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IN REPLY REFER TO

BUMEDINST 6220.8A
BUMED-M3
24 Jul 2007

BUMED INSTRUCTION 6220.8A

From: Chief, Bureau of Medicine and Surgery

Subj: RECRUIT STREPTOCOCCAL INFECTION PREVENTION PROGRAM

Ref: (a) BUMEDINST 6230.15A
(b) Armed Forces Epidemiological Board memo DASG-AFEB 83 of 19 Sep 1983 (NOTAL)

Encl: (1) Streptococcal Infection Prevention Program Guidelines

1. Purpose. To provide policy and guidelines for streptococcal disease surveillance and the use of antibiotic prophylaxis to control group A streptococcal infections among recruits at Great Lakes Naval Recruit Training Command (RTC), the Marine Corps Recruit Depots (MCRDs), and other high density schools and training environments per references (a) and (b).

2. Cancellation. BUMEDINST 6220.8, and stock number 0510-LD-055-3760.

3. Background. Group A streptococcal infections and their sequelae have caused numerous problems among Navy and Marine Corps recruit populations. During the massive mobilization in World War II, a catastrophic rise in streptococcal infection and rheumatic fever rates occurred in recruit training facilities. Although the rates decreased after the war, they remained at unacceptable levels until penicillin prophylaxis was initiated. Since the 1960's, a program of streptococcal disease surveillance and penicillin prophylaxis has contributed to the control of streptococcal infection and its sequelae among recruits at Navy training centers and MCRDs. In December 2002, a group A streptococcal outbreak occurred at MCRD San Diego that resulted in 185 cases and numerous hospitalizations. Continued emphasis is necessary to prevent streptococcal infection morbidity and mortality among recruits and to minimize training delays as well.

4. Action. Medical treatment facility (MTF) commanding officers supporting recruit training and other affected training centers and sites will coordinate with affected line commanding officers to ensure the guidelines in enclosure (1) are implemented.

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STREPTOCOCCAL INFECTION PREVENTION PROGRAM GUIDELINES

1. Background

a. Streptococcal infections continue to be a significant cause of lost training days among recruits. Streptococcal sore throat (pharyngitis) and skin infection are the most common conditions caused by group A beta-hemolytic streptococci (GABHS). Streptococcal infections have the potential to cause severe, life-threatening conditions such as toxic shock-like syndrome, necrotizing myonecrosis or fasciitis, rheumatic fever, rheumatic heart disease, and acute glomerulonephritis. Recruits live in an environment at high risk for efficient person-to-person transmission of pathogens. If they become ill and are hospitalized, their training may be delayed as they are often "dropped" from their unit or are "set back." Recruits who are dropped or set back are less likely to complete recruit training.

b. Since the 1960's, the control of streptococcal infection and disease among recruits has involved various programs of surveillance and penicillin prophylaxis. Repeatedly and consistently in published medical literature, recruits have been clearly identified as a unique population where the risks from infectious diseases are magnified and where accepted practices in civilian populations may not be applicable. In 1983, the Armed Forces Epidemiological Board (AFEB) addressed these issues and made recommendations for the use of penicillin prophylaxis in the control of GABHS disease in Navy and Marine Corps recruits in reference (b).

c. For the purposes of this instruction, recruit populations are divided into three 4-week groups; Phase I, the first 4 weeks of training; Phase II, the second 4 weeks of training, and in the case of Marine recruits a Phase III, the third 4 weeks of training. These time periods correspond with the 4-week period of protection offered by the primary prophylactic antibiotic regimen, long-acting benzathine penicillin G.

2. Antibiotic Prophylaxis Against Streptococcal Infection

a. Commanding officers of RTC and the MCRDs will assure that medical facilities supporting RTC and the MCRDs routinely administer antibiotic prophylaxis to all recruits upon arrival.

(1) Year round primary prophylaxis regimen:

(a) All recruits, not allergic to penicillin, will receive benzathine penicillin G. For the prophylaxis of streptococcal infections, the long-acting formulation of benzathine

penicillin 0, Bicillin-LA^R sterile penicillin G benzathine suspension, NSN 6505-00-133-4447 (Bicillin-LA^R), is the acceptable formulation. Other types of Bicillin or benzathine penicillin G formulated for other clinical uses will not be used for streptococcal infection prophylaxis.

(b) Bicillin-LA^R is given in a dosage of 1.2 million units intramuscularly in the upper outer quadrant of one buttock. Bicillin-LA^R is an irritating material; therefore deep intramuscular injection is required. When administered as stipulated, Bicillin-LA^R produces blood levels sufficient for streptococcal disease prevention for approximately 3 weeks.

(c) Before administration of Bicillin-LA^R, recruits will be questioned for any history of penicillin hypersensitivity, including breathing difficulty, tightness in the chest, drop in blood pressure, or urticarial rash following penicillin administration in the past. Persons giving a history compatible with immediate or delayed reactions to penicillin will not be given Bicillin-LA^R as set forth by the Streptococcal Infection Control Program. Historically, the rate of penicillin allergy in the general population has been between 5 and 10 percent.

(d) Penicillin-allergic recruits must be given an alternate non-penicillin antibiotic prophylaxis regimen. When administering alternate prophylaxis regimens, directly observed therapy must be accomplished. Marine drill instructors (DIs) and Navy Recruit Division Commanders (RDCs) must verify that each recruit takes each dose.

(2) Alternate prophylaxis regimens include:

(a) Oral azithromycin, 1 gram weekly for 4 weeks.

(b) Oral penicillin VK, 250 milligrams twice daily for 4 weeks.

