

information formerly at § 493.1223 because subpart R contains this information. In addition, revocation of specialty or subspecialty certification for problems related to a particular test would be taken only as a last resort.

Sections 493.1225 Condition: Microbiology; 493.1227 Condition: Bacteriology; 493.1229 Condition: Mycobacteriology; 493.1231 Condition: Mycology; 493.1233 Condition: Parasitology; and 493.1235 Condition: Virology

Specific comments received and response to comments regarding §§ 493.1225, 493.1227, 493.1229, 493.1231, 493.1233, and 493.1235 are set forth below.

Comment: A professional organization, the American Society for Microbiology (ASM), commented that the CLIA QC requirements should be revised over time as new information is made available about the performance parameters of reagents or test systems. At a CLIAC meeting, this organization presented data on control failures for commercial microbiology reagents and stains and suggested that the current frequencies for control testing of a number of microbiology tests or reagents are excessive. ASM collected the data via two surveys of 304 clinical microbiology laboratories that perform varying levels of microbiological testing. It included failure rates for a total of 14,731 lots of reagents and stains, representing 21 different tests. Reagents and stains for 11 of the tests surveyed currently have control testing frequencies specified in the CLIA regulations: catalase, oxidase, coagulase plasma, *Salmonella* antisera, *Shigella* antisera, Gram stain reagents, optochin, bacitracin, Cefinase™ (beta lactamase), X and V factor strips and disks, and germ tube test. In this final rule, specific control testing frequencies are not given for eight reagents (spot indole, staphylococcal latex reagents, streptococcal latex grouping reagents, PYR disks, deoxycholate, KOH (fungal), LAP disks, and ALA) and two stains (lactophenol cotton blue and methylene blue). Based on the results of their surveys, the ASM proposed that laboratories should only be required to test new lot numbers of those commercial microbiology reagents that had a 98 percent or greater success rate (all reagents they surveyed met this requirement). In addition to testing each new lot, ASM recommended that laboratories test *Salmonella* and *Shigella* antisera every 6 months thereafter. ASM recommended that for epidemiological testing conducted in public health laboratories, the frequency

for testing *Salmonella* and *Shigella* antisera should be determined by the periodicity supported by each laboratory's data.

In making this presentation, ASM stated that the changes they were proposing would improve the cost effectiveness of the CLIA program and quality assurance programs in clinical laboratories without compromising public health. The CLIAC supported the proposal and recommended the incorporation of these changes into the CLIA regulations.

Response: We appreciate the efforts of ASM, and the data they provided. The survey results provided the supporting information and data needed to revise the control testing frequency requirements. Based on the low failure rates for the commercial microbiology reagents surveyed, we agree it is adequate to test the majority of these reagents with each batch (prepared in-house), lot number (commercially prepared), and shipment when prepared or opened for positive, negative, and graded reactivity, as applicable. We also agree with checking antisera initially and once every 6 months thereafter except for epidemiological testing that is not subject to CLIA.

For two of the stains surveyed, the Gram stain and methylene blue, we do not agree that the low failure rate of the reagents is sufficient reason to decrease the stringency of the control requirements. The Gram stain procedure uses several reagents and has multiple steps that require specific timing for accurate results. Also, interpretation of the stained smear requires individual skill and expertise. By decreasing the frequency of control testing for this procedure to once every batch, lot number, and shipment, small laboratories that perform only rare Gram stains on direct specimens may not test controls for a period of months. We do not believe this is appropriate for a critical test used, in some cases, to presumptively diagnose an infectious disease (for example, direct smear for *Neisseria gonorrhoeae*). For this reason, we are maintaining the current weekly control testing requirement for Gram stain in addition to testing with each new batch, lot number and shipment.

Similar to the Gram stain usage in small laboratories, methylene blue stains may not be performed for an extended period of time, especially in laboratories that do not routinely use this staining procedure. We do not believe it is overly burdensome to require control testing of this stain each day of use.

In making the revisions discussed above, we deleted the specific control

requirements for the reagents surveyed by ASM in the subspecialties of bacteriology formerly at § 493.1227 (now at § 493.1261) and mycology formerly at § 493.1231 (now at § 493.1263), except for requiring in bacteriology that the Gram stain be tested each week of use, and antisera be tested when each batch, lot number, and shipment is prepared or opened, and once every 6 months thereafter. We are also requiring in mycology that the laboratory check each batch, lot number, and shipment of lactophenol cotton blue when prepared or opened for intended reactivity with control organisms. Additional control testing for lactophenol cotton blue is not required. The required control testing frequencies for other reagents and stains will default to the general control procedures requirements formerly at § 493.1218(f) (now at § 493.1256(e)(1) and (2)). The general control requirements for reagents include testing each batch (prepared in-house), lot number (commercially prepared) and shipment when prepared or opened. The general control requirements for stains (for example, methylene blue) include testing staining materials for intended reactivity each day of use. As indicated by ASM, we believe these changes will decrease the cost of microbiology testing, without significantly affecting the quality of the test results.

The CLIAC requested further input from ASM on appropriate control requirements for microbiology. ASM submitted the following recommendations based on consultation with clinical microbiologists:

- The mycology requirement (for auxanographic media for nitrate assimilation) to check the nitrate reagent each day of use with a peptone control is not relevant since most laboratories no longer perform this test for fungal identification. This requirement could be deleted, and if laboratories do use the procedure, it would be sufficient to perform control testing with each batch or lot.
- The requirement for parasitology laboratories to check permanent stains, each month of use, with a fecal sample should be changed to "with a fecal sample or commercial QC slide."
- To control the decontamination process for mycobacteriology culture specimens, process a specimen containing *Mycobacterium fortuitum* with each new lot number or batch of decontaminating agent.
- The frequency of control testing should be standardized for all microbiology subspecialties. Although there has been no data collected for reagents or stains used in subspecialties