



TECHNOLOGY

SNAPSHOTS

# WATER MANAGEMENT FOR HOSPITAL ENVIROMENT

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**WATER  
MANAGEMENT  
FOR HOSPITAL  
ENVIROMENT**

**• IS YOUR HOSPITAL WATER  
TREATMENT SYSTEM  
PREPARED TO OFFER QUALITY  
AND SAFETY TO YOUR  
PATIENT?**

## WATER MANAGEMENT FOR HOSPITAL ENVIROMENT

1. HOSPITAL APPLICATION
2. LEGISLATION AND STANDARDS
3. WATER PRE-TREATMENT
4. PHYSICAL-CHEMICAL AND MICROBIOLOGICAL PARAMETERS CONTROL
5. NUTRITION AND PERSONAL HYGIENE
6. HEMODIALYSIS
7. PROCESSING OF MEDICAL DEVICES
8. BONE MARROW TRANSPLANT



## WATER MANAGEMENT FOR HOSPITAL ENVIRONMENT

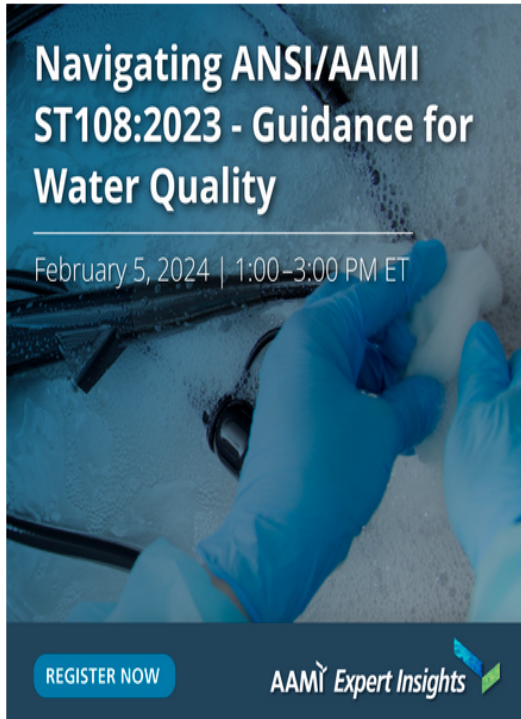
### HOSPITAL APPLICATIONS

- **WATER MANAGEMENT GOALS:**
  1. PHYSICAL-CHEMICAL AND MICROBIOLOGICAL PARAMETERS CONTROL.
  2. MAPPING OF TREATMENT AND DISTRIBUTION PROCESSES.
  3. CONSUMPTION MONITORING PLAN.
  4. MAPPING AND RISK MANAGEMENT PLAN
  5. QUALITY MANAGEMENT (STANDARDS)
  6. CRITICAL ANALYSIS OF QUALITY CONTROL REPORTS.



# WATER MANAGEMENT FOR HOSPITAL ENVIRONMENT

## LEGISLATIONS AND STANDARDS



**Navigating ANSI/AAMI  
ST108:2023 - Guidance for  
Water Quality**

February 5, 2024 | 1:00-3:00 PM ET

[REGISTER NOW](#)

AAMI Expert Insights

### ANSI/AAMI ST108:2023 is a critical step forward for patient safety.

The professionals responsible for the processing of medical devices prior to use are experiencing increasing challenges including: the **increasing complexity of modern medical devices** with hidden, **difficult to access areas** (e.g., lumens and complex mechanisms) where clinical soil can become lodged; and the emerging and reemerging **incidence of “superbugs”** that must be removed or inactivated for patient safety but are able to survive processing in situations where soil removal is incomplete. Any limitation on or diminishment of cleaning efficacy can lead to patient morbidity or mortality and decreased device use life. **Water of the appropriate quality for the processing of medical devices prior to clinical use is an important part of the solution to these problems.**

A common factor in the processing of medical devices is the use of water. While medical devices cleared by the U.S. Food and Drug Administration’s (FDA) for sale into the health care market have been provided with validated processing instructions and procedures, these procedures may not be completely effective if water of specified quality is not used. Similarly, cleaning agents work better, and devices are rinsed more thoroughly if the water is of the specified quality. Each health care facility may require a specific approach to treating water for processing needs based on a variety of factors.



