Queensland Health

Clinical Task Instruction

Skill Shared Task

S-MT05: Assess standing balance

Scope and objectives of clinical task

This CTI will enable the health professional to:

- describe the normal posture in sitting and standing and common deviations.
- assess static and dynamic standing balance using a standardised testing process.
- support team decision making with regard to standing safety and function and care planning.

VERSION CONTROL

Version:	2.0		
Reviewed (Profession):	Statewide Directors of Physiotherapy	Date:	13/12/2020
Approved:	Chief Allied Health Officer, Allied Health Professions' Office of Queensland	Date:	28/01/2021
Document custodian:	Chief Allied Health Officer, Allied Health Professions' Office of Queensland	Review date:	28/01/2024

The CTI reflects best practice and agreed process for conduct of the task at the time of approval and should not be altered. Feedback, including proposed amendments to this published document, should be directed to AHPOQ at: allied_health_advisory@health.qld.gov.au.

This CTI must be used under a skill sharing framework implemented at the work unit level. The framework is available at: https://www.health.qld.gov.au/ahwac/html/calderdale-framework.asp

Please check https://www.health.qld.gov.au/ahwac/html/clintaskinstructions.asp for the latest version of this CTI.

Local Implementation

This CTI uses history taking, observation and the Berg Balance Scale as the primary methods to assess standing balance. Health services may use other tools to complement this task e.g. activity-specific balance confidence scale, postural assessment scale for stroke patients, BOOMER, step test. Where this is the case, the test should be integrated into the training and competency assessment plan for the skill share-trained health professional and recorded on the Performance Criteria Checklist.

Requisite training, knowledge, skills and experience

Training

- Mandatory training requirements relevant to Queensland Health/Hospital and Health Service (HHS) clinical roles are assumed knowledge for this CTI.
- If not part of mandatory training requirements, complete training in patient manual handling techniques including the use of walk belts, lying to sitting and sit to stand transfers.

Clinical knowledge

- To deliver this clinical task, a health professional is required to possess the following theoretical knowledge:
  - the basic elements of upright sitting and standing and common deviations such as uneven weight bearing, wide base of support, flexed/stooped posture, hand support, increased postural sway.
  - potential causes for deviations from upright standing, such as pain, leg length discrepancy, muscle tightness/weakness, poor vision, poor proprioception, poor sensation, vestibular problems.
  - standardised processes/tools to assess standing balance including interpretation and limitations of any scores, specifically the Berg Balance Scale and any other tools used by the local service.
  - local falls risk screening and mitigation strategies, programs and/or processes.
- The knowledge requirements will be met by the following activities:
  - complete the training program (as above).
  - review of the Learning resource.
  - receive instruction from the lead health professional in the training phase.

Skills or experience

- The following skills or experience are not specifically identified in the task procedure but support the safe and effective performance of the task or the efficiency of the training process and are:
  - **required** by a health professional in order to deliver this task:
    - competence in measurement of clinical observations relevant to standing where this requirement is relevant to the healthcare setting and client group such as blood pressure, heart rate, pulse oximetry and pain scales.
    - competence in the use of mobile oxygen where this is relevant to the healthcare setting.

- competence in performing crude tests to determine upper and lower limb weakness.

– **relevant but not mandatory** for a health professional to possess in order to deliver this task:
  - nil.

Indications and limitations for use of a skill shared task

The skill share-trained health professional shall use their independent clinical judgement to determine the situations in which this clinical task will be delivered. The following recommended indications and limitations are provided as a guide to the use of the CTI, but the health professional is responsible for applying clinical reasoning and understanding of the potential risks and benefits of providing the task in each clinical situation.

Indications

- The client is identified as having standing balance problems. This may be identified through the referral, subjective history (documented history/or client reports recent falls/near-falls, balance problems, worsening gait issues, lower limb injury or numbness etc.) or direct observation (looks unsteady/unsafe/ shaky with movements in standing).
- The client is medically stable and there is no medical prohibition to two leg standing e.g. the medical record indicates that the client can be stood up and vital signs are within normal limits, or the client is living in the community and is not acutely unwell.

