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# Guidance for Vaccinating Children When Pentacel<sup>®</sup> and Daptacel<sup>®</sup> are in Short Supply: 2013

September 9, 2013

Centers for Disease Control and Prevention (CDC)  
National Center for Immunization and Respiratory Diseases

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## Guidance for Vaccinating Children September 9, 2013

### Centers for Disease Control and Prevention (CDC) · National Center for Immunization and Respiratory Diseases

Sanofi Pasteur's Pentacel® (DTaP-IPV/Hib) and Daptacel® (DTaP) are expected to remain in short supply. GlaxoSmithKline has taken steps to meet this increased demand and will be able to increase its supply of pertussis-containing vaccines to address gaps related to these supply limitations, using a combination of products and formulations.

Practices using these vaccines may need to find alternatives during periods of decreased supply. **Single-component DTaP, IPV, and Hib vaccines and other age-appropriate licensed combination vaccines are available to complete series begun with Pentacel®.** Currently, there is a sufficient supply of these products to meet the anticipated demand.

During this period of shortage:

- Providers should continue to follow the recommended immunization schedule and ensure that patients receive all recommended doses of DTaP, Hib, and polio vaccines.
- Vaccines for Children (VFC) providers should contact their state or local immunization program for guidance about ordering vaccines.

Considerations when changing vaccine products:

- The Advisory Committee on Immunization Practices (ACIP) recommends using the same brand of vaccine for all doses of a vaccination series when feasible. If providers do not know or do not have available the brand of vaccine previously administered, another brand may be used.
- A child who began the series with Pentacel®, then received single-component products at one or more visits, may receive Pediarix in lieu of DTaP, IPV, and HepB at subsequent visits when all three vaccines are indicated.
- With the exception of Hiberix, which is licensed only for use as the last dose (booster) in the Hib series, Hib vaccines are interchangeable. If different brands of a vaccine require different numbers of doses, use the higher number when mixing brands. The Hib vaccine component in Pentacel is licensed as a four-dose series. PRP-OMP products (PedvaxHib and Comvax) are preferred for American Indian/Alaska Native children

Additional vaccine information and sample schedules using single-component and combination vaccines for children who have already received one, two, or three doses of Pentacel®, Pediarix, or both are available at <http://www.cdc.gov/vaccines/vac-gen/shortages/default.htm#1>.

Please note that the following sample schedules reflect typical scenarios; they do not cover every possible situation.

**01**

**Sample schedules for completing a series using single-component DTaP, Hib, and IPV vaccines for children previously vaccinated with DTaP-IPV/Hib (Pentacel®) only**

- A vaccine series begun with a combination vaccine can be completed using single-component vaccines.
- The same manufacturer’s vaccine should be used for all doses in a series when feasible. If this is not possible, or if the manufacturer of previous doses is not known, administer any comparable vaccine that is available.
- When scheduling the doses needed to complete a series, follow the ACIP Routine and Catch-Up Schedules (<http://www.cdc.gov/vaccines/schedules/hcp/child-adolescent.html>) and the recommended minimum ages and intervals (<http://www.cdc.gov/vaccines/pubs/pinkbook/downloads/appendices/A/age-interval-table.pdf>).
- For more information, contact your state or local health department’s immunization program.

**1 prior dose of DTaP-IPV/Hib (Pentacel®)**

Birth	1 month	2 months	4 months	6 months	12-15 months	15-18 months	4-6 years
HepB	HepB			HepB			
		Pentacel®	DTaP	DTaP		DTaP*	DTaP
			Hib	Hib**	Hib		
			IPV	IPV			IPV

**2 prior doses of DTaP-IPV/Hib (Pentacel®)**

Birth	1 month	2 months	4 months	6 months	12-15 months	15-18 months	4-6 years
HepB	HepB			HepB			
		Pentacel®	Pentacel®	DTaP		DTaP*	DTaP
				Hib**	Hib		
				IPV			IPV

**3 prior doses of DTaP-IPV/Hib (Pentacel®)**

Birth	1 month	2 months	4 months	6 months	12-15 months	15-18 months	4-6 years
HepB	HepB			HepB			
		Pentacel®	Pentacel®	Pentacel®		DTaP*	DTaP
					Hib**		
					IPV		

\*The 4<sup>th</sup> dose can be given as early as 12 months of age, provided at least 6 months have elapsed since the 3<sup>rd</sup> dose. This is an ACIP off label recommendation.

