

Antibiotics – Is resistance still futile?

Take home messages from the Small Group meetings held Aug/Sept 21

- A prescription should be clear to all who read it
 - Appropriate: antibiotic, dose, duration, and if possible, indication
- Resistance emerges much more quickly than it goes away
- Public health measures can make a huge difference to rates of respiratory illness
- Aim to achieve equity
 - Some patients will be more at risk of infection/complications

Included in this bulletin

- Importance of public health measures in mitigating expected respiratory illness this winter
- Communication tips to help patients with self-limiting respiratory tract infections
- Update on rheumatic fever cases reported in the CDHB region
- Q&A from antibiotic small group meetings

This clinical resource was prepared by the Clinical Quality and Education Team, Pegasus Health. Any statement of preference made is a recommendation only. It is not intended to compel or unduly influence independent prescribing choices made by clinicians. References not listed are available on request. All clinical documents produced by Pegasus Health are dated with the date they were originally produced or updated, and reflect analysis of available evidence and practice that was current at that time. Any person accessing any clinical documents must exercise their own clinical judgement on the validity and applicability of the information in the current environment, and to the individual patient. The educational material developed for delivery at this education session remains the intellectual property of Pegasus Health. This material is not to be redelivered, on sold to any individual or organisation, or made publicly available on any website or in any publication, without written permission from Pegasus Health (Charitable) Ltd.

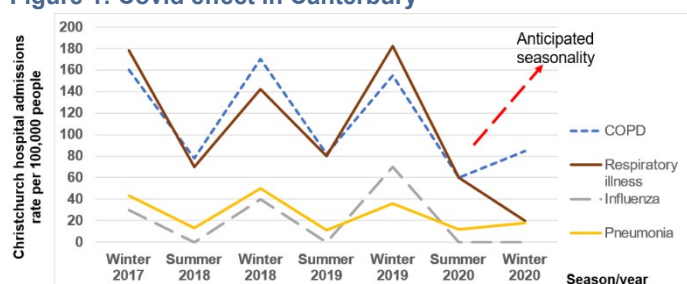
A reminder from the Small Group meetings for winter...
Public Health measures can make a real difference¹.

With the opening of Aotearoa New Zealand borders two years after the first COVID lockdown, there is concern about an increase in respiratory illness this winter². New South Wales is already experiencing a spike in influenza and a gradual increase in respiratory syncytial virus (RSV) this winter season³.

Multiple cases of influenza A were detected in Canterbury in late May, earlier than observed in previous winter flu seasons. These initial cases were identified as the H3N2 strain (covered by this year's flu vaccine) and concentrated in the Christchurch student population⁴.

Figure 1 shows admission to Christchurch hospital for non-COVID-19 respiratory illness over the winter 2017 to winter 2020 period⁵.

Figure 1: Covid effect in Canterbury



Interestingly, admission rates stayed low even when COVID-19 lockdown was lifted^{5, 6}. Although there may be several reasons for this, public health measures (e.g. social distancing, covering your cough and sneezes, handwashing etc) are likely to have played a critical role in keeping these rates low¹.

To prevent the spread of COVID-19 and other respiratory illnesses, it is important that people keep up their healthy habits⁷:

- Wearing masks in all indoor settings
- Maintaining physical distancing
- Opening windows and doors to increase ventilation wherever possible
- Maintaining good hand hygiene with regular, thorough hand washing or use of hand sanitiser
- Staying home if you are unwell
- Taking a Rapid Antigen Test (RAT): if you have COVID-19 symptoms or you are a close household contact of a positive case
- Reporting your test results on My COVID record (<https://mycovidrecord.health.nz/>)
- Ensuring all your immunisations are up to date – including your flu immunisation and COVID-19 booster

Healthinfo has leaflets on [winter wellness](#), [hand hygiene](#) and wearing [face masks](#) which may be useful in discussions with your patients⁸.

Communication tips to help patients with self-limiting respiratory tract infections⁸.

1. Explain that antibiotics do not significantly reduce the duration of symptoms and they may cause adverse effects, and lead to antibiotic resistance.
2. Back up the information provided with a leaflet highlighting the most important information.

