations
1. A few weeks before to just after 6 months, guided by infant's readiness, start iron containing foods to avoid iron deficiency.
2. A variety of soft texture foods, ranging from purees to finger foods can be introduced.
3. For all infants, including those at high risk for allergies, allergenic foods (especially eggs and age-appropriate forms of peanut products (NIH)) can be introduced with other solids around 6 months, but not before 4 months, as guided by the infant's signs of readiness. Once allergenic solids are introduced, they should be fed at least once a week or a few times a month to maintain tolerance.

Additional references
Abrams E, Rourke L, Leduc D, Li P. Evolution of the Rourke Baby Record as evidence mounts about food allergy prevention: Review and practical tips. Canadian Family Physician 2020; 66:314-316. http://www.cfp.ca/content/66/5/314
Chan E, Cummings C, CPS Sections of Community Paediatrics and Allergy. Dietary exposure and allergy prevention in high risk infants. Paediatr Child Health 2013;18(10):545-9. Reaffirmed Feb 2016 https://cps.ca/en/documents/position/dietary-exposures-and-allergy-prevention

Introduction of Solid and Allergenic Foods Resources
1. Timing of introduction (CPS)
2. Allergycheck.ca
3. Food Allergy Canada

References	Grade

Fleischer, D. M., Sicherer, S., Greenhawt, M., Campbell, D., Chan, E., Muraro, A., ... & Rosenwasser, L. Consensus communication on early peanut introduction and the prevention of peanut allergy in high-risk infants. Pediatrics 2015;136(3): 600-604. Available from: Pediatrics. https://publications.aap.org/pediatrics/article/136/3/600/61144/Consensus-Communication-on-Early-Peanut?autologincheck=redirected	1A, 1B
Jonsdottir OH et al. Timing of the introduction of complementary foods in infancy: a randomized controlled trial. Pediatrics. 2012; 130(6):1038-45. https://pubmed.ncbi.nlm.nih.gov/23147979/	1A
Ierodiakonou D, Garcia- Larsen V, Logan A. Timing of Allergenic Food Introduction to the Infant Diet and Risk of Allergic or Autoimmune Disease A Systematic Review and Meta-analysis. JAMA. 2016;316(11):1181-1192.https://pubmed.ncbi.nlm.nih.gov/27654604/	B, C, A
Przyrembel H. Timing of introduction of complementary food: short- and long-term health consequences. Ann Nutr Metab. 2012; 60(suppl):8-20. https://pubmed.ncbi.nlm.nih.gov/22555185/	1B, 2B
Chuang CH et al. Infant feeding practices and physician diagnosed atopic dermatitis: a prospective cohort study in Taiwan. Pediatric Allergy and Immunology . 2011; 22: 43– 49. 2012. https://pubmed.ncbi.nlm.nih.gov/20573037/	2B
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New 2024: Azad MB, Dharma C, Simons E, et al. Reduced peanut sensitization with maternal peanut consumption and early peanut introduction while breastfeeding. *Journal of Developmental Origins of Health and Disease*. 2021;12(5):811-818. doi:10.1017/S2040174420001129	3
New 2024: Abrams EM, Chan ES. It's Not Mom's Fault: Prenatal and Early Life Exposures that Do and Do Not Contribute to Food Allergy Development. Immunol Allergy Clin North Am. 2019 Nov;39(4):447-457. doi: 10.1016/j.iac.2019.06.001. Epub 2019 Aug 22. PMID: 31563180.	4
New 2024: Abrams EM, Chan ES, Sicherer S. Peanut Allergy: New Advances and Ongoing Controversies. Pediatrics. 2020 May;145(5):e20192102. doi: 10.1542/peds.2019-2102. Epub 2020 Apr 17. PMID: 32303583. Peanut Allergy: New Advances and Ongoing Controversies - PubMed (nih.gov)	4
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Du Toit, G., Roberts, G., Sayre, P. H., Bahnson, H. T., Radulovic, S., Santos, A. F., ... & Lack, G. Randomized trial of peanut consumption in infants at risk for peanut allergy. New England Journal of Medicine 2015;372(9):803-813. https://www.nejm.org/doi/full/10.1056/nejmoa1414850	A
Huh SY, Rifas-Shiman SL, Taveras EM, Oken E, Gillman MW. Timing of Solid Food Introduction and Risk of Obesity in Preschool-Aged Children. Pediatrics. 2011;127;e544. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3065143/	B

Perkin, M. R., Logan, K., Tseng, A., Raji, B., Ayis, S., Peacock, J., ... & Flohr, C. Randomized Trial of Introduction of Allergenic Foods in Breast-Fed Infants. New England Journal of Medicine 2016; 374:1733- 1743. https://www.nejm.org/doi/full/10.1056/nejmoa1514210	B

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New 2024: Greer FR, Sicherer SH, Burks AW; COMMITTEE ON NUTRITION; SECTION ON ALLERGY AND IMMUNOLOGY. The Effects of Early Nutritional Interventions on the Development of Atopic Disease in Infants and Children: The Role of Maternal Dietary Restriction, Breastfeeding, Hydrolyzed Formulas, and Timing of Introduction of Allergenic Complementary Foods. Pediatrics. 2019 Apr;143(4):e20190281. doi: 10.1542/peds.2019-0281. Epub 2019 Mar 18. PMID: 30886111. The Effects of Early Nutritional Interventions on the Development of Atopic Disease in Infants and Children: The Role of Maternal Dietary Restriction, Breastfeeding, Hydrolyzed Formulas, and Timing of Introduction of Allergenic Complementary Foods - PubMed (nih.gov)
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Palmer, Debra J., Sullivan, Thomas R., Gold, Michael S., Prescott, Susan L., Makrides, Maria., Randomized controlled trial of early regular egg intake to prevent egg allergy. Journal of Allergy & Clinical Immunology. 2017. 139(5) 1600-1607 e 2. Retrieved From: https://www.sciencedirect.com/science/article/pii/S009167491630793X
Wei-Liang Tan, J., Valerio, C. Barnes, E. H., Turner, P. J. Van Asperen, P. A., Kakakios, A. M. Campbell, D. E., Beating Egg Allergy Trial Study Group, A randomized trial of egg introduction from 4 months of age in infants at risk for egg allergy, J Allergy Clin Immunol. 2017. 139(5): 11621-1628e*=8 https://pubmed.ncbi.nlm.nih.gov/27742394/

3.6 NUTRITION CONCERNS

3.6.1. NUTRITION INTERVENTIONS FOR COLIC

Nutrition Intervention for Colic Resources
1. Dietary interventions for colic (CPS)- https://pmc.ncbi.nlm.nih.gov/articles/PMC3043028/

References
Chau, K., Lau, E., Greenberg, S., Jacobson, S., Yazdani-Brojeni, P., Verma, N., & Koren, G. Probiotics for infantile colic: A randomized, double-blind, placebo-controlled trial investigating Lactobacillus reuteri DSM 17938.The Journal of Pediatrics 2015;166(1):74-78. https://pubmed.ncbi.nlm.nih.gov/25444531/
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Iacovou M, Ralston RA, Muir J, Walter KZ, Truby Z. Dietary management of infantile colic: a systematic review. Matern Child Health J. 2012;16:1319– 1331. http://www.ncbi.nlm.nih.gov/pubmed/21710185

3.6.2 PROBIOTICS

No Recommendations

References	Grade
Johnston BC, Goldenberg JZ, Vandvik PO, Sun X, Guyatt GH. Probiotics for the prevention of pediatric antibiotic-associated diarrhea. Cochrane Database of Systematic Reviews. 2011;(11). https://pubmed.ncbi.nlm.nih.gov/22071814/	1A
Canadian Paediatric Society. Using probiotics in the paediatric population. Paediatrics & Child Health. 2012;17(10):575. https://cps.ca/en/documents/position/probiotics-in-paediatric-populations	2B
Hempel S, Newberry SJ, Maher AR, et al. Probiotics for the prevention and treatment of antibiotic- associated diarrhea. A systematic review and meta-analysis. JAMA. 2012;307(18):1959-1969. https://pubmed.ncbi.nlm.nih.gov/22570464/	A

3.6.3 REDUCING BOTTLE USE IN TODDLERS

Reducing Bottle Use in Toddlers Recommendations	**Strength of Recommendation**
1. Counsel on weaning of bottle use at 9 month-visit.	Consensus

2. Promote open cup instead of bottle at the 12-13 and 15 month visits.	Consensus

Health Canada, Canadian Paediatric Society, Dieticians of Canada, Breastfeeding Committee for Canada. **Nutrition for Healthy Term infants – recommendations from 6-24 months.** 2014. Nutrition for Healthy Term Infants: Recommendations from Six to 24 Months - Canada.ca (accessed Sept. 8, 2024)

Additional References
Maguire JL, Birken CS, Jacobson S, Peer M, Taylor C, Khambalia A, Mekky M, Thorpe KE, Parkin P. Office-Based Intervention to Reduce Bottle Use Among Toddlers: TARGet Kids! Pragmatic, Randomized Trial. Pediatrics. 2010; 126:e343-e350. http://www.ncbi.nlm.nih.gov/pubmed/20624802

3.6.4 AVOID JUICES/SWEETENED LIQUIDS/FOODS WITH HIGH CONTENT OF SUGAR, SODIUM, OR UNHEALTHY FATS

Avoid Juices/ Sweetened Liquids/Foods with high content of sugar, sodium, or unhealthy fats Recommendation	**Strength of Recommendation**
1. **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.	Good
2. Limit the consumption of prepared food and beverage products that are high in sugar content	Good
3. Limit/avoid consuming highly processed foods and foods that are high in dietary sodium.	Consensus
4. Choose foods with healthy fats and limit foods containing saturated fat.	

Reference	Grade
Danyliw AD1, Vatanparast H, Nikpartow N, Whiting SJ. Beverage patterns among Canadian children and relationship to overweight and obesity. Appl Physiol Nutr Metab. 2012 Oct;37(5):900-6. https://pubmed.ncbi.nlm.nih.gov/22694268/	C

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Manjula Gowrishankar, Becky Blair, Michael J. Rieder, Canadian Paediatric Society, Nutrition and Gastroenterology Committee, Drug Therapy and Hazardous Substances Committee. Dietary intake of sodium by children: Why it matters. Paediatr Child Health 2020 25(1):47–53. https://www.cps.ca/en/documents/position/dietary-intake-of-sodium-by-children

New 2024: Pound CM, Blair B; Canadian Paediatric Society, Nutrition and Gastroenterology Committee, Ottawa, Ontario. Energy and sports drinks in children and adolescents. Paediatr Child Health. 2017 Oct;22(7):406-410. PMID: 29491725; PMCID: PMC5823002 https://pubmed.ncbi.nlm.nih.gov/29491725/
New 2024: Unlockfoods.ca statement about juice. https://www.unlockfood.ca/en/Articles/Child-Toddler-Nutrition/The-Juicy-Story-on-Drinks.aspx
New 2024 Canada's Food Guide. Choose Foods with Healthy Fats. https://food-guide.canada.ca/en/healthy-eating-recommendations/make-it-a-habit-to-eat-vegetables-fruit-whole-grains-and-protein-foods/choosing-foods-with-healthy-fats/

3.6.5 VEGETARIAN/VEGAN DIETS: See also 3.4.3 for Plant-based Beverages

Vegetarian/Vegan Diets Recommendations	Strength of Recommendation
1. Children < 2 yrs fed a vegan diet may be at risk for nutritional deficiencies.	Consensus

Reference	Grade
O'Connor TM1, Yang SJ, Nicklas TA. Beverage intake among preschool children and its effect on weight status. Pediatrics. 2006 Oct;118(4):e1010-8. https://pubmed.ncbi.nlm.nih.gov/17015497/	C

Additional Reference
Community Paediatrics Committee, Canadian Pediatric Society. Vegetarian diets in children and adolescents. Paediatrics & Child Health. 2010; 15(3), 303-14. Reaffirmed Feb 2018 https://pubmed.ncbi.nlm.nih.gov/21532796/; Vegetarian diets in children and adolescents - PMC (nih.gov)

Vegetarian Diet Resources
Vegetarian diets in children and adolescents (CPS) https://caringforkids.cps.ca/handouts/healthy-living/vegetarian_diets_for_children_and_teens
Healthy Eating Guidelines for your Vegetarian, Baby: 6 – 12 mos. https://www.healthlinkbc.ca/healthy-eating-physical-activity/age-and-stage/infants-children-and-youth/healthy-eating-guidelines https://www.healthlinkbc.ca/healthy-eating-physical-activity/age-and-stage/infants-children-and-youth/healthy-eating-0
Healthy Eating Guidelines for your Vegetarian, Toddlers 1-3 yrs https://www.healthlinkbc.ca/healthy-eating-physical-activity/age-and-stage/infants-children-and-youth/healthy-eating-guidelines

New 2024 Healthlink BC Series – Feeding Babies/Toddlers: Vegetarian. https://www.healthlinkbc.ca/healthlinkbc-files/vegetarian-feeding-guidelines-babies-and-toddlers
New 2024 Healthlink BC Series – Feeding Babies/Toddlers: Vegan. https://www.healthlinkbc.ca/healthlinkbc-files/vegan-feeding-guidelines-babies-and-toddlers

References
Community Paediatrics Committee, Canadian Pediatric Society. Vegetarian diets in children and adolescents. Paediatrics & Child Health. 2010; 15(3), 303-14. Reaffirmed Feb 2018 Vegetarian diets in children and adolescents - PMC (nih.gov)

3.6.6 FISH CONSUMPTION

Fish Consumption Recommendations	**Strength of Recommendation**
1. Fish consumption: 2 servings/week of low mercury fish	Consensus

Fish Consumption Resources
1. Fish consumption and mercury (HC)

References	Grade
Wine O, Osornio-Vargas AR, Buka IS. Fish consumption by children in Canada: Review of evidence, challenges and future goals. Paediatr Child Health. 2012;17(5):241-245. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3381914/	2C
Magnusson, J., Kull, I., Rosenlund, H., Håkansson, N., Wolk, A., Melén, E., ... & Bergström, A. Fish consumption in infancy and development of allergic disease up to age 12 y. The American Journal of Clinical Nutrition 2013;97(6):1324- 1330.. https://pubmed.ncbi.nlm.nih.gov/23576046/	B

Additional references
Health Canada's revised assessment of mercury in fish enhances protection while reflecting advice in Canada's Food Guide https://recalls-rappels.canada.ca/en/alert-recall/archived-health-canada-s-revised-assessment-mercury-fish-enhances-protection-while
Kris-Etherton PM, Innis S, American Dietetic Association, Dietitians of Canada. Position of the American Dietetic Association and Dietitians of Canada - dietary fatty acids. J Am Diet Assoc. 2007 Sep;107(9):1599-611. http://www.ncbi.nlm.nih.gov/pubmed/17936958
Mercury available from: https://www.canada.ca/en/health-canada/services/food-nutrition/food-safety/chemical-contaminants/environmental-contaminants/mercury.html

4.0 EDUCATION AND ADVICE

4.1 INJURY PREVENTION

4.1.1 Injury Prevention General

Injury Prevention General Recommendations	Strength of Recommendation
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, suffocation, drowning, fire, poisoning, and falls. Unexplained injuries (e.g. fractures, burns), sentinel injuries or injuries that do not fit the rationale provided or developmental stage raise concern for child maltreatment.	Consensus

4.1.2 Injury Prevention General Resources and References

Injury Prevention Resources
New 2024 Keep your young children safe (CPS Caring for Kids): https://caringforkids.cps.ca/handouts/safety-and-injury-prevention/keep_your_young_child_safe Injury deaths in Canada (PHAC): https://www.canada.ca/en/public-health/services/reports-publications/health-promotion-chronic-disease-prevention-canada-research-policy-practice/vol-39-no-6-7-2019/2015-injury-deaths.html

