Patient assessment and transport

Patient presentation - adult and child

General principles[1]

- The first priority is to assess whether the patient is seriously ill + needs immediate management, or is less acutely sick giving time to get a full history
- Always ask open ended questions
- In children, pay particular attention to history from parent/carer where available

Rapid assessment

- **D**anger
- **R**esponse
- **S**end for help if unresponsive
- **A**irway - compromised
- **B**reathing - not breathing, significant respiratory distress
- **C**irculation - pulse absent, slow, rapid or profuse bleeding
- **D**isability - **A**lert, **V**oice, **P**ain, **U**nresponsive
- Rapid history, allergies, alerts
- Vital signs - RR, SpO_2, HR, BP, T - use appropriate Q-ADDS/CEWT/MEWT (Qld) or local EWARS
- Consider BGL

Is patient immediately at risk

Yes

Consult MO/NP as soon as circumstances allow

Perform immediate stabilising or life-saving measures. See
Basic life support, p. 44
Advanced life support, p. 46
or other topic relevant to urgent presentation

No

Note: if trauma related eg fall/hit by an object/motor vehicle accident, promptly assess against Criteria for early notification of trauma for interfacility transfer (inside front cover)
If meets criteria contact ✆ RSQ 1300 799 127
or RFDS 1300 697 337
If outside Qld, refer to local early notification process

Get history and do physical examination as relevant. See
History and physical examination - adult, p. 17
or History and physical examination - child, p. 464

Form a clinical impression

Select appropriate topic to guide further assessment and management

Adult presentation

History and physical examination - adult

Recommend

- If child, see History and physical examination - child, p. 464
- Always think **could it be** **Sepsis, p. 62** if signs of infection or history/evidence of fever or hypothermia
- For specific presentations, see:
  - Traumatic injuries, p. 131
  - Chest pain assessment, p. 100
  - Mental health emergency, p. 328
  - STI/BBV assessment, p. 430
- Ensure a culturally safe environment. As appropriate, be guided by local health workers
- Document your findings clearly, concisely and in logical sequence - use this section to assist
- Offer opportunistic health promotion, screening + brief intervention as appropriate.[1,2] See *Chronic Conditions Manual*

Background

- The history is the most powerful tool for identifying the likely diagnosis in most cases[1]
- Types of history:[2]
  - **emergency** - urgent, rapid collection of crucial information compiled concurrently with life-threatening measures. Take a comprehensive history once patient is stabilised
  - **focused/problem centred** - shorter and specific to the patient's current presenting concern
  - **complete** - comprehensive history of the patient's past and present health status. Usually done at initial visit in a non-emergency situation
  - **follow up** - evaluation of problem from preceding visit

Vital signs - adult approximate normal values[1-4]	
Respiratory rate **RR**	12–20 breaths/minute
Heart rate **HR**	60–100 beats/minute
Temperature **T** - oral, tympanic	35.5–37.5
Blood pressure **BP**	Systolic ‹ 130, diastolic ‹ 85
O_2 saturation **SpO_2**	≥ 94%
Conscious level - **A**lert, **V**oice, **P**ain, **U**nresponsive	Alert
Capillary refill time **CRT**	≤ 2 seconds
Blood glucose level[5] **BGL**	4.0–7.8

Step 1: Obtain history of the presenting concern/problem[1,6]

- Taking the history is the first step in making a diagnosis
- Use the history to guide the physical examination/further investigations
- An accurately acquired history will usually suggest the diagnosis. The physical examination and investigations should be used to confirm your diagnostic impression

History of the presenting concern/problem	
Presenting concern/ problem	• Ask what the problem is • Use open ended questioning
For each symptom ask about (as relevant)	• Ask about length of illness and details of each symptom(s). Use **SOCRATES** mnemonic • **Site** - where is the symptom - localised or diffuse • **Onset:** – gradual, rapid or sudden – continuous or intermittent – what were they doing when it started • **Character** eg if pain: – sharp, dull, burning, stabbing, cramp like, crushing, tingling • **Radiation** - (if localised) does it travel elsewhere • **Alleviating factors** - does anything make it better eg sitting up, medicine(s), analgesia • **Timing:** – when did it first begin, duration – have they had it before – any increase in severity • **Exacerbating factors** - does anything make it worse eg movement, exercise • **Severity:** – does it interfere with sleep or normal activities – if pain - mild, moderate or severe OR severity on scale of 1–10
Associated/other symptoms	• Ask specifically about **fever/rigors, pain, shortness of breath (SOB), diarrhoea, weight loss** • Eg nausea, vomiting, photophobia, headache, appetite, urine, bowels, energy
Treatment ± medicine(s) taken during this illness	• What, how much, when, how often, effectiveness

