

# PENTACEL®

Act-HIB® Reconstituted with QUADRACEL®

## Haemophilus b Conjugate Vaccine (Tetanus Protein - Conjugate) Reconstituted with Component Pertussis Vaccine and Diphtheria and Tetanus Toxoids Adsorbed Combined with Inactivated Poliomyelitis Vaccine



Active Immunizing Agent

For the prevention of *Haemophilus influenzae* type b Disease and Diphtheria, Tetanus, Whooping Cough and Poliomyelitis

### DESCRIPTION

After reconstitution, PENTACEL® [Haemophilus b Conjugate Vaccine (Tetanus Protein - Conjugate) Reconstituted with Component Pertussis Vaccine and Diphtheria and Tetanus Toxoids Adsorbed Combined with Inactivated Poliomyelitis Vaccine] is a uniform, cloudy, white to off-white (yellow tinge) suspension.

Each single dose (approximately 0.5 mL) after reconstitution contains:

purified polyribose ribitol phosphate capsular

|  |                         |
|--|-------------------------|
| polysaccharide (PRP) of <i>Haemophilus influenzae</i> type b<br>covalently bound to 20 µg of tetanus protein | 10 µg                   |
| pertussis toxoid (PT)  | 20 µg                   |
| filamentous haemagglutinin (FHA)   | 20 µg                   |
| fimbrial agglutinogens 2 + 3 (FIM)   | 5 µg                    |
| pertactin (PRN)  | 3 µg                    |
| diphtheria toxoid  | 15 Lf                   |
| tetanus toxoid   | 5 Lf                    |
| poliovirus type 1 (Mahoney)  | 40 D-antigen units      |
| poliovirus type 2 (MEF1)   | 8 D-antigen units       |
| poliovirus type 3 (Saukett)  | 32 D-antigen units      |
| aluminum phosphate   | 1.5 mg                  |
| 2-phenoxyethanol (not as a preservative)   | 0.6% v/v                |
| polysorbate 80   | 10 ppm (by calculation) |
| bovine serum albumin   | ≤50 ng                  |

trace amounts of formaldehyde

trace amounts of polymyxin B and neomycin may be present from the cell growth medium

### INDICATIONS

PENTACEL® [Haemophilus b Conjugate Vaccine (Tetanus Protein - Conjugate) Reconstituted with Component Pertussis Vaccine and Diphtheria and Tetanus Toxoids Adsorbed Combined with Inactivated Poliomyelitis Vaccine] is indicated for the primary immunization of infants, at or above the age of 2 months and, as a booster in children up to their 7th birthday against invasive disease caused by *Haemophilus influenzae* type b, diphtheria, tetanus, whooping cough and poliomyelitis in a single injection at a single visit when these vaccines are indicated. In infants, three injections are to be given intramuscularly at 2, 4 and 6 months of age, followed by a booster at 18 months of age.

HIV-infected individuals, both asymptomatic and symptomatic, should be immunized against *Haemophilus influenzae* type b, diphtheria, pertussis, tetanus and poliomyelitis according to standard schedules.<sup>1</sup>

Children who have had pertussis, tetanus, diphtheria or invasive Hib infection should still be immunized since these clinical infections do not always confer immunity.<sup>1</sup> For cases of individuals who have been exposed to invasive Hib and who are incompletely immunized, refer to the guidelines in the Canadian Immunization Guide.

Currently, *Haemophilus b* conjugate vaccines are not recommended for infants younger than 2 months of age.

