Príprava postupov pre očkovanie detí mimo platnej národnej očkovacej schémy („catch up“ očkovanie)

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XXI. Vakcinačný deň Slovenskej republiky
Žilina
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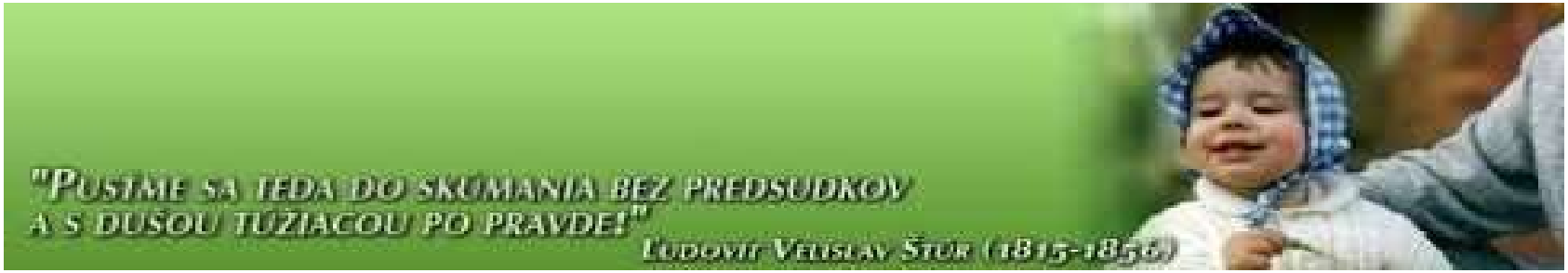
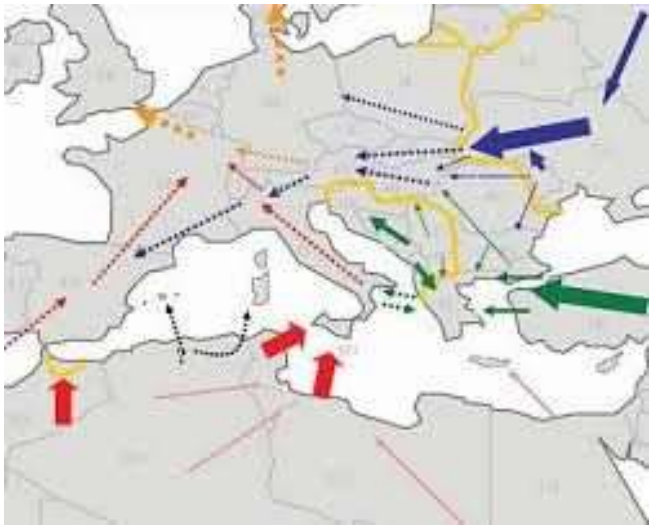
Pracovná skupina pre imunizáciu UVZ SR 9.4.2015

- aktuálny problém – povinné očkovanie detí v neštandardných situáciách
- požiadavka na odborné usmernenie
- odpoveď na list výboru Spoločnosti všeobecnej starostlivosti o deti SLS zo dňa I2 2.2015
- PSPI vytvorila expertnú pracovnú skupinu,
- odpoveď po vypracovaní usmernenia a jeho schválení Hlavným hygienikom SR


"Pustme sa teda do skúmania bez predsudkov
a s dušou túžiacou po pravde!"
Ľudovít Veleslav Štúr (1815-1856)

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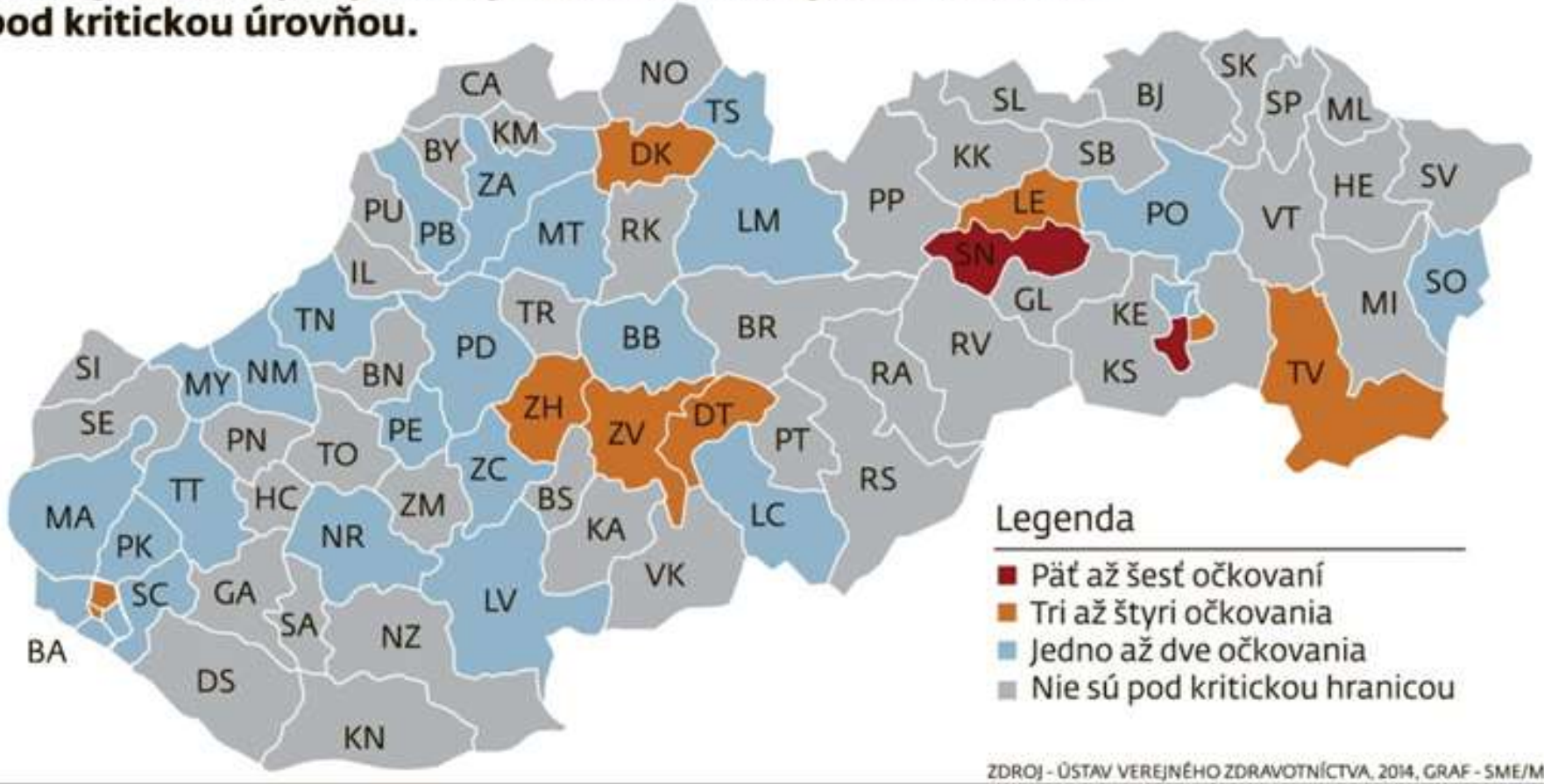
Okresy s nízkou zaočkovanosťou

