Regional Public Health
Better Health For The Greater Wellington Region

The Public Health Post

Public Health for Primary Care in Wellington, Wairarapa and the Hutt Valley

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Formerly published as the 'Communicable Disease Bulletin', we have changed the name to reflect that our content is not always about communicable disease. We retain a focus on infectious disease issues relevant to our region and the country. Enquiries regarding public health topics are welcome from primary care practitioners. Individual cases or urgent matters should always be discussed directly with the on call Medical Officer of Health.

Listeriosis Vulnerability Worth Reinforcing

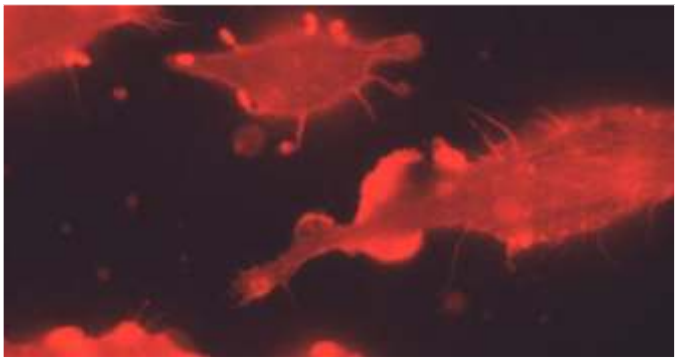
Since the start of 2008 there has only been one case of perinatal listeriosis in Wellington, Wairarapa and the Hutt Valley notified to Regional Public Health. In the same time period there have been seven cases of non-perinatal listeriosis septicaemia or septicaemia - meningitis notified. All of the non-perinatal cases were from vulnerable groups that would be advised to carefully select low-risk foods for *Listeria monocytogenes* and other pathogens. However, it was identified that most of these cases had consumed foods that are high-risk for *Listeria* contamination.

Nationally in 2010, 17 of the 23 cases of listeriosis were recorded as non-perinatal. Two of these were aged less than five years and the other 15 cases were aged over 50 years including eight aged over 70 years. With respect to ethnicity 13 of the non-perinatal cases were European, with two Pacific, one Maori and one Asian. Underlying illness information was recorded for 16 of the non-perinatal cases, of which 11 had an underlying chronic illness such as cancer, autoimmune disease, diabetes or renal failure. Nine were taking immunosuppressive medication. Three of the non-perinatal cases died, all aged over 70 years.

The numbers are small, but this is a serious disease.

Vulnerable patients with respect to food safety include:

- Cancer patients: with advanced cancers or who are taking chemotherapy drugs or having radiotherapy.
- HIV/AIDS cases: the more advanced the disease the higher the risk of acquiring infection.



- Transplant patients: especially with recent transplants (kidney, heart, lung, bone marrow) or those taking anti-rejection drugs such as tacrolimus or cyclosporin.
- Patients receiving immunosuppressive drugs: such as prednisone and azathioprine, if the dose is enough to leave the patient prone to food-borne illness.
- Patients with low stomach acidity; after stomach operations or on medication for gastric reflux or taking regular antacids. There is evidence that reduced stomach acidity may increase vulnerability, although the widespread use of acid suppression agents and the very low numbers of listeria cases overall make it hard to quantify the risk.
- Extremes of age: together with chronic illness in the elderly or serious illness in children.
- Pregnant women.

Primary health care providers deliver good education to pregnant women about identifying safe and risky foods when shopping or eating out. However other people who are vulnerable to food poisoning for other reasons could also benefit from reinforcing advice to lower their risk.

Listeria monocytogenes is widespread in the environment, including soil, vegetation, water, mud, livestock food, faeces, and trade effluent. It occurs in faeces of healthy humans, where it may be transient; the average frequency of carriage may be up to 5%. *L. monocytogenes* can be asymptomatically carried by animals, and may cause serious disease, including in sheep, goats, and cows.

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Given its widespread occurrence in nature, *L. monocytogenes* can be present in a wide range of foods. Manufacturers have stringent policies and procedures to control environmental listeriosis contamination and take the risk very seriously. MAF Food work closely with the industry to assist in reducing the risk. Rarely however, contamination does occur.

Packaged ready-to-eat (RTE) foods might even become contaminated after cooking or pasteurisation for example during slicing or packaging, or during fermentation and ripening of certain cheeses. Also of concern is that, unlike most food-borne pathogens, *L. monocytogenes* can grow at refrigeration temperatures. This is one of the reasons why foods should be consumed within their best before / use by date.

The NZFSA (now part of MAF Food) have produced an excellent booklet "Food Safety – when you have low immunity" to help vulnerable groups choose foods that carry a lower risk from food-borne pathogens, including *L. monocytogenes*. Primary health care providers can reinforce the basic food safety points for vulnerable people.