(c) Oral erythromycin, 250 milligrams twice daily for 4 weeks.

b. The decision to require prophylaxis for Phase II and Phase III recruits will be guided by surveillance. If streptococcal pharyngitis surveillance rates, described in paragraph 4 below, show rates equal to or greater than baseline rates among recruits past their 4th week at the recruit center (Phase II or Phase III recruits), prophylaxis will be given to populations determined to be at risk by local medical authorities. Prophylaxis in Phase II recruits and beyond will continue for 6 weeks after the weekly surveillance rate falls below baseline rates, or at the discretion of the commanding officer of the serving MTF as advised by the responsible Navy Environmental and Preventive Medicine Unit (NEPMU).

c. There is a possibility of immediate and severe anaphylactic reactions to parenteral penicillin. A physician or other health care provider who is qualified in current emergency resuscitative procedures should be immediately available during administration of Bicillin-LA^R prophylaxis. The requirements of reference (a) for vaccine administration procedures and emergency medical treatment also apply to the administration of Bicillin-LA^R.

3. Streptococcal Infection Prevention Programs in Populations other than Recruits

a. Antibiotic prophylaxis against streptococcal infection may need to be applied to populations in other military settings where the risks from infectious diseases are magnified due to physically and mentally demanding training and high-density living conditions. Such populations include the Marine Corps School of Infantry, Basic Underwater Demolition School, Navy "A" schools, etc.

b. MTFs that are responsible for caring for other high-risk populations should monitor streptococcus illness morbidity and illness rates and be prepared to implement prophylaxis programs described in paragraph 2 of this enclosure. They are also responsible for educating the Marine DIs and Navy RDCs for leadership roles for ensuring recruit compliance.

4. Streptococcal Infection Surveillance

a. Each MTF that provides primary support to a Navy or Marine Corps recruit training activity must monitor the incidence of laboratory-confirmed cases of streptococcal pharyngitis among recruits throughout the year. Streptococcal pharyngitis surveillance requirements are:

(1) All clinical cases of laboratory-confirmed acute GABHS pharyngitis must be identified and tabulated weekly to determine rates of disease in training center specific populations.

(2) Non-pharyngeal streptococcal infections should not be tabulated as streptococcal pharyngitis cases. If non-pharyngeal cases are tabulated, they must be reported separately from the pharyngeal cases.

(3) In general, screening for asymptomatic carriers of GABHS is not useful in the recruit setting and not recommended. In the setting of an outbreak, screening for asymptomatic carriers may be considered to help guide interventions to limit further spread of the pathogen.

b. Since the streptococcal pharyngitis surveillance program is based on results of laboratory-confirmed cases of acute GABHS pharyngitis, the definition of what laboratory methods constitute confirmation and when to administer them must be established.

Microbiological culture continues to be the standard confirmatory test. The Rapid Antigen Detection Test (RADT) is also acceptable and can also be used to expedite patient management decisions and can be used for counting purposes of positive cases.

c. The MTFs must determine GABHS pharyngitis rates each week. Preparation of a weekly surveillance report is required so that clinical medicine and preventive medicine personnel who are responsible for oversight of the program can monitor disease trends and the effect of antibiotic prophylaxis.

(1) Marine Corps and Navy recruit training is significantly different. Therefore, GABHS pharyngitis surveillance efforts should be tailored to best monitor the populations at risk.

(2) Surveillance reports must include information on the current status of antibiotic prophylaxis at the recruit training facility, e.g., "Antibiotic prophylaxis has been routinely administered since (date)." Similarly, the date of starting or stopping antibiotic prophylaxis for Phase II or Phase III recruits must be recorded.

(3) Routine weekly surveillance reports are internal documents of the MTF. However, the MTF must maintain the surveillance and prophylaxis data on file for at least 3 years.

d. A rate of GABHS pharyngitis equal to or greater than the current baseline rate for the monitored population is the action point for deciding to give additional antibiotic prophylaxis beyond the first 4 weeks. Additionally, a severe infection requiring hospitalization may herald circulation of a particularly virulent strain and warrant consideration of prophylaxis even if rates are below baseline.

e. The MTF should also monitor the GABHS colony morphology. If pharyngeal isolate mucoid morphology increases above the baseline rate for the MTF, the responsible NEPMU should be contacted to coordinate investigative tasks with infectious disease subject matter experts in order to reach consensus recommendations for further laboratory analysis, public health efforts, and clinical treatment.

f. If using Azithromycin instead of Penicillin VK, during time of Bicillin-LA^{R} non-availability, MTF medical microbiology must be vigilant for the emergence of streptococcal group A resistance and report it to the preventive medicine officer at the MTF or to the responsible NEPMU.

g. MTF pharmacies must forecast and supply antibiotic availability to seamlessly support the GABHS prophylaxis and treatment regimes identified in this document.

5. References

a. The guidelines for antibiotic prophylaxis and surveillance for the prevention and control of GABHS disease are based on the following:

(1) The AFEB recommendations, reference (b).

(2) The results of a prospective study of GABHS pharyngitis in recruits conducted from January to March 1989.

(3) An efficacy study of erythromycin for GABHS prophylaxis in penicillin-allergic recruits conducted from October 1989 through January 1990.

(4) A study of oral azithromycin as prophylaxis for agents causing acute respiratory disease. (Gray GC, et al., Weekly oral azithromycin as prophylaxis for agents causing acute respiratory disease, Clin Infect Dis 1998; 26(1):103-10.)

b. Guidelines were also constructed based on review of current practices and recommendations by the medical staff responsible for recruit health care at RTC and each MCRD, and preventive medicine, infectious diseases, and research specialists at Navy Environmental Health Center, Naval Health Research Center, Naval Medical Center San Diego, and National Naval Medical Center.