



Clinical Practice Procedures: Assessment/Temperature – Masimo® TIR-1™

Policy code	CPP_AS_IRT_0924
Date	September, 2024
Purpose	To ensure a consistent procedural approach to the Masimo® TIR-1™.
Scope	Applies to Queensland Ambulance Service (QAS) clinical staff.
Health care setting	Pre-hospital assessment and treatment.
Population	Applies to all ages unless stated otherwise.
Source of funding	Internal – 100%
Author	Clinical Quality & Patient Safety Unit, QAS
Review date	September, 2027
Information security	UNCLASSIFIED – Queensland Government Information Security Classification Framework.
URL	https://ambulance.qld.gov.au/clinical.html

While the QAS has attempted to contact all copyright owners, this has not always been possible. The QAS would welcome notification from any copyright holder who has been omitted or incorrectly acknowledged.

All feedback and suggestions are welcome. Please forward to: Clinical.Guidelines@ambulance.qld.gov.au

Disclaimer

The Digital Clinical Practice Manual is expressly intended for use by appropriately qualified QAS clinicians when performing duties and delivering ambulance services for, and on behalf of, the QAS.

The QAS disclaims, to the maximum extent permitted by law, all responsibility and all liability (including without limitation, liability in negligence) for all expenses, losses, damages and costs incurred for any reason associated with the use of this manual, including the materials within or referred to throughout this document being in any way inaccurate, out of context, incomplete or unavailable.

© State of Queensland (Queensland Ambulance Service) 2024.



This work is licensed under the Creative Commons Attribution-NonCommercial-NoDerivatives V4.0 International License

You are free to copy and communicate the work in its current form for non-commercial purposes, as long as you attribute the State of Queensland, Queensland Ambulance Service and comply with the licence terms. If you alter the work, you may not share or distribute the modified work. To view a copy of this license, visit <http://creativecommons.org/licenses/by-nc-nd/4.0/deed.en>

For copyright permissions beyond the scope of this license please contact: Clinical.Guidelines@ambulance.qld.gov.au

Temperature – Masimo® TIR-1™

September, 2024

Accurate temperature measurement is an important component of patient assessment. It can aid the development of a provisional diagnosis, guide clinical management and identify the presence of systemic illness.

The Masimo® TIR-1™ thermometer is a non-invasive, infrared thermometer suitable for measuring temperatures in patients of all ages. Due to the simple non-contact one button operation, it reduces the risk for patient cross-contamination while reducing costs and waste by eliminating the need for probe covers and other disposables.

Masimo® TIR-1™



Indications

- Periodic measurement of human body temperature, when clinically indicated

Contraindications

- Patients with scarred or damaged forehead tissue from significant skin disorders or trauma

Complications

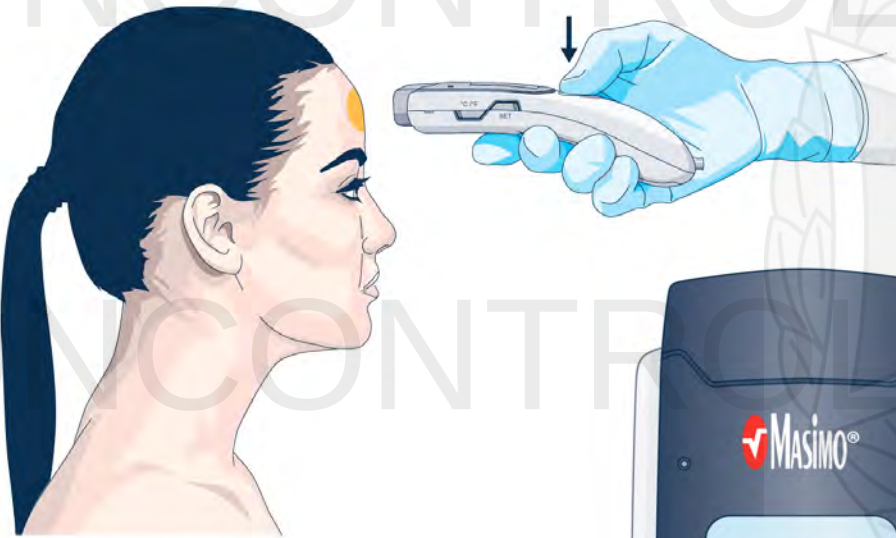
- Nil in this setting

Procedure – Temperature – Masimo® TIR-1™

1. Remove the protective cap and inspect the thermometer's sensor to ensure that it is free of debris.



2. Clear the patient's forehead 'target zone' of any hair, oil, dirt or perspiration.
3. With the thermometer held perpendicular to the patient's forehead, position the sensor 2–5 cm away from the skin surface 'target zone'.