Choosing the right foods is the first step. Some high-risk foods should be avoided by those at risk, such as raw shellfish, raw eggs, shop-bought sushi, hummus, deli salads, raw milk and milk products. Other risk foods are safe to eat but only if heated until steaming hot. These include cooked and processed meats, smoked fish and seafood refrigerated leftovers (to be eaten within two days).

It would be prudent for people at higher risk of infection to purchase appropriate quantities, for example yoghurt in 150g pottles that can be eaten within two days of opening, as against bulk 1 kg containers.

Vulnerable people also need to pay attention to safe transport of food from the shops to their home, safe storage in clean fridges and freezers, safe thawing and cooking, and microwaving. Finally, all fruits and vegetables must be thoroughly washed and salads prepared just before eating.

People at higher risk of infection should also have a good awareness of what cross-contamination is, so as to avoid it in their kitchens. They need to be able to ensure that *L. monocytogenes* is not passed from raw uncooked foods to cooked and RTE foods. This includes good hygiene practices in refrigerating, preparing and cooking food; and sanitising kitchen benches, cutting boards and utensils.

Sources and Resources

1. "Food Safety - when you have low immunity" can be accessed at http://www.foodsmart.govt.nz/information-for/people-low-immunity/ with a pdf version: http://www.foodsmart.govt.nz/elibrary/lowimmunity.pdf or you can order copies from Regional Public Health on 04 570 9002.
2. Regional Public Health case notes and statistics.
3. ESR Surveillance Report. Notifiable and other diseases in New Zealand Annual report 2010. http://www.surv.esr.cri.nz/PDF_surveillance/AnnualRpt/AnnualSurv/2010/2010AnnualSurvRpt.pdf
4. Omeprazole image: www.drreddysnz.co.nz/assets/images/capsules.jpg accessed 20/6/11
5. Listeria images: 'Listeria monocytogenes escaping from infected cells in comet-like structures'. National Research Council Canada http://www.nrc-cnrc.gc.ca/eng/education/biology/gallery/listeria.html accessed 20/6/11

Hepatitis B Vulnerable Cohort

Anecdotally Hepatitis B is most often seen in general practice as a persistent hepatitis B surface antigen in a relatively well person. This finding provokes decisions about ongoing monitoring by blood and ultrasound with the GP finding a compromise between best practice guidelines and practical reality for the patient. Discussions need to be had with the person about infectivity, treatment, immunity and vaccinations for family members and other close contacts.

Sometimes though, there is a more acute story:

In March 2010 a 40+ year old Wellington businessman presented to his GP with tiredness for 2 weeks, decreased appetite, nausea, stomach cramps and cold sweats.

His GP elicited further history that he had pale stools and dark urine, and observed that he was jaundiced, though this hadn't been noticed by the man.

His blood tests returned a bilirubin of 96 umol/L, GGT of 380 IU/L, ALP of 174 IU/L and ALT of 3584 IU/L. He was Hepatitis B s antigen positive, and had a positive Hepatitis B e antigen indicating high infectivity. The Hepatitis B core IgM was positive. With a clinically consistent illness and the absence of previous Hepatitis B s antigen positivity this indicates acute infection.

Six days later the bilirubin was 110 IU/L and the ALT was 4350 IU/L.

He had a sexual partner who had become sick for two weeks after visiting Samoa the previous year, where she had had a tattoo done, and who was initially suspected as the likely source. However, subsequent testing showed that she was not positive for hepatitis B, and also was not immune to hepatitis B. She was given hepatitis B immunoglobulin and hepatitis B vaccination.

In October the previous year he had had extensive dental treatment done in Thailand, and while no confirmation of a source was ever found it seemed likely that it was on this trip, given the usual incubation period of 45 to 180 days and with no other likely source identified. He had never been immunised against hepatitis B.

Treatment was supportive and he recovered well from the acute illness.

The Wellington Medical Officer of Health contacted the Ministry of Health who informed Thai medical authorities to follow up with the dental practice involved. The man's son had been fully vaccinated but was advised to be tested for immunity as a precaution.

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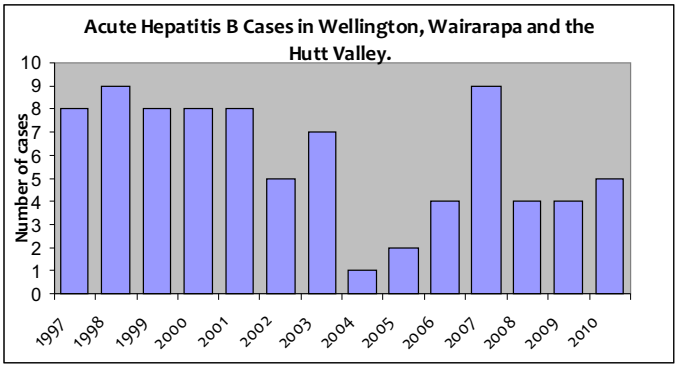
The case above highlights that there is a vulnerable cohort of people who have not been adequately vaccinated for hepatitis B and who should be considered non immune.