Premature infants whose clinical condition is satisfactory should be immunized with full doses of vaccine at the same chronological age and according to the same schedule as full-term infants, regardless of birth weight.<sup>1,2</sup>

## CONTRAINDICATIONS

Immunization with PENTACEL® [Haemophilus b Conjugate Vaccine (Tetanus Protein - Conjugate) Reconstituted with Component Pertussis Vaccine and Diphtheria and Tetanus Toxoids Adsorbed Combined with Inactivated Poliomyelitis Vaccine] should be deferred in the presence of any acute illness, including febrile illness, to avoid superimposing potential adverse effects from the vaccine on the underlying illness or mistakenly identifying a manifestation of the underlying illness as a complication of vaccine use. A minor illness such as mild upper respiratory infection is not reason to defer immunization.<sup>1</sup>

Allergy to any component of PENTACEL® or its container, or an anaphylactic or other allergic reaction to a previous dose of PENTACEL® is a contraindication to vaccination. PENTACEL® may contain trace amounts of antibiotics (polymyxin B and neomycin) to which vaccinees may be hypersensitive. (See WARNINGS, components listed in DESCRIPTION, and HOW SUPPLIED.)

PENTACEL® should not be administered to children after their 7th birthday or to adults because the quantity of diphtheria toxoid and pertussis antigens may provoke enhanced local reactions, fever and malaise.

Hypotonic-hyporesponsive episodes rarely follow vaccination with whole-cell pertussis-containing DTP vaccines and occur even less commonly after acellular pertussis-containing DTP and DT vaccines. The National Advisory Committee on Immunization (NACI) states that a history of hypotonic-hyporesponsive episodes is not a contraindication to the use of acellular pertussis vaccines, but recommends precaution in these cases.<sup>1</sup>

## WARNINGS

Intramuscular injections should be given with care in patients suffering from coagulation disorders or on anticoagulant therapy because of the risk of hemorrhage.<sup>1</sup>

PENTACEL® [Haemophilus b Conjugate Vaccine (Tetanus Protein - Conjugate) Reconstituted with Component Pertussis Vaccine and Diphtheria and Tetanus Toxoids Adsorbed Combined with Inactivated Poliomyelitis Vaccine] should not be administered into the buttocks due to the varying amount of fatty tissue in this region, or by the intradermal route, since these methods of administration may induce a weaker immune response.

Immunocompromised persons (whether from disease or treatment) may not obtain the expected immune response.<sup>1</sup> If possible, consideration should be given to delaying vaccination until after the completion of any immunosuppressive treatment.<sup>1</sup>

The stopper of the vial for QUADRACEL® [Component Pertussis Vaccine and Diphtheria and Tetanus Toxoids Adsorbed Combined with Inactivated Poliomyelitis Vaccine] may contain dry natural latex rubber. Natural latex rubber has been associated with allergic reactions.

Whole-cell pertussis DTP vaccine has been associated with acute encephalopathy.<sup>3</sup> A 10-year follow-up to the UK National Childhood Encephalopathy Study (NCES) of children who experienced acute neurologic disorders in infancy concluded that serious acute neurologic illness increased the risk of chronic neurologic disease or death.<sup>4</sup>

A committee of the US Institute of Medicine (IOM) has concluded that the evidence is consistent with a causal relationship between whole-cell pertussis DTP vaccine and acute neurologic illness<sup>4</sup> and that, because whole-cell pertussis DTP may cause acute neurologic illness, whole-cell pertussis DTP may also cause chronic neurologic disease in the context of the NCES report (that is, in children whose chronic nervous system dysfunctions followed a serious acute neurologic illness that occurred within 7 days after receiving DTP).<sup>5</sup> However, the IOM committee

concluded that the evidence was insufficient to indicate whether or not whole-cell pertussis DTP increased the overall risk of chronic neurological disease.<sup>5</sup> (See ADVERSE REACTIONS.)

Infants and children with recognized possible or potential underlying neurologic conditions seem to be at enhanced risk for the appearance of manifestations of the underlying neurologic disorder within 2 or 3 days following whole-cell pertussis DTP vaccine immunization. Whether vaccination merely 'unmasks' such underlying or neurologic conditions, or whether there is a true cause-and-effect relationship between vaccination and such neurological conditions is unknown. Whether to administer PENTACEL<sup>®</sup> to children with proven or suspected underlying neurological disorders must be decided on an individual basis after consideration of the risks and benefits. An important consideration includes the current local incidence of pertussis.<sup>6</sup> NACI states that deferral of pertussis immunization for children with evolving neurological conditions is no longer necessary because of the availability of acellular pertussis vaccines.<sup>1</sup>

Fractional doses (<0.5 mL) should not be given. The effect of fractional doses on the frequency of serious adverse events and on efficacy has not been determined.

