

Clinical Task Instruction

DELEGATED TASK

D-NM03: Wrist range of motion exercises

Scope and objectives of clinical task

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

- safely and effectively educate/instruct and supervise clients undertaking wrist range of motion (ROM) exercises including active (AROM), passive (PROM), active assisted (AAROM) and active resisted.
- explain the purpose of ROM exercise programs, facilitate and monitor performance including correcting common errors or causes of ineffective performance, and providing clear and relevant feedback to improve the client's performance.
- recognise and monitor common conditions that impact on wrist exercises including oedema, infection, skin tears, pressure injuries, poor healing of wounds, signs of abnormal scarring and excessive pain.

VERSION CONTROL

Version:	1.0	Author:	Central Queensland Hospital and Health Service
Endorsed: (Professional)	Directors of Occupational Therapy & Directors of Physiotherapy	Date approved:	2/11/2018
Approved: (Operational)	Directors of Occupational Therapy & Directors of Physiotherapy	Date approved:	2/11/2018
Document custodian:	Chief Allied Health Officer, Allied Health Professions Office of Qld.	Review date:	2/11/2021
Acknowledgements:	The occupational therapy students from Central Queensland who assisted in this CTI's development		

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 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.

© State of Queensland (Queensland Health) 2018



This work is licensed under a Creative Commons Attribution Non-Commercial No Derivatives 3.0 Australia licence. This work is licensed under a Creative Commons Attribution Non-Commercial No Derivatives 3.0 Australia licence. In essence, you are free to copy and communicate the work in its current form for non-commercial purposes, as long as you attribute Queensland Health and authoring unit listed above, and abide by the licence terms. You may not alter or adapt the work in any way. To view a copy of this licence, visit <http://creativecommons.org/licenses/by-nc-nd/3.0/au/deed.en>.

For further information contact Allied Health Professions' Office of Queensland, PO Box 2368, Fortitude Valley BC QLD 4006, email allied_health_advisory@health.qld.gov.au, phone (07) 3328 9298. For permissions beyond the scope of this licence contact: Intellectual Property Officer, Queensland Health, GPO Box 48, Brisbane Qld 4001, email ip_officer@health.qld.gov.au, phone (07) 3328 9862.

Disclaimer

Queensland Health has made every effort to ensure that the information in this resource, at the time of distribution, is correct. The information in this resource will be kept under review and future publications will incorporate any necessary amendments.

The information in this resource does not constitute clinical advice and should not be relied upon as such in a clinical situation. The information is provided solely on the basis that readers will be responsible for making their own assessment of the matters presented herein and readers are advised to verify all relevant representations, statements and information. Specialist advice in relation to the application of the information presented in this publication must be sought as necessary to ensure the application is clinically appropriate.

In no event, shall Queensland Health be liable (including negligence) for any claim, action, proceeding, demand, liability, costs, damages, expenses or loss (including without limitation, direct, indirect, punitive, special or consequential) whatsoever brought against it or made upon it or incurred by Queensland Health arising out of or in connection with a person's use of information in this publication

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.
- Access the module/s at: <https://www.health.qld.gov.au/ahwac/html/ahassist-modules>
- If wrist range of motion exercises are to include clients with limitations or restrictions, completion of CTI D-NM02: Measure range of motion of the wrist using a goniometer.

Clinical knowledge

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

- basic anatomy of the wrist including anatomical movements and landmarks
- understand the purpose of wrist ROM exercises, including:
 - the principles of ROM, PROM, AAROM and resisted ROM exercises
 - potential performance errors and strategies used to correct performance.
- awareness of common conditions that affect wrist range of motion e.g. distal radius fracture, scaphoid fracture and carpal tunnel
- awareness of common signs and symptoms to be monitored when performing exercises including pain, altered/abnormal appearance of the hand or wrist, signs of pressure injury or infection, abnormal scar formations and oedema.

The knowledge requirements will be met by the following activities:

- completing the training program/s (listed above)
- reviewing the Learning Resource
- 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:

- If required for the local service delivery model, skill or the ability to acquire competence in the use of a pain rating scale e.g. Visual Analogue Scale (VAS).

