

Date: October 26 2007

From: Roger Grist

Re: Explanation of Skips

File: Skip explanation Oct 2007

The statement concerning how to interpret an MIC in the event that one or more wells below a well showing growth has been in the Sensititre pack inserts since 1978 and has since been regularly reviewed by the FDA.

The logic is that it has long been recognized that single well skips are encountered with broth microdilution testing and are rarely due to contamination. One explanation is that they are caused by a hanging drop down the side of the well. This is the result of splashing during inoculation. The drop does not contain antibiotic because of insufficient time for reconstitution. The organism can therefore grow normally. The increase in organism numbers results in a breakdown of surface tension. The drop is released along with the bacterial growth which can now go on to form a conventional growth button. A skip arises because the well containing growth is above the MIC. I suspect this most often occurs in the well above the MIC because wells containing higher concentrations of antibiotic are able to carry over sufficient drug into the drop to inhibit growth.

Reporting the MIC as the well above the growth well errs on the side of caution because you cannot discount the possibility that the skip is being caused by a failure to grow in the well below the growth well. It is better to report false resistance than false sensitivity.

Growth bounded by 2 or more wells of no growth is almost invariably caused by contamination. It is therefore best to retest the organism.

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