

# The New Primary Childhood Immunisation Schedule

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[www.immunisation.ie](http://www.immunisation.ie)

# Objectives

- To describe the new primary childhood immunisation (PCI) schedule
- To provide an overview of MenB disease, the MenB vaccine and common queries
- To provide an overview of rotavirus disease, the rotavirus vaccine and common queries
- To explain other changes to the PCI schedule.
- To discuss the role out of the new changes and information materials available



# The New PCI Schedule

All babies born on or after **1<sup>st</sup> October 2016** will be offered the new PCI schedule



Reidhmeannacht na Seirbhíse Sláinte  
Health Service Executive

# The New PCI Schedule

Change	When
Addition of meningococcal B (MenB) vaccine	2,4 and 12 months
Addition of rotavirus vaccine	2 and 4 months
Timing of MenC1	from 4 to 6 months
Timing of PCV3	from 12 to 13 months
Replacement of Hib and MenC with Hib/MenC (2 injections to 1 injection)	13 months

# The New PCI Schedule

	Current Schedule		Babies born on or after 1 <sup>st</sup> October 2016	
Age (months)	Vaccine	No of injections	Vaccine	No of injections
<b>2</b>	6in1 + PCV	2	6in1 + PCV + <b>MenB + Rotavirus</b>	3 + oral vaccine
<b>4</b>	6in1 + MenC	2	6in1 + <b>MenB + Rotavirus</b>	2 + oral vaccine
<b>6</b>	6in1 + PCV	2	6in1 + PCV + <b>MenC</b>	3
<b>12</b>	MMR + PCV	2	MMR + <b>MenB</b>	2
<b>13</b>	MenC + Hib	2	<b>Hib/MenC + PCV</b>	2



# The New PCI Schedule

From 1<sup>st</sup> October 2016 until at least November 2017

2 schedules in place

- the old (current) schedule
- the new schedule



# Meningococcal B (MenB) disease

- Caused by *Neisseria meningitidis*.
- Most common and serious clinical presentations
  - meningitis and septicaemia
- An important clinical and public health problem
  - rare but serious
  - disease onset is sudden and often dramatic
- A significant case fatality rate ~10%
- 1 in 10 survivors have long term complications including
  - brain damage, deafness, epilepsy, limb/digit loss, cognitive deficit

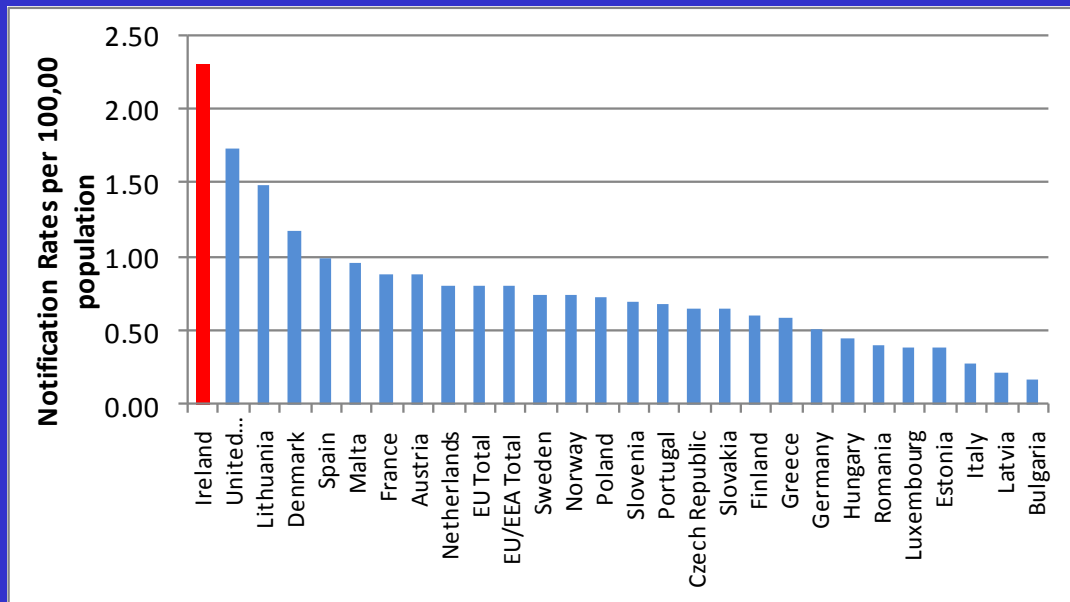


# Meningococcal B (MenB) disease

- Most common in infancy and early childhood (0-4 years)
- A second smaller peak of incidence in adolescents and young adults
- Ireland has one of the highest notification rates of invasive meningococcal disease (IMD) in Europe