References	Grade
New 2024 DeGeorge K, Neltner C, Neltner B. Prevention of unintentional childhood injury. Am Fam Physician. 2020 Oct 1; 102(7): 411-417. https://pubmed.ncbi.nlm.nih.gov/32996759/	
Morrongiello BA, Zdzieborski D, Sandomierski M, Munroe K. Results of a randomized controlled trial assessing the efficacy of the Supervising for Home Safety program: Impact on mothers' supervision practices. Accid Anal Prev. 2013 Jan;50:587-95. https://pubmed.ncbi.nlm.nih.gov/22771287/	1A
Bond GR, Woodward RW, Ho M. The growing impact of pediatric pharmaceutical poisoning. J Pediatr. 2012 Feb;160(2):265-270.e1. https://pubmed.ncbi.nlm.nih.gov/21920539/	1B
Kendrick D, Young B, Mason-Jones AJ, Ilyas N, Achana FA, Cooper NJ, Hubbard SJ, Sutton AJ, Smith S, Wynn P, Mulvaney C, Watson MC, Coupland C. Home safety education and provision of safety equipment for injury prevention. Cochrane Database of Systematic Reviews. 2012; 9. https://pure.york.ac.uk/portal/en/publications/home-safety-education-and-provision-of-safety-equipment-for-injur	1B
Yanchar, Natalie L, Lynne J Warda, Pamela Fuselli; Canadian Paediatric Society, Injury Prevention. Child and youth injury prevention: A public health approach. Paediatr Child Health. 2012. 17(9): 511. Child and youth injury prevention: A public health approach - PMC (nih.gov)	1C
P Fuselli; NL Yanchar; Canadian Paediatric Society, Injury Prevention. Preventing playground injuries. Paediatr Child Health. 2012;17(6):328. https://pubmed.ncbi.nlm.nih.gov/23730171/	1C
Banerji; Anna. Canadian Paediatric Society, First Nations, Inuit and Métis Health Committee. Preventing unintentional injuries in Indigenous children and youth in Canada. Paediatr Child Health. 2012;17(7):393. Reaffirmed: Jan 30 2015. https://cps.ca/en/documents/position/unintentional-injuries-indigenous-children-youth	1C
Green, J. L., Wang, G. S. Reynolds, K. M.,Banner, W. Bond, G. R., Kauffman, R. E. Palmer, R. B., Paul, I. M. Dart, R. C. Safety Profile of Cough and Cold Medication Use in Pediatrics. Pediatrics. 2017.139(6) https://www.ncbi.nlm.nih.gov/pubmed/28562262	C
Alfonzo, M. J., Baum, C. R. Magnetic Foreign Body Ingestions. Pediatr Emerg Care. 2016. 32(10); 698-702 https://pubmed.ncbi.nlm.nih.gov/27749667/	C
Theurer, W. M., & Bhavsar, A. K. Prevention of unintentional childhood injury. Am Fam Physician. 2013; 87(7): 502-509. https://pubmed.ncbi.nlm.nih.gov/23547592/	C, A
Batra, E. K., Midgett, J. D., & Moon, R. Y. Hazards Associated with Sitting and Carrying Devices for Children Two Years and Younger. J Pediatr. 2015; 167(1): 183-187.doi:10.1016/j.jpeds.2015.03.044 https://pubmed.ncbi.nlm.nih.gov/25917769/	C

Additional References
Baker R, Kendrick D, Tata LJ, Orton E. Association between maternal depression and anxiety episodes and rates of childhood injuries: a cohort study from England. Injury Prevention 2017;23:396-402. https://pubmed.ncbi.nlm.nih.gov/28232401/
Gardner HG and the Committee on Injury, Violence, and Poison Prevention. Office-based counselling for unintentional injury prevention. Pediatrics. 2007; 119: 202-206. https://pubmed.ncbi.nlm.nih.gov/17200289/
Keim SA, Fletcher EN, TePoel MRW, McKenzie LB. Injuries Associated With Bottles, Pacifiers, and Sippy Cups in the United States, 1991–2010. Pediatrics. 2012;129(6);1104-10 https://pubmed.ncbi.nlm.nih.gov/22585773/
Kendrick, D., Majsak-Newman, G. Benford, P., Coupland, C. Timblin, C., Hayes, M. Goodenough, T., Hawkins, A. Reading, R. Poison prevention practices and medically attended poisoning in young children: multicentre case- control study. Inj Prev. 2017. 23(2); 930-101 https://pubmed.ncbi.nlm.nih.gov/27815418/
Moller, H., Falster, K., Ivers, R., & Jorm, L. Inequalities in unintentional injuries between indigenous and non-indigenous children: a systematic review. Inj Prev. 2015; 21(e1): e144-152. https://pubmed.ncbi.nlm.nih.gov/24871959/
Wynn, P. M., Zou, K., Young, Ben Majsak-Newman, G., Hawkins, A. Kay, B., Mhizha-Murira, J. Kendrick, D. Prevention of childhood poisoning in the home. International journal of injury control and safety promotion. 2016. 23(1); 3-28 https://pubmed.ncbi.nlm.nih.gov/26401890/

4.1.3 MOTORIZED VEHICLE SAFETY

Motorized Vehicle Safety Recommendations	Strength of Recommendation
1. Never leave a child unattended in a vehicle. Those < 13 years should sit in the rear seat, away from all airbags	Good
2. Car seats: Install and follow size recommendations as per specific car seat model, and keep in each stage as long as possible, until the weight and height limit of the seat is reached: Infant/toddlers in a rear-facing car seat; Children who weigh at least 10 kg in a forward-facing seat with a harness; Children who weigh at least 18 kg in a booster seat. Then use properly fitted lap and shoulder belt in the rear seat for children taller than 145 cm (4' 9") and < 13 years. Replace car seat if in a collision.	Good
3. Children and youth younger than 16 years of age should not operate an ATV or a snowmobile, including youth models.	Good

Motorized Vehicle Safety Resources
New 2024 Transport Canada https://tc.canada.ca/en/road-transportation/child-car-seat-safety/choosing-child-car-seat-booster-seat New 2024 Child passenger safety (Parachute) https://parachute.ca/en/injury-topic/car-seats/child-car-safety/ Preventing ATV injuries (CPS) https://cps.ca/en/documents/position/preventing-injury-from-atvs Snowmobile safety (Caring for Kids CPS) : https://caringforkids.cps.ca/handouts/safety-and-injury-prevention/snowmobiles

Evidence with Grade

References	Grade
Durbin DR. Committee on Injury, Violence, and Poison Prevention. Child passenger safety. Pediatrics. 2011;127(4):e1050-66. Reaffirmed November 2014. https://pubmed.ncbi.nlm.nih.gov/21422094/	1C
Denning, G. M., Harland, K. K., & Jennissen, C. A. Age- based risk factors for pediatric ATV-related fatalities. Pediatrics. 2014; 134(6): 1094-1102. https://pubmed.ncbi.nlm.nih.gov/25422012/	B

Additional References
American Academy of Pediatrics. Car Safety Seats: A Guide for Families. 2013. https://www.healthychildren.org/English/safety-prevention/on-the-go/Pages/Car-Safety-Seats-Information-for-Families.aspx?nfstatus=401&amp%3Bnftoken=00000000-0000-0000-0000-000000000000&amp%3Bnfstatusdescription=ERROR%3a%2BNo%2Blocal%2Btoken
Berg MD, Cook L, Corneli HM, Vernon DD, Dean JM. Effect of seating position and restraint use on injuries to children in motor vehicle crashes. Pediatrics. 2000; 105: 831-835. https://pubmed.ncbi.nlm.nih.gov/10742328/
Bull MJ, Engle WA, and the Committee on Injury, Violence and Poison Prevention and the Committee on Fetus and Newborn. American Academy of Pediatrics. Safe transportation of preterm and low birth weight infants at hospital discharge. Pediatrics. 2009; 123: 1424-1429. https://publications.aap.org/pediatrics/article/123/5/1424/71504/Safe-Transportation-of-Preterm-and-Low-Birth?autologincheck=redirected
Henary B, Sherwood CP, Crandall JR, Kent RW, Vaca FE, Arbogast KB, Bull MJ. Car safety seats for children: rear facing for best protection. Injury Prevention. 2007; 13: 398-402. https://pubmed.ncbi.nlm.nih.gov/18056317/
Recommendations for snowmobile safety. Paediatr Child Health. 2004; 9(9): 639-646. Reaffirmed: Jan 30 2013. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2724131/
Rice TM, Anderson CL. The effectiveness of child restraint systems for children aged 3 years or younger during motor vehicle collisions: 1996 to 2005. American Journal of Public Health. 2009; 99: 252-257. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2622795/
Truong, W. H., Hill, B. W., & Cole, P. A. Automobile safety in children: a review of North American evidence and recommendations. J Am Acad Orthop Surg. 2013; 21(60): 323-331. https://pubmed.ncbi.nlm.nih.gov/23728957/
Winston FK, Durbin DR, Kallan MJ, Moll EK. The danger of premature graduation to seat belts for young children. Pediatrics. 2000;105(6):1179-1183. https://pubmed.ncbi.nlm.nih.gov/10835054/
Yanchar NL, CPS Injury Prevention Committee. Preventing injuries from all-terrain vehicles. August 2012. https://cps.ca/documents/position/preventing-injury-from-atvs

4.1.4 BICYCLE HELMETS

Bicycle Helmet Recommendations	**Strength of Recommendation**
1. Wear **bike helmets**	Good
2. Advocate for helmet legislation for all ages	Consensus

3. Replace helmet if it has sustained impact or is >5 years old	Consensus

Bicycle Helmet Resources
New 2024 Bicycle helmet legislation (CPS) https://caringforkids.cps.ca/handouts/safety-and-injury-prevention/bike_helmets_for_children_and_youth
New 2024 Cycling (Parachute) https://parachute.ca/en/injury-topic/cycling/

References	**Grade**
Russell, K., Foisy, M., Parkin, P. and Macpherson, A. The promotion of bicycle helmet use in children and youth: an overview of reviews. Evid.- Based Child Health. 2011;6: 1780–1789. https://onlinelibrary.wiley.com/doi/abs/10.1002/ebch.901	1B
Lindsay, H., & Brussoni, M. Injuries and helmet use related to non-motorized wheeled activities among pediatric patients. Chronic Dis Inj Can. 2014; 34(2-3): 74-81. https://pubmed.ncbi.nlm.nih.gov/24991770/	C

Additional References
American Academy of Pediatrics, Committee on Injury and Poison Prevention. Bicycle helmets. Pediatrics. 2001;108(4): 1030-1032. Reaffirmed February 2012. https://pubmed.ncbi.nlm.nih.gov/11581464/
Brent E Hagel, Natalie L Yanchar; Canadian Paediatric Society, Injury Prevention Committee. Bicycle helmet use in Canada: The need for legislation to reduce the risk of head injury. Paediatr Child Health 2013;18(9):475-80. https://www.semanticscholar.org/paper/Bicycle-helmet-use-in-Canada%3A-The-need-for-to-the-Hagel-Yanchar/13bcbca77c022ef6b779c637722c2a61466fa468
Thompson DC, Rivara FP, Thompson RS. Helmets for preventing head and facial injuries in bicyclists. Cochrane Database Syst Rev. 2000;(2):CD001855. https://pubmed.ncbi.nlm.nih.gov/10796827/
Wesson DE, Stephens D, Lam K, Parsons D, Spence L, Parkin PC. Trends in Pediatric and Adult Bicycling Deaths Before and After Passage of a Bicycle Helmet Law. Pediatrics. 2008;122(3):605-610. https://pubmed.ncbi.nlm.nih.gov/18762532/

4.1.5. BATH AND WATER SAFETY

Bath and Water safety Recommendations	**Strength of the recommendation**
Bath safety: Keep hot water temperature <49°C to prevent burns	Fair
Bath safety: Never leave a young child unsupervised in the bath.	Fair
Water safety: Recommend adult supervision, training for adults, 4-sided pool fencing with self- closing and -latching gates, lifejackets, swimming lessons, and boating safety to decrease the risk of drowning.	Fair

Bath and water safety resources
Prevention of drowning (AAP) https://publications.aap.org/pediatrics/article/148/2/e2021052227/179784/Prevention-of-Drowning

New 2024 Drowning (Parachute): https://parachute.ca/en/injury-topic/drowning/

References	Grade
Mao SJ, McKenzie LB, Xiang H, Smith GA. Injuries associated with bathtubs and showers among children in the United States. Pediatrics. 2009 Aug;124(2):541-7. https://pubmed.ncbi.nlm.nih.gov/19596735/	1C
Peden, A.E., Franklin, R.C., Pearn, J.H. Unintentional fatal child drowning in the bath: A 12-year Australian review (2002–2014). Journal of Paediatrics and Child Health. 2018. 54:153-159 https://pubmed.ncbi.nlm.nih.gov/29417672/	C
Kemp, A. M., Jones, S., Lawson, Z., & Maguire, S. A. Patterns of burns and scalds in children. Arch Dis Child. 2014; 99(4): 316-321. doi:10.1136/archdischild- 2013-304991. https://pubmed.ncbi.nlm.nih.gov/24492796/	C

References
Brenner RA, Gitanjali ST, Haynie DL, Trumble AC, Qian C, Klinger RM, Klebanoff MA. Association between swimming lessons and drowning in childhood. A case-control study. Arch Pediatr Adolesc Med 2009;163(3):203-210. https://pubmed.ncbi.nlm.nih.gov/19255386/
Byard RW, Donald T. Infant bath seats, drowning and near-drowning. J Paediatr. Child Health. 2004; 40:305-307. https://onlinelibrary.wiley.com/doi/abs/10.1111/j.1440-1754.2004.00375.x
Denny SA, Quan L, Gilchrist J, McCallin T, Shenoi R, Yusuf S, Hoffman B, Weiss B and COUNCIL ON INJURY, VIOLENCE, AND POISONPREVENTION. Prevention of Drowning. Pediatrics May 2019, 143 (5) e20190850. https://pubmed.ncbi.nlm.nih.gov/30877146/
Thompson DC, Rivara FP. Pool fencing for preventing drowning in children. Cochrane Database Systematic Review. 2000;2:CD0001047. https://pubmed.ncbi.nlm.nih.gov/10796742/
Wallis BA, Watt K, Franklin RC, Taylor M, Nixon JW, Kimble RM. Interventions associated with drowning prevention in children and adolescents: systematic literature review. Inj Prev. 2015;21(3):195-204 https://pubmed.ncbi.nlm.nih.gov/25189166/

4.1.6 CHOKING

Choking Recommendations	Strength of Recommendation
Avoid hard, small, smooth and gummy foods under 4 years of age. Conforming items like latex balloons can cause choking. Encourage child to remain seated while eating and drinking. Use safe toys that are age appropriate and remove loose/broken parts. Encourage caregivers to learn choking first aid.	Consensus

References
Cyr, C., & Canadian Paediatric Society, I. P. C. Preventing choking and suffocation in children. Paediatr Child Health. 2012; 17(2): 91-94. https://pubmed.ncbi.nlm.nih.gov/23372401/

Soudek, Lucy McLaughlin, Robyn. Fad over fatality? The hazards of amber teething necklaces. Paediatrics & Child Health. 2017; 23(2): 106-110. https://pubmed.ncbi.nlm.nih.gov/29686494/

4.1.7 Counsel on Pacifier Use – see also 3.2.3 Breastfeeding and Pacifiers and 4.1.1 Injury prevention general

Counsel on Pacifier Use Recommendation	Strength of Recommendation
1. Pacifiers may decrease the 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.	Fair
2. Counsel on safe and appropriate use.	Consensus

References	Grade
Moon, R. Y., K. O. Tanabe, et al. Pacifier use and SIDS: Evidence for a consistently reduced risk. Maternal and Child Health Journal. 2012; 16(3): 609-614. https://pubmed.ncbi.nlm.nih.gov/21505778/	1B
Jaafar SH, Ho JJ, Jahanfar S, Angolkar M. Effect of restricted pacifier use in breastfeeding term infants for increasing duration of breastfeeding. Cochrane Database of Systematic Reviews. 2016; (8): CD007202. DOI: 10.1002/14651858.CD007202.pub4. https://pubmed.ncbi.nlm.nih.gov/27572944/	2B

Additional References
New 2024. Pacifiers (Health Canada): https://www.canada.ca/en/health-canada/services/infant-care/bottles-pacifiers-teething-necklaces.html#a2
Canadian Pediatric Society. Recommendations for the use of pacifiers. Paediatric & Child Health 2003; 8: 515-519. Reaffirmed: Feb 28 2018https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2791559/
Cyr. C. Preventing choking and suffocation in children. Pediatrics and Child Health. 2012. 17(2) https://pubmed.ncbi.nlm.nih.gov/23372401/
Hauck FR, Omojokun OO, Siadaty MS. Do pacifiers reduce the risk of sudden infant death syndrome? A meta-analysis. Pediatrics. 2005; 116: e716 https://pubmed.ncbi.nlm.nih.gov/16216900/
Horne, R. S., Hauck, F. R., Moon, R. Y., L'Hoir M, P., Blair, P. S., Physiology, . . . Infant, D. Dummy (pacifier) use and sudden infant death syndrome: potential advantages and disadvantages. J Paediatr Child Health. 2014; 50(3):170-174. doi:10.1111/jpc.12402. https://pubmed.ncbi.nlm.nih.gov/24674245/
M Ponti; Canadian Paediatric Society, Community Paediatrics Committee. Recommendations for the use of pacifiers. Paediatr Child Health 2003;8(8):515-9. Reaffirmed: Feb 28, 2018. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2791559/
National Institute for Health and Care Excellence. Postnatal Care up to 8 weeks after birth. NICE Guideline. 2006.https://www.nice.org.uk/guidance/cg37
Rovers MM, Numans ME, Langenbach E, Grobbee DE, Verheij TJM and Schilder AGM. Is pacifier use a risk factor for acute otitis media? A dynamic cohort study. Family Practice. 2008; 25: 233–236. https://pubmed.ncbi.nlm.nih.gov/18562333/