Hepatitis B vaccine was added to the immunisation schedule in September 1985, starting with newborn babies of Hepatitis B eAg positive mothers. From 29th February 1988 all babies were eligible to receive hepatitis B vaccine and a catch-up campaign was targeted at all preschoolers. Between 1985 and 1988 other specific groups had been targeted. In 1990 and again in 1996 the vaccination programme was adjusted; first with a new vaccine and fewer injections, and then to get all of the doses sooner. This gave early protection and was also to get the doses in when vaccination compliance is high, in the first year of life.

Some people born before 1985 will also have been vaccinated because from February 1990 free hepatitis B immunisation was extended to all children under 16 years of age. Specific at risk groups, including medical students were also offered vaccination.

What this means is that if someone is older than 23 then they are likely not to have been offered vaccination at birth, and may not have been vaccinated in the catch up schedule, and are therefore likely not to be immune. There is no consistent older group who is considered immune from wild exposure as there is with some other infectious diseases.

Ministry of Health data shows that by the end of 2010 an estimated 88 percent of New Zealand children aged two years had completed a primary course of hepatitis B vaccine, which



gives life-long immunity in approximately 95 percent of those vaccinated.

Nationally, in the period 2001 to 2010 there were 567 notifications of acute hepatitis B, of which 36 (6 percent) were of people aged less than 20 years; 291 (51 percent) were of people of Maori, Pacific or Other ethnicity; and six (1 percent) were of infants born to HBV-infected mothers.

Anyone who is not immune can be considered for vaccination. People in high risk professions need vaccination, and remember your primary care practice staff who could be at risk. The Ministry of Health advises that 'employers should fund hepatitis B vaccination for employees at occupational risk' (see those listed in the table below). Travellers to countries with high rates of hepatitis B should also consider vaccination.

The hepatitis B vaccine is funded for all children up to 16 years old and the sexual or household contacts of hepatitis B carriers.

Adults recommended to receive Hepatitis B vaccination but not funded:

Adults at occupational risk:

- Dentists, medical practitioners, nurses, midwives, laboratory technologists, students entering the health professions.
- Educational or health care workers (eg, orderlies) or emergency personnel (eg, police, fire) who may come into contact with blood or body fluids in the course of their work.
- Persons (staff and patients) in institutions caring for intellectually disabled individuals.
- Individuals in these groups should all have proof of immunity.

Adults at risk of infection by sexual exposure:

- People seeking evaluation or treatment for a sexually transmitted infection.
- People with a high number of sexual partners.
- Commercial sex workers.
- Men who have sex with men.

Others:

- Those undergoing renal dialysis, who require a higher dose of vaccine (check manufacturer's recommendation for this group).
- Adults with chronic liver disease, and prior to liver transplant, who should receive hepatitis B vaccine early in the course of their illness.
- Adults with hepatitis C infection, who should receive hepatitis A and B vaccine.
- Individuals with haemophilia and other regular recipients of blood products.
- Prison inmates.
- Current or recent injecting drug users.

For further information, see the New Zealand Immunisation Handbook 2011, currently available on line at http://www.moh.govt.nz/moh.nsf/Files/immunise-handbook/$file/ImmunisationHandbook2011.pdf

Sources:

1. New Zealand Immunisation Handbook 2011.
2. Regional Public Health Case Notes
3. Cirrhosis caused by viral hepatitis image: www.health.act.gov.au/gfx/pubs/-2140113903_r0.jpg accessed 20/6/11
4. ESR database of notifiable diseases: Episurv, accessed 23/5/11

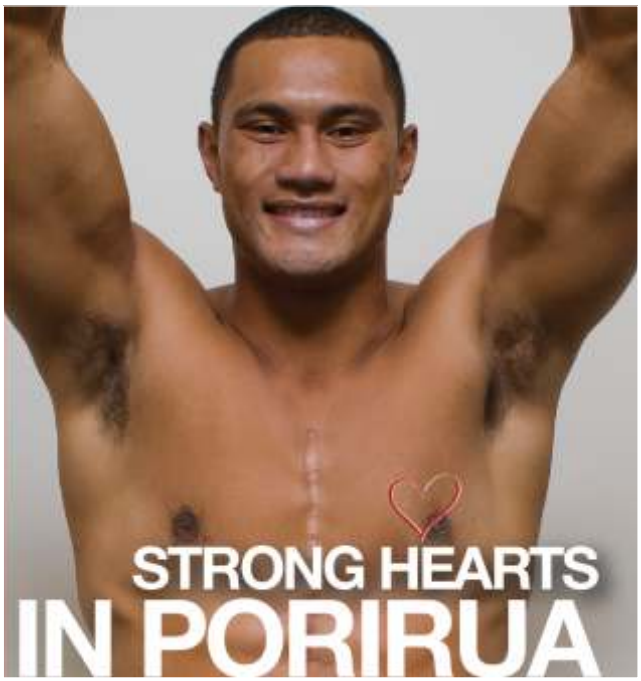
The Porirua Kids Project - Rheumatic Fever and Skin Infections Targeted