- Ask if there are any other concerns
- Consider possible differential diagnosis
- Subsequently use closed ended questions to confirm or refute your differential diagnoses

Step 2: Ask about past history[1,6]

- Review and update past history in medical record each visit. As appropriate, check *My Health Record* https://www.myhealthrecord.gov.au
- Consider past history that may assist with differential diagnosis this visit
- Always ask about allergies and medicines

Past history	
Past medical and surgical history	• Significant illnesses in the past • Ask about - diabetes, hypertension, angina and myocardial infarcts, epilepsy, asthma, mood or mental health problems • Previous hospital admissions, operations or injuries - where, when, why • Is patient immunocompromised eg: – diabetes, chronic kidney disease or hepatitis, alcoholism, no spleen, lupus, multiple sclerosis, rheumatoid arthritis, HIV, Down syndrome, corticosteroids, chemotherapy, immunosuppressants[7]
Family history	• Health problems in siblings and parents eg diabetes, hypertension, heart disease, stroke, epilepsy, asthma, cancer, mental health
Social history	• Usual GP + contact details if available • Job, living conditions, who else lives at home and what responsibilities do they have in the family. Means of communication for contact/follow up eg phone • Who their partner is or if they are in a relationship • Gender identification + pronouns eg her/him • Smoking/ever smoked - how many a day, ever tried giving up; vapes • Alcohol - what, how much/often. Express in standard drinks/day or week • Recreational drugs • Recent overseas travel (if infectious disease possible) - where/when • Diet, exercise • Risk factors + indicators for Domestic and family violence, p. 232
Medicines Also see Best possible medication history, p. 548	• Regular and prn medicines - prescribed/over-the-counter, complementary, alternative, bush medicines, vitamins, oral/other contraceptive (females): – generic name, dose, route, frequency – explore adherence and any barriers to taking medicines as prescribed – recently changed/course completed • If patient has medicines with them, check against medical record
Allergies **Adverse medication reactions**	• Allergies/reactions + type of reaction (anaphylaxis, skin reaction, other) to: – medicines – other eg honey bee stings, sticking plaster, food – is adrenaline (epinephrine) autoinjector used eg EpiPen® • Check medical record + document allergies/adverse reactions[8] • Check medical alert jewellery/accessories eg key ring, USB, shoe tag, anklet, watch, tattoo[9]
Immunisations	• Check if up-to-date, including COVID-19 vaccination status • Offer opportunistic Immunisations, p. 542 as appropriate
Opportunistic health checks (offer or refer as appropriate)	• Check if due for routine health checks eg STI/BBV check, p. 430, Cervical Screening Test, mammogram, bowel screening • See *Chronic Conditions Manual* for **adult health checks**

Step 3: Do physical examination[1,6]

- Most information will be gained from history taking. Use this information to guide examination
- **In an adult who is not sick**:
  - examine the relevant system first
  - proceed to further examination if required. Be guided by your findings
- **In a sick adult**:
  - examine the relevant system first followed by ALL other systems
- Use a systematic approach to physical examination

Physical examination - adult	
Vital signs	• RR, HR, BP, T, SpO_2 • Conscious state - GCS/AVPU, p. 550 • If indicated: – BGL – capillary refill time (≤ 2 seconds) • **Document on appropriate Q-ADDS (Qld) or local EWARS:** – if pregnant/postnatal, use appropriate Q-MEWT rural + remote – **calculate score. Act on score if indicated + consider screening for Sepsis, p. 62**
General appearance	• Do they look sick/not sick • Observe: – posture, mobility – any ↑work of breathing (WOB), breathlessness – conjunctiva and nail beds - are they pale – lips, tongue and fingers - are they blue – general skin colour - pale/jaundiced – agitation, distressed – sweating – are they well nourished • Weight ± height, BMI and waist measurement
Hydration	• Eyes - normal or sunken • Mouth and tongue - wet or dry • Skin turgor - normal or reduced. Pinch skin - normal skin returns immediately on release (normal can be reduced in elderly) • Dry axillae • Recent weight loss/gain • Also see Hydration assessment - adult, p. 202

