



First Nations & Inuit Health Branch

Alberta Region

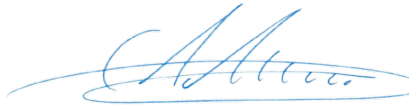
Policy Number: 3.2.4

Nursing Policies & Guidelines

Section: **Clinical Guidelines: Medication**

Subject: **Over the Counter Medications**

Distribution: **All Nursing Facilities**

Issued: 10 th August 2016	Policy Number: 3.2.4
Revised: 10 th July 2018	
Approved by:  <hr/> Shawn Grono, Director of Nursing	Effective Date: July 2018 Through June 2020

1. Policy:

- 1.1. For some communities, access to a pharmacy and over the counter (OTC) medications is limited due to distance or isolation. The purpose of this policy is to provide direction to nurses in order to support timely, effective, and efficient treatment of clients' signs or symptoms that can be managed by an OTC medication.
- 1.2. Registered nurses working in nursing stations or health centres will follow a standardized protocol to assist clients with the selection of an OTC medication for self-administration to relieve signs or symptoms identified by the OTC medication manufacturer.

2. Principles:

- 2.1. Nurses adhere to the College & Association of Registered Nurses of Alberta's (CARNA) Medication Guidelines (March 2015).
- 2.2. Over the counter medications refer to medications that can be obtained without a prescription (Schedule 2, 3, and Unscheduled).
- 2.3. CARNA's Medication Guidelines indicate that nurses can recommend and assist clients in the selection of OTC medication or implement a protocol that contains an OTC medication when supported by their employer's policy.



- 2.4. Clients who are capable of selecting an OTC medication for self-administration are recognized and supported.
- 2.5. Nurses are responsible and accountable for performing an appropriate assessment of the client prior to the client's selection of an OTC medication.
- 2.6. The format for all OTC medication protocols will be standardized (see Appendix).
- 2.7. Only the OTC medications that are listed in the FNIHB Alberta Formulary that have been approved by the Quality Management Committee will have a standard protocol developed.
- 2.8. Nurses are only able to assist clients in the selection of OTC medications for which a protocol has been developed.
- 2.9. Each OTC medication protocol will identify the area of nursing that is permitted to implement the protocol (example: primary care, public health).
- 2.10. Content for all OTC medication protocols will be reviewed by a multidisciplinary team that will include at least one of each of the following: nurse practitioner, physician, pharmacist, and nurse.
- 2.11. The nurse supports the client in making an informed decision when selecting an OTC medication for self-administration.
- 2.12. Clients are referred to a nurse practitioner, physician, or pharmacist as directed by the protocol or when the client's specific health information or medication history is not known.
- 2.13. The nurse reviews contraindications for the OTC with the client to identify possible interactions with current medication, health conditions, or diet.
- 2.14. The nurse provides education regarding the therapeutic effects and potential risks/side effects to the client.
- 2.15. A plan to monitor and evaluate the effects of the OTC medication is discussed with the client.
- 2.16. The nurse documents any actions taken and advice given.

3. Definitions:

- 3.1. Capable:** being able to understand and appreciate the consequences of various options and make an informed decision about one's own care and treatment.
- 3.2. Client:** refers to the individual who is the recipient of nursing services, or where the context requires, the guardian for the recipient of nursing services.
- 3.3. Over the counter (OTC) medications:** refer to medications that can be obtained without a prescription (Schedule 2, 3, and Unscheduled).
- 3.4. Nurse:** refers to a registered nurse who is regulated by CARNA and works for FNIHB – Alberta Region.



3.5. Protocol: a formal document that guides decision making and includes interventions for specific healthcare problems.

4. Procedure:

- 4.1. The client, or guardian for the recipient of nursing service, requests an OTC medication.
- 4.2. The nurse determines if the client's chief complaint is on the list of the treatable signs or symptoms for the OTC medication.
- 4.3. If the client's chief complaint is not included on the list of treatable signs or symptoms for the OTC medication:
 - 4.3.1. the client is not eligible to select the OTC medication;
 - 4.3.2. the nurse continues with the clinic visit;
 - 4.3.3. the nurse consults with a nurse practitioner, physician, or pharmacist if required; and
 - 4.3.4. Documentation of the visit is done.
- 4.4. If the client's chief complaint is included on the list of treatable signs and symptoms for the OTC medication, a nursing assessment of the client is completed and a medication history is taken.
- 4.5. The nurse will ask the about the treatment history of the chief complaint and the outcome of the treatment.
- 4.6. The nurse determines if the nursing assessment supports the client's selection of the OTC medication without a referral to a nurse practitioner, physician, or pharmacist.
- 4.7. If the nursing assessment does not support the client's selection of the OTC medication without a referral to a nurse practitioner, physician, or pharmacist:
 - 4.7.1. the client is not eligible to select the OTC medication;
 - 4.7.2. the nurse continues with the clinic visit;
 - 4.7.3. the nurse consults with a nurse practitioner, physician, or pharmacist if required; and
 - 4.7.4. Documentation of the visit is done.
- 4.8. If the nursing assessment supports the client's selection of the OTC medication without a referral, the nurse will review the contraindications listed for the OTC medication with the client.
- 4.9. If the client has any of the contraindications listed for the OTC medication:
 - 4.9.1. the client is not eligible to select the OTC medication;
 - 4.9.2. the nurse continues with the clinic visit;
 - 4.9.3. the nurse consults with a nurse practitioner, physician, or pharmacist if required; and
 - 4.9.4. Documentation of the visit is done.



- 4.10. If the client does not have any of the contraindications listed for the OTC medication, the client is able to select the OTC medication for self-administration.
- 4.11. The nurse provides education about the OTC medication to the client.
- 4.12. The nurse and client develop a follow up plan.
- 4.13. The nurse documents the client's selection of the OTC medication.

5. **References:**

College & Association of Registered Nurses of Alberta (2015). Medication guidelines.

