

**SUBJECT:** Daily monitoring of the Medical Cart Washer

**DEPARTMENT:** Central Service

**APPROVED BY:**

**EFFECTIVE:**

**REVISED:** 06/2018

**PURPOSE:** To ensure a properly functioning medical cart washer

**POLICY:** Daily monitoring of Medical Cart Washer

**RATIONALE:**

According to ANSI / AAMI ST 79 every medical facility (as defined in ST 79) that has an medical automatic cart washer (MACW) must put in place a cleaning verification process that consists of defining a cleaning process and its critical aspects so that each step is fully verifiable through personnel training and observation to ensure that it can be followed completely, accurately, and without variation by all individuals who perform it; and providing process controls along with verification methodologies that ensure adequate, consistent cleaning levels. Two principles are involved in verifying a cleaning process. The first consists of establishing, clarifying, and documenting a standard cleaning process that is based on device manufacturers' written IFU and published recommended practices or guidelines and articles. The second concerns measuring and evaluating the ability of the cart washer to perform to the original manufactures specifications of cleaning, thus verifying it meets their parameters of temperature and mechanical cleaning action ability to reach the area of the medical devices being cleaned. Using verification tests are part of continuous quality improvement to demonstrate continued compliance with cleaning benchmarks, once these benchmarks have been defined is supported by all standards and guidelines.

The standards support mechanical cleaning equipment performance should be tested each day (daily) it is used and all results should be recorded<sup>1</sup>.

The Joint Commission standard E.C.6.20 states that all medical equipment is maintained, tested and inspected.

The cart washer is considered a piece of medical equipment. Medical cart washers need to be properly functioning to provide the best patient care possible and to help reduce the incidence of hospital-acquired infections

Cleaning, not sterilization (or disinfection), is the first and most important step in any instrument processing protocol. Without first subjecting the instrument to a thorough, validated and standardized (and ideally automated) cleaning process, the likelihood that any disinfection or sterilization process will be effective is significantly reduced, thus it must be verified.

Cart washers are important tools in the overall efforts to reduce cross contamination. Often, they are used to clean not just surgical case carts, but also basins, IV poles, instrument containers, wheel chairs and other supply and patient transport equipment.<sup>2</sup> The CartWashCheck™ is the first test designed to challenge the mechanical efficiency of the medical cart washer.

Because there are various models of cart washers, cycle selection in older models can be limited. Many newer models now give an option to run surgical instruments within that specific type / model of cart washer (if your cart washer has an instrument cycle you will need to test that specific cycle with a cleaning verification test (TOSI®) since the washer is being used to process surgical instruments). Each department needs to understand the various cycles they must use and select the proper cycle for the item that is going to be processed. Because of the vast number of cart washers and cycle selections temperature ranges can be different. That is why it is important that all staff are trained on a regular basis on how the equipment (cart washer is used) and understand that temperatures could be different for the various cycles selected. The pass and fail concerning temperature is different for the various cycles. The range of temperatures is usually between 120° - 180°F depending on the cycle selected. So, passing and failing a temperature is dependent on the cycle selected and staff needs to know the correct temperature for each cycle selected.

Testing the temperature of any type of cart washer is easy using the CartWashCheck™. These convenient test strips can be quickly and easily adhered to any surface with the peel off adhesive. Place these test on surfaces which are furthest from the medical cart washer jets or in area where you suspect coverage is most difficult. The special hydrochromic ink will change color only if moistened by water (black to white). This demonstrates that water is reaching the area tested and indicates proper mechanical action by the medical cart washer. Further, to ensure that your washer is achieving your target temperature setting, the CartWashCheck™ also includes an irreversible thermometer. The thermochromatic (heat sensitive) indicator above the hydrophilic ink will register temperature levels of 120°F, 150°F, and 180°F, documenting the temperature reached during the cycle.