Mapa ukazuje okresy, v ktorých zaočkovanosť nedosahuje ani 95 percent, čo je hranica, keď už očkovanie prestáva chrániť obyvateľstvo. Jednotlivé farby ukazujú, v koľkých povinných očkovaniach je zaočkovanosť pod kritickou úrovňou.



ZDROJ - ÚSTAV VEREJNÉHO ZDRAVOTNÍCTVA, 2014, GRAF - SME/MM

Schémy doočkovania – catch-up a minimálne intervaly medzi dávkami deťom u ktorých bolo oneskorené očkovanie (do 6 rokov)

FIGURE 2. Catch-up immunization schedule for persons aged 4 months through 18 years who start late or who are more than 1 month behind —United States, 2015.

The figure below provides catch-up schedules and minimum intervals between doses for children whose vaccinations have been delayed. A vaccine series does not need to be restarted, regardless of the time that has elapsed between doses. Use the section appropriate for the child's age. Always use this table in conjunction with Figure 1 and the footnotes that follow.

Children age 4 months through 6 years					
Vaccine	Minimum Age for Dose 1	Minimum Interval Between Doses			
		Dose 1 to Dose 2	Dose 2 to Dose 3	Dose 3 to Dose 4	Dose 4 to Dose 5
Hepatitis B[1]	Birth	4 weeks	8 weeks *and* at least 16 weeks after first dose. Minimum age for the final dose is 24 weeks.		
Rotavirus[2]	6 weeks	4 weeks	4 weeks[2]		
Diphtheria, tetanus, and acellular pertussis[3]	6 weeks	4 weeks	4 weeks	6 months	6 months[3]
Haemophilus influenzae type b[4]	6 weeks	4 weeks if first dose was administered before the 1st birthday. 8 weeks (as final dose) if first dose was administered at age 12 through 14 months. No further doses needed if first dose was administered at age 15 months or older.	4 weeks[5] if current age is younger than 12 months **and** first dose was administered at younger than age 7 months, **and** at least 1 previous dose was PRP-T (ActHib, Pentacel) or unknown. 8 weeks *and* age 12 through 59 months (as final dose)[5] • if current age is younger than 12 months **and** first dose was administered at age 7 through 11 months; OR • if current age is 12 through 59 months **and** first dose was administered before the 1st birthday, **and** second dose administered at younger than 15 months; OR • if both doses were PRP-OMP (PedvaxHIB; Comvax) **and** were administered before the 1st birthday. No further doses needed if previous dose was administered at age 15 months or older.	8 weeks (as final dose) This dose only necessary for children age 12 through 59 months who received 3 doses before the 1st birthday.	
Pneumococcal[6]	6 weeks	4 weeks if first dose administered before the 1st birthday. 8 weeks (as final dose for healthy children) if first dose was administered at the 1st birthday or after. No further doses needed for healthy children if first dose administered at age 24 months or older.	4 weeks if current age is younger than 12 months and previous dose given at <7months old. 8 weeks (as final dose for healthy children) if previous dose given between 7-11 months (wait until at least 12 months old); OR if current age is 12 months or older and at least 1 dose was given before age 12 months. No further doses needed for healthy children if previous dose administered at age 24 months or older.	8 weeks (as final dose) This dose only necessary for children aged 12 through 59 months who received 3 doses before age 12 months or for children at high risk who received 3 doses at any age.	
Inactivated poliovirus[7]	6 weeks	4 weeks[7]	4 weeks[7]	6 months[7] (minimum age 4 years for final dose).	
Meningococcal[13]	6 weeks	8 weeks[13]	See footnote 13	See footnote 13	
Measles, mumps, rubella[9]	12 months	4 weeks			
Varicella[10]	12 months	3 months			
Hepatitis A[11]	12 months	6 months			

Schémy doočkovania – catch-up a minimálne intervaly medzi dávkami deťom u ktorých bolo oneskorené očkovanie (od 7 do18 rokov)

			Children and adolescents age 7 through 18 years		
Tetanus, diphtheria; tetanus, diphtheria, and acellular pertussis[8]	7 years[4]	4 weeks	4 weeks if first dose of DTaP/DT was administered before the 1st birthday. 6 months (as final dose) if first dose of DTaP/DT was administered at or after the 1st birthday.	6 months if first dose of DTaP/DT was administered before the 1st birthday.	
Human papillomavirus[12]	9 years	Routine dosing intervals are recommended.[12]			
Hepatitis A[11]	Not applicable (N/A)	6 months			
Hepatitis B[7]	N/A	4 weeks	8 weeks **and** at least 16 weeks after first dose.		
Inactivated poliovirus[7]	N/A	4 weeks	4 weeks[7]	6 months[7]	
Meningococcal[13]	N/A	8 weeks[13]			
Measles, mumps, rubella[9]	N/A	4 weeks			
Varicella[10]	N/A	3 months if younger than age 13 years. 4 weeks if age 13 years or older.			