## Confirmed cases in the EU/EEA, 2008-2012

Source: HPSC





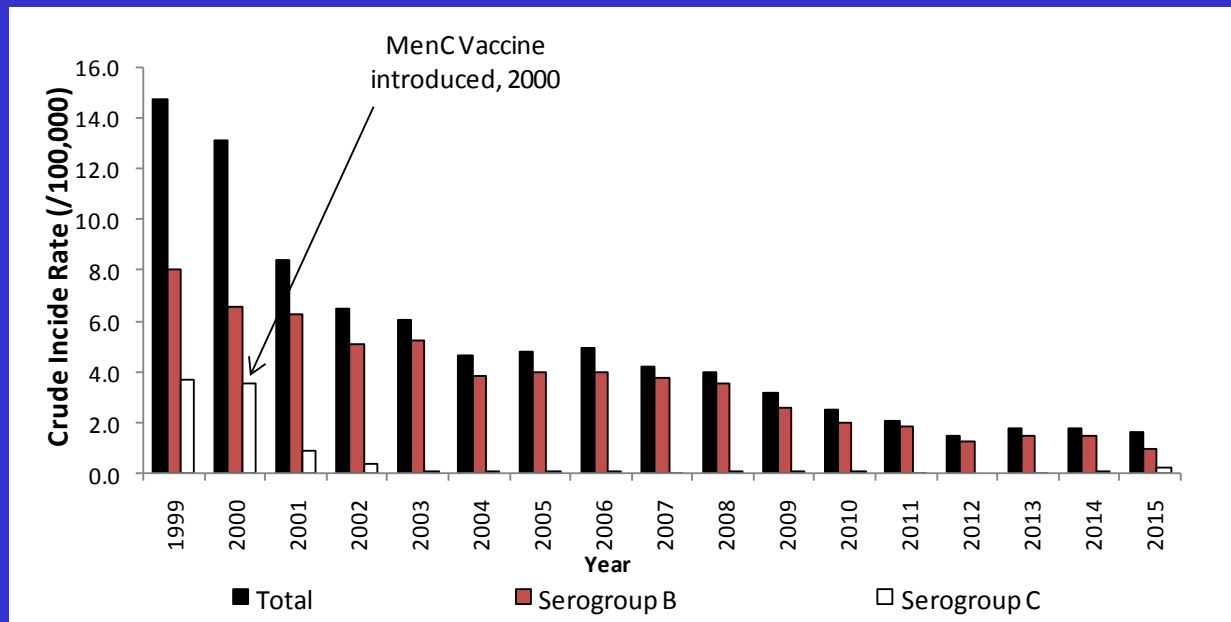
# Meningococcal B (MenB) disease

In Ireland since MenC vaccine was introduced in 2000

- MenC disease incidence decreased
- MenB disease incidence also decreased
- MenB disease the main cause of invasive meningococcal disease

Crude incidence rate of IMD in Ireland, 1999-2015

Source HPSC



# MenB Vaccine

- A recombinant multi-component vaccine
- **NOT** a live vaccine
- Shown to be very safe and effective
- ~88% strains covered
- Widely given across Europe
- Introduced into the UK immunisation schedule in 2015
- Schedule
  - 2 + 1 schedule (not 3 +1 as per SPC)
- Can be given with all other vaccines in PCI schedule



# MenB Vaccine

- Bexsero (Novartis)
- Single packaged pre-filled syringe
- IM use (anterolateral thigh)



# MenB Vaccine

## Contraindications/ Precautions

### Contraindications

- Anaphylactic reaction to a previous dose of vaccine
- Anaphylactic reaction to any constituent of vaccine including kanamycin and latex

### Precautions

- Acute severe febrile illness
  - defer until well
- Known coagulation defects
  - caution with administration and apply pressure to the vaccine site for 1-2 minutes after vaccination

# MenB Vaccine

## Side effects

### Very Common (1 in 10)

- Fever ( $>38^{\circ}\text{C}$ )
- Tenderness / pain at injection site
- Skin rash
- Irritability
- Vomiting / diarrhoea
- Unusual crying

### Uncommon (1 in 100 to 1 in 1000)

- High fever ( $>40^{\circ}\text{C}$ )
- Seizures (including febrile seizures)
- Eczema

