

# FAQ

## FREQUENTLY ASKED QUESTIONS



PODCAST



WEBINAR

## Common Infections in General Practice: Helping Your Registrar Make the Best Decision – Part 2

As supervisors, your role in helping your registrars manage common infection presentations includes giving them an understanding of the prevalence of common infections, recently identified as just under 10% of encounters seen in general practice:

- URTIs (upper respiratory tract infections)= 5.5% of encounters
- Acute bronchitis = 2% of encounters
- UTIs (urinary tract infections) = 1.8% of encounters

You also need to address:

- Diagnostic uncertainty (many of these encounters are clear cut, but many are not; there can be a lot of anxiety around missing something more serious)
- The potential for serious disease (noting it is mostly self-limiting)
- Antimicrobial stewardship and minimising inappropriate antibiotic prescribing

*In terms of tonnage per capita, Australia is in the top 10 countries in the world for human antibiotics consumption... In an average year, around 50% of all Australians have been issued at least one prescription for antibiotics.*

### Multiplex stool PCR

- Various panels on offer – range from 6-22 targets
- Gives you much more information than you need in most cases
- Unable to detect antibiotic resistance in Shigella or S.typhi, for example (i.e. doesn't replace M/C/S)

#### Faecal Multiplex Panel: (for bacteria and parasites)

##### Enteric Bacteria:

- Salmonella spp.
- Shigella spp.
- Campylobacter spp.
- Yersinia spp.
- Aeromonas spp.
- Enteroinvasive E.coli

##### Enteric Parasites:

- Giardia intestinalis
- Cryptosporidium
- Entamoeba histolytica (differentiates from non-pathogenic Entamoeba dispar)
- Dientamoeba fragilis
- Blastocystis spp.

##### Faecal Viral Panel:

- Norovirus GI and GII
- Rotavirus
- Adenovirus

- Includes targets which it may be better not to know about!
  - Dientamoeba fragilis
- Unclear role as a pathogen
- Conflicting studies about value of treatment
- High incidence of "treatment failure"
  - Blastocystis hominis
- Not a true pathogen. Does not need antibiotic treatment
- More common in the bowel of healthy people than sick ones!
- Present in 5-40% of the general population
- Likely a marker of exposure to contaminated food or water

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### CASE STUDY 1

- Years long history of episodic loose stools and abdominal pain
- Colonoscopy 4 years previously
- Has been told has IBS
- No red flags
- Your registrar calls you with the results of a stool multiplex PCR
  - Blastocystis sp.
- No better 1 week after a 7 day course of metronidazole
- Went to another GP who gave him a 7 day course of cotrimoxazole
- 2 weeks later, diarrhoea much worse, distended tender abdomen
  - C.difficile toxin positive
- Improves but then relapses after a repeat course of metronidazole
- Treated with oral vancomycin and eventually returns back to baseline IBS

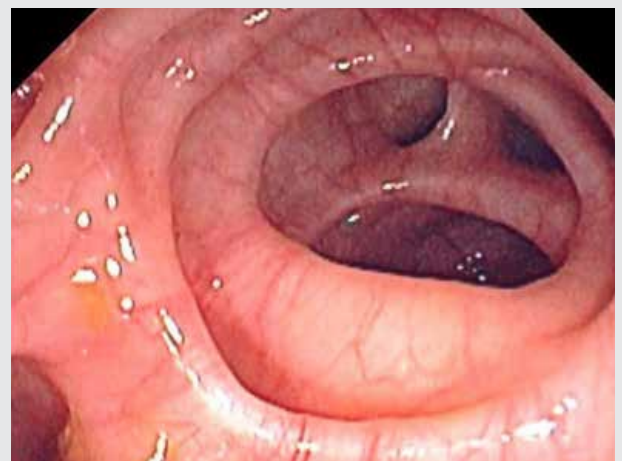


### WHEN TO DO MULTIPLEX STOOL PCR?

- Most labs use this first line as an alternative to M/C/S
- Acute diarrhoea
  - Lasting more than 2 weeks OR
  - Severe disease needing hospital admission
- Chronic diarrhoea
  - Only if associated with weight loss, blood or mucus in stool
- Investigating an outbreak
  - E.g. Norovirus in nursing home (can do viral panel only)

### CASE STUDY 2 – DIVERTICULITIS

- Retired accountant
- Colonoscopy 3 years previously for positive FOBT
  - Extensive diverticulosis
- Normally fit and well
- Presents to your registrar with 2 days of moderate LIF pain and mildly loose stool, no vomiting
- T 37.5, BP/PR normal
- Tender LIF, no rebound/guarding or mass



### How would you manage Case Study 2?

- Conservative management, analgesia, clear fluids, review in 48h
- Empirical management with oral Augmentin
- Bloods and CT scan review next day
- Option C plus treat with oral Augmentin
- Refer to ED