Task Force on Sudden Infant Death Syndrome. SIDS and Other Sleep-Related Infant Deaths: Updated 2016 Recommendations for a Safe Infant Sleeping Environment. Pediatrics. 2016. 138 (5) https://pubmed.ncbi.nlm.nih.gov/27940805/

4.1.8. SMOKE DETECTORS/BURN INJURIES

Smoke Detector/Burn Injuries Recommendation	Strength of Recommendation
1. Install smoke detectors in the home on every level	Fair
2. Keep hot water at a temperature <49°C	Fair
3. Be vigilant with hot liquids on counter tops	Fair

Burns resources
New 2024 Burns and Scalds (Parachute): https://parachute.ca/en/injury-topic/burns-and-scalds/

References	Grade
DiGuiseppi C, Higgins JP. Interventions for promoting smoke alarm ownership and function. Cochrane Database Syst Rev. 2001;(2):CD002246.https://pubmed.ncbi.nlm.nih.gov/11406039/	1B
Deave, T., Goodenough, T., Stewart, J., Towner, E., Majsak-Newman, G., Hawkins, A., Kendrick, D. Contemporary hazards in the home: keeping children safe from thermal injuries. Arch Dis Child. 2013; 98(7): 485-489. https://pubmed.ncbi.nlm.nih.gov/23592729/	C
Kemp, A. M., Jones, S., Lawson, Z., & Maguire, S. A. Patterns of burns and scalds in children. Arch Dis Child. 2014; 99(4): 316-321. https://pubmed.ncbi.nlm.nih.gov/24492796/	C

Additional References
American Academy of Pediatrics. Committee on Injury and Poison Prevention. Reducing the number of deaths and injuries from residential fires. Pediatrics. 2000; 105:1355-1357. https://publications.aap.org/pediatrics/article-abstract/105/6/1355/65529/Reducing-the-Number-of-Deaths-and-Injuries-From?redirectedFrom=fulltext
DiGuiseppi C, Roberts I, Li L. Smoke alarm ownership and house fire death rates in children. J Epidemiol Community Health. 1998; 52: 760-761. https://pubmed.ncbi.nlm.nih.gov/10396511/
LeBlanc JC, Pless IB, King WJ, Bawden H, Bernard- Bonnin AC, Klassen T, Tenenbein M. Home safety measures and the risk of unintentional injury among young children: a multicentre case-control study. CMAJ. 2006; 175(8):883-887. https://pubmed.ncbi.nlm.nih.gov/16998079/

4.1.9 POISONING/INGESTIONS: POISON CONTROL CENTRES 1-844-POISON-X (1-844-764-7669)

Poisoning/Ingestions: PPC# (Poison Control Centre number) 1-844-POISON-X (1-844-764-7669)	Strength of Recommendation
1. Keep medicines, cannabis edibles, cleaners, and other toxic substances locked up and out of child's reach	Good
2. Ensure safe storage and disposal of button batteries	Good
3. Use of ipecac is contraindicated in children	Good
4. Install Carbon Monoxide detectors	Fair

Poisoning/Ingestions Resources
New 2024 Button batteries (CPS Policy Brief Sept 2022). https://cps.ca/uploads/advocacy/Button_Battery_Brief_Final.pdf
New 2024 Cannabis and Canada's children and youth (CPS Position Statement). https://cps.ca/en/documents/position/cannabis-children-and-youth
New 2024 Poison Centres 1-844-POISON-X (1-844-764-7669. https://infopoison.ca
New 2024 Poison prevention Collection (Parachute): https://parachute.ca/en/professional-resource/poison-prevention-collection/

References	Grade
Ferguson RW, Mickalide AD. An In-Depth Look at Keeping Young Children Safe Around Medicine. Washington, DC: Safe Kids Worldwide, March 2013. https://www.safekids.org/node/719	1C
Burghardt, L. C., Ayers, J. W., Brownstein, J. S., Bronstein, A. C., Ewald, M. B., & Bourgeois, F. T. Adult prescription drug use and pediatric medication exposures and poisonings. Pediatrics. 2013; 132(1):18- 27. https://pubmed.ncbi.nlm.nih.gov/23733792/	C
Lovegrove, M. C., Weidle, N. J., & Budnitz, D. S. Trends in Emergency Department Visits for Unsupervised Pediatric Medication Exposures, 2004-2013. Pediatrics. 2015; 136(4): e821-829. https://publications.aap.org/pediatrics/article-abstract/136/4/e821/73883/Trends-in-Emergency-Department-Visits-for?redirectedFrom=PDF	C
Valdez, A. L., Casavant, M. J., Spiller, H. A., Chounthirath, T., Xiang, H., & Smith, G. A. Pediatric exposure to laundry detergent pods. Pediatrics. 2014; 134(6): 1127-1135. https://publications.aap.org/pediatrics/article-abstract/134/6/1127/33220/Pediatric-Exposure-to-Laundry-Detergent-Pods?redirectedFrom=PDF	C

Additional Reference
McGregor T, Parkar M, Rao S. Evaluation and management of common childhood poisonings. American Family Physician 2009; 79: 397-403. https://pubmed.ncbi.nlm.nih.gov/19275069/

4.1.10 FALLS

Falls (Stairs, Walkers, Furniture, Change Table and Trampoline Use) Recommendations	Strength of Recommendation
1. Assess home for hazards - never leave baby alone on change table or other high surface; use window guards and stair gates.	Fair
2. Baby walkers are banned in Canada and should never be used.	Fair
3.Advise against trampoline use at home.	Fair
4.Ensure stability of furniture and TV.	Fair

Falls (Stairs, Walkers, Furniture, Change Table and Trampoline Use) Resources
Trampoline Safety (AAP) https://publications.aap.org/pediatrics/article/130/4/774/30158/Trampoline-Safety-in-Childhood-and-Adolescence (Accessed March 18, 2024)
New 2024 Falls in children (Parachute): https://parachute.ca/en/injury-topic/fall-prevention-for-children/ New 2024 Playgounrds and play spaces (Parachute): https://parachute.ca/en/injury-topic/playgrounds-and-play-spaces/

References	Grade
McFaull SR, Frechette M, Skinner R. Emergency department surveillance of injuries associated with bunk beds: the Canadian Hospitals Injury Reporting and Prevention Program (CHIRPP), 1990–2009. Chronic Diseases and Injuries in Canada. 2012;33(1). https://www.canada.ca/en/public-health/services/reports-publications/health-promotion-chronic-disease-prevention-canada-research-policy-practice/vol-33-no-1-2012/emergency-department-surveillance-injuries-associated-with-bunk-beds-canadian-hospitals-injury-reporting-prevention-program-chirpp-1990-2009.html	1B
Council On Sports Medicine And Fitness. Trampoline Safety in Childhood and Adolescence. Pediatrics. 2012. https://publications.aap.org/pediatrics/article/130/4/774/30158/Trampoline-Safety-in-Childhood-and-Adolescence	1C
Zielinski AE. Rochette LM. Smith GA. Stair-related injuries to young children treated in US emergency departments, 1999-2008. Pediatrics. 2012;129(4):721-7. https://pubmed.ncbi.nlm.nih.gov/22412031/	1C
Pomerantz WJ, Gittelman MA, Hornung R, Husseinzadeh H. Falls in children birth to 5 years: Different mechanisms lead to different injuries. J Trauma Acute Care Surg. 2012 Oct;73(4 Suppl 3):S254-7. https://pubmed.ncbi.nlm.nih.gov/23026963/	1C
Harris VA, Rochette LM, Smith GA. Pediatric Injuries Attributable to Falls From Windows in the United States in 1990–2008. Pediatrics. 2011 Sep;128(3):455-62.https://pubmed.ncbi.nlm.nih.gov/21859909/	1C
Kendrick D, Watson MC, Mulvaney CA, Smith SJ, Sutton AJ, Coupland CA, Mason-Jones AJ. Preventing childhood falls at home: meta-analysis and meta- regression. Am J Prev Med. 2008 Oct;35(4):370-379. https://pubmed.ncbi.nlm.nih.gov/18779031/	1C
Kendrick, D., Maula, A., Reading, R., Hindmarch, P., Coupland, C., Watson, M., … Deave, T. Risk and protective factors for falls from furniture in young children: multicenter case- control study. JAMA Pediatr. 2015; 169(2): 145- 153. https://jamanetwork.com/journals/jamapediatrics/fullarticle/1939058	C

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Chaudhary, S. Figueroa, J. Shaikh, S. Mays, E. W. Bayakly, R. Javed, M. Smith, M. L. Moran, T. P. Rupp, J. Nieb, S., Pediatric falls ages 0-4: understanding demographics, mechanisms, and injury severities. Inj Epidemiol. 2018 5(Supp 1). https://pubmed.ncbi.nlm.nih.gov/29637431/	C

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Canadian Pediatric Society and the Canadian Academy of Sport Medicine. Trampoline use in homes and playgrounds. Paediatric & Child Health. 2007;12(6):501-505. Reaffirmed: Jan 30 2013. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2528753/
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Sims, A., Chounthirath, T. Yang, J., Hodges, N. L. Smith, G. A. Infant Walker-Related Injuries in the United States. Pediatrics. 2018. 142(4). https://pubmed.ncbi.nlm.nih.gov/30224365/

4.1.11 SAFE SLEEPING ENVIRONMENT – See also 4.1.13 CRIB SAFETY for additional resources and references

Safe Sleep Environment (Sleep Position/Bed Sharing/Room Sharing) Recommendations	**Strength of Recommendation**
• Sleep position, bed sharing, and SIDS: Healthy infants should be positioned on their backs on a firm non-inclined sleep surface for every sleep, in a crib, cradle or bassinet that meets Health Canada regulations, is located in parents' room for the first 6 months of life, and is without soft objects, loose bedding, or similar items inside. Counsel parents on the dangers of other contributory risk factors for SIDS such as bed sharing in parents' bed; sleeping on sofa or cushioned chair or in a car seat or swing; overheating, maternal smoking, 2nd hand smoke, alcohol or illicit or sedating drug use.	Good

Safe Sleep Environment (Sleep Position/Bed Sharing/Room Sharing) Resources

New 2024 Moon R, Carlin R, Hand I, et al. Evidence Base for 2022 Updated Recommendations for a Safe Infant Sleeping Environment to Reduce the Risk of Sleep-Related Infant Deaths. Pediatrics. 2022;150(1):e2022057991Sleep-Related Infant Deaths: Updated 2022 Recommendations for Reducing Infant Deaths in the Sleep Environment | Pediatrics | American Academy of Pediatrics (aap.org)(accessed September 5, 2024)
New 2024 Moon RY, Carlin RF, Hand I; AAP Task Force on Sudden Infant Death Syndrome; AAP Committee on Fetus and Newborn. Sleep-Related Infant Deaths: Updated 2022 Recommendations for Reducing Infant Deaths in the Sleep Environment. Pediatrics. 2022;150(1):e2022057990. AAP Sleep-Related Infant Deaths: Updated 2022 Recommendations for Reducing Infant Deaths in the Sleep Environment Guideline Summary (guidelinecentral.com)
New 2024 Public Health Agency of Canada, Canadian Paediatric Society, Health Canada, Baby's Breath Canada. Joint Statement on Safe Sleep: Reducing Sudden Infant Deaths in Canada https://www.canada.ca/content/dam/phac-aspc/documents/services/health-promotion/childhood-adolescence/stages-childhood/infancy-birth-two-years/safe-sleep/joint-statement-on-safe-sleep/joint-statement-on-safe-sleep-eng.pdf

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Horsley T, Clifford T, Barrowman N, Bennett S, Yazdi F, Sampson M, Moher D, Dingwall O, Schachter H, Côté A. Benefits and harms associated with the practice of bed sharing: a systematic review. Arch Pediatr Adolesc Med. 2007 Mar;161(3):237-45. https://pubmed.ncbi.nlm.nih.gov/17339504/	2C
New 2024 Pease A, Garstang JJ, Ellis C, et al. Decision-making for the infant sleep environment among families with children considered to be at risk of sudden unexpected death in infancy: a systematic review and qualitative metasynthesis. BMJ Paediatrics Open 2021;5:e000983. doi:10.1136/ bmjpo-2020-000983. Decision-making for the infant sleep environment among families with children considered to be at risk of sudden unexpected death in infancy: a systematic review and qualitative metasynthesis | BMJ Paediatrics Open	3
Colvin, J. D., Collie-Akers, V., Schunn, C., & Moon, R.Y. Sleep environment risks for younger and older infants. Pediatrics. 2014 August; 134(2): e406–e412. https://publications.aap.org/pediatrics/article-abstract/134/2/e406/32965/Sleep-Environment-Risks-for-Younger-and-Older?redirectedFrom=PDF	B
Carpenter, R., McGarvey, C., Mitchell, E. A., Tappin, D. M., Vennemann, M. M., Smuk, M., & Carpenter, J. R. Bed sharing when parents do not smoke: is there a risk of SIDS? An individual level analysis of five major case-control studies. BMJ Open, 2013; 3(5). https://bmjopen.bmj.com/content/bmjopen/3/5/e002299.full.pdf	B
Shapiro-Mendoza, C. K., Colson, E. R., Willinger, M., Rybin, D. V., Camperlengo, L., & Corwin, M. J. Trends in infant bedding use: National Infant Sleep Position study, 1993-2010. Pediatrics, 2015; 135(1): 10-17. doi:10.1542/peds.2014-1793. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4279068/	B
Lagon, E., Moon, R.Y., Colvin, J.D., Characteristics of Infant Deaths during Sleep While Under Nonparental Supervision. The Journal of Pediatrics. 2018. 197. https://pubmed.ncbi.nlm.nih.gov/29622341/	C
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AAP TASK FORCE ON SUDDEN INFANT DEATH SYNDROME. SIDS and Other Sleep- Related Infant Deaths: Updated 2016 Recommendations for a Safe Infant Sleeping Environment. Pediatrics November 2016, 138 (5) e2016293. https://pubmed.ncbi.nlm.nih.gov/27940804/
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Vennemann MM, Bajanowski T, Brinkmann B, Jorch G, Sauerland C, Mitchell EA and the GeSID Study Group. Sleep environment risk factors for sudden infant death syndrome: The German sudden infant death syndrome study. Pediatrics. 2009; 123: 1162-1170https://pubmed.ncbi.nlm.nih.gov/19336376/

4.1.12 POSITIONAL PLAGIOCEPHALY

Positional Plagiocephaly Recommendation	**Strength of Recommendation**
1. While supine for sleep, the orientation of the infant's head should be varied to prevent positional plagiocephaly. Sleep positioners should not be used.	Consensus
2. After umbilical cord stump has detached, infants should have supervised tummy time while awake.	Good

Positional Plagiocephaly Resources
Positional Plagiocephaly https://academic.oup.com/pch/article-abstract/16/8/493/2639504?redirectedFrom=fulltext New 2024 Preventing flat heads in babies who sleep on their backs. (CPS Caring for Kids): https://caringforkids.cps.ca/handouts/pregnancy-and-babies/preventing_flat_heads

References	**Grade**
Joint statement on safe sleep: preventing sudden infant deaths in Canada. December 2012. https://publications.gc.ca/site/eng/9.899992/publication.html	1C
Mawji, A., Vollman, A. R., Fung, T., Hatfield, J., McNeil, D. A., & Sauve, R. Risk factors for positional plagiocephaly and appropriate time frames for prevention messaging. Paediatr Child Health. 2014; 19(8): 423-427. https://pubmed.ncbi.nlm.nih.gov/25382999/	C

Laughlin J, Luerssen TG, Dias MS; Committee on Practice and Ambulatory Medicine, Section on Neurological Surgery. Prevention and management of positional skull deformities in infants. Pediatrics. 2011 Dec;128(6):1236-41. https://pubmed.ncbi.nlm.nih.gov/22123884/	C

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4.1.13 CRIB SAFETY – Also see 4.1.11 SAFE SLEEPING ENVIRONMENT

Crib Safety Recommendation	**Strength of Recommendation**
	Good

Crib Safety Resources
Health Canada, https://www.canada.ca/en/health-canada/services/safe-sleep/cribs-cradles-bassinets.html (accessed March 18, 2024)

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Cyr. C. Preventing choking and suffocation in children. Pediatrics and Child Health. 2012. 17(2)https://pubmed.ncbi.nlm.nih.gov/23372401/
Health Canada. Crib Safety Tips for Parents and Caregivers. June 2012. No Abstract available.
Moon RY, Kotch L, Aird L. State child care regulations regarding infant sleep environment since the healthy child care America- Back to Sleep campaign. Pediatrics. 2006; 118: 73-83.https://pubmed.ncbi.nlm.nih.gov/16818551/

4.1.14 SWADDLING

Swaddling Recommendation	Strength of Recommendation
1. Proper swaddling of the infant 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. 2.Swaddling is contraindicated once baby shows signs of attempting to roll.	Consensus

Swaddling Resources
Risks and Benefits of Swaddling (AJMCN) https://pubmed.ncbi.nlm.nih.gov/28394766/