\*\*Any schedule in which two or more Hib products (including combinations) are given should use the 4-dose schedule rather than 3-dose schedule

Vaccine	Use for
DTaP	Any dose in the 5-dose series for children 6 weeks through 6 years
DTaP-IPV/Hib (Pentacel®)	Doses 1, 2, and 3 of DTaP and IPV; any dose of Hib for children 6 weeks through 4 years of age
DTaP-IPV-HepB (Pediarix)	Doses 1, 2, and 3 of DTaP and IPV; any dose of HepB for children 6 weeks through 6 years of age
HepB	Any dose in the HepB series for children at birth and older
Hib (ActHIB, PedvaxHIB)	Any dose in the Hib series for children 6 weeks through 4 years of age
Hib (Hiberix)	The last (booster) dose in the Hib series for children 12 months* through 4 years of age
HepB-Hib (Comvax)	Any dose of Hib series; Any dose of HepB series except the birth dose
IPV	Any dose in the polio series for persons 6 weeks of age and older
DTaP-IPV (Kinrix)	Dose 5 of DTaP and dose 4 of IPV for children 4 through 6 years of age Do <b>not</b> use for doses 1 through 3 of DTaP and IPV or dose 4 of DTaP

\*This is an off label ACIP recommendation.

2013 Recommended immunization schedule for persons aged 0 through 18 years of age [www.cdc.gov/vaccines/schedules/hcp/child-adolescent.html](http://www.cdc.gov/vaccines/schedules/hcp/child-adolescent.html)

Licensure of a *Haemophilus influenzae* Type B (Hib) Vaccine (Hiberix) and Updated Recommendations for Use of Hib Vaccine *MMWR*: 58(36);1008-1009 [www.cdc.gov/mmwr/preview/mmwrhtml/mm5836a5.htm?s\\_cid=mm5836a5\\_e](http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5836a5.htm?s_cid=mm5836a5_e).

**02**

**Sample schedules for completing a series using single-component DTaP, IPV, Hib vaccines for children previously vaccinated with DTaP/IPV-Hib (Pentacel®) and DTaP-IPV-HepB (Pediarix)**

- A vaccine series begun with a combination vaccine can be completed using single-component vaccines.
- The same manufacturer’s vaccine should be used for all doses in a series when feasible. If this is not possible, or if the manufacturer of previous doses is not known, administer any comparable vaccine that is available.
- When scheduling the doses needed to complete a series, follow the ACIP Routine and Catch-Up Schedules (<http://www.cdc.gov/vaccines/schedules/hcp/child-adolescent.html>) and the recommended minimum ages and intervals (<http://www.cdc.gov/vaccines/pubs/pinkbook/downloads/appendices/A/age-interval-table.pdf>).
- For more information, contact your state or local health department’s immunization program.

**1 prior dose of Pentacel®, 1 prior dose of Pediarix**

Birth	1 month	2 months	4 months	6 months	12-15 months	15-18 months	4-6 years
HepB	HepB		Pediarix	HepB*			
		Pentacel®		DTaP		DTaP**	DTaP
						IPV	
			Hib	Hib***	Hib		

**1 prior dose of Pentacel®, 2 prior doses of Pediarix**

Birth	1 month	2 months	4 months	6 months	12-15 months	15-18 months	4-6 years
HepB	HepB		Pediarix	Pediarix*			
		Pentacel®					DTaP**
					Hib	Hib***	Hib***

**2 prior doses of Pentacel®, 1 prior dose of Pediarix**

Birth	1 month	2 months	4 months	6 months	12-15 months	15-18 months	4-6 years
HepB	HepB		Pentacel	Pediarix*			
		Pentacel®					DTaP**
					Hib***	Hib***	

\*Administration of 4 doses of HepB vaccine is permissible when a combination vaccine containing HepB is given after the birth dose. This is an off label ACIP recommendation.

\*\* The 4<sup>th</sup> dose can be given as early as 12 months of age, provided at least 6 months have elapsed since the 3<sup>rd</sup> dose. This is an off label ACIP recommendation.

