



衛生防護中心 Centre for Health Protection

Scientific Committee on Vaccine Preventable Diseases

Consensus Statement on the Dosing Schedule of Seasonal Influenza Vaccine for Children Aged 6 Months to 8 Years in the 2018-19 Season

There is difference in the recommendation on the number of doses of seasonal influenza vaccine (SIV) required for children aged 6 months to 8 years by overseas health authorities. Local healthcare professionals may have confusion on the dosing schedule of SIV for children aged 6 months to 8 years. The consensus statement summarises the recommendation of the Scientific Committee on Vaccine Preventable Diseases (SCVPD) on this issue.

2. Several scientific studies indicated that children aged 6 months through 8 years require 2 doses of SIV administered a minimum of 4 weeks apart during their first season of vaccination for optimal protection.^{1,2,3,4}

Overseas recommendations

3. For the 2018-19 influenza season, most health authorities including the United Kingdom (UK), Ireland, Canada, Australia and New Zealand recommend only 1 dose for children aged 6 months to 8 years who had received any SIV in the past (**Annex I**). Only those who receive SIV for the first time require 2 doses separated by at least 4 weeks. This recommendation was the same in past seasons in these countries.

4. However, this is different from the recommendation by the United States Centers for Disease Control and Prevention (US CDC). For the 2018-19 season, US CDC recommends that children aged 6



months through 8 years who have previously received ≥ 2 total doses of trivalent or quadrivalent SIV (inactivated influenza vaccine [IIV] or live attenuated influenza vaccine [LAIV]) at least 4 weeks apart before July 1, 2018, require only one dose. The 2 doses of SIV do not have to have been administered in the same season or consecutive seasons. Children who have not previously received ≥ 2 doses of trivalent or quadrivalent SIV before July 1, 2018 require 2 doses.⁵ The American Academy of Pediatrics has also made the same recommendation.⁶

5. The above recommendation by US CDC was the same in the past 3 seasons (2015-16⁷, 2016-17⁸ and 2017-18⁹). Of note, the Northern Hemisphere SIV recommended by the World Health Organization (WHO) for these 3 seasons as well as the 2018-19 season were of different compositions with the SIV used in the immediate past season (**Annex II**). The Advisory Committee on Immunization Practices stated in its recommendations for the 2015-16 and 2016-17 seasons that because of the change in vaccine composition for the coming season, children aged 6 months through 8 years would need to have received ≥ 2 doses previously to require only 1 dose for the coming season.

6. For the 2014-15 season, the vaccine composition was the same as the previous season (i.e. 2013-14 season). US CDC recommended that children who had received at least one dose of SIV in the 2013-14 season only needed to receive 1 dose. If not, they should need to have received ≥ 2 doses previously to require only 1 dose for the 2014-15 season.¹⁰ As such, the guidance in US for determining the appropriate number of doses has taken strain changes into account.

WHO's recommendations

7. In the position paper on influenza vaccine (November 2012), for trivalent IIV, WHO has recommended that previously unvaccinated children aged < 9 years should receive 2 injections, administered at least 1 month apart. For LAIV, it is given as nasal spray with 1 dose only, but children aged 2–8 years who have not received SIV during the previous influenza season should receive 2 doses, at least 4 weeks apart.¹¹ In the Table on Recommendations for

Routine Immunization updated in August 2018, WHO recommends that previously vaccinated children 6-59 months require only one-dose.¹²

Dosing schedules stated in drug inserts of commonly used SIV in Hong Kong

8. For both VaxigripTetra (quadrivalent IIV manufactured by Sanofi Pasteur) and Fluarix Tetra (quadrivalent IIV manufactured by *GlaxoSmithKline*), children from 6 months to 17 years of age only require one dose of 0.5 ml. For children less than 9 years of age who have not previously been vaccinated, a second dose of 0.5 ml should be given after an interval of at least 4 weeks.

