Clinical Task Instruction

SKILL SHARED TASK

S-MT04: Stairs mobility assessment

Scope and objectives of clinical task

This CTI will enable the allied health professional to:

- assess a client's ability to safely and effectively mobilise on stairs,
- develop and implement an appropriate plan to address any identified mobility deficits on stairs.

VERSION CONTROL

Version: 1.0 Approved (document custodian): Chief Allied Health Officer, Allied Health Professions' Office of Queensland, Clinical Excellence Division. Date: 31/07/2017 Review: 31/07/2020

This Clinical Task Instruction (CTI) has been developed by the Allied Health Professions' Office of Queensland (AHPOQ) using information from locally developed clinical procedures, practicing clinicians, and published evidence where available and applicable.

This CTI should 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

Skill sharing can only be implemented in a health service that possesses robust clinical governance processes including an approved and documented scope of skill sharing within the service model, work-based training and competency assessment, ongoing supervision and collaborative practice between skill share-trained practitioners and health professional/s with expertise in the task. A health professional must complete work-based training including a supervised practice period and demonstrate competence prior to providing the task as part of his/her scope of practice. When trained, the skill share-trained health professional is independently responsible for implementing the CTI including determining when to deliver the task, safely and effectively performing task activities, interpreting outcomes and integrating information into the care plan. Competency in this skill shared task does not alter health professionals' responsibility to work within their scope of practice at all times, and to collaborate with or refer to other health professionals if the client's needs extend beyond that scope. Consequently, in a service model skill sharing can augment but not completely replace delivery of the task by profession/s with task expertise.

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

Requisite training, knowledge, skills and experience

Training

- Mandatory training requirements relevant to Queensland Health / HHS clinical roles are assumed knowledge for this CTI.
- If not part of mandatory requirements complete patient manual handling techniques, including the use of walk belts, and sit to stand transfers.
- CTI S-MT05: Standing balance assessment.
- CTI S-MT01: Functional walking assessment.
- CTI S-MT02: Prescribe, train and review of mobility aids. CTI S-MT02 provides competence in examining mobility with aids and should be completed concurrently with CTI S-MT01 if the skill share-trained AHP will implement CTI S-MT01 with clients that use a walking aid. The health professional can implement CTI S-MT01 with the walking aids covered in the training for CTI S-MT02.

Clinical knowledge

To deliver this clinical task an allied health professional is required to possess the following theoretical knowledge:

- basic elements of a normal walking pattern for ascending and descending stairs,
- common deviations from normal stair walking patterns and the potential causes, including co-morbidities, pain, weight bearing restrictions, weaknesses, vision, spatial awareness, etc.,
- common strategies to improve stair walking patterns and safety.

The knowledge requirements will be met by the following activities:

- completing training program (as above),
- reviewing the Learning Resource,
- receiving instruction from the lead allied health professional in training phase.

Skills or experience

The following skills or experience are required by an allied health professional delivering this task:

- competence in measurement of clinical observations relevant to mobilising/exertion where this requirement is relevant to the healthcare setting and client group. This may include blood pressure, heart rate, pulse oximetry, pain scales, exertion scales, etc.

Indications and limitations for use of skill shared task

The skill share-trained health professional shall use their independent clinical judgement to determine the situation in which he/she delivers this clinical task. 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 required to negotiate stairs in their home or community environment and has been identified as having mobility problems including difficulty using stairs. This information may be accessed through referral, subjective history or direct observation (looks unsteady/unsafe, incorrectly using/poorly maintained walking aid etc.).
- The client is medically stable and there is no medical prohibition to stairs mobility e.g. the medical record indicates that the client can be mobilised on stairs and vital signs are within expected limits, client has met all care pathway requirements to mobilise on stairs (e.g. haemoglobin level or x-ray review and clearance and is safely mobilising on ward), or the client is living in the community and is not acutely unwell.
- The client has been assessed as safe to mobilise, with or without an aid, on flat ground as per CTI S-MT01: Functional walking assessment. This includes adherence to any weight bearing restrictions where the local health service has determined weight bearing restrictions to be in the scope for the health professional and they have been trained and assessed as competent as part of this CTI. The scope of weight bearing restrictions implemented in this skill shared task in the local health service should be documented in the Assessment Performance Criteria Checklist.
- The client is using a walking aid that the local health service has determined to be “in scope” for the skill share-trained health professional. The walking aid/s the health professional is trained to implement will be documented in the Assessment Performance Criteria Checklist.
- The client, in standing, with their usual walking aid (if relevant), is able to:
  - lift their lower limb (including foot) high enough to clear a standard step height (>13 centimetres). This can be assessed by requesting the client in standing to lift their foot the required height onto the first step, or by providing a block of similar height,
  - two leg mini squat with/without hand support using parallel bars, a rail or their walking aid.