Footnotes — Recommended immunization schedule for persons aged 0 through 18 years—United States, 2015

For further guidance on the use of the vaccines mentioned below, see: http://www.cdc.gov/vaccines/hcp/acip-recs/index.html.
For vaccine recommendations for persons 19 years of age and older, see the Adult Immunization Schedule.

Additional information

- For contraindications and precautions to use of a vaccine and for additional information regarding that vaccine, vaccination providers should consult the relevant ACIP statement available online at http://www.cdc.gov/vaccines/hcp/acip-recs/index.html.
- For purposes of calculating intervals between doses, 4 weeks = 28 days. Intervals of 4 months or greater are determined by calendar months.
- Vaccine doses administered 4 days or less before the minimum interval are considered valid. Doses of any vaccine administered ≥5 days earlier than the minimum interval or minimum age should not be counted as valid doses and should be repeated as age-appropriate. The repeat dose should be spaced after the invalid dose by the recommended minimum interval. For further details, see *MMWR, General Recommendations on Immunization and Reports* / Vol. 60 / No. 2; Table 1. *Recommended and minimum ages and intervals between vaccine doses* available online at http://www.cdc.gov/mmwr/pdf/rr/rr6002.pdf.
- Information on travel vaccine requirements and recommendations is available at http://wwwnc.cdc.gov/travel/destinations/list.
- For vaccination of persons with primary and secondary immunodeficiencies, see Table 13, *"Vaccination of persons with primary and secondary immunodeficiencies,"* in *General Recommendations on Immunization* (ACIP), available at http://www.cdc.gov/mmwr/pdf/rr/rr6002.pdf.; and American Academy of Pediatrics. "Immunization in Special Clinical Circumstances," in Pickering LK, Baker CJ, Kimberlin DW, Long SS eds. *Red Book: 2012 report of the Committee on Infectious Diseases. 29th ed.* Elk Grove Village, IL: American Academy of Pediatrics.

1. Hepatitis B (HepB) vaccine. (Minimum age: birth)

Routine vaccination:

At birth:

- Administer monovalent HepB vaccine to all newborns before hospital discharge.
- For infants born to hepatitis B surface antigen (HBsAg)-positive mothers, administer HepB vaccine and 0.5 mL of hepatitis B immune globulin (HBIG) within 12 hours of birth. These infants should be tested for HBsAg and antibody to HBsAg (anti-HBs) 1 to 2 months after completion of the HepB series at age 9 through 18 months (preferably at the next well-child visit).
- If mother's HBsAg status is unknown, within 12 hours of birth administer HepB vaccine regardless of birth weight. For infants weighing less than 2,000 grams, administer HBIG in addition to HepB vaccine within 12 hours of birth. Determine mother's HBsAg status as soon as possible and, if mother is HBsAg-positive, also administer HBIG for infants weighing 2,000 grams or more as soon as possible, but no later than age 7 days.

Doses following the birth dose:

- The second dose should be administered at age 1 or 2 months. Monovalent HepB vaccine should be used for doses administered before age 6 weeks.
- Infants who did not receive a birth dose should receive 3 doses of a HepB-containing vaccine on a schedule of 0, 1 to 2 months, and 6 months starting as soon as feasible. See Figure 2.
- Administer the second dose 1 to 2 months after the first dose (minimum interval of 4 weeks), administer the third dose at least 8 weeks after the second dose AND at least 16 weeks after the **first** dose. The final (third or fourth) dose in the HepB vaccine series should be administered **no earlier than age 24 weeks**.
- Administration of a total of 4 doses of HepB vaccine is permitted when a combination vaccine containing HepB is administered after the birth dose.

Catch-up vaccination:

- Unvaccinated persons should complete a 3-dose series.
- A 2-dose series (doses separated by at least 4 months) of adult formulation Recombivax HB is licensed for use in children aged 11 through 15 years.
- For other catch-up guidance, see Figure 2.

2. Rotavirus (RV) vaccines. (Minimum age: 6 weeks for both RV1 [Rotarix] and RV5 [RotaTeq])

Routine vaccination:

Administer a series of RV vaccine to all infants as follows:

1. If Rotarix is used, administer a 2-dose series at 2 and 4 months of age.
2. If RotaTeq is used, administer a 3-dose series at ages 2, 4, and 6 months.
3. If any dose in the series was RotaTeq or vaccine product is unknown for any dose in the series, a total of 3 doses of RV vaccine should be administered.

Catch-up vaccination:

- The maximum age for the first dose in the series is 14 weeks, 6 days; vaccination should not be initiated for infants aged 15 weeks, 0 days or older.
- The maximum age for the final dose in the series is 8 months, 0 days.
- For other catch-up guidance, see Figure 2.

3. Diphtheria and tetanus toxoids and acellular pertussis (DTaP) vaccine. (Minimum age: 6 weeks. Exception: DTaP-IPV [Kinrix]: 4 years)

Routine vaccination:

- Administer a 5-dose series of DTaP vaccine at ages 2, 4, 6, 15 through 18 months, and 4 through 6 years. The fourth dose may be administered as early as age 12 months, provided at least 6 months have elapsed since the third dose. However, the fourth dose of DTaP need not be repeated if it was administered at least 4 months after the third dose of DTaP.

