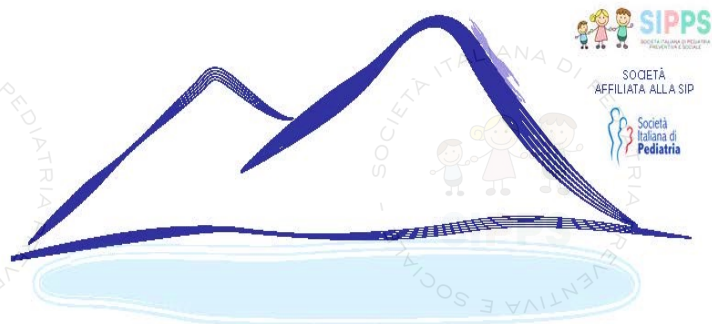
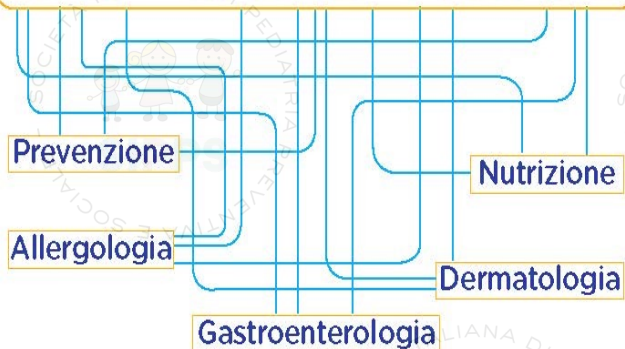


Napule è...

PEDIATRIA PREVENTIVA E SOCIALE



LUCI OMBRE ABBAGLI



29 Aprile - 01 Maggio 2023

Evento Residenziale
Hotel Royal Continental, Napoli

Presidente del congresso: **Giuseppe Di Mauro**

DOMENICA 30 APRILE

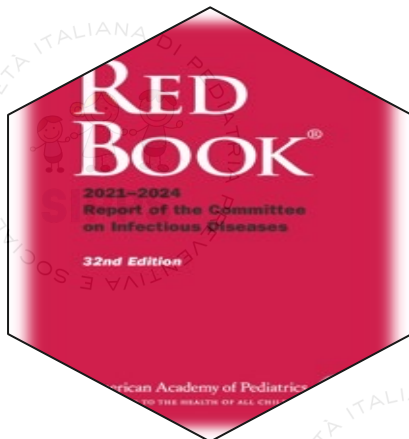
**“Piccole” questioni vaccinali:
somministrazione simultanea,
distanze fra vaccini, ritardo vaccinale ...**

Rocco Russo

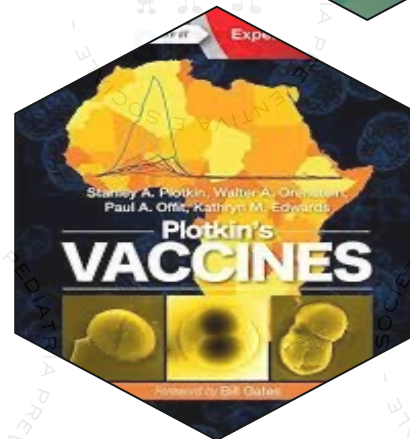
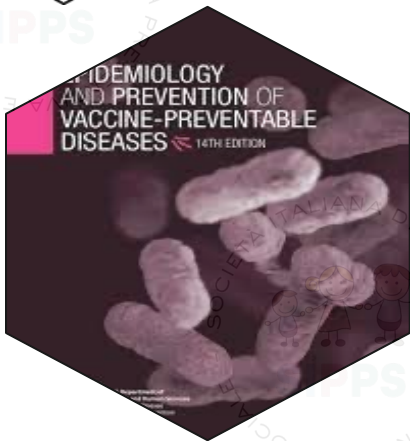
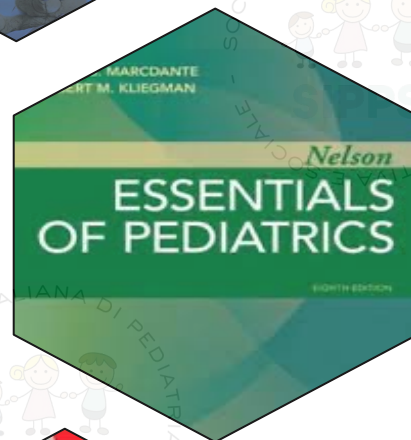
Pediatra

Unità Operativa Materno Infantile

ASL Benevento



non solo per le "Piccole" questioni vaccinali...

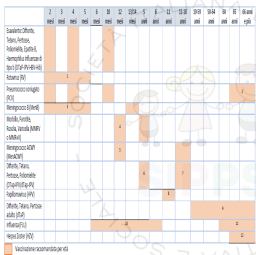




Tanti altri...

**non solo per le "Piccole"
questioni vaccinali...**





Piano Nazionale Prevenzione Vaccinale

PNPV 2023-2025

20 marzo 2023



Vaccinazioni raccomandate per la fascia di età 2 mesi -18 anni

	2 mesi	3 mesi	4 mesi	5 mesi	6 mesi	10 mesi	12 mesi	13/14 mesi	5 anni	6 anni	11 anni	12-18 anni
Esavalente: Difterite, Tetano, Pertosse, Poliomielite, Epatite B, Haemophilus influenzae di tipo b (DTaP-IPV-HBV-/Hib)	■		■			■						
Rotavirus (RV)	■											
Pneumococco coniugato (PCV)	■		■			■						
Meningococco B (MenB)	■							■				
Morbillo, Parotite, Rosolia, Varicella (MPRV o MPR+V)							■		■			
Meningococco ACWY (MenACWY)							■					■
Difterite, Tetano, Pertosse, Poliomielite (DTaP-IPV / dTaP-IPV)									■			■
Papillomavirus (HPV)											■	■
Influenza (FLU)						■					■	■

Le colonne fino a 14 anni si riferiscono a singoli accessi, considerando quindi le relative co-somministrazioni

Nota: i mesi, i giorni e gli anni di vita si intendono compiuti.

GENERAL BEST PRACTICE GUIDANCE FOR IMMUNIZATION

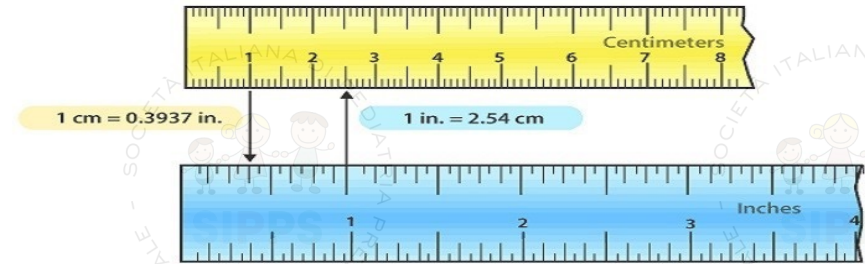


As a general rule, almost all vaccines can be administered at the same visit

Exceptions to this include:

- PCV13 (Pevnar 13) vaccine and MenACWY-D (Menactra) vaccine should not be administered simultaneously to persons with **functional or anatomic asplenia** or **HIV**. Menactra brand meningococcal conjugate vaccine is thought to interfere with the antibody response to Pevnar 13. When both Pevnar 13 and Menactra are indicated, Pevnar 13 should be administered first, followed by Menactra at least 4 weeks later.
- **PCV13 (Pevnar 13) vaccine and PPSV23 (Pneumovax 23)** vaccine should not be administered at the same visit; studies show a better immune response when Pevnar 13 is administered before Pneumovax 23. When both Pevnar 13 and Pneumovax 23 are indicated, Pevnar 13 should be administered first, and Pneumovax 23 should be administered either at least 8 weeks later or at least 1 year later, depending on the age and health conditions of the vaccine recipient.
- **Varicella (VAR [Varivax])** vaccine should not be administered simultaneously with **smallpox vaccine**.

GENERAL BEST PRACTICE GUIDANCE FOR IMMUNIZATION



If multiple parenteral injections are required, whenever possible, separate anatomic injection sites (different limbs) should be used. If multiple injections in the same limb are required, the injection sites should be separated by at **least 2.5 cm (1 inch)**.

In individuals where there is insufficient deltoid muscle mass, the anterolateral thigh muscle can be used.



The
What, When, Why
and How of
Scientific
Journals

LAVORI SU SICUREZZA ED EFFICACIA DELLA COSOMMISTRAZIONE VACCINI



Co-administration of routine paediatric vaccines in England often deviates from the immunisation schedule.

Bauwens J, de Lusignan S, Sherlock J, Ferreira F, Künzli N, Bonhoeffer J.

Vaccine X. 2021 Sep 15;9:100115. doi: 10.1016/j.jvax.2021.100115. eCollection 2021 Dec.