Retrieved from

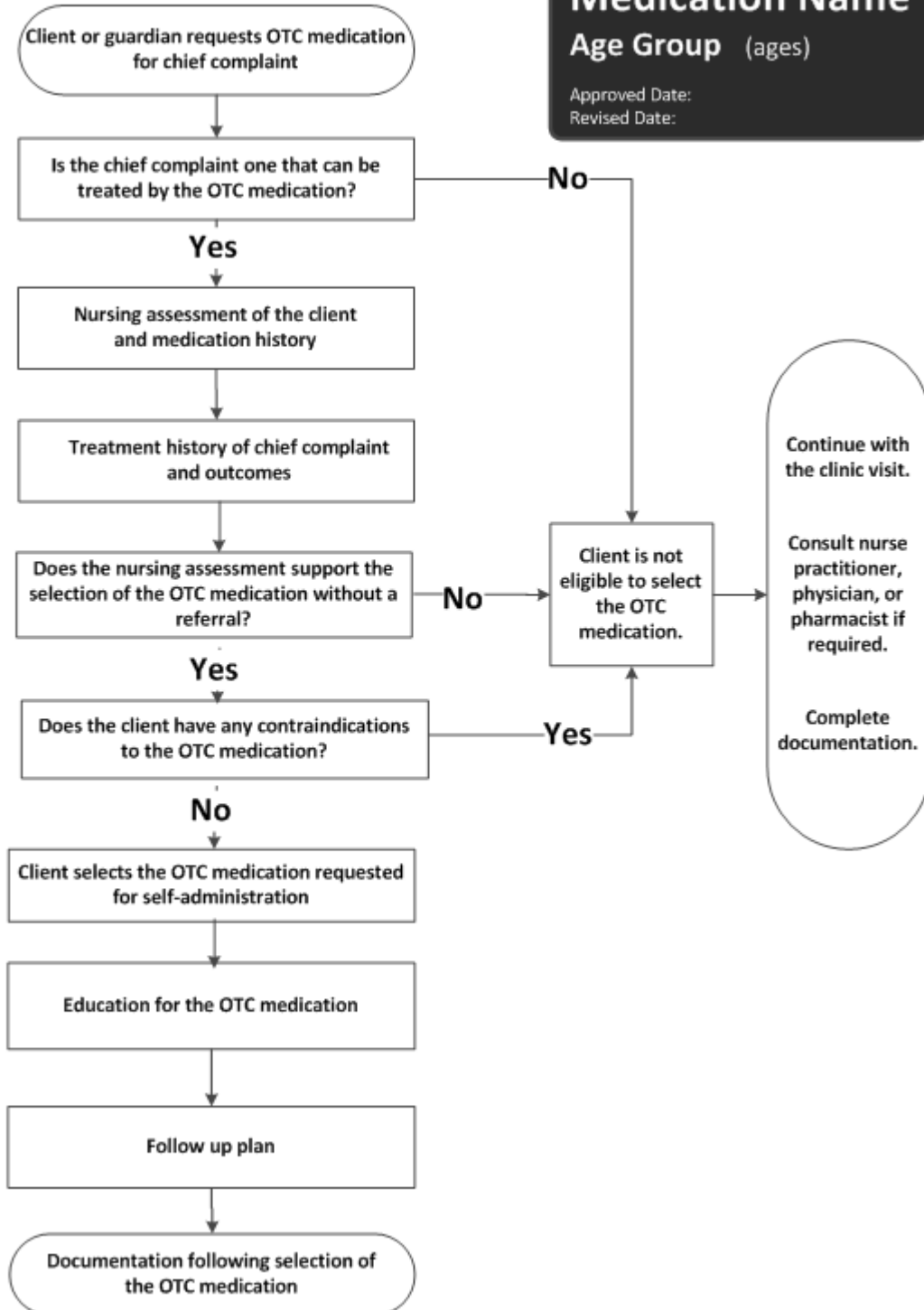
http://www.nurses.ab.ca/content/dam/carna/pdfs/DocumentList/Guidelines/MedicationGuidelines_Mar2015.pdf



Appendix A: OTC Client selection Process

FNIHB – Alberta Region

Over the Counter (OTC) Medications – Client Selection Process



(Area of Nursing) Protocol

Medication Name

Age Group (ages)

Approved Date:

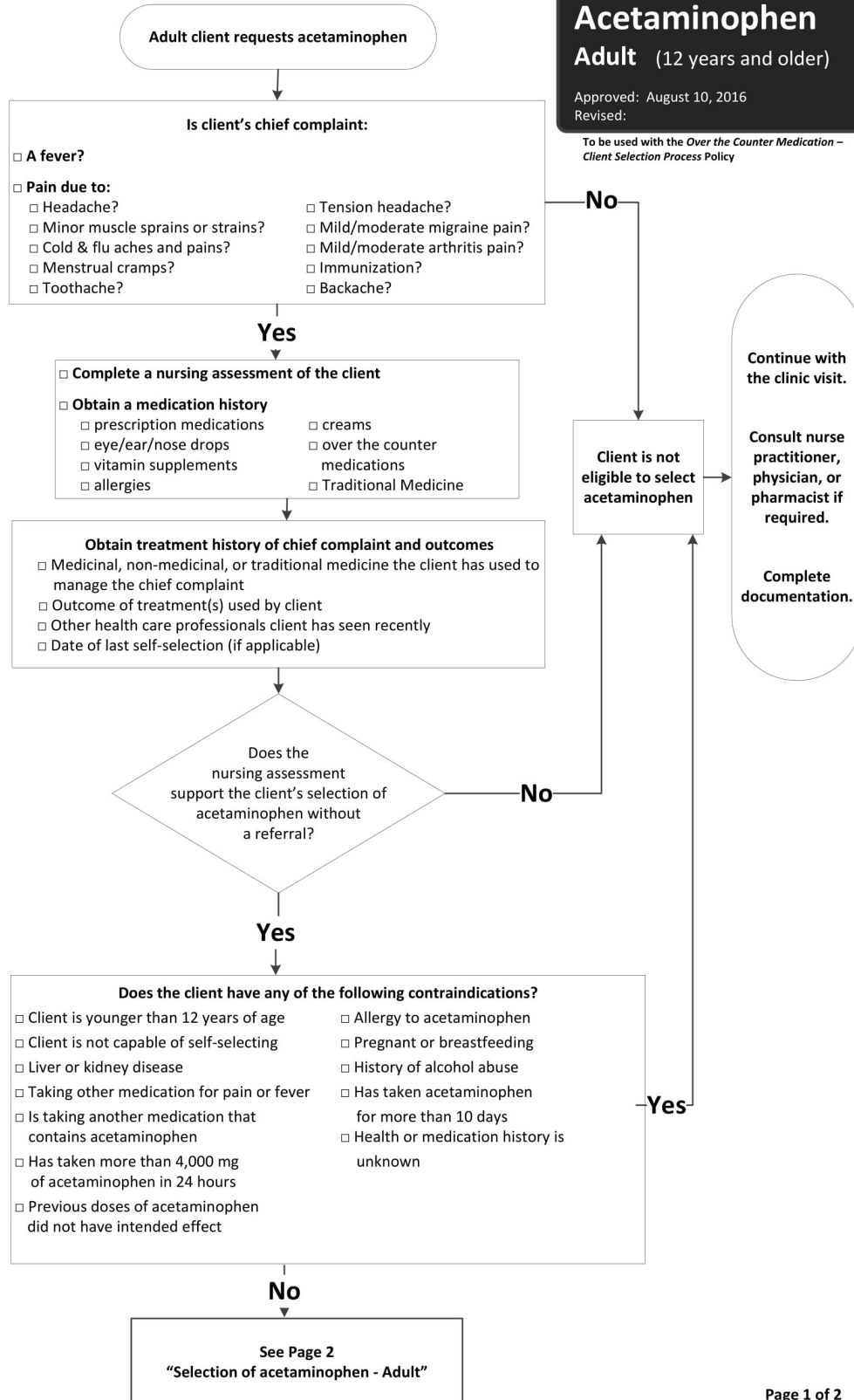
Revised Date:



Appendix B: Acetaminophen: Adult

FNIHB – Alberta Region

Over the Counter Medication - Client Selection Process





FNIHB – Alberta Region
Over the Counter Medication - Client Selection Process

Primary Care Nurses' Protocol

Acetaminophen
Adult (12 years and older)

Approved: August 10, 2016
Revised:

To be used with the *Over the Counter Medication – Client Selection Process Policy*

Continued from Page 1

Selection of acetaminophen - Adult

Acetaminophen 325 mg caplet	OR	Acetaminophen 500 mg tablet
<input type="checkbox"/> 12 caplets		<input type="checkbox"/> 24 tablets
<input type="checkbox"/> 24 caplets		<input type="checkbox"/> 30 tablets
<input type="checkbox"/> 30 caplets		

Education for acetaminophen - Adult

- Therapeutic effect: relief of headache, aches & pain, and/or fever for adults.
- Use the smallest effective dose.
- Only take when needed to treat pain or fever.
- Adult use only (12 years and older).
- Warning: Keep out of reach of children. This package contains enough drug to seriously harm a child.**
- Acetaminophen can be taken without regard to meals and is unlikely to cause stomach upset.
- Adult Dosage:**
 - Acetaminophen 325 mg caplet**
 - Take one caplet orally every 4 – 6 hours.
 - If pain or fever does not respond to 1 caplet, take 2 caplets at next dose.
 - Do not take more than 12 caplets per day.
 - Acetaminophen 500 mg tablet**
 - Take one tablet orally every 4 – 6 hours.
 - If pain or fever does not respond to 1 tablet, take 2 tablets at next dose.
 - Do not take more than 8 tablets per day (4,000 mg acetaminophen).
- Do not exceed the recommended dosage. Taking more than the maximum daily dose may cause severe or possibly fatal liver damage.**
- Do not use with other drugs containing acetaminophen. Read the labels of all medication.
- In case of an overdose, immediately call **Poison Control (1-800-332-1414)**, see a doctor, or attend the treatment centre, even if you do not notice any possible signs or symptoms such as increased sweating, nausea, vomiting, stomach pain, and loss of appetite.
- Store at room temperature, 15–30°C (59–86°F). Protect from light.
- Keep the box and insert for information purposes.

Follow up plan

- Client to monitor and evaluate the effects of the OTC medication.
- Attend nurse practitioner or physician if medication does not have intended effect.
- Attend nurse practitioner or physician if:
 - fever lasts more than 3 days,
 - your symptoms last for more than 5 days,
 - you develop an allergic reaction such rash or itching, or
 - signs or symptoms worsen or do not improve with medication
- Seek emergency treatment if you have breathing difficulties such as wheezing. Call an ambulance or the nursing station.

Documentation following selection of OTC medication

- Client's chief complaint and nursing assessment
- Prior treatment history and outcomes
- Indication for self selection/goal of therapy
- Medication name, dose amount, strength, dosage form, quantity, route of administration, frequency of medication
- Education given to client
- Evaluation of client's understanding of education
- Follow up plan



