

CARES Targeted Temperature Management (TTM) Module
OHCA Data Dictionary

June 2014

CASE NUMBER

Definition:

- This is the number assigned to the patient by the hospital.

Description:

- The case number is the number the hospital assigns the patient, such as a MRN (Medical Record Number).
- Not nullable. A unique value must be provided to create a unique record ID within the database.

Instructions for Coding:

- Enter the case number assigned to the patient.

Example:

Case Number
1325012

IS PATIENT AWAKE AND ABLE TO FOLLOW COMMANDS?

Definition:

- Patient is alert and responsive to commands.

Description:

- Patient is alert and responsive to medical staff.

Instructions for Coding:

- If the patient is awake and able to follow commands, select “Yes.”
- If the patient is not awake or able to follow commands, select “No.”
- Assessment to be done at initial presentation to hospital.

Example:

Is patient awake and able to follow commands?
<input checked="" type="radio"/> Yes <input type="radio"/> No

TARGETED TEMPERATURE MANAGEMENT (TTM) INDUCED?

Definition:

- This is whether targeted temperature management was induced.

Description:

- Targeted temperature management is a medical treatment that lowers a patient's body temperature in order to help reduce the risk of tissue injury from lack of blood flow.

Instructions for Coding:

- If targeted temperature management was induced, select “Yes.”
- If targeted temperature management was not induced, select “No.”

Example:

The patient had targeted temperature management performed using an external cooling blanket.	Code “Yes.”
The patient had targeted temperature management performed using an intravascular device.	Code “Yes.”
The patient had targeted temperature management performed using external ice application.	Code “Yes.”

WAS TARGETED TEMPERATURE MANAGEMENT (TTM) INITIATED IN THE FIELD?

Definition:

- This indicates whether targeted temperature management was initiated in the field (before arrival at hospital)

Description:

- This indicates whether targeted temperature management was initiated in the field by EMS personnel.

Instructions for Coding:

- If targeted temperature management was initiated in the field, select “Yes.”
- If targeted temperature management was initiated in the ED, select “No.”

Example:

EMS initiated TTM in the field	“Yes”
TTM was initiated upon transfer to the ICU	“No”

WHERE WAS TARGETED TEMPERATURE MANAGEMENT (TTM) INITIATED IN THE HOSPITAL?

Definition:

- This indicates where targeted temperature management was initiated in the hospital.

Description:

- Targeted temperature management may be induced in several locations at the receiving facility, including the Emergency Department, Cath Lab, or ICU.

Instructions for Coding:

- If targeted temperature management was initiated in the ED, select “ED.”
- If targeted temperature management was initiated in the Cath Lab, select “Cath Lab.”
- If targeted temperature management was initiated in the ICU, select “ICU.”
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Example:

TTM was initiated in the ED	ED
TTM was initiated while patient was in the Cath Lab.	Cath Lab
TTM was initiated upon transfer to the ICU	ICU

COOLING METHOD (INTERNAL VS. EXTERNAL)

Definition:

- The medical methods through which targeted temperature management is induced fall into two categories: invasive and non-invasive.

Description:

- There are several different cooling methods used to induce targeted temperature management.

Instructions for Coding:

- If surface cooling was used, select “Surface.”
- If intravascular cooling was used, select “Intravascular.”
- If intranasal cooling was used, select “Intranasal.”
- If ECMO was used, select “ECMO.”
- If another method was used, select “Other” and use the free text box to specify what method was used.
- Multiple cooling methods can be selected on the form.

Examples:

Surface	Blanket device, External gel pads, Ice packs
Intravascular	Catheter-based device, Nasogastric
Intranasal	Rhinochill
ECMO	Cooling during ECMO
Others	Cooling during dialysis, etc.

TARGET TEMPERATURE

Definitions:

- This is the target temperature identified for this patient.

Description:

- The target temperature is a specifically measured and controlled vital sign of the patient that contributes to the maintenance of normal physiology and affects the processes that lead to recovery after a cardiac arrest event.