  Note - This includes adherence to any restrictions including weight bearing, range of motion, orthosis wear, clinical measurements, etc.

Limitations

Precautions

If precautions are identified consider whether a stair mobility assessment is necessary and safe for the client and staff. If risks are unclear, discuss with the physiotherapist.

Implementation of this skill shared task may be appropriate for some minor impediments to weight bearing and movement control if the skill-shared trained health professionals can adequately manage the risk (e.g. through seeking assistance of another staff member, reducing the number of stairs, etc.).

Examples include:

- Client usually uses a walker to mobilise i.e. hopper frame, 4WW, Forearm support frame. These mobility aids cannot be used on stairs. The client may be assessed using a rail and/or a walking stick or crutch to mobilise on stairs. The inclusion of crutches and/or a walking stick in the scope of this CTI must be determined by the local health service.
- The client experiences or is known to fatigue quickly. A smaller number of stairs should be trialled initially. A chair should be available at the top and bottom of the stairs to rest.
- Mild balance disorders including vertigo and vestibular issues. Monitor symptoms, particularly on turning from ascent to descent at the top of the stairs. Ensure assistance is available if the client becomes

dizzy. This may require getting another staff member to be present and having a chair available. Close supervision is required throughout the task.

- Mild visual or perceptual deficits. Ensure the client is wearing the correct glasses (distance not reading glasses) and that the stairs are well lit with treads clearly marked.
- History of recent falls, or expressed anxiety about falling. Review the client's standing balance as per CTI S-MT05: Standing balance assessment and walking as per S-MT01: Functional walking assessment and review indications for this CTI. If the client is suitable, test the client on one or two stairs initially and ensure assistance is available during the task.
- Cardiorespiratory deficits including a history of angina, heart failure, high/uncontrolled hypertension, Chronic Obstructive Pulmonary Disease (COPD), peripheral vascular disease (PVD). Ensure any prescribed reliever medications are available throughout the assessment e.g. Anginine, Ventolin, oxygen, etc. Monitor the client's clinical measurements prior to, during and after the task e.g. shortness of breath, rating of perceived exertion, O2 saturation etc. Reduce the number of stairs assessed, ensure assistance is available and/or a chair to rest on.
- The client reports pain with mobilising prior to task. The client may require regular rests during the task including a short rest after walking to the stairs and prior to commencing the stair ascent/descent. Ensure a chair is available. The task should be timed to coincide with analgesia. Monitoring may be required throughout the tasks using a pain rating measure.
- Weight bearing restrictions must be adhered to throughout the task. Restrictions include weight bear as tolerated, partial weight bear, touch weight bear or non-weight bearing. Restrictions are often required post fracture or surgery to the chest, pelvis, upper limbs or lower limbs. If restrictions are unclear speak to the medical team or physiotherapist. Review the client's standing balance as per CTI S-MT05: Standing balance assessment and walking as per CTI S-MT01: Functional walking assessment. If the client is unable to adhere to weight bearing restrictions during standing balance and walking cease the task and refer to the physiotherapist.
- Clients who are obese or are excessively tall, or require bariatric equipment. Provide close supervision (this may include a second person) and ensure that a suitable chair is available i.e. safe working limits, required chair height restrictions for hip replacement precautions.

Contraindications

The points below are contraindications for the delivery of this task by the skill shared trained health professional. If contraindications are identified the risk of implementing a stair mobility assessment is likely to outweigh the potential benefits. Consult with a health professional with expertise in the clinical task if a contraindication is noted. If the observation is a new acute onset and not consistent with the expected presentation immediately notify the medical team.

- Client is unable to mobilise without the use of a walking frame i.e. hopper frame, 4 wheeled walker.
- The client is required to mobilise with an aid which is outside of the scope of the skill share trained health professional.
- Client reports or is observed to have unstable angina, excessive pain or shortness of breath whilst at rest and/or mobilising on the flat.
- A history of falls on stairs or reports severe anxiety/fear of falling when mobilising on stairs.
- Client requires more than light assistance to stand up from a chair.
- Client requires more than light assistance to mobilise.