Limitations

- The client presents with a condition that would benefit from a comprehensive physiotherapy assessment and the risk of implementation of the standing balance assessment as a skill share task is likely to outweigh the potential benefits e.g. acute musculoskeletal injury, vestibular symptoms.
- Client/staff report/medical notes identify the client requires moderate assistance or more than one-person assistance for transfers/mobility.
- The client is on bed rest orders and has not been cleared to stand/mobilise e.g. deep venous thrombosis, pulmonary embolus, unstable angina, pneumothorax, hypotension.
- The client has a lower limb amputation/s and/or prosthesis.
- The client usually requires the use of a hoist for transfers or uses a walking frame including hopper frame, 4 wheeled walker or forearm support frame.
- The client uses a walking stick or crutches to mobilise. Confirm the reason for the use of the walking aid e.g. pain, weight bearing restriction, weakness. Ensure all restrictions are adhered to during the task. The aid/s must be determined by the local health service as “in scope” for the skill share task and the health professional must have been trained and assessed as competent to prescribe, train and review these aids i.e. CTI S-MT02.
- Client has restrictions that prohibit two leg standing, including a reduced weight bearing status of non, touch or partial.
- The client has medical/surgical restrictions. Restrictions should be documented in protocols, theatre notes, or medical orders. Example restrictions include total hip replacement precautions,

x-ray check prior to mobilisation, mobilise with range of movement brace only, increased clinical monitoring requirements. Restrictions must be able to be adhered to throughout the task. If restrictions are unclear, liaise with the treating team.

- The client uses a walking stick or crutches to mobilise and has moderate to severe upper limb weakness. The client, at a minimum, must have adequate grip strength to firmly grip the handle and manoeuvre the aid. Crude measures include having the client squeeze the health professional's hand, adopt the position required to hold/grip the hand piece of the device, hold the handle of the walking aid whilst in sitting. Determine the adequacy of weight bearing through arms, particularly elbow extension by requesting the client push down through their arms to lift their bottom off the bed/chair whilst in sitting. Testing should not conflict with any medical or surgical restrictions e.g. sternotomy, protection of lines/implantable devices etc. If uncertain if restrictions conflict, discuss with the treating medical team.
- The client has moderate to severe lower limb weakness. The client, at a minimum, must be able to demonstrate adequate lower limb strength for the task. Crude measures of lower limb strength include the ability to move extended limbs against gravity when lying down/seated, ability to bridge (lift bottom off the bed in supine lying position) or ability to stand up from sitting either independently or with light assistance. Testing should not conflict with any medical or surgical restrictions including weight-bearing, open chain prohibitions (extending the knee while foot is not in contact with the floor), hip precautions, protection of a wound/graft etc.
- The client has moderate to severe pain at rest or is unwilling to participate due to pain i.e. fails to consent to the intervention at this time. See Clinical observations measurements in the Learning resource. Causes may include arthritis, osteoporosis, recent surgery/trauma, inadequate pain relief. Determine if the client has been cleared to stand and/or mobilise e.g. expected part of admission due to surgery, recent fall and hip x-ray cleared by the treating team. Consider timing the assessment to coincide with analgesia or provide more frequent rests and regular checks/monitoring to support pain management during the task.
- The client has moderate to severe balance disorders including unexpected episodes of dizziness with a loss of balance and/or fall or the inability to safely sit independently or stand up with light assistance of one. At a minimum, the client should be able to identify the onset of symptoms that affect balance and implement effective self-management strategies such as looking up and fixing gaze on a distant object, standing still or sitting down on a chair. If the client has had a recent fall or has previously been assessed as being at risk of falling, additional monitoring may be required during the task and the health service falls risk mitigation procedures should be implemented. Example restrictions or monitoring include Haemoglobin (Hb) levels, syncope (blood pressure drop when changing position), or direction of turning for vestibular symptoms. If requirements are unclear, discuss with the medical team.
- The client is observed to have moderate to severe movement disorders including reported/observed frequent freezing episodes, tremor or increased tone that impacts movement control.
- The client has moderate to severe cognitive impairment. The client must, at a minimum, be able to follow single step instructions appropriately with some repetition and when given adequate time. Note any cues/prompts provided as part of the standardisation of the task.
- The client has moderate to severe visual or perceptual problems including low/no vision or hemianopia in one or both visual fields. Ensure the client is wearing the correct glasses if applicable (distance not reading glasses) and that the area is well lit, ensuring any equipment used has contrasting colour and is clearly visible during the task. Have the client use their usual

self-management techniques e.g. cane, scanning of the environment. Document any variations from the standardised testing process.