As with any vaccine, immunization with PENTACEL<sup>®</sup> may not protect 100% of susceptible individuals.

## PRECAUTIONS

The possibility of allergic reactions in individuals sensitive to components of the vaccine should be evaluated. Epinephrine Hydrochloride Solution (1:1,000) and other appropriate agents should be available for immediate use in case an anaphylactic or acute hypersensitivity reaction occurs.<sup>1</sup> Health-care providers should be familiar with current recommendations for the initial management of anaphylaxis in non-hospital settings including proper airway management.<sup>1,2</sup>

For instructions on recognition and treatment of anaphylactic reactions see the current edition of the Canadian Immunization Guide or visit the Health Canada website.

Before administration, take all appropriate precautions to prevent adverse reactions. This includes a review of the patient's history concerning possible hypersensitivity to the vaccine or similar vaccine, previous immunization history, the presence of any contraindications to immunization and current health status.

Before administration of PENTACEL<sup>®</sup> [Haemophilus b Conjugate Vaccine (Tetanus Protein - Conjugate) Reconstituted with Component Pertussis Vaccine and Diphtheria and Tetanus Toxoids Adsorbed Combined with Inactivated Poliomyelitis Vaccine], health-care providers should inform the parent or guardian of the benefits and risks of immunization, inquire about the recent health status of the patient and comply with any local requirements regarding information to be provided to the patient before immunization and the importance of completing the immunization series.

It is extremely important that the parent or guardian be questioned concerning any symptoms and/or signs of an adverse reaction after a previous dose of vaccine. (See CONTRAINDICATIONS and ADVERSE REACTIONS.)

High fever within 48 hours of a previous dose of vaccine, attributed to immunization and not to intercurrent illness, indicates the likelihood of recurrence of fever with subsequent doses. Febrile convulsions may be more likely in a susceptible child who develops high fever.<sup>1</sup> Parents of children who may be at increased risk of a seizure after pertussis vaccination, such as from a personal or family history of seizures, should be informed of the risks and benefits of pertussis immunization in these circumstances. For infants or children at higher risk of seizures than the general population, an antipyretic (i.e., acetaminophen) in the dosage recommended in its prescribing information, may be administered at the time of vaccination with a vaccine containing an acellular pertussis component (such as PENTACEL<sup>®</sup>), and for the following 24 hours, to reduce the possibility of post-vaccination fever. Caregivers should be aware that antipyretic therapy could also obscure fever caused by concomitant, unrelated infection.<sup>2</sup>

Do not inject into a blood vessel.

Aseptic technique must be used. Use a separate sterile needle and syringe, or a sterile disposable unit, for each individual dose to prevent disease transmission.

Frequent booster doses of tetanus or diphtheria toxoids in the presence of adequate or excessive serum levels of tetanus or diphtheria antitoxins have been associated with increased incidence and severity of reactions including Arthus-type reactions and should be avoided.

## Drug Interactions

Administering the most widely used live and inactivated vaccines during the same patient visit has produced seroconversion rates and rates of adverse reactions similar to those observed when the vaccines are administered separately.<sup>1,7</sup> Simultaneous administration using separate syringes at separate sites is suggested, particularly when there is concern that an individual may not return for subsequent vaccination. Clinical trials have shown that PENTACEL<sup>®</sup> is safe and immunogenic if administered at the same time as other vaccines (including meningococcal C conjugate vaccine<sup>8</sup> and hepatitis B vaccine<sup>9</sup>) provided separate syringes are used for each vaccine and each vaccine is administered at separate sites.