Safety and quality

Client

The skill share-trained health professional shall identify and monitor the following risks and precautions that are specifically identified with this clinical task:

- in health facilities stairs are often located in public areas (stair wells, gym). Infection control should be considered e.g. for infectious or immunosuppressed clients a mask is likely to be required for the client and/or the stair rails wiped down before and after the task. Alternatively consider providing simulated stairs by using a block for practice in the client's room.
- appropriate footwear should be worn at all times during this task - enclosed, well-fitting shoes with good traction. Clients with no footwear or a restriction affecting the ability to wear footwear should have socks and or compression stockings removed prior to mobilising.
- the clients clothing should be appropriate for stairs assessment, i.e. ensures modesty during the task, not impede the lower limb range of movement, or be so long as to pose a tripping hazard, etc.

Equipment, aids and appliances

- The client should be assessed using their usual mobility aid if appropriate (walking stick and crutches only) and any other required devices e.g. ankle foot orthoses (AFO), knee brace etc. If their mobility aid and or required devices are not available a similar trial/loan aid should be provided. This aid must be within the scope of the skill share health professional to use for this task.
- Confirm safe working load and height restrictions of equipment required for the task is appropriate for the client (e.g. chair to rest, mobility aid).
- Ensure equipment is clean and in good working order as per local infection control protocols. Refer to the manufacturers guidelines for specific maintenance guidelines for the client's mobility aid e.g. check rubber stoppers are present and have tread, adjustment screws or pins are engaged correctly, brakes are working. If the equipment is unsafe do not proceed with the assessment.

Environment

- Ensure the stairs environment is prepared to minimise distractions and facilitate concentration on the task e.g. environment free of pedestrian traffic and equipment. It may also be beneficial to position a chair at the base and top of the stairs to allow the client to rest if required.
- Ensure the stair rail is secure, step tread is intact, lighting is working and that any doors are accessible both to/from the stairs.
- Ensure an appropriate alert system is in place for the local environment, in case a client becomes unwell or requires assistance during the task e.g. mobile phone, chair, staff member/carer.

Performance of Clinical Task

1. Preparation

- Ensure all required mobility aids are available and appropriately prepared prior to commencing the session. Preparation includes performing a safety check and adjusting required mobility aid(s) to the appropriate height for the client.
- If trialling a new mobility aid for the purpose of the stair assessment, complete equipment safety check and refer to CTI S-MT02: Prescribe, train and review of walking aids.
- Ensure the client adheres to all infection control requirements and wears suitable clothing and footwear.
- Ensure a chair is positioned at the top/bottom of the stairs if appropriate for the client.

2. Introduce task and seek consent

- The health professional introduces him/herself to the client.
- The health professional checks three forms of client identification: full name, date of birth plus one of the following; hospital UR number, Medicare number, or address.
- The health professional describes the task to the client.
- The health professional seeks informed consent according to the *Queensland Health Guide to Informed Decision Making in Healthcare*.

3. Positioning

The client's position during the task should be:

- standing in preparation to walk up/down the stairs

The health professional's position during the task should be:

- standing to one side, generally the opposite side to the rail where a rail is present and slightly behind the client when ascending the stairs. The health professional should be close enough to provide hands on assistance for balance if required. When descending the stairs the health professional should stand to one side, generally the opposite side to the rail, if present and slightly in front of the client. The health professional should have their feet placed on separate steps, allowing a lunge position for balance.

An assistant, if utilised, should be:

- standing either in front of the client while ascending or to the side depending on the position of the rails and height of the stairs. When descending the stairs an assistant should stand behind the client or to the side. The assistant should have their feet placed on separate steps, allowing a lunge position for balance.

4. Task procedure

- The task comprises the following steps:
    1. Confirm the client's requirement to access stairs, including the number of steps, rail/s present and side, frequency (e.g. are they required to ascend/ descend stairs to access the toilet etc.), equipment requirements (e.g. orthotics, oxygen etc.) and any available assistance and/or previous training provided.

2. Determine if the client's condition requires a prescribed method to ascend/descend stairs using the collected clinical information and Table 1: Clinical reasoning tool for stair assessment in the learning resource and that this is consistent with the clients understanding of how to mobilise on stairs e.g. medical restrictions regarding weight bear, limited range of motion in the lower limb, pain, etc.
3. If no appropriate method to ascend/descend stairs is available that is in the scope of the skill share trained health professional, cease the task and refer to a health professional with expertise in the area.
4. Instruct the client in the appropriate pattern to ascend/descend the stairs for the client's requirements/restrictions/limitations.
5. Check the client has understood the task and provide the opportunity to ask questions.
6. Instruct the client to stand in front of the first step and use the prescribed method to ascend the stairs.

   Note that it is always preferable to assess stair ascent before stair descent to support client confidence and safety.
7. The client should turn at the top of the stairs on a landing which has adequate space to allow the client to turn safely. The client may have a short rest break in standing or sitting on a chair if required before descending.
8. Instruct the client to stand on the top step ready for descent. Observe the client for anxiety or balance problems, providing reassurance and hands-on steadying if required for safety. Using the prescribed method instruct the client to descend the stairs.