- Clinical observations are not within normal or expected limits for the client prior to the task including low haemoglobin (Hb < 90g/L), increased respiratory rate (>20 breaths/minute), elevated temperature (>38ºC), SpO2 <95%, pulse (<50bpm or >90 bpm), or systolic blood pressure <110 or >159 mmHg, etc.

Safety and quality

Client

- The skill share-trained health professional shall identify and monitor the following risks and precautions that are specifically relevant to this clinical task:
  - clients may have existing orthoses to wear during walking e.g. foot orthotics, prosthetic legs, arm slings/supports, knee active range of motion brace, wrist brace etc. These should be applied at the beginning of the task. Ensure that the orthoses does not interfere with the task and is in good working order. If uncertain, discuss with the medical team or physiotherapist. Document the wearing of the orthoses to ensure reproducibility of the task.
  - as this task is being used to assess a client's balance and risk of falling, stand-by assistance of the client is required at all times. Assistance may be provided by another suitably trained staff member (allied health assistant, nurse) or by the client's usual care giver (if the client is in a community environment and this is their usual method and it is appropriate and safe to do so).
  - shoes may have an impact on a client's standing balance test outcomes. If the testing procedure does not specify bare feet, shoes are to be worn. The wearing of shoes should be documented to standardise the test protocol. Shoes should be enclosed, well-fitting and with good traction. If bare feet are specified, this should be documented and appropriate safety measures considered including floor surface texture and temperature.

Equipment, aids and appliances

- The client should be assessed using their usual mobility aid (walking stick and crutches only) and any other required devices e.g. ankle foot orthoses (AFO), knee brace etc. If the client does not have access to their equipment, a similar trial/loan aid should be provided. As part of the task, the client will be asked to release the walking aid to determine standing balance without the aid.
- Confirm that the height and safe working load of the chair used for the task is appropriate for the client.

Environment

- Ensure area is free from distractions, trip hazards and obstacles and equipment are positioned appropriately e.g. bed behind client, table/chair in front, clinician at client's side.
- For client safety, the task may occur close to an external support for balance such as a wall, parallel bar or rail.

Performance of clinical task

1. Preparation

- Review the client's medical chart including past medical history, current history and any reference to their capability to sit unsupported, transfer into standing, or stand, including any required assistance, aids or restrictions.
- Ensure the environment is set up to safely undertake the task and all equipment required is available including:
  - stopwatch or watch/clock that counts seconds
  - chair with arms
  - table
  - object to pick up from floor
  - step/stool of average step height
  - tape measure.

2. Introduce task and seek consent

- The health professional checks three forms of client identification: full name, date of birth, **plus one** of the following: hospital unit record (UR) number, Medicare number, or address.
- The health professional introduces the task and seeks informed consent according to the Queensland Health Guide to Informed Decision-making in Health Care, 2nd edition (2017).

3. Positioning

- The client's position during the task should be:
  - sitting comfortably in a supportive chair or on the side of the bed.
- The health professional's position during the task should be:
  - standing to the side of the client and slightly in front to monitor the client during the task and provide hands on assistance if required.

4. Task procedure

- The task comprises the following steps:
  1. Explain and demonstrate (where applicable) the task to the client.
  2. Check the client has understood the task and provide an opportunity to ask questions.
  3. Obtain or confirm information from the client (or carer) with regard to:
     a) current physical capability/issues relevant to the task.
     b) ability to stand, including their balance history i.e. falls history, ability to stand/mobilise, assistance required, aid used, medical/surgical restrictions etc.
     c) assistance required for sitting, sit to stand and standing.
  4. On the basis of information provided, determine if the task will progress to include observation of standing performance.

5. Observe the client in sitting. If the client is unable to sit unsupported, including an inability to sit without back or arm support, observed excessive postural sway, leaning or listing, cease the task. Document all observations and refer to a health professional with expertise in the task for further assessment.
6. Request the client stand up from sitting and observe performance. If required, provide assistance as per the local health service manual handling protocol. If the client requires more than one light assist, cease the task, document the outcome and refer to a health professional with expertise in the task for further assessment.
7. In standing, observe the client. If the client uses a walking aid, ask the client to release the walking aid. Observe the client's standing alignment and any adjustments or compensatory movements. If the client is observed to be stable and comfortable in a static standing position, introduce some minor challenges to balance as per the Learning resource. Maintain stand-by assistance during the balance challenge activities.
8. If the client is able to maintain dynamic standing balance and there is a clinical indication that further testing and an objective measure of balance is required, implement the Berg Balance Scale. Refer to the Learning resource for protocol and information.
9. Using the standard instructions, observe the client and rate the performance using the defined parameters and scale. Note any variations from the testing protocol e.g. use of non-standard step height/chair height.
10. Record general observations of performance during the task describing the client's posture in standing, balance responses during tasks and any compensatory strategies.
11. Based on information collected, make a recommendation to the client and team (if relevant) regarding the client's standing balance and function and/or any further management plans required using the clinical reasoning tool in the learning resource e.g. referral for further assessment, assistance requirements when standing, environmental considerations.