### Rare (1 in 1,000 to 1 in 10,000)

- Urticaria
- Kawasaki's disease



# MenB Vaccine

## Paracetamol

- Fever with MenB vaccine is a common side effect
- NIAC recommends **all babies** are given 3 doses of paracetamol at the 2 and 4 month MenB vaccines

Liquid Infant Paracetamol (120mgs/5ml)		2 months	4 months
Dose 1	2.5 mls (60mg)	At the time of injection	At the time of injection
Dose 2	2.5 mls (60mg)	4-6 hours after dose 1	4-6 hours after dose 1
Dose 3	2.5 mls (60mg)	4-6 hours after dose 2	4-6 hours after dose 2

# MenB Vaccine

## Paracetamol

- Will reduce the fever by ~ 50%
- If fever persists a further dose of paracetamol may be given i.e. 4 doses in 24 hours after vaccination
- If baby unwell or fever persists – parents should seek medical advice

### Paracetamol

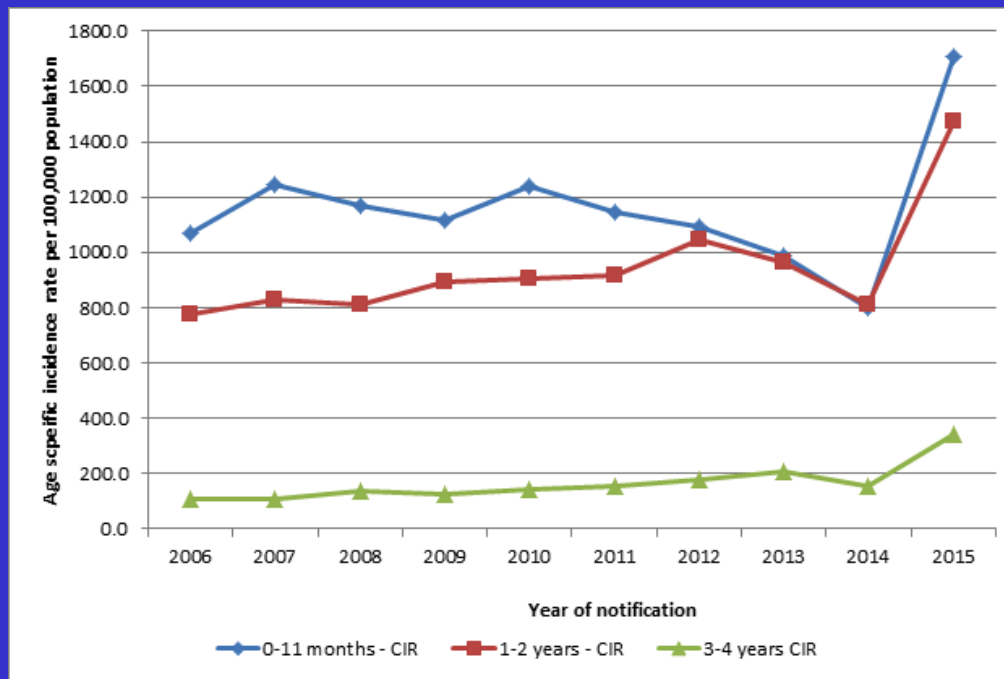
- Previously not recommended routinely
- Recent studies show **NO** evidence of a decrease in the immune response when paracetamol is given with the MenB vaccine and other PCI vaccines
- Not routinely given at the 12 month MenB vaccination (risk of fever is less)

# Rotavirus Disease

- Very common viral infection causing diarrhoea and vomiting
- ~ 2,400 cases notified in Ireland each year
- Most in under 1 year age group

Age specific incidence rate per 100,000 population of notified rotavirus cases

Source HPSC





# Rotavirus Disease

- Estimated that all children infected with rotavirus by age 5
- Spreads very easily through hand to mouth contact and aerosol
- Symptoms
  - ~3-8 days
  - severe diarrhoea, stomach cramps, vomiting, dehydration a low-grade fever
- Most babies and children recover at home
- Every year
  - ~ 920 children aged 0-4 require hospital treatment
  - Average length of stay 5 days



