

## VACCINATIONS IN THE IMMIGRANT CHILD

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## THE DANISH IMMUNISATION SCHEDULE

3 months Diphtheria Tetanus Pertussis Polio-Hib 1- og PCV-1

5 months Diphtheria Tetanus Pertussis Polio-Hib 1- og PCV-2

12 months Diphtheria-Tetanus-Pertussis-Polio-Hib 3 -og PCV-3

15 months MFR 1

4 years MFR 2

5 years Diphtheria Tetanus Pertussis Polio revaccination

(12 years MFR2) and for girls HPV 1, 2

All women can be vaccinated against rubella for free

(Hepatitis B has intermittently been included the last couple of years, depending which DiTePePol vaccine has been used)

## LOCAL SCHEDULES AND LOCAL SCANDALS

[http://apps.who.int/immunization\\_monitoring/globalsummary/schedules](http://apps.who.int/immunization_monitoring/globalsummary/schedules)

### Scandals:

**China:** about two million improperly stored vaccines were sold around the country from an overheated, dilapidated storeroom. The main suspect in the case is a hospital pharmacist from Heze who had been convicted of trading in illegal vaccines in 2009 and was doing it again two years later.

**The Indonesian** government [will reinoculate](#) children aged 10 and under after it uncovered fake-vaccine manufacturing and distribution rackets. It is not clear how many children will receive their jabs again, but the number could reach millions.

## SSI RECOMMENDATION: UNSURE STATUS OF IMMUNISATION

### Uge 5a – 2015 EPINYT

# Complicated !!!

#### Børn under 5 år:

”Ved **usikre oplysninger** om tidligere vaccinationer begyndes forfra med samme interval som i det danske børnevaccinationsprogram, dvs. to måneder (mindst én måned) mellem 1. og 2. vaccination og syv måneder (mindst seks måneder) mellem 2. og 3. vaccination. Ved kraftige lokalreaktioner anbefales det at måle antistoffer mod difteri og tetanus én måned efter vaccination.

#### Børn på 5-9 år:

For at undersøge om barnet er tilstrækkeligt primærvaccineret, gives en Di-Te-Ki-Pol/Hib-primærvaccine (DiTeKiPol/Act-Hib), og efter én måned måles antistoffer mod difteri og tetanus. (Hvis barnet er fyldt 6 år, kan Hib-komponenten udelades, se senere).

Ved antistofniveau  $\leq 0,1$  IE/ml for *enten* difteri eller stivkrampe kan man ikke regne med, at barnet er primærvaccineret. Det anbefales da at give yderligere to Di-Te-Ki-Pol-primærvacciner med de anførte minimumsintervaller. Revaccination med di-Te-ki-Pol-vaccine (DiTeKiPol Booster) gives 4-5 år efter sidste primærvaccine.

Ved antistofniveau  $\geq 0,1$  IE/ml for *både* difteri og stivkrampe er barnet formentlig primærvaccineret. Beskyttelsens varighed vil da afhænge af antistofniveauet. Ved efterfølgende vaccination anvendes di-Te-ki-Pol-vaccine til revaccination.

#### Børn på 10-17 år:

For at undersøge om barnet er tilstrækkeligt primærvaccineret, gives en di-Te-ki-Pol-vaccine til revaccination, og efter én måned måles antistoffer mod difteri og tetanus.”

## SYRIA

**Refugee from Syria - 4 years old**

**The mother says she has received all vaccinations before they left Syria.**

**She has no vaccination card**

What to do ?



## REFUGEE LOCAL SCHEDULE

### Syriens vaccinationsprogram 2013:

| Vaccinationsschema för Syrien enligt WHO |                   |             |
|--|-------------------|-------------|
| Vaccin                                   |                   | Hela landet |
| BCG                                      | Vid födelsen      | Ja          |
| DT                                       | 6 års ålder       | Ja          |
| DTwP*Hib                                 | 4, 18 mån         | Nej         |
| DTwP*HibHepB                             | 2, 6 månad        | Nej         |
| HepB                                     | Vid födelsen      | Ja          |
| MPR                                      | 12, 18 månader    | Ja          |
| MenACWY                                  | 6 års ålder       | Ja          |
| Oralt poliovaccin                        | 6, 12, 18 månader | Ja          |
| Inaktiverat poliovaccin                  | 2, 4 månader      | Nej         |
| Td                                       | 12 års ålder      | Ja          |
| wP* = Whole cell pertussisvaccin         |                   |             |