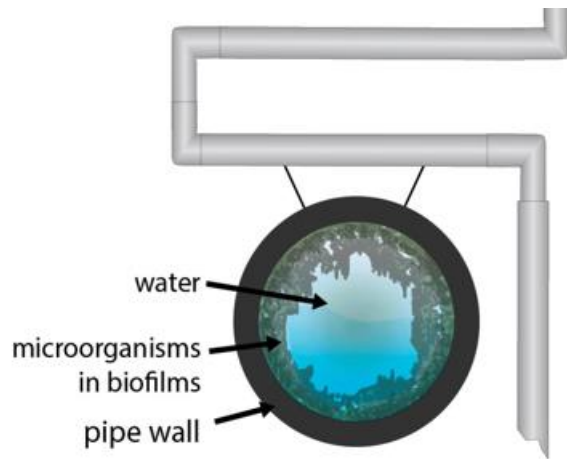
# WATER MANAGEMENT FOR HOSPITAL ENVIRONMENT

## DRINKING WATER: PRE-TREATMENT AND BARRIERS

Drinking water from Public Treatment System may not be suitable for hospital use.

1. Pre-treatment

2. Control of physical-chemical and microbiological parameters. Ex: chlorine, iron, calcium, suspension material, pathogenic organisms.



## WATER MANAGEMENT FOR HOSPITAL ENVIRONMENT

### DRINKING WATER: PRE-TREATMENT AND BARRIERS

Basic components of water pre-treatment system:

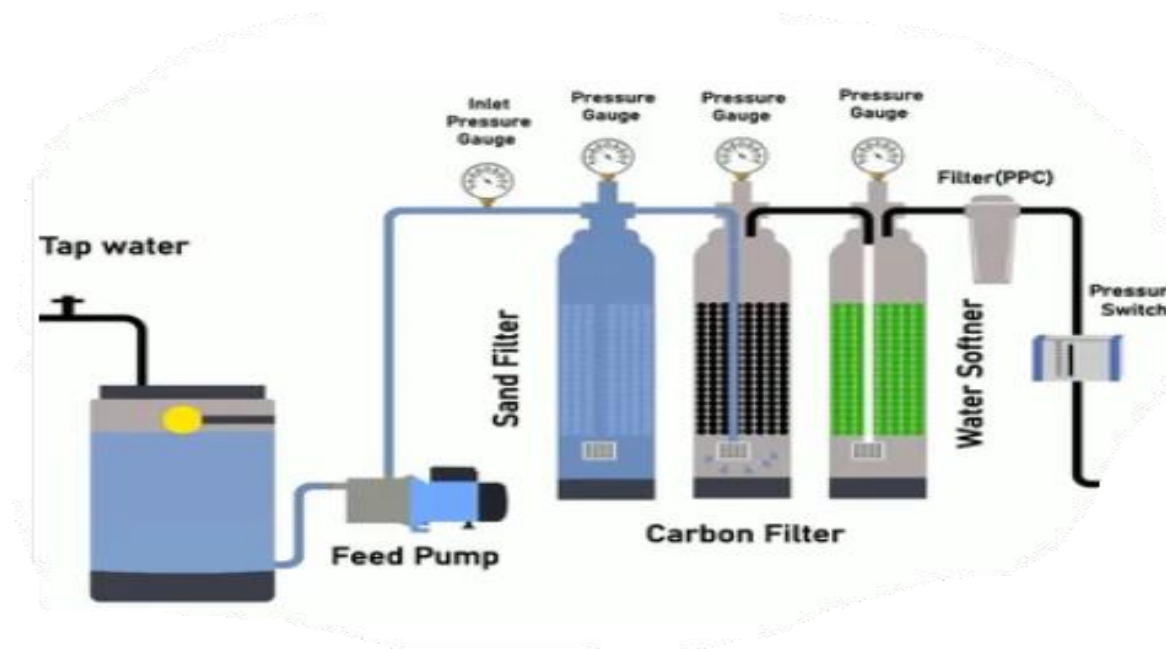
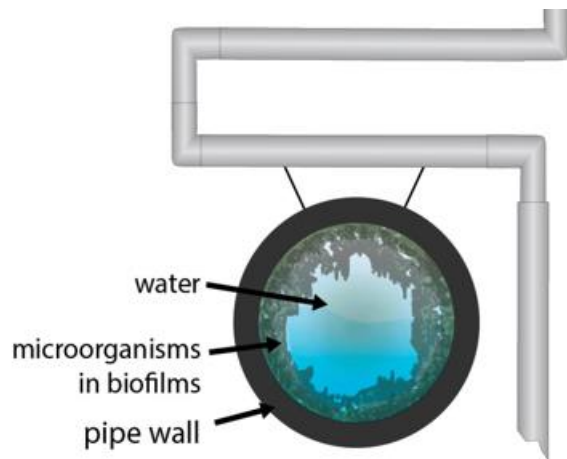
Multimedia/Sand Filter.

Activated Carbon Filter

Softner Tank Filter

Security Filter

Chlorine Dosing.



WATER MANAGEMENT FOR HOSPITAL ENVIRONMENT

**PHYSICAL-CHEMICAL AND MICROBIOLOGICAL PARAMETERS CONTROL**

## PHYSICAL-CHEMICAL AND MICROBIOLOGICAL PARAMETERS CONTROL.

Mapping of Treatment and Distribution Processes:

- Where risks are??