5. Monitoring performance and tolerance during the task

- Common errors and compensation strategies to be monitored and corrected during task include:
  - foot sequencing to ascend or descend the stairs should be appropriate for the client e.g. alternate stepping pattern; stronger leg ascending first and the weaker/painful leg descending first,
  - appropriate rail usage e.g. rail use on the side, not facing the rail or pulling with both hands, adherence to any weight bear restrictions for the upper limb,
  - correct use of any required mobility aids during the task e.g. crutch or walking stick moves with the affected leg/foot in the correct sequence to maximise support, adhere to weight bear restrictions, etc.
- Check that the client is feeling well during assessment and observe for signs of fatigue or distress e.g. pain, shaking, increase in compensatory patterns of movement, etc.
- Monitor for adverse reactions and implement appropriate mitigation strategies as outlined in the "Indications and limitations for use of skill shared task" and "Safety and quality" sections above.

6. Progression

- If no adverse reactions were evident on assessment, and if indicated by client's functional goals, the task may be progressed to include assessment of simulated or actual environments relevant to the client's residence including the e.g. number of stairs, style of steps (e.g. wooden, solid steps), style of rail (e.g. against a wall; free standing), outside, dual tasking e.g. carrying an item, etc.
- The client may require further stairs assessment if functional mobility goals change (e.g. discharge planning changes) or factors impacting mobility improve or decline (e.g. acute exacerbation COPD resolves, change in weight bearing status, a new fall, acute injury to the lower or upper limbs, hospital admission, illness or surgery).

- In all instances if the client is not safe to mobilise on stairs the health professional will ensure any relevant hospital and health service manual handling and/or falls protocol and management plan processes 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 documentation standards and local procedures, commenting on:

- the number of stairs assessed and location e.g. ward stairs, gym area, clients home, inside/outside,
- use of rail and/or walking aid (crutches, walking stick),
- level of assistance required, including the use of a walk belt, physical assistance, verbal prompts/cueing strategies required e.g. "good foot up", etc. If no assistance required record 'independent'.
- type of gait pattern utilised e.g. step to/ alternate step through pattern. NB: these may differ for ascent and descent and should be documented to reflect this,
- restrictions e.g. weight bearing, use of orthotic, etc.,
- the use of any pain relief, oxygen, or specific monitoring during the assessment, rest stops used and outcome information,
- recommendation as to the clients ability to mobilise on stairs, i.e. the client is safe to mobilise on stairs, safe to mobilise with restrictions, or not safe to mobilise.
- implications for ongoing care e.g. referral for functional retraining program, prescription of a new walking aid, etc.
- the skill shared task should be identified in the documentation as "delivered by skill shared-trained (insert profession) implementing CTI S-MT04: Stairs mobility assessment" (or similar wording).

References and supporting documents

- Department of Health, 2015. Clinical Task Instruction D-WTS01 When to stop. https://www.health.qld.gov.au/ahwac/html/clintaskinstructions.asp
- Queensland Health, 2012. Guide to informed Decision Making in Healthcare. http://www.health.qld.gov.au/consent/default.asp

SMT04: Stairs mobility assessment

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 health professional
- 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

(a) 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

(b) 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

(c) 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

(d) 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

(e) 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

(f) insert concise point/s of relevance to the task not previously covered. If none, omit.

3. Task 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 health professional

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

Assessment: Performance Criteria Checklist

S-MT04: Stairs mobility assessment

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.			
Identifies indications and safety considerations for task and makes appropriate decision to implement task, including any risk mitigation strategies, in accordance with the learning resource.			
Completes preparation for task including completing equipment safety check and confirming with client pre-morbid use of a mobility aid, preparation of the environment, and ensuring the client is wearing appropriate clothing and footwear.			
Describes task and seeks informed consent.			
Positions self and client appropriately and safely throughout task.			
Delivers task effectively and safely as per CTI procedure, in accordance with the learning resource: a) Clearly explains and demonstrates task, checking client's understanding. b) Obtains stair mobility history and requirements from medical record, and/or client, carer or members of the healthcare team. c) Confirms client's capacity to participate, including review of clinical observations, strength, general movement, balance, ability to follow instructions. d) Identifies appropriate pattern to ascend/descend stairs considering medical restrictions, client's capacity and goals using Table 1: Clinical reasoning tool for stair assessment. e) Completes task ensuring appropriate use of restrictions, required assistance and/or mobility aid. f) Describes observed gait abnormalities and safety concerns appropriately. During task, maintains a safe clinical environment and manages risk appropriately.			
Monitors for performance errors and provides appropriate correction, feedback and/or adapts task to improve effectiveness, in accordance with the learning resource.			