Appendix B: Acetaminophen: Child

FNIHB – Alberta Region

Over the Counter Medication - Client Selection Process

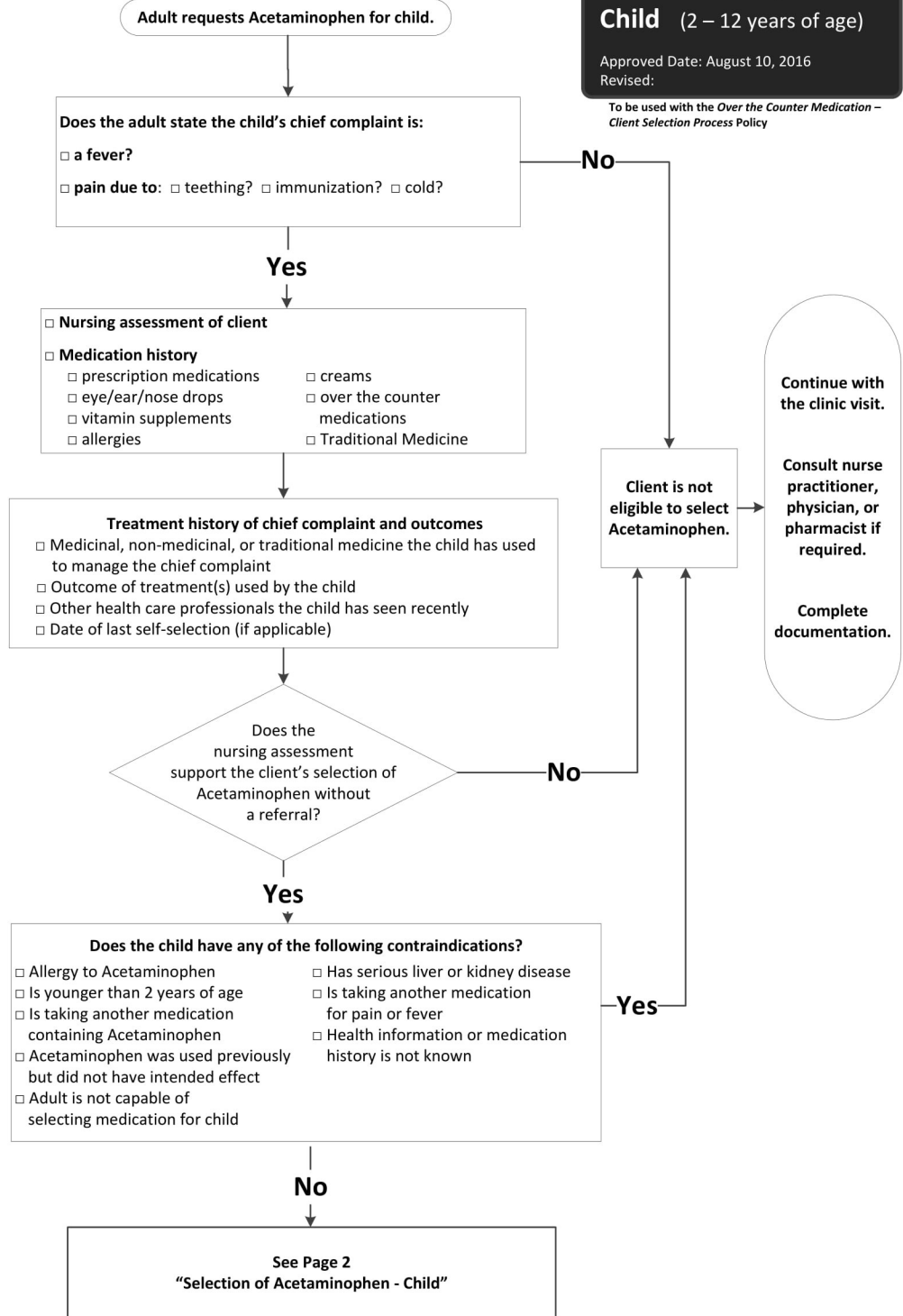
Primary Care Nurses

Acetaminophen

Child (2 – 12 years of age)

Approved Date: August 10, 2016
Revised:

To be used with the Over the Counter Medication – Client Selection Process Policy





FNIHB – Alberta Region
Client Selection of Over the Counter Medication Protocol

Primary Care Nurses

Acetaminophen
Child (2 – 12 years of age)

Approved: August 10, 2016
Revised:

To be used with the *Over the Counter Medication – Client Selection Process Policy*

Continued from Page 1

Selection of Acetaminophen – Child
Acetaminophen 160 mg / 5 ml 100 ml bottle

Education for Acetaminophen - Child

- The therapeutic effect is relief of fever and pain. Particularly useful for relief of pain and fever due to colds, teething pain, and immunizations.
- Use the smallest effective dose.
- Only give to child when needed to treat pain or fever.
- Infant Acetaminophen and Children’s Acetaminophen are NOT the same strengths, do not interchange.**
- Do not use for children under the age of 2 years.
- Warning: Keep out of reach of children. This package contains enough drug to seriously harm a child.**
- The medication is unlikely to cause upset stomach or gastric irritation.
- Always use the measuring cup included in the box to measure the dose. Follow instructions on box.
- Child’s dose:** Child’s weight: _____
 - Each 5 ml of the medication contains 160 mg of acetaminophen.
 - When possible, use the child’s weight to determine the dose.** See the package insert for the amount to be given by weight.
 - If child’s weight is not known, use the child’s age to determine the dose. See the side of the box for the amount to be given by age.
- The medication may be given alone or mixed with milk, formulas or juices.
- Dose may be repeated every 4 – 6 hours, as needed.
- Do not exceed 5 doses per day.
- Do not give more than the maximum daily dose. Taking more than the maximum daily dose may cause severe or possibly fatal liver damage.**
- In case of an overdose, immediately call **Poison Control (1-800-332-1414)**, see a doctor, or attend the treatment centre, even if you do not notice any possible signs or symptoms such as increased sweating, nausea, vomiting, stomach pain, and loss of appetite.
- Do not use with other drugs containing Acetaminophen.
- Store between 15–30°C.
- Keep the box and insert for information purposes

Follow Up Plan

- Adult to monitor child and evaluate the effects of the Acetaminophen
- Child to attend NP or physician if:
 - child’s symptoms last for more than 5 days,
 - fever lasts more than 3 days,
 - child develops an allergic reaction such rash or itching, or
 - signs or symptoms worsen or do not improve with medication.
- Seek emergency treatment if child has breathing difficulties such as wheezing. Call an ambulance or the nursing station.
- Adult to take child to nurse practitioner or physician if medication does not have intended effect.

Documentation following selection of OTC medication

- Client’s chief complaint and nursing assessment
- Prior treatment history and outcomes
- Indication for self selection/goal of therapy
- Medication name, dose amount, strength, dosage form, quantity, route of administration, frequency of medication
- Education given to client
- Evaluation of client’s understanding of education
- Follow up plan