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 appearance of the hand, including altered/abnormal appearance of the forearm, wrist, hand or fingers. For example:
 - increased oedema or signs of increased oedema e.g. the skin appearing shiny or tight, an observable difference in size of the limb as compared to the unaffected side or baseline, the skin feeling hot to touch or signs of pitting on palpation
 - signs of infection e.g. redness, heat or swelling of acute onset, coloured exudate leaking from the wound, malodour, localised pain at/around the wound site or delays in wound healing including no new tissue granulation or the wound is not healed after three weeks
 - signs of abnormal scar formation e.g. raised, red, hot, non-pliable or thickened or the client reports restricted movement, pulling sensations or pain over the scar area during movement
 - moderate pain at rest or prior to commencing ROM or increased pain during ROM or palpation. Pain should usually settle with cessation of the activity. Pain may be due to pressure or discomfort from the splint (if applicable), poor pain management including the use of a medication regimen or activity pacing.
 - other skin abnormalities, including signs of redness/blotching, sweating or pressure injury, this may be observed or reported and be due to a poor fitting splint (if applicable) or underlying conditions e.g. complex regional pain syndrome.
 - If signs and symptoms develop, worsen or do not match the delegation instruction, cease the task and liaise with the delegating health professional.

Equipment, aids and appliances

- Clients often present for wrist exercises wearing a splint. Do not remove the splint if this was not part of the delegation instruction. Ask the client if they have experienced any concerns or problems with the splint fit including rubbing, ongoing pain, discomfort or problems with straps. If problems are present, cease the task and liaise with the delegating health professional. If the delegation instruction did not include information about the splint, confirm with the client who prescribed the splint and applied it, and liaise with the delegating health professional prior to commencing the planned exercise program.

Environment

- Nil

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:
 - the exercise/s to be performed e.g. PROM, AROM, AAROM, resisted AROM.
 - the frequency, number of repetitions, sets and duration (hold time) for each exercise, amount and type of resistance and details for the home exercise program (if required).
 - the position the exercise is to be undertaken.
 - restrictions required for each exercise e.g. splint wear or limited range of motion including angle to meet protocol or within comfort.
 - monitoring requirements and thresholds for each exercise e.g. expected movement patterns, pain or skin blanching.

2. Preparation

- Obtain the required equipment including:
 - client exercise handout
 - if performing active resisted ROM, weight or theraband colour.

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 am here today to assist you to complete your ROM exercises that (delegating allied health professional) has prescribed for you. These movements should be completed smoothly and slowly. These movements may cause discomfort. However, they should not cause any additional or ongoing pain. If you feel pain please let me know”.
- And if the delegation instruction includes a home exercise program:
 - “After we practice these exercises today you will be able to continue with them at home as these exercises need to be performed regularly”.
- The AHA seeks informed consent according to the Queensland Health Guide to Informed Decision-making in Health Care, 2nd edition (2017).

4. Positioning

- The client’s position during the task should be:
 - sitting in a chair, with elbow or forearm supported on a table.

- The AHA's position during the task should be:
 - positioned directly opposite the client, sitting in a chair and in a position to demonstrate the exercises and observe the client's performance.

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. Observe the client's hand and forearm. See the "Safety and quality" section.
 2. Explain how to perform the planned program for each individual exercise including the goal, expected outcome, position, number of sets, repetitions/time, level of resistance. See the Learning Resource for specific details for each exercise.
 3. Demonstrate how to perform each exercise, highlighting potential errors and the target level of performance for the training session.
 4. Follow the training program described by the delegating health professional, which will provide guidance on positioning, risks and precautions and any other relevant considerations for the individual client.
- During the task:
 - provide feedback and correct errors in the performance of the task using the delegation instruction and knowledge of common errors as a guide. This may include:
 - for clients who present wearing a splint, conduct the exercise program as per the delegation instruction i.e. remove the splint or perform with splint insitu. See the "Safety and quality" section.
 - providing verbal correction and/or manual guidance for poor performance. See Table 1 in the Learning Resource. If problems persist, cease the task and liaise with the delegating health professional.
 - counting repetitions/noting the time elapsed for the client and indicating when to rest.
 - watching for signs of fatigue such as increasing use of compensatory movements. If the client is unable to complete the required number of repetitions without compensatory movements, cease the exercise noting the problem and the number of repetitions that were achieved. Continue with the next exercise in the program if the client is able to perform without compensatory movements.
 - if the client reports pain during or after exercise performance, pause the exercise and monitor the client's pain e.g. using a pain rating scale. See the "Safety and quality" section. If the pain persists, cease the task and discuss the parameters achieved for exercise performance with the delegating health professional.
 - 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 the client, emphasising positive aspects of performance and areas to work on e.g. going slow or holding the movement
 - if part of the delegation instruction, provide instructions for independent practice of the task including reinforcing safety considerations
 - ensure the client is comfortable and safe.

