



From the Director's desk

- Almost 35,000 doses of influenza vaccine have now been provided for children under the age of 5 in the Perth metropolitan area.
- It is likely that between 35 and 40 per cent of eligible children will be vaccinated.
- This coverage figure will be sufficient to provide the information required for the National Committee to assess cost-effectiveness of vaccine.
- One dose of vaccine is insufficient to provide protection. GPs are urged to recall children to ensure they receive both doses.
- It is not too late to commence vaccinating children yet to receive any dose.



www.flu11s.org.au

www.snotfunny.com.au

Western Australia is starting to experience sporadic cases of influenza evidenced by the laboratory notification system. The paediatric influenza vaccination program is continuing across Western Australia and approvals are in place to commence the cost-effectiveness study through sentinel General Practitioners (GPs) and metropolitan hospitals and emergency departments. A number of rural emergency departments have also joined the program.

It is not too late to commence immunising unvaccinated children. Those arriving at surgeries for other vaccinations or for other illnesses can be opportunistically vaccinated. It is also critical that children have two doses to ensure full protection.

A number of questions have been raised regarding the management of ill children and their families during the influenza season, including the use of oseltamivir.

The Role of Oseltamivir in the Treatment of Influenza in Children

Oseltamivir can be administered orally to children aged greater than 1 year and has been shown to cost-effectively reduce the influenza disease burden and duration of viral shedding. Oseltamivir has also been shown to be effective in reducing the incidence of secondary complications. Oseltamivir has excellent tolerability and a low potential for viral resistance in paediatric studies.

The treatment of influenza with oseltamivir is effective only when initiated within the first 48 hours of the onset of symptoms. However, it is most effective when treatment is initiated within 12 hours of symptom onset, where a greater reduction in the duration of illness will be seen.

The Role of Oseltamivir in Post-exposure Prophylaxis for Children

Oseltamivir post-exposure prophylaxis provides protective efficacy for children and families. The aim of post-exposure prophylaxis is to prevent the development of clinical influenza in close contacts. Children aged 1 year or above can be prescribed post-exposure oseltamivir, although treatment should be commenced within 48 hours of contact with an influenza case.

While the use of oseltamivir in this way prevents laboratory diagnosed influenza in over 50% of children, the low usage of point of care testing and the 48 hour time limit restrict the practicality of this measure.

If timelines are not met, General Practitioners who diagnose influenza should consider whether any close family contacts are at particular risk of severe complications from influenza, e.g. immuno-suppressed siblings. GPs can then deliver a message for those at risk to present early for therapy if they become febrile.

Paul Van Buynder, June 2008

Reference: Whitney RJ. *The role of oseltamivir in the treatment and prevention of influenza in children* Expert Opin. Drug Metab. Toxicol. (2007) 3(5):755-767

Disease Watch is the newsletter of the Communicable Disease Control Directorate.

To subscribe or contribute, contact the editor, Andy Parnell, at cdc@health.wa.gov.au or 9388 4878.



'Chikungunya Virus Infection' declared a Notifiable Disease in Western Australia

This is to advise that 'Chikungunya virus infection' was declared a notifiable disease in WA from 14 May 2008, as per requirements of the *Health Act 1911* (as amended in 2006). This means that all medical practitioners, nurse practitioners and pathology laboratories diagnosing or detecting chikungunya infection in a patient are now required to notify the Department of Health, as for other notifiable infectious diseases.

A new version of the "Infectious Disease Notification Form" will be distributed as soon as possible, incorporating the addition of chikungunya and some other changes. In the meantime, the disease should be notified using the existing form, with the diagnosis noted in the "clinical comments" section.

What is Chikungunya?

Chikungunya is a mosquito-borne viral disease characterised by fever, arthralgia, headache, myalgia, fatigue and rash. Chikungunya virus is an alphavirus related to Ross River and Barmah Forest viruses, which cause similar illnesses. The latter two viruses are endemic in WA, with superimposed 3 - 4 yearly epidemics. Ross River virus, in particular, causes significant morbidity in WA, with the annual number of notifications ranging between 311 and 1101 cases over the past 5 years.

The name "chikungunya" comes from a Swahili word for the stooped posture adopted by sufferers with joint pain. Onset of symptoms usually occurs 4 - 7 days after being bitten by an infected mosquito. Symptoms typically last for days to weeks, although in some cases joint pain may persist for months. Treatment is supportive.