References	Grade
Manaseki-Holland S, Spier E, Bavuusuren B, Bayandorj T, Sprachman S, Marshall T. Effects of traditional swaddling on development: a randomized controlled trial. Pediatrics. 2010 Dec;126(6):e1485-92. https://pubmed.ncbi.nlm.nih.gov/21123471/	A
Kelly, B.A., Irigoyen, M.M., Pomerantz, S.C., Mondesir, M., Isaza-Brando, N., Swaddling and Infant Sleeping Practices. Journal of Community Health. 2017. 42(10):10-14. https://pubmed.ncbi.nlm.nih.gov/27393144/	C
McDonnell, E., & Moon, R.Y. (2014). Infant deaths and injuries associated with wearable blankets, swaddle wraps, and swaddling. The Journal of Pediatrics, 164(5), 1152-1156 https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3992172/	C

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Nelson, A.M., Risks and Benefits of Swaddling Healthy Infants: An Integrative Review. The American Journal of Maternal/Child Nursing. 2017. 42(4):216-225. https://pubmed.ncbi.nlm.nih.gov/28394766/
Pease AS, Fleming PJ, Hauck FR, Moon RY, Horne RSC, L'Hoir MP, Posonby A-L, Blair PS. Swaddling and the Risk of Sudden Infant Death Syndrome: A Meta-analysis. Pediatrics 2016; 137 (6): e20153275. https://pubmed.ncbi.nlm.nih.gov/27244847/
Pediatric Orthopedic Society of North America. Swaddling and Developmental Hip Dysplasia Position Statement. 2015 https://posna.org/POSNA/media/Documents/Position%20Statements/SwaddlingPositionStatementApril2015.pdf
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4.1.15 FIREARMS SAFETY/REMOVAL/STORAGE

FIREARMS SAFETY/REMOVAL/STORAGE Recommendation	Strength of Recommendation
Advise on removal of firearms from home or safe storage to decrease risk of unintentional firearm injury, suicide, or homicide.	Good

FIREARMS SAFETY/REMOVAL/STORAGE Resources
New 2024 Gun safety: Information for families (CPS Caring for Kids): https://caringforkids.cps.ca/handouts/safety-and-injury-prevention/gun-safety-information-for-families
Prevention of firearms injuries (CPS) https://cps.ca/en/media/doctors-should-ask-families-whether-they-have-firearms-at-home

References	Grade
Dowd MD. Sege RD. Council on Injury, Violence, and Poison Prevention Executive Committee. American Academy of Pediatrics. Firearm-Related Injuries Affecting the Pediatric Population. Pediatrics. 2012;130(5):e1416-23. https://doi.org/10.1542/peds.2012-2481	1A

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Canadian Paediatric Society. The prevention of firearm injuries in Canadian youth. Posted Feb 16, 2018. The prevention of firearm injuries in Canadian youth - PubMed (nih.gov)
Laraque D, and the Committee on Injury, Violence and Poison Prevention. American Academy of Pediatrics. Injury risk of non-powder guns. Pediatrics. 2004; 114: 1357-1361. Reaffirmed February 2012. https://pubmed.ncbi.nlm.nih.gov/15520121/

4.2 FAMILY FUNCTIONING AND BEHAVIOUR ISSUES

4.2.1 INCLUSIVE AND ANTI-OPPRESSIVE CARE

4.2.1.1 **RACISM**

Racism Recommendation	Strength of Recommendation
Racism is a social determinant of health that has profound lifelong effects on children and families.	

Racism Resources

New 2024 How Racism can affect Child Development. Center on the Developing Child. Harvard University. https://harvardcenter.wpenginepowered.com/wp-content/uploads/2020/11/RacismInfographic_2020.pdf
New 2024 Antiracism resources for child and youth health care providers. Canadian Paediatric Society. https://cps.ca/en/policy-and-advocacy/antiracism-resources-for-child-and-youth-health-care-providers

References
New 2024 Ramsoondar N, Anawati A, Cameron E. Racism as a determinant of health and health care. Canadian Family Physician September 2023; 69 (9) 594-598. https://www.cfp.ca/content/69/9/594
New 2024 Trent M, Dooley D, Douge J et al. The impact of Racism on Child and Adolescent Health. AAP Policy Statement. *Pediatrics* (2019) 144 (2): e20191765. https://publications.aap.org/pediatrics/article/144/2/e20191765/38466/The-Impact-of-Racism-on-Child-and-Adolescent

4.2.1.2 **CULTURAL HUMILILTY AND SAFETY**

Cultural Humility and Safety Recommendations	**Strength of Recommendation**
Practice cultural humility through reflection of personal biases to deliver patient- and family-centred anti-racist and culturally safe care where patients feel respected and safe.	

Cultural Humility and Safety Resources
New 2024 Our Kids' Health: Cultural Chapters. https://kidshealthnetwork.org

4.2.1.3 **INDIGENOUS CHILDREN**

Indigenous Children Resources
1. New 2024 Indigenous Child & Youth Health (CPS). https://cps.ca/en/indigenoushealth **2.** New 2024 COVID-19 and Indigenous children in Canada: What can paediatricians do? (CPS) https://cps.ca/en/blog-blogue/covid-19-indigenous-children-in-canada-what-can-paediatricans-do
References
New 2024 Many Hands, One Dream: Principles for a new perspective for the health of First Nations, Inuit and Metis children and youth. (CPS) https://cps.ca/uploads/blog_uploads/manyhands-principles-ENG-FINAL.pdf

Greenwood ML, de Leeuw SN. Social determinants of health and the future well- being of Aboriginal children in Canada Paediatrics & Child Health. 2012 Aug-Sep; 17(7): 381– 384. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3448539/
Ladha,Tehseen, Zubairi Mohammad, Hunter, Andrea, Audcent, Tobey Johnstone, Julie, Global Child and Youth Health Section Executive, Cross-cultural communication: Tools for working with families and children. Canadian Paediatric Society. Paediatr Child Health 2018;23(1):66–69. https://pubmed.ncbi.nlm.nih.gov/29479280/

4.2.1.4 **IMMIGRANTS/REFUGEES**

Immigrants/Refugee Resources
1. Caring for Kids New To Canada A Guide for health professionals working with immigrant and refugee children and youth. https://kidsnewtocanada.ca **2.** Canadian Collaboration for Immigrant and Refugee Health (CCIRH) Building Leaders for Global Health. https://ccirhken.ca **3.** Cross-cultural communication: Tools for working with families and children. (CPS) https://cps.ca/en/documents/position/cross-cultural-communication

4.2.1.5 **TRAUMA-INFORMED CARE**

Trauma-Informed Care Recommendations	**Strength of Recommendation**
Trauma-informed care is defined as practices that promote a culture of safety, empowerment, and healing.	

References
New 2024 Forkey H, Szilagyi M, Kelly E. AAP Clinical Report. Trauma-Informed Care. *Pediatrics* (2021) 148 (2): e2021052580. https://doi.org/10.1542/peds.2021-052580 https://publications.aap.org/pediatrics/article/148/2/e2021052580/179745/Trauma-Informed-Care
New 2024 Duffee J, Szilagyi M, Forkey H. Trauma-Informed Care in Child Health Systems. *Pediatrics* (2021) 148 (2): e2021052579. https://doi.org/10.1542/peds.2021-052579 https://publications.aap.org/pediatrics/article/148/2/e2021052579/179781/Trauma-Informed-Care-in-Child-Health-Systems

4.2.2 RELATIONSHIPS, PARENTING, FAMILY FUNCTION

4.2.2.1 **EARLY RELATIONAL HEALTH (ERH)/DISCIPLINE/PARENTING EDUCATION AND SKILLS PROGRAMS**

Early Relational Health/Discipline/Parenting Education and Skills Programs Recommendations	Strength of Recommendation
Early relational health (ERH): is the emotional connections between children & trusted adults that promote health and development. It leads to positive experiences, can help mitigate negative effects of trauma & adversity, and builds resilience (ability to recover from stressors and negative experiences). 1. Observe, discuss, model, and praise specific parenting behaviours and healthy routines that promote ERH. 2. Build on each family's relational strengths and protective factors, reinforce healthy routines, use anticipatory guidance to prepare parents for developmentally normal (and possibly challenging) behaviours, and help modify specific behaviours or skills when needed. 3. Use of any physical punishment including spanking should be discouraged in all ages. 4. Family approaches to crying, sleep, and behaviour vary culturally, and navigating points of variance with sensitivity is key to providing culturally safe care. 5. Parents of children at risk of, or showing signs of, behavioral or conduct problems may benefit from structured parenting programs, which have been shown to increase positive parenting and reduce general behavior problems. Access community resources to determine the most appropriate and available research-structured programs. (eg. The Incredible Years®, Triple P®, Strongest Families).	Good Good

Early Relational Health/Discipline/Parenting Education Programs/Parenting Skills Resources
1. New 2024 The Mt Sinai NY Parenting Center: Integrating the science of early childhood development into pediatric healthcare moments. https://parenting.mountsinai.org 2. Evidence-based programs for parents, children and teachers: The Incredible Years® Triple P®, Strongest Families 3. Encyclopedia on Early Childhood Development: EECD Parenting Skills https://www.child-encyclopedia.com/parenting-skills 4. Effective Discipline for Children **5.** Supporting Positive Parenting (CPS)®

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Walton K, Filion J, Gross D, Simpson JR, Hou S & Jess Haines J (2015). Parents and Tots Together: Pilot randomized controlled trial of a family-based obesity prevention intervention in Canada. Canadian Journal of Public Health, 106(8),	1B

E555. https://pubmed.ncbi.nlm.nih.gov/26986919/	
Price, A. M., Wake, M. Ukoumunne, O. C., Hiscock, H. Five-year follow-up of harms and benefits of behavioral infant sleep intervention: randomized trial. Pediatrics. 2012. 130(4); 643-651. https://pubmed.ncbi.nlm.nih.gov/22966034/	A
Comer JS, Chow C, Chan PT, Cooper-Vince C, Wilson LA. Psychosocial treatment efficacy for disruptive behavior problems in very young children: a meta- analytic examination. J Am Acad Child Adolesc Psychiatry. 2013 Jan;52(1):26-36. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4247988/	B
Shelleby EC, Shaw DS, Cheong J, Chang H, Gardner F, Dishion TJ, Wilson MN. Behavioral control in at- risk toddlers: the influence of the family check-up. J Clin Child Adolesc Psychol. 2012 May;41(3):288-301.	B
Landry SH, Smith KE, Swank PR, Zucker T, Crawford AD, Solari EF. The effects of a responsive parenting intervention on parent-child interactions during shared book reading. Dev Psychol. 2012 Jul;48(4):969-86. https://pubmed.ncbi.nlm.nih.gov/22122475/	B

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Fergusson D, Stanley L, Horwood J. Preliminary data on the efficacy of the Incredible Years Basic Parent Programme (IYBPP) in New Zealand. Australian and New Zealand Journal of Psychiatry. 2009; 43:76-79. https://pubmed.ncbi.nlm.nih.gov/19085531/
Furlong, M., McGilloway, S., Bywater, T., Hutchings, J., Smith, S. M., & Donnelly, M. (2013). Cochrane Review: Behavioural and cognitive- behavioural group-based parenting programmes for early-onset conduct problems in children aged 3 to 12 years (Review). Evidence-Based Child Health: A Cochrane Review Journal, 8(2), 318-692. https://pubmed.ncbi.nlm.nih.gov/22336837/
Glascoe, F. P., & Trimm, F. (2014). Brief approaches to developmental-behavioral promotion in primary care: updates on methods and technology. Pediatrics May 2014; 133 (5): 884–897. 10.1542/peds.2013-1859 https://doi.org/10.1542/peds.2013-1859
Jones K, Daley D, Hutchings J, Bywater T, Eames C. Efficacy of the Incredible Years programme as an early intervention for children with conduct problems and ADHD: long- term follow-up. Child: care, health and development. 2008;34(3):380-390. https://pubmed.ncbi.nlm.nih.gov/18410644/
Melhuish E, Belsky J, Leyland AH, Barnes J, and the National Evaluation of Sure Start Research Team. Effects of fully-established Sure Start Local Programmes on 3-year-old children and their families living in England: a quasi- experimental observational study. Lancet. 2008;372 :1641-1647. https://pubmed.ncbi.nlm.nih.gov/18994661/

Minkovitz CS, Hughart N, Strobino D, Scharfstein D, Grason H, Hou W, et al. A practice-based intervention to enhance quality of care in the first 3 years of life: the Healthy Steps for Young Children Program. JAMA 2003;290(23):3081-91. https://pubmed.ncbi.nlm.nih.gov/14679271/
Robin C. Williams, Anne Biscaro; Jean Clinton; Canadian Paediatric Society, Early Years Task Force. Relationships matter: How clinicians can support positive parenting in the early years. Paediatr Child Health 2019 24(5):340–347. https://cps.ca/en/documents/position/positive-parenting
Sanders, M. R., Kirby, J. N., Tellegen, C. L., & Day, J. J. (2014). The Triple P- Positive Parenting Program: A systematic review and meta-analysis of a multi- level system of parenting support. Clinical psychology review, 34(4), 337-357. https://pubmed.ncbi.nlm.nih.gov/24842549/
Shah, R., Kennedy, S., Clark, M. D., Bauer, S. C., & Schwartz, A. (2016). Primary Care–Based Interventions to Promote Positive Parenting Behaviors: A Meta-analysis. Pediatrics, 137(5), e20153393. https://pubmed.ncbi.nlm.nih.gov/27244800/

4.2.2.2 **MENTAL HEALTH**

Mental Health Recommendations	**Strength of Recommendation**
1. Prevention, recognition, and assessment of mental health problems in children. **2.** Parental depression: Clinicians should have a high awareness of parental depression, which is a risk factor for the socio-emotional and cognitive development and safety of children.	Good

Mental Health Resources
1. New 2024 Promoting optimal mental health outcomes in children and youth (CPS Position Statement 2023). Paediatr Child Health 28(7): 417–425. https://cps.ca/en/documents/position/promoting-optimal-mental-health-outcomes-for-children-and-youth **2.** New 2024 Growing Up Great (Ottawa Infant and Early Childhood Mental Health (IECMH) Initiative. https://www.growingupgreat.ca/english/infant-early-childhood-mental-health/ **3.** New 2024 Depression in pregnant women and mothers: How it affects you and your child. (CPS Caring for Kids). https://caringforkids.cps.ca/handouts/mentalhealth/depression_in_pregnant_women_and_mothers

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4.2.2.3 **Adoption/ Foster Care**

High Risk Infants/Children/Parents/Caregivers/Families: Adoption/Foster Care Recommendations	Strength of Recommendation
Children in foster care or newly adopted to Canada may have special needs for health supervision.	Consensus

High Risk Infants/Children/Parents/Caregivers/Families: Adoption/Foster Care Resources
1. New 2024 Health Care for Children in Foster Care (AAP). https://pubmed.ncbi.nlm.nih.gov/26416934/ 2. New 2024 International Adoption: Health evaluation of the international adoptee. (Caring for Kids New to Canada). https://kidsnewtocanada.ca/screening/health-evaluation-international-adoptee

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4.2.2.4 **SOCIAL DETERMINANTS OF HEALTH**

Social Determinants of Health Recommendations	**Strength of Recommendation**
1. Inquiry about the impact of poverty (e.g., housing or food insecurity) and offer resources to families with unmet social needs.	Good

Social Determinants of Health Resources
1. New 2024 Canada Benefits Finder. https://www.canada.ca/en/services/benefits/finder.html 2. CLEAR tool kit. https://www.mcgill.ca/clear/ 3. New 2024 Poverty Tool by Region (CEP). https://cep.health/clinical-products/poverty-a-clinical-tool-for-primary-care-providers/ 4. Social determinants of health (CFPC) 5. Infrastructure to address SDH (PCH) 6. New 2024 Housing need in Canada (CPS)

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4.2.2.5 **PREVENTION OF CHILD MALTREATMENT –** See also 4.2.3.3 Crying/Colic in FAMILY FUNCTIONING AND BEHAVIOUR ISSUE domain and 6.2 Sentinel Injuries in PHYSICAL EXAMINATION domain

Prevention of Child Maltreatment and General Recommendations	**Strength of Recommendation**
1. Unexplained injuries (e.g. fractures, burns), sentinel injuries, or injuries that do not fit the rationale provided or developmental stage raise concern for child maltreatment. 2. Consider more support/resources for: a. Parents with low socio-economic status, younger maternal age, single parent family, history of abuse, mental health and/or substance abuse, unplanned pregnancy; b. Families with inmate partner violence, high conflict relationships, isolation or lacking social connectedness, caregivers who use corporal punishment; c. Children with behavioural problems or mental health conditions, or with special needs. 3. Discuss with parents of preschoolers teaching names of genitalia, appropriate and inappropriate touch, teaching age-appropriate principles of consent and permission, and normal sexual behaviour for age. 4. Exposure to personal violence and other forms of violence has significant impact on physical and emotional well-being of children. 5. 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.	Good Consensus