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 difficulties encountered or symptoms reported by the client during the task.
- For this task the following specific information should be presented:
 - observations of the client's skin including oedema, scars or wounds
 - the name of each exercise practised including the level of resistance (weight, theraband colour), number of repetitions, sets and duration of hold completed for each exercise, any difficulties experienced and/or monitoring requirements.

7. Report to the delegating health professional

- Provide comprehensive feedback to the health professional who delegated the task, including:
 - Observations of client performance, expected outcomes that were and were not achieved and difficulties encountered or symptoms reported by the client during the task. The AHA may also provide observations to the health professional that supports changes to the program such as the need to progress an exercise.

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 (2nd edition).
https://www.health.qld.gov.au/_data/assets/pdf_file/0019/143074/ic-guide.pdf

Assessment: Performance Criteria Checklist

D-NM03: Wrist range of motion exercises

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 the task including collecting the client exercise handout and equipment, setting up the practice environment and checking the clients functional and medical status.			
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 the delegated instructions and CTI procedure. a) Clearly explains the task, checking the client's understanding. b) Implements the prescribed exercise program by: <ul style="list-style-type: none"> - appropriately describing and/or demonstrating the exercise - correctly setting up the practice environment for the exercise - accurately monitors the clients' performance during the task - provides timely, accurate and appropriate feedback during the task. c) Determines client's capacity to participate in each prescribed activity before commencing. d) Reinforces exercises with the client by referring to the client handout/s. e) During the task, maintains a safe clinical environment and manages risks appropriately. f) 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.			

Local service model comment:

The allied health assistant has been trained and assessed as competent in the following wrist ROM exercises:

- Active Range of Motion (AROM)
- Passive Range of Motion (PROM)
- Active Assisted Range of Motion (AAROM)
- Active Resisted Range of Motion

Including:

- Theraband
- Weights

Comments:**Record of assessment of competence**

Assessor name:	Assessor position:	Competence achieved: / /
----------------	--------------------	--

Scheduled review

Review date / /

Wrist range of motion exercises: Learning Resource

Range of motion (ROM) exercises are commonly prescribed as part of an exercise program. They are designed to assist in recovering or increasing the range of motion for the wrist. ROM exercises can also help decrease pain and strengthen the muscles around the joint. They tend to be described as passive, active, active assisted and active resisted ROM. The type of ROM exercise that is performed will be determined by the health professional prescribing the program considering a range of factors including the rate of tissue recovery, surgical protocols and client comorbidities.

Required reading

- American Society for Surgery of the Hand (2015). Wrist fractures. Available at: <http://www.assh.org/handcare/hand-arm-injuries/wrist-fractures#prettyPhoto>
- Arthritis Foundation: Hand and wrist anatomy (n.d.). Available at: <https://www.arthritis.org/about-arthritis/where-it-hurts/wrist-hand-and-finger-pain/hand-wrist-anatomy.php>
- Physioworks (2018). Wrist Pain or Injury. Available at: <https://physioworks.com.au/Injuries-Conditions/Regions/wrist-pain-injury>
- Orientation and familiarisation with local resources for wrist range of motion exercises including client handouts, posters and equipment for resistance.

Example client handouts/resources

- Physioworks (2018). Common Sources of Wrist Pain. Available at: <https://physioworks.com.au/Injuries-Conditions/Regions/wrist-pain-injury>
- Queensland Hand Therapy Network (QHTN) (2018). Patient handouts. Available at: <https://qheps.health.qld.gov.au/qhtn/html/resources>

Optional viewing

For an example of active wrist range of motion:

- LB Hand Therapy (2015, January 16). *Exercises for wrist range of motion* [Video file]. Retrieved from <https://www.youtube.com/watch?v=VGrbAsSJ3gk>

For an example of passive wrist range of motion:

- Physiotutors (2015, December 7). *Passive range of motion: wrist & hand* [Video file]. Retrieved from <https://www.youtube.com/watch?v=1MhBpNR83xs>