3. Diphtheria and tetanus toxoids and acellular pertussis (DTaP) vaccine (cont'd)

Catch-up vaccination:

- The fifth dose of DTaP vaccine is not necessary if the fourth dose was administered at age 4 years or older.
- For other catch-up guidance, see Figure 2.

4. Tetanus and diphtheria toxoids and acellular pertussis (Tdap) vaccine. (Minimum age: 10 years for both Boostrix and Adacel)

Routine vaccination:

- Administer 1 dose of Tdap vaccine to all adolescents aged 11 through 12 years.
- Tdap may be administered regardless of the interval since the last tetanus and diphtheria toxoid-containing vaccine.
- Administer 1 dose of Tdap vaccine to pregnant adolescents during each pregnancy (preferred during 27 through 36 weeks' gestation) regardless of time since prior Td or Tdap vaccination.

Catch-up vaccination:

- Persons aged 7 years and older who are not fully immunized with DTaP vaccine should receive Tdap vaccine as 1 dose (preferably the first) in the catch-up series; if additional doses are needed, use Td vaccine. For children 7 through 10 years who receive a dose of Tdap as part of the catch-up series, an adolescent Tdap vaccine dose at age 11 through 12 years should NOT be administered. Td should be administered instead 10 years after the Tdap dose.
- Persons aged 11 through 18 years who have not received Tdap vaccine should receive a dose followed by tetanus and diphtheria toxoid (Td) booster doses every 10 years thereafter.
- Inadvertent doses of DTaP vaccine:
  - If administered inadvertently to a child aged 7 through 10 years may count as part of the catch-up series. This dose may count as the adolescent Tdap dose, or the child can later receive a Tdap booster dose at age 11 through 12 years.
  - If administered inadvertently to an adolescent aged 11 through 18 years, the dose should be counted as the adolescent Tdap booster.
- For other catch-up guidance, see Figure 2.

5. *Haemophilus influenzae* type b (Hib) conjugate vaccine. (Minimum age: 6 weeks for PRP-T [ACTHIB, DTaP-IPV/Hib (Pentacel) and Hib-MenCY (MenHibrix)], PRP-OMP [PedvaxHIB or COMVAX], 12 months for PRP-T [Hiberix])

Routine vaccination:

- Administer a 2- or 3-dose Hib vaccine primary series and a booster dose (dose 3 or 4 depending on vaccine used in primary series) at age 12 through 15 months to complete a full Hib vaccine series.
- The primary series with ActHIB, MenHibrix, or Pentacel consists of 3 doses and should be administered at 2, 4, and 6 months of age. The primary series with PedvaxHib or COMVAX consists of 2 doses and should be administered at 2 and 4 months of age; a dose at age 6 months is not indicated.
- One booster dose (dose 3 or 4 depending on vaccine used in primary series) of any Hib vaccine should be administered at age 12 through 15 months. An exception is Hiberix vaccine. Hiberix should only be used for the booster (final) dose in children aged 12 months through 4 years who have received at least 1 prior dose of Hib-containing vaccine.
- For recommendations on the use of MenHibrix in patients at increased risk for meningococcal disease, please refer to the meningococcal vaccine footnotes and also to *MMWR* February 28, 2014 / 63(RR01);1-13, available at http://www.cdc.gov/mmwr/PDF/rr/rr6301.pdf.

(Updated 27 February 2015)

Table 3: Recommendations* for Interrupted or Delayed Routine Immunization - Summary of WHO Position Papers

Antigen		Age of 1st Dose	Doses in Primary Series (min interval between doses)**	Interrupted primary series***	Doses for those who start vaccination late		Booster
					If ≤ 12 months of age	If > 12 months of age	
Recommendations for all immunization programmes							
BCG [1]		As soon as possible after birth	1 dose	NA	1 dose	Not recommended	Not recommended
Hepatitis B [2]		As soon as possible after birth (<24h)	Birth dose <24 hrs plus 2-3 doses with DTP (4 weeks)	Resume without repeating previous dose	3 doses	3 doses	Not recommended
Polio [3]	**OPV + IPV**	6 weeks (see footnote for birth dose)	4 doses (IPV dose to be given with OPV dose from 14 weeks of age) (4 weeks)	Resume without repeating previous dose	4 doses (IPV to be given with 1st dose of OPV)	4 doses (IPV to be given with 1st dose of OPV)	Not recommended
	IPV / OPV Sequential	8 weeks (IPV 1st)	1-2 doses IPV and 2 doses OPV (4 weeks)	Resume without repeating previous dose	1-2 doses IPV and 2 doses OPV	1-2 doses IPV and 2 doses OPV	Not recommended
	IPV	8 weeks	3 doses (4 weeks)	Resume without repeating previous dose	3 doses	3 doses	If the primary series begins < 2 months of age, booster to be given at least 6 months after the last dose
DTP [4]		6 weeks (min)	3 doses (4 weeks)	Resume without repeating previous dose	3 doses	3 doses with interval of 2 months between 1st & 2nd dose, and 6-12 months between 2nd & 3rd dose (if > 6 yrs use only aP containing vaccine; if > 7 yrs of age use Td containing vaccine)	DTP booster at 1-6 yrs of age (preferable in 2nd yr of life); Use DTaP if > 6 yrs and dTap if > 7 yrs) Td booster in adolescence, and another in adulthood or pregnancy (for total of 6 doses if primary series started in childhood).
***Haemophilus influenzae* type b** [5]	Option 1	6 weeks (min)	3 doses (4 weeks)	Resume without repeating previous dose	3 doses	1 dose >5 yrs not recommended if healthy	None
	Option 2		2-3 doses (8 weeks if 2 doses; 4 weeks if 3 doses)		2-3 doses		At least 6 months (min) after last dose
Pneumococcal (Conjugate) [6]		6 weeks (min)	3 doses with DTP (4 weeks) or 2 doses (8 weeks)	Resume without repeating previous dose	2-3 doses	1-2 yrs: 2 doses 2-5 yrs at high-risk: 2 doses	Booster at 9-15 months if following 2 dose schedule Another booster if HIV+ or preterm neonate
Rotavirus [7]	**Rotarix**	6 weeks (min)	2 doses with DTP (4 weeks)	Resume without repeating previous dose	2 doses	> 24 months limited benefits	Not recommended
	Rota Teq	6 weeks (min)	3 doses with DTP (4 weeks)	Resume without repeating previous dose	3 doses	> 24 months limited benefits	Not recommended
Measles [8]		9 or 12 months (6 months min, see footnote)	2 doses (4 weeks)	Resume without repeating previous dose	2 doses	2 doses	Not recommended
Rubella [9]		9 or 12 months	1 dose with measles containing vaccine	NA	1 dose	1 dose	Not recommended
HPV [10]		As soon as possible from 9 years of age (females)	2 doses (5 months)	If 1st dose given before 15 years of age resume without repeating previous dose	NA	Girls: 9-13 years 2 doses (see footnote)	Not recommended

