WATER QUALITY TESTING CHART *(Updated 1/2005)*

TEST	LIMITS	FREQUENCY	SITE	METHOD	ACTION IF LIMITS EXCEEDED
Chemical Contaminants & Maximum Allowed (mg/l) Aluminum 0.01 — Lead 0.005 Antimony 0.006 — Magnesium 4 (0.3mEq/L) Arsenic 0.005 — Mercury 0.0002 Barium 0.10 — Nitrate 2.0 Beryllium 0.0004 — Potassium 8 (0.2 mEq/L) Cadmium 0.001 — Selenium 0.09 Calcium 2 (0.1 mEq/L) — Silver 0.005 Chloramines 0.10 — Sodium 70 (3.0 mEq/L) Chromium 0.014 — Sulfate 100.0 Copper 0.10 — Thallium 0.002 Fluoride 0.20 — Zinc 0.10 Free Chlorine 0.50 (RD62:2001)		**CHLORINE** and **CHLORAMINES** must be tested each shift (FDA Safety Alert, Feb '88) Monthly after installing H_20 treatment system (or after system change) until pattern established Quarterly if no H_20 treatment system in place Annually if RO or DI used (RD5, B5)	**CHLORAMINE** test sample should be drawn between carbon tanks #1 and #2 Obtain samples from common source where water enters the dialysate supply system (RD5, 4.2.2)	Chlorine and chloramines must be tested on site to insure accuracy. Tests kits are commercially available for this purpose Performed by a laboratory using accepted analytical methods with equipment capable of obtaining accurate results at levels appropriate for dialysis use as opposed to potable water (RD5, 4.2.2)	Employ appropriate water treatment system (deionization, reverse osmosis, water softener, charcoal filter or necessary combinations) OR Evaluate current system and supplement as necessary
Bacteria Water used for dialysate→ (RD5, 3.2.1.1) Dialysate → (RD5, 3.2.1.2) Bicarbonate concentrate→ (RD5, 3.3.1.4) Water used for dialyzer → Reprocessing (RD47, 11.2.2) (RD47, 11.4.1.4)	Maximum Allowed < 200 CFU/ml Endotoxin level < 2 EU/ml < 200 CFU/ml Endotoxin level < 2 EU/ml (New RD52) < 200 CFU/ml <200 CFU/ml &/or 2 EU/ml &/or 1ngLPS/ml	Weekly until result consistently satisfactory . . . then Not less than monthly . . . and -after pyrogenic reaction -after system change (RD5, B5) (RD47, 13.2.1) (RD47, 11.4.1.4)	Obtain water samples at site where H_2O enters dialysis machine (RD5, 4.2.1.1) Obtain dialysate samples at outflow side of dialyzer (RD5, 4.2.1.2) Sites selected randomly, or, as clinical circumstances warrant H_2O for reuse should be tested @ site where dialyzer rinsed & germicide diluted (RD47, 7.1.2)	Obtain total viable counts using spread plate or membrane filter techniques. Use TSA agar. Do not use blood agar. Calibrated loop shall not be used. Assay sample within 30 min. of collection, or, refrigerate immediately at 5°C and assay within 24 hrs. Count colonies after 48 hrs of incubation at 35°-37°C. (RD5, 4.2.1.1 & RD5, 4.3.1.4) Dip sticks are commercially available which allow readings more specific than powers of 10	Action level is 50 CFU/ml And 1 EU/ml If action levels are observed in the product water, corrective measures, such as disinfection and retesting, should be promptly taken to reduce the levels into the acceptable range.
Quality Control Device Deionizer resistivity → Reverse osmosis →	Audible **&** Visual Alarms (temperature compensated) Resistivity < 1 megohm/cm → (RD5, 3.2.3.4) Determines rejection rates &/or resistivity. → Calculated limit based on feedwater analysis & initial rejection characteristics & shall correspond to highest rejection coefficient @ which contaminants reach unsafe limits (RD5, 3.2.3.5)	Annual test of device accuracy Daily → Daily →	Resistivity light or meter→ Quality control light →	Record reading on light or meter Record ON or OFF	Initiate appropriate action

* 230mg/L (10mEq/L) where Na concentration of the concentrate has been reduced to compensate for excess Na in water, if conductivity monitored continuously

Reference to corresponding AAMI standards appears in parentheses.

RD5 = AAMI Standard for "Hemodialysis Systems"
RD47 = AAMI Standard for "Reuse of Hemodialyzers"
RD52 = AAMI Standard for "Dialysate"
CFU = colony forming units
EU = endotoxin units
LPS = lipopolysaccharide
RD62: 2001 = AANSI/AAMI Standard for "Maximum allowable chemical contaminant levels in water to prepare dialysate"

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