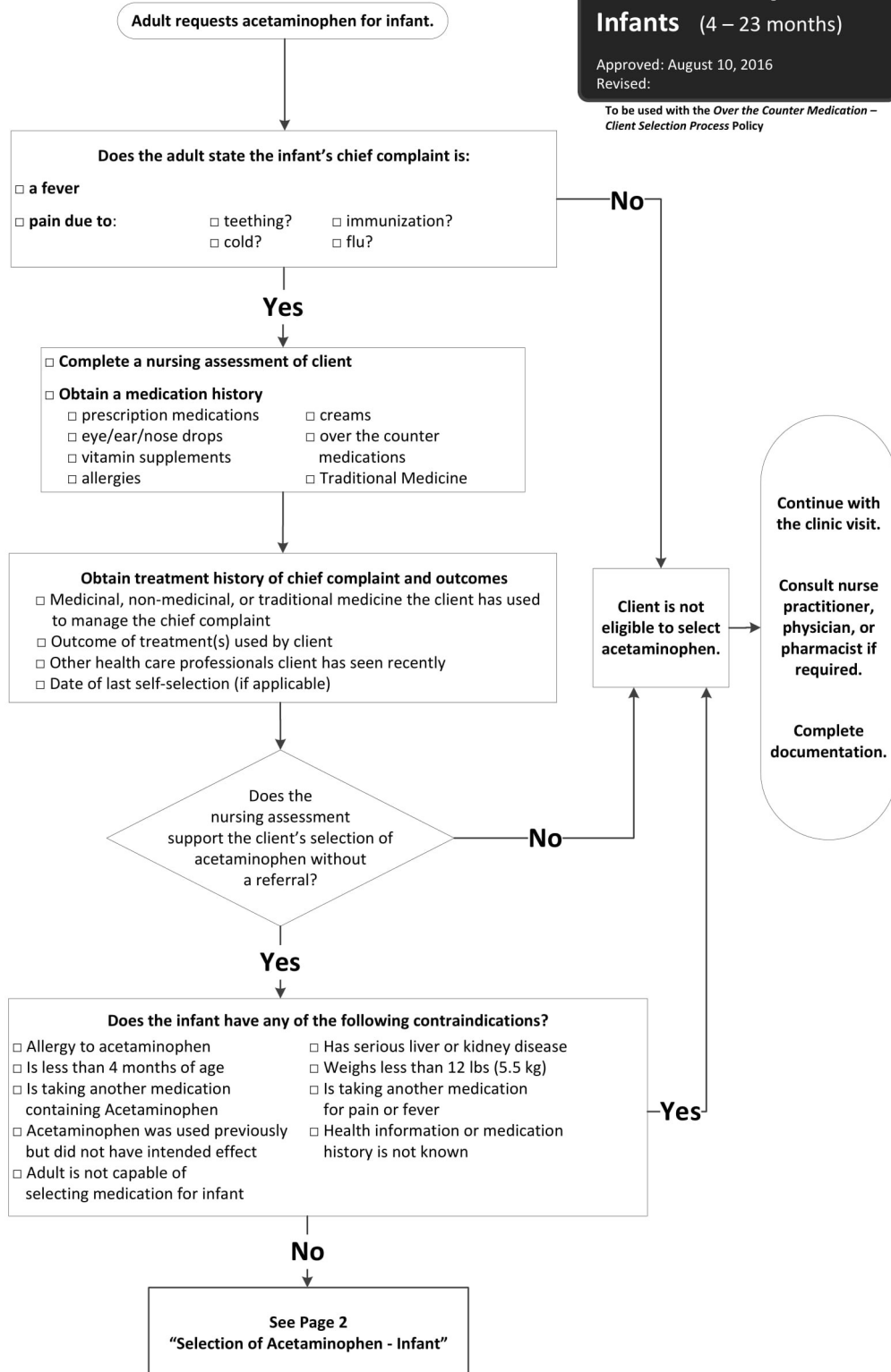
Appendix B: Acetaminophen: Child

FNIHB – Alberta Region
Over the Counter Medication – Client Selection Process

Primary Care Nurses' Protocol
Acetaminophen
Infants (4 – 23 months)

Approved: August 10, 2016
Revised:

To be used with the *Over the Counter Medication – Client Selection Process Policy*





Acetaminophen
Infants (4 – 23 months)

Approved: August 10, 2016
Revised:

To be used with the *Over the Counter Medication – Client Selection Process Policy*

Continued from Page 1

Selection of Acetaminophen - Infant
Acetaminophen 80 mg/ml 24 ml bottle

Education for Acetaminophen - Infant

- The therapeutic effect is relief of fever or pain due to immunizations, teething, colds or flu.
- Use the smallest effective dose.
- Only give to infant when needed to treat pain or fever.
- Infant acetaminophen and Children's acetaminophen are NOT the same strengths, do not interchange.**
- Warning: Keep out of reach of children. This package contains enough drug to seriously harm a child.**
- The medication is gentle on the stomach and does not contain alcohol.
- The medication for infants may appear thick and cloudy.
- Always use the syringe included in the box to measure the dose. Follow instructions on box.
- Shake well before use.
- Infant dose:** Infant's weight _____
 - Each 1 ml of the medication contains 80 mg of acetaminophen.
 - When possible, use infant's weight to determine the dose.** See the package or insert for the amount to be give by weight.
 - If the infant's weight is not known, use age to determine the dose. See the package or insert for the amount to be give by age.
- Administer liquid slowly into infant's mouth or mix with any liquid or soft food.
- Dose may be repeated every 4 – 6 hours, as needed.**
- Do not exceed 5 doses per day.**
- Do not give more than the maximum daily dose. Overdose may result in severe or possibly fatal liver damage.**
- In case of an overdose, immediately call **Poison Control (1-800-332-1414)**, see a doctor. or attend the treatment centre, even if you do not notice any possible signs or symptoms such as increased sweating, nausea, vomiting, stomach pain, and loss of appetite.
- Do not use with other drugs containing acetaminophen.
- Store at room temperature, 15–30°C (59–86°F). Protect from light.
- Keep the box and insert for information purposes.

Follow Up Plan

- Adult to monitor infant and evaluate the effects of the acetaminophen.
- Infant to attend NP or physician if:
 - fever lasts more than 3 days,
 - infant's symptoms last for more than 5 days,
 - infant develops an allergic reaction such rash or itching, or
 - signs or symptoms worsen or do not improve with medication.
- Seek emergency treatment if infant has breathing difficulties such as wheezing. Call an ambulance or the nursing station.
- Adult to take infant to nurse practitioner or physician if medication does not have intended effect

Documentation following selection of OTC medication

- Client's chief complaint and nursing assessment
- Prior treatment history and outcomes
- Indication for self selection/goal of therapy
- Medication name, dose amount, strength, dosage form, quantity, route of administration, frequency of medication
- Education given to client
- Evaluation of client's understanding of education
- Follow up plan



