

Clinical Task Instruction

Delegated Task

D-FC09: Instant Total Contact Cast – lower limb

Scope and objectives of clinical task

This CTI will enable the Allied Health Assistant to:

- safely measure and fit the client for an instant Total Contact Cast (iTCC) as an off-loading device to protect the foot
- train and educate the client and/or carer in the use of the iTCC device including safety checks, features, and maintenance requirements, limitations and risks associated with use.

VERSION CONTROL

Version: 1.0

Reviewed: (Profession)	Directors of Podiatry	Date:	08/05/2026
Approved: (Operational)	Chief Allied Health Officer, Queensland Health	Date:	14/05/2026
Document custodian:	Chief Allied Health Officer, Queensland Health	Review date:	14/05/2029
Acknowledgements:	Townsville Hospital and Health Service		

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 the Office of the Chief Allied Health Officer (OCAHO) 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/html/ahassist>

Prior to use please check <https://www.health.qld.gov.au/ahwac/html/clintaskinstructions> for the latest version of this CTI.

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Note 1: This CTI includes iTCC off-loading using a knee-high removable cast walker (RCW) with fibreglass bandage fixation. The local service will determine which RCW off-loading devices are in the scope of this CTI for an individual allied health assistant and record these in the performance criteria checklist.

Requisite training, knowledge, skills and experience

Training

- Completion of CTI D-WTS01 When to stop.
- Completion of CTI D-FC07 Supply, fit, train and review a removable cast walker or post-operative shoe +/- peg-assist insole.
- Completion of CTI D-FC08 Supply, fit and review semi-compressed felt to off-load a high-risk foot.
- If the local service model requires measurements of foot and ankle, including temperature, as part of this task completion of CTI D-FC06: Support Charcot foot assessment.
- Mandatory training requirements relevant to Queensland Health clinical roles are assumed knowledge for this CTI.
- If not part of mandatory training requirements, complete patient handling techniques including competence in the use of walk belts and assisting clients with standing transfers and walking.
- Completion of the Queensland Government. Clinical Skills Development Service online course (2003-2025): Foot Disease: Recognise, Respond, Refer (FDRRR). Available at: <https://central.csds.qld.edu.au/central/courses/449>

Clinical knowledge

- The following content knowledge is required by an allied health assistant delivering this task:
 - common signs, symptoms and risks for developing a pressure area and/or foot ulcer
 - basic foot anatomy to the extent required to accurately identify and locate the plantar metatarsal heads, base of the 5th metatarsal styloid process, calcaneus and plantar hallux
 - purpose and rationale of applying an iTCC to a high-risk foot for off-loading
 - the features of the RCW planned for use as an iTCC defined as 'in scope' in the local service including indications and limitations
 - method to measure, fit, and adjust each RCW device and semi-compressed felt product for off-loading planned for use as an iTCC
 - the features and application method of undercast padding and fibreglass bandaging for iTCC fixation including the equipment for removal e.g. plaster scissors and plaster saw
 - the fitting and supply of a 'level-up' device to support walking whilst wearing an iTCC.
- 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 allied health assistant delivering this task:
 - local training for wound management consistent with the allied health assistant role as relevant to the scope of this CTI.

Safety and quality

Client

- The allied health assistant 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 allied health assistant during the task:
 - if the client has signs of infection (redness, heat, swelling) and this was not included as part of the delegation instruction, or if signs and symptoms do not match the delegation instruction, liaise with the delegating health professional prior to fitting the RCW
 - clients may report concerns of skin reactions to iTCC wear due to padding, semi compressed felt or fibreglass materials e.g. allergies to synthetics or heat rash. If concerns are raised and strategies to support wear were not included as part of the delegation instruction, cease the task and inform the delegating health professional
 - clients may experience neurological symptoms associated with iTCC wear including new or increased, pain, numbness or pins and needles. If symptoms persist for more than two hours, or the symptom episodes are increasing in frequency or last longer over time, the iTCC will need to be removed. Instructions for removal should be included as part of client / carer education and recorded in the medical record.

Equipment, aids and appliances

- Fibreglass bandages have a shelf life and harden when expired or exposed to air. If the bandage is noted to be hard or dry, discard and source a new bandage.
- Fibreglass is a known skin irritant. The allied health assistant should wear an apron and gloves to avoid contact and staining of clothes and skin. Fitting stockinette over the iTCC fibreglass bandage can reduce skin irritation to the client's other body parts.
- Wool undercast padding reduces damage of the RCW during fibreglass removal. This supports re-use with the same client, if required. If undercast padding is not available, liaise with the delegating professional for task modification, for example apply without undercast padding, use zip ties for fixation, etc.
- The plaster saw should be inspected prior to use. This includes checking the electrical cord for damage and, if in a Queensland Health facility, that the test and tag date is current. Inspect the teeth on the blade noting if they appear low or damaged, this may indicate the need for blade replacement.