Prevention of Child Maltreatment General Resources
1. INSPIRE: Seven strategies for Ending Violence Against Children 2. Child maltreatment prevention (USPSTF) 3. Bruising in suspected maltreatment cases (CPS) 4. New 2024 Medical Neglect (CPS) 5. New 2024 Traumatic Head Injury due to Child Maltreatment (CPS/PHAC) 6. New 2024 Risk and Protective Factors for Child Maltreatment (CDC) 7. New 2024 Children with suspected exposure to intimate partner violence (CPS)

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4.2.2.6 **NON-PARENTAL CHILD CARE**

Non Parental Child Care Recommendations	Strength of Recommendation
1. Inquire about current child care arrangements. 2. High quality child care is associated with improved paediatric outcomes in all children. 3. 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.	Fair Consensus Consensus

Non Parental Child Care Resources
1. Health implications of children in child care centres (PCH): Part A and Part B 2. Guide to child-care in Canada (CPS): Well Beings 3. New 2024 Child care: Making the best choice (CPS Caring for Kids) 4. New 2024 A parents' guide to quality child care (Childcare Resource and Research Unit)

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4.2.2.7 **PREVENTION OF CHILD MALTREATMENT OTHER e.g. Opioid use**

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4.2.3 HEALTHY ROUTINES

4.2.3.1 **HEALTHY SLEEP HABITS**

Healthy Sleep Habits Recommendation	Strength of Recommendation
1. Adequate sleep (quality and quantity for age) is associated with better health outcomes. Sleeping behaviour (Encyclopedia on Early Childhood Development)	Consensus
2. Recommended sleep duration per 24 hrs – infants 0-3 months: 14-17 hrs; 4–12 mos: 12-16 hrs; 1–2 yrs: 11-14 hrs; 3–5 yrs: 10-13 hrs. Turn off computer/TV screens 60 minutes before bedtime. No computer/TV screens in bedroom. Recommended amount of sleep (American Academy of Sleep Medicine)	Consensus

Healthy Sleep Habits Resources
1. New 2024 CSEP Canadian 24-hour movement guidelines: An integration of physical activity, sedentary behaviour, and sleep. https://csepguidelines.ca
2. Recommended amount of sleep for pediatric populations: a consensus statement of the American Academy of Sleep Medicine. https://aasm.org/resources/pdf/pediatricsleepdurationconsensus.pdf
3. New 2024 Sleeping behaviour. Encyclopedia on Early Childhood Development. https://www.child-encyclopedia.com/sleeping-behaviour
4. New 2024 Healthy sleep for your baby and child. CPS Caring for Kids. https://caringforkids.cps.ca/handouts/pregnancy-and-babies/healthy_sleep_for_your_baby_and_child%0D

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4.2.3.2 NIGHT WAKING

Night Waking Recommendations	Strength of Recommendation
Night waking: occurs in 20% of infants and toddlers who do not require night feeding. Counseling 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 have been shown to reduce the prevalence of night waking, especially when this counseling begins in the first 3 weeks of life.	Consensus

Night waking Resources
New 2024 Healthy sleep for your baby and child. CPS Caring for Kids. https://caringforkids.cps.ca/handouts/pregnancy-and-babies/healthy_sleep_for_your_baby_and_child%0D

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Garrison MM, Christakis DA. The impact of a healthy media use intervention on sleep in preschool children. Pediatrics. 2012;130(3):1-8. The impact of a healthy media use intervention on sleep in preschool children - PubMed (nih.gov)	1A
Mindell JA, Kuhn B, Lewin DS, Meltzer LJ, Sadeh A; American Academy of Sleep Medicine. Behavioral treatment of bedtime problems and night wakings in infants and young children. Sleep. 2006;29(10):1263-1276. https://pubmed.ncbi.nlm.nih.gov/17068979/	1A

4.2.3.3 **CRYING/COLIC –** See also 4.2.2.5 Prevention of Child Maltreatment in FAMILY FUNCTIONING AND BEHAVIOUR ISSUE domain and 6.2 Sentinel Injuries in PHYSICAL EXAMINATION domain

Crying/Colic Recommendations	Strength of Recommendation
1. Excessive crying may be caused by behavioural or physical factors or be the upper limit of the normal spectrum. 2. Colic: Recurrent and prolonged periods of infant crying, fussing, or irritability onset <5 months old that occur without cause and cannot be prevented or resolved by caregivers. 3. 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.	Consensus

Crying/Colic Resources

1. New 2024 Colic and Crying (CPS Caring for Kids). https://caringforkids.cps.ca/handouts/pregnancy-and-babies/colic_and_crying
2. The Period of Purple Crying. https://dontshake.org/purple-crying

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Chau, K., Lau, E., Greenberg, S., Jacobson, S., Yazdani-Brojeni, P., Verma, N., & Koren, G. (2015). Probiotics for infantile colic: A randomized, double-blind, placebo- controlled trial investigating Lactobacillus reuteri DSM 17938.The Journal of Pediatrics, 166(1), 74-78. https://pubmed.ncbi.nlm.nih.gov/25444531/	2B
Gradisar M, Jackson Spurrier NJ, Gibson J, Whitham J, Williams AS, Dolby T, Kennaway DJ. Behavioral Interventions for Infant Sleep Problems: A Randomized Controlled Trial. Pediatrics 2016;137 (6): e20151486. https://pubmed.ncbi.nlm.nih.gov/27221288/	B
Dobson D, Lucassen PL, Miller JJ, Vlieger AM, Prescott P, Lewith G. Manipulative therapies for infantile colic. Cochrane Database Syst Rev. 2012 Dec 12;12:CD004796. https://pubmed.ncbi.nlm.nih.gov/23235617/	B
Hemmi MH, Wolke D, Schneider S. Associations between problems with crying, sleeping and/or/feeding in infancy and long-term behavioural outcomes in childhood: a meta- analysis. Arch Dis Child. 2011;96:622-629. https://pubmed.ncbi.nlm.nih.gov/21508059/	C

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Canadian Pediatric Society. (2008). Multidisciplinary guidelines on the identification, investigation and management of suspected abusive head trauma. Last updated Jan 2013. https://cps.ca/uploads/documents/AHT.pdf
Douglas P, Hill P. Managing infants who cry excessively in the first few months of life. BMJ. 2011 Dec 15;343:d7772. https://pubmed.ncbi.nlm.nih.gov/22174332/
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4.2.3.4 **READ, SPEAK, SING**

Read, Speak, Sing Recommendations	**Strength of Recommendation**
1. Encourage caregivers to read, speak, tell stories, and sing to/with their infants and children in their language of choice to promote language and early literacy skills, as well as socioemotional and relational development. 2. Children at risk of reading difficulties: history of early speech or language delay, trouble identifying letters of the alphabet, difficulty with letter-sound correspondence or rhyming, family history of reading difficulty or disability.	Good

Read, Speak, Sing Resources
1. New 2024 CPS Early Literacy Resources: Practice tools and guidelines, Training and education, Information for parents and caregivers. https://cps.ca/en/strategic-priorities/literacy 2. Shaw A. CPS Position Statement. Early Years Task Force. Read, speak, sing: Promoting early literacy in the health care setting. https://cps.ca/en/documents/position/read-speak-sing-promoting-literacy 3. New 2024 Literacy in school-aged children: A paediatric approach to advocacy and assessment. CPS Position Statement https://cps.ca/en/documents/position/literacy-in-school-aged-children

References	**GRADE**
Kumar, M. M., Cowan, H. R., Erdman, L., Kaufman, M., & Hick, K. M. Reach Out and Read is Feasible and Effective for Adolescent Mothers: A Pilot Study. Maternal and child health journal 2016; 20(3):630-8. https://pubmed.ncbi.nlm.nih.gov/26520158/	1B
New 2024 Weisleder, A., Cates, C. B., Harding, J. F., Johnson, S. B., Canfield, C. F., Seery, A. M., Raak, C. D., Alonso, A., Dreyer, B. P., & Mendelsohn, A. L. (2019). Links between Shared Reading and Play, Parent Psychosocial Functioning, and Child Behavior: Evidence from a Randomized Controlled Trial. The Journal of pediatrics, 213, 187–195.e1. https://doi.org/10.1016/j.jpeds.2019.06.037	2
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Sharif I, Rieber S, Ozuah PO. Exposure to Reach Out and Read and vocabulary outcomes in inner city preschoolers. J Natl Med Assoc. 2002;(94)3:171-7. https://pubmed.ncbi.nlm.nih.gov/11918387/
Shaw A. Canadian Paediatric Society, Early Years Task Force. Read, speak, sing: Promoting early literacy in the health care setting. January 27, 2021. https://pubmed.ncbi.nlm.nih.gov/33936340/

4.2.3.5 FAMILY HEALTHY ACTIVITY LIVING/SEDENTARY BEHAVIOUR/SCREEN TIME

Family Healthy Active Living/Sedentary Behaviour/Screen Time Recommendations	**Strength of Recommendation**
1. Decrease sedentary pastimes and encourage daily physical and frequent physical activity, with parents as role models, through interactive floor-based play for infants, and free and unstructured outdoor active play for young children.	Good
2. Counsel on appropriate media use; for children <2 years, screen time (e.g., TV, computer, electronic games) is not recommended except for video-chatting; for children 2-4 years, screen time should be limited to <1 h/day; less is better; educational and prosocial programming is better.	Good

Family Healthy Active Living/Sedentary Behaviour/Screen Time Resources
1. New 2024 CSEP Canadian 24-hour movement guidelines: An integration of physical activity, sedentary behaviour, and sleep. https://csepguidelines.ca
2. New 2024 Healthy devel through outdoor risky play (Canadian Pediatric Society) https://cps.ca/en/documents/position/outdoor-risky-play
3. Screen time and young children (CPS)

References	**Grade**
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LeBlanc AG, Spence JC, Carson V, Connor Gorber S, Dillman C, Janssen I, Kho ME, Stearns J, Timmons BW, Tremblay MS. Systematic review of the relationship between sedentary behaviours and health indicators in the early years (ages 0-4 years). Appl Physiol Nutr Metab. 2012;37: 773–792. https://pubmed.ncbi.nlm.nih.gov/22765839/	1A, B
Kuzik, N., Clark, D., Ogden, N., Harber, V., & Carson, V. (2015). Physical activity and sedentary behaviour of toddlers and preschoolers in child care centres in Alberta, Canada. Can J Public Health, 106(4), e178- e183 https://pubmed.ncbi.nlm.nih.gov/26285187/	2B
Christakis DA, Garrison MM, Herrenkohl T, Haggerty K, Rivara FP, Zhou C, Liekweg K. Modifying Media Content for Preschool Children: A Randomized Controlled Trial. Pediatrics. 2013 Feb 18. https://publications.aap.org/pediatrics/article/131/3/431/30939/Modifying-Media-Content-for-Preschool-Children-A?autologincheck=redirected	A

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Screen time and young children: Promoting health and development in a digital world CPS Digital Health Task Force. Paediatr Child Health 2017;22(8):461–468 https://academic.oup.com/pch/article/22/8/461/4392451
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Viner R, Davie M, Firth A. Royal College of Paediatrics and Child Health. The health impacts of screen time: a guide for clinicians and parents. January 2019. https://www.imperial.ac.uk/media/imperial-college/administration-and-support-services/eyec/public/Screen-time-guide.pdf

4.3 ENVIRONMENTAL HEALTH

4.3.1 GENERAL ENVIRONMENTAL HEALTH ISSUES

General Environmental Health Resources
1. Healthy Home (HC) https://www.canada.ca/en/health-canada/services/healthy-home.html 2. Global Climate Change and Health (CPS) 3. Health and Environment: (CPS) 4. Canadian Partnership for Children' s Health and Environment (CPCHE) 5. Air quality and children's health (HC)

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Wigle DT, Arbuckle TE, Walker M, Wade MG, Liu S, Krewski D. Environmental hazards: evidence for effects on child health. J Toxicol Environ Health B Crit Rev. 2007;10(1-2):3-39. https://pubmed.ncbi.nlm.nih.gov/18074303/	C
Wigle DT, Arbuckle TE, Turner MC, Bérubé A, Yang Q, Liu S, Krewski D. Epidemiologic evidence of relationships between reproductive and child health outcomes and environmental chemical contaminants. J Toxicol Environ Health B Crit Rev. 2008 May;11(5-6):373-517. https://pubmed.ncbi.nlm.nih.gov/18470797/	C

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Rogan WJ, Brady MT, the Committee on Environmental Health, and the Committee on Infectious Diseases. Drinking Water From Private Wells and Risks to Children. Pediatrics 2009;123(6):e1123-e1137. Reaffirmed 2014.https://pubmed.ncbi.nlm.nih.gov/19482745/

4.3.2 SECOND-HAND SMOKE/E-CIGS/CANNABIS EXPOSURE

Second-Hand Smoke/E-Cigs/Cannabis Exposure Recommendations	Strength of Recommendation
1. There is no safe level of exposure. Advise caregivers to stop smoking and/or reduce 2nd-hand smoke exposure, which contributes to childhood respiratory illnesses, SIDS and neuro-behavioral disorders. Offer smoking cessation resources.	Good

2. Educate parents on the health risks and harms associated with e-cigs, and on safe storage.	

References	GRADE
Kabir Z, Connolly GN, Alpert HR. Secondhand smoke exposure and neurobehavioral disorders among children in the United States. Pediatrics. 2011 Aug;128(2):263-70. https://publications.aap.org/pediatrics/article-abstract/128/2/263/30554/Secondhand-Smoke-Exposure-and-Neurobehavioral?redirectedFrom=fulltext	1C
New 2024 Bennett CE, Venkataramani A, Henretig FM, Faerber J, Song L, Wood JN. Recent Trends in Marijuana-Related Hospital Encounters in Young Children. Acad Pediatr. 2022 May-Jun;22(4):592-597. doi: 10.1016/j.acap.2021.07.018. Epub 2021 Jul 26. PMID: 34325061. https://pubmed.ncbi.nlm.nih.gov/34325061/	3
New 2024 Myran DT, Cantor N, Finkelstein Y, Pugliese M, Guttmann A, Jesseman R, Tanuseputro P. Unintentional Pediatric Cannabis Exposures After Legalization of Recreational Cannabis in Canada. JAMA Netw Open. 2022 Jan 4;5(1):e2142521. doi: 10.1001/jamanetworkopen.2021.42521. PMID: 34994796; PMCID: PMC8742190. https://pubmed.ncbi.nlm.nih.gov/34994796/	3
New 2024 Whitehill JM, Dilley JA, Brooks-Russell A, Terpak L, Graves JM. Edible Cannabis Exposures Among Children: 2017-2019. Pediatrics. 2021 Apr;147(4):e2020019893. doi: 10.1542/peds.2020-019893. Epub 2021 Mar 22. PMID: 33753541. https://pubmed.ncbi.nlm.nih.gov/33753541/	3
New 2024 Yeung MEM, Weaver CG, Hartmann R, et al. Emergency Department Pediatric Visits in Alberta for Cannabis After Legalization. Pediatrics. 2021;148(4):e2020045922 https://pubmed.ncbi.nlm.nih.gov/34544846/	3
Kamboj A, Spiller HA, Casavant MJ, Chounthirath T, Smith GA., Pediatric Exposure to E- Cigarettes, Nicotine, and Tobacco Products in the United States. Pediatrics. 2016. 137(6). https://pubmed.ncbi.nlm.nih.gov/27244861/	B
Claudet, I. Mouvier, S., Labadie, M. Manin, C., Michard-Lenoir, A-P., Eyer, D. Dufour,D. Unintentional Cannabis Intoxication in Toddlers. Pediatrics September 2017, 140 (3) https://pubmed.ncbi.nlm.nih.gov/28808073/	C
Onders, B., Casavant, M.J., Spiller, H.A., Chounthirath, T., Smith, G.A. Marijuana Exposure Among Children Younger Than Six Years in the United States. Clinical Pediatrics 2016, Vol. 55(5) 428–436 https://pubmed.ncbi.nlm.nih.gov/26054783/	C
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Baxi, R., Sharma, M., Roseby, R., Polnay, A., Priest, N., Waters, E., . . . Webster, P. Family and carer smoking control programmes for reducing children's exposure to environmental tobacco smoke. Cochrane Database Syst Rev. 2014; 3: CD001746. https://www.cochranelibrary.com/cdsr/doi/10.1002/14651858.CD001746.pub3/full
New 2024 Canadian Cannabis Survey https://www.canada.ca/en/health-canada/services/drugs-medication/cannabis/research-data/canadian-cannabis-survey-2022-summary.html
DiFranza JR, Aligne CA, Weitzman M. Prenatal and postnatal environmental tobacco smoke exposure and children's health. Pediatrics. 2004;113:1007-1015. https://pubmed.ncbi.nlm.nih.gov/15060193/
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Grant, C.N., Belanger, R.E., Cannabis and Canada's children and youth. Paediatrics & Child Health. 2017. 22(2):98-102. https://pubmed.ncbi.nlm.nih.gov/29480902/
Kwok MK, Schooling CM, Ho LM, Leung SS, Mak KH, McGhee SM, Lam TH, Leung GM. Early life second-hand smoke exposure and serious evidence from Hong Kong's "Children of 1997" birth cohort. Tobacco Control. 2008;17:263-270. https://pubmed.ncbi.nlm.nih.gov/18505748/
New 2024 Myran DT, Tanuseputro P, Auger N, Konikoff L, Talarico R, Finkelstein Y. Edible Cannabis Legalization and Unintentional Poisonings in Children. N Engl J Med. Aug 25 2022;387(8):757-759. doi:10.1056/NEJMc2207661.
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4.3.3 SUN EXPOSURE/SUNSCREEN/INSECT REPELLANTS