Performance Criteria	Knowledge acquired	Supervised task practice	Competency assessment
Documents in clinical notes including reference to task being delivered by skill share-trained health professional and CTI used.			
If relevant, incorporates outcomes from task into intervention plan e.g. plan for task progression, interprets findings in relation to care planning.			
Demonstrates appropriate clinical reasoning throughout task, in accordance with the learning resource.			
Notes on the scope of the competency for the health professional: tick to indicate			
The health professional has been trained and assessed as competent to deliver this task with the following mobility equipment/aids on stairs: ☐ Rail ☐ Single point walking stick ☐ Crutches ☐ Axillary ☐ Canadian			
The health professional has been trained and assessed as competent to deliver the task with the following weight bearing status on stairs: ☐ Full weight bearing (FWBing) ☐ Weight Bearing as Tolerated (WBAT) ☐ Partial Weight Bearing (PWBing) ☐ Touch Weight Bearing (TWBing) ☐ Non Weight Bearing (NWBing)			
The health professional has been trained and assessed as competent to deliver the task for the following assistance on stairs: ☐ Supervision ☐ Assistance x1			
Other restrictions relevant to the local service (e.g. patient groups included/excluded):			
Notes on the service model in which the health professional will be performing this task:			
For example: in the community setting with cancer care clients; in the medical assessment planning unit to facilitate geriatric discharge.			

Comments:

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

Stairs mobility assessment: Learning Resource

For community dwelling adults, the ability to negotiate stairs is an important activity of daily living. It is also potentially hazardous with 10% of fatal fall accidents attributed to falls on stairs. When mobilising on stairs greater demands are placed on the musculoskeletal system and cardiovascular system than during routine mobilisation. There is also an increased demand on their other systems in the body including the somatosensory, vestibular and visual systems during a stairs task. As clients will often present at a Hospital and Health Service facility with a decline in mobility it is essential to assess a client's mobility on stairs effectively to ensure their safety in the home/community environment.

Required reading:

- Abbas SJ, Abdulhassen ZM (2013). Kinematic analysis of human climbing up and down stairs at different inclinations. Engineering and Technical Journal 31, Part A:8:1556-1566. Available at: http://uotechnology.edu.iq/tec_magaz/2013/volum312013/No.08.A.2013/Text%20(11).pdf
- Livingston LA, Stevenson JM, Olney SJ (1991). Stair climbing kinematics on stairs of differing dimensions. Archives Physical Medicine Rehabilitation 72: 398-402. Available at: http://www.archives-pmr.org/article/0003-9993(91)90174-H/pdf
- Ojha, HA, Kern RW, Janice Lin, CH, Winstein CJ (2009). Age affects the attentional deficits of stair ambulation: evidence from a dual-task approach. Physical Therapy 89(10): 1080-1088. Available at: https://academic.oup.com/ptj/article-lookup/doi/10.2522/ptj.20080187
- Startzell JK, Owens DAO, Mulfinger LM, Cavanagh PR (2000). Stairs negotiation in older people: a review. Journal of the American Geriatrics Society, 48: 567-580. Available at: http://onlinelibrary.wiley.com/doi/10.1111/j.1532-5415.2000.tb05006.x/full

Supplemental reading/ viewing:

- Bowen F (2015). Phases of Stair Gait - Ascent and Descent. Viewed 3/2/2017. Available at: https://www.youtube.com/watch?v=VrAkYT8T784
- Costigan PA, Deluzio KJ, Wyss UP (2002). Knee and hip kinetics during normal stair climbing. Gait and Posture 16(10): 31-7. Available at: https://www.researchgate.net/publication/11252651_Knee_and_hip_kinetics_during_normal_stair_climbing
- Hughes N (2012). Walking gait vs stair gait. Viewed 3/2/2017. Available at: https://www.youtube.com/watch?v=kDEE__EYfbU
- Nightingale EJ (2014). Systematic review of timed stair tests. Journal of Rehabilitation Research and Development 51(3): 335-350. Available at: http://content.ebscohost.com/ContentServer.asp?T=P&P=AN&K=103967238&S=R&D=ccm&EbscoContent=dGJyMNXb4kSepq84xNvgOLCmr0%2BeqK5SsK64SLGWxWXS&ContentCustomer=dGJyMPGnrkm2qrdPuePfgeyx44Dt6fIA
- Stacoff A, Kramers-de Quervain IA, Luder G, Listand R, Stussi E (2007). Ground reaction forces on stairs. Gait and Posture 26(1):48-58. Available at: https://www.clinicalkey.com.au/#!/content/journal/1-s2.0-S0966636206001664?scrollTo=%23refInSitubib12
- Vardaxis V, Covill L, Koepp L, Nettrour J, Mahoney C (2013). Bilateral lower extremity stiffness during transition from stair descent to level walking in unilateral total hip arthroplasty patients and controls. Gait and Posture 38(S44-S45). Available at: https://www.clinicalkey.com.au/#!/content/journal/1-s2.0-S0966636213004116