Summary

9. There is scientific consensus that children who have not received any SIV before should receive 2 doses separated by at least 4 weeks. There is limited evidence to suggest the benefit of a 2-dose regimen for children who have not received at least 2 doses of SIV in previous seasons. Most health authorities including WHO have recommended that children who had received SIV previously only require one dose. In this connection, SCVDP recommends that children below 9 years who have received one or more doses of SIV before only need to receive one dose of SIV in the 2018-19 season. Nevertheless, for vaccine-naive children aged below 9 years, 2 doses of SIV with an interval of at least 4 weeks are required. The full recommendation by SCVDP is available from the following website: https://www.chp.gov.hk/files/pdf/scvdp_recommendations_on_siv_for_2018_19_season.pdf.

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Annex I

Recommendations of overseas health authorities (United Kingdom, Ireland, Canada, Australia and New Zealand)

In UK, LAIV is recommended to be used for children unless they have contraindications. The Public Health England recommends a single dose for all children not in clinical at risk group. Children aged 2 years to less than 9 years who are in clinical at risk groups and who have not received SIV before should receive 2 doses of LAIV (if not medically contraindicated) with the second dose at least 4 weeks after the first.¹³ The Joint Committee on Vaccination and Immunisation has advised that children aged 2 years to under 9 years of age who are not in a clinical risk group, only require a single dose of LAIV irrespective of whether they have received influenza vaccine previously.¹⁴ For children under 9 years of age who are in a clinical risk group and require IIV (due to the LAIV being contraindicated or unsuitable) but have never previously received SIV should be offered 2 doses with a 4-week interval between them. Children who are in a clinical risk group and require IIV (due to the LAIV being contraindicated or unsuitable) but have received one or more doses of SIV in previous flu seasons should be considered as previously vaccinated and only require a single dose.¹⁵

Ireland recommends that children under 9 years of age require 2 doses of SIV if they receive it for the first time. Those who had previously received SIV require only one dose.¹⁶

Canada recommends children 6 months to less than 9 years of age who have never received SIV require 2 doses, with a minimum interval of 4 weeks between doses. Eligible children under 9 years of age who have properly received one or more doses of SIV in the past should receive one dose per season thereafter.¹⁷

Australia recommends children aged 6 months to <9 years receiving SIV for the first time need 2 doses at least 4 weeks apart. Children who received 1 or more doses of trivalent or quadrivalent SIV in a previous season only need 1 dose in the current and future seasons. This is regardless of whether a trivalent or quadrivalent vaccine is used.¹⁸

New Zealand recommends children under 9 years of age who are receiving SIV for the first time needs 2 priming doses of vaccine. Children who have received one SIV any time in the past only need a single dose in the current season.¹⁹

Annex II

| Season | Trivalent SIV components | | | Additional B component in quadrivalent SIV |
|----------------|---|---|-------------------------------------|--|
| | H1 | H3 | B | |
| 2013/14 | an A/California/7/2009 (H1N1)pdm09-like virus | an A(H3N2) virus antigenically like the cell-propagated prototype virus A/Victoria/361/2011 (A/Texas/50/2012 is an A(H3N2) virus antigenically like the cell-propagated prototype virus /Victoria/361/2011) | a B/Massachusetts/2/2012-like virus | a B/Brisbane/60/2008-like virus |
| 2014/15 | an A/California/7/2009 (H1N1)pdm09-like virus | an A/Texas/50/2012 (H3N2)-like virus | a B/Massachusetts/2/2012-like virus | a B/Brisbane/60/2008-like virus |
| 2015/16 | an A/California/7/2009 (H1N1)pdm09-like virus | an A/Switzerland/9715293/2013 (H3N2)-like virus | a B/Phuket/3073/2013-like virus | a B/Brisbane/60/2008-like virus |
| 2016/17 | an A/California/7/2009 (H1N1)pdm09-like virus | an A/Hong Kong/4801/2014 (H3N2)-like virus | a B/Brisbane/60/2008-like virus | a B/Phuket/3073/2013-like virus |
| 2017/18 | an A/Michigan/45/2015 (H1N1)pdm09-like virus | an A/Hong Kong/4801/2014 (H3N2)-like virus | a B/Brisbane/60/2008-like virus | a B/Phuket/3073/2013-like virus |
| 2018/19 | an A/Michigan/45/2015 (H1N1)pdm09-like virus | an A/Singapore/INFIMH-16-0019/2016 (H3N2)-like virus | a B/Colorado/06/2017-like virus | a B/Phuket/3073/2013-like virus |

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