

## TO USE OR NOT TO USE?

### Antibiotic Use in the Management of Sore Throats -by Kazushi Noiri

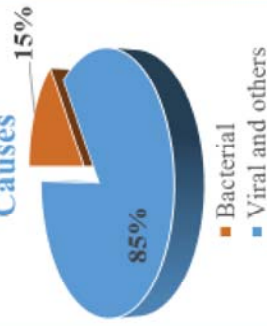
#### BACKGROUND

- In New Zealand, 27,000+ patients visit the GP each year due to their sore throat.
- Bacteria and viruses are the main causes for pharyngitis, and with viral being the most common.
- Pharyngitis is self-limiting, and resolves itself after a week without any treatments.
- Group A Streptococcus bacterial pharyngitis (GAS) can lead to rheumatic fever (RF) and rheumatic heart disease (RHD).
- A 10 day course of oral penicillin V is the first line of treatment for GAS pharyngitis to prevent RF, and is commonly used for sore throats.
- Overuse of Antibiotics (ABs) can lead to AB resistant outbreaks.
- ABs are proven to prevent RF but are they beneficial to control sore throat symptoms?

#### RESEARCH QUESTION

How effective are antibiotic treatments in controlling pharyngitis related sore throats?

#### Pharyngitis Causes



Sore Throat

0.3 - 3%

Rheumatic Fever

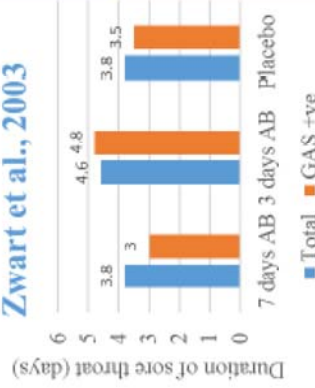
40 - 60%

RHD

#### FINDINGS

- Some studies indicated benefits of AB use to reduce sore throat (Olympia et al., 2005; Zwart et al., 2000) while some could not (Apinkas et al., 2013; Zwart et al., 2003).
- However several studies showed reduction of sore throat with ABs from GAS positive individuals (Dagnelie et al., 1996; Olympia et al., 2005; Zwart et al., 2003).
- ABs can also reduce fever and headache.
- By considering the risk of developing AB resistance, ABs should be limited to specific groups.

Zwart et al., 2003



Difference in the duration of sore throats when compared to 7 day AB treatment (days)

	3 day AB	0 day AB
All	+1.9	+1.7
GAS +ve	+2.5	+2.5
GAS -ve	+0.3	+0.9

(Zwart et al., 2000)

#### NEW ZEALAND CONTEXT

- High rate of RF and RHD are reported.
- RF guideline indicates high and low risk groups.
- High risk groups for RF in New Zealand are:

Young Maori and Pacific individuals	Living in lower socioeconomic environment
Living in the North Island	Living in overcrowded households

#### CONCLUSION & RECOMMENDATION

- The effect of AB treatment to reduce the duration of sore throat is controversial.
- AB use is beneficial amongst GAS positive individuals to prevent RF as well as reducing sore throat.
- Specific sore throat management is required in New Zealand, and it is well developed in *New Zealand Guidelines For Rheumatic Fever*.
- AB use should be reduced amongst the low risk groups in New Zealand.
- AB use should be discretionary rather than prohibited or mandatory.
- Early detection, accurate diagnosis and appropriate AB interventions are the key to sore throat management.

#### REFERENCES

- Apinkas, A., Glasziou, P. P., & Del Mar, C. B. (2013). Antibiotics for sore throat (Review). The Cochrane Collaboration. Retrieved from <http://www.thecochranelibrary.com>
- Dagnelie, C. F., Van Der Graaf, Y., & de Melker, R. A. (1996). Do patients with sore throat benefit from penicillin? A randomized double-blind placebo-controlled clinical trial with penicillin V in general practice. *British Journal of General Practice*, 46, 589-593.
- Heart Foundation of New Zealand. (2014). New Zealand guidelines for rheumatic fever. Retrieved from <https://www.heartfoundation.org.nz/>
- Olympia, R. P., Khine, H., & Arner, J. R. (2005). Effectiveness of oral dexamethasone in the treatment of moderate to severe pharyngitis in children. *Archives of Pediatrics and Adolescent Medicine*, 159(3), 278-282. doi: 10.1001/archpedi.159.3.278
- Zwart, S., Rovers, M. M., de Melker, R. A., Hoes, A. W. (2003). Penicillin for acute sore throat in children: randomised, double blind trial. *British Medical Journal*, 327(7427), 1324-1328.
- Zwart, S., Sachs, A. P., Ruijs, G. J., Gubbels, J. W., Hoes, A. W., & de Melker, R. A. (2000). Penicillin for acute sore throat: Randomised double blind trial of seven days versus three days treatment or placebo in adults. *British Medical Journal*, 320(7228), 150-154.