Instructions for Coding:

- If the target temperature was 32 °C,select “32.”
- If the target temperature was 33 °C,select “33.”
- If the target temperature was 34 °C,select “34.”
- If the target temperature was 35 °C,select “35.”
- If the target temperature was 36°C , select “36.”
- If another temperature was used, select “Other” and indicate the temperature (in C) in the free text box.

Examples:

Target temperature was 33 degrees	Code as “33°C”
Target temperature was 37°C	Code as “Other” and enter “37°C” in the free text box.

TARGET TEMPERATURE REACHED?

Definition:

- This measures whether the target temperature was reached (+/- 0.5 deg C of target) when temperature management was used.

Description:

- This tracks whether the target temperature was reached.

Instructions for Coding:

- If the target temperature was reached, select “Yes.”
- If the target temperature was not used, select “No.”

Examples:

The patient’s temperature was 36°C when he expired.	Code “No.”
The target temperature was 34 °C, but the patient’s temperature was 36°C.	Code “No.”
The patient’s temperature was 34°C, the target temperature.	Code “Yes.”

DID OVERTHOOT OCCUR DURING COOLING PHASE?

Definition:

- This measures if the target temperature was exceeded by more than 0.5 deg C during the cooling phase.

Description:

- When inducing TTM, the target temperature can be exceeded. This measures if the temperature was overshoot. Complications can result from overshooting during the cooling phase.

Instructions for Coding:

- If the target temperature was exceeded, select “Yes.”
- If the target temperature was not exceeded, select “No.”

Examples:

Target temperature of 33°C was reached at 2:45pm	Code “No.”
Patient was cooled to 32°C. Target temperature was 33°C.	Code “Yes.”

DID REBOUND HYPERTHERMIA OCCUR (TEMP ≥ 37.5°C)?

Definition:

- This measures whether the patient’s internal temperature exceeded 37.5°C when the patient was rewarmed.

Description:

- When the patient is rewarmed, the target body temperature can be exceeded. This is called rebound hyperthermia.

Instructions for Coding:

- If rebound hyperthermia occurred, select “Yes.”
- If rebound hyperthermia did not occur, select “No.”

Examples:

Upon warming, the patient’s temperature was 40 °C	Code “Yes.”
When warmed, the patient stabilized at a normal body temperature.	Code “No.”

DATE AND TIME TARGETED TEMPERATURE MANAGEMENT (TTM) INITIATED IN THE FIELD

Definition:

- This is the date and time targeted temperature management was initiated in the field.

Description:

- The date and time of treatment is essential for a continuous quality improvement program that aims to track changes in process data through time.

Instructions for Coding:

- Enter the date according to the following format: MM/DD/YYYY
- Enter the time according to the following format: HH:MM

Example:

Date targeted temperature management was initiated	Time targeted temperature management was initiated
07/23/2013	11:22

DATE AND TIME OF ED ARRIVAL

Definition:

- This is the date and time the patient arrived at the Emergency Department.

Description:

- The date and time of patient arrival is essential for a continuous quality improvement program that aims to track changes in process data through time.

Instructions for Coding:

- Enter the date according to the following format: MM/DD/YYYY
- Enter the time according to the following format: HH:MM

Example:

Date targeted temperature management was initiated	Time targeted temperature management was initiated
07/23/2013	11:22

DATE AND TIME TARGETED TEMPERATURE MANAGEMENT (TTM) INITIATED IN THE HOSPITAL

Definition:

- This is the date and time targeted temperature management was initiated in the hospital.

Description:

- The date and time of treatment is essential for a continuous quality improvement program that aims to track changes in process data through time.

Instructions for Coding:

- Enter the date according to the following format: MM/DD/YYYY
- Enter the time according to the following format: HH:MM

Example:

Date targeted temperature management was initiated	Time targeted temperature management was initiated
07/23/2013	11:22

DATE AND TIME TARGET TEMPERATURE REACHED

Definition:

- This is the date and time the target temperature (+/- 0.5 deg C) was reached when inducing targeted temperature management.

Description:

- The date and time the designated target temperature was reached as part of a quality control check.

