

Incidence of Safe Sample Collection Procedures with the BacT/Alert™ Blood Culture System

ALLEGHENY MARKETING GROUP AND EMILY WELSH
Pittsburgh, PA 15205, USA

BACKGROUND

Concern over improper use of blood collection safety devices (leading to potential needle stick injuries among healthcare workers) has prompted the federal legislature to issue recommendations and mandates on how such devices are used. The mandates cover the use of safety adapters for drawing blood cultures. In most clinical settings 3% of blood samples are collected into blood culture bottles, while 97% of blood samples are collected into evacuated tubes. Noting the requirement for multiple safety adapter components when collecting BacT/Alert blood culture bottles due to the bottle design not permitting the use of the standard evacuated tube adapters, this study was commissioned to investigate the impact of this requirement on the collection processes employed by BacT/Alert blood culture system users.

METHODS

Telephone surveys were conducted among 123 hospitals that use or have used the BacT/Alert blood culture detection system. 91 interviews were completed; 72 among current BacT/Alert users and 19 among prior users.

Respondent Demographics:

Position Responsibilities	
Phlebotomist/Lab Collection	50%
Lab Manager/Supervisor	36%
Lab Technologist	14%

Respondent Hospital Size	
400+ beds	19%
200-399 beds	23%
<200 beds	58%

Hospital contacts agreeing to participate in the telephone interview were faxed photographs of three blood collection devices for use as reference during the interview:

- 1) A BD Vacutainer™ safety adapter (used for sample collection into evacuated tubes and BACTEC™ Blood culture bottles)
- 2) A BacT/Alert blood culture bottle safety adapter
- 3) A BacT/Alert blood culture bottle safety adapter with evacuated tube holder insert.

RESULTS

Use of the BacT/Alert blood culture bottle safety adapter among BacT/Alert users was reported at 62%. Previous BacT/Alert users indicated a 53% use. BacT/Alert adapter users reported also using the insert device approximately 70% of the time.

Among the BacT/Alert users who indicated not using a blood culture bottle safety adapter, 41% indicated that they have previously used the basic safety adapter and 26% had used the combination adapter and tube insert. The primary reason given for discontinued use were due to the cumbersome handling of the safety devices.

CONCLUSIONS

- Users of the BacT/Alert blood culture system are potentially performing unsafe sample collections. A key contributor to the use of unsafe collection procedures among BacT/Alert users is the blood culture bottle design requiring separate oversized adapter pieces that differ from standard safety adapters used in collecting samples into evacuated tubes.