# Rotavirus Vaccine

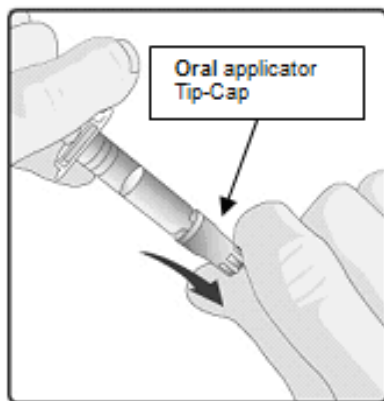
- A live attenuated vaccine
- 2 licensed vaccines (GSK and Sanofi)
- HSE procured Rotarix (GSK)
- 10 pack pre-filled syringe
- Oral vaccine



# Rotavirus Vaccine

- Schedule
  - 2 doses at 2 and 4 months
- Give before injected vaccines

Instructions for administration of the vaccine:



1. Remove the protective tip cap from the oral applicator.



2. This vaccine is for oral administration only. The child should be seated in a reclining position. Administer orally (i.e. into the child's mouth, towards the inner cheek) the entire content of the oral applicator.

# Rotavirus Vaccine

- Widely used routinely in Europe, UK, Australia and US
- Can be given with all other PCI vaccines
- Very effective (82-94%) in preventing rotavirus disease in young babies
- Reduces hospital admissions by ~ 70%
- Good safety profile and well tolerated in most babies



# Rotavirus Vaccine

## Contraindications/ Precautions

### Contraindications

- Confirmed anaphylactic reaction to a previous dose of rotavirus vaccines or its constituents
- Severe Combined Immunodeficiency Disorder (SCID)
- Previous history of intussusception
- Malformation of the gastrointestinal tract (?lead to intussusception)
- Hereditary fructose intolerance, sucrose-isomaltase deficiency or glucose-galactose malabsorption

### Precautions (defer until well)

- an acute febrile illness
- an acute vomiting or diarrhoea illness



# Rotavirus Vaccine

## Side Effects

### Common (1 in 10)

- Diarrhoea
- Irritability

### Uncommon (1 in 100)

- Abdominal pain / Flatulence
- Dermatitis (skin inflammation)

### Very rare (1 in 50,000)

- Intussusception
- Blood in stools
- Gastroenteritis in babies with SCID

# Rotavirus Vaccine

## Intussusception

- Very rare (approx 1 in 50,000 vaccinated babies)
- Intestinal prolapse leading to obstruction
- Most common in those aged 5months – 1year
- ~1 in 1000 babies will get this condition naturally
- Symptoms
  - severe abdominal pain
  - worsens with time, ‘draw’ legs up
  - may get blood in stools, vomiting
- Needs urgent hospital treatment

# Rotavirus Vaccine Schedule

Two doses at 2 and 4 months of age

- Best protection if given on time
- Increased risk of intussusception with increased age
  - **No** doses after 8 months and 0 days
  - Minimum interval between dose 1 and 2 is 1 month
  - Latest time to start dose 1 is 7 months



# Changes to Men C / PCV / Hib vaccines

- Men C vaccine
  - change from 4 and 13 months to 6 and 13 months.
  - to allow Men B vaccine at 2 and 4 months as greatest risk in this age group
- PCV
  - change from 2, 6 and 12 months to 2, 6 and 13 months.
  - to allow MenB booster at 12 months as greater risk in this age group
- Hib/MenC combination vaccine
  - replaces single Hib and MenC at 13 months
  - to keep the number of injections at 2 (Hib/MenC + PCV)



# Hib/MenC vaccine

- Menitorix (GSK)
- Used in UK PCI schedule
- Single prefilled syringe and vial
- Requires reconstitution



# Information materials

- Train the trainers day 18<sup>th</sup> May, Dublin
- Local roll out of training programme
- Information materials for parents
  - Updated
    - maternity leaflet
    - 'Your child's immunisation - A guide for parents'
  - New tear pad at 6 weeks
  - Updated
    - tear pad with after vaccine care
    - information on website
- Information materials for health care professionals
  - Frequently Asked Questions document
  - Wheel for rotavirus vaccine doses and ages
  - Updated
    - Guidelines for Vaccinations in General Practice
    - Immunisation Guidelines for Ireland (NIAC)
    - Updated information on website



# Key points for new PCI schedule

- For babies born on or after October 1<sup>st</sup> 2016
- “Old” and new schedules in parallel for at least 1 year
- 3 doses of infant paracetamol at and after 2 and 4 month Men B vaccines to reduce fever
- No dose of rotavirus after 8 months
- Additional information will be available
- Support from local Department of Public Health and the NIO