For an example of active resistance wrist flexion:

- Sports Injury Clinic (2010, October 15). *Wrist flexion using a resistance band* [Video file]. Retrieved from https://www.youtube.com/watch?v=z02xhAgM_6I

For an example of active resistance wrist extension:

- Sports Injury Clinic (2010, October 15). *Wrist extension exercise with resistance band* [Video file]. Retrieved from <https://www.youtube.com/watch?v=6Po2NeM8A-Q>

For an example of active assisted supination:

- Sports Injury Clinic (2011, December 22). *Wrist exercise – assisted forearm* [Video file]. Retrieved from <https://www.youtube.com/watch?v=DHjfcV76MyQ>

The principles of range of motion and the differences between them are presented in Table 1.

Table 1 Principles of Range of Motion

Range of Motion	Principle	Common performance errors	Common strategies to correct performance errors
Passive ROM (PROM)	<p>Passive ROM is the movement of a joint performed entirely by an outside force with no active movement performed by the individual receiving the exercises. The individual receiving the PROM is to relax the specific body part while the outside force performs the movement. The outside force could be the therapist or another means.¹</p> <p>It is commonly used when muscle activity needs to be minimised. This may be due to muscle healing, pain or fear of movement.</p> <p>Example client handout available at: https://qheps.health.qld.gov.au/_data/assets/pdf_file/0033/1797711/wristpass.pdf</p>	<ul style="list-style-type: none"> Client activates muscles during the movement e.g. tendons elevate, wrist movement observed without support or muscle tension on palpation. Client deviates instead of performing a pure movement. For example, when performing wrist extension deviates towards the radius. Deviation may be due to avoiding pain e.g. due to joint stiffness or tissue tightness. 	<ul style="list-style-type: none"> Monitor for wrist movement and muscle tension. If present, advise the client to relax, pause the movement and wait for movement or tension to ease. Provide verbal cueing, if problems persist introduce manual guidance e.g. keep your hand in contact/or away from my finger. If problems persist, liaise with the delegating health professional regarding alternative positioning.
Active ROM (AROM)	<p>Active ROM is the movement of a joint performed voluntarily by the individual, with no outside force assisting with the movement.¹</p> <p>It is commonly used to improve confidence with movement by resuming a normal movement pattern including joint forces, muscle activation and strength.</p> <p>Example client handout available at: https://qheps.health.qld.gov.au/_data/assets/pdf_file/0036/1797642/Wrist-Exercises-Active.pdf</p>	<ul style="list-style-type: none"> Client deviates instead of performing a pure movement e.g. when performing wrist extension, deviates towards the radius. Deviation may be due to avoiding pain, poor recruitment pattern or muscle weakness. 	<ul style="list-style-type: none"> Provide verbal cueing. If problems persist, introduce manual guidance e.g. keep your hand in contact/or away from my finger. The client may be also experiencing fatigue and recruiting accessory muscles. Provide a short rest break. On resuming repetitions observe if performance improves. If yes, reduce the number of repetitions to match correct performance and liaise with the delegating health professional. If movement problems persist, cease the exercise and liaise with the delegating health professional regarding positioning or exercise options.

(1) Range of Motion Exercise. (2018). In *the Free Dictionary by Farlex*. Retrieved from <https://medical-dictionary.thefreedictionary.com/range-of-motion+exercise>