## SYRIA COVERAGE

| Landets officiella uppskattning, procent täckningsgrad |        |        |        |        |        |        |      |      |
|--|--------|--------|--------|--------|--------|--------|------|------|
| Vaccin   | 2012   | 2011   | 2010   | 2009   | 2008   | 2000   | 1990 | 1980 |
| BCG  | 84     | 99     | 100    | 100    | 99     | 100    | 92   | 35   |
| DTP1   | 79     | 97     | 100    | –      | 99     | 98     | 93   | –    |
| DTP3   | 64     | 91     | 99     | 99     | 98     | 97     | 91   | 13   |
| HepB födelsen  | 83     | 98     | 100    | 100    | 99     | 100    | –    | –    |
| HepB 3 doser   | 58     | 81     | 99     | 99     | 98     | 90     | –    | –    |
| Hib 3 doser  | 64     | 91     | –      | –      | 98     | –      | –    | –    |
| Mässling   | 78     | 97     | 99     | 99     | 98     | 96     | 87   | 13   |
| Mässling 2 doser                                       | 70     | 88     | 99     | 99     | –      | 92     | –    | –    |
| Pneumokock   | –      | –      | –      | –      | –      | –      | –    | –    |
| Polio 3 doser  | 52*-68 | 75*-91 | 83*-99 | 83*-99 | 83*-98 | 86*-97 | 91   | 13   |
| Rubella 1  | 78     | 97     | –      | –      | –      | –      | –    | –    |
| * WHO's uppskattning                                   |        |        |        |        |        |        |      |      |

## WHAT TO DO ?

1. Start the vaccination program from scratch – the vaccines were probably not optimal due to problems with the cold chain - and without a vaccination card you cannot be sure about the vaccinations
2. Measure antibodies to tetanus and measles as an indicator of vaccination status – if OK – consider the child as vaccinated
3. Give a booster DiTeKiPol Act Hib and an extra MFR . Then you can be quite sure the child is vaccinated.
4. Give a booster DiTeKiPol and measure antibodies
5. She is better immunized than Danish children – everything is OK now
6. Let the GP decide



## UNSURE HISTORY ?

Mothers story – to trust ?

Do you always need a vaccination card ?

If the mother is well-educated and can tell about the conditions of the immunisations, still unsure ?



## UNSURE INFORMATIONS

- **If the information is unsure ?**
- ”SSI: Unsure information - start with same interval as the Danish child immunisation Schedule. If severe local reactions – measure antibodies against Diphtheria and Tetanus one month after vaccination.
- Are other approaches possible ? Measure antibodies when the child is seen first time in connection with screening for infectious diseases (TB).

Is more better ??

Adverse events

(Granulomas ? Allergy to aluminium ? Other local reactions ? Other AEs ? Non specific effects?)

Immuneresponse might not be better

More injections can be traumatic

## WHAT TO DO ?

1. Start the vaccination program from scratch – \_\_\_\_\_ the vaccines were probably not optimal due to problems with the cold chain - and without a vaccination card you cannot be sure about the vaccinations- **the vaccines were probably OK**
2. Measure antibodies to tetanus (Diphtheria) and measles as an indicator of vaccination status – if OK – consider the child as vaccinated **possible solution – if blood samples today - it gives sense**
3. Give a booster DiTeKiPol Act Hib and an extra MFR . Then you can be quite sure the child is vaccinated. **Maybe too much – or maybe not enough**
4. Give a booster DiTeKiPol and measure antibodies **possible solution - SSI recommendation**
5. She is better immunized than Danish children – everything is OK now – **better immunized – but there might have been problems with storage.**
6. Let the GP decide- **.....the easiest**

# WHAT DO WE KNOW OF UPTAKE OF IMMUNISATIONS AMONG REFUGEE CHILDREN IN DENMARK

Marie Nørredam et al (2016, Eur J Pediatr 175:539-549):

## What is Known:

- Uptake of immunisation and child health examination is associated with low household income, unemployment and low educational status among the parents.
- **Uptake may be even lower among refugee families as they constitute a vulnerable group regarding access to healthcare.**

## What is New:

- **Refugee children had lower uptake of immunisations and child health examinations compared to Danish-born children for DTP 5 years old (relative HR 0,61 for refugees)**
- Several predictors of uptake were identified including region of origin and duration of residence.