3. Set realistic expectations for symptom duration, including average total duration of symptoms (after seeing the doctor):
 - a. Acute otitis media – 4 days
 - b. Acute sore throat – 1 week
 - c. Common cold - 1½ weeks
 - d. Acute rhinosinusitis - 2½ weeks
 - e. Acute cough/bronchitis - 3 weeks

Healthinfo has a [symptom graph](#) (see Figure 2) in the 'Colds in adults' monograph which may be useful when discussing symptom duration with patients.

Figure 2: How long can normal cold symptoms last?



4. Define the diagnosis as a viral respiratory infection, chest cold, or sore throat instead of using the medical terms 'acute bronchitis' and acute tonsillitis⁹.
5. Clearly explain the red-flag symptoms patients should know and when to seek reassessment.
6. Consider delayed prescription of antibiotics where an aetiology cannot be clearly established.

Rheumatic Fever Update in Canterbury

There were **four** confirmed Rheumatic fever (initial attack) cases reported to CDHB from 1 Jan 2021 to 23 May 2022⁹. Vigilance is advised when reviewing patients who are at [high risk](#)¹⁰.

Questions asked at the Small Group meetings

Are the antibiotic prescribing rates higher than other countries due to Acute Demand Management Service?

Unlikely. There are many reasons for higher antibiotic prescribing rates including inappropriate prescribing, data collection artifacts, differences in antibiotic guidelines and variation in the extent of antimicrobial stewardship between countries.

What is the risk of triggering a rash in prescribing amoxicillin for a patient with undiagnosed Epstein-Barr virus (EBV)?

The incidence of rash associated with *ampicillin* (an earlier derivative of amoxicillin) in patients with EBV is often quoted in the order of up to 90%. Early cohort studies showed *ampicillin* to be associated with a 5 to 11-fold increased incidence of rash during acute EBV infection compared with no antibiotics¹¹. However, two recent cohort amoxicillin studies suggest no such association. Whilst penicillin V is the first-line option for Group A beta-haemolytic streptococcus, limited evidence suggests amoxicillin could be considered in this group when penicillin V is not tolerated¹¹.

References

1. Huang QS, Wood T, Jelley L, et al. Impact of the COVID-19 nonpharmaceutical interventions on influenza and other respiratory viral infections in New Zealand. *Nat Commun.* 2021;12(1):1001. Epub 2021/02/14.
2. Naish J. Stuff article 'Warning of possible 'twindemic' as influenza looms when borders open', dated 9 April. 2022; Available from: <https://www.stuff.co.nz/national/health/128307066/warning-of-possible-twindemic-as-influenza-looms-when-borders-open>.
3. Health N. NSW Respiratory Surveillance Report - week ending 14 May 2022. New South Wales (NSW) Health, Australia. 2022; Available from: <https://www.health.nsw.gov.au/Infectious/covid-19/Documents/weekly-covid-overview-20220514.pdf>.
4. CPRG. COVID-19 Primary Care Update, 24 May 2022 (1530) Ref 2022-41. Canterbury Primary Response Group (CPRG). 2022.
5. Epton M. The Upside of COVID2021.
6. UniteAgainstCovid. History of the COVID Alert System. 2021; Available from: <https://covid19.govt.nz/alert-system/history-of-the-covid-19-alert-system/>.
7. CDHB. "Keep the Emergency Department for emergencies only" is the message from clinicians as we head into winter, 30 May 2022. Canterbury District Health Board (CDHB). Available from: <https://www.cdhb.health.nz/media-release/keep-ed-for-emergencies-2022/>.
8. Llor C, Bjerrum L. Antimicrobial resistance: risk associated with antibiotic overuse and initiatives to reduce the problem. *Therapeutic advances in drug safety.* 2014;5(6):229-41.
9. Harper B, Salter C. Personal Communication: CDHB Rheumatic Fever (initial attack) cases 1 Jan 2021 to 22 May. 2022.
10. CCHPW. Rheumatic Fever, last updated 23 April 2022. Canterbury Community HealthPathways (CCHPW). 2021; Available from: <https://canterbury.communityhealthpathways.org/71987.htm>.
11. Chew C, Goenka A. QUESTION 2: Does amoxicillin exposure increase the risk of rash in children with acute Epstein-Barr virus infection? *Archives of disease in childhood.* 2016;101(5):500-2. Epub 2016/02/20.