Environment

- Application of fibreglass bandages should occur at room temperature. The fibreglass will harden faster at higher temperatures, including using warm water.

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 client's risk of falls including walking and transfer ability. If assistance is required, the type and amount should be noted e.g. walking aid, with supervision
 - the location of any wounds, pressure areas, deformity or amputations including any dressings/coverings present and/or to be applied
 - if fitting a new iTCC or removing and re-applying the iTCC
 - the RCW and semi-compressed felt planned for fitting including any requirements or particulars e.g. style, if semi-compressed felt is to be fitted, the size, area/s for off-loading and shape
 - any measurements to be recorded prior to fitting the iTCC e.g. temperature, wound dimensions, photos/images
 - hygiene care required prior to fitting iTCC including the application of medicaments
 - wound dressings to be applied and the process for application
 - education resource for use including information on the care of the iTCC
 - timing of task with delegating health professional attendance, such as to coincide with dressing changes to view the wound
 - the period and plan for review e.g. review at high-risk foot clinic and timeframe.

2. Preparation

- Collects
 - RCW and semi-compressed felt planned for supply and fit as an iTCC
 - wool undercast padding, 7.5cm fibreglass bandaging, apron, gloves, wedge and bowl of water
 - rigid tape, stockinette
 - if removing the iTCC - plaster saw and scissors
 - client resources for the iTCC care instructions and follow up care.

3. Introduce task and seek consent

- The allied health assistant introduces themselves to the client.
- The allied health assistant 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 allied health assistant describes the task to the client. For example:
 - if removing the iTCC
 - I am going to cut the fibreglass bandage to be able to remove the boot from your leg so we can look at your foot ulcer.
 - if fitting the iTCC

- I am going to fit this (name of device with/without padding) to your foot and wrap it with this bandage. This will mean you will not be able to remove the boot. This will help your ulcer to heal.
- The allied health assistant seeks informed consent according to the Queensland Health Guide to Informed Decision-making in Health Care, Version 2.6 (2025).

4. Positioning

- The client's position during the task should be:
 - sitting comfortably on a height-adjustable plinth.
- The allied health assistant's position during the task should be:
 - in a position to allow access to the lower limb for sizing and fitting of the off-loading device, required semi-compressed felt and fibreglass bandage.

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. If the client has an iTCC insitu describe and demonstrate (if necessary) the plaster saw that will be used to remove the fibreglass bandage. If fitting a new iTCC proceed to step 4.
 2. Using the plaster saw cut the fibreglass down the centre of the front of the iTCC. Using fingers spread the fibreglass open and expose the wool undercast padding. Remove the fibreglass and undercast padding to reveal the RCW fasteners, using scissors if required.
 3. Remove the RCW and remove any wound dressings. If planning to re-use the RCW check it is in good condition, including that the fasteners are in working order and the liner is undamaged.
 4. To support hygiene, wash the leg with clean water, dry well and, if part of the delegation instruction, apply medicaments. Observe the skin for any changes including new wounds or discolouration. If observations do not match the delegation instruction, inform the delegating health professional prior to fitting the RCW.
 5. Inspect the limb and complete any required measurements.
 6. If part of the delegation instruction, contact the delegating health professional to inspect the wound.
 7. Use local processes for wound dressing application.
 8. Describe and demonstrate (if necessary) the use of the prescribed RCW and semi-compressed felt, if required, to the client and/or carer.
 9. Confirm the wound is covered. If the delegation instruction includes off-loading with semi-compressed felt, implement D-FC08 Supply, fit and review semi-compressed felt to off-load a high-risk foot.
 10. To fit the prescribed RCW, implement CTI D-FC07 Supply, fit, train and review a removable cast walker or post-operative shoe +/- peg-assist insole.
 11. Review the client's ability to safely mobilise with the RCW and if relevant, the semi-compressed felt in situ. See the Safety and quality section. If required, make adjustments to the off-loading device and/or semi-compressed felt for comfort, fit and function. Determine the need for a level up device. If required, fit the level-up device and review walking.

12. Return the client to long sitting on a plinth. Place the wedge below the knee with the RCW extending beyond the end of the bed. See image in Learning resource.
13. Circumferentially wrap the RCW with one layer of wool undercast padding, commencing proximally to the ankle and overlapping by half the bandage width. Break off the wool below the top buckle.
14. Apply gloves and open the fibreglass bandage package. Grasp the fibreglass bandage, submerge in the bowl of water and remove, gently squeezing to remove any excess water.
15. Circumferentially wrap one layer of fibreglass bandage over the wool undercast padding, commencing distally and overlapping by half the bandage width. Ensure the undercast padding remains visible at both ends. See image in Learning resource.
16. Cut the fibreglass bandage and discard any excess. Rub the edges of the fibreglass to assist the product to adhere to itself.
17. When dry and firm, cover the fibreglass bandage with stockinette. See Safety and quality.
18. To secure the RCW forefoot fastener apply rigid tape circumferentially.
19. Review the client's ability to safely walk with the iTCC in situ.
20. Provide education to the client and/or carer on general care of the iTCC including personal hygiene, monitoring for signs of wear and tear, changes in pain, pins, needles, numbness or discomfort. And if in the case of an emergency, the process for removal, inspection and replacement of the iTCC.

