



Message from Peter Richmond Head of the Vaccine Trials Group

As we approach the end of another busy year at the Vaccine Trials Group, it is a good time to reflect on the achievements of some of our previous studies and the range of ongoing research activities. Some new vaccines that we have studied over the last couple of years are now available for all children. These include the new 5 in one combination vaccines with injectable polio (Infanrix- Penta) and the new pneumococcal vaccine (Prevenar) which will be made free for all babies from the start of 2005.

We have started some exciting new studies with vaccines for the prevention of cervical cancer as well as a successful study of a new combination meningitis vaccine in babies, which will be entering the next phase next year. Our group is also looking at other ways of treating and preventing chest and ear infections in children with the ultimate aim of producing an effective vaccine against these very common infections.

We would like to thank all the parents and children who have made these studies possible and the organisations, schools and universities that have assisted with our trials. We are looking forward to another busy year of research that will help to improve the health of Western Australian children and adults.

All the best,

A handwritten signature in black ink, appearing to read "Peter Richmond".

Dr Peter Richmond
Head of the Vaccine Trials Group



Getting rid of the ear bug



Pneumococcal infections are the most common cause of childhood ear infections and may also lead to more serious illness, hearing loss, brain damage and even death. Infections mainly occur in children under 2 years of age. The pneumococcal bacteria are carried in the nose and throat of healthy adults and children and can be passed by droplets in the air. Not all children who come into contact with pneumococcus will get sick.

The aim of this study is to determine how many doses of a pneumococcal vaccine (Prevenar) are required to develop an antibody response and to assess effectiveness in children who already suffer from acute ear infections.

We are recruiting children, aged between 12 and 24 months, who suffer from recurrent middle ear infections as well as healthy children who have never had ear infections.

Better protection from the flu vaccine

As people age, their ability to fight infection declines and infection with influenza virus may be complicated by more serious bacterial pneumonia. It is thus important for elderly people and people with chronic illnesses to be vaccinated each year against influenza. Influenza vaccinations are normally

given into the muscle of the upper arm. Early next year we will be working with staff at Fremantle Hospital on a study to examine whether giving the vaccine under the skin instead of into the muscle will provide better protection.

We are inviting men and women who are aged between 60 and 85 years to participate. After receiving the study vaccine they will also receive the current year's licensed influenza vaccine.

THANK YOU

We'd like to say a BIG thank you to all study participants and their families; and the staff of the hospitals, universities and primary schools for their involvement in, and support of, our studies.

Still providing protection but with fewer injections

Protecting children from diseases that can cause serious health problems remains a priority for health agencies and researchers. New vaccines are being developed to provide this protection but new vaccines may require extra injections.

Vaccine manufacturers are always looking at the development of combined vaccines to reduce the number of injections needed while still ensuring that the combined vaccines remain effective.

We have been assessing the effectiveness of some of the combined vaccines. A recently concluded study investigated the effectiveness of the combined vaccine that protects children against Hemophilus

influenza and Meningococcal type C & Y infections. The preliminary results were very promising and a follow up study will commence next year.

We are also working with the UWA Department of Paediatrics in investigating the effectiveness of the "six vaccines in one injection" (Infanrix Hexa) for newborns including premature babies during their routine vaccination schedule.

Battling bacterial slime

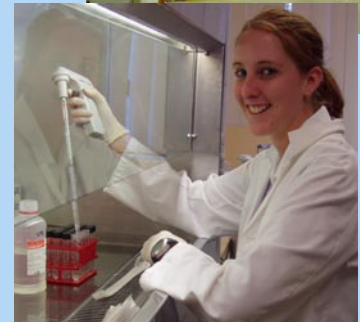
Biofilm is a substance formed when bacteria (germs) stick to a surface and cover themselves with a protective layer of slime. You can see this occur on glass vases that have held flowers for several days. Biofilm can also form in the human body and cause chronic infections.

In biofilm, the bacteria are well protected from the body's immune defences and are much more resistant to antibiotics. This may explain why some children have recurrent or chronic ear, nose and throat (ENT) infections that are not able to be cured by antibiotics. We wish to see if biofilm is a cause of this common problem.

These studies involve children who are having ENT surgery. Tiny tissue samples will be taken and examined

under special microscopes to identify if biofilm is present.

This project will also look at children's immune responses against the common germs that cause ENT infections. We hope that this will allow the development of new treatments and reduce the number of children needing surgery.



Chest infections and kids

Many young children suffer from viral chest infections that require hospitalisation. The two most common conditions requiring hospitalisation are pneumonia (infection in the lung) and bronchiolitis (infection of the airways in the lung). One of the main causes of these infections is the respiratory syncytial virus (RSV). We are conducting two studies that are reviewing treatments for children with chest infections.

The RSV Study is an international study investigating the usefulness of Montelukast (Singulair) in the treatment of bronchiolitis in very young children. Montelukast is already used successfully in the treatment of asthma. The drug's mechanism of action suggests it would also be effective in reducing the symptoms of infections due to RSV.

A new virus, human Metapneumovirus (hMPV), has also been associated with chest infections. By the age of five, nearly all children will have had a hMPV infection. Our hMPV study aims to estimate how many children admitted with chest infections are infected with hMPV. In Australia there are 74 children enrolled - 29 of these from Perth.

M2 Study (Measles, Mumps, Rubella and Chickenpox vaccine)

This study investigated whether the current routine MMR vaccine and Chicken Pox vaccine given to healthy toddlers help to stimulate their immune system.

The study has closed and we are in the process of collating the results and collecting final blood samples from parents.



A vaccine to prevent cancer of the cervix

There has been a lot of news lately about a vaccine with the potential to prevent cancer of the cervix.

The Human Papilloma Virus (HPV) has been shown to be the main cause of cancer of the cervix. Over 75% of sexually active women and men will be infected with HPV at some stage during their lives. Women may only know they have been infected with the virus when it shows up during a routine Pap test. This is why it is so important for all women who have ever had sex to have regular two yearly Pap tests.

At VTG we have been involved in two studies with the HPV vaccine. The adolescent study, which has now closed, looked at the safety and immune response of the vaccine. The other study is recruiting young women aged 17 to 25 yrs to a 4 year study examining the safety and effectiveness of this vaccine.



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