Appendix E: Ibuprofen: Adult

FNIHB – Alberta Region

Over the Counter Medication – Client Selection Process

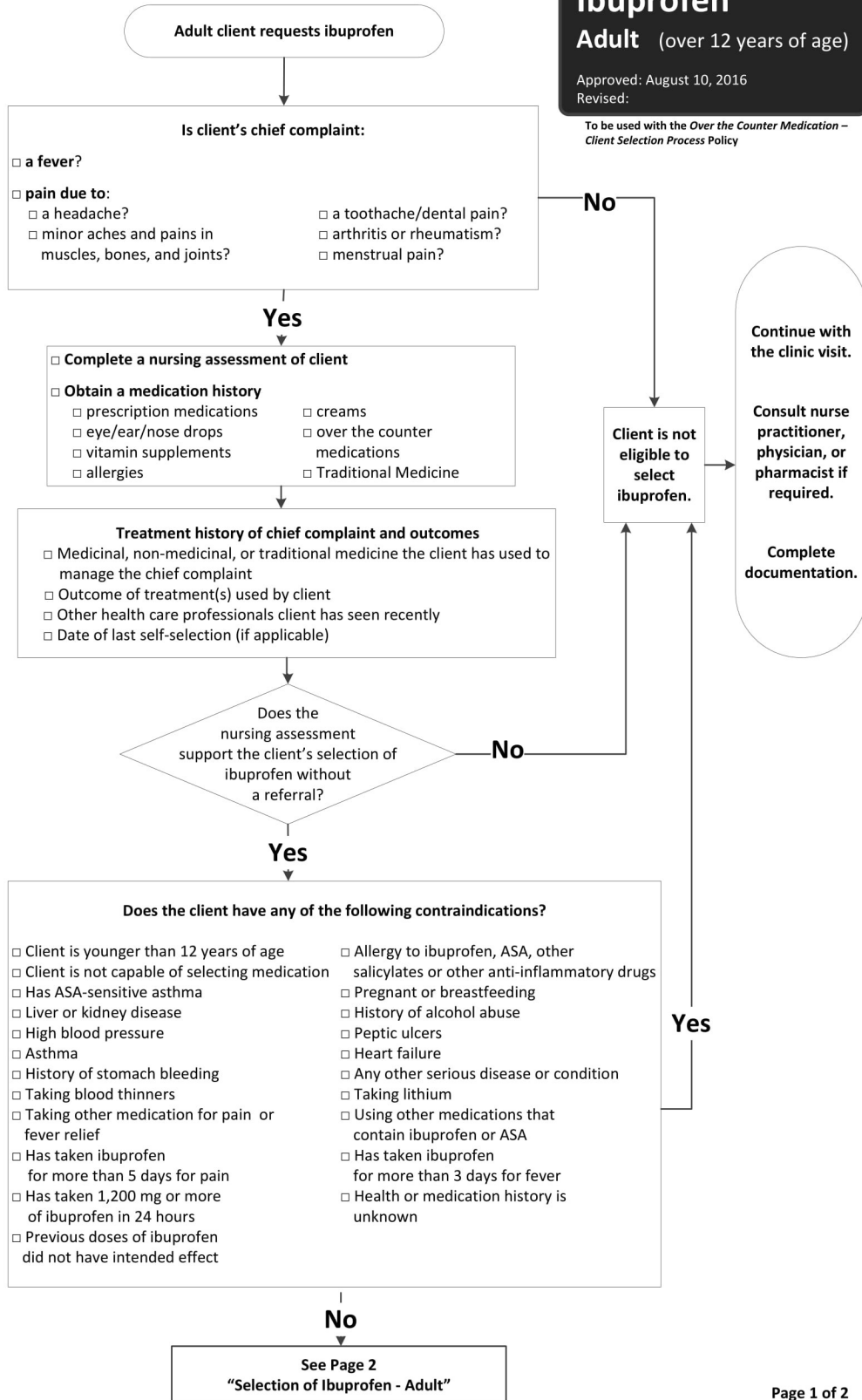
Primary Care Nurses' Protocol

Ibuprofen

Adult (over 12 years of age)

Approved: August 10, 2016
Revised:

To be used with the *Over the Counter Medication – Client Selection Process Policy*





FNIHB – Alberta Region
Over the Counter Medication – Client Selection Process

Primary Care Nurses' Protocol

Ibuprofen
Adult (over 12 years of age)

Approved: August 10, 2016
Revised:

To be used with the *Over the Counter Medication – Client Selection Process Policy*

Continued from Page 1

Selection of Ibuprofen - Adult

<p>Ibuprofen 200 mg tablet</p> <ul style="list-style-type: none"> <input type="checkbox"/> 10 tablets <input type="checkbox"/> 20 tablets <input type="checkbox"/> 30 tablets 	<p>Ibuprofen 400 mg tablet</p> <ul style="list-style-type: none"> <input type="checkbox"/> 10 tablets
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Education for Ibuprofen - Adult

- Therapeutic effect: is relief of: menstrual pain; toothache; dental pain; minor aches and pains in muscles, bones and joints; fever; headache; and pain due to arthritis or rheumatism.
- Adult use only (12 years and older).
- Use the smallest effective dose.
- Only take when needed to treat pain or fever.
- Warning: Keep out of reach of children. This package contains enough drug to seriously harm a child.**
- Adult Dosage:**
 - Ibuprofen 200 mg tablet**
 - Take 1 to 2 tablets orally every 4 hours.
 - Do not take more than 6 tablets (1200 mg) per day
 - Ibuprofen 400 mg tablet**
 - Take one tablet orally every 4 hours.
 - Do not take more than 3 tablets (1,200 mg) per day
- Do not take longer than 3 days for fever or 5 days for pain
- Do not exceed the recommended dosage.**
- If you have stomach upset while taking this medication, take it with food.
- See your doctor or return to the treatment centre if any of the following reactions develop during treatment: skin rash, itching, dizziness, any change in vision, ringing or buzzing in the ears, nausea, vomiting, abdominal pain or diarrhea, heartburn, bloating, constipation, fluid retention.
- Always tell any other doctor, dentist or pharmacist you consult that you are taking this medication.
- In case of an overdose, immediately call **Poison Control (1-800-332-1414)**, see a doctor, or attend the treatment centre, even if you do not notice any possible signs or symptoms such as increased sweating, nausea, vomiting, stomach pain, and loss of appetite.
- Store at room temperature, 15–30°C (59–86°F).
- Keep the printed information for information purposes

Follow up plan

- Client to monitor and evaluate the effects of the OTC medication.
- Attend nurse practitioner or physician if medication does not have intended effect.
- Attend nurse practitioner or physician if:
 - fever lasts more than 3 days,
 - your symptoms last for more than 5 days,
 - you develop an allergic reaction such rash or itching, or
 - signs or symptoms worsen or do not improve with medication
- Seek emergency treatment if you have breathing difficulties such as wheezing. Call an ambulance or the nursing station.

Documentation following selection of OTC medication

- Client's chief complaint and nursing assessment
- Prior treatment history and outcomes
- Indication for self selection/goal of therapy
- Medication name, dose amount, strength, dosage form, quantity, route of administration, frequency of medication
- Education given to client
- Evaluation of client's understanding of education
- Follow up plan