4. Press and release the **Power/Start** measurement button. Hold the thermometer in place until a double 'beep' is heard and the temperature is displayed on the LCD with the body temperature icon.



5. Replace the sensor cap and store the thermometer in a dry cool location when not in use.

Additional information

- The routine measurement of a patient's temperature is not always necessary.
- Frail elderly patients can have a low normal body temperature and therefore be at risk of being incorrectly assessed as non-febrile.
- Body temperature measurements will vary according to the site from which it is taken. Therefore, measurements taken from different sites at the same time cannot be compared.
- The TIR-1™ must not be used during defibrillation.
- The TIR-1™ has no serviceable internal parts except for battery (AA) replacement.
- Ensure the MODE selector is set to 'body' before taking the patient's temperature.
- Cleaning of the thermometer should be carried out regularly and in accordance with the QAS infection Control Framework.
- The thermometer must be stored in its protective case when not in use.

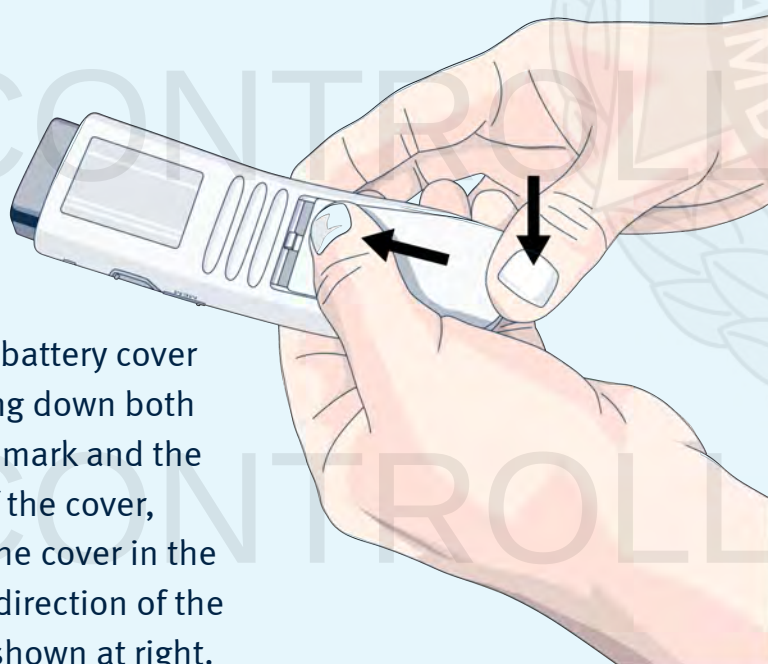
Additional information *(cont.)*

Installing batteries

1. To remove the Battery Cover, press down at the arrow mark and also on the centre of the cover; SLIDE it in the direction of the arrow as shown below.



2. Install (2) AA alkaline batteries with the polarity as shown in the battery compartment. All LCD display segments will briefly illuminate during self-test, and you will hear a 'beep'.



3. Close the battery cover by pressing down both the arrow mark and the bottom of the cover, SLIDING the cover in the opposite direction of the arrow as shown at right.