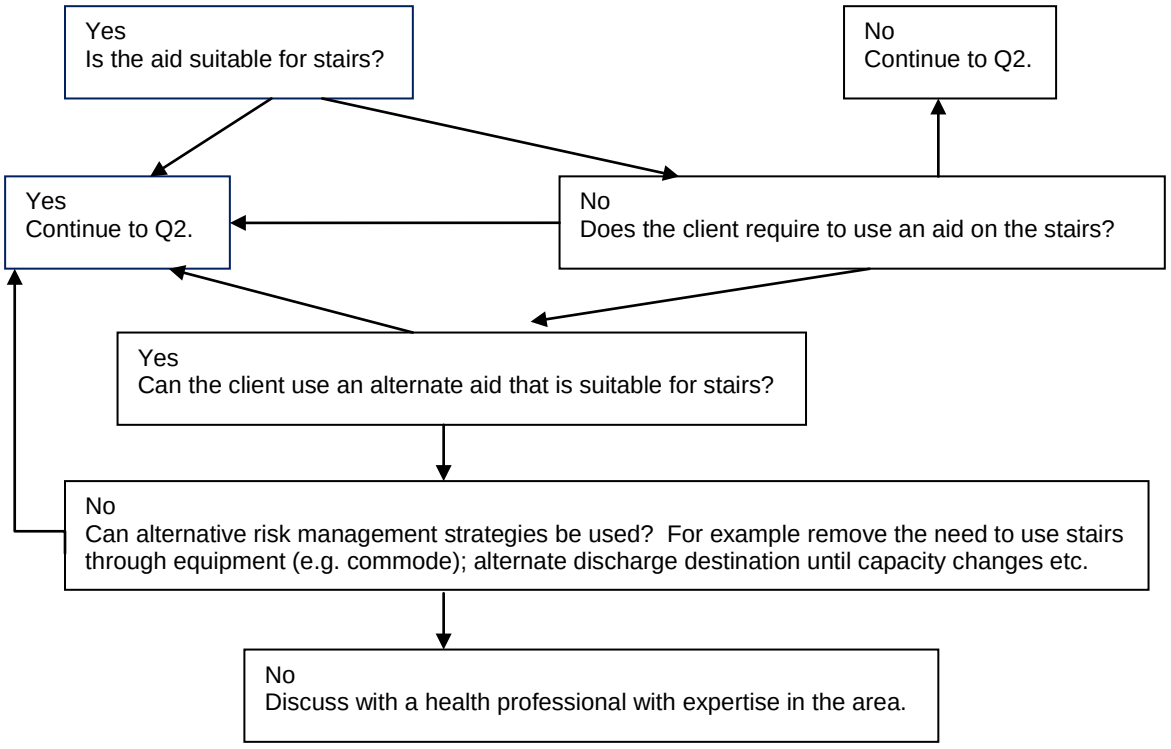
Mobility history

To be completed with an understanding of standing balance and mobility history as per S-MT01 and S-MT05.

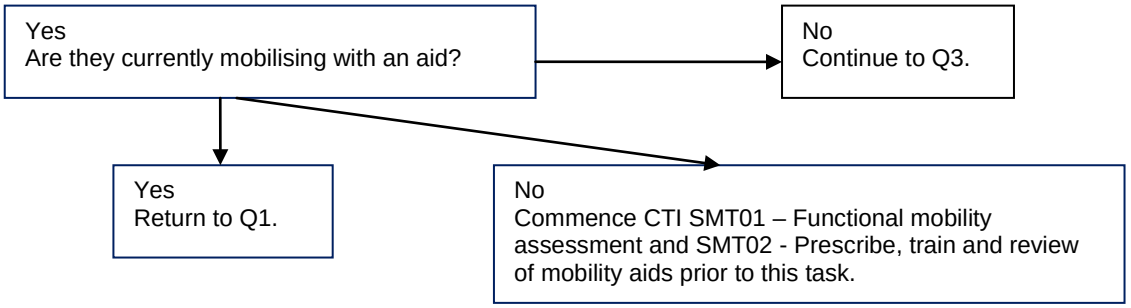
Considerations for stair assessment

Figure 1 Factors influencing clinical decision making for stairs assessment risk

1. Is the client currently mobilising with an aid?



2. Does the client have any weight bearing restrictions?



3. What limits the client when walking (e.g. knee pain, SOB, chest pain etc.)?

   Recognise that these are likely to be exacerbated during a stair assessment. Review Limitations, Precautions and Contraindications sections in this CTI.

