

2001 National Survey of Hospital Coagulation Laboratory Practices: Testing for Prothrombin Time (PT), Activated Partial Thromboplastin Time (aPTT) and Low Molecular Weight Heparin (LMWH)

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Introduction: Coagulopathy and bleeding are major public health concerns, and coagulation laboratory tests are principal components of clinical management. To characterize, among other issues, practices relating to testing for PT, aPTT and LMWH, we conducted a survey of laboratories in 2001.

Methods: From a sampling frame of institutions listed in the 1999 directory of the American Hospital Association, we randomly selected 800 hospital coagulation laboratories (sampling rate, 14%; response rate, 79%). A group of coagulation experts and survey methodologists assisted in survey design and further evaluated content and format of the survey before pilot testing.

Results: Ninety-seven percent of sampled laboratories performed coagulation testing.

Assaying PT. All performed PT assay. Almost all (99.8%) reported PT results as international normalized ratio (INR), 97% reported results in seconds and/or as therapeutic PT ratio, and 3% reported results as INR only. Seventy-five percent reported using 3.2% (109 mmol/L) sodium citrate as anticoagulant, and 27% reported using 3.8% (129 mmol/L) sodium citrate. Seventeen percent reported determining sensitivity of PT assay to heparin, and 50% reported selecting PT-thromboplastin reagents insensitive to heparin in the therapeutic range.

Assaying aPTT. aPTT assay was performed by 99%. Sixty-four percent reported they had an aPTT therapeutic range for heparin when monitoring heparin therapy. Ninety-six percent assayed specimens for aPTT within 4 hours after phlebotomy, and 88% centrifuged specimens within 1 hour of collection. Specimens were kept at room temperature by 82% and at 4 °C by 22% of respondents before aPTT testing.

Monitoring LMWH. Fourteen percent reported therapy with LMWH; of these, 72% used aPTT assay to monitor LMWH therapy while 53% used anti-Xa assay to do so.

Conclusion: We found substantial variability in certain coagulation laboratory practices. Some of these practices are not consistent with current guidelines and may affect patient outcome. These results suggest targeted intervention efforts.