During the task:

- Provide feedback and correct errors in the performance of the task including:
 - Removal of the iTCC
 - if fibreglass is not separating, use the saw to re-cut along the saw line. Confirm that the fibreglass has been cut all the way through.
 - if additional force appears to be required on the plaster saw for cutting the fibreglass, lift and turn the blade to access a different section of the blade. See Safety and quality.
 - if the RCW and inner liner is being re-used, inspect for maintenance and hygiene. The liner should be free from tears, holes and deep indentations. The RCW frame should not be bent, buckled or twisted. If damage is noted, source a replacement.
 - Application of the iTCC
 - the fibreglass bandage needs to be smooth and set prior to walking. Edges that are lifted should be rubbed flat.
 - the fibreglass bandage makes the iTCC irremovable. Do not apply tension, as excessive tightness can increase the risk of pain, pins, needles and numbness. Roll the bandage rather than pulling it. When applying, place the bandage on the RCW and roll it off the roll, using enough pressure to keep the bandage moving smoothly.
 - Sitting and walking
 - the use of an iTCC can create a new risk of falls. This may include a loss of balance or appearing unsteady when walking. If the client appears unsteady when walking or reports unsteadiness or a fear of falling, and this cannot be resolved during the task, cease the task and inform 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 client, emphasising positive aspects of performance and areas to work on (including reinforcing safety considerations) if this was requested by the delegating health professional
 - 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:
 - details of the RCW off-loading device fitted including particulars e.g. left/right, the size and style/brand of RCW brand, model fitted and supplied
 - details of semi-compressed felt applied including particulars e.g. felt thickness, location and aperture site
 - details of any measurements taken
 - process undertaken for wound dressing application
 - education provided to the client e.g. wear and care of the off-loading device, warnings for safety including inspection frequency and care, process for removal
 - the plan for review and ongoing management e.g. review at high-risk clinic in timeframe indicated in delegation instruction.

7. Report to the delegating health professional

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

References and supporting documents

- Bus SA, Armstrong DG, Crews RT, Gooday C, Jarl G, Kirketerp-Moller K, Viswanathan V, Lazzarini PA, on behalf of the International Working Group on the Diabetic Foot (2023). Guidelines on offloading foot ulcers in persons with diabetes IWGDF 2023 update. Available at: <https://iwgdfguidelines.org/offloading-guideline-2023/>
- Queensland Health (2015). Clinical Task Instruction D-WTS01 When to stop. Available at: <https://www.health.qld.gov.au/ahwac/html/clintaskinstructions>.
- Queensland Health (2025). Guide to Informed Decision-making in Health Care. Version 2.6. Available at: <https://www.health.qld.gov.au/consent/clinician-resources/guide-to-informed-decision-making-in-healthcare>.

Assessment: performance criteria checklist

D-FC09: Instant Total Contact Cast – lower limb

Name:

Position:

Work Unit:

Performance criteria	Knowledge acquired	Supervised task practice	Competency assessment
	<i>Date and initials of supervising AHP</i>	<i>Date and initials of supervising AHP</i>	<i>Date and initials of supervising AHP</i>
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 RCW, semi-compressed felt, items to apply and/or remove fibreglass bandage fixation, client education resources.			
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.			
<p>Delivers the task effectively and safely as per delegated instructions and CTI procedure.</p> <p>a) Clearly explains the task, checking the client's understanding.</p> <p>b) If removing the iTCC demonstrates saw usage and cuts the fibreglass to remove.</p> <p>c) Inspects the RCW and liner and determines if able to be reused.</p> <p>d) Supports lower limb hygiene, including cleaning and applying medicament if part of the delegation instruction.</p> <p>e) Inspects the limb and undertakes any required measurements.</p> <p>f) If part of the delegation instruction, contacts the delegating health professional to inspect the wound.</p> <p>g) Uses local processes for wound dressing application, and if part of the delegation instruction, implements D-FC08 Supply, fit and review semi-compressed felt to off-load a high-risk foot.</p> <p>h) Confirms the wound remains covered and implements CTI D-FC07 Supply, fit, train and review a removable cast walker or post-operative shoe +/- peg-assist insole.</p> <p>i) Reviews the client's ability to safely mobilise and if required fits a level-up device.</p> <p>j) Positions the client. Correctly applies wool undercast padding and fibreglass bandage.</p>			