Sun Exposure/Sunscreen/Insect Repellents Recommendations	Strength of Recommendation
1. Sun exposure/Sunscreens: Minimize sun exposure. Wear protective clothing, hats, and properly applied sunscreen with SPF ≥ 30 for those > 6 months of age. 2. Insect bites/repellents: Prevent insect bites. No DEET in < 6 months; 6–24 months 10% DEET apply max once daily; 2–12 years	Consensus

10% DEET apply max TID	

Sun Exposure/Sunscreen/Insect Repellents Resources
1. Sun safety tips (HC) 2. Insect bites/repellents: (HC) (CPS Caring for Kids)

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American Academy of Pediatrics Committee on Environmental Health. Ultraviolet light: A hazard to children and adolescents. Pediatrics. 1999; 104: 328-333. Revised March 2011. https://publications.aap.org/pediatrics/article/127/3/588/64968/Ultraviolet-Radiation-A-Hazard-to-Children-and?autologincheck=redirected	1C

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4.3.4 PESTICIDE USE

Pesticide Use Recommendations	**Strength of Recommendation**
1. Ask about pesticide use and storage at home; avoid exposure. 2. Exposure to pesticides is associated with adverse neurodevelopmental outcomes.	Fair

3. Wash all fruits and vegetables that cannot be peeled.	

References	GRADE
Council On Environment And Health. Pesticide exposure in children. Pediatrics 2012;130;e1757. https://publications.aap.org/pediatrics/article/130/6/e1757/30399/Pesticide-Exposure-in-Children?autologincheck=redirected	1C
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Trasande et al. AAP Council on Environmental Health. Food additives and child health. Pediatrics 2018; 142(2):e20181408 https://publications.aap.org/pediatrics/article/142/2/e20181408/37584/Food-Additives-and-Child-Health?autologincheck=redirected

4.3.5 WELL WATER

Well water Recommendations	Strength of Recommendation
Well water should be tested regularly for contamination.	

References
New 2024 Health Canada. Well water and health: Test your well water. https://www.canada.ca/en/health-canada/services/environment/drinking-water/well/test.html

4.3.6 LEAD

Lead Recommendations	Strength of Recommendation
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. Blood Lead Screening is recommended for children who:	Fair
- in the last 6 months lived in a house or apartment built before 1960;	
- 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;	Fair
- 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.	
- have emigrated or been internationally adopted from a country where population lead levels are higher than in Canada.	
- are at risk of lead exposure from water pipes.	

Lead Resources
1. Prevention of Childhood Lead Toxicity (AAP) 2. Kids new to Canada (CPS) 3. Low-level lead exposure (CPS) 4. Reduce your exposure to lead (HC)

Reference	GRADE
McLaine, P., Navas-Acien, A., Lee, R., Simon, P., Diener-West, M., & Agnew, J. Elevated blood lead levels and reading readiness at the start of kindergarten. Pediatrics. 2013; 131(6): 1081-1089. https://pubmed.ncbi.nlm.nih.gov/23669514/	A

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Canadian Paediatric Society. Caring for Kids New to Canada: Lead Toxicity. https://kidsnewtocanada.ca/screening/lead
Centers for Disease Control. CDC lead poisoning prevention in newly arrived refugee children: tool kit. Atlanta, GA: Centers for Disease Control; 2009. No abstract available.
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Téllez-Rojo MM, Bellinger DC, Arroyo-Quiroz C, Lamadrid-Figueroa H, Mercado-Garcia A, Schnaas-Arrieta L, Wright RO, Hernandez-Avila M, Hu H. Longitudinal associations between blood lead concentrations lower than 10 µg/dL and neurobehavioral development in environmentally exposed children in Mexico City. Pediatrics. 2006;118:e323- e330. https://pubmed.ncbi.nlm.nih.gov/16882776/
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4.3.7 HEAVY METALS

Heavy Metals Resources
1. Children's Exposure to Mercury Compounds (WHO)

References	GRADE
Lee R, Middleton D, Caldwell K, Dearwent S, Jones S, Lewis B, Monteilh C, Mortensen ME, Nickle R, Orloff K, Reger M, Risher J, Rogers HS, Watters M. A review of events that expose children to elemental mercury in the United States. Environ Health Perspect. 2009;117(6):871-8. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2702399/	2C
Karagas, M. R., Punshon, T., Sayarath, V., Jackson, B. P., Folt, C. L., & Cottingham, K. L. Association of Rice and Rice-Product Consumption With Arsenic Exposure Early in Life. JAMA Pediatrics. 2016; 170(6): 609-616. https://jamanetwork.com/journals/jamapediatrics/fullarticle/2514074	C

4.3.8 RADON

Radon Resources
1. WHO Handbook on Indoor Radon

References	GRADE
Chen J, Moir D, Whyte J. Canadian population risk of radon induced lung cancer: a re-assessment based on the recent cross-Canada radon survey. Radiat Prot Dosimetry. 2012; 152(1-3): 9-13. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3509926/	C
Hystad P, Brauer M, Demers PA, Johnson KC, Setton E, Cervantes-Larios A, et al. Geographic variation in radon and associated lung cancer risk in Canada. Canadian journal of public health. 2014;105(1): e4-e10. https://pubmed.ncbi.nlm.nih.gov/24735695/	C

4.3.9 OTHER ENVIRONMENTAL HEALTH ISSUES

References	GRADE
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Bråbäck L, Forsberg B. Does traffic exhaust contribute to the development of asthma and allergic sensitization in children: findings from recent cohort studies. Environ Health. 2009;8:17. https://ehjournal.biomedcentral.com/counter/pdf/10.1186/1476-069X-8-17.pdf	C
Braun JM, Kalkbrenner AE, Calafat AM, Yolton K, Ye X, Dietrich KN, Lanphear BP. Impact of Early-Life Bisphenol A Exposure on Behavior and Executive Function in Children. Pediatrics; originally published online October 24, 2011 https://publications.aap.org/pediatrics/article-abstract/128/5/873/30926/Impact-of-Early-Life-Bisphenol-A-Exposure-on?redirectedFrom=fulltext	C
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4.4 OTHER ISSUES

4.4.1 OTC COUGH/COLD MEDICATION

OTC Cough/Cold Medication Avoidance Recommendations	Strength of Recommendation
1. Advise parents against using **OTC cough/cold medications.**	Good

OTC Cough/Cold Medication Avoidance Resources
1. Colds in children (CPS Caring for Kids)

4.4.2 INQUIRY ON COMPLIMENTARY/ALTERNATIVE MEDICINE

Inquiry on Complementary/Alternative Medicine Recommendations	Strength of Recommendation
1. Questions should be routinely asked about the use of complementary and alternative medicine, therapy, or products, especially for children with chronic conditions.	Fair

Inquiry on Complementary/Alternative Medicine Resources
1. Natural Health Products (Caring For Kids, CPS)

4.4.3 FEVER ADVICE/THERMOMETERS/ANTIPYRETIC USE

Fever Advice/Thermometers/Antipyretic Use Recommendations	Strength of Recommendation
1. Fever ≥ 38ºC in an infant < 3 months needs urgent evaluation.	Consensus
2. 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.	Good

Fever Advice/Thermometers/Antipyretic Use Resources
1. Fever in the returning child (CPS) **2. Fever and temperature taking (Caring for kids CPS)**

4.4.4 FOOTWEAR

Footwear Recommendations	Strength of Recommendation
1. Shoes are for protection, not correction. Walking barefoot develops good toe gripping and muscular strength	Consensus

Footwear Resources
1. Footwear for Children (CPS Caring for Kids)

4.4.5 ORAL HEALTH/DENTAL CARE – See also 6.8 ORAL HEALTH/DENTAL in Physical Examination domain

Oral Health/Dental Care Recommendations	Strength of Recommendation
1. Teething: Discomfort can be managed by providing gum massage with a cold facecloth/teething ring and appropriate use of oral analgesics. E.g. acetaminophen (all ages), or ibuprofen if ≥ 6 mos. Anaesthetics/numbing gels and teething necklaces are contraindicated	Good
2. 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.	Good
3. 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.	Consensus
4. To prevent early childhood caries: avoid juices/sweetened liquids and constant sipping of milk or natural juices in both bottle and cup.	Consensus
5. 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.	
6. Consider the first dentist visit by 6 months after eruption of 1st tooth or at age 1 year.	

Oral Health/Dental Care Resources
1. Oral Health – Dental care for children (CDA), Oral health for children (HC) 2. Benzocaine and MetHb (HC) 3. Cleaning teeth (CDA) 4. Canadian Caries Risk Assessment Tool http://www.cda-adc.ca/en/oral_health/cfyt/dental_care_children/risk_assessment.asp 5. Preventing dental caries in kids < 5 yrs (USPSTF) 6. Early Childhood Caries in Indigenous Communities (CPS) 7. Fluoride & your child (CDA) 8. Homeopathic Teething Products (FDA)

Reference
New 2024 Lam, P. P. Y., Chua, H., Ekambaram, M., Lo, E. C. M., & Yiu, C. K. Y. (2022). RISK PREDICTORS OF EARLY CHILDHOOD CARIES INCREMENT-A SYSTEMATIC REVIEW AND META-ANALYSIS. The journal of evidence-based dental practice, 22(3), 101732. https://doi.org/10.1016/j.jebdp.2022.101732

5.0 DEVELOPMENTAL MILESTONE ACQUISITION

A systematic review of the literature on developmental milestone attainment to discern level of evidence and strength of recommendation poses significant challenges.

The main questions under review are:

1.What are the criteria that determine the levels of evidence to establish the current timelines for the acquisition of developmental milestones?

The literature on developmental milestone attainment utilizes well-validated standardized formal assessment tools that have been developed from large population samples and used widely for clinical and research purposes.

These scales and inventories identify the upper (90th) and lower (5th) percentiles for gross and fine motor milestone attainment at specific ages. For each milestone, a median age is the age at which half a population of children acquire a skill. Communication, cognitive and social-emotional milestone ages are particularly difficult to stratify in percentiles.

Guidance and supportive evidence on the attainment of developmental milestones has been significantly updated in the 2024 RBR based on 2 major evidence-based publications:(see Dosman 2022 and Zubler 2022 in References below). This has resulted in a change in the level of evidence for milestone acquisition and subsequent change from consensus to fair for the strength of recommendation for the relevant milestones on the 2024 RBR Visit Guides. We were also fortunate to collaborate directly with Dr. Cara Dosman and her colleagues for wording clarity and ages of milestone acquisition in the 2024 RBR Development domain.

As in prior editions of the RBR, delayed milestones are identified as “red flags”, since they are positioned after the time of typical milestone acquisition so that absence of any item or parental concern suggests consideration for further assessment of development. This is designed to prevent unnecessary referrals, while maximizing the positive identification of developmental delays.

2. What is the difference between developmental surveillance, screening, and case finding, and what is the use of each, noting that various organizations may have different recommendations.

Development Screening: The use of a standardized tool to search for developmental delay in asymptomatic populations.
Developmental Surveillance: The ongoing monitoring of development, identification of risk factors and elicitation of parental and caregiver concerns.
Case finding: Identification of developmental delay in populations that are at increased risk of developmental delays.

The RBR uses broad developmental surveillance. Health care providers ask parents about their child’s acquisition of developmental milestones using a list of predefined items. These items have been selected from various developmental surveillance tools from the pertinent literature. Failure to achieve these developmental milestones, loss of attained milestones, or parental or caregiver concern about their child’s development suggest the need for further evaluation of development, which may involve the use of a standardized screening tool and/or a referral to a consultant.

3. CPS and AAP Recommendations

A 2016 publication by the Canadian Task Force on Preventive Health Care (https://www.cmaj.ca/content/188/8/579) recommended against screening for developmental delay using standardized tools in children aged one to four years with no apparent signs of developmental delay and whose parents and clinicians have no concerns about development.

Standardized developmental screening tools are recommended by the American Academy of Pediatrics at the 9, 18, and 24 or 30-month visit.
https://publications.aap.org/pediatrics/article/145/1/e20193449/36971/Promoting-Optimal-Development-Identifying-Infants?autologincheck=redirected

Enhanced surveillance is recommended by the Canadian Paediatric Society (CPS) at 18 months. This involves the use of a physician-prompt health supervision guide with evidence-informed suggestions (such as the RBR) as well as a standardized developmental screening tool. This approach is currently used in Ontario and is being considered in several provinces and territories.

5.0 Developmental Milestones Acquisition Recommendations	**Strength of Recommendation**

1. Correct for age until 2 yrs if <37 weeks gestation. 2. Manoeuvres are based on evidence-based literature on milestone acquisition. They are not a developmental screen, but rather an aid to developmental surveillance. They are set **after** the time of typical milestone acquisition. Further assessment of development is merited by the absence of any milestone, loss of attained milestones or parental concern about development at any stage. 3. Ensure that milestones have been achieved for any missed visits. 4. Parental familiarity with particular milestones may be culturally dependent.	Fair

5.0 Developmental Milestones Acquisition Resources
1. Encyclopedia of Early Childhood Development https://www.child-encyclopedia.com 2. Play & Learn: games and activities to promote healthy child development. https://playandlearn.healthhq.ca/en 3. Best Start Resource Centre: https://resources.beststart.org

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New 2024 Zubler JM, Wiggins LD, Macias MM, Whitaker TM, Shaw JS, Squires JK, Pajek JA, Wolf RB, Slaughter KS, Broughton AS, Gerndt KL, Mlodoch BJ, Lipkin PH. Evidence-Informed Milestones for Developmental Surveillance Tools. Pediatrics. 2022 Mar 1;149(3):e2021052138. https://pmc.ncbi.nlm.nih.gov/articles/PMC9680195/
New 2024 Lipkin P, Macias M. AAP Council on Children with Disabilities Clinical Report. Promoting Optimal Development: Identifying infants and young children with developmental disorders through developmental surveillance and screening. Jan 1, 2020: Reaffirmed in April 2024 with reference and data updates. https://publications.aap.org/pediatrics/article/145/1/e20193449/36971/Promoting-Optimal-Development-Identifying-Infants?autologincheck=redirected
New 2024 Carter M, Srour M, Au P-YB, et al. Genetic and metabolic investigations for neurodevelopmental disorders: position statement of the Canadian College of Medical Geneticists (CCMG). J Med Genet 2023;0:1-10. https://www.ccmg-ccgm.org/wp-content/uploads/2023/04/CCMG-Position-Statement_Genetic-and-metabolic-investigations-for-Neurodevelopmental-disorders.pdf
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5.1 TOILET LEARNING

Toilet Learning Recommendations	**Strength of Recommendation**
1. The process of toilet learning has changed significantly over the years and within different cultures. A child-centred approach is suggested, where the timing and methodology of toilet learning is individualized as much as possible.	Consensus

Toilet Learning Resources
1. Toilet Learning (CPS Caring for Kids)

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Kaerts N, Van Hal G, Vermandel A, Wyndaele JJ. Readiness signs used to define the proper moment to start toilet training: a review of the literature. Neurourol Urodyn. 2012 Apr;31(4):437-40. https://pubmed.ncbi.nlm.nih.gov/22396334/	C

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5.2 AUTISM SPECTRUM DISORDER (ASD)

Autism Spectrum Disorder (ASD) Recommendations	Strength of Recommendation
1. Specific screening for ASD at 18-24 months should be performed on all children with any of the following risk factors: failed items on the social/emotional/communication skills inquiry, sibling with autism, or developmental concern by parent, caregiver, or physician.	Consensus
2. Increased prevalence for ASD is also associated with prematurity, and certain chromosomal, genetic and neurological disorders. Standardized, evidence-based screening tools for detection of early ASD symptoms should be used as per guidelines.	Consensus

Autism Spectrum Disorder (ASD) Resources
1. ASD(CPS): - Early Detection: https://cps.ca/en/documents/position/asd-early-detection - Diagnostic Assessment: https://cps.ca/en/documents/position/asd-diagnostic-assessment - Management: https://cps.ca/en/documents/position/asd-post-diagnostic-management 2. M-CHAT: https://www.mchatscreen.com