* For some antigens the WHO position paper does not provide a recommendation on interrupted or delayed schedules at this present time. When the position paper is next revised this will be included. In the meantime, some of the recommendations are based on expert opinion.
** See Table 2: Summary of WHO Position Papers - Recommended Routine Immunizations for Children for full details (www.who.int/immunization/documents/positionpapers/).
*** Same interval as primary series unless otherwise specified.

Table 3: Recommendations* for Interrupted or Delayed Routine Immunization Summary of WHO Position Papers

(Updated 27 February 2015)

Antigen		Age of 1st Dose	Doses in Primary Series (min interval between doses)**	Interrupted primary series***	Doses for those who start vaccination late		Booster Dose
					If ≤ 12 months of age	If > 12 months of age	
Recommendations for certain regions							
Japanese Encephalitis [11]	Inactivated Vero cell-derived vaccine	6 months	2 (4 weeks) generally	Resume without repeating previous dose	2 doses (generally)	2 doses (generally)	Not recommended
	Live attentuated	8 months	1	NA	1 dose	1 dose	
	Live recombinant vaccine	9 months	1	NA	1 dose	1 dose	
Yellow Fever [12]		9-12 months	1 dose with measles containing vaccine	NA	1 dose	1 dose	Not recommended
Tick-Borne Encephalitis [13]	FSME-Immun & Encepur	≥ 1 yr	3 doses (1st to 2nd 1-3 mos; 2nd to 3rd 12 mos)	Resume without repeating previous dose	3 doses	3 doses	At least 1 booster
	TBE_Moscow & EnceVir	≥ 3 yr	3 doses (1st to 2nd 1-7 mos; 2nd to 3rd 12 mos)	Resume without repeating previous dose	3 doses	3 doses	Every 3 years
Recommendations for some high-risk populations							
Typhoid [14]	Vi PS	2 years (min)	1 dose	NA	Not recommended	1 dose	Every 3 years
	Ty21a	Capsules 5 years (min) (see footnote)	3-4 doses (1 day) (see footnote)	If interruption between doses is < 21 days resume without repeating previous dose; If > 21 days restart primary series	Not recommended	> 5 yrs: 3-4 doses	Every 3-7 years
Cholera [15]	Dukoral (WC-rBS)	2 years (min)	2-5 yrs: 3 doses ≥ 6 yrs: 2 doses (≥ 7 days)	If interval since last dose ≥ 6 weeks restart primary series	Not recommended	2-5 yrs: 3 doses > 6 yrs: 2 doses	2-5 yrs: every 6 months. If booster is delayed > 6 months the primary series must be repeated. >6 yrs: every 2 years. If booster is delayed > 2 yrs the primary series must be repeated.
	Shanchol and mORCVAX	1 year (min)	2 doses (2 weeks)	Resume without repeating previous dose	Not recommended	2 doses	After 2 years
Meningococcal [16]	MenA conjugate (5µg)	9-18 months	1	NA	2 doses if < 9 months with 8 week interval	1 dose of 5µg up to 24 months	Not recommended
	MenC conjugate	2-11 months	2 (8 weeks min)	Resume without repeating previous dose	2 doses	1 dose	2-11 months of age after 1 year
		>12 months	1	NA			
	Quadrivalent conjugate	9-23 months	2 (12 weeks min)	Resume without repeating previous dose	2 doses	1 dose	
		≥ 2 years	1	NA			
Hepatitis A [17]		1 year (min)	At least 1 dose		Not recommended	At least 1 dose	Not recommended
Rabies [18]		As required	3 doses (1st to 2nd 7 days; 2nd to 3rd 14-21 days)	Resume without repeating previous dose; Interval between last two doses should be 14 days minimum	3 doses	3 doses	Only if occupation puts a frequent or continual risk of exposure
Recommendations for immunization programmes with certain characteristics							
Mumps [19]		12-18 months	2 doses with measles containing vaccine (4 weeks)	Resume without repeating previous dose	Not recommended	2 doses	Not recommended
Seasonal influenza (inactivated tri- and qudri-valent) [20]		6 months (min)	< 9 yrs: 2 doses (4 weeks) ≥ 9 yrs: 1 dose	Resume without repeating previous dose	2 doses	< 9 yrs: 2 doses ≥ 9 yrs: 1 dose	Revaccinate annually 1 dose only
Varicella [21]		12-18 months	1-2 (4 weeks – 3 months, depending on manufacturer)	Resume without repeating previous dose	Not recommended	1-2 doses	

Summary Table 3 - Notes

- The attached table summarizes the WHO recommendations for interrupted or delayed routine vaccination. Its purpose is to assist national decision-makers and programme managers to develop appropriate policy guidance in relation to their national immunization schedule.
- This table is designed to be used together with two other summary tables - Table 1: Summary of WHO Position Papers - Recommendations for Routine Immunization; and Table 2: Summary of WHO Position Papers - Recommended Routine Immunization for Children.
- Vaccines can generally be co-administered (i.e. more than one vaccine given at different sites during the same visit). Recommendations that explicitly endorse co-administration are indicated in the footnotes. Lack of an explicit co-administration recommendation is often due to a lack of evidence and does not necessarily imply that the vaccine cannot be co-administered. Exceptions to co-administration are stated.
- Refer to http://www.who.int/immunization/positionpapers/ for the most recent version of this table (and Tables 1 and 2) and position papers.