\*\*\* Any schedule in which two or more Hib products (including combinations) are given should use the 4-dose (rather than 3-dose) Hib series.

Vaccine	Use for
DTaP	Any dose in the 5-dose series for children 6 weeks through 6 years
DTaP-IPV/Hib (Pentacel®)	Doses 1, 2, and 3 of DTaP and IPV; any dose of Hib for children 6 weeks through 4 years of age
DTaP-IPV-HepB (Pediarix)	Doses 1, 2, and 3 of DTaP and IPV; any dose of HepB for children 6 weeks through 6 years of age
HepB	Any dose in the HepB series for children at birth and older
Hib (ActHIB, PedvaxHIB)	Any dose in the Hib series for children 6 weeks through 4 years of age
Hib (Hiberix)	The last (booster) dose in the Hib series for children 12 months* through 4 years of age
HepB-Hib (Comvax)	Any dose of Hib series; Any dose of HepB series except the birth dose
IPV	Any dose in the polio series for persons 6 weeks of age and older
DTaP-IPV (Kinrix)	Dose 5 of DTaP and dose 4 of IPV for children 4 through 6 years of age Do <b>not</b> use for doses 1 through 3 of DTaP and IPV or dose 4 of DTaP

\*This is an off label ACIP recommendation.

2013 Recommended immunization schedule for persons aged 0 through 18 years of age [www.cdc.gov/vaccines/schedules/hcp/child-adolescent.html](http://www.cdc.gov/vaccines/schedules/hcp/child-adolescent.html)

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**03**

**Sample schedules for completing a series using DTaP-IPV-HepB (Pediarix) and Hib vaccines for children previously vaccinated with DTaP-IPV/Hib (Pentacel®) only**

- A vaccine series begun with a combination vaccine can be completed using single-component and combination vaccines.
- The same manufacturer’s vaccine should be used for all doses in a series, when feasible. If this is not possible, or if the manufacturer of previous doses is not known, administer any comparable vaccine that is available.
- When scheduling the doses needed to complete a series, follow the ACIP Routine and Catch-Up Schedules (<http://www.cdc.gov/vaccines/schedules/hcp/child-adolescent.html>) and the recommended minimum ages and intervals (<http://www.cdc.gov/vaccines/pubs/pinkbook/downloads/appendices/A/age-interval-table.pdf>).
- For more information, contact your state or local health department’s immunization program.

**1 prior dose of DTaP-IPV/Hib (Pentacel®)**

Birth	1 month	2 months	4 months	6 months	12-15 months	15-18 months	4-6 years
HepB	HepB		Pediarix	Pediarix*			
		Pentacel®					DTaP**
			Hib	Hib***	Hib		IPV

**2 prior doses of DTaP-IPV/Hib (Pentacel®)**

Birth	1 month	2 months	4 months	6 months	12-15 months	15-18 months	4-6 years
HepB	HepB		Pentacel®	Pediarix*			
							DTaP**
				Hib***	Hib		IPV

\*Administration of 4 doses of HepB vaccine is permissible when a combination vaccine containing HepB is given after the birth dose. This is an off label ACIP recommendation.

\*\* The 4<sup>th</sup> dose can be given as early as 12 months of age, provided at least 6 months have elapsed since the 3<sup>rd</sup> dose. This is an off label ACIP recommendation.

\*\*\*Any schedule in which two or more Hib products (including combinations) are given should use the 4-dose (rather than 3-dose) Hib series.

Vaccine	Use for
DTaP	Any dose in the 5-dose series for children 6 weeks through 6 years
DTaP-IPV/Hib (Pentacel®)	Doses 1, 2, and 3 of DTaP and IPV; any dose of Hib for children 6 weeks through 4 years of age
DTaP-IPV-HepB (Pediarix)	Doses 1, 2, and 3 of DTaP and IPV; any dose of HepB for children 6 weeks through 6 years of age
HepB	Any dose in the HepB series for children at birth and older
Hib (ActHIB, PedvaxHIB)	Any dose in the Hib series for children 6 weeks through 4 years of age
Hib (Hiberix)	The last (booster) dose in the Hib series for children 12 months* through 4 years of age
HepB-Hib (Comvax)	Any dose of Hib series; Any dose of HepB series except the birth dose
IPV	Any dose in the polio series for persons 6 weeks of age and older
DTaP-IPV (Kinrix)	Dose 5 of DTaP and dose 4 of IPV for children 4 through 6 years of age Do <b>not</b> use for doses 1 through 3 of DTaP and IPV or dose 4 of DTaP

\*This is an off label ACIP recommendation.

