



CIGNA MEDICAL COVERAGE POLICY

The following Coverage Policy applies to all health benefit plans administered by CIGNA Companies including plans formerly administered by Great-West Healthcare, which is now a part of CIGNA.

**Subject Rotavirus Vaccine: RotaTeq[®],
Rotarix[®]**

Effective Date 6/15/2011
Next Review Date 6/15/2012
Coverage Policy Number 6114

Table of Contents

Coverage Policy	1
General Background	1
Coding/Billing Information	4
References	4
Policy History	5

Hyperlink to Related Coverage Policies

[Routine Immunizations](#)

INSTRUCTIONS FOR USE

Coverage Policies are intended to provide guidance in interpreting certain **standard** CIGNA HealthCare benefit plans. Please note, the terms of a customer's particular benefit plan document [Group Service Agreement (GSA), Evidence of Coverage, Certificate of Coverage, Summary Plan Description (SPD) or similar plan document] may differ significantly from the standard benefit plans upon which these Coverage Policies are based. For example, a customer's benefit plan document may contain a specific exclusion related to a topic addressed in a Coverage Policy. In the event of a conflict, a customer's benefit plan document **always supercedes** the information in the Coverage Policies. In the absence of a controlling federal or state coverage mandate, benefits are ultimately determined by the terms of the applicable benefit plan document. Coverage determinations in each specific instance require consideration of 1) the terms of the applicable benefit plan document in effect on the date of service; 2) any applicable laws/regulations; 3) any relevant collateral source materials including Coverage Policies and; 4) the specific facts of the particular situation. Coverage Policies relate exclusively to the administration of health benefit plans. Coverage Policies are not recommendations for treatment and should never be used as treatment guidelines. Proprietary information of CIGNA. Copyright ©2011 CIGNA

Coverage Policy

Immunizations are covered under most CIGNA medical plans which include a Preventive Benefit. Please refer to the applicable benefit plan document to determine benefit availability and the terms and conditions of coverage. Many benefit plans specifically exclude immunizations that are for the purpose of travel or to protect against occupational hazards and risks.

If coverage is available under the benefit plan, the following conditions of coverage apply:

CIGNA covers Rotavirus Vaccine (RotaTeq[®], Rotarix[®]) as medically necessary in infants and children between the ages of 6–32 weeks as recommended by the Centers for Disease Control and Prevention (CDC) Advisory Committee on Immunization Practices' (ACIP) for the prevention of rotavirus gastroenteritis.

General Background

FDA Approved Indications

Rotateq

RotaTeq is indicated for the prevention of rotavirus gastroenteritis in infants and children caused by the serotypes G1, G2, G3, and G4 when administered as a 3-dose series to infants between the ages of 6 to 32 weeks. The first dose of RotaTeq should be administered between 6 and 12 weeks of age.:

Rotarix

Rotarix is indicated for the prevention of rotavirus gastroenteritis caused by G1 and non-G1 types (G3, G4, and G9) when administered as a 2-dose series in infants and children.

FDA Recommended Dosing**Rotateq**

The vaccination series consists of three ready-to-use liquid doses of RotaTeq administered orally starting at 6 to 12 weeks of age, with the subsequent doses administered at 4- to 10-week intervals. The third dose should not be given after 32 weeks of age. There are no restrictions on the infant's consumption of food or liquid, including breast milk, either before or after vaccination with RotaTeq.

Rotarix

The vaccination series consists of two 1-mL doses administered orally. The first dose should be administered to infants beginning at 6 weeks of age. There should be an interval of at least 4 weeks between the first and second dose. The 2-dose series should be completed by 24 weeks of age. Safety and effectiveness have not been evaluated if Rotarix were administered for the first dose and another rotavirus vaccine were administered for the second dose or vice versa. In the event that the infant spits out or regurgitates most of the vaccine dose, a single replacement dose may be considered at the same vaccination visit.

Drug Availability**Rotateq**

RotaTeq, 2 mL, a solution for oral use, is a pale yellow clear liquid that may have a pink tint. It is supplied in a package of 10 individually pouched single-dose tubes.