Immunogenicity and safety of MenACWY-TT, a meningococcal conjugate vaccine, co-administered with routine childhood vaccine in healthy infants: A phase III, randomized study.

Dbaibo G, Tinoco Favila JC, Traskine M, Jastorff A, Van der Wielen M.

Vaccine. 2018 Jun 27;36(28):4102-4111. doi: 10.1016/j.vaccine.2018.05.046. Epub 2018 May 18.

Co-administration of a novel Haemophilus influenzae type b and Neisseria meningitidis serogroups C and Y-tetanus toxoid conjugate vaccine does not interfere with the immune response to antigens contained in infant vaccines routinely used in the United States.

Marshall GS, Marchant CD, Blatter M, Friedland LR, Aris E, Miller JM.

Hum Vaccin. 2011 Feb;7(2):258-64. doi: 10.4161/hv.7.2.14170. Epub 2011 Feb 1.

Change in adverse event reporting following immunization of hepatitis B vaccine among infants between 2013 to 2020 before and after the vaccine administration law in China.

Wang C, Huang N, Lu QB, Black S, Liang X, Cui F.

Front Immunol. 2022 Sep 30;13:956473. doi: 10.3389/fimmu.2022.956473. eCollection 2022.

Concomitant administration of a liquid formulation of human rotavirus vaccine (porcine circovirus-free) with routine childhood vaccines in infants in the United States: Results from a phase 3, randomized trial.

Abu-Elyazeed R, Klein NP, Moerman L, Povey M, Pruitt A, Senders S, Silas P, Bi D; Rota-090 Study Group.

Vaccine. 2021 Mar 5;39(10):1534-1543. doi: 10.1016/j.vaccine.2020.08.070. Epub 2020 Oct 17.

Immunogenicity of pneumococcal conjugate vaccine formulations containing pneumococcal proteins, and immunogenicity and reactogenicity of co-administered routine vaccines - A phase II, randomised, observer-blind study in Gambian infants.

Odutola A, Ota MOC, Antonio M, Ogundare EO, Saidu Y, Owiafe PK, Worwui A, Idoko OT, Owolabi O, Kampmann B, Greenwood BM, Alderson M, Traskine M, Swinnen K, Verlant V, Dobbelaere K, Borys D.

Vaccine. 2019 May 1;37(19):2586-2599. doi: 10.1016/j.vaccine.2019.03.033. Epub 2019 Apr 8.

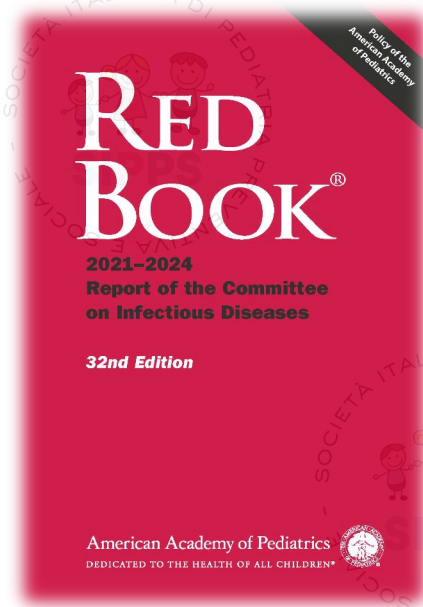
Immunogenicity of four doses of oral poliovirus vaccine when co-administered with the human neonatal rotavirus vaccine (RV3-BB).

Cowley D, Sari RM, Handley A, Watts E, Bachtiar NS, At Thobari J, Satria CD, Bogdanovic-Sakran N, Nirwati H, Orsini F, Lee KJ, Kirkwood CD, Soenarto Y, Bines JE.

Vaccine. 2019 Nov 20;37(49):7233-7239. doi: 10.1016/j.vaccine.2019.09.071. Epub 2019 Oct 10.

RITARDO VACCINI

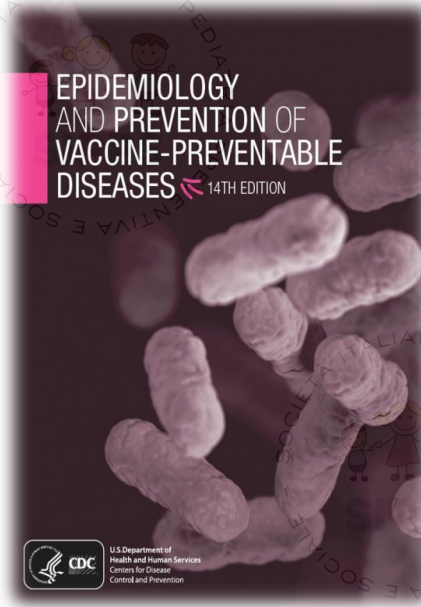




Lapsed Immunizations

A lapse in an immunization series does not require restarting the series or adding doses to the series.

If a dose in a vaccine series is missed or delayed, it should be administered at the next opportunity, and the series should resume for completion as recommended from the time of the catch-up vaccination.



In some cases, a scheduled dose of vaccine may be administered late. A late dose should be administered at the next visit. Available data indicate intervals between doses that are longer than those routinely recommended do not affect seroconversion rates or titers when the schedule is completed. Therefore, **it is not necessary to restart a series or add doses of any vaccine because of an extended interval between doses.**



Human papillomavirus vaccines: WHO position paper (2022 update)

Vaccins contre les papillomavirus humains: note de synthèse de l'OMS (mise à jour de 2022)

Contents
645. Human papillomavirus vaccines: WHO position paper (2022 update)

Sommaire
645. Vaccins contre les papillomavirus humains: note de synthèse de l'OMS (mise à jour de 2022)

Introduction
In accordance with its mandate to provide normative guidance to Member States on health policy matters, WHO issues a series of regularly updated position papers on vaccines and combinations of vaccines against diseases that have an international public health impact. These papers are concerned primarily with the use of vaccines in large-scale vaccination programmes.

The vaccine position papers are drafted by the WHO SAGE Secretariat; they summarise essential background information on diseases and vaccines and conclude with the current WHO position on the use of the vaccines worldwide. Before finalisation, the position papers are reviewed by a large group of external subject-matter experts and reviewers. The studies of Recommendations Assessment, Development and Evaluation (GRADE) and the evidence-to-recommendation tables are published alongside the position paper. The methods followed by SAGE and the process for preparation of vaccine position papers are described on the WHO website. The position papers are intended for use by national public health officials and managers of immunisation programmes. They also be of interest to vaccine advisory groups, international funding agencies, health professionals,

Introduction
Conformément à son mandat, qui prévoit qu'elle fournisse aux États Membres des orientations à caractère normatif en matière de politique sanitaire, l'OMS publie une série de notes de synthèse régulièrement mises à jour sur les vaccins et les associations vaccinales contre les maladies ayant une incidence sur la santé publique internationale. Ces notes portent principalement sur l'utilisation des vaccins dans le cadre de programmes de vaccination à grande échelle.

Les notes de synthèse sur les vaccins sont rédigées par le secrétariat du SAGE de l'OMS; elles résumées les informations essentielles sur les maladies et les vaccins associés et présentent en conclusion la position actuelle de l'OMS concernant l'utilisation de ces vaccins à l'échelle mondiale. Avant leur mise en forme définitive, elles sont examinées par un large groupe d'experts externes et d'évaluateurs. Les résultats de l'évaluation GRADE (Grading of Recommendations Assessment, Development and Evaluation) et les tableaux des données à l'appui (les recommandations sont publiés en même temps que la note de synthèse. Les méthodes employées par le SAGE et le processus visant à élaborer les notes de synthèse sur les vaccins sont décrites sur le site Web de l'OMS. Les notes de synthèse sont destinées aux responsables nationaux de la santé publique et aux administrateurs des programmes de vaccination, mais elles peuvent également présenter un intérêt pour les

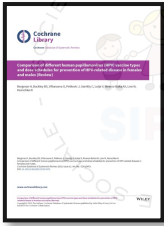
Human papillomavirus vaccines: WHO position paper (2022 update)

16 DECEMBER 2022, 97th YEAR
No 50, 2022, 97, 645-672

Vaccination schedule Two-dose schedule

The current evidence supports the recommendation that a 2-dose schedule be used in the primary target group from 9 years of age and for all older age groups for which HPV vaccines are licensed. The minimum interval between first and second dose is 6 months. A 12-month schedule results in higher GMTs137 and is suggested for programmatic and efficiency reasons.

There is no maximum recommended interval between doses and longer intervals – up to 3 or 5 years – can be considered if useful from a programme perspective.