<p>k) When bandage is dry and firm, applies stockinette and secures the forefoot RCW fastener with rigid tape.</p> <p>l) Reviews the client's ability to walk with the iTCC insitu.</p> <p>m) Provides information to the client and/or carer on care of the iTCC, including process for emergency removal.</p> <p>n) During the task, maintains a safe clinical environment and manages risks appropriately.</p> <p>o) Provides feedback to the client on performance during and at completion of the task.</p>			
<p>Documents the outcomes of the task in the clinical record, consistent with relevant documentation standards and local procedures.</p>			
<p>Provides accurate and comprehensive feedback to the delegating health professional.</p>			
<p>Notes on the scope of the training and competency of the allied health assistant:</p>			
<p>The allied health assistant has been trained and assessed as competent to deliver the task for the following off-loading applications:</p> <p>Removable cast walker (RCW) – list the brand and style for each device</p> <p><input type="checkbox"/> Knee high – standard _____</p> <p><input type="checkbox"/> Knee high – with air _____</p> <p><input type="checkbox"/> Other _____</p> <p><input type="checkbox"/> Level-Up</p>			
<p>The allied health assistant has been trained and assessed as competent to deliver the task for the following semi-compressed felt applications:</p> <p><input type="checkbox"/> Forefoot/ Plantar metatarsal <input type="checkbox"/> Including cut out</p> <p><input type="checkbox"/> Full foot/ plantar <input type="checkbox"/> Including cut out</p> <p><input type="checkbox"/> Heel <input type="checkbox"/> Including cut out</p> <p><input type="checkbox"/> Arch <input type="checkbox"/> Including cut out</p> <p><input type="checkbox"/> Digital - plantar</p> <p><input type="checkbox"/> Digital - dorsal</p> <p><input type="checkbox"/> Other _____</p>			
<p>Comments</p>			
<p> </p>			
<p>Record of assessment competence:</p>			
<p>Assessor name:</p>		<p>Assessor position:</p>	<p>Competence achieved: / /</p>
<p>Scheduled review:</p>			
<p>Review date:</p>	<p>/ /</p>		

Instant Total Contact Cast – lower limb: Learning resource

In a person with diabetes and a neuropathic plantar forefoot or midfoot ulcer, use of a non-removable knee-high offloading device with an appropriate foot-device interface is the first choice of offloading treatment to promote healing of the ulcer (International Working Group on the Diabetic Foot (IWGDF), 2023). iTCC's combine the clinical effectiveness of a traditional total contact cast but with the added efficiency and practicality of a faster application with readily available materials. iTCC's also increase access to off-loading by requiring less skill to apply, when compared to full total contact casting. The IWGDF (2023) found non-removable compared to removable offloading devices result in similar plantar pressure reductions, small reductions in weight-bearing activity and large increases in adherence and hence heal more ulcers.

Required reading

- Armstrong DG, Short B, Espensen EH, Abu-Rumman P, Nixon BP, Boulton AJM (2002). Technique for Fabrication of an “Instant Total-Contact Cast” for Treatment of Neuropathic Diabetic Foot Ulcers. *Journal of the American Podiatric Medical Association* 97(7):405-408. Available at: <https://doi.org/10.7547/87507315-92-7-405>
- Bus SA, Armstrong DG, Crews RT, Gooday C, Jarl G, Kirketerp-Moller K, Viswanathan V, Lazzarini PA, on behalf of the International Working Group on the Diabetic Foot (2023). Guidelines on offloading foot ulcers in persons with diabetes IWGDF 2023 update.
 - Recommendations: 5.1 Off-loading devices
Available at: <https://pubmed.ncbi.nlm.nih.gov/37226568/>
- Fernando ME, Horsley M, Jones S, Martin B, Nube VL, Charles J, Cheney J, Lazzarini PA. Australian guideline on offloading treatment for foot ulcers: Part of the 2021 Australian evidence-based guidelines for diabetes-related foot disease; version 1.0. Brisbane, Australia: Diabetes Feet Australia, Australian Diabetes Society; 2021.
 - Page 10 – 13 A. Offloading Devices: Recommendation 1A and 1B
Available at: <https://www.diabetesfeetaustralia.org/wp-content/uploads/2021/10/Offloading-Guidelines-V1.0121021.pdf>
- Local client handouts and education resources for the off-loading devices in scope for the local service and iTCC e.g. care and maintenance of iTCC.

Required viewing

Use of plaster saw

- Delta-Cast (2015). Synthetic lower leg cast removal. Available at: <https://www.youtube.com/watch?v=y1n623RB1CY>

Patient position for iTCC application



Photo provided with courtesy of Townsville Hospital and Health Service (2026).