[1] BCG

- Position paper reference: Weekly Epid. Record (2004, 79: 27-38) [pdf 468kb]
- Expert opinion indicates that vaccination of children older than 12 months of age is usually of limited benefit (although it is not harmful or contraindicated).
- BCG vaccination of adolescents and adults has shown variation in protective efficacy with geographical region, possibly as a consequence of differences in previous exposure to environmental mycobacteria. See position paper for details.
- Infants who are HIV positive or unknown HIV status with symptoms consistent with HIV should not be vaccinated. Reference: Weekly Epid. Record (2007, 82: 193-196) [pdf 167kb]

[2] Hepatitis B

- Position paper reference: Weekly Epid. Record (2009, 84: 405-420) [pdf 830kb]
- In general, the dose for infants and children (aged < 15 years) is half the recommended adult dose.
- Co-administration of HepB vaccine does not interfere with the immune response to any other vaccine and vice versa.
- Data on immunogenicity suggest that in any age group, interruption of the vaccination schedule does not require restarting the vaccine series. If the primary series is interrupted after the first dose, the second dose should be administered as soon as possible and the second and third doses separated by a minimum interval of 4 weeks; if only the third dose is delayed, it should be administered as soon as possible.

[3] Polio

- Position paper reference: Weekly Epid. Record (2014, 89: 73-92) [pdf 836kb]

OPV plus IPV

- WHO no longer recommends an OPV-only vaccination schedule. For all countries currently using OPV only, at least 1 dose of IPV should be added to the schedule.
- In polio-endemic countries and in countries at high risk for importation and subsequent spread, WHO recommends an OPV birth dose (a zero dose) followed by a primary series of 3 OPV and at least 1 IPV doses.
- The birth dose of OPV should be administered at birth, or as soon as possible after birth, to maximize the seroconversion rates with subsequent doses and to induce mucosal protection.
- The primary series consisting of 3 OPV doses plus 1 IPV dose can be initiated from the age of 6 weeks with a minimum interval of 4 weeks between the OPV doses. If 1 dose of IPV is used, it should be given from 14 weeks of age (when maternal antibodies have diminished and immunogenicity is significantly higher) and can be co-administered with an OPV dose.
- The primary series can administered according to the regular schedules of national immunization programmes, for example at 6, 10, and 14 weeks (OPV1, OPV2, OPV3+IPV), or at 2, 4, and 6 months (OPV1, OPV2+IPV, OPV3 or OPV1, OPV2, OPV3+IPV). Both OPV and IPV may be co-administered with other infant vaccines.
- For infants starting the routine immunization schedule late (age > 3 months) the IPV dose should be administered at the first immunization contact.
- As an alternative to the intramuscular injection of a full IPV dose, countries can consider using a 1/5 fractional doses via the intradermal route, but the programmatic cost and logistical implications of this option should be considered.
- There is no demonstrated benefit from booster doses of OPV after completion of the recommended primary series of 3 OPV doses and at least 1 IPV dose.
- The implementation of the new schedule (3 OPV doses + 1 IPV dose) does not replace the need for supplemental immunization activities (SIAs). Those countries with insufficient routine immunization coverage that rely on SIAs to increase population immunity should continue to do so until routine immunization improves.

Sequential IPV–OPV schedule

- In countries with high immunization coverage (e.g. 90%–95%) and low importation risk (neighbouring countries and connections with similarly high immunization coverage) an IPV–OPV sequential schedule can be used when VAPP is a significant concern.
- The initial administration of 1 or 2 doses of IPV should be followed by ≥2 doses of OPV to ensure both sufficient levels of protection in the intestinal mucosa and a decrease in the burden of VAPP.
- For sequential IPV–OPV schedules, WHO recommends that IPV be given at 2 months of age (e.g. a 3-dose IPV-OPV-OPV schedule) or at 2 months and 3–4 months of age (e.g. a 4-dose IPV-IPV-OPV-OPV schedule) followed by at least 2 doses of OPV. Each of the doses in the primary series should be separated by 4–8 weeks depending on the risk of exposure to poliovirus in early childhood.