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https://publications.aap.org/pediatrics/article-abstract/128/1/e211/30300/Early-Autism-Detection-Are-We-Ready-for-Routine?redirectedFrom=fulltext
Anagnostou, E., Zwaigenbaum, L., Szatmari, P., Fombonne, E., Fernandez, B. A., Woodbury-Smith, M., ... & Buchanan, J. A. (2014). Autism spectrum disorder: advances in evidence-based practice. Canadian Medical Association Journal, 186(7), 509-519. https://www.cmaj.ca/content/186/7/509
Baduel S, Guillon Q, Afzali MH, Foudon N, Kruck J, Rogé B. The French Version of the Modified-Checklist for Autism in Toddlers (MCHAT): A Validation Study on a French Sample of 24 Month-Old Children. J Autism Dev Disord. 2017. 47:297-304. https://www.semanticscholar.org/paper/The-French-Version-of-the-Modified-Checklist-for-in-Baduel-Guillon/f2f0037e609f76a3c318b7234d119c837bf8a2b0
Chlebowski, C., Robins, D. L., Barton, M. L., & Fein, D. (2013). Large-scale use of the modified checklist for autism in low-risk toddlers. Pediatrics, 131(4), e1121-e1127. https://pubmed.ncbi.nlm.nih.gov/23530174/
NICE Guideline. Autism spectrum disorder in under 19s: Autism spectrum disorder in under 19s: recognition, referral and diagnosis. National Institute for Health and Care Excellence. 2011. https://www.nice.org.uk/guidance/cg128
Siu, A. L., Bibbins-Domingo, K., Grossman, D. C., Baumann, L. C., Davidson, K. W., Ebell, M., ... & Krist, A. H. (2016). Screening for autism spectrum disorder in young children: US Preventive Services Task or health care Force Recommendation Statement. JAMA, 315(7), 691-696. https://pubmed.ncbi.nlm.nih.gov/26881372/
Yuen T1, Penner M1, Carter MT, Szatmari P, Ungar WJ. Assessing the accuracy of the Modified Checklist for Autism in Toddlers: a systematic review and meta-analysis. Developmental Medicine & Child Neurology. 2018. 60(11); 1093-1100 https://pubmed.ncbi.nlm.nih.gov/29992541/
Zwaigenbauum L., et al. Early Identification of Autism Spectrum Disorder: Recommendations for Practice and Research. Pediatrics. 2015. 136(S1):S10-40. https://pubmed.ncbi.nlm.nih.gov/26430168/

6.0 PHYSICAL EXAMINATION

6.1 JAUNDICE

Jaundice Recommendation	Strength of Recommendation
Jaundice: Bilirubin testing (total and conjugated) if persists beyond 2 wks of age. Acholic stools and prolonged jaundice (predominantly conjugated) can be signs of biliary atresia.	Fair

Jaundice Resources
New 2024 Screening for biliary atresia (CFP): https://www.cfp.ca/content/63/6/424

Reference	GRADE
Newman, J. Guidelines for detection, management and prevention of hyperbilirubinemia in term and late preterm newborn infants. Paediatr Child Health. 2007; 12(5): 401-7. Reaffirmed: February 1, 2016. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2528724/	A, B, C, D

Additional Reference
Wang KS, Section on Surgery; Committee on Fetus and Newborn; and The Childhood Liver Disease Research Network. Newborn screening for biliary atresia. Pediatrics 2015, 136 (6) e1663-e1669; DOI: 10.1542/peds.2015-3570 https://pubmed.ncbi.nlm.nih.gov/26620065/

6.2 SENTINEL INJURIES – See also 4.2.2.5 Prevention of Child Maltreatment and 4.2.3.3 Crying/Colic, both in FAMILY FUNCTIONING AND BEHAVIOUR ISSUE domain

Sentinel Injuries Recommendation	Strength of Recommendation
Sentinel injuries (such as bruising, subconjunctival hemorrhages, or intra-oral trauma to the frenulum, lips, oral mucosa, gingiva or tongue) or other unexplained injuries warrant evaluation re: child maltreatment or medical illness.	Fair

Sentinel Injuries Resources
Michelle GK Ward, Amy Ornstein, Anne Niec, C Louise Murray; Canadian Paediatric Society, Child and Youth Maltreatment Section. The medical assessment of bruising in suspected child maltreatment cases: A clinical perspective. Paediatr Child Health 2013;18(8):433-7. Reaffirmed 2017. https://cps.ca/en/documents/position/medical-assessment-of-bruising

References
New 2024 Henry MK, Wood J. What's in a name? Sentinel injuries in abused infants. Pediatr Radiol. 2021 May;51(6):861-865. https://pubmed.ncbi.nlm.nih.gov/33999230/

6.3 BLOOD PRESSURE

Blood Pressure Recommendation	Strength of Recommendation
Check BP at all visits for those at risk >3 years old. Some risk factors: obesity, sleep disordered breathing, prematurity, renal disease, congenital heart disease, diabetes or medications that increase blood pressure.	

Blood Pressure Resources
High blood pressure in children, including definitions: (AAP)

References
Flynn, J.T, et al. Clinical Practice Guideline for Screening and Management of High Blood Pressure in Children and Adolescents. American Academy of Pediatrics. 2017. 140(3). https://publications.aap.org/pediatrics/article/140/3/e20171904/38358/Clinical-Practice-Guideline-for-Screening-and?autologincheck=redirected
Flynn, J.T, et al. Clinical Practice Guideline for Screening and Management of High Blood Pressure in Children and Adolescents. American Academy of Pediatrics. 2017. 140(3). https://publications.aap.org/pediatrics/article/140/3/e20171904/38358/Clinical-Practice-Guideline-for-Screening-and?autologincheck=redirected
Moyer, V. A., & Force, U. S. P. S. T. Screening for primary hypertension in children and adolescents: U.S. Preventive Services Task Force recommendation statement. Pediatrics. 2013;132(5): 907-914. https://pubmed.ncbi.nlm.nih.gov/24101758/
National High Blood Pressure Education Program Working Group on High Blood Pressure in, C., & Adolescents. The fourth report on the diagnosis, evaluation, and treatment of high blood pressure in children and adolescents. Pediatrics. 2004; 114(2 Suppl 4th Report): 555-576. https://pubmed.ncbi.nlm.nih.gov/15286277/
Thompson, M., Dana, T., Bougatsos, C., Blazina, I., & Norris, S. L. Screening for hypertension in children and adolescents to prevent cardiovascular disease. Pediatrics. 2013; 131(3): 490-525. https://pubmed.ncbi.nlm.nih.gov/23439904/

6.4 FONTANELLES

Fontanelles Recommendation	Strength of Recommendation
Check Fontanelles: The posterior fontanelle is usually closed by 2 months and the anterior by 18 months.	Consensus

Reference
Kiesler J, Ricer R. The abnormal fontanelle. Am Fam Phys 2003;67(12):2547-2552 https://www.aafp.org/pubs/afp/issues/2003/0615/p2547.html

6.5 VISION INQUIRY/SCREENING

Vision Inquiry/Screening Recommendations	Strength of Recommendation
1. Check red reflex for serious ocular diseases such as retinoblastoma and cataracts.	Good
2. 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.	Good
3. Check visual acuity at age 3-5 years.	Good

Vision Inquiry/Screening Resources
New 2024 Vision screening (WHO pocket book): Defined preventive interventions for children under five years of age: evidence summaries for primary health care in the WHO European region. Jullien S. Vision screening in newborns and early childhood. *BMC Pediatr*21 (Suppl 1), 306 (2021). https://bmcpediatr.biomedcentral.com/articles/10.1186/s12887-021-02606-2

References	GRADE
Longmuir SQ, Boese EA, Pfeifer W, Zimmerman B, Short L, Scott WE. Practical Community Photoscreening in Very Young Children. Pediatrics. 2013 Feb 11. https://publications.aap.org/pediatrics/article-abstract/131/3/e764/30908/Practical-Community-Photoscreening-in-Very-Young?redirectedFrom=fulltext	1C
Donahue SP. Ruben JB. American Academy of Ophthalmology. American Academy of Pediatrics, Ophthalmology Section. American Association for Pediatric Ophthalmology and Strabismus. Children's Eye Foundation. American Association of Certified Orthoptists.US Preventive Services Task Force vision screening recommendations. Pediatrics. 2011;127(3):569-70. https://publications.aap.org/pediatrics/article-abstract/127/3/569/65027/US-Preventive-Services-Task-Force-Vision-Screening?redirectedFrom=fulltext	2C
He, M., Xiang, F., Zeng, Y., Mai, J., Chen, Q., Zhang, J., . . . Morgan, I. G. Effect of Time Spent Outdoors at School on the Development of Myopia Among Children in China: A Randomized Clinical Trial. JAMA. 2015; 314(11): 1142-1148. https://jamanetwork.com/journals/jama/fullarticle/2441261	B

Additional References
Canadian Pediatric Society. Vision screening in infants, children and youth. Paediatr Child Health 2009; 14:246-248. Reaffirmed: February 1 2016. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2690539/
Committee On, P., Ambulatory, M., Section On, O., American Association Of Certified, O., American Association For Pediatric, O., Strabismus, & American Academy Of, O. Visual System Assessment in Infants, Children, and Young Adults by Pediatricians. Pediatrics. 2016; 137(1): 1-3. https://pubmed.ncbi.nlm.nih.gov/29756730/
Donahue, S. P., Baker, C. N., Committee On, P., Ambulatory, M., Section On, O., American Association Of Certified, O., . . . American Academy Of, O. Procedures for the Evaluation of the Visual System by Pediatricians. Pediatrics. 2016; 137(1): 1-9. https://pubmed.ncbi.nlm.nih.gov/26644488/
French, A. N., Ashby, R. S., Morgan, I. G., & Rose, K. A. Time outdoors and the prevention of myopia. Exp Eye Res. 2013; 114: 58-68. https://pubmed.ncbi.nlm.nih.gov/23644222/
Tingley DH. Vision screening essentials: Screening today for eye disorders in the pediatric patient. Pediatrics in Review. 2007; 28(2):54-61. https://pubmed.ncbi.nlm.nih.gov/17272521/
U.S. Preventive Services Task Force. Vision Screening for Children One to Five Years of Age: Recommendation Statement. Clinical Review & Education. 2017. 318(9). https://jamanetwo rk.com/journals/jama/fullarticle/2652657

6.6 HEARING INQUIRY/SCREENING

Hearing Inquiry/Screening Recommendations	Strength of Recommendation
1. Language delay or parental concerns about hearing acuity should prompt a rapid referral for hearing assessment. 2. Formal audiology testing should be performed in all high-risk infants, including those with normal UNHS. 3. Older children should be screened if clinically indicated.	Fair Fair Consensus

Hearing Inquiry/Screening Resources
New 2024 Bower C, Reilly B, et al. AAP Clinical Report. Hearing assessment in infants, children, and adolescents: recommendations beyond neonatal screening. Pediatrics (2023) 152(3):e2023063288 https://publications.aap.org/pediatrics/article/152/3/e2023063288/193755/Hearing-Assessment-in-Infants-Children-and

Reference	Grade
Foust, T., Eiserman, W., Shisler, L., & Geroso, A. Using otoacoustic emissions to screen young children for hearing loss in primary care settings. Pediatrics. 2013; 132(1): 118-123. https://pubmed.ncbi.nlm.nih.gov/23733793/	C

Additional References
Patel,H., Feldman, M., Canadian Paediatric Society, Community Paediatrics Committee. Universal newborn hearing screening. Pediatric Child Health. 2011. 16(5). Reaffirmed Feb 2018 https://pubmed.ncbi.nlm.nih.gov/22547950/
Vohr BR, Carty LM, Moore PE, Letourneau K. The Rhode Island Hearing Assessment Program: experience with state-wide hearing screening 1993-1996. J Pediatr 1998;133(3):353-7https://pubmed.ncbi.nlm.nih.gov/9738715/

6.7 CLEFT LIP/PALATE/TONGUE MOBILITY – See also 3.2.6 ANKYLOGLOSSIA (TONGUE-TIE) AND BREASTFEEDING

Screening for Cleft Lip/palate/Tongue mobility Recommendation	Strength of Recommendation
Check palate for cleft. Inspect tongue mobility for ankyloglossia if breastfeeding problems.	Consensus Consensus

Reference
Lewis CW, Jacob LS, Lehmann CU, and AAP Section on Oral health. The primary care pediatrician and the care of children with cleft lip and/or cleft palate. Pediatrics 2017;139(5):e20170628 https://publications.aap.org/pediatrics/article/139/5/e20170628/38824/The-Primary-Care-Pediatrician-and-the-Care-of?autologincheck=redirected

6.8 SLEEP DISORDERED BREATHING/SNORING/OBSTRUCTIVE SLEEP APNEA

Sleep Disordered Breathing/Snoring/Obstructive Sleep Apnea Recommendation	Strength of Recommendation
1. Tonsil size/sleep-disordered breathing: Screen for sleep problems. Behavioural sleep problems and snoring in the presence of sleep-disordered breathing which warrants assessment re: obstructive sleep apnea (OSA).	Good

References	GRADE
Bonuck K, Rao T, Xu L. Pediatric sleep disorders and special educational need at 8 years: a population-based cohort study. Pediatrics. 2012 Oct;130(4):634-42. doi:10.1542/peds.2012-0392. https://publications.aap.org/pediatrics/article-abstract/130/4/634/30262/Pediatric-Sleep-Disorders-and-Special-Educational?redirectedFrom=fulltext	1B
Byars KC, Yolton K, Rausch J, Lanphear B, Beebe DW. Prevalence, patterns, and persistence of sleep problems in the first 3 years of life. Pediatrics. 2012 Feb;129(2):e276-84. https://publications.aap.org/pediatrics/article-abstract/129/2/e276/32631/Prevalence-Patterns-and-Persistence-of-Sleep?redirectedFrom=fulltext	1C

American Academy of Pediatrics. Clinical Practice Guideline: Diagnosis and Management of Childhood Obstructive Sleep Apnea Syndrome. Pediatrics. 2012;130(3): 576-584. https://publications.aap.org/pediatrics/article/130/3/576/30284/Diagnosis-and-Management-of-Childhood-Obstructive	1C, 2C

6.9 ORAL HEALTH/DENTAL – See also 4.4.5 ORAL HEALTH/DENTAL CARE in Other section of the Education and Advice Domain

Dental Recommendation	Strength of Recommendation
Examine for problems including caries, oral soft tissue infections or pathology; and for normal teeth eruption sequence	Fair

6.10 NECK/TORTICOLLIS

Neck/Torticollis Recommendation	Strength of Recommendation
Check neck for torticollis	Consensus

Reference
New 2024 Sargent B, Kaplan S, Coulter C, Baker C. Congenital Muscular Torticollis: Bridging the gap between research and clinical practice. Pediatrics 2019 Aug 1;144(2):e20190582. https://pmc.ncbi.nlm.nih.gov/articles/PMC6855899/
Kuo, A. A., Tritasavit, S., & Graham, J. M., Jr. Congenital muscular torticollis and positional plagiocephaly. Pediatr Rev. 2014; 35(2): 79-87. doi:10.1542/pir.35-2-79https://pubmed.ncbi.nlm.nih.gov/24488831/
Nichter, S. A Clinical Algorithm for Early Identification and Intervention of Cervical Muscular Torticollis. Clin Pediatr (Phila). 2016; 55(6): 532-536. https://pubmed.ncbi.nlm.nih.gov/26307184/

6.11 UMBILICUS

Umbilicus Recommendation	Strength of Recommendation
Gently pat dry and review S&S of infection	Consensus

Reference
Imdad A, Bautista RMM, Sene KAA, Uy MEV, Mantaring 3rd JB, Bhutta ZA. Umbilical cord antiseptics for preventing sepsis and death among newborns. Cochrane Database Sys Rev. 2013 May 31(5): CD008635. doi: 10.1002/14651858.CD008635.pub2. https://pubmed.ncbi.nlm.nih.gov/23728678/

6.12 SCREENING FOR DEVELOPMENTAL DYSPLASIA OF THE HIPS

Screening for Developmental Dysplasia of the Hips Recommendation	Strength of Recommendation
1. There is insufficient evidence to recommend routine 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. 2. Exam includes assessing limb length discrepancy and asymmetric thigh or buttock (gluteal) creases; performing the Ortolani manoeuvre for hip instability in the first 3 mos, then testing for limited or asymmetric hip abduction until 12 mos. Consider selective imaging between 6 wks and 6 mos for infants with normal hip exam if breech or family history, and for all infants with positive findings on P/E.	Consensus

References	GRADE
Laborie LB, Engesæter IØ, Lehmann TG, Eastwood DM, Engesæter LB, Rosendahl K. Screening strategies for hip dysplasia: longterm outcome of a randomized controlled trial. Pediatrics. 2013 Sep;132(3):492-501. https://pubmed.ncbi.nlm.nih.gov/23958776/	2A
ShorterD, Hong T, OsbornDA. Screening programmes for developmental dysplasia of the hip in newborn infants. Cochrane Database of Systematic Reviews 2011, Issue 9. Art. No.: CD004595. https://www.cochranelibrary.com/cdsr/doi/10.1002/14651858.CD004595.pub2/abstract	A