5. Monitoring performance and tolerance during the task

- Common errors and compensation strategies to be monitored and corrected during task include:
  - when observing the client in standing, ensure the client has no contact between the back of their legs and the plinth/bed/chair.
  - when standing next to tables or parallel bars clients may unintentionally rest hands on the surface or reach for surfaces to support balance. If observed, request the client remove their hands and place them by their side. If the client indicates they are unable/unwilling to remove their hands for fear of falling, this demonstrates poor balance.
  - provide hands on assistance for safety, including guiding the client to sit down on a chair, lean against a wall or place their hands on the bar to steady themselves. Indications of a potential loss of balance include increased postural sway, premature stepping/shuffling of feet or voluntarily restricting movement. If observed, the limits of the assessment have been reached and no further progression activities should be included.
- Monitor for adverse reactions and implement appropriate mitigation strategies as outlined in the Safety and quality section above. This may include ceasing the test protocol prematurely based on client performance e.g. if the client requires more than light assistance on the Berg Balance Scale, do not progress to items 6-14 as this is outside of the scope of this CTI; or if the client is unable to stand with feet apart with eyes open, the test would not progress to eyes closed etc.

6. Progression

- Task progression strategies include:
  - if the client scores within expectations and normal values, and no adverse reactions were evident on assessment, and if indicated by the client's functional goals, the standing assessment may be progressed to more challenging situations. See the Guide for conducting a standing assessment in the Learning resource. This may include additional standardised assessments or observation of the client in actual or simulated functional environments e.g. brushing teeth at the bathroom sink, putting shoes on, using a clothesline.
  - the client may require reassessment of standing balance if goals change or factors impacting balance improve or decline e.g. a new fall, hospital admission, illness, surgery, change in available carer support.
  - in all instances, if the client's standing balance identifies them at risk of a fall, the health professional will ensure any relevant hospital and health service manual handling and/or falls risk protocol and management plans are implemented.

7. Document

- Document the outcomes of the task as part of the skill share-trained health professional's entry in the relevant clinical record, consistent with relevant documentation standards and local procedures. For this task this includes:
  - the test conditions including equipment and environment, particularly if outside the clinic environment e.g. chair height and type, client's lounge room/bed. This allows standardisation of test conditions for comparison.
  - standing balance assessment score and/or observation of performance.
  - outcome of the assessment including interpretation for client care e.g. functional mobility assessment required, referral for walking aid or home modifications.
- The skill shared task should be identified in the documentation as 'delivered by skill share-trained (*insert profession*) implementing CTI: S-MT05: Assess standing balance' or similar wording.

References and supporting documents

- Carr JH, Shepherd RB (1987). A motor relearning programme for stroke. Butterworth-Heinemann: Oxford.
- English Oxford Living Dictionaries. Accessed 5/8/2020. Available at: https://en.oxforddictionaries.com/definition/balance
- Queensland Health (2017). Guide to Informed Decision-making in Health Care (2nd edition). Available at: https://www.health.qld.gov.au/__data/assets/pdf_file/0019/143074/ic-guide.pdf
- Queensland Health (2020). Normal adult clinical observations are based on the Queensland Adult Deterioration Detection System (Q-ADDS) for Tertiary and Secondary Facilities. Normal ranges reflect the Q-ADDS Score 0. Recording sheet available at Queensland Adult Deterioration Detection System (Q-ADDS) For Day Surgery Units in Rural and Remote Facilities. Accessible at: http://qheps.health.qld.gov.au/tville/cdsu/clinical-forms/docs/cf-q-adds-dsu-rural-remote.pdf