Range of Motion	Principle	Common performance errors	Common strategies to correct performance errors
		<ul style="list-style-type: none"> Movements should be performed smoothly and controlled. Clients often perform the movements quickly and do not pause for the change in direction. Exercises may require a short pause or hold at the end of the movement e.g. 3 seconds. Clients commonly do not hold the exercise/s for the required amount of time. 	<ul style="list-style-type: none"> Provide verbal cueing e.g. “slow down” and “gentle and controlled movements”. Provide verbal cueing e.g. “remember to hold the movement for three seconds” and/or counting out loud “one, two, three”.
Active Assisted ROM (AAROM)	<p>Active assisted ROM is the active movement of a joint performed voluntarily by the individual with partial assistance from an outside force.¹</p> <p>It is commonly used when the client has insufficient strength to complete the AROM independently but range of motion is required.</p>	<ul style="list-style-type: none"> Client deviates instead of performing a pure movement e.g. when performing wrist extension, deviates towards the radius. Deviation may be due to avoiding pain, poor recruitment pattern or muscle weakness. Movements should be performed smoothly and controlled. Clients often perform the movements quickly and do not pause for the change in direction. 	<ul style="list-style-type: none"> Provide verbal cueing. If problems persist, introduce manual guidance e.g. keep your hand in contact/or away from my finger. If problems persist liaise with the delegating health professional regarding alternative positioning. Provide verbal cueing e.g. “slow down” and “gentle and controlled movements”.
Active Resisted ROM	<p>Active resisted ROM is the voluntary movement of a joint by the individual against an opposing force e.g. weight, therapand or theraputty, to increase muscle strength.¹</p> <p>It is commonly used to improve strength. Example client handout available at:</p> <p>Static: https://qheps.health.qld.gov.au/_data/assets/pdf_file/0044/1797848/11.0-Wrist-strengthening-static.pdf</p> <p>Dynamic: https://qheps.health.qld.gov.au/_data/assets/pdf_file/0045/1797795/12.0-Wrist-Strengthening-dynamic.pdf</p>	<ul style="list-style-type: none"> Movements should be performed smoothly and controlled. Clients often perform the movements quickly. Exercises require a short pause or hold at the end of the movement e.g. 3 seconds. Clients commonly do not hold the exercise/s for the required amount of time. This may be due to muscle control, weakness, pain or stiffness. 	<ul style="list-style-type: none"> Provide verbal cueing e.g. “slow down” and “gentle and controlled movements”. Provide verbal cueing e.g. “remember to hold the movement for three seconds” and/or counting out loud “one, two, three”. Provide verbal correction and direct client to review images on the exercise handout provided. Check the position and placement of bands, tubing or weight. Reduce/remove the weight to check the client understands the movement pattern required.

Early identification of abnormalities supports management. Table 2 provides a list of resources that describe the common signs and symptoms of wounds, scars and oedema that should be monitored whilst providing exercises to clients with wrist problems.

Table 2 Common Signs and Symptoms of the Hand to be Monitored

Appearance of the Hand	Link or Resource
Wounds	<p>For information on signs of infections, review the following subsections from the link below: “Considerations for assessment” “Types of Wounds throughout RCH”</p> <ul style="list-style-type: none"> The Royal Children’s Hospital Melbourne (2013). Wound care. Available at: https://www.rch.org.au/rchcpg/hospital_clinical_guideline_index/Wound_care/ <p>For examples of infected and abnormal wounds, refer to the picture on the link below:</p> <ul style="list-style-type: none"> Advanced Tissue (2018). Know the Signs of Infection to get Proper Treatment Fast. Available at: https://www.advancedtissue.com/know-the-signs-of-infection-to-get-proper-treatment-fast/ <p>For examples and information of wounds, review the following subsection from the link below: “wound”</p> <ul style="list-style-type: none"> Queensland Health (2017). Introduction to Assessment of the Hand: An initiative of the Queensland Hand Therapy Network (pp. 11-19). Available at: https://qheps.health.qld.gov.au/_data/assets/pdf_file/0042/1797882/qhtn-introassessment.pdf
Scars	<p>For examples and information of scars, review the following subsection from the link below: “scar”</p> <ul style="list-style-type: none"> Queensland Health. (2017). Introduction to Assessment of the Hand: An initiative of the Queensland Hand Therapy Network (pp. 20-21). Available at: https://qheps.health.qld.gov.au/_data/assets/pdf_file/0042/1797882/qhtn-introassessment.pdf <p>For examples and information of scars, review the following subsection from the link below: “Clinical Presentations”</p> <ul style="list-style-type: none"> Queensland Health (2014). Scar Management: An Initiative of the Queensland Hand Therapy Network (pp. 18-22). Available at: https://qheps.health.qld.gov.au/_data/assets/pdf_file/0047/1797698/qhtn-scar.pdf
Oedema	<p>For examples and information of oedema, review the following subsection from the link below: “oedema”</p> <ul style="list-style-type: none"> Queensland Health. (2017). Introduction to Assessment of the Hand: An initiative of the Queensland Hand Therapy Network (pp. 22-24). Available at: https://qheps.health.qld.gov.au/_data/assets/pdf_file/0042/1797882/qhtn-introassessment.pdf