Mapping and RISK Management Plan:

- Who are the risks? How to mitigate or eliminate them!!





## WATER MANAGEMENT FOR HOSPITAL ENVIRONMENT

### Nutrition and Personal Hygiene

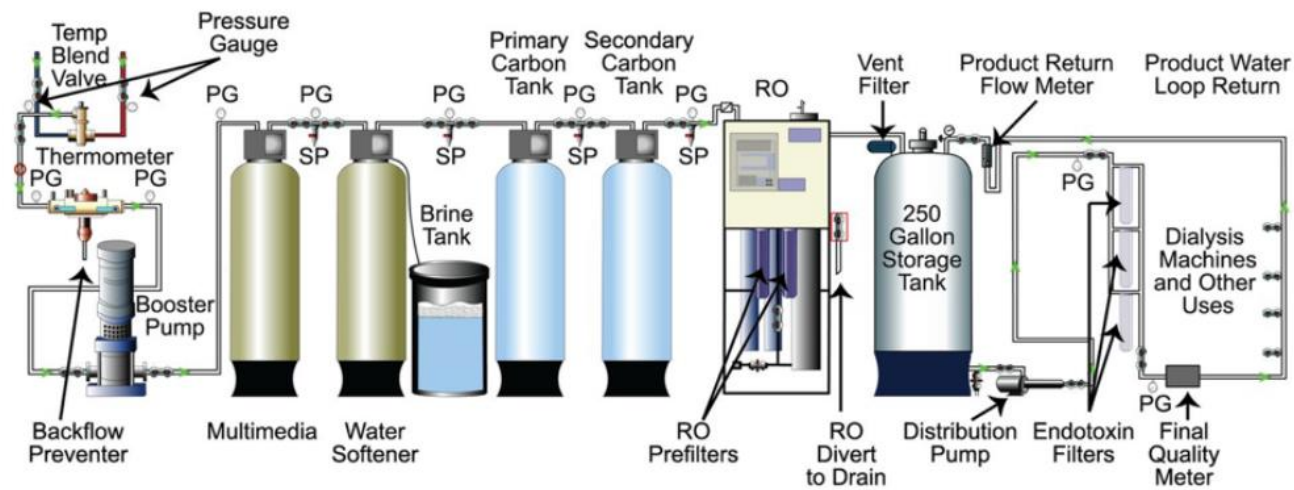
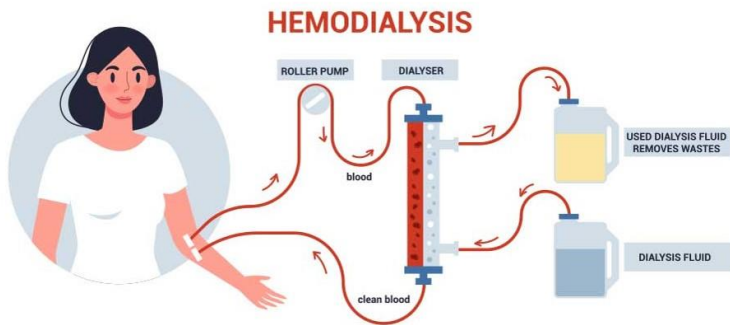
In hospitals, water is used for nutrition and personal hygiene of patients. Any contamination put the patient's entire health care chain at risk.



# WATER MANAGEMENT FOR HOSPITAL ENVIROMENT

## HEMODIALYSES

Life-support and long-term treatment.  
 Invasive.  
 Risk of infection through dialysate fluid.  
 Water contamination can be fatal for the patient.  
 Water Treatment: Double Pass Reverse Osmosis

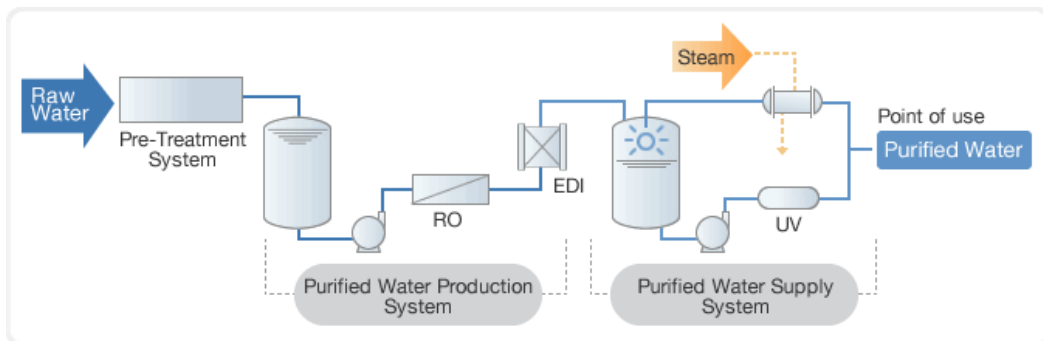


# WATER MANAGEMENT FOR HOSPITAL ENVIRONMENT

## PROCESSING OF MEDICAL DEVICES

Why water for processing of medical devices is so important?