Assessment: performance criteria checklist

S-MT05: Assess standing balance

Name: **Position:** **Work Unit:**

Performance criteria	Knowledge acquired	Supervised task practice	Competency assessment
	Date and initials of supervising AHP	*Date and initials of supervising AHP*	*Date and initials of supervising AHP*
Demonstrates knowledge of fundamental concepts required to undertake the task through observed performance and the clinical reasoning record.			
Identifies indications and safety considerations for the task and makes appropriate decisions to implement the task, including any risk mitigation strategies, in accordance with the clinical reasoning record.			
Completes preparation for the task including preparation of the environment and any required equipment.			
Describes the task and seeks informed consent.			
Prepares the environment and positions self and client appropriately to ensure safety and effectiveness of the task, including reflecting on risks and improvements in the clinical reasoning record where relevant.			
Delivers the task effectively and safely as per the CTI procedure in accordance with the Learning Resource. a) Clearly explains and demonstrates the task, checking the client's understanding. b) Gains a balance history from the medical record and subjectively from the client/carer. c) Confirms the client's capacity to participate in a standing balance assessment. d) Assesses the client's standing balance using the standardised assessment process/tool. e) Accurately describes standing posture and observed standing balance problems, including recording results. f) Based on findings makes a recommendation on further management plans. g) During the task, maintains a safe clinical environment and manages risks appropriately.			
Monitors for performance errors and provides appropriate correction, feedback and/or adapts the task to improve effectiveness, in accordance with the clinical reasoning record.			

Documents in the clinical notes including a reference to the task being delivered by the skill share-trained health professional and the CTI used.			
If relevant, incorporates outcomes from the task into an intervention plan e.g. plan for task progression, interprets findings in relation to care planning, in accordance with the clinical reasoning record.			
Demonstrates appropriate clinical reasoning throughout the task, in accordance with the Learning Resource.			

Notes on the scope of the competency for the health professional

The health professional has been trained and assessed as competent to deliver the following standing balance assessment tools:

□ Berg Balance Scale

A local health service can elect to add or substitute another standardised standing balance assessment tool. This decision requires appropriate consideration of the risk and training requirements associated with the alternative tool. Additional standing balance assessment tools that the health professional has been trained and assessed as competent to deliver include:

□_____

□_____

□_____ ___

Notes on the see model in which the health professional will be performing the task in:

The health professional has been trained and assessed as competent to assess standing balance in the following contexts:

e.g. particular client groups or settings e.g. diabetes, community home visits.

Comments:

Record of assessment competence:		
Assessor name:	Assessor position:	Competence achieved: / /
Scheduled review:		
Review date: / /		

S-MT05: Assess standing balance

Clinical reasoning record

- The clinical reasoning record can be used:
  - as a training resource, to be completed after each application of the skill shared task (or potential use of the task) in the training period and discussed in the supervision meeting.
  - after training is completed for the purposes of periodic audit of competence.
  - after training is completed in the event of an adverse or sub-optimal outcome from the delivery of the clinical task, to aid reflection and performance review by the lead practitioner.
- The clinical reasoning record should be retained with the clinician's records of training and not be included in the client's clinical documentation.

Date skill shared task delivered: _____

1. Setting and context

- insert concise point/s outlining the setting and situation in which the task was performed, and their impact on the task

2. Client

Presenting condition and history relevant to task

- insert concise point/s on the client's presentation in relation to the task e.g. presenting condition, relevant past history, relevant assessment findings

General care plan

- insert concise point/s on the client's general and profession-specific/allied health care plan e.g. acute inpatient, discharge planned in 2/7

Functional considerations

- insert concise point/s of relevance to the task e.g. current functional status, functional needs in home environment or functional goals. If not relevant to task - omit.

Environmental considerations

- insert concise point/s of relevance to the task e.g. environment set-up/preparation for task, equipment available at home and home environment. If not relevant to task - omit.

Social considerations

- insert concise point/s of relevance to the task e.g. carer considerations, other supports, client's role within family, transport or financial issues impacting care plan. If not relevant to task - omit.

Other considerations

- insert concise point/s of relevance to the task not previously covered. If none - omit.

3. Task indications and precautions considered

Indications and precautions considered

- insert concise point/s on the indications present for the task, and any risks or precautions, and the decision taken to implement/not implement the task including risk management strategies.