Comparison of different human papillomavirus (HPV) vaccine types and dose schedules for prevention of HPV-related disease in females and males (Review)

Bergman H, Buckley BS, Villanueva G, Petkovic J, Garritty C, Lutje V, Riveros-Balta AX, Low N, Henschke N

Cochrane Database of Systematic Reviews 2019, Issue 11. Version published: 22 November 2019



Cochrane
Library

**Sono stati inclusi 20 RCT con 31.940 partecipanti.
La durata del follow-up negli studi inclusi variava da sette mesi a cinque anni.**

Intervallo tra le dosi di vaccino HPV nelle femmine e nei maschi di età compresa tra 9 e 14 anni

**Le risposte anticorpali risultavano essere maggiori con un intervallo più lungo (6 o 12 mesi) tra le prime due dosi di vaccino HPV rispetto a un intervallo più breve (2 o 6 mesi)
(fino a tre anni di follow-up)**



Dal 6 febbraio 2023, il programma di routine del vaccino HPV a 2 dosi fornito ai giovani di età compresa tra 12 e 13 anni diventerà un programma **a dose singola**.

Il Programma Nazionale di Immunizzazione (NIP) fornisce la schedula utilizzando il vaccino Gardasil 9.

Anche il programma di recupero in corso finanziato dal NIP per i giovani che hanno perso la vaccinazione contro l'HPV si sta estendendo. **Il programma si estenderà a quelli fino a 25 anni inclusi (in aumento dai 19 anni).**

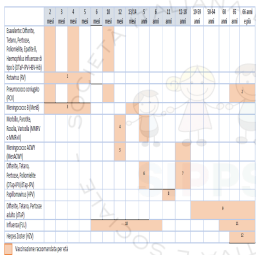
I giovani (tranne quelli immunocompromessi) che ricevono una singola dose prima dei 26 anni ora non hanno bisogno di una seconda dose per essere completamente vaccinati.

Le persone immunocompromesse dovrebbero comunque ricevere 3 dosi del vaccino HPV, tutte finanziate dal NIP prima dei 26 anni di età.

<https://www.health.gov.au/news/changes-to-hpv-vaccine-dose-schedule-for-young-australians>

Spettro clinico Rotavirus





Piano Nazionale Prevenzione Vaccinale PNPV 2023-2025

20 marzo 2023



Vaccinazioni raccomandate per la fascia di età 2 mesi -18 anni

	2 mesi	3 mesi	4 mesi	5 mesi	6 mesi	10 mesi	12 mesi	13/14 mesi	5 anni	6 anni	11 anni	12-18 anni
Esavalente: Difterite, Tetano, Pertosse, Poliomielite, Epatite B, Haemophilus influenzae di tipo b (DTaP-IPV-HBV-/Hib)												
Rotavirus (RV)	1											
Pneumococco coniugato (PCV)												
Me	1											
M	1											
Papillo												
Influenza (FLU)												

PNPV 2023-2025
20 marzo 2023

RV: Ciclo vaccinale a 2 o 3 dosi in base al vaccino utilizzato, a partire dalla 6^a settimana di vita e da completarsi **entro le 24 o 32 settimane di vita** a seconda del prodotto utilizzato.

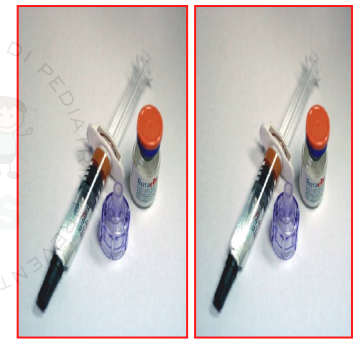
PNPV 2017-2019

Vaccinazione contro i rotavirus
Il ciclo vaccinale dovrebbe in ogni caso essere **completato non oltre gli 8 mesi di vita.**

Nota Bene: i mesi e gli anni di vita si intendono compiuti. Esempi: la prima dose DTaP-IPV-HBV-Hib può essere offerta a partire da 2 mesi compiuti, ovvero a partire dal 61° giorno di vita; la dose di richiamo DTaP-IPV-HBV-Hib a 10 mesi, ovvero a partire dal 301° giorno di vita, ecc.



Recommended Schedule for Administration of Rotavirus Vaccine



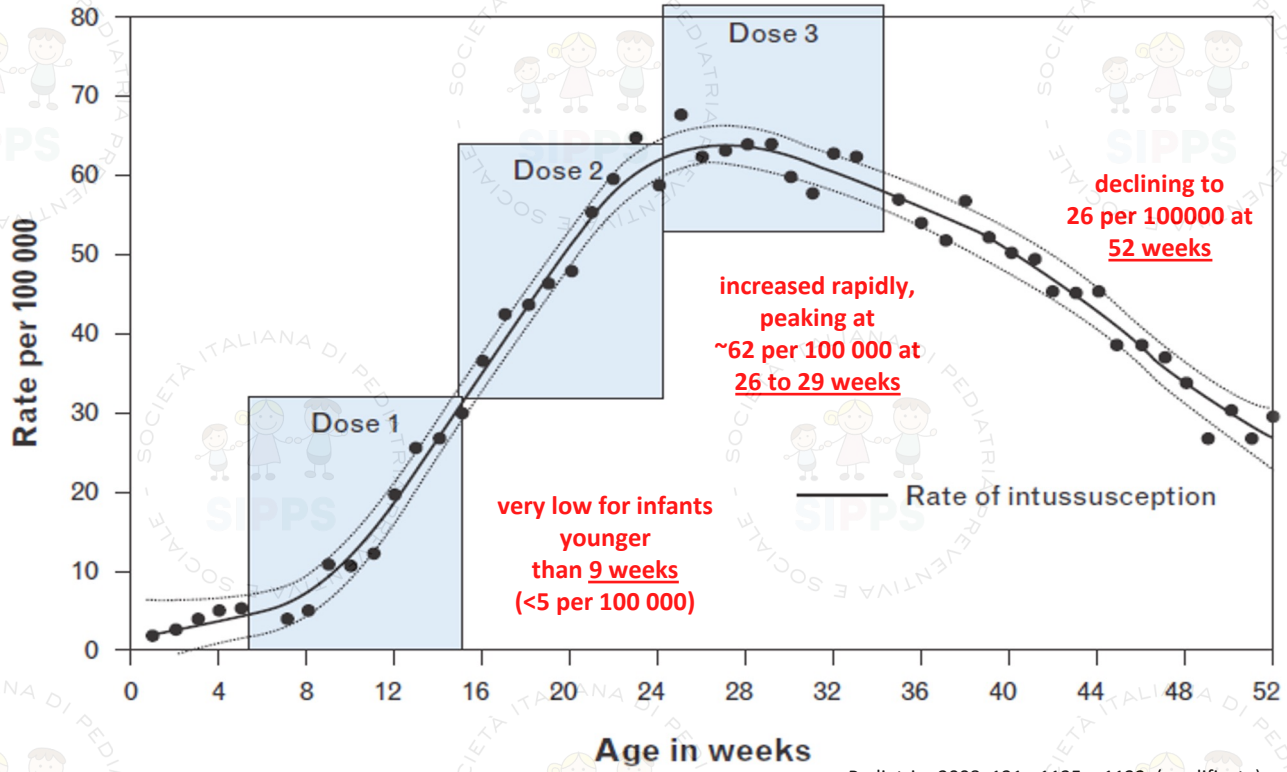
Recommendation	RV5 (RotaTeq [Merck])	RV1 (Rotarix [GSK])
Number of doses in series	3	2
Recommended ages for doses	2, 4, and 6 months of age	2 and 4 months of age
Minimum age for first dose	6 weeks of age	6 weeks of age
Maximum age for first dose	14 weeks, 6 days of age	14 weeks, 6 days of age
Minimum interval between doses	4 weeks	4 weeks
Maximum age for last dose	8 months, 0 days of age	8 months, 0 days of age



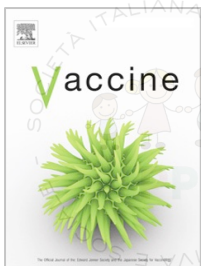
BACKGROUND RATE OF INTUSSUSCEPTION HOSPITALIZATIONS US INFANTS 1993–2004



invaginazione



Pediatrics 2008; 121:e1125–e1132. (modificata)



Safety profile of rotavirus vaccines among individuals aged 8 months of age, United States, vaccine adverse event reporting system (VAERS), 2006–2019

Penina Haber, Jacqueline Tate, Paige L. Marquez, Pedro L. Moro, Umesh Parashar

Vaccine 39 (2021) 746-750



We analyzed reports by **2 age groups** (individuals aged 8 months–5 years and 6 years), vaccine brand name, adverse event (AE) reported, classification of seriousness (death, non-death serious, and non-serious) and mode of exposure (direct vs. indirect exposure).