Instructions for Coding:

- Enter the date according to the following format: MM/DD/YYYY
- Enter the time according to the following format: HH:MM

Example:

Date temperature reached	Time temperature reached
07/23/2013	11:22

DATE AND TIME REWARMING INITIATED

Definition:

- This is the date and time rewarming was initiated.

Description:

- The date and time an attempt to rewarm or increase the patient's body temperature was indicated.

Instructions for Coding:

- Enter the date according to the following format: MM/DD/YYYY
- Enter the time according to the following format: HH:MM

Example:

Date rewarming initiated	Time rewarming was initiated
07/23/2013	11:22

DATE AND TIME REWARMING COMPLETE

Definition:

- This is the date and time the rewarming was completed.
- Rewarmed to 36.9 (+/- 0.5 deg C).

Description:

- The date and time an attempt to rewarm or increase the patient’s body temperature was ceased because the target temperature was reached.

Instructions for Coding:

- Enter the date according to the following format: MM/DD/YYYY
- Enter the time according to the following format: HH:MM

Example:

Date rewarming completed	Time rewarming completed
07/23/2013	11:22

DATE AND TIME OF DEATH (IF APPLICABLE)

Definition:

- This is the date and time the patient expired.

Description:

- This field records the patient's date and time of death.

Instructions for Coding:

- Enter the date according to the following format: MM/DD/YYYY
- Enter the time according to the following format: HH:MM

Example:

Date of death	Time of death
07/23/2013	11:22

DATE AND TIME OF DISCHARGE (IF APPLICABLE)

Definition:

- This is the date and time the patient was discharged from the hospital

Description:

- This records when the patient was discharged from the hospital, if the patient survived to discharge.

Instructions for Coding:

- Enter the date according to the following format: MM/DD/YYYY
- Enter the time according to the following format: HH:MM

Example:

Date of discharge	Time of discharge
07/23/2013	11:22

ANY EEG MONITORING?

Definition:

- This measures whether there was any EEG monitoring of the patient.

Description:

- EEG is defined as electroencephalogram, which is a measurement of the brain's electrical activity.

Instructions for Coding:

- If there was EEG monitoring, select "Yes."
- If there wasn't EEG monitoring, select "No."
- If the status of EEG monitoring is not known, select "Unknown."

Examples:

Any EEG monitoring?
<input checked="" type="radio"/> Yes <input type="radio"/> No <input type="radio"/> Unknown

ANY SEIZURE DURING TARGETED TEMPERATURE MANAGEMENT (TTM)?

Definition:

- This determines whether there were any seizures requiring treatment during TTM.

Description:

- A seizure is the physical findings or changes in behavior that occur after an episode of abnormal electrical activity in the brain.
- The term "seizure" is often used interchangeably with "convulsion." Convulsions are when a person's body shakes rapidly and uncontrollably. During convulsions, the person's muscles contract and relax repeatedly.
- Treatment may include anti-convulsive medications.

Instructions for Coding:

- If there was a seizure during TTM, select "Yes."
- If there weren't any seizures, select "No."
- If the status of seizures is not known, select "Unknown."

Examples:

Any seizures during TTM?
<input checked="" type="radio"/> Yes <input type="radio"/> No <input type="radio"/> Unknown

ANY CARDIAC ARRHYTHMIA?

Definition:

- This measures whether there was any cardiac arrhythmia requiring treatment during TTM.

Description:

- Arrhythmia is a problem with the rate or rhythm of the heartbeat. The heart may beat too fast, too slow, or with an irregular rhythm.
- Treatment may include drugs, defibrillation, pacing, etc.

Instructions for Coding:

- If there was any cardiac arrhythmia, select “Yes.”
- If there wasn’t any cardiac arrhythmia, select “No.”
- If the status of cardiac arrhythmia is not known, select “Unknown.”

Examples:

Any Cardiac Arrhythmia?
<input checked="" type="radio"/> Yes <input type="radio"/> No <input type="radio"/> Unknown

ANY SKIN COMPLICATIONS?

Definition:

- This measures whether there were any skin complications requiring treatment during TTM.