4. Outcomes of task

- insert concise point/s on the outcomes of the task including difficulties encountered, unanticipated responses

5. Plan

- insert concise point/s on the plan for further use of the task with this client including progression plan (if relevant)

6. Overall reflection

- insert concise point/s on learnings from the use of the task including indications for further learning or discussion with the lead practitioner

Skill share-trained health professional	**Lead health professional (trainer)**
Name:	Name:
Position:	Position:
Date this case was discussed in supervision:	**/ /**
Outcome of supervision discussion:	e.g. further training, progress to final competency assessment

Assess standing balance: Learning resource

For community dwelling adults, balance problems can have a significant impact on quality of life. This includes both physical impacts due to falls related injuries and social impacts with a fear of falling and restricted activity leading to social isolation. Control of balance involves several key components: maintaining postural stability in sitting or standing, allowing voluntary movement to occur e.g. during transition between positions and reactions to recover balance with external perturbations. As clients will often present at a service with a decline in mobility and balance, it is essential to assess a client's standing balance and implement strategies to facilitate safety in the home/community environment.

Assessment of balance is complex and can involve a range of objective measures including the use of computer technology, systems approach and functional balance assessments. Screening and assessment tools can assist to determine the level of falls risk of a client, with a range of tools available. The assessment of standing balance, including the use of validated processes and tools assists in providing a measure of the client's risk of falls and overall safety in the home/community environment, informing the teams care planning.

Required reading

- Huxham FE, Goldie PA, Patla AE (2001). Theoretical considerations in balance assessment. Australian Journal of Physiotherapy, 47: 89-100. Available at: www.sciencedirect.com
- Mancini M, Horak F. (2010). The relevance of clinical balance assessment tools to differentiate balance deficits. European Journal of Physical and Rehabilitation Medicine, 46(2): 239-248. Available at: https://www.researchgate.net/publication/44613980_The_relevance_of_clinical_balance_assessment_tool_to_differentiate_balance_deficits
- Physiopedia (2020).
  - Balance. Available at: http://www.physio-pedia.com/Balance
  - Posture. Available at: http://www.physio-pedia.com/Posture
- Wrisley DM, Kauffman TL (2014). Chapter 59: Balance testing and training. In Kauffman TL (Ed.). A comprehensive guide to geriatric rehabilitation. Elsevier Ltd. Available through CKN for Queensland Health staff.

If the Berg Balance Scale is planned for use in the local service:

- Shirley Ryan Ability lab (2020). Berg Balance Scale. Available at: http://www.rehabmeasures.org/Lists/RehabMeasures/PrintView.aspx?ID=888

Required viewing

- Physiotutors (2015). Observation and posture analysis. Available at: https://www.youtube.com/watch?annotation_id=1a72dab1-ea36-4047-8a19-d97a317da704&feature=cards&src_vid=sLSjXGGpH0k&v=Zp5iC3Ioq7U

Optional reading/ resources

- Compendium of clinical measures for community rehabilitation. Prepared for Queensland Health. Prepared by Centre for Allied Health Evidence University of South Australia. Available at:

https://sites.temple.edu/rtwiseowls/files/2013/10/compendium-of-clinical-measures-for-community-rehabilitation.pdf

- Downs S, Marquez J, Chiarelli P (2014). Normative scores on the Berg Balance Scale decline after age 70 years in healthy community-dwelling people: a systematic review. Journal of Physiotherapy 60(2): 85-89. Available at: https://www.sciencedirect.com/science/article/pii/S1836955314000393
- Falls prevention in older adults. Assessment and management. (2012). Australian Family Physician. The elderly. 41(12): 930-935. Available at: http://www.racgp.org.au/afp/2012/december/falls-prevention/
- Shirley Ryan Ability lab (2020). Available at: https://www.sralab.org/rehabilitation-measures?ID=1236
  - Balance outcome measure for elder rehabilitation
  - Postural assessment scale for stroke
  - Step test

Clinical observation measurements

Table 1: Normal adult clinical observations (Queensland Health, 2020)

Blood pressure (systolic)	110 – 159 mmHg
Pulse/heart rate (HR)	50 – 99 beats/min
Temperature (oral)	36.1 °C – 37.9 °C
Respiratory rate (RR)	13 – 20 breaths/min
Oxygen saturation (SpO2)	above 95%
Pain score at rest	0 – none 1-3 – mild 4-6 – moderate 7-10 – severe
Functional Activity Scale (FAS) (perform during cough/movement)	A – activity unlimited by pain B – activity mild to moderately limited by pain C – activity severely limited by pain

Note: For children, clinical observations will be related to age and presenting condition. The health professional should liaise directly with the medical team to confirm the expected clinical observations.

Other observations and scales required by the health service for the task delivery in a specific care setting will require specific training in administration and interpretation e.g. Borg perceived exertion scale.