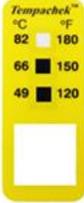
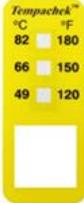
The use of the CartWashCheck™ is an excellent tool to use for training of new employees as well as establishing a Quality Improvement Program. It can be used for checking whether the medical cart washer is working properly and the staff is loading items to be cleaned into the washer correctly. The standards support mechanical cleaning equipment performance and should be tested each day (daily) it is used and all results should be recorded<sup>3</sup>.

The T.O.S.I. should be used when testing the instrument cycle and the CartWashCheck should be used for other cycles like case carts (non-instrument cycle)<sup>4</sup>.

**PROCEDURE daily testing of the non-instrument cycle:**

1. The CartWashCheck™ is a test designed to challenge the mechanical efficiency of the medical cart washer and verify the temperature for low/ medium disinfection. These convenient test strips can be quickly and easily adhered to any surface with the peel off adhesive that leaves no residue.
2. **Note an inactive strip is black/dark blue in color before being exposed to any mechanical cart washing process.**
3. **The frequency of testing of at least weekly and after any maintenance on the equipment is the suggested time frame.**
4. Peel the back of the CartWashCheck™ strip and remove the protective layer to expose the adhesive (sticky side) of the CartWashCheck™ strip.
5. Place at least two CartWashCheck™ test strip on the surface being tested one which is the furthest from the medical cart washer jets or in areas where you suspect coverage is most difficult; the other strip on the CartWashCheck strip should be placed in a locations that has maximum exposure like the top of the case cart.
6. Follow manufactures instructions for proper loading of the item tested (cleaned) into the medical cart washer. Follow those instructions.
7. Operate (select) the proper cycle for the item being (cleaned) tests (example cart program). Follow manufactures instructions.
8. After the cycle follow manufactures instructions for proper unloading of the item cleaned in the medical cart washer (surface may be hot; be careful). Read the CartWashCheck™ test strip and document all results. You are looking for color change from black/dark blue to white and then read the temperature on the irreversible temperature gauge. The thermochromatic (heat sensitive) indicator above the hydrophilic ink will register temperature levels of 120°F, 150°F, and 180° F, documenting the temperature reached during the cycle.
9. Remember that an inactive CartWashCheck™ strip is black/dark blue in color before being exposed to any medical cart washing process and no temperature recorded.
10. The special hydrochromic ink will change color only if moistened by water (from black/dark blue to white). This demonstrates that water is reaching the area tested and can indicate proper mechanical action by the water.
11. The CartWashCheck™ reports the temperature level reached during the cycle
12. A properly exposed CartWashCheck™ will turn white and record a temperature of at least 120°F (black bar line).
13. A white only color test strip shows only exposure to water in that area tested and no exposure to temperatures above 120°F.
14. After reading and documenting the results you can peel off the CartWashCheck™ test strip and dispose of in your trash. There is no hazardous material on the CartWashCheck™ test strip.
15. If proper temperature or proper water exposure are not achieved please bring results to the attention of the proper person in the department for action.

## Examples of Cart Wash Check Interpretation of results:

			
Before or complete fail	Pass (if target 150°F)	Water pass, temperature fail	Water fail, temperature pass

## PROCEDURE daily testing of the instrument cycle:

1. The testing of the cart washer instrument cycle is done on an empty cycle
2. Secure one (1) TOSI® per level in the center of an empty tray
3. Place this tray with T.O.S.I. on each shelf
4. Process using your surgical instrument wash cycle
5. Examine the TOSI® for visual cleanliness. Compare the test to the interpretation chart, WT104, scale (0-5)<sup>5</sup>.
6. Record results and report all result to the proper management staff according to your facilities policy

## Maintenance on Equipment:

- Staff should perform all maintenance outline in the manufacture manual such as cleaning screens, checking water jets on the schedule provided by the manufacture to help ensure a properly performing medical cart washer
- Staff should record all observations such as: condition of the inside of the chamber (biofilm build up, other observations....)
- After any maintenance on the equipment, perform a test using CartWashCheck™ to ensure that the equipment is at the minimum temperature (120°F) and water is reaching difficult hard to reach areas of the medical cart washer. If your cart washer has an instrument cycle and you test that cycle you must make sure that cycle is tested with the T.O.S.I and passes.
- Follow the daily test process.
- Have the maintenance person wait until the test results are complete before leaving.