MARIE NØRREDAM ET AL 2016:

# Promote immunisation and Child Health Examinations among newly arrived refugee families

## ADOPTED CHILD

- Often Information of immunisation
- Often vaccination card
- Highly motivated parents
- Focus on avoiding unnecessary injections/blood samples



## ADOPTED CHILDREN

- **Know about the program** of the country of origin.
- Written records may be considered valid if the vaccines, dates etc. are OK
- **Documentation improves the likelihood for seroconversion** from for example for Tetanus to 95% from 76% for Tetanus (Staat MA et al Vaccine 2010;28(50):7947-55).
- Deficient immunization in 37% of adoptees (Jenista and Chapman: Medical problems of foreign-born adopted children Am J Dis Child 1987; 141:298-302) - depending on origin.
- Serological testing for (Diphtheria) and Tetanus can be used as surrogate marker for pertussis.
- Often MMR is not included - but only Measles vaccine – **booster with MMR.**
- Catch up program appropriate for age
- **If not given Hib and PV - consider vaccination**



# DATES MIGHT BE CONFUSING

## Infant immunization card የእናቶችና የህፃናት ክትባት ካርድ

Card number ካርድ ቁጥር \_\_\_\_\_

የእናት ስም \_\_\_\_\_  
 Name of infant: \_\_\_\_\_  
 እናት የተወለደበት ቀን \_\_\_\_\_ ፆታ \_\_\_\_\_  
 Date of birth: (DD/MM/YY) Sex: \_\_\_\_\_  
 የእናት ስም \_\_\_\_\_  
 Name of mother: \_\_\_\_\_  
 የእናት የተወለደበት ዘመን \_\_\_\_\_  
 Birth date (Age) of mother (for TT vaccination): \_\_\_\_\_  
 የአባት ስም \_\_\_\_\_  
 Name of father: \_\_\_\_\_

አድራሻ \_\_\_\_\_  
 Address \_\_\_\_\_  
 ወረዳ \_\_\_\_\_  
 Woreda \_\_\_\_\_  
 ቀበሌ \_\_\_\_\_  
 Kebele \_\_\_\_\_  
 ክፍተት/ኃጥ \_\_\_\_\_  
 Ketena /Got \_\_\_\_\_  
 የቤት ቁጥር \_\_\_\_\_  
 H.No. \_\_\_\_\_

### ለእናት / Infant

| ክትባቶች<br>Vaccines             | የተሰጠበት ቀን<br>Date Given<br>(DD/MM/YY) | የተጠራ ቀን<br>Next appointments (date) |
|-------------------------------|---------------------------------------|-------------------------------------|
| ቢሊጂ<br>BCG                    |                                       | 1ኛ<br>1 <sup>st</sup>               |
| ፖሊዮ 0<br>OPV0                 |                                       | 2ኛ<br>2 <sup>nd</sup>               |
| ፖሊዮ 1<br>OPV 1                |                                       | 3ኛ<br>3 <sup>rd</sup>               |
| ሊፑ 2<br>OPV 2                 |                                       | 4ኛ<br>4 <sup>th</sup>               |
| ፖሊዮ 3<br>OPV 3                |                                       |                                     |
| ዲፕቲ-ዘፕቲ-ዘቢ 1<br>DPT-HepB-Hib1 |                                       |                                     |
| ዲፕቲ-ዘፕቲ-ዘቢ 2<br>DPT-HepB-Hib2 |                                       |                                     |
| ዲፕቲ-ዘፕቲ-ዘቢ 3<br>DPT-HepB-Hib3 |                                       |                                     |
| ክፋኝ<br>Measles                |                                       |                                     |
| ቪታሚን ሌ<br>Vitamin A           |                                       |                                     |
| ሌላ-ት<br>Other                 |                                       |                                     |

### ከክትባት በኋላ የታዩ ሁኔታዎች ካሉ Adverse Events Following Immunization (AEFI)

| የሁኔታዎቹ ዓይነት<br>Type of AEFI | ሁኔታው የታዩበት ቀን<br>Date observed<br>ቀን/ወር/ዓም<br>(DD/MM/YY) |
|-----------------------------|--|
|                             |  |
|                             |  |
|                             |  |