Topical use of lidocaine-prilocaine (EMLA) patches to reduce injection site pain has no adverse effect on antibody response to PENTACEL<sup>®</sup>.<sup>9</sup>

## ADVERSE REACTIONS

### Local Reactions

In a randomized, controlled clinical trial conducted in Canada, 335 infants were immunized with PENTACEL<sup>®</sup> [Haemophilus b Conjugate Vaccine (Tetanus Protein - Conjugate) Reconstituted with Component Pertussis Vaccine and Diphtheria and Tetanus Toxoids Adsorbed Combined with Inactivated Poliomyelitis Vaccine] at 2, 4 and 6 months of age. In addition, 300 of these children were immunized as toddlers at 18 months.<sup>10</sup> Local adverse events were generally mild. Approximately one third of children receiving PENTACEL<sup>®</sup> experienced some degree of redness, swelling or tenderness around the injection site. Rates of local reactions are shown in Table 1 and compared to QUADRACEL<sup>®</sup> and Act-HIB<sup>®</sup> [Haemophilus b Conjugate Vaccine (Tetanus Protein - Conjugate)] given separately. The frequency and duration of severe redness and swelling was higher after the fourth dose in toddlers than in the previous three doses in infants, however severe tenderness did not increase with the fourth dose.

**TABLE 1: FREQUENCY OF LOCAL REACTIONS 24 HOURS AFTER VACCINATION WITH PENTACEL<sup>®</sup>, OR QUADRACEL<sup>®</sup> AND Act-HIB<sup>®</sup><sup>10</sup>**

|              | 2 Months                                  |                     | 4 Months                                  |                     | 6 Months                                  |                     | 18 Months                                 |                     |
|--------------|---|---------------------|---|---------------------|---|---------------------|---|---------------------|
|              | PENTACEL <sup>®</sup> Q + A*<br>(n = 333) | Q + A*<br>(n = 113) | PENTACEL <sup>®</sup> Q + A*<br>(n = 327) | Q + A*<br>(n = 111) | PENTACEL <sup>®</sup> Q + A*<br>(n = 320) | Q + A*<br>(n = 111) | PENTACEL <sup>®</sup> Q + A*<br>(n = 295) | Q + A*<br>(n = 104) |
| Redness      |   |                     |   |                     |   |                     |   |                     |
| Any          | 8.7                                       | 0.9                 | 11.9                                      | 8.1                 | 11.6                                      | 12.6                | 19.3                                      | 18.3                |
| ≥35 mm       | 2.7                                       | 0                   | 4   | 0                   | 1.6                                       | 0                   | 7.5                                       | 1.9                 |
| Swelling     |   |                     |   |                     |   |                     |   |                     |
| Any          | 11.7                                      | 5.3                 | 8.8                                       | 3.6                 | 9.4                                       | 7.2                 | 14.2                                      | 13.5                |
| ≥35 mm       | 5.1                                       | 2.7                 | 3.7                                       | 0.9                 | 1.6                                       | 0.9                 | 5.1                                       | 4.8                 |
| Tenderness   |   |                     |   |                     |   |                     |   |                     |
| Any          | 26.4                                      | 18.6                | 27.1                                      | 18                  | 19.7                                      | 9                   | 28.1                                      | 28.9                |
| Severe       | 1.8                                       | 1.8                 | 3.7                                       | 3.6                 | 0.9                                       | 0                   | 1.4                                       | 0                   |
| Any Local    | 34.8                                      | 20.4                | 33.5                                      | 26.1                | 29.8                                      | 19.8                | 39.7                                      | 40.4                |
| Severe Local | 7.2                                       | 4.4                 | 7.9                                       | 4.5                 | 3.4                                       | 0.9                 | 9.8                                       | 5.8                 |

\* QUADRACEL<sup>®</sup> and Act-HIB<sup>®</sup>

Very rarely, large local reactions, consisting of redness and/or swelling >50 mm, some with circumferential swelling of the injected limb, have been reported following the fourth and fifth doses of acellular pertussis-containing vaccines. These local reactions are usually not associated with significant pain or limitation of movement and resolve spontaneously. More severe local reactions occasionally occur, such as inflammatory cellulitis without bacterial infection.<sup>1</sup>

