to prevent obstruction. To relieve obstruction due to clots, mucus, or other causes, an intermittent method of irrigation may be used. Continuous irrigation of the bladder with antimicrobials has not proven to be useful and should not be performed as a routine infection prevention measure.
Category II

Bryan P. Simmons, M.D.
Chief, Guidelines Activity
Hospital Infections Program
Center for Infectious Diseases

To the Editor:

With regard to our article entitled "Excessive Levels of Gram-Negative Bacteria in Hemodialysis Machines Because of Inadequate Cleaning Guidelines" appearing in *INFECTION CONTROL* 1981; 2:373-376, we wish to point out a difference in terminology between our article and the literature published by Cobe Laboratories, manufacturers of the Cobe Centry® 2 dialysis machine. Our references to "disinfection" and "disinfectant" relate to procedures which Cobe characterizes as "cleaning" or "bleaching" procedures and materials. Cobe's disinfection procedure, formerly called sterilization, involves the use of formaldehyde throughout the fluid pathway of the Centry 2 and this procedure was not the subject of our article. Therefore, we are not in a position to suggest that increased bacterial counts cannot be satisfactorily reduced by using the manufacturer's current formaldehyde disinfection guidelines.

Cobe Laboratories has recently informed us that prolonged use of the bleach disinfection procedure recommended in our article will result in a high rate of corrosion of internal parts. Other users of Centry 2 machines should be informed that we did not address this problem in our study. The manufacturer recommends that their instructions for use be followed explicitly. It should also be noted that achieving acceptable levels of bacteria in any dialysis machine requires, not only effective disinfection procedures, but acceptable quality levels of incoming water as well.

Nassau Hospital has used Cobe Centry 2 machines exclusively for dialysis during the past 18 months and have ordered additional Centry 2 machines. Any implication in our article that Cobe machines are unsatisfactory because of formaldehyde disinfection procedures, or otherwise, or that Cobe representatives have not been responsive to problems experienced in the dialysis clinic of the Nassau Hospital, was unintended.

Burke A. Cunha, M.D.
Inge Gurevich, R.N.
Nassau Hospital
Mineola, N.Y.

To the Editor:

I am writing you in regard to the article entitled "Excessive Levels of Gram-Negative Bacteria in Hemodialysis Machines Because of Inadequate Cleaning Guidelines," by Gurevich I, Williams F, and Cunha BA, appearing in *INFECTION CONTROL* 1981; 2:373-376.

Facilities with which I have been or am now actively involved in a leadership role have used the Century® 2 machine since it was first manufactured, and have satisfactorily performed over 75,000 treatments with these machines. We routinely perform quantitative bacteriologic studies on the water-in and dialysate-out, and have never identified a problem of excessive bacteriologic counts attributable to a Centry 2 machine. We follow the manufacturer's recommended protocol for *both* cleaning *and* disinfecting our Centry 2's, which seems to be the problem the authors encountered in their hemodialysis unit. They discuss the cleaning protocol and indicate that part of the fluid path of the machine, "is not reached at all by the disinfectant." It is true that part of the fluid path is not reached by the *cleaning agent* (household bleach, or 5.25% sodium hypochlorite), but the *disinfection* or *sterilization* involves the regular use of 3.7% formaldehyde which does reach all parts of the fluid path. The authors do not mention, and were apparently unaware of, the disinfection protocol and the use of formaldehyde to sterilize the fluid pathway. It is not surprising that they encountered bacterial problems, since the source water contained 60 times the allowable bacterial count for hemodialysis water, and since they were not sterilizing their machines.

The authors recommend adding a 1:2 dilution of sodium hypochlorite and water into the water intake system of the Cobe Centry 2. This concentration of bleach will damage expensive parts of the machine, all of which will be exposed to the full concentration of the solution introduced. Damage from such exposure may not be immediately apparent, but will occur with this repeated abuse. Since there are over 10,000 Cobe Centry 2's in active use, application of the authors' recommendations on a wide scale could cause an enormous economic loss to dialysis facilities.

I beleive it is imperative to publish most prominently a warning to all readers of *INFECTION CONTROL* not to implement the recommendations of this article, and a recommendation to follow the manufacturer's recommended procedures for both cleaning and disinfecting the Cobe Centry 2.

David A. Ogden, M.D.
Professor of Medicine and
Chief, Renal Section
University of Arizona
Health Sciences Center
Tucson, Arizona