Additional References
Jackson, J. C., Runge, M. M., & Nye, N. S. Common questions about developmental dysplasia of the hip. Am Fam Physician. 2014; 90(12): 843-850. https://pubmed.ncbi.nlm.nih.gov/25591184/
Patel H and the Canadian Task Force on Preventive Health Care. Preventive health care, 2001 update: screening and management of developmental dysplasia of the hip in newborns. CMAJ. 2001; 164(12):1669- 77. https://pubmed.ncbi.nlm.nih.gov/11450209/
Shaw BA, Segal LS; AAP SECTION ON ORTHOPAEDICS. Evaluation and Referral for Developmental Dysplasia of the Hip in Infants. Pediatrics. 2016 Dec;138(6). pii: e20163107. Epub 2016 Nov 21. https://pubmed.ncbi.nlm.nih.gov/27940740/
US Preventive Services Task Force. Screening for Developmental Dysplasia of the Hip: Recommendation Statement. Pediatrics. 2006; 117(3):898-902. https://pubmed.ncbi.nlm.nih.gov/16510673/

6.13 MUSCLE TONE/PERSISTENCE OF DEVELOPMENTAL (PRIMITIVE) REFLEXES

Muscle tone/Persistence of Developmental (primitive) Reflexes recommendation	Strength of Recommendation
Assessment should be performed for abnormal tone or deep tendon reflexes, or for asymmetric movements (moving one side more than other) as well as for the persistence of developmental reflexes (e.g. Moro, asymmetric tonic neck, palmar grasp) beyond 5-6 months. These may be early signs of cerebral palsy or neuromotor disorder and suggest the need for further assessment.	Consensus

Muscle tone/Persistence of Developmental (primitive) Reflexes Resources
New 2024 Shah V, Coroneos C, Ng E, et al. Canadian Paediatric Society Position Statement. Fetus and Newborn Committee. The evaluation and management of neonatal brachial plexus palsy. Paediatr Child Health 2021 26(8):493-497. https://cps.ca/en/documents/position/neonatal-brachial-plexus-palsy New 2024 Childhood Disability Link: Early Detection of CP. https://www.childhooddisability.ca/early-detection-of-cp/ New 2024 Childhood Disability Link: Prompts for Cerebral Palsy Referral. https://www.childhooddisability.ca/wp-content/uploads/2023/03/PCP_poster.pdf

Reference
Boychuk, Z. et al & The Prompt Group. International expert recommendations of clinical features to prompt referral for diagnostic assessment of cerebral palsy. Development Medicine & Child Neurology. 2020. 62(1):89-96 https://pubmed.ncbi.nlm.nih.gov/31025318/

6.14 GENITALIA

References
Community Paediatrics Committee, Canadian Paediatric Society. Ethical approach to genital examination in children. Paediatr Child Health. 1999; 4(1): 71-72. Reaffirmed: February 1 2016. https://pubmed.ncbi.nlm.nih.gov/20212992/
Sorokan, S. T., Finlay, J. C., Jefferies, A. L., Canadian Paediatric Society, F., Newborn Committee, I. D., & Immunization, C. Newborn male circumcision. Paediatr Child Health. 2015; 20(6): 311-320. https://pubmed.ncbi.nlm.nih.gov/26435672/

6.15 BACK EXAM/SACRAL DIMPLE/ANUS

Back exam/sacral dimple/anus recommendation	Strength of Recommendation
Examine spine for cutaneous signs of occult spinal dysraphism. Check anal patency.	Consensus

Reference
See report of a case review by the Office of the Chief Coroner Pediatric Death Review Committee.
Albert G. Spine ultrasounds should not be routinely performed for patients with simple sacral dimples. Acta Paediatrica; 2016:105(8) 890-894. https://pubmed.ncbi.nlm.nih.gov/27059606/
Dias M, Partington M. Congenital Brain and Spinal Cord Malformations and Their Associated Cutaneous Markers. Pediatrics October 2015, 136 (4) e1105-e1119; DOI: https://doi.org/10.1542/peds.2015-2854 https://publications.aap.org/pediatrics/article/136/4/e1105/73892/Congenital-Brain-and-Spinal-Cord-Malformations-and?autologincheck=redirected
Holmes LC, Li V. Occult spinal dysraphisms. Pediatrics in Review;2019; 40 (12) 650-652. https://pubmed.ncbi.nlm.nih.gov/31792051/
Zywicke HA, Rozzelle CJ. Sacral dimples. Pediatrics in Review; 2011, 32 (3) 109-114 https://pubmed.ncbi.nlm.nih.gov/21364014/

7.0 INVESTIGATIONS

7.1 ANEMIA/IRON DEFICIENCY SCREENING

Anemia/Iron Deficiency Screening Recommendation	Strength of Recommendation
1. Screening should be considered between 6 and 18 months of age for infants/children at risk due to factors including low birth wt and prematurity; social determinants of health; recently arrived from resource poor countries; or diet (infants/children fed whole cow's milk before 9 months of age or at quantities > 500 mls/day; prolonged bottle feeding beyond 15 months of age; or sub-optimal intake of iron-containing foods. Beyond this age, screening as per additional risk factors	Fair

Anemia Screening Resources
1. Iron requirements (CPS)

References	GRADE
Abdullah, K., Birken, C.S., Maguire, J.L., Fehlings, D., Hanley, A.J., Thorpe, K.E., Parkin, P.C., Re- Evaluation of Serum Ferritin Cut-Off Values for the Diagnosis of Iron Deficiency in Children Aged 12-36 Months. The Journal of Pediatrics. 2017, 188: 287-290. https://pubmed.ncbi.nlm.nih.gov/28431746/	C

Maguire, J.L., Lebovic, G., Kandasamy, S., Khovratovich, M., Mamdani, M., Birken, C.S., Parkin, P.C., on behalf of the TARGet Kids! And Collaboration, The Relationship Between Cow's Milk and Stores of Vitamin D and Iron in Early Childhood. Pediatrics. 2013. 131(1):e144-151 https://pubmed.ncbi.nlm.nih.gov/23248224/	C
Cox, K.A., Parkin, P.C., Anderson, L.N., Chen, Y., Birken, C.S., Maguire, J.L., Macarthur, C., Borkhoff, C.M. Association Between Meat and Meat-Alternative Consumption and Iron Stores in Early Childhood. Academic Pediatrics. 2016. 16(8):783-791 https://pubmed.ncbi.nlm.nih.gov/26804490/	C

7.2 HEMOGLOBINOPATHY SCREENING

Hemoglobinopathy Screening Recommendation	**Strength of Recommendation**
1. Consider screening neonates from high-risk groups.	Good

Reference
Lin K, Barton M. Screening for Hemoglobinopathies in Newborns: Reaffirmation Update for the U.S. Preventive Services Task Force. Evidence Synthesis No. 52. Rockville, MD: Agency for Healthcare Research and Quality, August 2007. AHRQ Publication No. 07-05104-EF-1.UPDATE in progress. https://www.ahrq.gov/downloads/pub/prevent/pdfser/sicklecelles.pdf

7.3 UNIVERSAL NEWBORN HEARING SCREENING (UNHS)

Universal Newborn Hearing Screening (UNHS) Recommendation	**Strength of Recommendation**
1. Universal newborn hearing screening (UNHS): Effectively identifies infants with congenital hearing loss and allows for early intervention & improved outcomes.	Good

References	**GRADE**
Levit, Y., Himmelfarb, M., & Dollberg, S. Sensitivity of the Automated Auditory Brainstem Response in Neonatal Hearing Screening. Pediatrics. 2015; 136(3): e641-647. https://pubmed.ncbi.nlm.nih.gov/26324873/	B
Pimperton H, Kennedy CR. The impact of early identification of permanent childhood hearing impairment on speech and language outcomes. Arch Dis Child. 2012 Jul;97(7):648-53. https://pubmed.ncbi.nlm.nih.gov/22550319/	C

Additional References
New 2024 Edmond K, Chadha S, et al. UNHS review group. Effectiveness of universal newborn hearing screening: a systematic review and meta-analysis. J Glob Health 2022 Oct 19:12:12006. https://pubmed.ncbi.nlm.nih.gov/36259421/
Nelson HD, Bougatsos C, Nygren P. Universal newborn hearing screening: Systematic review to update the 2001 US Preventive Services Task Force recommendation. Pediatrics. 2008;122:e266- e276. https://pubmed.ncbi.nlm.nih.gov/18595973/
Patel, H, Feldman, M. Canadian Paediatric Society, Community Paediatrics Committee. Universal newborn hearing screening. Paediatrics & Child Health. 2011; 16: 301-5. Reaffirmed February 1 2016. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3114997/

7.4 TUBERCULOSIS SCREENING

Tuberculosis Resources
For up-to-date information, see Canadian TB Standards: 2022

8.0 LEVELS AND GRADES OF EVIDENCE

For our critical appraisal of the literature, prior to the 2014 RBR we used the former system of the Canadian Task Force on Preventive Health Care (CTFPHC) to determine the quality of the evidence in each publication reviewed (Table 1). We continued to use this system for the 2014 RBR, but also began transitioning to the new GRADE system, now endorsed by the CTFPHC (Table 2). For the 2017and 2020 RBR, only the GRADE system was used. Both former CTFPHC and GRADE systems are described below.

Based on this grading guide, we then used the quality of the evidence to determine the strength of each RBR item recommendation, using the longstanding and clinician-friendly scheme of **Good**, *Fair*, and Inconclusive evidence/Consensus.

Table 1: Former system of the Canadian Task Force on Preventive Health Care (CTFPHC)

Levels and grades of evidence

Level	Description
I	Evidence obtained from at least one properly randomized trial.
II-1	Evidence obtained from a well-designed, controlled trial without randomization.
II-2	Evidence obtained from a well-designed cohort or case-controlled analytic studies, preferably from more than one centre or research group.
II-3	Evidence obtained from comparisons between times and places, with or without the intervention; dramatic results in uncontrolled experiments could also be included in this category.
III	Opinions of respected authorities, based on clinical experience, descriptive studies or reports of expert committees.
Grade	
A	There is good evidence to recommend the clinical preventive action.
B	There is fair evidence to recommend the clinical preventive action.
C	The existing evidence is conflicting and does not allow to make a recommendation for or against use of the clinical preventive action; however, other factors may influence decision making.
D	There is fair evidence to recommend against the clinical preventive action.
E	There is good evidence to recommend against the clinical preventive action.
I	There is insufficient evidence (in quantity or quality) to make a recommendation; however, other factors may influence decision making.

The task force recognizes that, in many cases, patient-specific factors must be considered and discussed, such as the value the patient places on the clinical preventive action, its possible positive and negative outcomes, and the context or personal circumstances of the patient (medical and other). In certain circumstances in which the evidence is complex, conflicting or insufficient, a more detailed discussion may be required.

Canadian Task Force on Preventive Health Care. New grades for recommendations from the Canadian Task Force on Preventive Health Care. *CMAJ* 2003;169:207-8.

Table 2: Grades of Recommendation, Assessment, Development and Evaluation

(GRADE) Grading Guide (http://www. uptodate. com/home/gr ading- guide)

Grade of Recommendation	**Clarity of risk/benefit**	**Quality of supporting evidence**	**Implications**

1A. Strong recommendation, high quality evidence	Benefits clearly outweigh risk and burdens, or vice versa.	Consistent evidence from well performed randomized, controlled trials or overwhelming evidence of some other form. Further research is unlikely to change our confidence in the estimate of benefit and risk.	Strong recommendations, can apply to most patients in most circumstances without reservation. Clinicians should follow a strong recommendation unless a clear and compelling rationale for an alternative approach is present.
1B. Strong recommendation, moderate quality evidence	Benefits clearly outweigh risk and burdens, or vice versa.	Evidence from randomized, controlled trials with important limitations (inconsistent results, methodologic flaws, indirect or imprecise), or very strong evidence of some other research design. Further research (if performed) is likely to have an impact on our confidence in the estimate of benefit and risk and may change the estimate.	Strong recommendation and applies to most patients. Clinicians should follow a strong recommendation unless a clear and compelling rationale for an alternative approach is present.
1C. Strong recommendation, low quality evidence	Benefits appear to outweigh risk and burdens, or vice versa.	Evidence from observational studies, unsystematic clinical experience, or from randomized, controlled trials with serious flaws. Any estimate of effect is uncertain.	Strong recommendation, and applies to most patients. Some of the evidence base supporting the recommendation is, however, of low quality.

2A. Weak recommendation, high quality evidence	Benefits closely balanced with risks and burdens.	Consistent evidence from well performed randomized, controlled trials or overwhelming evidence of some other form. Further research is unlikely to change our confidence in the estimate of benefit and risk.	Weak recommendation, best action may differ depending on circumstances or patients or societal values.
2B. Weak recommendation, moderate quality evidence	Benefits closely balanced with risks and burdens, some uncertainly in the estimates of benefits, risks and burdens.	Evidence from randomized, controlled trials with important limitations (inconsistent results, methodologic flaws, indirect or imprecise), or very strong evidence of some other research design. Further research (if performed) is likely to have an impact on our	Weak recommendation, alternative approaches likely to be better for some patients under some circumstances.
2C. Weak recommendation, low quality evidence	Uncertainty in the estimates of benefits, risks, and burdens; benefits may be closely balanced with risks and burdens.	Evidence from observational studies, unsystematic clinical experience, or from randomized, controlled trials with serious flaws. Any estimate of effect is uncertain.	Very weak recommendation; other alternatives may be equally reasonable.

*Numbers represent strength of recommendation (strong, weak) and letters represent quality (low, moderate, high)

GRADE

Grades of Recommendation, Assessment, Development, and Evaluation

Target Audience	Strong Recommendation	Weak Recommendation
For patients/public	We believe most people in this situation would want the recommended course of action and only a small number would not.	We believe that most people in this situation would want the recommended course of action, but many would not. Different choices are acceptable for each person, and clinicians should support patients and discuss their values and preferences to reach a decision. Decision aids may support people in reaching these decisions.
For clinicians	The recommendation would apply to most individuals. Formal discussion aids are not likely to be needed to help individuals make decisions consistent with their values and preferences.	We recognize that different choices may be appropriate for individual patients. Clinicians should support each patient in reaching a management decision consistent with his or her values and preferences. Decision aids may support individuals in reaching such decisions.
For policy makers and developers of quality measures	The recommendation can be adapted as policy in most situations. Adherence to this recommendation according to the guideline could be used as a quality criterion or performance indicator.	Policy-making will require substantial debate and involvement of various stakeholders. An appropriately documented decision making process could be used as quality indicator.

Quality of Evidence

Recommendations in the guidelines prepared by the Canadian Task Force on Preventive Health Care (CTFPHC) www.canadiantaskforce.ca are graded as either strong or weak according to the Grading of Recommendations Assessment, Development and Evaluation system (GRADE). The CTFPHC's judgments about the **quality of evidence** are summarized by the degree of confidence that available evidence correctly reflects the theoretical true effect of the intervention or service.

We judge evidence as **high quality** when we are highly confident that the true effect lies close to that of the estimate of the effect. For example, evidence is judged as high quality if all of the following apply: there is a wide range of studies included in the analyses with no major limitations, there is little variation between studies, and the summary estimate has a narrow confidence interval.

We judge evidence as **moderate quality** when we consider that the true effect is likely to be close to the estimate of the effect, but there is a possibility that it is substantially different. For example, evidence might be judged as moderate quality if any of the following applies: there are only a few studies and some have limitations but not major flaws, there is some variation between studies, or the confidence interval of the summary estimate is wide.

We judge evidence to be **low or very low quality** when the true effect may be substantially different from the estimate of the effect. For example, evidence might be judged as low quality if any of the following applies: the studies have major flaws, there is important variation between studies, or the confidence interval of the summary estimate is very wide.

Strength of Recommendations

In addition to the quality of supporting evidence, **the strength of our recommendations** is influenced by,

- the balance between desirable and undesirable effects;
- the variability or uncertainty in values and preferences of citizens; and
- whether or not the intervention represents a wise use of resources.

Strong recommendations are those for which **we are confident** that the desirable effects of an intervention outweigh its undesirable effects (strong recommendation for an intervention) **or** that the undesirable effects of an intervention outweigh its desirable effects (strong recommendation against an intervention). A strong recommendation implies that most individuals will be best served by the recommended course of action.

Weak recommendations are those for which the desirable effects **probably** outweigh the undesirable effects (weak recommendation for an intervention) **or** undesirable effects probably outweigh the desirable effects (weak recommendation against an intervention) but uncertainty exists. Weak recommendations result when the balance between desirable and undesirable effects is small, the quality of evidence is lower, and there is more variability in the values and preferences of individuals. A weak recommendation implies that we believe most people would want the recommended course of action but that many would not. Clinicians must recognize that different choices will be appropriate for different individuals, and they must support each person in reaching a management decision consistent with his/her values and preferences. Policy-making will require substantial debate and involvement of various stakeholders.

SOURCE: Grades of Recommendation, Assessment, Development, and Evaluation (GRADE) Working Group, 2011.