Description:

- Skin necrosis can be caused by the cold blankets used to cool the patient.
- Treatment may include wound care and surgery.

Instructions for Coding:

- If there were skin complications, select “Yes.”
- If there weren’t any skin complications, select “No.”
- If the status of skin complications is not known, select “Unknown.”

Examples:

The patient’s skin showed ulceration developing.	Code “Yes.”
The patient’s skin shows signs of breaking down.	Code “Yes.”
The patient’s skin showed no signs of complications from the treatment.	Code “No.”

STRESS ULCER/GI BLEED

Definition:

- This measures if there are any stress ulcers or GI bleeds requiring treatment during TTM.

Description:

- TTM puts physiological stress on the body, which can predispose the patient to a stress ulcer or GI bleed.
- Treatment may include medications, blood transfusion, endoscopy, etc.

Instructions for Coding:

- If there was a stress ulcer or GI bleed, select “Yes.”
- If there were no ulcers or GI bleeds, select “No.”
- If the occurrence of a stress ulcer or GI bleed is not known, select “Unknown.”

Examples:

Stress Ulcer/GI Bleed
<input checked="" type="radio"/> Yes <input type="radio"/> No <input type="radio"/> Unknown

REQUIRES VASOPRESSOR FOR BP SUPPORT?

Definition:

- This measures whether there was hypotension (systolic BP less than 90mm hg) requiring treatment during TTM.

Description:

- Low blood pressure, or hypotension, may occur due to significant vasodilatation during the rewarming process.
- Treatment may include medications and fluid resuscitation.

Instructions for Coding:

- If there was hypotension, select “Yes.”
- If no hypotension was recorded, select “No.”
- If the status of hypotension is not known, select “Unknown.”

Examples:

The patient’s systolic blood pressure decreased to 75 mm hg.	Code “Yes.”
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HYPERKALEMIA – UPON REWARMING

Definition:

- This measures if there is hyperkalemia (serum potassium > 5.0 mEq/L) upon rewarming after TTM.

Description:

- As the rewarming process occurs, vessels begin to dilate. Due to dilation, the patient must be monitored for hyperkalemia, or a higher than normal level of potassium in the blood stream.

Instructions for Coding:

- If there was hyperkalemia upon rewarming, select “Yes.”
- If there was no hyperkalemia, select “No.”
- If the status of hyperkalemia is not known, select “Unknown.”

Examples:

The patient’s potassium level increased from 4.5 to 6.0 mEq/L during the rewarming process.	Code “Yes.”
The patient’s potassium level never exceeded 5.0 mEq/L during the rewarming process.	Code “No.”

HYPERGLYCEMIA

Definition:

- This measures whether the patient was hyperglycemic (glucose level higher than 11.1 mmol/l (200 mg/dl) during TTM.

Description:

- Hyperglycemia may be seen in hypothermic patients due to decreased insulin release and inhibition of peripheral utilization of glucose.

Instructions for Coding:

- If hyperglycemia occurred, select “Yes.”
- If hyperglycemia did not occur, select “No.”
- If the status of hyperglycemia is not known, select “Unknown”.

Examples:

The patient’s blood glucose increased to 305 mg/dl during TTM.	Code “Yes.”
The patient’s blood glucose never exceeded 11.1 mmol/l or 200mg/dl during TTM.	Code “No.”

PNEUMONIA/SEPSIS

Definition:

- This measures if pneumonia or sepsis requiring treatment occurred during TTM.

Description:

- Patients undergoing TTM are prone to contracting pneumonia or sepsis.
- Treatment may include antibiotic medications.

Instructions for Coding:

- If pneumonia or sepsis occurred, select “Yes.”
- If pneumonia or sepsis did not occur, select “No.”
- If the status of pneumonia or sepsis is not known, select “Unknown.”

Examples:

Pneumonia/Sepsis
<input checked="" type="radio"/> Yes <input type="radio"/> No <input type="radio"/> Unknown

ANY PARALYTICS USED?

Description:

- Drugs used to paralyze the patient during TTM.