### Systemic Reactions

In the same clinical trial, the rate of systemic adverse events seen in infants and toddlers receiving PENTACEL<sup>®</sup> was comparable to that seen when QUADRACEL<sup>®</sup> and Act-HIB<sup>®</sup> were administered separately (Table 2). Severe systemic events were infrequent with PENTACEL<sup>®</sup> and experienced by less than 2% of children.<sup>10</sup> No infant immunized with PENTACEL<sup>®</sup> and only one toddler immunized with PENTACEL<sup>®</sup> experienced a fever >40°C.<sup>10</sup>

**TABLE 2: FREQUENCY OF ANY SYSTEMIC REACTION 24 HOURS AFTER VACCINATION WITH PENTACEL<sup>®</sup>, OR QUADRACEL<sup>®</sup> AND Act-HIB<sup>®</sup> 10**

|               | 2 Months                                   |   | 4 Months                                   |   | 6 Months                                   |   | 18 Months                                 |   |
|---------------|--|---|--|---|--|---|---|---|
|               | PENTACEL <sup>®</sup> Q + A*<br>(n = 1110) | PENTACEL <sup>®</sup> Q + A*<br>(n = 113) | PENTACEL <sup>®</sup> Q + A*<br>(n = 1091) | PENTACEL <sup>®</sup> Q + A*<br>(n = 111) | PENTACEL <sup>®</sup> Q + A*<br>(n = 1071) | PENTACEL <sup>®</sup> Q + A*<br>(n = 111) | PENTACEL <sup>®</sup> Q + A*<br>(n = 380) | PENTACEL <sup>®</sup> Q + A*<br>(n = 106) |
| Fever ≥38.0°C | 18.6                                       | 22.1                                      | 19.5                                       | 21.1                                      | 15   | 18  | 21.5                                      | 24  |
| Fussiness     | 43.5                                       | 46  | 53.4                                       | 45  | 37   | 35.1                                      | 30.2                                      | 33.7                                      |
| Crying        | 30.6                                       | 31  | 41.5                                       | 28.8                                      | 27.6                                       | 23.4                                      | 18.6                                      | 19.2                                      |
| Less Active   | 46.8                                       | 51.3                                      | 30.8                                       | 27.9                                      | 20.7                                       | 21.6                                      | 9.8                                       | 16.4                                      |
| Eating Less   | 27.6                                       | 34.5                                      | 20.7                                       | 20.7                                      | 15.4                                       | 16.2                                      | 17  | 20.2                                      |
| Vomiting      | 8.7  | 8   | 5.2  | 2.7                                       | 4.7  | 6.3                                       | 4.4                                       | 6.7                                       |
| Diarrhea      | 10.2                                       | 6.2                                       | 7.6  | 7.2                                       | 6.6  | 9.9                                       | 5.4                                       | 2.9                                       |
| Any           | 75.1                                       | 77.9                                      | 68.6                                       | 66.7                                      | 54.4                                       | 54.1                                      | 43.2                                      | 55.8                                      |

\* QUADRACEL<sup>®</sup> and Act-HIB<sup>®</sup>**TABLE 3: ADVERSE EVENTS REPORTED DURING CLINICAL TRIALS AND POSTMARKET SURVEILLANCE OF VACCINES CONTAINING THE ANTIGENS FOUND IN PENTACEL<sup>®</sup> 10**

