

## D-CM03: Blood Pressure Measuring

### Scope and objectives of clinical task

This CTI will enable the Allied Health Assistant (AHA) to:

- correctly measure and document a client's blood pressure taken at the arm using an observation machine.
- identify indications for initiating blood pressure measurement.

#### VERSION CONTROL

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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](mailto:allied_health_advisory@health.qld.gov.au).

This CTI should be used under a delegation framework implemented at the work unit level. The framework is available at: <https://www.health.qld.gov.au/ahwac>

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

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# Requisite training, knowledge, skills and experience

## Training

- Completion of CTI D-WTS01 When to stop.
- Mandatory training requirements relevant to Queensland Health/HHS clinical roles are assumed knowledge for this CTI.
- Completion of the following Queensland Health allied health assistant training modules (or corresponding units of competency in HLT43015 Certificate IV in Allied Health Assistance) or equivalent work-based learning:
  - Physiotherapy Learner Guide: Deliver and monitor a client-specific exercise program
    - 3.3 Monitoring requirements.

NB: Services may elect to complete the entire module if monitoring will be performed as part of an exercise program.

Access the module/s at: <https://www.health.qld.gov.au/ahwac/html/ahassist-modules>.

## Clinical knowledge

The following content knowledge is required by an AHA delivering this task:

- basic anatomy and physiology to the extent required to undertake this task, including terminology such as systolic, diastolic and mean blood pressure, and positioning of blood pressure measurement devices.
- the indications for initiating blood pressure measurement.

The knowledge requirements will be met by the following activities:

- completing the training program/s (listed above)
- reviewing the Learning resource section.
- receiving instruction from an allied health professional in the training phase.

## Skills or experience

The following skills or experience are not identified in the task procedure but support the safe and effective performance of the task and are required by an AHA delivering this task:

- nil.

## Safety & quality

### Client

- The AHA will apply CTI D-WTS01 When to stop at all times.
- In addition, the following potential risks and precautions have been identified for this clinical task and should be monitored carefully by the AHA during the task:
  - the midline of the cuff bladder should be positioned, above the elbow, on the humerus, near the brachial artery. Avoid using an arm with IV infusions attached, recent surgery or fracture, mastectomy or axillary (arm pit) lymph node removal, lymphoedema, poor vascularisation or contagious skin conditions. If both arms are affected, seek advice from a health professional.

## Equipment, aids and appliances

- Observation machine in the healthcare facility: Ensure the observation machine is clean and in a safe working order e.g. no frayed cords or cuff leaks and if in a Queensland Health facility test and tag in situ and current.
- Observation machine client owned: within the client's home environment the AHA may need to use the client's own observation machine if one is not available through the community-based resources. In this situation look for indicators of potential problems with the machine's accuracy by asking the client how long they have had their machine and if they have had the accuracy of the machine checked recently and by checking the client's blood pressure record for any unusual variability in blood pressure readings.
- The bladder length should be approximately 80% of the client's arm circumference<sup>1</sup>. The cuff should fit comfortably prior to inflation. If the cuff velcro fastening fails during inflation check that the cuff size is correct and consider replacing with a longer, wider cuff or shorter, smaller cuff to improve fit.

## Environment

- Ensure that an appropriate level of client privacy is maintained during the task.

# Performance of Clinical Task

## 1. Delegation instructions

- Receive the delegated task from the health professional.
  - The delegating allied health professional should clearly identify parameters for delivering the clinical task to the specific client, including any variance from the usual task procedure and expected outcomes. This may include guidance regarding the timing of the measurement in the broader intervention if relevant e.g. at the commencement, at 15 minute intervals, at conclusion. The delegation instruction may also specify the position in which the blood pressure measurement is to be undertaken e.g. lying and repeated in standing for monitoring of orthostatic (postural) hypotension.
- The AHA may implement this task in variance to the timing or frequency in the delegation instruction or initiate the task if indicated by circumstances outlined in CTI D-WTS01 When to stop. The following may indicate blood pressure monitoring is required:
  - instructed by delegating allied health professional.
  - one or more of the following is reported by the client or is documented in the client's chart:
    - light headedness, when standing from a sitting or lying position
    - dizziness e.g. swaying, balance problems, unable to focus eyes on AHA
    - weakness
    - blurred vision
    - fatigue
    - fainting
    - feeling hot or sweaty or clammy

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<sup>1</sup> Smith L (2005). New AHA Recommendations for blood pressure measurement. American Family Physician 72(7): 1391-1398. Available at: <https://www.aafp.org/afp/2005/1001/p1391.html#afp20051001p1391-t3>

- recent surgery or trauma
- low haemoglobin level (<90 g/L).
- Also consider if client has any of the following which may affect blood pressure:
  - known postural drop (this may require blood pressure to be taken in lying and sitting)
  - significant pain or distress or recent administration of pain relief
  - the client has not eaten/had anything to drink for a substantial amount of time
  - extreme drowsiness
  - eating or exercising immediately before the blood pressure reading is taken
  - caffeine or cigarette smoking within 30 minutes of the blood pressure reading
  - the room temperature makes the client feels cold
  - a full bladder.