4. Has the client suffered previous falls in the past 12 months? Have the falls been on stairs?

   Discuss causal factors with the client and/or carer e.g. dizziness, poor maintenance, tripping hazards, etc. Review Limitations, Precautions and Contraindications sections in this CTI.

5. Are there stairs at home or in places the client routinely visits?

   Obtain information on the:

- stair features including number of steps/flights, location (indoors/outdoors), floor surface/ tread presence, rails (number and side), landings etc. Use these parameters to assist with progression of the task in either the actual or simulated environment,
- frequency of access required. For example, weekly to exit/enter house for community outing, multiple times during the day for access to the bathroom etc. During the task monitor the client's response to the task including symptoms of exertion, time to complete the task and expected requirements at destination etc.
- associated task requirements for stair mobility e.g. carry washing basket, open/close doors whilst on landing/step, access to lighting (switch only at top of stairs) etc.

6. Is there a step/hob/door track in the home, shower or a bath tub the client has to step over?

   If yes, determine the features of the step/hob/door track including height, location, access width, presence of a rail/ support etc. and use these parameters to assist with progression of the task in either the actual or simulated environment.

7. How does the client normally ascend/descend stairs?

   For example, does the client usually use rails, aids, assistance? Ensure these supports are available during the task.

8. Does the client have any pre-morbid or new cognitive issues?

   This may include confusion, wandering, aggression, difficulty following instructions. Review Limitations, Precautions and Contraindications sections in this CTI.

9. Does the client have assistance available in the home environment?

   This may include rails, family/carer assistance, etc.

Goal setting - considerations

- Identify stairs the client is required to negotiate including the number, presence of rails and type of stairs.
- Consider how the client would like to achieve their goals, i.e. independently, with assistance, with equipment, etc.
- 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?

Performing a stair assessment

The client's history will determine the level of stair mobility required for safety in the client's home and community environment. The client's current presentation will determine the appropriate gait pattern, upper limb and assistance/carer support required to perform stairs. It is important to commence with the safest option for stair mobility for the client and staff member.

Stair ascent in the fit and healthy population is usually undertaken with an alternate step cycle and no hand rail/aid support. An alternate (or step through) step cycle occurs when each foot is placed on the next step in turn. As a client's capabilities reduce the capacity to complete stairs can be improved by either providing increasing support or altering the gait pattern. Increasing support is achieved through the use of physical support or equipment such as a rail or walking aid(s). A 'step-to' gait cycle can reduce the load on an affected side in unilateral conditions such as stroke or lower limb orthopaedic surgery. A step to gait cycle occurs when each foot is placed on the same step as part of the step cycle. On ascending stairs, the unaffected leg steps onto the next step, followed by the affected leg, and if relevant the walking aid is

moved last. On descending stairs, the walking aid is placed one step lower, the affected leg moves next and is followed by the unaffected leg[1]. Other options for stair mobility include rail support with sideways walking, ascending/ descending on the bottom (sitting position) and using a stair lift. These options are not in the scope of this CTI and would require referral to a health professional with expertise in the task.

Table 1 Clinical reasoning tool for stair assessment

Weight bearing restriction – this will limit the number of available options for stair assessment. With full weight bearing/no restrictions having the most options and non weight bearing the least.				
Weight bearing restriction	**Non- weight bear**	**Touch-weight bear**	**Partial-weight bear**	**Weight bear as tolerated/ Full-weight bear/ No restrictions**
Gait pattern – 'Step- to' gait cycle is where the feet are placed on the same step during the gait cycle 'Step through' gait pattern is where each foot is placed on the next step as part of the step cycle.				
'Step–to'	✓	✓	✓	✓
'Step–through'	×	✓	✓	✓
Upper limb support - provided through the use of either, rails and/or walking aids, or a combination of both. Walking aids will either be a walking stick or crutch (Canadian or Forearm). The use of two walking aids should only be used when a rail is not present/available.				
Nil	×	×	×	✓
x1 rail/walking aid	×	×	✓	✓
x2 rail/walking aid	✓	✓	✓	✓
Assistance/Carer support – this is an independent variable and is determined on the capacity of the client to complete the task. It is based on neuromuscular control and strength, balance, cognition, etc.				
Independent	✓	✓	✓	✓
Supervision/ Assistance x1	✓	✓	✓	✓
Assistance x2	✓	✓	✓	✓

