

## 2.1 COMMON ELEMENTS FOR HOSPITALS

### 2.1-8.4.2.1 General piping and valves

- (1) All piping, except control-line tubing, shall be identified.
- (2) All valves shall be tagged, and a valve schedule shall be provided to the facility owner for permanent record and reference.
- (3) No plumbing piping shall be exposed overhead or on walls where possible accumulation of dust or soil may create a cleaning problem or where leaks would create a potential for food contamination.

### 2.1-8.4.2.2 Hemodialysis/hemoperfusion water distribution

#### \* (1) General

- (a) In new construction and renovation in any hospital where hemodialysis or hemoperfusion is routinely performed, the following shall be provided:
    - (i) Separate treated water distribution system
    - (ii) Drainage system independent from the tap water
  - (b) If the dialysis equipment used includes sufficient water treatment provisions, use of domestic cold water without special piping (rather than a separate treated water system) shall be permitted.
- (2) Treated water distribution system. Where provided, a separate treated water distribution system shall meet the following requirements:
- (a) The treated water system shall be in accordance with ANSI/AAMI/ISO 26722: *Water Treatment Equipment for Hemodialysis Applications and Related Therapies*.
  - (b) Treated water distribution outlets shall be provided for these areas:
    - (i) Each individual hemodialysis treatment bay

- (ii) Hemodialysis equipment repair area
- (iii) Dialysate preparation area

- (c) Treated water systems for hemodialysis and related therapies shall meet the current requirements of ANSI/AAMI/ISO 13959: *Water for Hemodialysis and Related Therapies*.

- (3) Dialysis equipment or water system components shall meet FDA 510 (k) approval and the requirements of class 2 medical device(s).
- (4) The liquid waste and disposal system for the hemodialysis treatment area shall be designed to minimize odor and prevent backflow.
- (5) All hemodialysis distribution piping shall be readily accessible for inspection and maintenance.

### 2.1-8.4.2.3 Potable water supply systems

#### (1) Capacity

- (a) Systems shall be designed to supply water at sufficient pressure to operate all fixtures and equipment during maximum demand.
- (b) Supply capacity for hot- and cold-water piping shall be determined on the basis of fixture units, using recognized engineering standards.
- (c) Where the ratio of plumbing fixtures to occupants is proportionally more than required by the building occupancy and is in excess of 1,000 plumbing fixture units, use of a diversity factor to calculate capacity shall be permitted.

#### (2) Valves. Each water service main, branch main, riser, and branch to a group of fixtures shall have valves.

- (a) Stop valves shall be provided for each fixture.
- (b) Access shall be provided for all valve locations.

#### (3) Backflow prevention

- (a) Systems shall be protected against cross-connection in accordance with American

units or a separate treated water system supplying multiple dialysis stations/machines is used.

**2.1-8.4.2.3 (2) Reduced pressure zone (RPZ).** Where hooked up to a patient care device such as the AER (automated endoscope reprocessor), the reduced pressure zone after the RPZ valve should have a design feature that allows for automatic flushing of chlorinated water.

## APPENDIX

**A2.1-8.4.2.2 (1) Separate treated water distribution system.** Use of portable water treatment equipment or integrated hemodialysis machines (with water treatment as part of the machine) does not require a separate treated water distribution system. However, the water purification requirements (i.e., chemical and microbial quality of product water) are the same, whether portable