Gambro
cwp800
DESIGNED FOR WATER PURITY
THE IMPORTANCE OF FLUID PURITY

Water purity of the highest quality is essential for efficient and effective dialysis.\(^1\)\(^9\) However, water has the ability to dissolve almost every chemical compound as well as supporting almost all forms of life which can make obtaining purity difficult. This may result in biofilm growth\(^10\) that can have many adverse effects for your hemodialysis (HD) system and patients.

Bacterial contamination of dialysis fluid is a major factor in HD bioincompatibility. With an increasing shift in treatment modalities, patients can be exposed to large volumes of fluid (≈400 L/week), increasing their vulnerability to such contamination and inflammation.\(^1\)\(^9\)

Dialysis-associated inflammation is caused by monocyte activation and cytokine production initiated by the transfer of bacterial by-products into the blood during HD treatment.\(^1\)\(^9\) As a result, obtaining and maintaining fluid purity is essential for any dialysis system.

THE HYGIENIC CHAIN CONCEPT
– EVERY LINK MATTERS

Maintaining fluid purity means attending to the entire chain of components and processes involved in HD — especially from water treatment to fluid distribution.\(^1\)\(^14\) We call this entire chain: the Hygienic Chain concept, a series of links made to ensure that HD systems deliver high-quality water.

Water quality must be maintained across the fluid chain to allow for quality-assured dialysis treatments to reduce the impact of potential risk factors and improve patient outcomes.\(^1\)\(^4\)
THE GAMBRO CWP 800 SYSTEM
YOUR WATER DELIVERY SOLUTION

The CWP 800 system is Gambro’s most advanced water option to date and is a key component of the Hygienic Chain concept. This reverse osmosis water production system helps you deliver liquid purity through automated thermal disinfection technology.15-17

The CWP 800 system builds on Gambro’s decades of experience in delivering purified water, with combined expertise in both HD and purification systems. A systems approach provides clarity across the whole process with the unit being designed for long-term clinical use.11-12

The CWP 800 system has been designed to protect your entire purification system and your patients from long-term associated health factors of waterborne contaminants. Monocyte and cytokine production initiated by the transfer of bacterial by-products into the blood during HD treatment may induce malnutrition,2,4,6 atherosclerotic cardiovascular disease,4,5,8 and erythropoetin resistance4,6,19,20 which may lead to poor outcomes and higher mortality rates.22

High quality fluid has been shown to improve clinical markers of inflammation, nutrition and anemia control. This will refer to:

- Hemoglobin erythropoetin dose6,8,19-20
- Serum albumin levels2,19
- Interleukin 6 levels2,6,7,19
- C-reactive protein levels2,3,5-7,19

The CWP 800 system uses an effective protocol for measuring a dose of heat during disinfection leading to proactive water purification.16,17,18 Adoption of this methodology will provide clinics a baseline for comparing disinfection and microbial testing results from the fluid phase and ultimately a means of optimizing the regimen. The CWP 800 system has also been designed to operate through time channels if clinics prefer. This proactive regime will assist in limiting the formation of biofilm or bacterial growth.11,12

PROTECTING YOUR PATIENTS AND SYSTEM THROUGH DISINFECTION

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THE GAMBRO HOT WATER TANK

- Provides an integrated, automated heat disinfection of both the distribution loop and reverse osmosis membranes
- Reduces unnecessary long loop disinfection times minimizing unnecessary activities
- Carry out the disinfection of the distribution system and RO (Reverse Osmosis) membranes concurrently
- Prevents biofilm growth for >10 years11,12

PURITY FROM TAP TO NEEDLE

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BUILT TO LAST
AND MEET YOUR GROWING NEEDS

For over 30 years Gambro has been providing clinics around the world with water treatment solutions. We’ve learned that it is not only important that each link in the Hygienic Chain philosophy is strong, but also that the chain remains flexible enough to meet the evolving demands within a clinic.

This is why the Gambro CWP 800 system has been designed to be a modular offering. This flexibility means it can be easily expanded to increase its output capacity while limiting the increase in its footprint. This can ensure that the supply of high quality water can meet your growing clinic needs.

The CWP 800 system has been built with the same care and specifications as current Gambro water systems, which have been proven to be successful in delivering microbiological and chemical water quality control for up to 19 years.11,12,21 And with careful component choice you can further enhance its durability.

This gives you a water supply solution when complemented with a proactive disinfection philosophy that has the potential to deliver efficiently and economically high-quality water throughout the Hygienic Chain concept and may provide improved health outcomes1-9 with greater cost-effectiveness.14

CONSISTENT DISINFECTION RATE AND TIME15

A0 is a physical parameter denoting the inactivation of microorganisms. The concept of A0 is intended to allow equivalent disinfection efficiencies to a reference time/temperature to occur at other disinfection temperatures.16-18

- Optimal disinfection regimes with A0
- Provides a measure of disinfection
- Time channels can be utilised for automation

RELIABLE OPERATION

Advanced electronics and quality components has the potential to provide quiet and reliable operation with in-built system redundancy in serial configuration.14

- Noise level below 55 dB
- High MTTF (mean time to failure) of chosen components
- Standard off the shelf components
- No moving parts in the flow path

COST-SAVING POTENTIAL23

The CWP 800 system can potentially minimize maintenance and reduce the expenditure required to maintain the system.

- Water saving functions in all modes of operation
- Optimal disinfection based upon A0 and optimal distribution in the RO device
- Optimized water production based upon clinic use
- Capability to service during normal working hours

ADAPTABLE TO MEET ANY CHALLENGE

The CWP 800 system provides a water supply which is adaptable to clinical needs (5-82 L/min). By implementing a system approach mind set with proactive heat disinfection you have the potential to meet future water quality standards.

- Modular, an expandable design
- Transition time from disinfection mode to water production
- Automation with time channel functions
- RO and loop can be disinfected simultaneously

MODULARITY HELPS THE CWP 800 SYSTEM GROW WITH YOU

The modular design allows for easy post-installation system upgrades over long-term clinical use, with simple plug and play concept installation times will be at a minimum.

- RO module can house 2 RO membranes
- Extension unit can be employed to increase capacity with a further 2 membranes
- Multiple Hot Water tanks can be used
References

15. User manual CRP 800, 2014
16. EN ISO 15883, 2012
21. Ragon A. MICROBIOLOGICAL EVALUATION OF THE EFFICIENCY OF HOT RO WATER ONLY USED TO DISINFECT HEMODIALYSIS WATER DISTRIBUTION LOOP IN OPERATION FOR 5 YEARS – era EDTA 2011 Jun 23-26
23. Data on file