Why make it notifiable?

There has been national agreement to make chikungunya infection notifiable, related to large outbreaks of the disease in Indian Ocean, South-East Asian and South Asian countries over the last few years. Unusually, there were a significant number of deaths associated with an outbreak in Reunion Island in 2005/06. In 2007, disease transmission was reported for the first time in Europe, with an

outbreak occurring in Italy after introduction of the virus by a viraemic traveller.

Although there has been no suggestion that chikungunya virus has yet been transmitted in Australia, there have certainly been cases diagnosed in the past two years in WA residents and visitors who were infected overseas. The main mosquito vectors of chikungunya, *Aedes aegypti* and *Aedes albopictus*, do not occur naturally in WA, but the former does exist in northern Queensland. However, recent laboratory studies have demonstrated that certain species of native Australian mosquitoes, including some in WA, could be competent vectors for chikungunya virus, should it be introduced.

Given the already considerable disease burden associated with Ross River and Barmah Forest viruses, we can ill afford to have another mosquito-borne virus that causes significant illness to become established in WA. Hence, it is important that effective systems are put in place for early identification and surveillance of human cases in order to prevent and hopefully eliminate any local transmission.

When to consider Chikungunya

Clinicians should consider ordering tests for chikungunya virus infection in persons with compatible illnesses who have travelled to countries where the virus is known to be endemic or epidemic. Testing may also be reasonable in circumstances where someone without a travel history has symptoms consistent with a Ross River virus-like illness (an acute illness with fever, arthralgia +/- rash) but where serology is negative for the local causes. At present, serological testing (by IFA IgM and HI) for chikungunya virus can only be undertaken at PathWest Nedlands, so requests and enquiries regarding testing should be referred there.

Reference

Chikungunya. Fact sheet no. 327. World Health Organisation (accessed 22 May 2008):

www.who.int/mediacentre/factsheets/fs327/en/

Chlamydia Campaign

The 2008 Chlamydia Campaign is running from May to July, through radio, cinema, press, bus shelter and venue advertisements urging young people aged 16 - 25 years to ask their GP for a chlamydia test. Practitioners are reminded that the RACGP Red Book 6th edition recommends that all sexually active females under 25 years of age should be screened opportunistically for chlamydia infection. Those infected should be screened again after 6 - 12 months because of the high risk of re-infection. Male partners of infected females should be tested and treated, and men who have sex with men should be screened for chlamydia and other STIs every 12 months.

In addition, the Department's *Women and Newborn Health Service's Antenatal Shared Care Guidelines for General Practitioners* (May 2007) recommends chlamydia testing for all women at their first antenatal visit. The campaign bus shelter advertisement has a powerful message about possible infertility arising from chlamydial infection (see image).

Research conducted in 2005 by La Trobe University showed that many WA GPs want to increase their rates of screening but are not confident in their skills at undertaking chlamydia and other STI risk assessments. Heightened public awareness of chlamydia created by the campaign provides GPs with the perfect opportunity to offer chlamydia



screening to young men and women outside of a sexual health consultation by saying: "While you are here, I am offering all sexually active people under 25 years of age a chlamydia test."

Antibiotic Resistance in WA Gonococci and Empirical Treatment Recommendations

Gonococcal infection remains a significant public health problem in WA. In 2007 there were 1760 cases of gonorrhoea notified, exceeded in frequency (in the list of notified conditions) only by genital chlamydia and *Campylobacter* infection. Only the Northern Territory has a higher rate of gonorrhoea notification than WA. Provision of appropriate antibiotic treatment with proof of cure wherever possible, along with effective contact tracing, underpins efforts to control gonococcal infection in WA¹.

The Western Australian Gonococcal Surveillance Programme (WAGSP), based at Royal Perth Hospital, has for many years performed standardised susceptibility testing on *Neisseria gonorrhoeae* isolates referred from microbiology laboratories throughout WA². Data from WAGSP inform treatment guidelines for gonorrhoea in WA, including the most recent 2006 guidelines, which recommend the use of ceftriaxone for empirical treatment of uncomplicated gonorrhoea contracted in the Perth metropolitan area, interstate or overseas; and amoxicillin and probenecid for uncomplicated infection acquired in country WA¹. Trend analysis over the period 1998 to 2006 has demonstrated increasing levels of resistance to penicillin, quinolones and tetracyclines in gonococcal isolates from Perth residents².