During January 1, 2006 through December 31, 2019, VAERS received a total of **344 U.S. reports** following rotavirus vaccinations among persons aged 8 months, **of which 32 (9.3%) were classified as serious.**

^a A report is considered serious if the AE results in **death, life-threatening illness, hospitalization or prolongation of existing hospitalization, permanent disability, or birth defect.**

MAIN ADVERSE EVENT	N. REPORTS
Non-death, serious reports^a	32
Intussusception (IS)	
There were 9 (2.6%) IS reports: 8 were serious reports, and one was a non-serious report.	
Median age was 9 months (range 9–16 months).	
Median time to symptom onset was 14 days (range 0–231 days).	
Six (66%) patients were male.	
Five reports were after RV5, two reports were after RV1, and one report did not specify brand name.	



Safety profile of rotavirus vaccines among individuals aged 8 months of age, United States, vaccine adverse event reporting system (VAERS), 2006–2019

Penina Haber, Jacqueline Tate, Paige L. Marquez, Pedro L. Moro, Umesh Parashar

Vaccine 39 (2021) 746-750



IN SUMMARY

we did not identify any AEs of concern in more than a decade of exposure to RV vaccines among individuals over 8 months of age.

However, compared to past analyses, fewer reports were submitted, and the frequency with which individuals 8 months of age are vaccinated is unknown; firm conclusions are thus difficult to make.

Health care providers should vaccinate children according to ACIP's recommended schedule, and they, as well as others in contact with vaccinated children, should apply the necessary precautions to prevent secondary exposure.



Ministero della Salute

Piano Nazionale Vaccini 2005-2007

Recupero (catch up) dei ritardatari

Secondo la Circolare Ministeriale N. 5 del 1999, per tali soggetti il ciclo vaccinale deve essere ricominciato solo se sono trascorsi più di 12 mesi tra la 1^a e 2^a dose e più di 5 anni tra la 2^a e la 3^a dose di DTPa, DT, IPV, HBV.

Una volta che il sistema di identificazione degli inadempienti totali e parziali sarà entrato pienamente a regime, questi dovranno essere identificati attraverso verifica anagrafica vaccinale al 6^o, 12 e 24 mese di vita.

Viene di seguito proposta la regolarizzazione del ciclo vaccinale, sulla base dell'età del soggetto e secondo quanto previsto dal calendario, osservando l'intervallo minimo tra le varie somministrazioni.



Intervallo fra la somministrazione di antigeni vivi e inattivati

Combinazione antigenica	Minimo intervallo fra le dosi raccomandato
Due o più inattivati ⁽¹⁾	possono essere somministrate simultaneamente o a qualunque intervallo fra le dosi
Inattivati e Vivi	possono essere somministrate simultaneamente o a qualunque intervallo fra le dosi
Due o più vivi parenterali	28 giorni di intervallo minimo ⁽²⁾ se non somministrati simultaneamente

1) alcuni esperti suggeriscono di un intervallo di 28 giorni fra la somministrazione di dTpa e vaccino meningococcico coniugato tetravalente nell'adolescente, se non somministrati contemporaneamente.

2) I vaccini vivi orali (es:vaccino Ty21a contro la febbre tifoide e vaccino antirotavirus) possono essere somministrati simultaneamente o a qualunque intervallo prima o dopo un vaccino inattivato o vivo parenterale.



RISK OF VACCINE-PREVENTABLE DISEASE IN PRETERM AND LBW INFANTS

Soans S et al. *Hum Vaccin Immunother.* 2022 Dec 31;18(1):1-12.

Disease	Outcome	Risk of acquiring disease
Tetanus	Death due to neonatal tetanus in LBW	OR: 2.09 (95%CI: 1.29-3.37)
Pertussis	Hospitalization in preterm vs. full-term infants	IRR: 1.99 (95%CI: 1.47-2.71)
	Severe disease with a history of prematurity	OR: 5.00 (95%CI: 1.27-19.71)
Invasive pneumococcal	Risk of infection in LBW (<2,500 gr) infants	RR: 2.6 (P = .03)
	Risk of infection in preterm (<38 weeks) infants	RR: 1.6 (P = .06)
Bacterial meningitis	Hospitalization in infants weighing <1,000 gr	RR: 1.38 (95%CI: 0.57-3.35)
	Hospitalization in infants weighing 1,000-1,499 gr	RR: 1.46 (95%CI: 0.88-2.44)
	Hospitalization in infants weighing 1,500-1,999 gr	RR: 1.55 (95%CI: 1.13-2.12)
	Hospitalization in infants weighing 2,000-2,499 gr	RR: 1.31 (95%CI: 1.09-1.58)
Bacterial pneumonia	Hospitalization in infants weighing <1,000 gr	RR: 2.86 (95%CI: 1.83-4.47)
	Hospitalization in infants weighing 1,000-1,499 gr	RR: 1.67 (95%CI: 1.20-2.33)
	Hospitalization in infants weighing 1,500-1,999 gr	RR: 1.53 (95%CI: 1.22-1.91)
	Hospitalization in infants weighing 2,000-2,499 gr	RR: 1.51 (95%CI: 1.32-1.71)
Rotavirus gastroenteritis	Hospitalization in very LBWs (<1,500 gr)	OR: 2.6 (95%CI: 1.6-4.1)
	Hospitalization in LBW (1,500-2,499 gr)	OR: 1.6 (95%CI: 1.3-2.1)
Influenza	Severe disease in children with history of prematurity	OR: 2.53 (95%CI: 1.34-4.77)

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American Academy
of Pediatrics

Immunization in Preterm and Low Birth Weight Infants

Infants born preterm (at less than 37 weeks of gestation) or of low birth weight (less than 2500 g) who are clinically stable should, with few exceptions, receive all routinely recommended childhood vaccines at the same chronologic age as term and normal birth weight infants.

Although studies have shown decreased immune responses to several vaccines administered to neonates with very low birth weight (less than 1500 g) and neonates of very early gestational age (less than 29 weeks of gestation), most preterm infants, including infants who receive corticosteroids for chronic lung disease, produce sufficient vaccine-induced immunity to prevent disease.

Vaccine dosages administered to term infants should **not be reduced or divided** when administered to preterm or low birth weight infants.

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Immunization in Preterm and Low Birth Weight Infants

Preterm and low birth weight infants **tolerate** most childhood vaccines as well as do term infants.

Some studies show that **cardiorespiratory events may increase** in extremely (less than 1000 g) and very (less than 1500 g) low birth weight infants who receive selected vaccines.

Apnea within 24 hours prior to immunization, younger age, or weight less than 2000 g at the time of immunization and 12-hour have been associated with development of postimmunization apnea, and it may be prudent to monitor infants with these characteristics **for 48 hours after immunization if they are still in the hospital.**

Immunisation against infectious disease

Chapter 7: Immunisation of individuals with underlying medical conditions

January 2020

Very premature infants (born ≤ 28 weeks of gestation) who are in hospital should have respiratory monitoring for 48-72 hrs when given their first immunisation, particularly those with a previous history of respiratory immaturity.

If the child has **apnoea, bradycardia or desaturations after the first immunisation**, the second immunisation should also be given in hospital, with respiratory monitoring for 48-72 hrs.

(Pfister et al., 2004; Ohlsson et al., 2004; Schulzke et al., 2005; Pourcyrous et al., 2007; Klein et al., 2008)

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American Academy
of Pediatrics

Immunization in Preterm and Low Birth Weight Infants

Preterm infants born **before 29 weeks**; infants born with certain congenital heart defects; and certain infants with chronic lung disease of prematurity or hemodynamically significant heart disease **may benefit from monthly immunoprophylaxis with palivizumab** (respiratory syncytial virus monoclonal antibody) during respiratory syncytial virus season.

Routine childhood immunizations should be administered on schedule in infants receiving palivizumab.