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### Acute diverticulitis

- Complicated disease
  - Bacteraemia, sepsis, perforation, abscess >5cm
  - Needs hospital admission and IV antibiotics
- Uncomplicated disease
  - If left sided and not systemically unwell, no benefit of antibiotics (2 RCTs)
  - Review in 48-72h and give antibiotics if not improving
  - Consider CT scan and antibiotics up front if immunosuppressed, right-sided disease

### CASE STUDY 3 - ACUTE BRONCHITIS OR PNEUMONIA?

- 4 days sneezing, runny nose
- Now, increasing cough and sputum++
- Mildly SOB
- Reports fevers last 48 hrs
- Feels miserable
- T 38.0, O2 sat 97%, HR 88
- Chest clear



- Current COVID testing criteria remain
  - Any acute respiratory symptom or loss of smell/taste OR unexplained fever
- Case Study 3 should have a COVID swab
- Use airborne+droplet+contact precautions for "suspected COVID"
  - Symptoms plus epidemiological criteria
  - Epi criteria=close or casual contact of a case OR from an area with current community transmission.

- Both can have purulent or coloured sputum; this is not predictive of bacterial infection
- Features that best predict pneumonia
  - T >37.8°, O2 saturation <95% on room air, HR >100 beats/minute, RR>22
  - Rigors, pleuritic chest pain
  - Crepitations on auscultation, dullness to percussion, poor air entry, bronchial breath sounds
- In acute bronchitis
  - Fever usually subsides after the first few days of illness
  - On chest examination, wheeze can be present, and a few scattered crepitations (crackles) can occur, but these should clear with coughing

### CASE STUDY 3 - ACUTE BRONCHITIS OR PNEUMONIA? CONTINUED

- You call to check on her 48h later
- COVID swab negative
- Temperatures not as high BUT...
- Still unwell with cough (green sputum), fatigue and fever

### What do you do next?

- Reassure, continue symptomatic management, review
- Oral amoxycillin 500mg TDS for 5 days
- Do CXR and give antibiotics only if has pneumonia
- Do sputum culture and give antibiotics only if something nasty grows

### Acute mucopurulent bronchitis

- Antibiotics are of minimal benefit

### Meta-analysis of 11 trials<sup>1</sup>

- [Antibiotics for acute bronchitis](#)
- ~1 day shorter symptom duration
- No difference in proportion who recover OR
- 1.22 for AEs if given antibiotics (N&V, diarrhoea, rash, thrush)

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### Cohort study of 28,000 patients in UK GP setting<sup>2</sup>

- [Antibiotic prescription strategies and adverse outcome for uncomplicated lower respiratory tract infections: prospective cough complication cohort \(3C\) study](#)
- No difference in proportion who end in hospital or dying
- CXR not needed unless pneumonia clinically suspected
- Sputum culture not useful
  - Often “oral flora”
  - Shows colonisation of upper airways not necessarily needing treatment

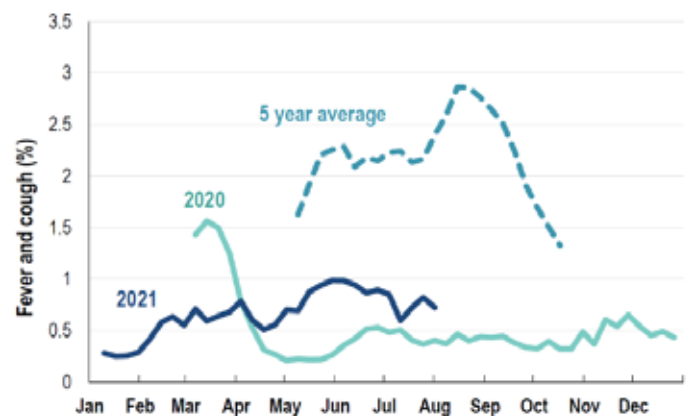
### Don't forget influenza

- In Australia
  - 302,084 flu notifications, 812 deaths in 2019
  - 36,630 COVID cases, 940 deaths in past 18 months
- Abrupt onset high fever and cough
- Consider oseltamivir if:
  - <72h since symptom onset
  - At risk of severe disease (pregnant, obese, immunosuppressed, old)
  - Have severe disease (need hospital admission)
  - To prevent outbreaks in RACFs



### INFLUENZA-LIKE ILLNESS ACTIVITY\*:

0.7% this week: flu-like illness activity is low



# 5 year average is calculated using 2015, 2016, 2017, 2018 and 2019 data

^ Data is aged standardised in this chart

\*Influenza-like illness activity is defined as fever & cough for this report

### CASE STUDY 4 - SORE THROAT

- Sore throat last 48 hours
- Fever to 38.6C
- A few tender cervical nodes
- No significant PMH

### Differential diagnosis?

- |                                  |                 |
|----------------------------------|-----------------|
| • Viral pharyngitis/ tonsillitis | • Ludwig angina |
| • GAS pharyngitis/ tonsillitis   | • Scarlet fever |
| • Epiglottitis                   | • EBV           |
| • Quinsy                         | • HSV           |
| • Retropharyngeal abscess        | • HFM           |
| • Diphtheria                     | • Herpangina    |
| • Croup                          | • STIs          |
|                                  | • Non-infective |
|                                  | • Medications   |



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Quinsy

Source: [Wikipedia](#)



Scarlet fever



Diphtheria

Source: [Russell Watkins/Department for International Development](#)



Herpes stomatitis

Source: [James Heilman MD](#)

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Source: [James Heilman MD](#)

Viral pharyngitis is the most common causes of sore throat in patients of all ages.