Rotarix

Rotarix is available as a vial of lyophilized vaccine, a prefilled oral applicator of liquid diluent (1 mL) with a plunger stopper, and a transfer adapter for reconstitution available in packages of 10.

Pharmacology/Disease Overview

Rotavirus is the most common cause of severe diarrhea among children, resulting in the hospitalization of approximately 55,000 children each year in the United States and the death of over 600,000 children annually worldwide. The incubation period for rotavirus disease is approximately 2 days. The disease is characterized by vomiting and watery diarrhea for 3-8 days, and fever and abdominal pain occur frequently. Immunity after infection is incomplete, but repeat infections tend to be less severe than the original infection.

Guidelines

The Advisory Committee on Immunization Practices (ACIP) to the Centers for Disease Control and Prevention (CDC) considers Rotarix and RotaTeq series to be equally safe and efficacious. The ACIP recommends routine vaccination of infants with either of these approved rotavirus vaccines. Two different rotavirus vaccines, Rotarix and RotaTeq are licensed for use in infants in the United States. The ACIP recommends that two doses of Rotarix be administered orally at ages 2 and 4 months; alternatively, the infant may be vaccinated with three doses of RotaTeq administered orally at ages 2, 4, and 6 months. The doses of rotavirus vaccine should be separated by an interval of 4 weeks or more. The first dose of rotavirus vaccine should be administered between ages 6 and 13 weeks (maximum age for dose one is 13 weeks 6 days). Vaccination should not be initiated for infants that are 14 weeks or older. All doses of rotavirus vaccine should be administered by 32 weeks of age (maximum age for last dose is 32 weeks 6 days).

The ACIP also recommends that the vaccine series be completed with the same brand of rotavirus vaccine whenever possible. However, if the product used to start the series is unknown or not available, the provider should complete the series with the product available. If any dose in the series was or may have been RotaTeq, a total of three doses of rotavirus vaccine should be given.

Clinical Efficacy**Rotateq**

RotaTeq is a live, oral pentavalent vaccine that contains 5 live reassortant rotaviruses. The rotavirus parent strains of the reassortants were isolated from human and bovine hosts. Four reassortant rotaviruses express one of the outer capsid proteins (G1, G2, G3, or G4) from the human rotavirus parent strain and the attachment

protein (serotype P7) from the bovine rotavirus parent strain. The fifth reassortant virus expresses the attachment protein, P1A (genotype P[8]), herein referred to as serotype P1A[8], from the human rotavirus parent strain and the outer capsid protein of serotype G6 from the bovine rotavirus parent strain.

The exact immunologic mechanism by which RotaTeq protects against rotavirus gastroenteritis is unknown. RotaTeq is a live viral vaccine that replicates in the small intestine and induces immunity.

Overall, 72,324 infants were randomized in 3 placebo-controlled, phase 3 studies conducted in 11 countries on 3 continents. The data demonstrating the efficacy of RotaTeq in preventing rotavirus gastroenteritis come from 6,983 of these infants from the US and Finland who were enrolled in 2 of these studies. The third trial, Study 009, provided clinical evidence supporting the consistency of manufacture and contributed data to the overall safety evaluation. The efficacy evaluations in these studies included: 1) Prevention of any grade of severity of rotavirus gastroenteritis; 2) prevention of severe rotavirus gastroenteritis, as defined by a clinical scoring system; and 3) reduction in hospitalizations due to rotavirus gastroenteritis. The vaccine was given as a three-dose series to healthy infants with the first dose administered between 6 and 12 weeks of age and followed by two additional doses administered at 4- to 10-week intervals. The age of infants receiving the third dose was 32 weeks of age or less. Primary efficacy against any grade of severity of rotavirus gastroenteritis caused by naturally occurring serotypes G1, G2, G3, or G4 through the first rotavirus season after vaccination was 74.0% and the ITT efficacy was 60.0%. Primary efficacy against severe rotavirus gastroenteritis caused by naturally occurring serotypes G1, G2, G3, or G4 through the first rotavirus season after vaccination was 98.0% and ITT efficacy was 96.4%.