Balance history – considerations

- Has the client suffered any falls in the past 12 months? If yes:
  - how many?
  - where e.g. in the bathroom, on the stairs?
  - were there any injuries sustained, for example bruising, fractures, lacerations, loss of consciousness?
  - what was the cause, e.g. syncope, dizziness?
  - which direction did they fall i.e. forwards, backwards, to the side?
- When the client is moving around (standing up from sitting, walking, turning), does the client report/appear unsteady or at risk of losing their balance?
- Has the client had any change to their medications?
- Is the client currently mobilising with an aid?

Determine if the client meets local protocol for a falls assessment and include as part of the management plan.

Goal setting - considerations

- Identify the client's functional requirements in the home/community environment including mobility, transfers, stairs and functional tasks.
- Consider how the client would like to achieve their goals, i.e. independently, with assistance, with equipment?
- What level of assistance is available to the client at home/in the community?
- What are the requirements that the carer/service need the client to meet to be safe at home/in the community?

Assessment of standing balance

Balance refers to an even distribution of weight enabling someone or something to remain upright and steady (English Oxford Living Dictionary, 2020). The ability to maintain an upright posture involves many ongoing postural adjustments/movements to prevent 'unbalance'. In general, postural adjustments are automatic and occur both when standing still and when doing a task/moving e.g. looking up, reaching forward, or turning.

Before commencing a standing balance assessment, the client's sitting balance should be reviewed. In general, clients who struggle to maintain sitting balance will demonstrate greater difficulty maintaining standing balance. Body alignment is more critical in standing than in sitting due to the smaller base of support. Balanced sitting or standing can be defined as the ability to sit (or stand) in good alignment, without using undue muscle activity, to move about in the posture, to perform a wide variety of motor tasks (Carr and Shepherd 1987).

- Body alignment in both sitting and standing depends on a number of factors including:
  - what one is sitting/standing on e.g. sitting on a firm chair, standing on a ramp, being on the deck of a boat.
  - what one is doing e.g. playing a board game, waiting in a line, hanging out clothes.
  - client's general body posture and other factors, such as age and gender.

- Standing balance can be assessed using a variety of methodologies. These may differ between client groups, clinical settings and service models. Importantly, the assessment of standing balance should:
  - describe the client's abilities both static and dynamic
  - be reproducible between assessors to allow for monitoring of change
  - determine the client's risk of falling
  - assist with care planning.

Balanced sitting

The following information is adapted from Carr and Shepherd (1987) Chapter 5: Balanced Sitting. A motor relearning programme for stroke and describes the essential components to maintain upright sitting and common deviations observed.

- The essential components of sitting alignment relate to sitting up straight:
  - feet and knees close together
  - weight evenly distributed across the base of support i.e. feet and/or buttocks
  - hips flexed to ~90°, trunk straight/extended i.e. shoulders over hips
  - shoulders level with head balanced.
- The ability to make:
  - postural adjustments in preparation/anticipation of movement
  - ongoing postural adjustments whilst performing a task.
- The analysis of sitting consists of observation of the client's alignment in quiet sitting, followed by their ability to make postural adjustments when challenged e.g. closing eyes, when moving such as taking a deep breath, turning head/trunk or reaching, responding to the environment such as a timer, or the rocking of a boat. Common compensatory strategies include:
  - a wide the base of support, e.g. feet and/or knees apart, use arms for support
  - voluntarily restricting movements e.g. holds themselves stiffly, holds their breath
  - the shuffling of feet instead of making postural adjustments to maintain balance
  - seeking hand support e.g. grabbing, this increases the base of support
  - leaning forward/backwards when the task requires body weight shift sideways due to poor lateral flexion control.

Balanced standing

The following information is adapted from Carr and Shepherd (1987) Chapter 7: Balanced Standing. A motor relearning programme for stroke and describes the essential components to maintain upright standing and common deviations observed.

- The essential components of standing alignment are:
  - feet a few inches apart
  - legs straight with hips in front of ankles
  - shoulders over hips
  - shoulders level with head balanced
  - trunk erect.

