Fever or suspected infection

Resident with fever / suspected infection (see *when to suspect infection* - practice point 1)

1. Immediately isolate the resident and place under *standard and transmission-based precautions*
   - Apply appropriate person protective equipment (PPE) - review *QH RACF PPE guidance*
   - Where possible, place the resident in a single room with an unshared bathroom and minimise interaction with others
   - Ensure implementation of *enhanced environmental hygiene*
2. Check vital signs and assess for potential sepsis (see *recognising sepsis* - practice point 2) and for clinical and epidemiological risks of COVID-19 (review *Acute respiratory illness* pathway)
3. If not immediately life-threatening review *Checklist for contact* and contact GP*

STABLE VITALS

Clinical review by GP* - **source identified**?

SOURCE NOT IDENTIFIED

1. Ensure ongoing application of appropriate *infection control measures* (practice point 3) and PPE use consistent with *QH RACF PPE* guidance
2. Implement *supportive cares* (practice point 4) to reduce risk of complications and undertake regular monitoring of vital signs (four times daily for 72 hours)
3. Where consistent with resident's goals of care or where required for public health reasons, GP to arrange investigations to identify cause of fever or infection and assess for complications - these may include:
   - Nasopharyngeal swab for COVID-19, influenza and respiratory virus PCRs - review *Acute respiratory illness pathway* - ensure resident is isolated in a single room with an unshared bathroom
   - Blood tests including full blood count, urea and electrolytes, liver function tests and blood cultures
   - Urine for microscopy, culture and sensitivities (m/c/s/) - avoid anchoring onto a diagnosis of UTI in the absence of *clinical criteria for UTI* (review *Urinary tract infection pathway practice point 1*)
   - If diarrhoea is present, send stool sample for:
     - Viral and bacterial PCR and
     - Clostridium difficile if there is a history of recent antibiotics or recent hospitalisation
4. Review investigation results with GP: **has the source of infection been identified?**
5. Prior to initiating antibiotics, see *Antibiotic selection* (practice point 5)

SOURCE NOT IDENTIFIED

Refer to *HHS RaSS* at GP discretion

SOURCE IDENTIFIED

Refer to relevant pathway:
Acute respiratory illness
Cellulitis
Gastroenteritis
Pneumonia
Urinary tract infection
For other causes refer to *Therapeutic Guidelines - antibiotics* for management guidance

SOURCE IDENTIFIED

UNSTABLE VITALS

Review resident's Advance Care Plan and refer to *Management of residents with unstable vital signs*

***Where feasible, tele-conference or video-conference with GP is preferred**

Fever or suspected infection practice points

1) When to suspect infection in residents of aged care facilities

Suspect infection in a resident if there are any of the following:

1. **Decline in functional status**
   - New or increasing confusion
   - New incontinence
   - Deteriorating mobility
2. **Reduced food intake or acute loss of appetite**
3. **Change in behaviour**
4. **Non-specific symptoms** including nausea, vomiting, diarrhoea, malaise, new fatigue, headache
5. **Fever:** note - a fever is now, in the COVID-19 era, defined as a temperature of >37.5 degrees Celsius
6. **Localising symptoms** typical for focal infection e.g. acute dysuria or flank pain in urinary tract infection, new productive cough in pneumonia, pain and erythema of skin in cellulitis
7. **Symptoms associated with worsening of underlying comorbidities** e.g. heart failure or diabetes

2) Recognising sepsis in residents of aged care

Sepsis is common in older persons. Sepsis refers to presence of an infection associated with acute end-organ dysfunction. Frail older people are at increased risk of sepsis and it is a common cause of death in this population. Sepsis should be suspected in older persons with any of:

1. Risk factors for sepsis
   - Immunocompromise (disease or medication-related)
   - Recent hospitalisation
   - Invasive devices
2. Clinical findings including:
   - Fever: note - this is absent in 50 per cent of frail older persons with serious infection
   - Hypothermia
   - Rigors or shaking chills, where involuntary muscle tremors occur to increase body temperature
   - Altered mental status (delirium or reduction in conscious level)
   - Tachycardia may be blunted due to use of beta-blockers or with increasing age, reduced responsiveness of the heart to catecholamines
   - Relative hypotension (compared to baseline blood pressure)
   - Tachypnoea (or respiratory rate >/= 22 breaths per minute) or hypoxaemia (new)
3. Results of investigations
   - Leukopenia (low white cells < 4 x 10^9) or leukocytosis (white cells > 12 x 10^9)
   - Increased immature white cells or bands (> 5%)
   - Lymphopenia (low lymphocytes)
   - Acute kidney injury
   - Platelet count < 150 000/mm3
   - Elevated blood lactate level, although lactate levels are uncommonly performed in community settings

Fever or suspected infection practice points (cont'd)