Physical examination - adult (continued)	
Skin	• Check the whole body in a sick patient: – consider removing clothing to underwear • Look for: – rashes - vesicular, macular, papular, petechiae, purpura – signs of infection - redness, swelling, tenderness, warmth – bruising, unexplained or unusual marks – general pigmentation - areas where skin is lighter or darker • Any skin lesions or sores: – colour, shape, size, location, distribution on body – non-blanching, erythema/redness – vesicles present – exudate eg clear, pus, bloody, malodorous – any family members/close contacts with similar lesions • Palpate/feel skin: – temperature, dryness/moisture, clamminess – any tender/enlarged lymph nodes in the neck, axillae or groin • See Rash, p. 286 as needed
Cardiovascular system	• Also see Chest pain assessment, p. 100 • Any: – pain/pressure in neck, chest, arms, or radiating pain – SOB on exertion – evidence of oedema, particularly feet, hands, face or sacrum • Check skin: – colour - pink, white, grey, mottling. Compare trunk with limbs – temperature - hot, warm, cool or cold. Compare trunk with limbs • Central perfusion - blanch skin over the sternum with your thumb for 5 seconds. Time how long it takes the colour to return in seconds • Peripheral perfusion - blanch the skin on a finger or toe for 5 seconds. Time how long it takes for the colour to return in seconds • Look for distended neck veins • If skilled listen to heart sounds - any murmur
Respiratory system	• Most information is gained from simple observation • Inspect anterior/posterior chest - equal chest expansion, abnormal chest movement, ↑WOB, use of accessory muscles, tracheal tug • Can they talk in full sentences, single words or unable to talk at all • Measure RR over 1 minute - note rhythm, depth and effort of breathing • Listen for extra noises - cough (loose, dry, muffled ± sputum), wheeze, stridor, hoarseness • Auscultate for air entry into both lung fields: – equal, adequate – any wheeze or crackles - on inspiration or expiration • Percuss lung fields - dull, resonant, hyper-resonant • Can they lie flat without breathlessness

Physical examination - adult (continued)	
Gastrointestinal/ reproductive system Consider cultural safety/sensitivity	• Inspect abdomen for scars, distension, hernias, bruising, masses • Auscultate bowel sounds in all 4 quadrants - present or absent • Palpate abdomen: – soft or firm – obvious masses – tender to touch. Identify abdominal quadrant and exact area – guarding or rigidity even when the patient is relaxed – rebound tenderness - press down and take your hand away very quickly, is pain greater when you do this • Change of bowel habits • Ask women: – date of last normal menstrual period – abnormal vaginal bleeding or discharge, itch • Do pregnancy test if reproductive age with abdominal pain • In men: – if relevant check the testes - any redness, swelling, tenderness, itch, lesions – ask about penile discharge • See Abdominal examination, p. 199 for detailed assessment
Nervous system	• Assess conscious state. See GCS/AVPU, p. 550 • Any dizziness, spinning, fainting, blackouts, problems with speech, vision, weakness in arm/leg, altered sensation, neck stiffness • Assess orientation to time, place and person. Ask: – name, date of birth, location, time, date, year • Check: – pupils - size, symmetry, reaction to light – for asymmetry of tone and power - compare each side of the face and limbs – if indicated, test touch and pain sensation - using cotton wool and the sharp end of the percussion hammer – test finger nose coordination and if possible observe the patient walking • See Dizziness/vertigo, p. 124 as needed
Musculoskeletal system	• Ask if any painful or stiff joints or muscular pain • Observe gait • Inspect joints for redness, swelling, warmth or lacerations over or near a joint • See Musculoskeletal injuries, p. 150 as needed
Eyes	• Check Visual acuity, p. 265 of each eye as indicated • Inspect: – eyes and surrounding structures - any redness, discharge or swelling – pupils - equal in size, regular in shape, reaction to light – eye movements • See Eye assessment, p. 263 for detailed assessment