Appendix F: June 2018 Amendment: Vitamin D₃ Protocol

FNIHB – Alberta Region

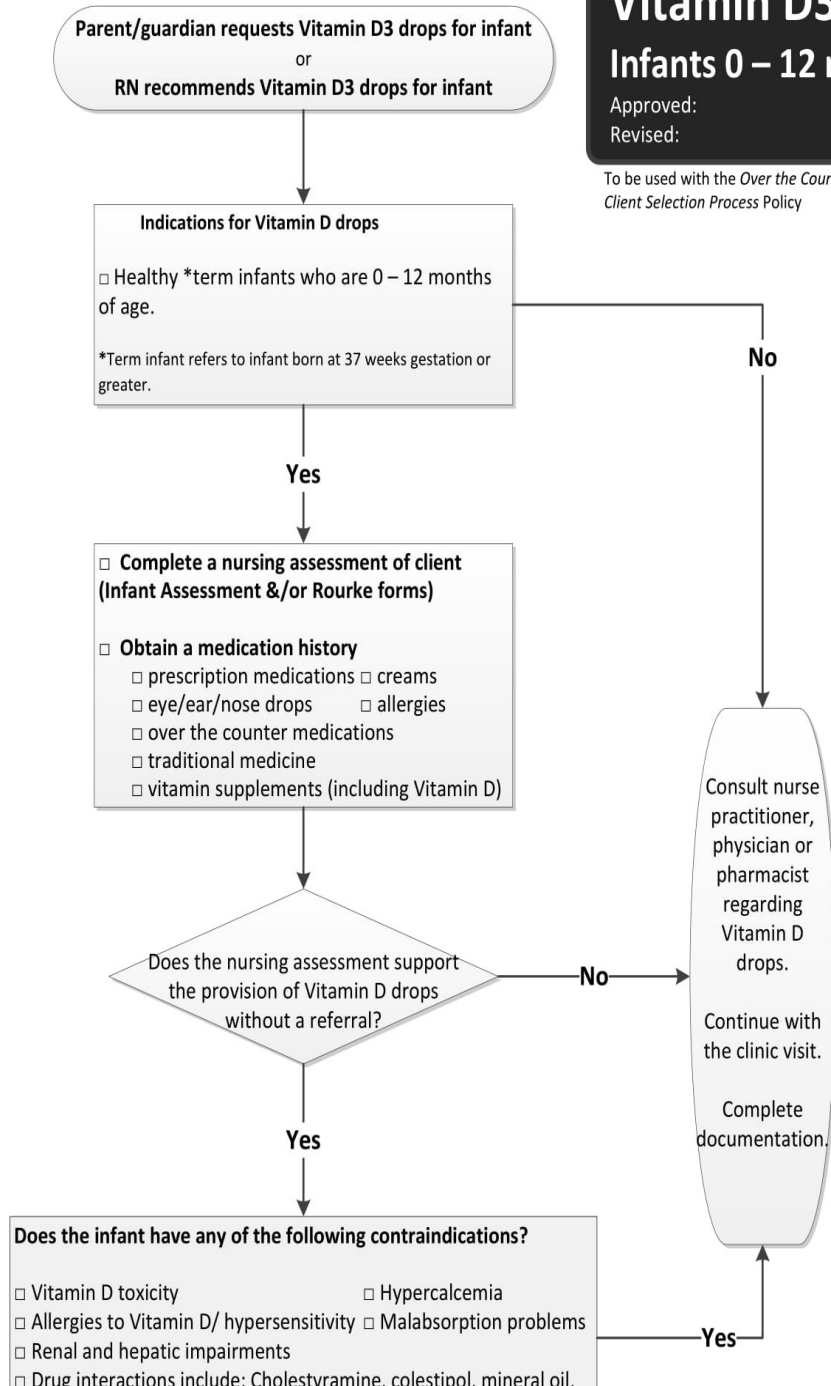
Over the Counter Medication – Client Selection Process

Community Health Nurses' Protocol

Vitamin D3 Drops Infants 0 – 12 months

Approved:
Revised:

To be used with the *Over the Counter Medication-Client Selection Process Policy*





Continued from Page 1

Provision of Vitamin D3 drops for infants

- 400 IU daily (oral)

Education for Vitamin D drops – Infant

- Therapeutic effect: Vitamin D is a very important vitamin for infants and children. The primary function of this fat soluble vitamin is to aid in the absorption of calcium and phosphorus, thus helping to form and maintain strong bones and teeth (Low vitamin D stores can lead to adverse effects such as rickets (softening of bones).
- Do not exceed the daily recommended dosage of 400 IU.
- Advise parents how to use calibrated measuring devices or dropper with oral solution and demonstrate how to use.
- Vitamin D toxicity is a rare event but can cause symptoms such as feeding difficulties, irritability, diarrhea, and poor weight gain. Vitamin D toxicity can also raise blood calcium levels, causing heart rhythm abnormalities and mental changes such as confusion.
- In case of an overdose, seek medical attention or attend the treatment center.
- Store bottle upright between 5°C – 30°C (room temperature).
- Keep out of reach of children.

Documentation following selection of and/or Recommendation of Vitamin D drops

- Reason for visit
- Nursing assessment of infant
- Indication for self selection/goal of therapy
- Medication name, dose amount, strength, frequency of medication, route of administration
- Education given to parent/guardian
- Evaluation of parent/guardian’s understanding of education
- Follow up plan

Follow up plan at next visit

- Parent/guardian to monitor and evaluate the effects of the Vitamin D drops.
- Complete a nursing assessment of infant (Rourke form).
- Assess infant feeding at routine visits, i.e. breast feeding, formula feeding, quantity, etc.
- Assess Vitamin D intake of infant.
- Assess for symptoms of Vitamin D deficiency.
- Notify NP or Physician immediately if signs of hypervitaminosis D occur. Signs and symptoms include fatigue, loss of appetite, weight loss, excessive thirst, confusion, muscle weakness, excessive urination, nausea, vomiting or constipation.

Additional Nursing Information

- Upper limit for vitamin D is 1000 IU for infants 0 to 6 months of age and 1500 IU for infants 7 to 12 months of age.
- Contact # for Poison Control: **(1-800-332-1414)**,

References:

Canadian Paediatric society (2018). Vitamin D Supplementation: Recommendations for Canadian Mothers and Infants. <https://www.cps.ca/en/documents/position/vitamin-d>

Health Canada (2017). Vitamin D and Calcium: Updated Dietary Reference Intakes. <https://www.canada.ca/en/health-canada/services/food-nutrition/healthy-eating/vitamins-minerals/vitamin-calcium-updated-dietary-reference-intakes-nutrition.html>

Towards Optimized Practice(TOP) working Group for Vitamin D. Guideline fir vitamin D testing and supplementation in adults Edmonton, AB: Toward Optimized Practice. 2014 May.

Alberta Health Services: Nutrition Guideline Health Infants and Young Children Vitamin D. 2013May.

Institute of Medicine (IOM). Dietary reference intake for calcium and Vitamin D[report on the Internet]. Washington, DC: The National Academies Press; 2011 [cited 2013 Feb 27]. Available form: <http://www.iom.edu/Reports/2010/Dietary-Reference-Intakes-for-Calcium-and-Vitamin-D.aspx>

Health Canada, Canadian Paediatric Society, Dieticians of Canada, Breastfeeding Committee for Canada. Nutrition for Healthy Term Infants: recommendations from birth to six months [document on the internet]. 2012. Available from: <http://www.hc-sc.gc.ca/fn-an/nutrition/infant-nourisson/recom/index-eng.php>.



Vitamin D Recommendations for Healthy Term Infants from Birth-12 months

Recommendation for nurses working in Alberta First Nation communities:

- *A daily 400 International Unit (IU) vitamin D supplement is recommended for **all** healthy term infants. This applies to exclusively breastfed, partially breastfed and formula fed infants.¹*

Issue

Alberta Health Services (AHS), Canadian Pediatric Society (CPS) recommendations included in the Rourke Baby Record, and Health Canada have different vitamin D recommendations for healthy term infants from birth-12 months. This can and has caused confusion for nurses when making recommendations in Alberta First Nation communities. This document aims to provide clarity over (and rationale for) which vitamin D guideline to use.