|  |  |
|--|--|
| <b>Common (&gt;1/100)</b> (Symptoms usually occur in the first 24 hours and may continue for 24 - 48 hours.) |  |
| Gastrointestinal Disorders   | Vomiting, diarrhea   |
| Metabolic and Nutrition Disorders  | Decreased feeding  |
| General Disorders and Administration Site Conditions   | Fever, redness, tenderness, swelling at the vaccination site   |
| Nervous System Disorders   | Irritability, crying, drowsiness   |
| <b>Uncommon (&lt;1/100)</b>  |  |
| General Disorders and Administration Site Conditions   | Pallor, listlessness   |
| <b>Rare (&lt;1/1,000)</b>  |  |
| Nervous System Disorders   | Febrile convulsions,* prolonged or unusual high pitched crying,* hypotonic-hyporesponsive episodes* (Infant appears pale, hypotonic [limp] and unresponsive to parents. To date, this condition has not been associated with any permanent sequelae. <sup>6,11</sup> )   |
| General Disorders and Administration Site Conditions   | High fever (>40.5°C)*<br>Edema of lower extremities  |
| Vascular Disorders   | Cyanosis of lower extremities or transient purpura   |
| <b>Very Rare (&lt;1/10,000)</b>  |  |
| General Disorders and Administration Site Conditions   | Anaphylactic reaction, <sup>†</sup> granuloma or sterile abscess at the vaccination site <sup>6</sup>  |
| Nervous System Disorders   | Neurological disorders <sup>‡</sup> including peripheral neuropathies; <sup>12,13,14</sup> demyelinating diseases (including Guillain-Barré Syndrome); <sup>6,14</sup> encephalopathy, with and without permanent intellectual and/or motor impairment; <sup>4,6</sup> and polyradiculopathies <sup>15</sup> have been reported. |

\* There are fewer reports of these conditions since the introduction of acellular pertussis vaccines and vaccine combinations.<sup>1,16,17</sup>† Death following vaccine-caused anaphylaxis has been reported.<sup>14</sup>‡ The occurrence and background rate of most of these conditions is so low that it may never be possible to accept or reject a causal relationship between these events and immunization. The US Institute of Medicine has concluded that the evidence favours acceptance of causal relationship between tetanus toxoid and both brachial neuritis and Guillain-Barré Syndrome.<sup>14</sup>

Sudden infant death syndrome (SIDS) has been reported in temporal relationship to the administration of vaccines containing diphtheria and tetanus toxoids and pertussis vaccine (DTP). Review of the evidence does not indicate a causal relationship between whole-cell DTP vaccine and SIDS. Studies showing a temporal relation between these events are consistent with the expected occurrence of SIDS over the age range in which DTP immunization usually occurs.<sup>4,18</sup> There are limited data relating to SIDS and vaccines containing diphtheria and tetanus toxoids and acellular pertussis vaccines. A committee of the US IOM found no reason to suspect that a causal relationship might exist between DTaP and SIDS when the evidence indicates that none exists with DTwP.<sup>19</sup>

Following booster doses, local erythema and swelling are not uncommon and Arthus-type sensitivity may occur. (See PRECAUTIONS.)

Physicians, nurses, and pharmacists should report any adverse occurrences temporally related to the administration of the product in accordance with local requirements and report to the Global Pharmacovigilance Department, Aventis Pasteur Limited, 1755 Steeles Avenue West, Toronto, ON, M2R 3T4, Canada. 1-888-621-1146 (phone) or 416-667-2435 (fax).

## **DOSAGE**

For the routine immunization of infants, a single dose of approximately 0.5 mL of PENTACEL<sup>®</sup> [Haemophilus b Conjugate Vaccine (Tetanus Protein - Conjugate) Reconstituted with Component Pertussis Vaccine and Diphtheria and Tetanus Toxoids Adsorbed Combined with Inactivated Poliomyelitis Vaccine] is recommended at 2, 4, 6 and 18 months of age.

If for any reason this schedule is delayed, it is recommended that three doses be administered with an interval of two months between doses, followed by a fourth dose administered approximately 6 - 12 months following the third dose.

The routine immunization series should be completed with a single 0.5 mL dose of Aventis Pasteur's QUADRACEL<sup>®</sup> between 4 and 6 years of age (i.e., at the time of school entry). This booster dose is unnecessary if the fourth dose of PENTACEL<sup>®</sup> was administered after the child's fourth birthday.