Physical examination - adult (continued)	
Ears, nose and throat	**Ears** • Inspect/check: – pinna - any redness, swelling, nodules – behind the ear (mastoid) for redness, swelling, pain • Any obvious swelling or redness of the ear canal. If there is, looking with an otoscope will be painful • Using otoscope, inspect: – canal - any redness, swelling, discharge, foreign bodies (insects/objects) – eardrum - normal, redness, dullness, bulging/retraction, fluid, bubbles, perforations or discharge • See Ear assessment, p. 505 for detailed assessment **Nose** • Feel for facial swelling (sinuses), pain • Any discharge or obvious foreign body **Throat** • Inspect - lips, buccal mucosa, gums, palate, tongue, throat for: – colour changes, swelling, bleeding, pus, fissures – tonsils - redness, enlargement, pus – teeth and gums
Urine	• Check urine in all sick patients and if: – abdominal pain (+ do pregnancy test if reproductive age) – urinary symptoms – diabetes • Do urinalysis • Note colour - normal, dark or blood stained, cloudy

Step 4: Consider differential diagnosis

- If unsure, collaborate with MO/NP
- Always consider Sepsis, p. 62

Step 5: Select *Health Management Protocol* (HMP) or *Clinical Care Guideline* (CCG)

- To guide further assessment and management
- Document the page number of the HMP/CCG referred to in the medical record

Step 6: Order/collect pathology if indicated

- **RIPRN:**[10]
  - may order pathology as per the PCCM
  - name and signature of the MO, NP or RIPRN must be on pathology form or follow local protocol for electronic ordering
  - if RIPRN orders pathology, they are responsible for following up the result
  - consult MO/NP if results are abnormal/concerned about results
- Other clinical staff may be able to request pathology if there is a local agreement in place between the director of the clinical unit and Pathology Qld or local health service
- Write or record on electronic request 'copy of report to…' RFDS/other collaborative health provider on the pathology form as appropriate

- Point-of-care testing (PoCT) is available in some facilities eg i-STAT
- See Pathology Qld for:
  - pathology test list
  - rural and remote pathology request forms
- If outside Qld, refer to local pathology services

Step 7: Collaborate with MO/NP as needed

- Always consult MO/NP if you are unsure
- Have Q-ADDS/CEWT/MEWT score completed
- Use ISBAR, p. 25 to guide your communication
- Check your local facility guidelines to find out who to contact - during and after hours:
  - **if in doubt call the retrieval service in your State/Territory eg RSQ**

Qld contacts may include		
Local/on-site MO/NP	• **Check contact details/on call roster at your workplace or contact DON**	
RSQ **Retrieval Services Qld**	• 24 hour telehealth, coordination and emergency medical advice • For critically unwell, high acuity patients eg if local doctor not available, or if RSQ is your first point of contact • Early notifications eg trauma, STEMI • Neonatal, paediatric, adult + obstetric patients	**1300 799 127** Keep your video conferencing equipment switched on at all times. RSQ will make a video conference call. No need to use remote control https://qheps.health.qld.gov.au/rsq
RSQ **Telehealth**	• 24 hour, 7 days/week emergency clinical support + advice for rural and remote clinicians • Video conference consultations with clinicians eg clinical nurses, senior midwifery advisors, emergency NPs/physicians	**1800 11 44 14** https://qheps.health.qld.gov.au/rsq/rsqtelehealth
RFDS **Royal Flying Doctor Service (Qld Section)**	• 24 hours, 7 days/week statewide services to Qld Health rural + remote facilities where RFDS provide primary care, including: – phone + video clinical support by primary care/rural generalist and critical care physicians – emergency aeromedical retrieval	**1300 697 337** (1300MYRFDS)

- **If outside of Qld, my contacts are**:
  - .....
  - .....