The most recent quarterly data available from WAGSP, for the period October to December 2007, indicate overwhelmingly the continued need for use of **ceftriaxone as first line empirical treatment for gonorrhoea contracted in Perth or in other Australian states/territories, or overseas**³. In this period, 50% of isolates from residents of the metropolitan area were penicillin-resistant by either chromosomal or plasmid (penicillinase producing *N. gonorrhoeae* - PPNG) mechanisms. Similarly, 50% of isolates in Perth residents were resistant to quinolones (ciprofloxacin), 44% were resistant to both penicillin and quinolones, and 24% demonstrated high-level resistance to tetracyclines. Critically, 61% of the penicillin-resistant isolates, 65% of the quinolone-resistant isolates and 44% of the tetracycline-



Treatment of Gonococcal Infections *(cont'd from page 3)*

resistant isolates from metropolitan residents were from infections acquired in Perth. All isolates in this period were sensitive to ceftriaxone and spectinomycin.

Conversely trend data for 1998 - 2006—and the most recent quarterly data from the end of 2007—show that gonococcal isolates acquired in country regions of WA continue to be predominantly sensitive to penicillin and quinolone antibiotics, but that tetracycline resistance is common^{2,3}. While the number of isolates available for sensitivity testing is unsatisfactorily low from individual country regions, the data are most reliable for the high incidence Kimberley region, where less than 5% of isolates have been penicillin-resistant in each year since testing began in 1998. Based on the available data, the **recommended empirical treatment for gonorrhoea acquired in country WA remains a combination of amoxicillin and probenecid.**

It is of some concern that enhanced surveillance data from 2006 for metropolitan residents with gonorrhoea indicated potential treatment mis-match relative to recommendations. While in that time, 67% of cases were treated with ceftriaxone, 24% received ciprofloxacin, 8% received amoxicillin/probenecid and 19% were treated with other drugs⁴. It is possible that at least some of the relatively high continued use of ciprofloxacin and amoxicillin in the metropolitan area pre-dated the dissemination of recommendations for use of ceftriaxone as first-line treatment. It is hoped that data for 2007, to be analysed soon, will show increased use of ceftriaxone. More appropriately, in country regions 78% of patients in 2006 received amoxicillin/probenecid, in line with recommendations.

Table 1: Current empirical treatment recommendations for uncomplicated gonorrhoea in WA¹

Where infection acquired	Adults	Children
Perth metropolitan area, interstate or overseas	Ceftriaxone 250 mg IMI single dose	Ceftriaxone 50 mg/kg (250 mg maximum) IMI single dose
Country WA	Amoxicillin 3 g orally plus probenecid 1 g orally (single doses and preferably directly observed)	<i>Weight less than 45 kg</i> Amoxicillin 50 mg/kg orally plus probenecid 25 mg/kg orally (single doses and preferably directly observed)

References

1. Guidelines for managing sexually transmitted infections. A guide for primary health care providers. Department of Health, Western Australia, 2006. www.public.health.wa.gov.au/3/634/3/guidelines_for_.pm (accessed 9th June 2008).
2. Pearson J. The Western Australian Gonococcal Surveillance Programme 2006 Report. PathWest Laboratory Medicine: Perth, 2007.
3. The Western Australian Gonococcal Surveillance Programme. Quarterly Report, Western Australian isolates, October to December 2007. PathWest Laboratory Medicine: Perth, 2008.
4. The epidemiology of notifiable sexually transmitted infections and blood-borne viruses in Western Australia 2006. Department of Health, Western Australia, 2007. www.public.health.wa.gov.au/3/574/1/epidemiology_of.pm (accessed 9th June 2008).

Recommended changes to MMR Schedule in the 9th Edition of The Australian Immunisation Handbook

The new edition of The Australian Immunisation Handbook recommends that the first dose of MMR (Mumps, Measles and Rubella vaccine) is to be given at 1 year and the second dose is to be given at 18 months of age (as opposed to 4 years). The rationale for the change in the MMR schedule is to provide children with earlier 2 dose protection and hopefully increase vaccine coverage.

This recommended change in schedule has not yet been funded or approved. Thus, immunisation service providers are requested to continue with the current schedule which recommends 1st dose of MMR to be given at 1 year and the second dose to be given at 4 years of age. An alert will be released when the new schedule recommendations are approved.