### Tetanus Toxoid ቲታኒስ ቶክሳይድ

| ሃፍሰ-ጠር<br>Pregnant  | Date Given<br>የተሰጠበት ቀን<br>(DD/MM/YY) | ሃፍሰ-ጠር<br>ያልሆነች ሴት<br>Non Pregnant | Date given<br>የተሰጠበት ቀን<br>(DD/MM/YY) | Next appointment      |
|---------------------|---------------------------------------|------------------------------------|---------------------------------------|-----------------------|
| ቲቲ1<br>TT1          |                                       | ቲቲ1<br>TT1                         |                                       | 1ኛ<br>1 <sup>st</sup> |
| ቲቲ2<br>TT2          |                                       | ቲቲ2<br>TT2                         |                                       | 2ኛ<br>2 <sup>nd</sup> |
| ቲቲ3<br>TT3          |                                       | ቲቲ3<br>TT3                         |                                       | 3ኛ<br>3 <sup>rd</sup> |
| ቲቲ4<br>TT4          |                                       | ቲቲ4<br>TT4                         |                                       | 4ኛ<br>4 <sup>th</sup> |
| ቲቲ5<br>TT5          |                                       | ቲቲ5<br>TT5                         |                                       |                       |
| ቫታሚን ሌ<br>Vitamin A |                                       | Vitamin A                          |                                       |                       |
| Other (specify)     |                                       | Other (specify)                    |                                       |                       |

እናት ሲወለድ ከመጋጋቱ ቆልፍ በሽታ ተጠብቋል? ተጠብቋል! አልተጠብቀም? Was the infant protected at birth Yes/No

| <p>መደበኛ የእናትና ክትባት የጊዜ ሰሌዳ<br/>National Routine EPI Schedule<br/>ዕድሜ (ልደት በኋላ) Age</p> |              |                    |                      |                      |                   |
|--|--------------|--------------------|----------------------|----------------------|-------------------|
| ክትባት<br>Vaccine  | ልደት<br>Birth | የ6 ሳምንት<br>6 weeks | የ10 ሳምንት<br>10 weeks | የ14 ሳምንት<br>14 weeks | የ9 ወር<br>9 months |
| ቢሊጂ<br>BCG   | x            |                    |                      |                      |                   |
| ፖሊዮ<br>OPV   | x            | x                  | x                    | x                    |                   |
| ዲፕቲ-ዘፕቲ-ዘቢ<br>DPT-HepB-Hib   |              | x                  | x                    | x                    |                   |
| ክፋኝ<br>Measles   |              |                    |                      |                      | x                 |
| ቪታሚን ሌ<br>Vitamin A  |              |                    |                      |                      | x                 |

መደበኛው የሴቶች ክትባት የጊዜ ሰሌዳ (ቲቲ) National Schedule (TT)

| ቲቲ1<br>TT1 | በመደመሪያ<br>1 <sup>st</sup> contact       |
|------------|---|
| ቲቲ2<br>TT2 | ከቲቲ1 በኋላ በ4ኛ ሳምንት<br>4 weeks after TT1  |
| ቲቲ3<br>TT3 | ከቲቲ2 በኋላ በ6ኛው ወር<br>6 months after TT2  |
| ቲቲ4<br>TT4 | ከቲቲ3 በኋላ በ1ኛው ዓመት<br>One year after TT3 |
| ቲቲ5<br>TT5 | ከቲቲ4 በኋላ በ1ኛው ዓመት<br>One year after TT4 |

### ጠቃሚ ምክር ሰላፊዎች

ልጅዎን በወትረ በማክበብ ከስምንት ዓይነት የእናትና ክትባት ተላላፊ በሽታዎች ያድኑታል። እስክትባት አይርሱ! እስታውሱ! በተጨማሪም ለሴቶች የሚሰጠው የመጋጋቱ ቆልፍ በሽታ መከላከያ አስፈላጊ መሆኑን አያላገጉ።

## CONCLUSION

Recommendations in EPINYT

Use common sense to evaluate parents history of  
vaccination

Measure antibodies if necessary

Know the local vaccination schedule and local problems

Consider MMR booster, Hib and PV