Clinical consultation

Consulting with MO/NP/retrieval coordinator[1]

- Be clear and methodical
- Write your findings down first, time permitting
- **Advise early if you think the patient may need retrieval**
- Say what you think is wrong. Your assessment is important

I	**Identify** yourself **AND** identify name and spelling of receiving MO/NP • I am ... (your name and role) • I am calling from ... (location) • The best contact number for me is ...
S	**Situation and status - why are you calling** • I have a patient ... (name, age and gender) • Who is ... (stable/unstable/deteriorating/improving) • Any immediate clinical needs eg attend the hospital, urgent retrieval • I think the patient is/has ... (clinical impression/suspected diagnosis/unsure but worried) eg I have a critically unwell man with sepsis; I have a well female with diabetic foot ulcer • Most recent vital signs and Q-ADDS/MEWT/CEWT score, or local EWARS
B	**Background** • History of presenting problem, relevant past history • Evaluation - physical examination, findings, investigation findings • Allergies • Current medicines • I have ...(taken the following actions eg given O_2, inserted IVC, started IV sodium chloride 0.9%)
A	**Assessment and actions** • General appearance • Weight + additional observations • I am wanting ... (advice, orders, retrieval) • Level of urgency is ... • Agree on plan of action with MO/NP/retrieval coordinator
R	**Recommendations and read back** • Confirm: – shared understanding of what needs to happen - who is doing what and when – contact details - name, number to be called back on – follow up requirements and referrals – medication orders • Read back critical information • Identify parameters for review or escalation (any concerns - follow normal/local escalation pathway) • Identify any risks

Patient retrieval

1. Who to contact[1,2]

- Usually the MO/NP, or Director of Nursing (DON) if possible, will arrange retrieval if required
- Be guided by local facility policy as to which retrieval service to contact:
  - RSQ 1300 799 127
  - RFDS 1300 697 337 if the community is normally serviced by the RFDS (for advice and retrieval). RFDS will advise RSQ of retrieval requirement
- **If you think a patient may need retrieval, contact the relevant retrieval service EARLY**:
  - even if transport requirement not confirmed
  - this helps allocate resources
- Notify change of clinical condition of patient if worsening or improving:
  - flight priority can always be reassessed

2. Retrieval preparation[1,2]

Retrieval preparation	
Documentation	• Complete retrieval/**RFDS Aeromedical retrieval checklist** • Ensure documentation goes with the patient including: – pre-hospital documentation – discharge summary - medical/surgical letter from referring facility – observations forms, including all recent observations + current vital signs, neurological status, BGL, neurovascular – current medication chart, with prn analgesia + cardiac medications (as required) – IV fluid orders and fluid balance chart – ECGs, including ECG recorded on day of transfer – pathology results – x-rays - if digital radiology available, electronically transfer x-ray(s) to receiving facility – ARP/AHD - copy of current – optional - bariatric chart completed if › 120kg; PTSS forms
Handover location	• Handover location will be determined during the retrieval coordination process • If patient stabilised and prepared, handover at airport/airstrip may occur • Critical and unstable patients will be reviewed at the referring facility by the retrieval team prior to transport
Patient escort and baggage Space and weight restrictions apply	• If room, an escort may be carried at the discretion of the pilot: – name + weight of escort required • Maximum baggage allowance is 1 small bag ≤ 5 kg • Medical aids/additional baggage at the pilot's discretion • Confirm no cigarette lighters, vapes, spare batteries and aerosol cans in luggage • Inform family/carers of plans/expectations

General preparation		
Consideration	**Requirements**	**Rationale**
Allergies/ identification	• Apply ID bands if available	• Rapid correct identification
Weight, height + widest point	• If › 120 kg, measure width at widest point eg shoulder or hips as per **RSQ Bariatric sizing chart** (Qld) https://qheps.health.qld.gov.au/rsq/forms (Qld Health intranet only)	• Assists transport planning
Analgesia	• Give analgesia as clinically indicated prior to transfer • See Acute pain, p. 32	• Movement of the patient may exacerbate pain
Antiemetic	• Antiemetic essential if: – head, spinal, or penetrating eye injury • Consider for history of motion sickness or general nausea • Give 30 minutes prior to transfer • See Nausea and vomiting, p. 40	• Vomiting may exacerbate certain clinical conditions by raising ICP and intraocular pressure (IOP) • Puts airway at risk • Motion sickness common in aeromedical environment
IVC	• Ensure most patients have at least 1 IVC • IVC x 2 in critically ill/disturbed patients	• IV access may be difficult during flight due to space restrictions and turbulence
IDC	• Get patients to empty their bladder prior to transfer • Insert IDC if is/may be incontinent	• No toilet facilities on aircraft • Use of bedpans is avoided due to limitations of space and waste disposal
Infusions	• Prior to transfer prepare infusions using compatible equipment, if possible, when using RFDS or other retrieval services	• Time is saved if infusions are prepared prior to RFDS arrival
NGT/OGT	• Ensure NGT/OGT inserted in: – all ventilated patients – patients with bowel obstruction	• Allow for drainage of stomach contents and reduce risk of vomiting and aspiration
Nicotine patch	• Offer to patients who are smokers	• Patient comfort