Dietary Reference Intake for Vitamin D (infants 0-12 months)

- The adequate intake (AI) is set at 400 International Units/day for infants 0-12months (an AI is set when there is not enough evidence to make a recommended daily allowance [RDA] - which is the average level of intake sufficient to meet requirements for 97% of healthy individuals)²
- This recommendation is based on the assumption of minimal sun exposure²
- Although adults make vitamin D from the sun, infants require vitamin D from food and supplements because they have minimum sun exposure
- Vitamin D for breastfed infants has been recommended in Canada since 1967 to prevent rickets³

Recommendations Summary:

1. AHS recommendations:

- *A daily 400 International Unit (IU) vitamin D supplement is recommended for **all** healthy term infants. This applies to exclusively breastfed, partially breastfed and formula fed infants.¹*



- AHS ‘Healthy Parents, Healthy Children: The Early Years book (pg. 65) “*Exclusively breastfed and partially breastfed babies should be given a daily supplement of 400 IU vitamin D. While infant formula contains vitamin D, babies may not always take in the amount of formula to meet their daily vitamin D needs. Therefore, formula fed babies will also benefit from a daily 400 IU vitamin D supplement.*”⁴

2. Health Canada:

- *Health Canada recommends that all breastfed, healthy term babies receive a daily vitamin D supplement of 400 IU. Supplementation of the vitamin should begin at birth and continue until one year of age. This recommendation is to help reduce the risk of rickets, a disease that affects bone growth in children. Infants who are formula fed receive adequate vitamin D from formula.*⁵

3. Nutrition for Healthy Term Infants - Infant Feeding Joint Working Group

- Joint statement from Health Canada, CPS, Dietitians of Canada and Breastfeeding Committee for Canada
- A daily vitamin D supplement of 400IU is recommended for exclusively and partially breastfed infants from birth to one year of age. Non-breast-fed infants do not require a vitamin D supplement.³

4. Canadian Pediatric Society (CPS) (used in Rourke Baby Record⁶)

- The Rourke notes that ‘*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*’.⁶
- CPS recommends ‘*vitamin D dosage should be 400 IU/day for all infants during the first year, with an increase to 800 IU/day from all sources between October and April north of the 55th parallel (approximate latitude of Edmonton) and between the 40th and 55th parallel in individuals with risk factors for vitamin D deficiency other than latitude alone*’.⁷

Rationale for recommendations:

- All of the recommendations above recommend 400 IU/day vitamin D supplementation for breastfed infants – that is because the vitamin D content of breast milk is very low and is dependent on the mothers vitamin D status (many pre/post natal Canadian women are deficient in vitamin D).
- Despite the CPS advocating for an increase in vitamin D over the winter months – there is a low grade quality of evidence to support this recommendation. Health Canada states that “The DRIs for vitamin D have been set assuming minimal sun exposure for all, which means that additional recommendations are not required for sub-populations such as those at high northern latitudes, those with darker skin pigmentation, or those with heavy clothing that inhibits sun exposure”.⁵ Based on individual assessment of the mother and child, supplementation more than 400IU/day may be recommended in some cases, but should be made by clinical practitioner taking into consideration all risk factors.



- The main difference between Health Canada/Infant Feeding Joint Working Group and AHS recommendations is whether or not formula fed infants (receiving no breast milk) should receive vitamin D supplementation. AHS advises that all infants should receive 400IU, while Health Canada claims that formula fed infants receive adequate vitamin D from formula.
- Canada mandates the fortification of infant formula with vitamin D (within the range of 40-100IU/100kcal [roughly 100IU/cup (250ml) of formula] – or rather **400IU/1L**). In order to meet vitamin D requirements, a formula fed infant requires at least 4 cups (32 oz or 1000 mL) of formula each day.¹
- AHS recommends that formula fed infants receive vitamin D supplementation due to the Dietitians of Canada Practice-Based Evidence in Nutrition demonstrating that within each age category from birth through eleven months, there are formula fed infants drinking below 1000 mL of formula (therefore would be receiving less than 400IU/day).¹
- Health Canada does not recommend supplementation for exclusively formula fed infants because infant formula contains vitamin D equivalent to ~400IU with 1L of formula. While most formulas indicate on their labels a content of 40 IU/100 mL (60 IU per 100 kcal), they typically contain 25% more than this as overage to ensure the labelled amount is present.⁸
- Methods of formula preparation at the community level (diluted formula, homemade formula, etc.), introduction of solid foods prior to 6 months (displacing formula intake) and giving bottles of juice/pop/water instead of formula can negatively impact vitamin D intakes for formula fed infants.
- To minimize confusion nurses working in First Nation communities in Alberta can provide the following recommendation: *A daily 400 International Unit (IU) vitamin D supplement is recommended for **all** healthy term infants. This applies to exclusively breastfed, partially breastfed and formula fed infants.*³

Review: This document has been reviewed and approved by Dr. Wadieh Yacoub (Senior Medical Officer of Health), Cheryl Brace (NP, Practice Consultant for Public Health), Vesna Papuga (RN, Practice Consultant – Primary Care), Laura White (RD, Regional Nutritionist) and Erin Bligh (RD, Community Nutrition Advisor) at FNIHB – Alberta Region



APPENDIX A – Vitamin D DDRIs²

The DRIs for vitamin D are based on maintaining skeletal health and have been set using the assumption that sun exposure is minimal.

Age Group	Recommended Dietary Allowance (RDA) per day	Tolerable Upper Intake Level (UL) per day
Infants 0-6 months	400 IU (10 mcg)*	1000 IU (25 mcg)
Infants 7-12 months	400 IU (10 mcg)*	1500 IU (38 mcg)
Children 1-3 years	600 IU (15 mcg)	2500 IU (63 mcg)
Children 4-8 years	600 IU (15 mcg)	3000 IU (75 mcg)
Children and Adults 9-70 years	600 IU (15 mcg)	4000 IU (100 mcg)
Adults >70 years	800 IU (20 mcg)	4000 IU (100 mcg)
Pregnancy and Lactation	600 IU (15 mcg)	4000 IU (100 mcg)

*Adequate intake

APPENDIX B – Selected Food Sources of Vitamin D

Food	Serving Size	Vitamin D content
Breastmilk	250 ml (1 cup)	10 IU
Commercial Infant Formula	250 ml (1 cup)	100 IU
Fortified Cow's Milk	250 ml (1 cup)	100 IU [†]
Whitefish, lake (baked)	30 g (1oz)	180 IU
Egg Yolk	1 yolk	32 IU
Yogurt made with Vit D fortified milk	60 ml (1/4 cup)	25 IU

*Content obtained from Canadian Nutrient File⁹ (1mcg=40IU) [†]Vit D content varies by %MF, average given



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