A subsequent booster should be administered 10 years later, during adolescence, with Td Adsorbed or with ADACEL<sup>®</sup> [Tetanus and Diphtheria Toxoids Adsorbed Combined with Component Pertussis Vaccine]. Thereafter, routine booster immunizations should be with Td at intervals of 10 years.

**PERSONS 7 YEARS OF AGE AND OLDER SHOULD NOT BE IMMUNIZED WITH PENTACEL<sup>®</sup>.<sup>1</sup>** (See CONTRAINDICATIONS.)

Whenever feasible, PENTACEL<sup>®</sup> should be used for all doses in the vaccination series as there are no clinical data to support the use of PENTACEL<sup>®</sup> with any other licensed acellular pertussis combination vaccine in a mixed sequence. For situations where a different brand of DTaP or DTaP-IPV vaccine was originally used, or where the brand is unknown, please refer to the latest edition of Health Canada's Canadian Immunization Guide.

## **ADMINISTRATION**

Inspect the vials of vaccine for extraneous particulate matter and/or discoloration before use. If these conditions exist, the product should not be administered.

### **Reconstitution of Freeze-Dried Product and Withdrawal from Stoppered Vial**

Reconstitute the Act-HIB<sup>®</sup> vaccine with the QUADRACEL<sup>®</sup> vaccine. Act-HIB<sup>®</sup> may also be reconstituted with diluent or TRIPACEL<sup>®</sup> supplied by Aventis Pasteur Limited. The use of any other vaccine to reconstitute Act-HIB<sup>®</sup> is not recommended.

SHAKE THE SINGLE DOSE VIAL OF QUADRACEL<sup>®</sup> WELL to distribute the suspension uniformly. Before withdrawing a dose from a vial, apply a sterile piece of cotton moistened with a suitable antiseptic to the surface of the stoppers of QUADRACEL<sup>®</sup> and Act-HIB<sup>®</sup>. Do not remove either the stopper or the metal seal holding it in place. Aseptic technique must be used. Use a separate sterile needle and syringe, or a sterile disposable unit, to administer each individual dose to prevent disease transmission. (See PRECAUTIONS.)

Withdraw the entire dose of QUADRACEL® into a syringe (about 0.5 mL). Holding the plunger of the syringe containing the QUADRACEL® steady, pierce the centre of the stopper in the vial of Act-HIB® and inject QUADRACEL® into the freeze-dried vaccine. Do not try to force all of the QUADRACEL® into the vial at once as this will create pressure. Gradually allow air to escape into the syringe by intermittently aspirating air from the Act-HIB® vial while injecting the QUADRACEL®. Do not remove the needle from the stopper until all of the QUADRACEL® has been injected. Swirl the vial until a cloudy uniform suspension results. **Avoid foaming** since this will prevent withdrawal of the proper dose. Withdraw the entire contents of the reconstituted vaccine into a syringe.

Administer the vaccine **intramuscularly**. The preferred site is into the anterolateral aspect of the mid thigh (vastus lateralis muscle) or into the deltoid muscle. In children >1 year of age, the deltoid is the preferred site since use of the anterolateral thigh results in frequent reports of limping due to muscle pain.<sup>1</sup>

Do not inject intravenously.

Needles should not be recapped and should be disposed of properly.

Give the patient a permanent personal immunization record. In addition, it is essential that the physician or nurse record the immunization history in the permanent medical record of each patient. This permanent office record should contain the name of the vaccine, date given, dose, manufacturer and lot number.

### STORAGE

Store at 2° to 8°C (35° to 46°F). DO NOT FREEZE. Discard product if exposed to freezing.

The vaccine should be used immediately after reconstitution.

Do not use vaccine after expiration date.

### HOW SUPPLIED

5 dose package containing 5 vials of Act-HIB® to be reconstituted with 5 vials of QUADRACEL®.

The stoppers of the vials for QUADRACEL® may contain dry natural latex rubber.

### REFERENCES

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Vaccine Information Service: 1-888-621-1146 or 416-667-2779.

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