Specific medical conditions		
Consideration	**Requirements**	**Rationale**
Mental illness/disturbed behaviour	• Reliable IV access. If possible IVC x 2 • A risk assessment will be completed by the retrieval service • Sedation and physical restraint may be required. Seek medical advice • Documentation of SAT score + any interventions/response	• For aviation safety, special requirements apply to transportation of patients showing signs of disturbed behaviour, or regarded as being a danger to themselves or others
Infectious conditions	• Always notify retrieval coordinator of: – infectious conditions ± precautions – if immunocompromised	• Facilitate decision-making regarding the aeromedical transport of infectious patients in order to minimise risk to other patients and staff • Limited ability to isolate patients in aircraft
Spinal injury	• Transport on vacuum mattress • Insert IDC • Insert NGT if have altered LOC	• To maintain stabilisation
Bowel obstruction	• Insert NGT - leave on free drainage or attach anti-reflux valve (do not spigot) • Give parenteral antiemetic and adequate analgesia prior to transfer	• Trapped gas will expand in volume at altitude and cause pain. NGT will allow gas to escape and reduce vomiting
Pneumothorax	• Ensure intercostal catheter in place • Connect to ambulatory chest drain system eg Rocket® • Suspected pneumothorax should be excluded, if possible, by appropriate imaging	• Trapped gas in the pleural cavity will expand at altitude and may result in respiratory compromise • Underwater seal drains are avoided due to the risk of retrograde flow during transfer
Penetrating eye injury	• Give antiemetic to all patients with proven or suspected eye injury • Patients may be transported at reduced cabin altitude	• Trapped gas in the globe will expand at altitude and potentially worsen the injury • Vomiting may also exacerbate injury by raising intraocular pressure

RFDS Aeromedical Retrieval Checklist

Royal Flying Doctor Service

Patient ID Label - Stick here	Diagnosis: _____ Referring Facility: _____ Receiving Facility: _____
☐ Patient ID Checked and Correct	

Next of Kin:
NOK Phone Number:

NOK notified of transfer Yes / No

Patient Transport Requirements – *to prepare, please consider the following:*

- ☐ Pt wearing comfortable clothing (hospital gown only if clinically required)
- ☐ Fear of flying: Yes/No
  Consider pre-flight medications.
- ☐ Behavioural Concerns: Yes/No
- ☐ Mobility:
  - walk up and down 6 stairs: Yes/No
  - requires stretcher: Yes/No
- ☐ Luggage less than 5kg
  - use RFDS patient bag for belongings
- ☐ Nil flammables or cigarette lighters permitted
- ☐ Empty all draining bags (e.g., IDC)
- ☐ Toileting prior to departure

IV access (as indicated)

IVC in situ - size & site_____

IVC in situ -size & site _____

Pre-Flight Medication Considered:

- ☐ Analgesia
- ☐ Antiemetic
- ☐ Sedative
- ☐ Other

Infectious Conditions e.g., MRSA, VRE

Yes/No

If yes, specify_____

Required Documentation

- ☐ Discharge summary - Medical/Surgical letter from referring Facility
- ☐ Observation Forms (including all recent observations)
- ☐ Current Observations (including Vital Signs, Neurological status, BGL, Neurovascular)
- ☐ Current Medication Chart (with PRN analgesia and cardiac medications, as required)
- ☐ IVT Orders & Fluid Balance Chart
- ☐ ECG's (including ECG recorded on day of transfer)
- ☐ Pathology Results
- ☐ ARP/AHD - Copy of Current
- ☐ Other: _____

Optional Documentation

- ☐ Bariatric Chart – complete if weight >120kg
- ☐ PTSS Forms