## 2. Preparation

- Check the observation machine is fully charged.
- Turn power on to allow time for the machine to self-test or initialise.

## 3. Introduce task and seek consent

- The AHA introduces him/herself to the client.
- The AHA checks three forms of client identification: full name, date of birth, **plus one** of the following: hospital UR number, Medicare number, or address.
- The AHA describes the task to the client. For example:
  - “I would like to take your blood pressure using this observation machine. Is that Ok?” and “I’m going to place this cuff on your arm to check your blood pressure. The cuff will feel tight when it inflates.”.
- The AHA seeks informed consent according to the Queensland Health Guide to Informed Decision-making in Health Care, 2<sup>nd</sup> edition (2017).

## 4. Positioning

- The client’s position during the task should be:
  - at the bedside/in bed with an over bed table positioned in front of the client, including using a clip board or seated at a table and supported in a chair.
- The AHA’s position during the task should be:
  - in a position where the AHA is easily able to point to stimulus items and provide instructions.
- If using an interpreter:
  - seat the interpreter next to the AHA. This will make it easier for the client to synthesise non-verbal cues from the test administrator and the verbal cues from the interpreter.

## 5. Task procedure

- Explain and demonstrate (where applicable) the task to the client.
- Check the client has understood the task and provide an opportunity to ask questions.
- The task comprises the following steps:
  1. position the cuff on the client’s arm. See Safety and quality section.

2. activate observation machine.
  3. record the blood pressure reading clearly and accurately as per local health service guidelines.
  4. provide feedback to the client on their blood pressure at the completion of the task.
  5. remove the cuff and clean it in line with infection control protocols.
- During the task:
    - provide feedback and correct errors in the performance of the task including:
      - If an abnormal blood pressure reading is returned which is inconsistent with the client's presentation e.g. blood pressure reading is very low but the client is lively and conversing or if the reading returns an error, consider the following:
        - re-take the blood pressure.
        - adjust the position of the cuff.
        - try the other arm if there are no contra-indications.
        - try another observation machine.
    - monitor for adverse reactions and implement appropriate mitigation strategies as outlined in the Safety and quality section above including CTI D-WTS01 When to stop.
  - At the conclusion of the task:
    - encourage feedback from the client on the task.
    - provide summary feedback to client, emphasising positive aspects of performance and areas to work.
    - ensure the client is comfortable and safe.
    - take appropriate actions including CTI D-WTS01 When to stop if indicated by the blood pressure reading.

## 6. Document

- Document the outcomes of the task in the clinical record, consistent with relevant documentation standards and local procedures. Include observation of client performance, expected outcomes that were and were not achieved, and any difficulties encountered or symptoms reported by the client during the task.
- For this task the following specific information should be presented:
  - posture the client was in lying, sitting or standing.
  - blood pressure recording as a fraction e.g. 120/80.

## 7. Report to the delegating health professional

- Provide comprehensive feedback to the health professional who delegated the task.

## References and supporting documents

- Queensland Health (2015). Clinical Task Instruction D-WTS01 When to stop.  
<https://www.health.qld.gov.au/ahwac/html/clintaskinstructions.asp>
- Queensland Health (2017). Guide to Informed Decision-making in Health Care (2<sup>nd</sup> edition).  
[https://www.health.qld.gov.au/\\_data/assets/pdf\\_file/0019/143074/ic-guide.pdf](https://www.health.qld.gov.au/_data/assets/pdf_file/0019/143074/ic-guide.pdf)

# Assessment: Performance Criteria Checklist

## D-CM03: Blood Pressure measuring

**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.			
Obtains all required information from the delegating health professional, and seeks clarification if required, prior to accepting and proceeding with the delegated task.			
Completes preparation for task including compliance with infection control and obtaining appropriate equipment.			
Introduces self to the client and checks client identification.			
Describes the purpose of the delegated task and seeks informed consent.			
Positions self and client appropriately to complete the task and ensure safety.			
Delivers the task effectively and safely as per delegated instructions and CTI procedure. a) Clearly explains the task, checking the client's understanding. b) Positions cuff on client's arm correctly. c) Activates observation machine correctly. d) Records blood pressure readings clearly and accurately as per local health service guidelines. e) Removes cuff and ensures infection control protocol is completed. f) During the task, maintains a safe clinical environment and manages risks appropriately g) Provides feedback to the client on performance during and at completion of the task.			
Documents the outcomes of the task in the clinical record, consistent with relevant documentation standards and local procedures.			
Provides accurate and comprehensive feedback to the delegating health professional.			

