Eurosurveillance
Free of charge for authors, free of charge for readers.

Back to Table of Contents

Next

Eurosurveillance, Volume 8, Issue 34, 19 August 2004

Articles

Citation style for this article: Polio vaccination in Europe: the shift from OPV to IPV use. Euro Surveill. 2004;8(34):pii=2529.
Available online: http://www.eurosurveillance.org/ViewArticle.aspx?ArticleId=2529

Polio vaccination in Europe: the shift from OPV to IPV use

Richard Pebody (richard.pebody@hpa.org.uk) Health Protection Agency Communicable Disease Surveillance Centre, London, England

The United Kingdom (UK) National Health Service recently announced changes to the national childhood immunisation programme with a shift from the use of live oral polio vaccine (OPV) to inactivated polio vaccine (IPV) for routine infant and childhood vaccination [1]. IPV has been shown to be a safe and effective vaccine, although more costly than OPV.

The UK thus joins a growing list of European countries that use IPV exclusively in their routine immunisation programme (currently 16 of the 30 European countries in the Table)(EUVAC.NET. http://www.ssi.dk/euvac/)*. Some of these counties such as France and Sweden have had successful routine IPV programmes for many years, while others such as Ireland have moved only very recently from routine OPV to IPV use. Seven other countries, mainly in eastern and southern Europe, continue to only use OPV, while seven have mixed programmes: recommending IPV for the primary schedule (or part of it) and OPV for subsequent booster doses.

Table: Polio vaccine recommendations in Europe: source: EUVAC: http://www.ssi.dk/euvac/

Country	Infant schedule(<12 months)	Childhood schedule (>12 months)
Austria	IPV	IPV
Belgium	IPV	IPV
Bulgaria	OPV	OPV
Cyprus	IPV/OPV	OPV
Czech Republic	OPV	OPV
Denmark	IPV	IPV
Estonia	OPV	OPV
Finland	IPV	IPV
France	IPV	IPV
Germany	IPV	IPV
Greece	IPV/OPV	OPV
Hungary	IPV/OPV	OPV
Iceland	IPV	IPV
Ireland	IPV	IPV
Italy	IPV	IPV
Latvia	IPV	OPV
Lithuania	IPV	IPV/OPV
Luxembourg	IPV	IPV
Malta	OPV	OPV
Netherlands	IPV	IPV
Norway	IPV	IPV
Poland	IPV/OPV	OPV
Portugal	OPV	OPV
Romania	OPV	OPV
Slovak Republic	OPV	OPV
Slovenia	IPV	IPV/OPV
Spain	IPV	IPV
Sweden	IPV	IPV
Switzerland	IPV	IPV
UK	IPV	IPV

*Correction 20/08/2004: This article published on 19/08/2004 originally stated that Spain and Slovenia used OPV for both infant and childhood vaccination. In fact, Spain switched to IPV use only for both schedules in March 2004. Slovenia also switched to IPV for infant vaccination in 2004 and uses both IPV and OPV for childhood boosters, with a plan to use IPV only from 2005 or 2006.

Historically, OPV has been used widely in both routine programmes and mass campaigns as it is a cheap, easily administered vaccine that induces both systemic and mucosal immunity. In addition, the use of OPV has the benefit of providing protection to close contacts of vaccinees through person-to-person transmission. These factors have lead directly to the success of the World Health Organization (WHO) global initiative to eradicate polio [2]. In 2002, 51 member states of the WHO European Region were declared polio-free and in 2003, less than 700 cases were reported globally, most of these in six countries in west Africa and south Asia [3]. However, unlike IPV, OPV is associated with a small but real risk of vaccine-associated paralytic polio (VAPP)(estimated to be one per 790 000 first doses) in vaccinees and their contacts. As the risk of importation of polio into Europe is now diminishingly small, IPV use, which carries no risk of VAPP, is thus being increasingly preferred by European countries.

Furthermore, mutations of live vaccine-derived polioviruses have lead to the emergence of circulating neurovirulent strains with wild-type characteristics that have been responsible for documented polio outbreaks in areas of low vaccine coverage e.g. in Madagascar and the Philippines. This has raised concerns about the persistence of vaccine-derived strains in the post-eradication era, particularly if vaccine coverage levels decline and OPV use continues. There has been considerable debate as to the most appropriate strategy that should be used (the “end-game”) before and after global polio eradication, including eventual cessation of OPV use [4]. Switching to IPV use, although currently too expensive for many low-income countries, provides an alternative to OPV and, on the condition that high coverage levels are achieved, maintains population immunity at levels that prevent both the emergence of neurovirulent vaccine-derived polioviruses and re-introduction of wild-type polio.

References:

1. Department of Health for England. Improvement to the Childhood Immunisation Programme. Press release. 09/08/2004 (http://www.dh.gov.uk/PublicationsAndStatistics/PressReleases/PressReleasesNotices/fs/en?CONTENT_ID=4087239&chk=%2Be4dSH) [accessed 19 August 2004]
2. WHO. Polio eradication: now more than ever, stop polio forever. WHO Features 15/01/2004. (http://www.who.int/features/2004/polio/en/) [accessed 19 August 2004]
3. Kew OM, Wright PF, Agol VI, Delpeyroux F, Shimizu H, Nathanson N, Pallansch MA. Circulating vaccine-derived polioviruses: current state of knowledge. *Bull World Health Organ*. 2004; **82**(1): 16-23. (http://www.who.int/bulletin/volumes/82/1/en/16-23.pdf)
4. Hovi T, Wassilak S. The importance of maintaining high coverage polio vaccination beyond global eradication of wild type poliomyelitis. *Eurosurveillance Weekly* 2004; **8**(4): 22/01/2004 (http://www.eurosurveillance.org/ew/2004/040122.asp#6)

back to top

Back to Table of Contents

Next

To top | Recommend this page