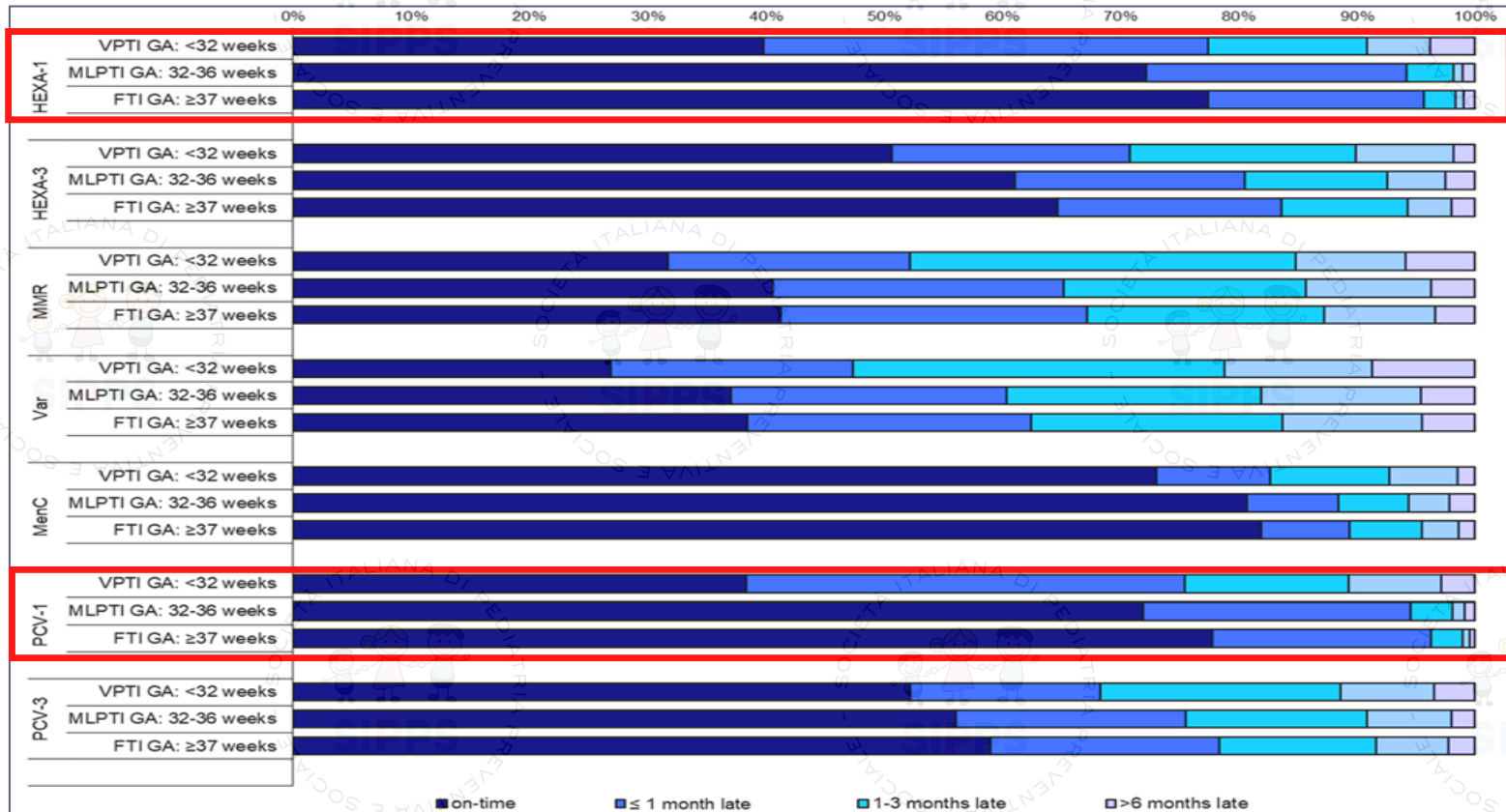


vaccines

Delayed Start of Routine Vaccination in Preterm and Small-for-Gestational-Age Infants: An Area-Based Cohort Study from the Tuscany Region, Italy

Lastrucci V, Puglia M, Pacifici M, Buscemi P, Sica M, Alderotti G, Belli G, Berti E, Rusconi F, Voller F. Vaccines (Basel). 2022 Aug 28;10(9):1414

To evaluate routine vaccination timeliness in these high-risk groups, a full birth cohort of infants (n = 41,502) born in 2017 and 2018 in Tuscany was retrospectively followed up until 24 months of age. A total of 3158 (7.6%) infants were born preterm: specifically, 2802 (6.7%) were MLPTI, and 356 (0.9%) were VPTI.





Association of Routine Infant Vaccinations With Antibody Levels Among Preterm Infants

Elsbeth D. M. Rouers; Patricia C. J. Bruijning-Verhagen; Pieter G. M. van Gageldonk et al

JAMA. 2020;324(11):1068-1077. doi:10.1001/jama.2020.12316



OBJECTIVE To evaluate the immunogenicity of routine vaccinations administered to preterm infants.

DESIGN, SETTING, AND PARTICIPANTS A multicenter, prospective, observational cohort study of preterm infants stratified according to gestational age recruited from 8 hospitals across the Netherlands between October 2015 and October 2017, with follow-up until 12 months of age (October 2018). In total, **296 premature infants** were enrolled and compared with a **control group of 66 healthy term infants** from a 2011 study, immunized according to the same schedule with the same vaccines.



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EXPOSURES Three primary doses of the diphtheria–tetanus toxoids–acellular pertussis–inactivated poliomyelitis–Haemophilus influenzae type b–hepatitis B combination vaccine were given at **2, 3, and 4 months** after birth followed by a booster at **11 months** and a 10-valent pneumococcal conjugate vaccine at 2, 4, and 11 months after birth.

MAIN OUTCOMES AND MEASURES Primary end points were (1) proportion of preterm infants who achieved **IgG antibody** against vaccine antigens at concentrations above the internationally defined threshold for protection after the primary series and booster dose and (2) serum **IgG geometric mean concentrations** after the primary series and booster vaccination. Proportions and geometric mean concentrations were compared in preterm infants and the control group of term infants.



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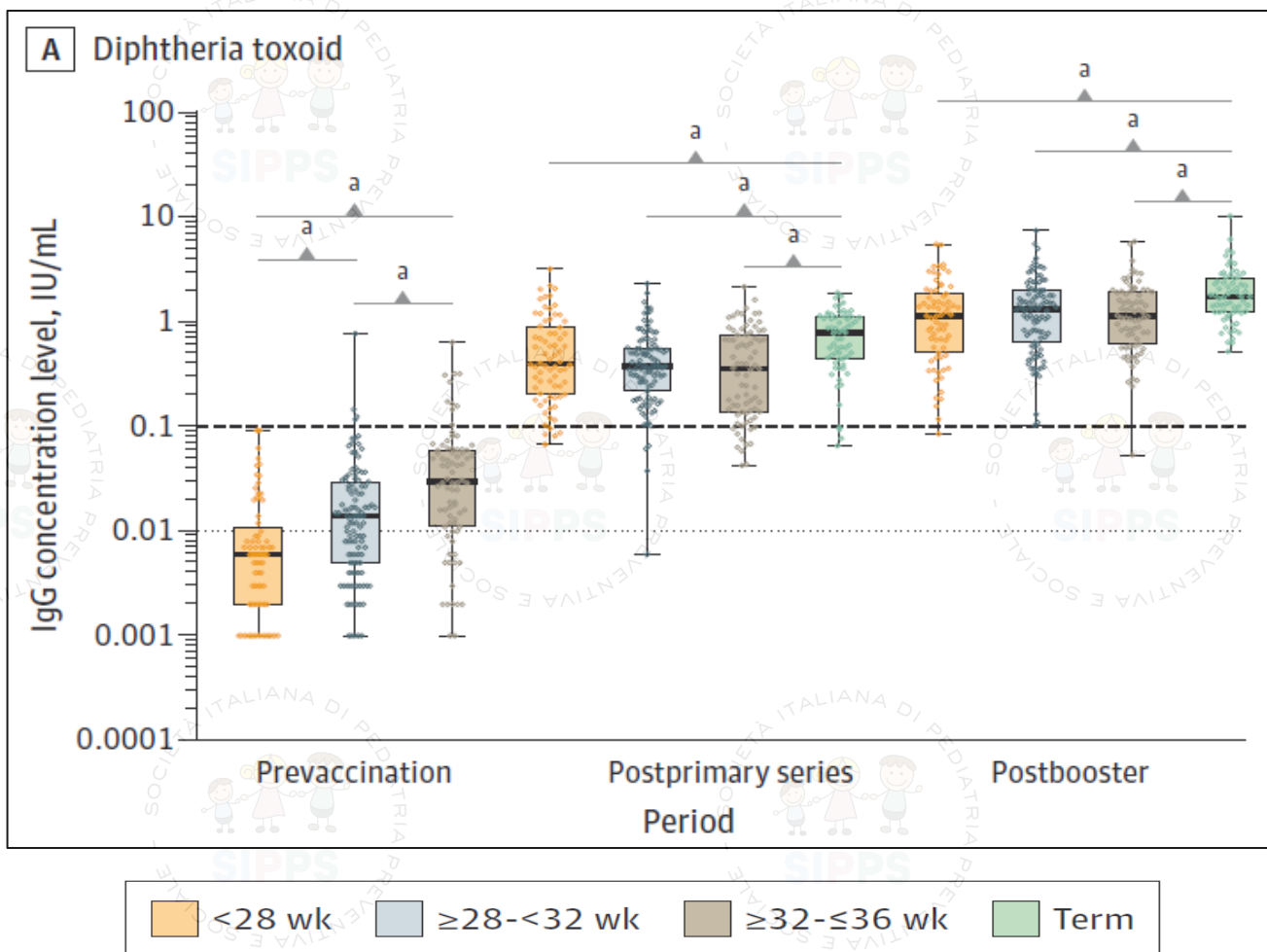
Characteristic	Gestational age, wk				
	<28 (n = 87)	≥28-<32 (n = 119)	≥32-≤36 (n = 90)	All preterm (N = 296)	Term (n = 66)
Sex, No. (%)					
Male	59 (68)	62 (68)	45 (50)	166 (56.1)	33 (50)
Female	28 (32)	57 (48)	45 (50)	130 (43.9)	33 (50)
Gestational age, mean (range), wk	26.3 (24.0-27.6)	30.0 (28.0-31.6)	33.6 (32.0-36.0)	30.0 (3.1)	39.8 (1.3)
Birth weight, mean (range), g	914 (465-1300)	1313 (530-2142)	2034 (1160-3355)	1415 (465-3355)	3636 (471)
Age at, mean (SD), d					
Prevaccination sample	53.7 (11.2)	49.7 (15.2)	44.9 (10.7)	49.3 (13.3)	NA
First vaccination	69.2 (14.3)	59.4 (10.2)	61.0 (8.3)	62.5 (11.9)	62 (3.0)
Postprimary sample	179.1 (22.5)	170.1 (19.1)	169.5 (19.9)	172.5 (20.7)	164 (9.3)
Postbooster sample	397.6 (27.9)	383.2 (19.8)	387.3 (19.1)	388.6 (23.0)	378 (9.3)
Window between, mean (SD), d					
Primary dose 3 and postprimary sample	40.7 (12.4)	43.5 (17.3)	40.9 (21.3)	41.9 (17.3)	29 (6.0)
Booster dose and postbooster sample	38.3 (14.7)	37.9 (13.8)	43.3 (20.0)	39.7 (16.3)	30 (6.0)



