

Vaccine administration

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School immunisation programme

Workshop

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www.immunisation.ie

Overview

- Contraindications/ Precautions
- Adverse events 4 in 1 vaccine
- HPV vaccine
- MenC adolescent programme



Contraindications/ Precautions

Each chapter of the Immunisation Guidelines states

“In some circumstances, advice in these guidelines may differ from that in the Summary of Product Characteristics of the vaccines. When this occurs, the recommendations in these guidelines, which are based on current expert advice from NIAC, should be followed”.



Contraindications

- Anaphylaxis to any of the vaccine constituents or a constituent of the syringe, syringe cap or vial (e.g. latex anaphylaxis).

Vaccines in vials or syringes with dry natural rubber or rubber latex may be given to those with contact allergy to latex gloves.

Live vaccines

- Pregnancy
- Immunocompromised



Precautions

- Acute severe febrile illness
- Stop topical immunomodulators 28 days before MMR or BCG and do not restart for 28 days.
No issue with inactivated vaccines.



4 in 1 vaccine

Local reactions

Rate of local booster reactions

- 50-85% pain or tenderness at the injection site
- 25- 30% swelling and redness
- increases
 - with the number of doses
 - with higher levels of pre existing tetanus anti toxin
 - if tetanus toxoid administered subcutaneously
 - in larger children

Vaccines Plotkin S et al 6th edition 2013



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4 in 1 vaccine Adverse events


- 4th dose is more reactogenic – 4th dose
- Hot, swollen, red and tender arms from the shoulder to elbow
- Large, localised swelling (diameter > 50 mm) occurring around the injection site
- Begins within 48 hours of vaccination
- Resolves spontaneously
- Antibiotics not indicated
- Not usually associated with significant pain or limitation of movement
- Inform parents in advance

4 in 1 and MMR Booster School Vaccination Programme for Children in Junior Infants

Name: _____

Date: _____

Time of vaccination: _____



Your child was given the following vaccines today

4 in 1 ☐ **MMR** ☐

Common reactions expected after these vaccines may include

- mild fever
- soreness, swelling and redness where the injection was given. Sometimes this swelling can be from the shoulder to the elbow. This usually occurs within 2 days of the vaccination and gets better over 4 – 5 days. Antibiotics are not needed to treat this local reaction.


After MMR vaccine

- some children may get "mini measles" with a rash and fever 6 to 10 days after the injection
- on rare occasions, children may get "mini-mumps" with swelling in the jaw in the third week after vaccination. These are not contagious.

You can give your child paracetamol or ibuprofen to relieve aches and pains or to lower the fever.

If you are concerned about your child the school vaccination team can be contacted during office hours from Monday to Friday at

If you require medical advice after these hours please contact your family doctor.

 For more information see www.immunisation.ie

09/14

HPV vaccine

Vaccine safety

- HPV vaccines generally safe and well-tolerated
- Adverse events
 - pain at injection site most frequent local reaction.
 - serious adverse events similar in vaccine and control groups.
- No deaths from the introduction of the two HPV vaccines have been attributed to vaccines
- Satisfactory results from studies on the safety of the vaccine in some populations
 - men
 - women older than 25 years
 - HIV+ girls