Rotarix

Rotarix (Rotavirus Vaccine, Live, Oral), for oral administration, is a live, attenuated rotavirus vaccine derived from the human 89-12 strain which belongs to G1P[8] type. The rotavirus strain is propagated on Vero cells.

The exact immunologic mechanism by which Rotarix protects against rotavirus gastroenteritis is unknown. Rotarix contains a live, attenuated human rotavirus that replicates in the small intestine and induces immunity.

The data demonstrating the efficacy of Rotarix in preventing rotavirus gastroenteritis come from 24,163 infants randomized in two placebo-controlled studies conducted in 17 countries in Europe and Latin America. In these studies, oral polio vaccine (OPV) was not co-administered; however, other routine childhood vaccines could be concomitantly administered. Breast-feeding was permitted in both studies. A randomized, double-blind, placebo-controlled study was conducted in 6 European countries. A total of 3,994 infants were enrolled to receive Rotarix (n = 2,646) or placebo (n = 1,348). Vaccine or placebo was given to healthy infants as a 2-dose series with the first dose administered orally from 6 through 14 weeks of age followed by one additional dose administered at least 4 weeks after the first dose. The 2-dose series was completed by 24 weeks of age. Efficacy of Rotarix against any grade of severity of rotavirus gastroenteritis through one rotavirus season was 87.1%; TVC efficacy was 87.3%. Efficacy against severe rotavirus gastroenteritis through one rotavirus season was 95.8%; TVC efficacy was 96.0%. The protective effect of Rotarix against any grade of severity of rotavirus gastroenteritis observed immediately following dose 1 administration and prior to dose 2 was 89.8%. Efficacy of Rotarix in reducing hospitalizations for rotavirus gastroenteritis through one rotavirus season was 100%; TVC efficacy was 100%. Rotarix reduced hospitalizations for all cause gastroenteritis regardless of presumed etiology by 74.7%.

Adverse Reactions/Contraindications

Rotateq

The adverse reactions section of RotaTeq includes six cases of Kawasaki disease that were observed during the Phase 3 clinical trial. There were five cases among the 36,150 infants who received RotaTeq and one case among the 35,536 infants who received placebo. The post-marketing section of the prescribing information was revised to reflect three reports of Kawasaki disease to the Vaccine Adverse Event Reporting System (VAERS), since licensure on February 3, 2006. There is not a known cause-and-effect relationship between receiving RotaTeq or any vaccine and the occurrence of Kawasaki disease.

Rotateq is contraindicated in infants with Severe Combined Immunodeficiency Disease (SCID). Following administration of a previously licensed live rhesus rotavirus-based vaccine, an increased risk of intussusception was observed. In the Rotavirus Efficacy and Safety Trial [REST] (n=69,625), the data did not show an increased risk of intussusception for RotaTeq when compared to placebo.

The most commonly reported side effects of RotaTeq include diarrhea, vomiting, irritability, otitis media, nasopharyngitis, and bronchospasm.

The RotaTeq vaccination series consists of three ready-to-use liquid doses of RotaTeq administered orally starting at 6 to 12 weeks of age, with the subsequent doses administered at 4-10 week intervals. The third dose should not be given after 32 weeks of age.

Rotarix

Kawasaki disease has been reported in 18 (0.035%) recipients of Rotarix and 9 (0.021%) placebo recipients from 16 completed or ongoing clinical trials. Of the 27 cases, 5 occurred following Rotarix in clinical trials that were either not placebo-controlled or 1:1 randomized. In placebo-controlled trials, Kawasaki disease was reported in 17 recipients of Rotarix and 9 placebo recipients. Three of the 27 cases were reported within 30 days post-vaccination. The time of onset after study dose ranged 3 days to 19 months.

Rotarix is contraindicated in infants with Severe Combined Immunodeficiency Disease (SCID); when there is a history of intussusception; or uncorrected congenital malformation of the gastrointestinal tract (such as Meckel's diverticulum) that would predispose the infant for intussusception. The risk of intussusception with Rotarix was evaluated in a safety study (including 63,225 infants) conducted in Latin America and Finland. No increased risk of intussusception was observed in this clinical trial following administration of Rotarix when compared with placebo.