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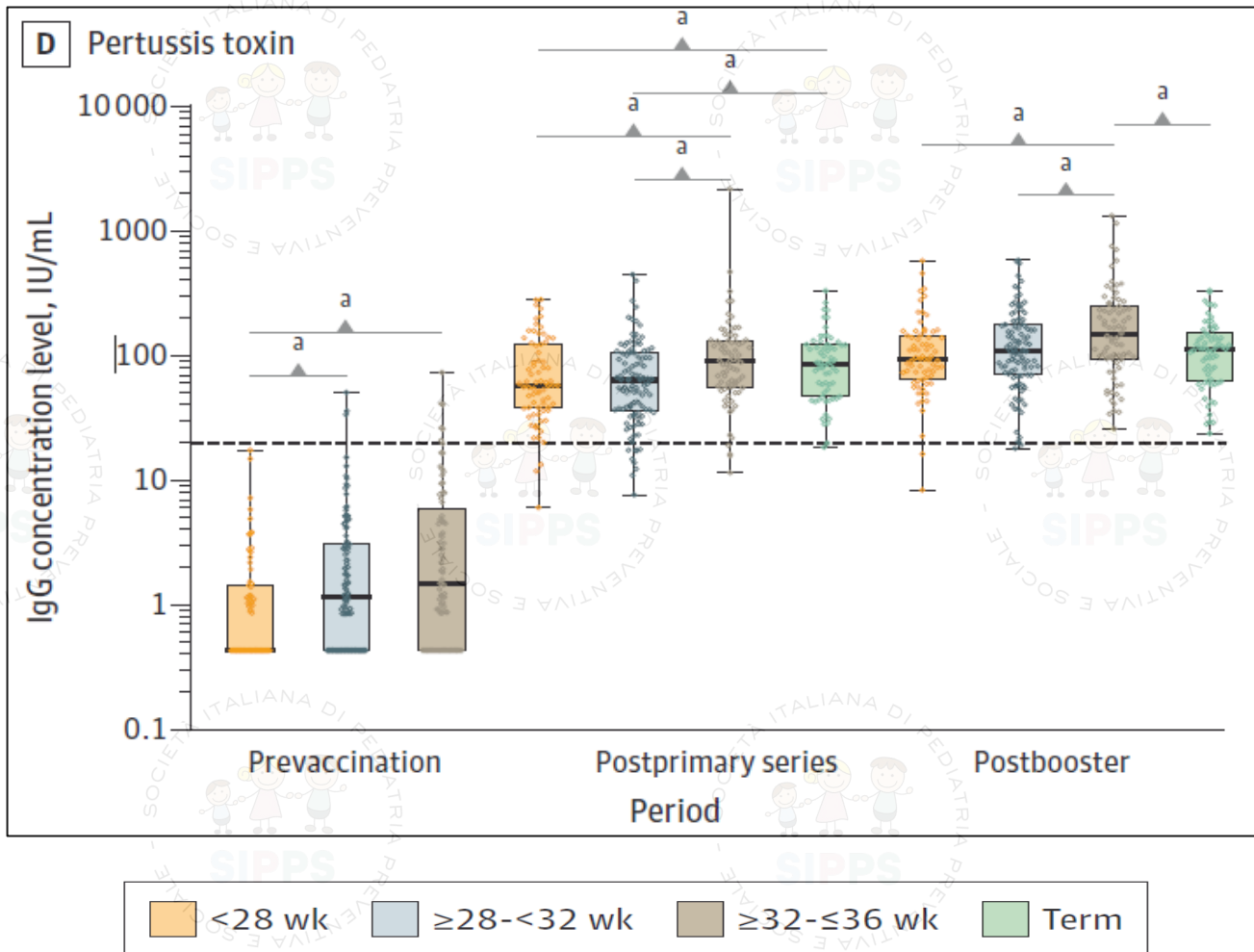




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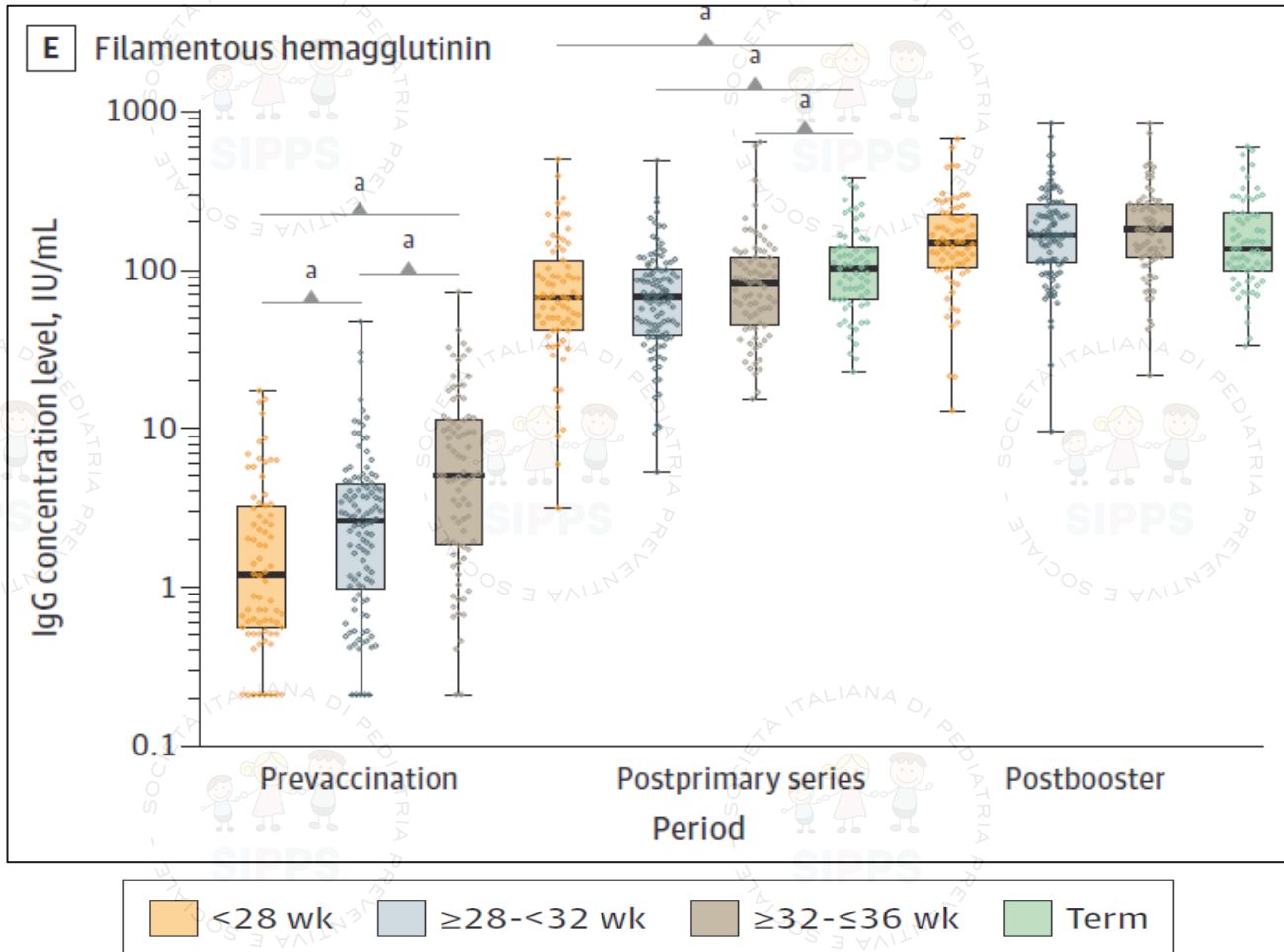