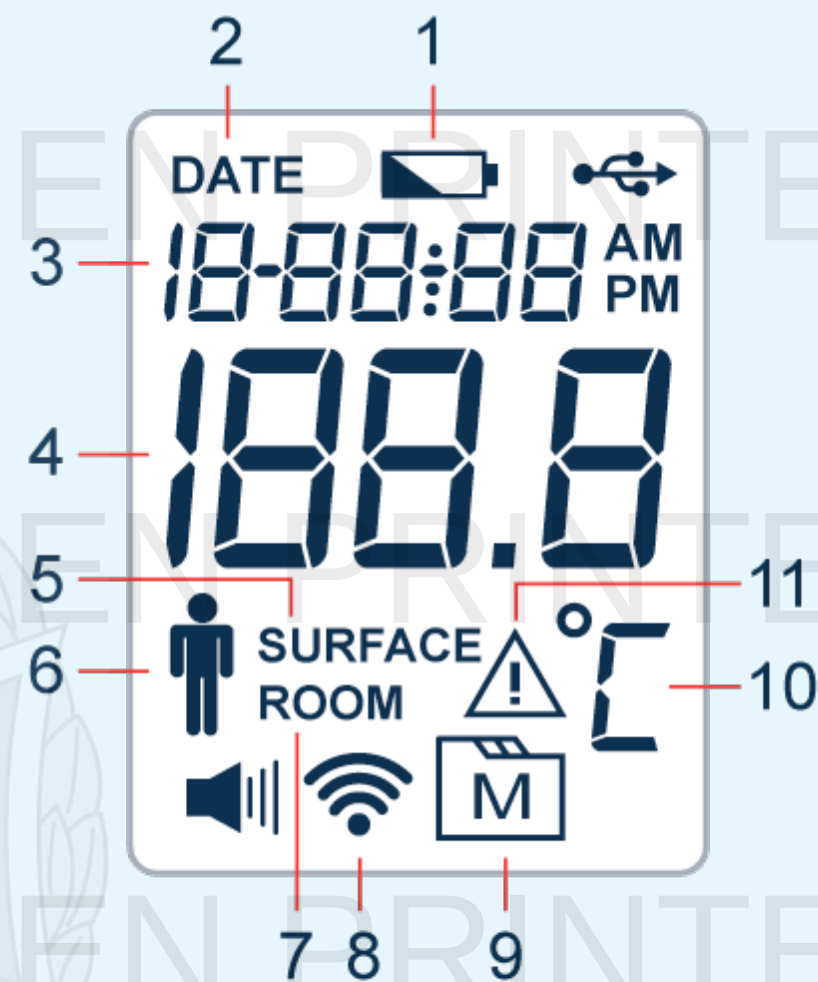
Setting Date/Time (necessary at initial setup and when the batteries are changed).

1. Press the **Power/Start Measurement** button to turn the TIR-1™ ON.
2. Press and hold the **SET** button until the set date screen displays.
The 'months' digits will flash.
3. Press the **MODE** button to increase (+) the month or press the **°C/°F** button to decrease (-) the month.
4. Press the **SET** button to save the month and change the day. The "day" digits will flash.
5. Press the **MODE** button to increase (+) the day or press the **°C/°F** button to decrease (-) the day.
6. Press the **SET** button to save the day and change the year. The 'year' digits will flash.
7. Press the **MODE** button to increase (+) the year or press the **°C/°F** button to decrease (-) the year.
8. Press the **SET** button to save the year and change the hour and AM/PM.
The 'hour' digits will flash and 'AM' or 'PM' displays.
9. Press the **MODE** button to increase (+) the hour or press the **°C/°F** button to decrease (-) the hour. The AM or PM setting is determined by the hour setting.
10. Press the **SET** button to save the hour and change the minutes. The "minutes" digits will flash.
11. Press the **MODE** button to increase (+) the minutes or press the **°C/°F** button to decrease (-) the minutes.
12. Press the **SET** button to save the date and time settings.
13. The TIR-1™ will automatically turn OFF.

Additional information *(cont.)*

Error messages (if errors continue, contact Customer Care)

MESSAGE	MEANING	TROUBLE SHOOTING
	Low Battery	Replace batteries as soon as practical.
	Very Low Battery	Replace batteries prior to further use.
E-1 	Ambient temperature too LOW	Allow TIR-1 to warm to temperature above 50°F (10°C)
E-2 	Ambient temperature too HIGH.	Allow TIR-1 to cool to temperature below 104°F (40°C)
E-4 	Sensor error or ambient temperature unstable	- Allow TIR-1 to equilibrate to the current room temperature for 20 minutes. - Contact Masimo Support if this error persists.
LO	Body Mode temperature is below 108°F (34.4°C)	Remove Sensor Lens cap. Allow patient to warm up in ambient room temperature above 50°F (10°C).
HI	Body Mode temperature is above 108°F (42.2°C)	- Repeat the temperature. - If this condition persists, the ambient temperature of the thermometer may be outside the acceptable limits. Allow to cool for 20 minutes.
--	Displayed temperatures appear to be too low	- Remove sensor lens cap. Allow thermometer and patient to adjust to room temperature for 20 minutes. - Remove perspiration, oil and makeup from forehead.



- | | |
|---|-------------------------------|
| 1. Low battery indication | 7. Room Temperature Indicator |
| 2. Date Indicator | 8. Bluetooth Indicator |
| 3. Date/Time | 9. Memory Mode |
| 4. Temperature Reading | 10. Unit of Measurement °F/°C |
| 5. Object Surface Temperature Indicator | 11. Error Warning |
| 6. Body Temperature Indicator | |