× - denotes not appropriate

✓ - denotes appropriate

[1] Ip D (2007). Chapter 14: Rehabilitation after total joint replacement. Orthopaedic Rehabilitation, Assessment and Enablement. Springer Berlin Heidelberg. ISBN: 978-3-540-37693-4 (Print) 978-3-540-37694-1 (Online)

Outcomes of a stairs mobility assessment

- The observations of the client during the stairs mobility assessment need to be collated to formulate a recommendation.
- The assessment needs to document the observation of the clients mobility on stairs including assistance required, aids used, gait pattern, limitations (environment, symptoms etc.)
- The recommendation must then clearly state if the client is:
  - safe to and independently able to use stairs with or without their usual mobility aid i.e. no changes/proposed intervention. This should include a statement that the client be re-referred should issues/concerns arise,
  - safe to mobilise on stairs with restrictions, including a list of recommendations. These may include:
    - the use of a new prescribed walking aid that has been assessed as suitable including the name of the walking aid and the prescribed gait pattern for use with stairs,
    - within limited environments and/or times such as on ward only, in the house, during the day,
    - with support of a rail, supervision, or assistance, and
    - for a period of time e.g. whilst on weight bearing restrictions etc.
- It must also include a plan to address the identified deficits/ issues being addressed. This may be a review in an appropriate timeframe such as when weight restrictions will change, prescription of a new walking aid, or referral for management of observed deficits to a health professional with expertise in the area.
- Not safe to mobilise on stairs. This must include a plan to address the identified deficits/issues including further assessment and/or intervention with a health professional with expertise required to address the identified issues such as:
  - rehabilitation for balance/strength deficits,
  - assessment for modification of the home or an alternative access solution, e.g. ramp, stair lift, etc.,
  - investigation of alternative housing/living environment options e.g. respite, residential care facility, etc.

Guide to Clinical Reasoning

1. Setting and context

Inpatient vs. community outpatient

2. Client

Presenting condition and history relevant to task:

- presenting medical condition,
- relevant past medical history,
- subjective history regarding mobility prior to admission/referral,
- cognitive status (i.e. able to follow and retain instructions),
- visual status (i.e. visual neglect, wears glasses, etc.),
- relevant assessment findings (sensory deficits, weakness, pain).

General care plan:

- inpatient vs. outpatient,
- discharge planning relevant to service,
- community services involved.

Functional considerations:

- current functional status i.e. sit-stand – independent /uses chair arms/physical assistance,
- current and pre-morbid mobility – level of independence, use of a mobility aid, physical assistance and weight bear status,
- functional needs in home and community environment,
- functional goals.

Environmental considerations:

- equipment in the home environment to assist with function and mobility.

Social considerations:

- others residing in home environment,
- family/Carer able to safely and willingly assist,
- carer education provided, if relevant,
- community services available/able to help.

Other considerations:

- access to required walking aid(s),
- access to rail(s).

3. Task indications and precautions considered

- Medical status and stability (consider cardiac stability, respiratory status, haemoglobin levels).
- Client weight-bearing status (upper and lower limb).
- Indications in subjective examination.
- Has the client, staff, carer, or family reported difficulty with transfers or mobility?
- Is the client considered at a high risk of falls?
- Client hip precautions or restrictions to movement.
- Client height and weight.
- Adequate pain control.
- Cognitively capable.
- Use of a new or unfamiliar mobility aid.

4. Outcomes of task

- Aid used (y/n).
- Assistance required (y/n).
- Gait pattern used – step-to or alternate step cycle
- Is client steady in turning to descend (y/n) if no, describe.
- Client able to walk and talk (y/n).
- Client able to walk and carry (y/n).

- Does the client's gait look "abnormal" (y/n) if yes, describe.

5. Plan

- Consider subjective assessment and home/social environment to confirm level of stair mobility is suitable for home environment.
- Plans for client follow up e.g. review of stairs mobility when weight bearing restrictions are removed, refer for assessment to address the observed abnormal walking patterns due to conditions that would benefit from rehabilitation.

6. Overall reflection

- Was the outcome of the stair mobility assessment safely completed?
- Is there a clear plan recommendation regarding the clients current stair mobility status?
- Further assessment or treatment indicated.
- Indications for further learning.
- Discussion points with lead health professional.