## RESPONSIBILITY:

Central Service personnel are responsible for the proper use, result interpretation, and documentation of the CartWashCheck™ test strip and / or use of the T.O.S.I on the various cycles of the medical cart washer.

***NOTE : Transportation and Storage Conditions: Keep Below 100 °F & Avoid Exposure to Moisture.***

**Medical Automatic Cart Washer (MACW) Quality Improvement Program**

Manufacture: \_\_\_\_\_ Model/Make: \_\_\_\_\_

Daily Inspection; should be done at least once a day; preferably each shift.

Note: When entering the MACW make sure power is off and all safety features are activated.

1. Look at various debris screen (different models have different locations and may have more than one) are they clear of debris. Yes No
2. If the MACW has water jets are they clean of debris (clogged). Yes No
3. If MACW has moving spray arms are they present and turning? Yes No NA
4. Is their staining / scaling on the inside chamber walls. Yes No
5. Is their sufficient level of cleaning solution in container? Yes No
6. Are all the door seal/ gaskets intact? Yes No

Comments / Action taken:

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Daily Testing using the CartWashCheck™ / T.O.S.I and Inspection: Should be done same time each day.

Cycle selection to test: \_\_\_\_\_

Note: Perform all daily inspection duties plus.

Minimum temperature checked by independent means and temperature is recorded. \_\_\_\_\_

A Mechanical function test of spray jets and arms has been performed. Pass Fail

**If the Cart Washer has an instrument cycle it must be tested with a TOSI on each level and the results recorded.**

Comments / Action taken:

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Note: Work with the manufacture of the MACW in your department to make a detail list of activities that need to be monitored and performed on a: daily, weekly, monthly, quarterly and yearly time frame by the SPD staff. Keep this QIP log in a record book for review.

**CartWashCheck™ Test Log**

Make/ Model of  
The Medical Cart Washer

# \_\_\_\_\_

<b>Date Tested</b>	<b>Testers Initials</b>	<b>Item Tested</b>	<b>Cycle Selection</b>	<b>Verification test</b>	<b>Temperature Result</b>	<b>Water Exposure Result</b>	<b>Action Taken</b>	<b>Other</b>
1/1/11	SMK	Cart Cycle	Case Cart	Cart wash Check	120°F	White	Fail, did not reach 180°F	Call Repair Company to test temperature
1/3/11	SMK	Cart Cycle	Case Cart	Cart Wash Check	180°F	White	Pass	No action needed
6/3/2018	SMK	Instrument Rack	Instrument Cycle	T.O.S.I.	None taken	None taken	All T.O.S.I. pass	3 levels tested no action needed

Observations: \_\_\_\_\_

Record all results: The special hydrophilic ink will change color (from black/dark blue to white) only if moistened by water. This demonstrates that water is reaching the area tested and indicates proper mechanical action by the washer. White Means Water Reached the Test. The square needs to be completely white no black/dark blue color left on the square.

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<sup>1</sup> © 2017 Association for the Advancement of Medical Instrumentation ■ ANSI/AAMI ST79:2017

<sup>2</sup> 3/ 2009; Managing Infection Control; Kovach, Understanding Your Cart Washer

<sup>3</sup> [http://www.healthmark.info/CleaningVerification/CartWashCheck/CartWashCheckIFU\\_2018-02-15.pdf](http://www.healthmark.info/CleaningVerification/CartWashCheck/CartWashCheckIFU_2018-02-15.pdf)

<sup>4</sup> [http://www.healthmark.info/CleaningVerification/TOSI/TOSI-IFU\\_2018-04-05.pdf](http://www.healthmark.info/CleaningVerification/TOSI/TOSI-IFU_2018-04-05.pdf)

<sup>5</sup> <http://www.healthmark.info/CleaningVerification/TOSI/TOSIInterpGuide2016-02.pdf>