**Comments:**

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Record of assessment competence:

Assessor name:	Assessor position:	Competence achieved: / /
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Scheduled review:

Review date: / /
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# Blood Pressure measuring: Learning Resource

## Relevant training program

- Queensland Health (2017). Physiotherapy Learner Guide – Deliver and monitor a client-specific physiotherapy program.

- 3.3 Monitoring requirements

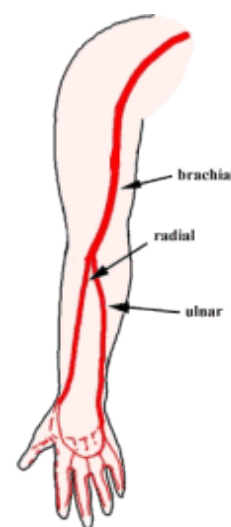
Available at: <https://www.health.qld.gov.au/ahwac/html/ahassist-modules>

## Required reading

- Victoria State Government (2018). Better Health Channel: Blood pressure. Available at: <https://www.betterhealth.vic.gov.au/health/conditionsandtreatments/blood-pressure>

## Taking a Blood Pressure Reading

- For a sitting blood pressure measurement: allow the client to be quiet and comfortably seated for at least five minutes before performing a blood pressure reading. Ensure their back and arms are supported, legs are uncrossed and upper arms are at the level of the right atrium (the mid-point of the sternum). The observer and the client should not talk during the blood pressure measurement.
- Note that for some exercise interventions, the blood pressure should be taken without allowing for rest prior to the measurement. The delegating health professional should indicate variance from the above procedure.
- Remove any clothing or roll up the sleeve to clear the upper arm in preparation for applying a blood pressure cuff. Ensure the rolled up sleeve does not have a 'tourniquet effect'.
- Proper cuff size selection is critical to accurate measurement. Choose a cuff size in accordance with the client's size (80% of the client's arm circumference).
  - The recommended cuff sizes are:
    - For arm circumference of 22 to 26 cm, the cuff should be 'small adult' size: 12x22 cm
    - For arm circumference of 27 to 34 cm, the cuff should be 'adult' size: 16x30 cm
    - For arm circumference of 35 to 44 cm, the cuff should be 'large adult' size: 16x36 cm
    - For arm circumference of 45 to 52 cm, the cuff should be 'adult thigh' size: 16x42 cm
- Fit the cuff securely with the arterial marker aligned with the brachial artery and 2 to 3cm above the elbow joint (see illustration<sup>2</sup> at right for location of brachial artery).
- Figure 1 in the reference by Handler (2009) shows the correct performance of a sitting blood pressure measurement.



<sup>2</sup> Millay J. *Accurate blood pressure measurement for medical instrumentation*. [http://accuratebloodpressure.com/blood\\_pressure.html](http://accuratebloodpressure.com/blood_pressure.html)



- Check the client's medical history and avoid putting the blood pressure cuff on an arm with the following:
  - IV infusions attached
  - recent surgery or fracture of the upper limb
  - history of mastectomy or axillary (arm pit) lymph node removal at any time in client's past
  - lymphoedema
  - poor vascularisation as evidenced by discoloured extremities (white or blue fingers), or a history of poor healing of skin lesions of the arm
  - contagious skin conditions in the upper arm
- Start the blood pressure reading and allow it to complete the recording process.
- Document the blood pressure reading.
- Remove the cuff and clean in line with infection control protocols.

## References

- Handler, J. (2009). The importance of accurate blood pressure measurement. *The Permanente Journal*, 13(3),51-54. Retrieved 14 April 2016 from <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2911816/>
- Pickering, T., Hall, J., Appel, L., Falkner, B., et al. (2005). AHA Scientific Statement: Recommendations for blood pressure measurement in humans and experimental animals: Part 1 Blood pressure measurement in humans. *Hypertension*, 45,142-161. Retrieved 14 April 2016 from <http://hyper.ahajournals.org/content/45/1/142.short>