Instructions for Coding:

- If paralytics were used during TTM, select “Yes.”
- If paralytics were not used during TTM, select “No.”
- If the status of paralytic use is not known, select “Unknown.”

Examples:

Any paralytics used?
<input checked="" type="radio"/> Yes
<input type="radio"/> No
<input type="radio"/> Unknown

GLASGOW COMA SCORE (GSC)

The Glasgow Coma Score is collected at two separate time points, the initiation of TTM and hospital discharge (if applicable). Once you have selected responses for all three categories, the CARES/PAROS software will auto-calculate the total score (3-15).

EYE RESPONSE

Definition:

- This measures the patient’s ocular response to GCS testing.

Description:

- The patient’s eye response to pain stimuli, verbal commands, or spontaneous reaction while obtaining a Glasgow Coma Score.

Instructions for Coding:

- If there was no eye opening, select “no eye opening.”
- If there was eye opening in response to pain stimuli, select “eye opening in response to pain stimulus.”
- If there was eye opening in response to verbal commands, select “eye opening to verbal command.”
- If the patient’s eyes opened spontaneously, select “eyes opening spontaneously.”

Examples:

There was no eye movement by the patient	Code as “No eye opening (+1)”
The patient’s eyes opened upon application of pain stimuli.	Code as “Eye opening in response to pain stimulus (+2)”
The patient’s eyes opened when they were asked to open his eyes.	Code as “Eye opening to verbal command (+3)”
The patient’s eyes opened without prompting.	Code as “Eyes opening spontaneously (+4)”

VERBAL RESPONSE

Definition:

- This measures the patient’s verbal response to GCS testing.

Description:

- The patient’s verbal response to GCS testing may include slurred speech, inappropriate words, or confusion.

Instructions for Coding:

- If there was no verbal response, select “No verbal response (+1).”
- If patient emitted only incomprehensible sounds, select “Incomprehensible sounds (+2).”
- If the patient said inappropriate words, select “Inappropriate words (+3).”
- If the patient was confused, select “Confused (+4).”
- If the patient was oriented, select “Oriented (+5).”

Examples:

There was no verbal response by the patient at all.	Code as “No verbal response (+1)”
The patient mumbled something incomprehensible.	Code as “Incomprehensible sounds (+2)”
The patient said a few inappropriate phrases.	Code as “Inappropriate words (+3)”
The patient was confused about what was going on around them.	Code as “Confused (+4)”
The patient was fully aware of his surroundings/situation.	Code as “Oriented (+5)”

MOTOR RESPONSE

Definition:

- This measures the patient’s motor response to GCS testing.

Description:

- The patient’s motor response can include extension, flexion, or differing responses to pain.

Instructions for Coding:

- If there was no motor response, select “No motor response (+1).”
- If patient extended when painful stimuli were applied, select “Extension to pain (+2).”
- If the patient responded to pain with flexion, select “Flexion to pain (+3).”
- If the patient responded to pain with withdrawal, select “Withdrawal from pain (+4).”
- If the patient was able to localize pain, select “Localize pain (+5).”
- If the patient obeys commands, select “Obeys commands (+6).”

Examples:

There was no motor response by the patient.	Code as “No motor response (+1)”
Decerebrate posturing.	Code as “Extension to pain (+2)”
Decorticate posturing.	Code as “Flexion to pain (+3)”
Withdraw from pain stimulus.	Code as “Withdrawal from pain (+4)”
Purposeful movement in response to pain.	Code as “Localizes pain (+5)”
The patient responded to commands to move his fingers.	Code as “Obeys commands (+6)”

GCS AT TTM OR GCS AT DISCHARGE (3-15)

Definition:

- This measures the conscious state of the patient.

Description:

- The Glasgow Coma Scale (GCS) gives the patient a score between 3 (showing deep unconsciousness) and 15 (conscious/alert).

Instructions for Coding:

- The patient’s GCS score is auto-calculated based on responses to the GSC questions: eye, verbal, and motor responses.

Examples:

Eye: +4, Verbal: +3, Motor: +2	Coded as 9
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