Interim postmarketing safety data from a study conducted in Mexico among a birth cohort of infants suggest an increased risk of intussusception in the 31-day period following administration of the first dose of Rotarix. Most cases of intussusception occurred in the first 7 days.

The most common side effects reported with both Rotateq and Rotarix include fussiness/irritability, cough/runny nose, fever, loss of appetite, and vomiting.

Coding/Billing Information

Note: This list of codes may not be all-inclusive.

Covered when medically necessary:

CPT ^{®*} Codes	Description
90680	Rotavirus vaccine, pentavalent, 3 dose schedule, live, for oral use
90681	Rotavirus vaccine, human, attenuated, 2 dose schedule, live, for oral use

ICD-9-CM Diagnosis Codes	Description
V04.89	Need for prophylactic vaccination and inoculation against other viral diseases

*Current Procedural Terminology (CPT[®]) © 2010 American Medical Association: Chicago, IL.

References

1. Centers for Disease Control (CDC) and Prevention Morbidity and Mortality Weekly Report (MMWR). Prevention of Rotavirus Gastroenteritis Among Infants and Children. Recommendations of the Advisory Committee on Immunization Practices (ACIP): February 6, 2009; 58 No.RR-2. Accessed May 12, 2011. Available at http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5802a1.htm?s_cid=rr5802a1_e

2. Centers for Disease Control (CDC) and Prevention. Vaccines and Immunizations. Statement Regarding Rotarix® and RotaTeq® Rotavirus Vaccines and Intussusception. Nov. 2010. Accessed May 12, 2011. Available at: <http://www.cdc.gov/vaccines/vpd-vac/rotavirus/intussusception-studies-acip.htm>
3. GlaxoSmithKline. Rotarix® (Rotavirus Vaccine, Live, Oral) oral suspension package insert. Research Triangle Park, NC: GlaxoSmithKline. Feb 2011. Accessed May 12, 2011. Available at: http://us.gsk.com/products/assets/us_rotarix.pdf
4. McEvoy GK, ed. AHFS 2011 Drug Information. Bethesda, MD: American Society of Health-Systems Pharmacists, Inc; 2011.
5. Merck & Co, Inc. RotaTeq® (Rotavirus Vaccine) product information. Whitehouse Station, NJ: Merck & Co, Inc. April 2011. Accessed May 12, 2011. Available at: http://www.merck.com/product/usa/pi_circulars/r/rotateq/rotateq_pi.pdf

Policy History

Pre-Merger Organizations	Last Review Date	Policy Number	Title
CIGNA HealthCare	6/15/2010	6114	Rotavirus Vaccine: RotaTeq®, Rotarix®
	5/15/2008	6114	Rotavirus Vaccine: RotaTeq®, Rotarix®
Great-West Healthcare			

“CIGNA”, “CIGNA HealthCare” and the “Tree of Life” logo are registered service marks of CIGNA Intellectual Property, Inc., licensed for use by CIGNA Corporation and its operating subsidiaries. All products and services are provided by such operating subsidiaries and not by CIGNA Corporation. Such operating subsidiaries include Connecticut General Life Insurance Company, CIGNA Health and Life Insurance Company, CIGNA Behavioral Health, Inc., CIGNA Health Management, Inc., and HMO or service company subsidiaries of CIGNA Health Corporation and CIGNA Dental Health, Inc. In Arizona, HMO plans are offered by CIGNA HealthCare of Arizona, Inc. In California, HMO plans are offered by CIGNA HealthCare of California, Inc. In Connecticut, HMO plans are offered by CIGNA HealthCare of Connecticut, Inc. In North Carolina, HMO plans are offered by CIGNA HealthCare of North Carolina, Inc. In Virginia, HMO plans are offered by CIGNA HealthCare Mid-Atlantic, Inc. All other medical plans in these states are insured or administered by Connecticut General Life Insurance Company or CIGNA Health and Life Insurance Company.