IPV-only schedule

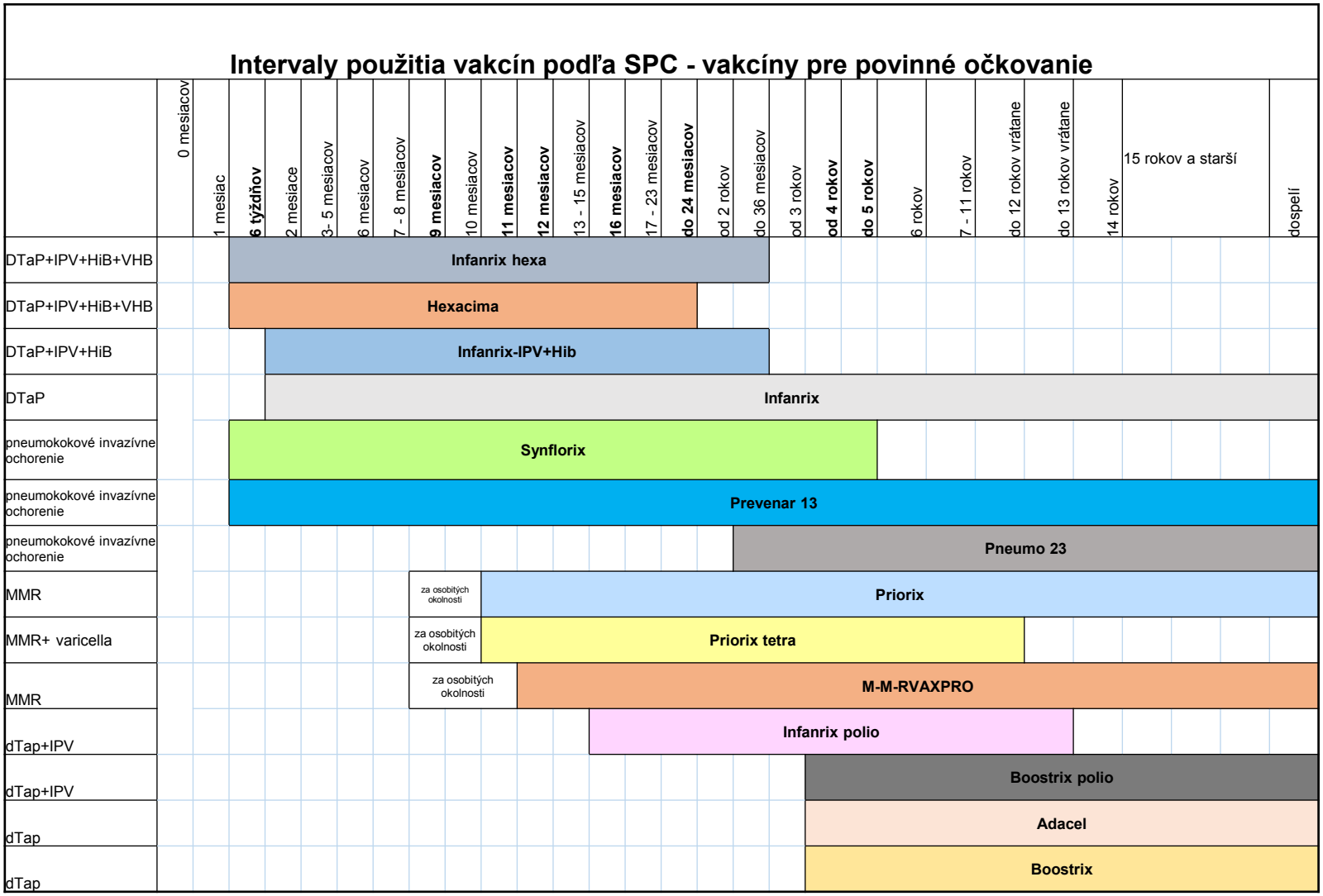
- An IPV-only schedule may be considered in countries with both sustained high immunization coverage and the lowest risk of both WPV importation and transmission.
- A primary series of 3 doses of IPV should be administered beginning at 2 months of age.
- If the primary series begins earlier (e.g. with a 6, 10 and 14-week schedule) then a booster dose should be given after an interval of ≥6 months (for a 4-dose schedule).

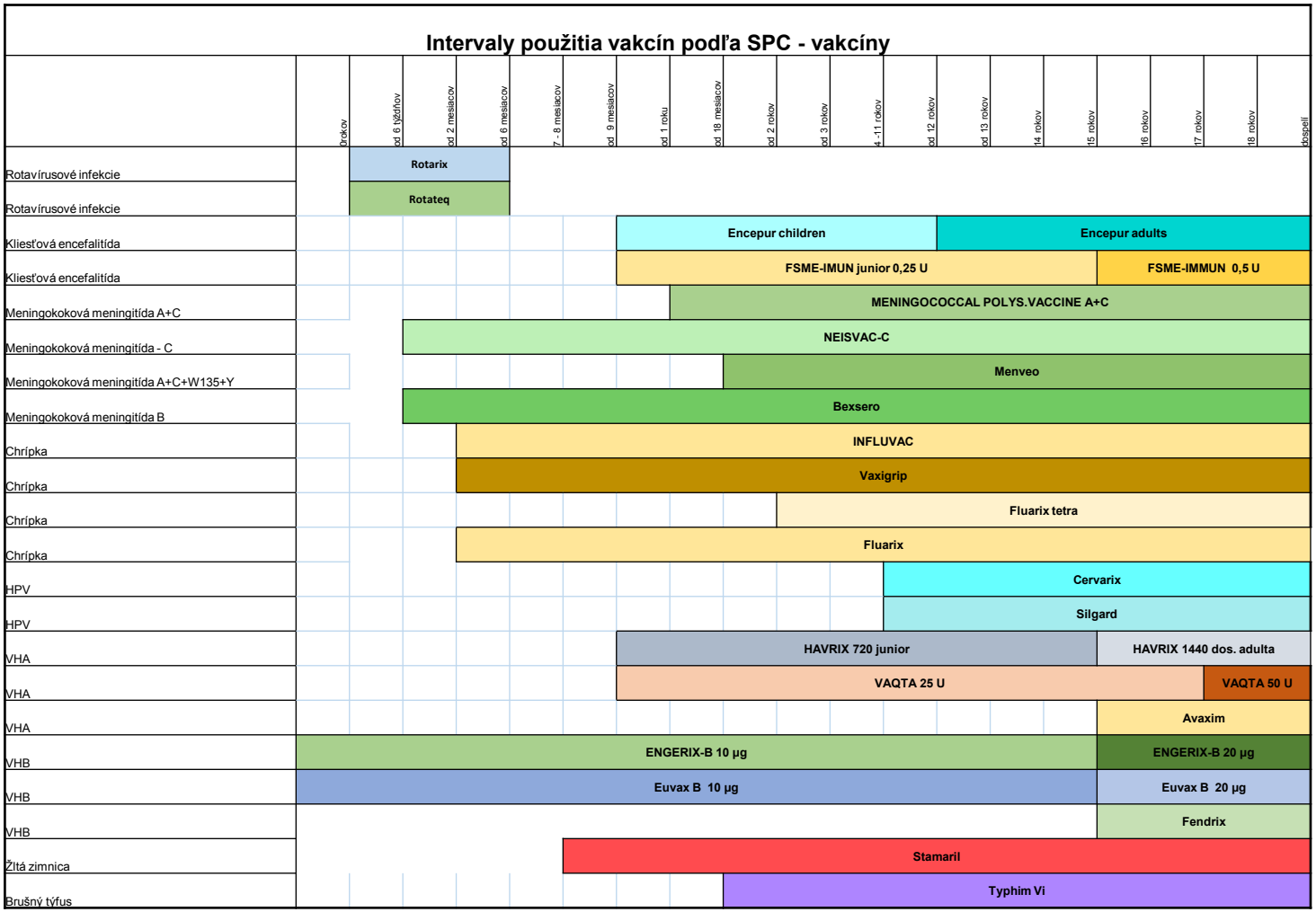
[4] DTP (Diphtheria, Tetanus and Pertussis)

