- rate in an intensive care unit. Crit Care Med 1994;22:55-60.
- Constantini M, Donisi PM, Turrin MG, Diana L. Hospital acquired infections surveillance and control in intensive care services, results of an incidence study. *Eur J Epidemiol* 1987;3:347-355.
- Platt R, Polk BE Murdock B. Rosner B. Mortality associated with nosocomial urinary-tract infection. N Engl J Med 1982;307:637-642.
- Rose R, Hunting KJ, Townsend TR, Wenzel RP. Morbidity/mortality and economics of hospital-acquired bloodstream infections: a controlled study. South Med J 1977;70:1267-1269.
- Forgacs IC, Eykyn SJ, Bradley RD. Serious infection in the intensive therapy unit: a 15-year study of bacteraemia. Q J Med 1986;60:773-779.
- Smith RL, Meixler SM, Simberkoff MS. Excess mortality in critically ill patients with nosocomial bloodstream infections, Chest 1991;100:164-167.
- Martin MA, Pfaller MA, Wenzel RP. Coagulase-negative staphylococcal bacteremia. Mortality and hospital stay. Ann Intern Med 1989;110:9-16.
- Wey SB. Mori M, Pfaller MA, Woolson RF, Wenzel RP. Hospital-acquired candidemia. The attributable mortality and excess length of stay. Arch Intern Med 1988;148:2642-2645.
- Chastre J, Fagon JY. Community-acquired acute pneumonia and respiratory failure. In: Pinsky MR. Dhainaut JFA, eds. *Pathophysiologic Foundations of Critical Care*. Baltimore, MD: Williams and Wilkins; 1993:525-544.
- Bryan CS, Reynolds KL. Bacteremic nosocomial pneumonia. Am Rev Respir Dis 1984;129:293-298.

- Graybill JR, Marshall LW, Charache P, Wallace CR, Melvin VB. Nosocomial pneumonia: a continuing major problem. Am Rev Respir Dis 1973;108:1130-1140.
- 24. Fagon JY, Chastre J, Domart Y, et al. Nosocomial pneumonia in patients receiving mechanical ventilation: prospective analysis of 52 episodes with the use of a protected specimen brush and quantitative culture techniques. Am Rev Respir Dis 1989;139:877-884.
- Torres A, Aznar R, Gate11 JM, et al. Incidence, risk, and prognosis factors of nosocomial pneumonia in mechanically ventilated patients. Am Rev Respir Dis 1990;142:523-528.
- Craven DE, Kunches LM, Kilinski V, Lichtenberg DA, Make BJ, McCabe WR. Risk factors for pneumonia and fatality in patients receiving continuous mechanical ventilation. Am Rev Respir Dis 1986;133:877-884.
- Craig CP, Connelly S. Effect of intensive care unit nosocomial pneumonia on duration of stay and mortality. Am J Infect Control 1984;12:233-238.
- Leu HS, Kaiser DL, Mori M, Woolson RF, Wenzel RP. Hospital-acquired pneumonia: attributable mortality and morbidity. Am J Epidemiol 1989;129:1258-1267.
- Fagon JY, Chastre J, Hance AJ, Montravers P, Novara A, Gibert C. Nosocomial pneumonia in ventilated patients: a cohort study evaluating attributable mortality and hospital stay. Am J Med 1993;94:281-288.

## NIOSH Plans to Update Respirator Certification, Promising More Options for Worker Protection

## by Gina Pugliese, RN, MS Medical News Editor

On Tuesday, May 24, 1994, the National Institute for Occupational Safety and Health (NIOSH) published its proposed rule on respiratory protective devices that includes changes in the current procedures for testing and certifying air-purifying respirators used for tuberculosis (TB) control (Federal Register 59;May 24, 1994:26850-26889). The proposed certification procedures will include a new generation of respirators called "Class C" respirators, which test and certify the ability of the respirator to filter 95% of 0.3-micron size particles.

Currently, the Occupational Safety and Health Administration (OSHA) requires the use of a high-efficiency particulate air (HEPA) respirator for worker protection because there have been no authorized NIOSH certification procedures to evaluate the efficacy of any other type of respirator to filter particles the size of the TB droplet nuclei, that is, as small as 1 micron.

NIOSH says that these new testing and certification procedures will enable manufacturers to produce a broader range of more practical and economic respirators that meet the Centers for Disease Control and Prevention (CDC) performance criteria for respiratory protection devices for TB protection (including the ability to filter >95% of l-micron size particles.) Although the new Class C model respirator would exceed slightly the CDC's performance criteria, it is anticipated that it will be priced more economically than the more stringent HEPA respirator.

These new NIOSH regulations will

be placed on an accelerated schedule and should result in a final rule by the end of this year. A broader range of certified respirators should be available by early 1995.

These proposed rules for new certification procedures do not change any of the current fit testing and fit checking requirements outlined in the respiratory protection standard 29 CFR;1910.134.

A public hearing was held on June 23-24, 1994, in Washington, DC. NIOSH also has requested written comments. These comments should be submitted no later than July 22, 1994, in triplicate to NIOSH Docket Office, Robert A. Taft Laboratories, Mailstop C-34,4676 Columbia Parkway, Cincinnati, OH 45226. For a copy of the proposed regulations, call (800) 35-NIOSH.