Viral infection is strongly suggested by the presence of any one of the following:

- Cough
- Hoarse voice
- Conjunctivitis
- Nasal congestion
- Anterior stomatitis
- Viral exanthema
- Diarrhoea
- Absence of fever
- Streptococcus pyogenes (GAS), which causes approximately 10% of sore throats in adults and 20% of sore throats in children
- **GAS is usually self-limiting**
- GAS pharyngitis and tonsillitis are hard to diagnose based on clinical features alone
- Typical clinical features of GAS are fever (above 38°C), tender cervical lymphadenopathy, exudate, and absence of cough, rhinorrhoea or nasal congestion
- However, even the presence of all four of these features is predictive of streptococcal infection in fewer than 50% of adults, less in children

### Role of throat swab

- Throat swab culture for GAS can confirm the diagnosis
- However, *S. pyogenes* is part of the normal throat flora and a positive culture result may not indicate current infection
- Collect a throat swab for culture if antibiotics are being considered

### Management of Sore Throat

- Therapeutic Guidelines currently recommend against routine treatment of acute sore throat, except for high-risk patient groups:
  - Patients aged 2–25 years in communities with a high incidence of acute rheumatic fever
  - Patients with existing rheumatic heart disease
  - Patients with scarlet fever.
- Reasonable to prescribe antibiotic therapy for unwell patients with sore throat
- Symptomatic management
  - NSAIDS
  - Lozenges
  - Honey
  - Corticosteroids (prednisone or dexamethasone single dose)
    - If severe pain, difficulty swallowing
- Shown to be safe and effective in RCTs (usually accompanied by antibiotics)

### Delayed prescribing

'Where clinicians are not confident in using a no antibiotic strategy, a delayed antibiotics strategy may be an acceptable compromise in place of immediate prescribing to significantly reduce unnecessary antibiotic use for RTIs, and thereby reduce antibiotic resistance, while maintaining patient safety and satisfaction levels.' [Delayed antibiotic prescriptions for respiratory infections Geoffrey KP SpurlingChris B Del MarLiz DooleyJustin ClarkDeborah A Askew](#)

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### Coughing in childhood

- Dry cough very common following URTI
  - Typically lasts 7-30 days or longer
  - May be "constant" if recurrent viral URTIs
- Post infectious cough lasts >3 months after pertussis
- Can also be a symptom of nocturnal GORD, post-nasal drip, asthma, nervous "tic"
- BUT – if wet cough may represent "persistent bacterial bronchitis"

### Persistent bacterial bronchitis

- Most common cause of protracted wet cough in pre-school aged children (1-6yrs) - daily cough, no cough free days
- Linked to development of bronchiectasis

#### CLINICAL FEATURES OF PROTRACTED BACTERIAL BRONCHITIS IN CHILDREN

- In a child with protracted bacterial bronchitis (PBB):
  - the cough is present for longer than 4 weeks
  - the cough is an isolated symptom and the child is otherwise well
  - the cough is wet or moist in nature, with a 'rattly' sound often present on chest examination
  - the cough is present day and night; it worsens when changing posture
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  - coughing episodes can cause shortness of breath but shortness of breath is not present at other times.
- 
- Caused by LRTI with H. influenzae, S.pneumoniae or M. catarrhalis
  - Requires extended course of antibiotics – amoxycillin/clavulanic acid
  - If symptoms improve, this confirms diagnosis - continue therapy for the full 2-week course
  - If cough does not resolve within 2 weeks, extend therapy for 4 weeks total
  - If not resolving, refer

### ASID Choosing Wisely Australia recommendations

1. Do not use antibiotics in asymptomatic bacteriuria.
2. Do not take a swab or use antibiotics for the management of a leg ulcer without clinical infection.
3. Avoid prescribing antibiotics for upper respiratory tract infection.
4. Do not investigate or treat for faecal pathogens in the absence of diarrhoea or other gastro-intestinal symptoms.
5. In a patient with fatigue, avoid performing multiple serological investigations, without a clinical indication or relevant epidemiology.

### Resources

- Flu tracking website: <https://www.flutracking.net/Join>
- [Therapeutic Guidelines: Antibiotic](#)
- [NPS Medicine Wise resources](#)
- GPSA teaching plans:

- [Sore throat](#)
- [Diverticulitis](#)
- [Diarrhoea](#)
- [Acute bronchitis](#)
- [Otitis media](#)
- [Sinusitis](#)
- [Cough](#)