Expert Opin. Drug Saf. (2015) 14(5) 1-16



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HPV vaccine

Impact in Australia

High Grade Cervical Lesions <18 years

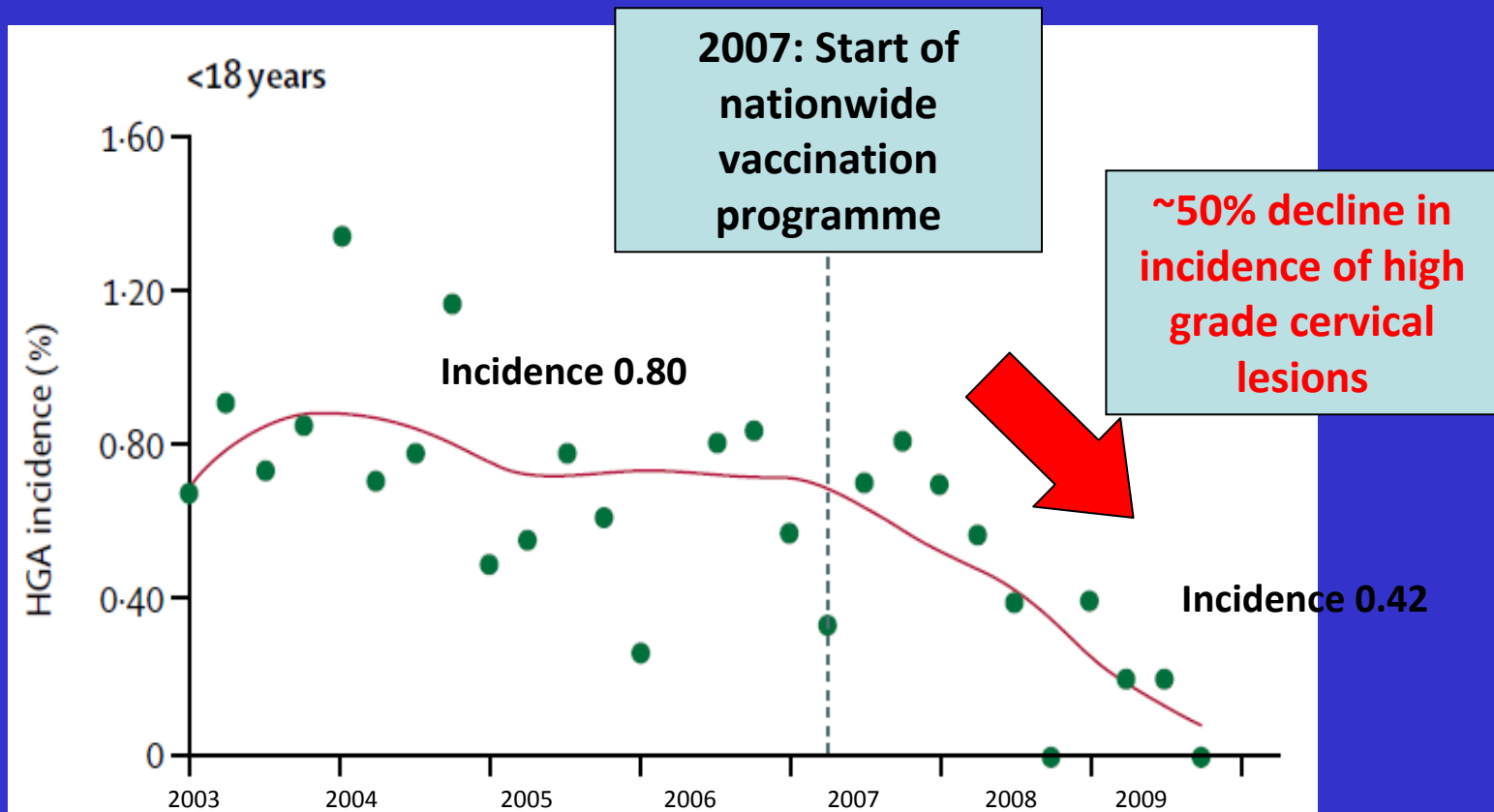


Figure 2: Incidence of high-grade cervical abnormalities, by age group

Incidence of high-grade cervical abnormalities (HGA; green dots) is the number of new diagnoses within a 3-month period per 100 women tested. Lowess smoothing trends are shown with red lines. The vertical lines, at the start of the second quarter in 2007, signify the introduction of human papillomavirus vaccination.



Brotherton et al Lancet 2011; 377: 2085–92

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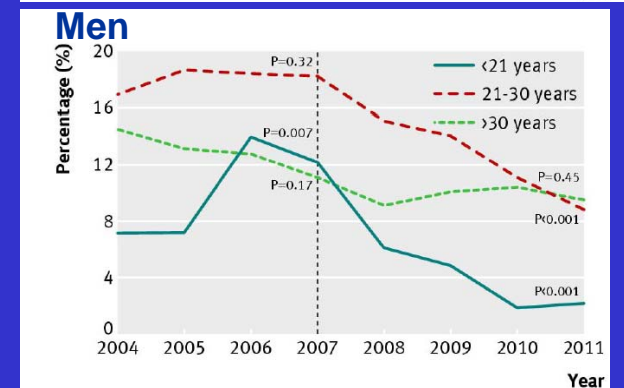
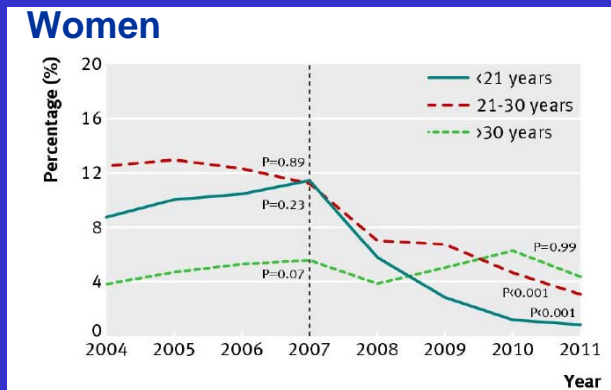
HPV vaccine

Vaccine Impact in Australia

Genital warts

- Women <21 years
 - HPV vaccine
 - 83% 1st dose uptake
 - 93% decline in genital warts
 - no genital warts in vaccinated women (2011)
- Men
 - 82% decline in genital warts in heterosexual men
 - attributable to herd immunity

% Australian born diagnosed with genital warts by age group 2004 - 2011



HPV 9 vaccine

- 5 additional oncogenic HPV types (31,33,45,52,58)
- 97% effective in preventing high-grade lesions of the cervix, vagina and vulva
- Generally well tolerated
- Expect vaccine to protect against infection and diseases caused by 9 HPV types
(80-90% of the cancers, high grade lesions and genital warts caused by HPV)
- Licensed in US (3 dose schedule)
- Due to be licensed in EU in 2015



HPV vaccine – what about the boys?