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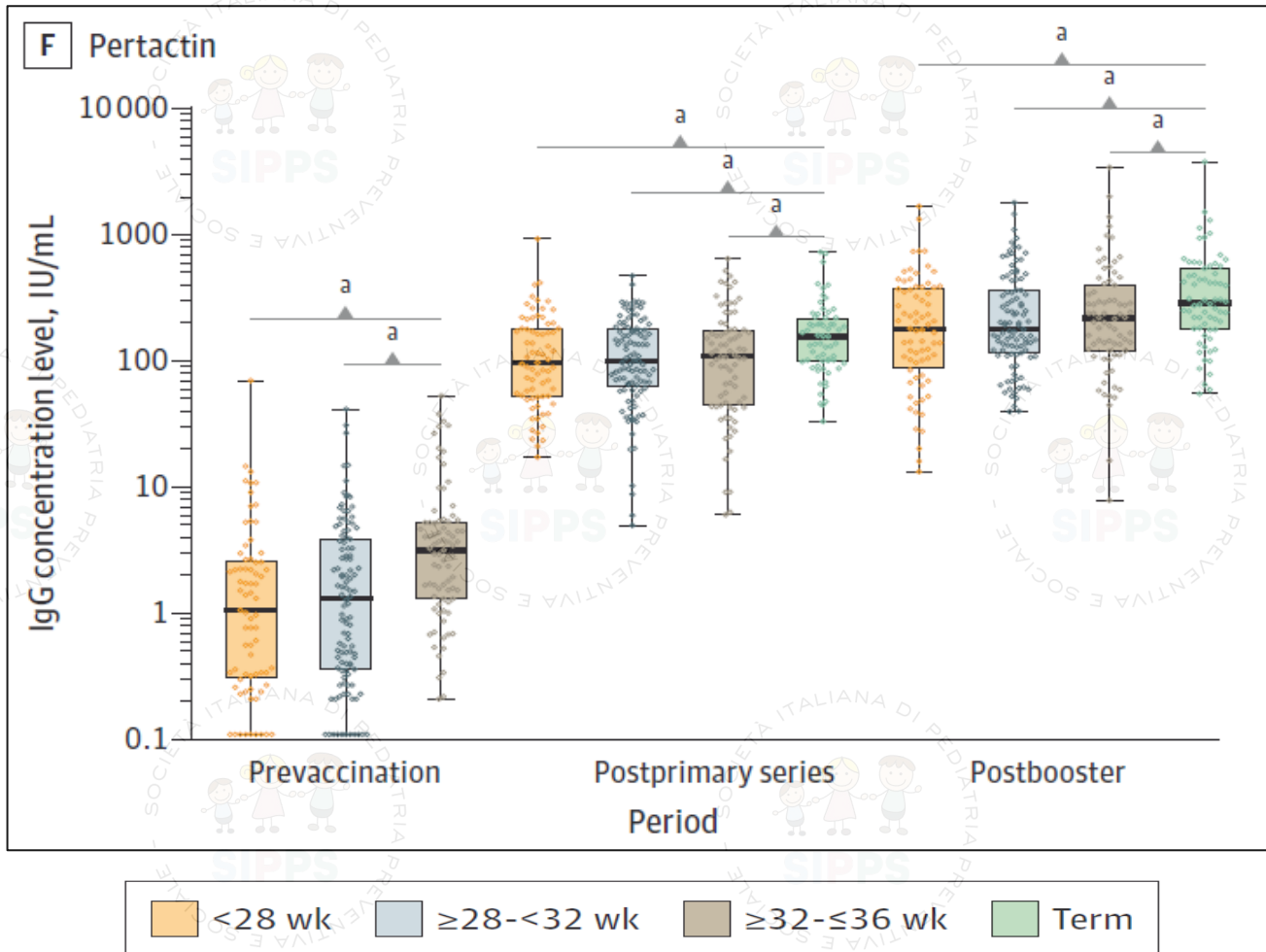




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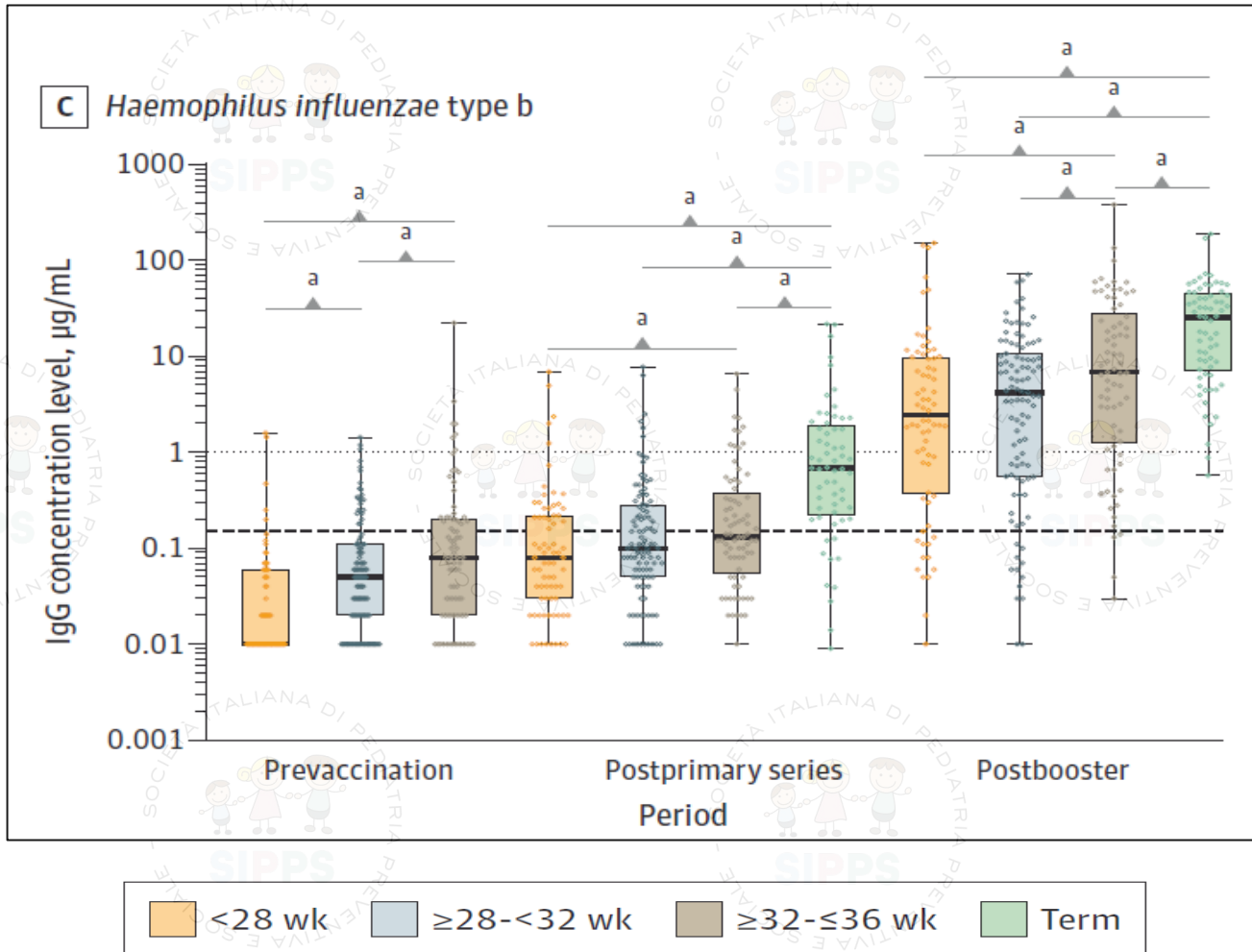


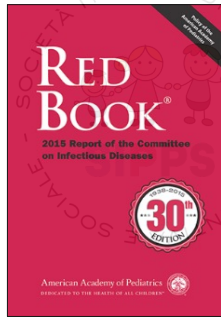


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VACCINO ANTIVARICELLA

Allattamento



**La madre che allatta
PUÒ essere vaccinata
contro la varicella!**



Prevention of Varicella: Recommendations of the Advisory Committee on Immunization Practices (ACIP)

MMWR Vol 45, No RR-11;1-25 07/12/1996

Postpartum varicella vaccination: is the vaccine virus excreted in breast milk?

Bohlke K, Galil K, Jackson LA, Schmid DS, Starkovich P, Loparev VN, Seward JF.