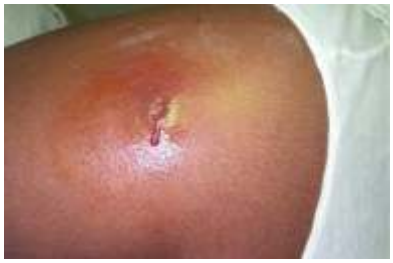
The Porirua Kids Project is a collaborative effort to improve the health of children in Porirua, with a focus on Porirua East. It involves local primary care providers, Compass Health and other PHOs, Regional Public Health and Capital Coast DHB.

The first initiative is a focus on rheumatic fever. New Zealand has unacceptably high rates of this disease, described as “a disease with a long shadow' by Professor Norman Sharpe because of the long term effects of valve damage and rheumatic heart disease. In New Zealand it affects Maori and Pacific children almost exclusively, mainly between the ages of 5 and 14 years. Porirua East has one of the highest rates of rheumatic fever in New Zealand.

The initial effort around rheumatic fever has involved improving the knowledge of healthcare providers, and standardising the management of sore throats according to the National Heart Foundation guidelines. This has included the development of standing orders so that practice nurses can swab and manage 'strep' throats. We are also raising community awareness, with presentations to various groups, radio interviews, and articles in local newspapers. Rugby star and local boy Robert Fruean, who has had rheumatic heart disease himself, is the Strong Heart Ambassador. He has spoken publicly of his own experience in order to raise awareness of the disease and the need to get sore throats checked out by a doctor or nurse.

Once the rheumatic fever campaign is well established, we plan to use the networks created by this exciting and collaborative project to focus on another important and highly preventable health problem, serious skin infections. We envisage that the agreement of common goals , across public health, primary health and secondary care, and the collaborative approach to these problems, will start to make an impact and improve health outcomes for young people in this area.
Underlying these and many other health problems are the so-called 'wider determinants of health' - the environment in which we live, learn, work and play.





This requires a response that is wider than the health care system alone. The project will require the full engagement of the community, and agencies responsible for housing, welfare and education. There is a good critical mass of engagement brewing with the potential to make a big difference for this community. Other vulnerable parts of the community in our region will benefit from the experience gained by all involved in the Porirua Kids Project.

Sources and Acknowledgement

1. Regional Public Health Porirua Kids Project team members.
2. Thank you to Mr Robert Fruean, Strong Heart Ambassador for the Porirua Kids Project
3. Skin infection image: http://phil.cdc.gov/phil/details.asp, CDC/ Bruno Coignard, M.D.; Jeff Hageman, M.H.S.

Some Hints on Diagnosing and Managing Pertussis

For the last few years there have been increased notifications of pertussis. These include culture confirmed cases in adults and immunised children. Note that pertussis immunity wanes 7-10 years after immunisation.

Please keep in mind the following points while dealing with cases of paroxysmal cough:

- Have a strong suspicion of pertussis when dealing with paroxysmal cough at any age. Even immunised children can get it.
- Think of other possibilities if you are dealing with new onset asthma. It could be pertussis.
- When taking a history from someone with suspected pertussis, please ask about contacts with confirmed pertussis or pertussis like illness, including in associated schools, early childhood centres and social circles.
- If you suspect pertussis, please arrange for a nasopharyngeal swab for Bordetella pertussis PCR or culture.
- Start antibiotics on suspicion. First choice is erythromycin for 14 days. An alternate antibiotic is co-trimoxazole.
- Please notify the local Medical Officer of Health, even on suspicion.
- If in doubt talk to a local Medical Officer of Health, Infections Diseases Physician or Paediatrician.

Ordering Pamphlets and Posters:

To order any Ministry of Health resources, please contact the Health Information Centre on 04 570 9691 or email laurina.francis@huttvalleydhb.org.nz

For enquires or comments regarding The Public Health Post, please contact Dr Jonathan Kennedy. Medical Officer, Regional Public Health by emailing jonathan.kennedy@huttvalleydhb.org.nz or by phone 5709002. Alternatively contact one of the regional Medical Officers of Health: Dr Jill McKenzie, Dr Margot McLean, Dr Annette Nesdale and Dr Stephen Palmer.

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