Gardasil

- licensed for use for prevention of
 - genital warts
 - anal cancer
- elicits the same or higher immunogenicity in boys
- most cost effective when uptake in girls is low
- reduce transmission in MSM (? cost effective up to 26 years)

[http://ecdc.europa.eu/en/publications/Publications/20120905_GUI HPV vaccine update.pdf](http://ecdc.europa.eu/en/publications/Publications/20120905_GUI_HP_Vaccine_Update.pdf)

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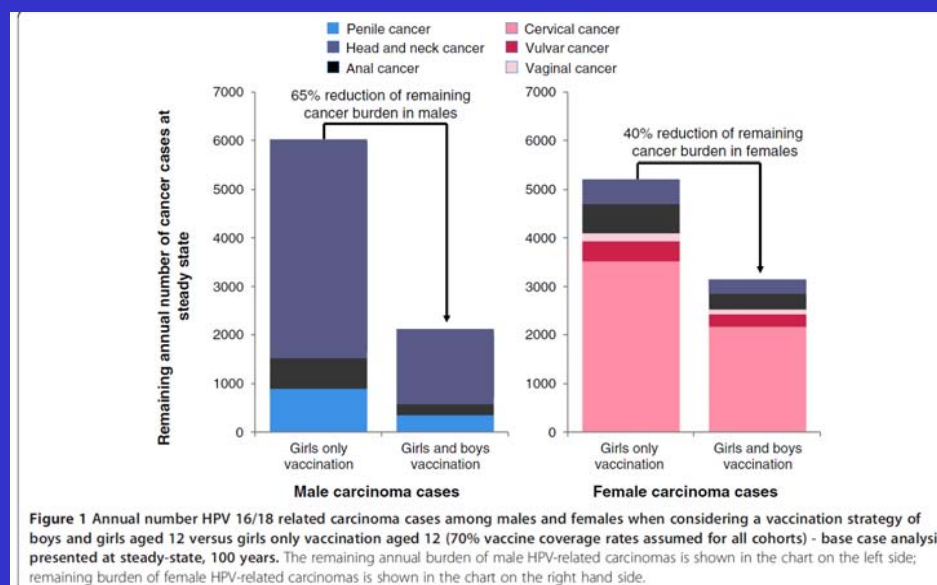


Estimating the clinical benefits of vaccinating boys and girls against HPV-related diseases in Europe

- Up to half of head and neck cancers associated with HPV

Modelling study

- Largest incremental impact 66% reduction in head and neck cancer
- No efficacy studies
- Vaccine not licensed



Marty et al. BMC Cancer 2013, 13:10 <http://www.biomedcentral.com/1471-2407/13/10>

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Adolescent MenC booster vaccine

- Peak rates of MenC disease
 - under 5 years and 15-19 years
- Concerns about waning immunity in adolescents
- Recent study
 - those vaccinated at <1 year, vaccine effectiveness decreased by 50% after 10 years
 - those vaccinated with one dose at 12–19 years showed no change in vaccine effectiveness
 - vaccination at ≥ 12 years related to a low number of vaccine failures and a higher and longer protection over time



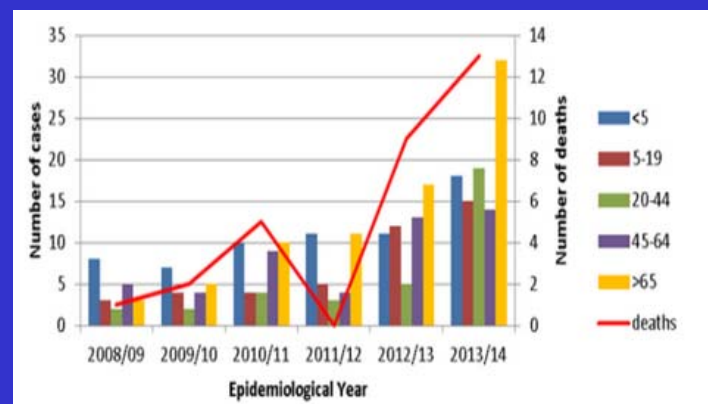
Adolescent MenC booster vaccine

UK

- MenC adolescent booster introduced in 2013
- Cases of Men W increased from 22 cases in 2009 to 117 in 2014
- Not travel related

March 2015

- JCVI recommended Men ACWY for 14-18 year olds (routine + catch up)
 - Likely to be introduced in 2015/2016
-
- No increase in Men W cases in Ireland



Number of laboratory confirmed cases of MenW disease and associated deaths by age group and year of diagnosis over six epidemiological years in England and Wales.

<http://cid.oxfordjournals.org/content/early/2014/1/10/cid.ciu881.abstract>



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Reithmeannacht na Seirbhíse Sláinte
Health Service Executive