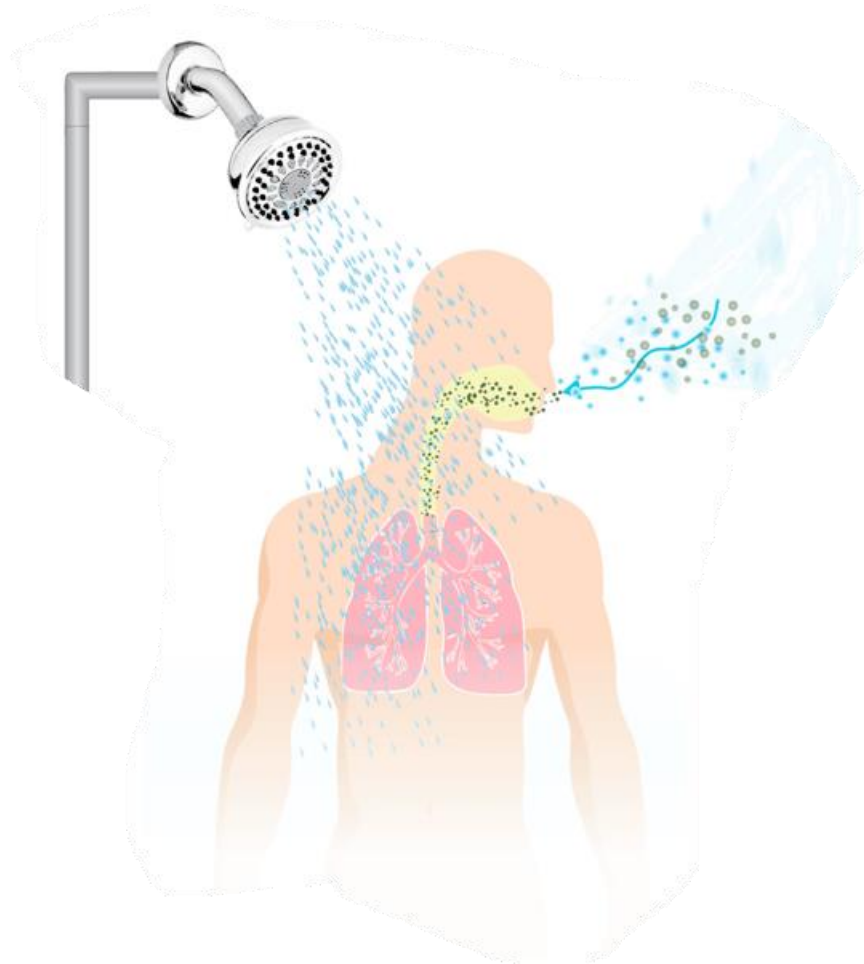
1. The Increasing complexity of modern medical devices requires high-quality water for cleaning.
2. Steam production for sterilization (AAMI ST 108/2023).
3. Reduction of Risk of Infection through medical devices.
4. Ensures the medical device does not acquire additional microorganisms or endotoxins before disinfection or sterilization.
5. Prevents damage (corrosion and pitting) to the medical device.
6. Removes organic molecules that could cause pyrogenic reactions



# Why water is so important for BONE MARROW TRANSPLANT (BMT) CARES?

Patients are very vulnerable to infections due to very low (or ZERO) immunity caused by the treatment.

Patients will bathe using sterile water during their stay in their BMT room in order to minimize infection during this critical time.



# WATER MANAGEMENT FOR HOSPITAL ENVIROMENT

## External Risks

Which external risks can contaminate water?

1. Increasing temperature can favor the growth of microorganisms in the water.
2. Floods, earthquakes, tornadoes, hurricanes can mix clean water with contaminated water.

**If your region is at risk of these climate events, they must be included in your RISK MANANGEMENT PLANNING.**



## WATER MANAGEMENT FOR HOSPITAL ENVIRONMENT

### PROCESSING OF MEDICAL DEVICES

- In summary, reliable availability of clean water is fundamental to the operation of hospitals, ensuring the delivery of high-quality healthcare services, maintaining hygienic environments, and safeguarding patient well-being.
- Water plays a critical role in ensuring the safety, efficacy, and success of medical procedures such as hemodialysis, medical device processing, and bone marrow transplant within hospital settings.





Thank you!