3) Infection control measures

1. **Use appropriate PPE** when caring for residents with fever or suspected infection; where potential or confirmed respiratory infection is not yet excluded, review *Queensland Health Pandemic Response Guidance Personal Protective Equipment (PPE) in Residential Aged Care and Disability accommodation services* for specific advice on PPE in the RACF setting. Note - all staff should be trained and deemed competent in the proper use of PPE including donning and doffing procedures
2. **Isolate the resident** with potential infection in a room with the ability to close the door and with a separate toilet, where they should remain and have meals delivered until the source of infection is confirmed and, where indicated, COVID-19 is excluded. Residents requiring droplet or aerosol precautions should be restricted to their room and aerosol generating procedures such as nebulisers and non-invasive ventilation (e.g. CPAP or BiPAP) avoided where clinically appropriate. Where a single room is not available, follow guidance in *National Guidelines for the Prevention, Control and Public Health Management of Outbreaks of Acute Respiratory Infection in Residential Care Facilities*
3. **Place** *standard and transmission-based precaution signs*, **liquid soap, alcohol-based hand-rub, paper towels and PPE outside** resident's room (with a hands-free mechanism to allow for safe disposal of PPE items) to remind staff and visitors about the requirement for strict infection control procedures
4. **Reinforce hand hygiene with staff and any visitors** - ensure adequate supplies of liquid soap, alcohol-based hand-rub and paper towels with hands-free mechanism for disposal
5. **Implement** *enhanced environmental cleaning* **and disinfection of the resident's environment and disinfect shared equipment** (for example monitors, BP cuffs, thermometers, glucometers) frequently with a neutral detergent followed by a disinfection solution (*TGA-registered hospital grade disinfectant* effective against COVID-19 or 1000 pp sodium hypochlorite)
6. Respiratory hygiene and cough etiquette - encourage residents to cover their nose and mouth with the elbow when they cough or sneeze or use tissues and dispose of them into a rubbish bin and perform hand hygiene
7. Monitor staff and ALL residents for symptoms of fever or acute respiratory illness
8. Comply with Commonwealth and State directions and advice

4) Supportive care of residents with infection

Supportive care of residents with infection is critical to optimising resident outcomes and should include consideration of:

1. **Identification and treatment of direct complications of infection, such as development of collections requiring drainage or sepsis (infection with acute end-organ dysfunction):**
   - Arrange medical review of residents by GP
   - Institute regular monitoring of vital signs (minimum of four times daily for 72 hours) - notify GP or at GP discretion, the *HHS RaSS*, if vital signs suggest clinical deterioration (review *Recognition of the deteriorating resident*)
2. **Anticipate, prevent or treat destabilisation of chronic diseases** including, for example:
   - Enact diabetes sick-day plan - refer to National Diabetes Services Scheme *Diabetes management in aged care handbook*
   - Monitor blood glucose levels closely in diabetics, chronic liver disease or in those with reduced oral intake
   - Attention to fluid balance in those with congestive cardiac failure or renal disease
   - GP to review medications and with-hold where indicated e.g. with-hold diuretics and SGLT-2 inhibitors if clinically dehydrated
3. **Prevent, identify and treat health-care related complications of acute illness:**
   - Implement strategies to prevent, identify and treat delirium
   - Institute falls risk management strategies
   - Encourage oral fluids to minimise dehydration

Fever or suspected infection practice points (cont'd)

5) Antibiotic selection

Prior to initiation of antibiotics, appropriate clinical specimens should be taken to assist in diagnosis and targeting of antibiotic therapy

Antibiotic selection for infection should be guided by:

1. **Allergies**: Note - in reference to hypersensitivities:
   - **Immediate severe hypersensitivity** refers to development of extensive urticaria (hives), angioedema (facial / oral swelling), bronchospasm (wheeze) or hypotension, collapse or anaphylaxis within minutes to 2 hours of exposure to a drug
   - **Immediate non-severe hypersensitivity** refers to development of mild urticaria or mild immediate rash
   - **Delayed severe hypersensitivity** refers to severe cutaneous drug reactions such as Stevens-Johnson syndrome / toxic epidermal necrolysis, drug rash with eosinophilia and systemic symptoms (DRESS) etc
   - **Delayed non-severe hypersensitivity** refers to development of a benign macular, papular (raised) or morbilliform rash occurring several days after starting treatment without systemic or concerning features
2. **Prior sensitivities of organisms** in this resident if empiric therapy or by current sensitivities if directed therapy
3. **Comorbidities** with particular emphasis on:
   - Immunosuppression e.g. chronic steroid use / other immunosuppressive drugs
   - Renal or hepatic dysfunction - there may need to be dose adjustment
   - Nutritional status
   - Potential for drug interactions, particularly where there is polypharmacy - for example, specific risk exists in co-prescribing macrolide antibiotics (e.g. clarithromycin, erythromycin) and azole antifungals (e.g. fluconazole, voriconazole)
4. **Presence of sepsis versus local infection**
5. **Antibiotic guidelines** for suspected infection source - use antibiotics suggested by:
   - Relevant current version of *QH RACF pathway* or
   - *Therapeutic guidelines: antibiotics* (current version)
   - Local HHS specialist advice
6. **Resident's ability to swallow or tolerate oral intake** - for residents with a gastrostomy or jejunostomy tube, ensure that any medications administered via the tube are in a suitable formulation

Fever or suspected infection references

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Fever or suspected infection version control

Pathway	Fever or suspected infection				
Document ID	CEQ-HIU-FRAIL-00015	**Version no.**	2.0.0	**Approval date**	16/03/2022
Executive sponsor	Executive Director, Healthcare Improvement Unit				
Author	Improving the quality and choice of care setting for residents of aged care facilities with acute healthcare needs steering committee				
Custodian	Queensland Dementia Ageing and Frailty Network				
Supersedes	Fever or suspected infection V1.0.0				
Applicable to	Residential aged care facility (RACF) registered nurses and general practitioners in Queensland serviced by a RACF acute care Support Service (RaSS)				
Document source	Internal (QHEPS) and external				
Authorisation	Executive Director, Healthcare Improvement Unit				
Keywords	Fever, suspected infection, infection, sepsis				
Relevant standards	Aged Care Quality Standards Standard 2: ongoing assessments and planning with consumers Standard 3: personal care and clinical care, particularly 3(3) Standard 8: organisational governance, particularly 8(3)(e)(i)w				