- The ability to make:
  - postural adjustments in preparation/anticipation of movement
  - ongoing postural adjustments whilst performing a task.
- The analysis of standing consists of observation of the client's alignment in quiet standing, followed by the ability to make postural adjustments when challenged e.g. closing eyes, when moving such as taking a deep breath, turning head/trunk, reaching, responding to the environment such as a timer, or the rocking of a boat. Common compensatory strategies include:
  - a wide base of support e.g. feet too far apart or one turned out
  - voluntarily restricting movements e.g. holds themselves stiffly, holds their breath
  - the shuffling of feet instead of making postural adjustments to maintain balance
  - taking a step prematurely i.e. as soon as the centre of gravity moves
  - flexing at hips/pokes bottom out instead of moving forward at the ankles in reaching forward
  - moving the trunk instead of weight shifting when reaching sideways
  - use of arms e.g. grabs for support, holds arms out sideways or forwards to counterbalance shits in body weight.

Elements of a Standing Balance Assessment

- With the client in sitting on the edge of the bed, chair or plinth, ask the client to stand.
- Ensure backs of the client's legs are not in contact with the bed/plinth when the client is in a standing position.
- Ask client to stand how they normally would i.e. with feet apart, eyes open.
- Assess components of standing alignment when client standing with feet apart eyes open:
  - feet and knees apart (approx. hip-width apart)
  - hips and knees extended but not locked
  - hips over feet
  - weight evenly distributed between left and right leg
  - shoulders level
  - are there anticipatory and ongoing adjustments such as small continual adjustments to the environment and are they controlled and effective?
- Assess components of static balance:
  - can they stand with their feet apart and eyes open?
  - can they stand with their feet apart and eyes closed?
  - can they stand with their feet together and eyes open?
  - can they stand with their feet together and eyes closed?
  - can they stand with their feet in tandem stance and eyes open?
  - can they stand with their feet in tandem stance and eyes closed?
- Assess components of dynamic balance:
  - can they stand with feet apart and turn their head from side to side?
  - can they stand with feet together and turn their head from side to side?

  - can they maintain standing balance with feet apart and feet together while reaching outside the base of support?
  - can they maintain standing balance while bending to pick something up off the floor?
  - observe the use of hip/knee/ankle strategies to maintain standing balance with gentle external.
  - perturbation e.g. gentle pressure to the chest to displace the client's centre of balance.
- Additionally:
  - observe the client standing on a piece of foam or other floor surfaces.
  - observe of the client in actual or simulated functional environments e.g. brushing teeth at the bathroom sink, reaching their feet, using the clothesline where the client simulates activities of concern. This may indicate cervical and/or vestibular issues.
- The use of standardised validated tools may be used as an adjunct. Common tools in Queensland Health environments include:
  - Berg Balance Scale
  - Postural Assessment Scale for Stroke Patients
  - Step Test
  - Boomer Balance Outcome Measure for Elder Rehabilitation.
- The health professional must be trained and assessed as competent before using these validated tools in the local service.

Risk Management strategies to address standing balance deficits

- Ergonomic/engineering controls to make the task easier or the use of equipment such as long handled equipment, a rail, or walking aid with basket or home modifications.
- Rehabilitation program – this may include practice of standing balance in different environments, strengthening exercises, flexibility stretches, incorporation of cueing strategies, etc.
- Patient manual handling – teaching the staff/carer manual handling techniques including verbal prompts to use arm rests, or provide manual guidance with a walk belt.

Outcomes of a standing balance assessment

The observations and measurement of a client's standing balance needs to be collated to form a recommendation.

The assessment needs to document the observation of the client's posture and balance responses, both statically and dynamically, including assistance and limitations (narrow base of support, eyes open, reaching etc.).

- The recommendation must clearly state if the client is:
  - safe to stand independently i.e. no changes/proposed intervention. This should include a statement that the client be re-referred should issues/concerns arise.
  - safe for standing balance with restrictions. These may include:
    - within limited environments and/or times e.g. beside bed, during the day.
    - with support e.g. cueing, stand-by assistance, manual guidance, assistance x1.

- it must also include a plan to further reduce the risk of falls. This may include implementation of local falls protocols and/or further assessment and/or intervention with a health professional.

- not safe for standing balance. This must include a plan to address the identified deficits/ issues. This may include implementation of local manual handling protocols and/or further assessment with a health professional with expertise in the areas of:
  - standing balance
  - balance/strength deficits, e.g. individual program, falls and balance class, muscle stretching and strengthening program.
  - vestibular symptoms
  - home modifications, e.g. shower/stair rail.
  - alternative housing/living environment options e.g. respite, residential care facility.
  - other e.g. re-assessment after a period of time such as when medical/surgical restrictions are changed, medication regime is established, clinical observations are within normal or expected limits.