- Position paper reference: Diphtheria - Weekly Epid. Record (2006, 81: 24-32) [pdf 214kb]; Tetanus - Weekly Epid. Record (2006, 81: 198-208) [pdf 229kb]; Pertussis - Weekly Epid. Record (2010, 85: 385-400) [pdf 320kb]
- WHO recommends that the primary series of 3 doses should be given in infancy (aged < 1 year). The exact timing of the booster should be flexible to take account of the most appropriate health service contacts in different countries. Ideally a DTP booster should be provided at 1-6 years of age. A Td booster should be provided in adolescence, and another in adulthood to further assure life-long protection against tetanus (a total of 6 doses when DTP primary series is given in infancy).

+ ďalších 6 strán sprievodného textu

Intervaly použitia vakcín podľa SPC - vakcíny pre povinné očkovanie




Intervaly použitia vakcín podľa SPC - vakcíny
0 rokov
od 6 týždňov
od 2 mesiacov
od 6 mesiacov
7 - 8 mesiacov
od 9 mesiacov
od 1 roku
od 18 mesiacov
od 2 rokov
od 3 rokov
4 -11 rokov
od 12 rokov
od 13 rokov
14 rokov
15 rokov
16 rokov
17 rokov
18 rokov
dospelí
Rotavírusové infekcie
Rotarix
Rotavírusové infekcie
Rotateq
Kliešťová encefalitída
Encepur children
Encepur adults
Kliešťová encefalitída
FSME-IMUN junior 0,25 U
FSME-IMMUN 0,5 U
Meningokoková meningitída A+C
MENINGOCOCCAL POLYS.VACCINE A+C
Meningokoková meningitída - C
NEISVAC-C
Meningokoková meningitída A+C+W135+Y
Menveo
Meningokoková meningitída B
Bexsero
Chrípka
INFLUVAC
Chrípka
Vaxigrip
Chrípka
Fluarix tetra
Chrípka
Fluarix
HPV
Cervarix
HPV
Silgard
VHA
HAVRIX 720 junior
HAVRIX 1440 dos. adulta
VHA
VAQTA 25 U
VAQTA 50 U
VHA
Avaxim
VHB
ENGERIX-B 10 µg
ENGERIX-B 20 µg
VHB
Euvax B 10 µg
Euvax B 20 µg
VHB
Fendrix
Žltá zimnica
Stamaril
Brušný týfus
Typhim Vi

Neznáme alebo nespoľahlivé údaje o očkovaní

- nedostatočná alebo žiadna dokumentácia o očkovaní

Dokumentácia: Každý očkovací výkon sa musí zapísať do zdravotného záznamu očkovanej osoby podľa vyhlášky MZ SR č. 585/2008 o prevencii a kontrole prenosných ochorení v znení neskorších právnych prepisov. Záznam o očkovaní musí obsahovať nasledujúce údaje: dátum a hodinu očkovania, názov (druh) použitej očkovacej látky, výrobcu, číslo šarže, veľkosť dávky, miesto a spôsob aplikácie, meno lekára, ktorý očkovanie vykonal. Na niektorých vakcínach sa nachádza štítok s údajmi (názov očkovacej látky, číslo šarže, event. dátum exspirácie), ktorý možno odlepiť zo striekač- ky a nalepiť do zdravotnej dokumentácie. K správne vedenej dokumentácii patrí aj hlásenie prípadných nežiaducich reakcií Regionálnemu úradu verejného zdravotníctva a Štátnemu ústavu na kontrolu liečiv na príslušných tlačivách

- prijateľné sú len písomné údaje, záznam očkovania s dátumom

- **ak sú pochybnosti o očkovaní, tak osoba s neznámym alebo neistým očkovaním je považovaná za vnímavú a ohrozenú , očkuje sa bez odkladu**

- nie sú dôkazy, že imunizácia už očkovaného jedinca je nebezpečná

Red book, 2015, s. 38

Neznáme alebo nespoľahlivé údaje o očkovaní

- sérologické testy sú alternatívou k očkovaniu u niektorých očkovaní (rubeola, hepatitída A, tetanus...)

- pre rozhodnutie o očkovaní sa používa kombinovaný prístup: sérologické testy pre niektoré očkovania alebo priamo očkovanie (postup v USA)

- na Slovensku sa sérologické vyšetrenia u zdravých detí nerobia, určené sú len pre rizikové skupiny (zhodnotenie imunitnej odpovede u imunodeficitných stavov, po biologickej liečbe, u onkologických pacientov...)

- ak sérologické testy nie sú dostupné alebo sú drahé alebo pozitívny výsledok neovplyvní ďalšie očkovanie, tak **pri nejasných údajoch o očkovaní je rozumným prístupom očkovanie opakovať**

(Red book 2015, s. 100)

Ďakujem za pozornosť