Obstet Gynecol. 2003 Nov;102(5 Pt 1):970-7



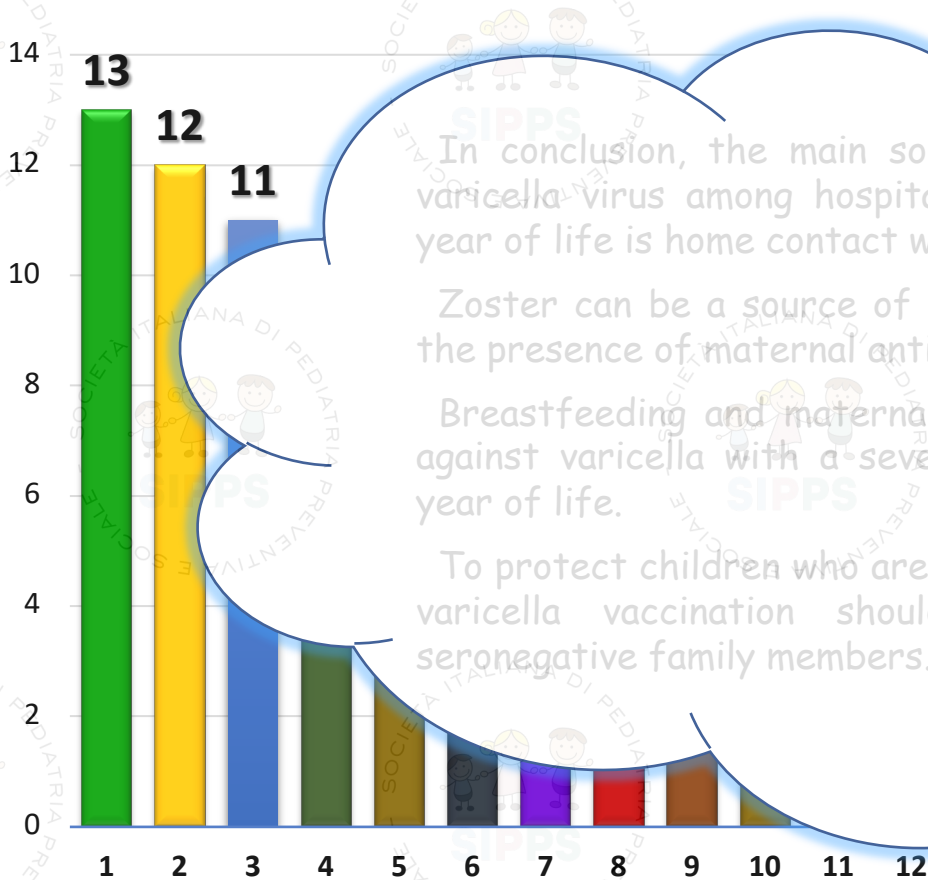
TOO YOUNG TO BE VACCINATED: HOSPITALIZATIONS CAUSED BY VARICELLA AMONG CHILDREN IN THE FIRST YEAR OF LIFE

Ewelina Gowina, Jacek Wysocki, Michał Michalak, Danuta Januszkiewicz-Lewandowska

International Journal of Infectious Diseases 62 (2017) 52–55



Age distribution of children hospitalized with varicella in the first year of life (in months)



- **359 children hospitalized for varicella** on infectious diseases ward at the Children's Hospital between January 2010 and December 2014.

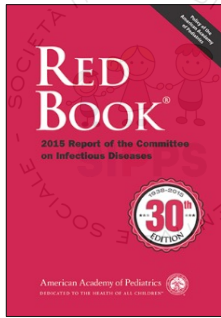
In conclusion, the main source of infection with the varicella virus among hospitalized children in the first year of life is home contact with ill siblings or parents.

Zoster can be a source of varicella for a child even in the presence of maternal antibodies.

Breastfeeding and maternal antibodies do not protect against varicella with a severe course during the first year of life.

To protect children who are too young for immunization, varicella vaccination should be offered to their seronegative family members.

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while
on was
ses the
2 months age group,
use of hospitalization
respiratory infections, which were found
in 34 children (pneumonia in 15, bronchitis in
12, otitis media in six, and laryngitis in one).



VACCINO ANTIVARICELLA

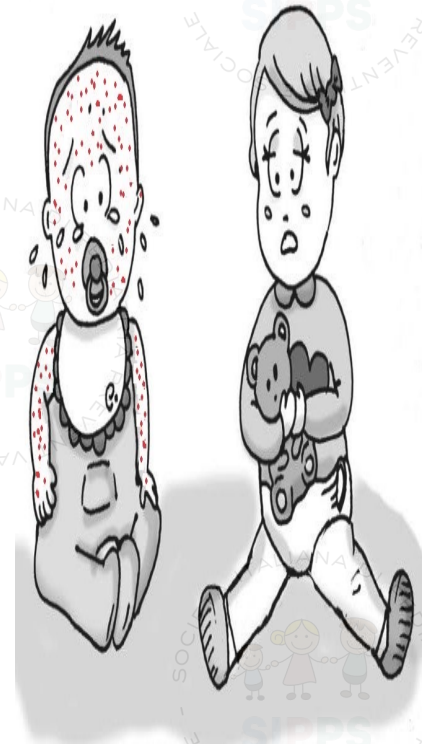
Vaccinazione post-esposizione

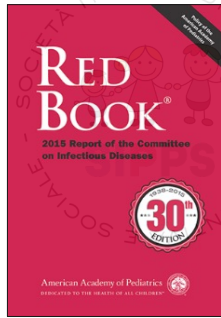


La vaccinazione per la varicella a tutte le persone suscettibili di 12 mesi o più, compresi gli adulti, **entro 3 giorni e non oltre 5 giorni dall'esposizione**, può **prevenire o modificare significativamente** la malattia e deve essere presa in considerazione nei casi in cui non sussistono controindicazioni.

Se l'esposizione alla varicella non causa infezione la vaccinazione dovrebbe indurre una specifica protezione nei confronti di un'esposizione successiva.

Non c'è alcuna evidenza che la somministrazione del vaccino durante lo stadio presintomatico o prodromico, aumenti il rischio di effetti collaterali associati al vaccino o di una malattia più grave.





VACCINO ANTIVARICELLA

Trasmissione del virus associato al vaccino



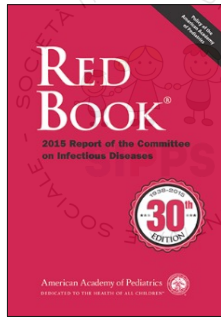
La trasmissione del virus a contatti è rara (solo 9 casi hanno causato 11 casi secondari), e **avviene solo se la persona vaccinata sviluppa l'esantema**.

Non è stato valutato il ruolo delle VZIG, delle IGV o dell'Aciclovir o del Valaciclovir, come profilarsi di soggetti ad alto rischio esposti a persone vaccinate che presentano lesioni della varicella.

Tuttavia alcuni esperti ritengono che i soggetti immunodepressi nei quali si sviluppino lesioni cutanee debbano ricevere Aciclovir o Valaciclovir.

In questi pazienti si deve cercare di identificare il virus della varicella in laboratorio, specialmente con PCR.





VACCINO ANTIVARICELLA

Herpes Zoster dopo vaccinazione

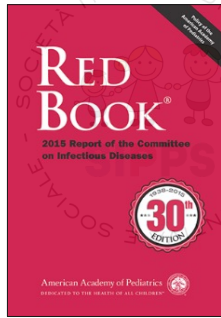


Il vaccino per la varicella ha causato **Herpes Zoster** in soggetti: sia **immunocompetenti** e sia **immunocompromessi**.

I risultati di follow-up indicano che l'**incidenza** di herpes zoster specifica per l'età sembra **inferiore** a quella che si verifica dopo la varicella naturale.

Nelle vescicole di persone vaccinate è stato ritrovato il VZV naturale, il che indica che lo **zoster in un vaccinato possa essere da contagio naturale avvenuto prima o dopo la vaccinazione.**





VACCINO ANTIVARICELLA

Familiari potenziali contatti di soggetti immunocompromessi



I contatti domestici di persone immunocompromesse **DEVONO** essere vaccinati in assenza di prova dell'immunità per ridurre il rischio di introdurre un ceppo wild di varicella in famiglia.

Non sono necessarie precauzioni dopo la vaccinazione di un bambino sano nel quale l'esantema ma non si sviluppa.

I soggetti che sviluppano un esantema devono evitare il contatto con il familiare immunocompromesso suscettibile per la durata dell'esantema.



Concludendo

Anche se la strada è lunga e tortuosa...



**SOLO L'IMPEGNO DI TUTTI CI PORTERA' A VINCERE
LA GUERRA CONTRO LE MALATTIE INFETTIVE
PREVENIBILI CON VACCINO!!**

Grazie

9

noi tifiamo
Napoli
tiè