2013 Recommended immunization schedule for persons aged 0 through 18 years of age [www.cdc.gov/vaccines/schedules/hcp/child-adolescent.html](http://www.cdc.gov/vaccines/schedules/hcp/child-adolescent.html)

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**04 Sample schedules for completing a series using Comvax (HepB-Hib) vaccine for children previously vaccinated with Pentacel® (DTaP-IPV/Hib) only**

- A vaccine series begun with a combination vaccine can be completed using single-component and combination vaccines.
- The same manufacturer’s vaccine should be used for all doses in a series when feasible. If this is not possible, or if the manufacturer of previous doses is not known, administer any comparable vaccine that is available.
- When scheduling the doses needed to complete a series, follow the ACIP Routine and Catch-Up Schedules (<http://www.cdc.gov/vaccines/schedules/hcp/child-adolescent.html>) and the recommended minimum ages and intervals (<http://www.cdc.gov/vaccines/pubs/pinkbook/downloads/appendices/A/age-interval-table.pdf>).
- For more information, contact your state or local health department’s immunization program.

**1 prior dose of Pentacel® (DTaP-IPV/Hib)**

Birth	1 month	2 months	4 months	6 months	12-15 months	15-18 months	4-6 years
		Pentacel®	DTaP	DTaP		DTaP*	DTaP
			IPV	IPV			IPV
			Hib	Comvax**	Hib		
HepB		HepB					

**2 prior doses of Pentacel® (DTaP-IPV/Hib)**

Birth	1 month	2 months	4 months	6 months	12-15 months	15-18 months	4-6 years
		Pentacel®	Pentacel®	DTaP		DTaP*	DTaP
				IPV			IPV
				Comvax**	Hib		
HepB	Hep B						

**3 prior doses of Pentacel® (DTaP-IPV/Hib)**

Birth	1 month	2 months	4 months	6 months	12-15 months	15-18 months	4-6 years	
		Pentacel®	Pentacel®	Pentacel®		DTaP*	DTaP	
					IPV			IPV
					Comvax**			
HepB		HepB						

\* The 4<sup>th</sup> dose can be given as early as 12 months of age, provided at least 6 months have elapsed since the 3<sup>rd</sup> dose. This is an off label ACIP recommendation.

\*\*Any schedule in which two or more Hib products (including combinations) are given should use the 4-dose (rather than 3-dose) Hib series.

Vaccine	Use for
DTaP	Any dose in the 5-dose series for children 6 weeks through 6 years
DTaP-IPV/Hib (Pentacel®)	Doses 1, 2, and 3 of DTaP and IPV; any dose of Hib for children 6 weeks through 4 years of age
DTaP-IPV-HepB (Pediarix)	Doses 1, 2, and 3 of DTaP and IPV; any dose of HepB for children 6 weeks through 6 years of age
HepB	Any dose in the HepB series for children at birth and older
Hib (ActHIB, PedvaxHIB)	Any dose in the Hib series for children 6 weeks through 4 years of age
Hib (Hiberix)	The last (booster) dose in the Hib series for children 12 months* through 4 years of age
HepB-Hib (Comvax)	Any dose of Hib series; Any dose of HepB series except the birth dose
IPV	Any dose in the polio series for persons 6 weeks of age and older
DTaP-IPV (Kinrix)	Dose 5 of DTaP and dose 4 of IPV for children 4 through 6 years of age Do <b>not</b> use for doses 1 through 3 of DTaP and IPV or dose 4 of DTaP

\*This is an off label ACIP recommendation.

2013 Recommended immunization schedule for persons aged 0 through 18 years of age [www.cdc.gov/vaccines/schedules/hcp/child-adolescent.html](http://www.cdc.gov/vaccines/schedules/hcp/child-adolescent.html)

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