

# Today's Questions

**What are the optimal schedules for Hib vaccines for children living in different epidemiological settings?**

**1. How many primary doses, and is there need for boosters?**


- Interval between doses?
- Duration of protection?

**2. Does the type of vaccine influence the choice of schedule?**

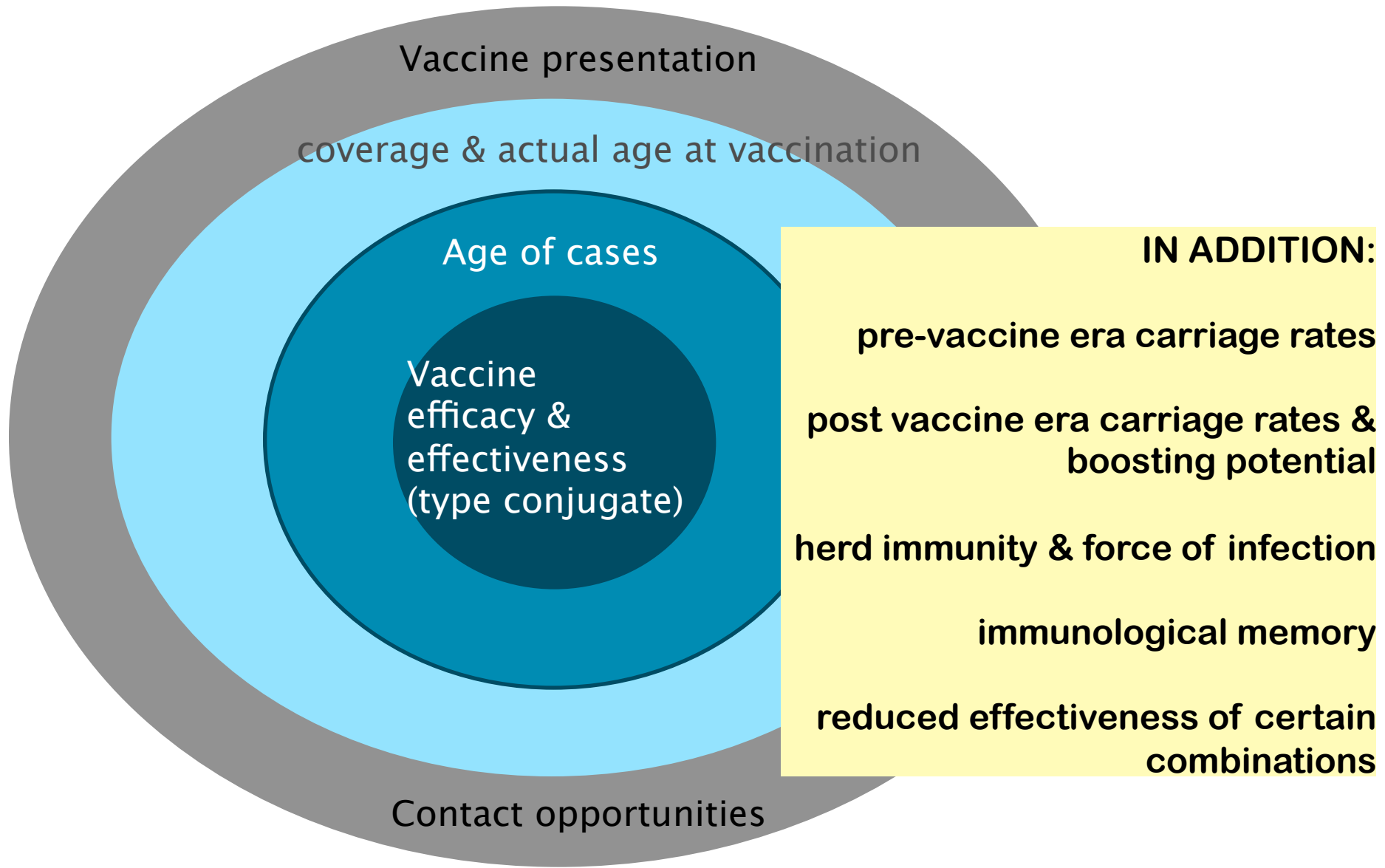
- Effect of type of Hib vaccine on effectiveness
- Effect of wP and aP on Hib vaccine effectiveness

# What are the optimal schedules for Hib vaccines for children living in different epidemiological settings?

J Abramson  
SAGE Member



**Selecting the optimal  
schedule for Hib containing  
vaccines is a complex  
process.**



# Conclusions

Hib conjugate vaccine  $2p+1$ ,  $3p+0$  and  $3p+1$  schedules are all highly effective against Hib disease.

However, the optimal schedule, and overall population impact depends on setting characteristics.

# Conclusions

## **How many primary doses, and is there a need for boosters?**

- In countries where the majority of severe Hib disease burden lies in young infants, it is more beneficial to provide three doses of Hib vaccine early in life.
- In some settings (e.g. where the greatest disease morbidity and mortality occur later, in the presence of herd immunity, or where a resurgence of Hib cases is seen after the introduction of Hib vaccine), it might be advantageous to use a schedule where the third dose is given as a booster dose or to add a booster to the primary schedule.
- The first dose should be given at 6 weeks of age or soon after and the interval between primary doses should be at least 4 weeks.

# Conclusions

## **Does the type of vaccine influence the need for a booster dose?**

- Although there is evidence for a decrease over time in the proportion of the vaccinated population that remain above a set threshold (i.e. anti PRP antibodies  $\geq 0.15$  mcg/ml and  $\geq 1.0$  mcg/ml) with schedules that do not include a booster dose, there is limited evidence for this decline being associated with an increase in disease.
- There is some evidence of lower immunogenicity when Hib vaccines are combined with acellular pertussis as compared to whole cell pertussis (combinations) vaccines. Whether this lower immunogenicity results in lower effectiveness will require further study.
- Data from developing countries on long-term duration of protection requires further evaluation

# Conclusions

- Programmatic considerations also influence the choice of Hib vaccine schedules:
  - Since most Hib vaccines are administered as combined vaccines, the scheduling of the other co-administered vaccines must be taken into account when choosing a Hib vaccine schedule.
  - In addition, the opportunity to administer Hib vaccines at the time when other existing vaccines (interventions) are delivered should be considered.

# Proposed schedule

- **Primary doses:** 3 doses or 2 doses plus booster dose.
- **Interval between doses:** at least 4 weeks
- **Need for a booster dose:** need in non- industrialized countries needs to be further evaluated
- **Maximum age for vaccination:** 24 months  
(based on disease epidemiology)