A randomized trial of povidone-iodine compared with iodine tincture for venipuncture site disinfection: Effects on rates of blood culture contamination. *R.J. Little, P.R. Murray, P.S. Traynor, et al.* Am J Med 107:119-125, 1999.

Bacterial contamination of blood products remains a significant cause of transfusion reactions. Because platelets are stored at room temperature, they provide a hospitable environment for the growth of many microbial species. In prospective culture studies of platelet concentrates, the most commonly found organisms are part of normal skin flora and presumably originate from the donors' skin at the time of phlebotomy. Inadequate skin disinfection is also a problem in diagnostic microbiology, where 35% to 50% of all blood cultures showing microbial growth are thought to be false positive because of contamination. In this randomized, blinded clinical trial involving close to 4,000 inpatients, the authors compared the false-positive blood culture rate in patients randomly assigned to 2 different antecubital venipuncture site disinfection protocols. Arm preparation using a 70% alcohol gauze swab for 1 minute, followed by a 10% povidone-iodine gauze swab (standard method before study commencement) was compared with the use of a 70% isopropyl alcohol brush for 1 minute followed by a 2% tincture of iodine applicator. In both cases, a 2-minute drying time before phlebotomy into two 10-mL aerobic blood culture bottles was recommended. All blood cultures were drawn by trained hospital phlebotomists and incubated for 7 days using the BACTEC automated blood culture system. A training session for the phlebotomists was provided before beginning the study. Blood cultures were considered contaminated if a bacterial species usually found as part of normal skin flora was isolated from one or both culture bottles from a single phlebotomy, and not from any other blood cultures or other culture sites. The skin contamination rate was 3.8% after povidone-iodine disinfection, and 2.4% after iodine tincture disinfection ($P = .01$), with coagulase-negative *Staphylococcus* being the most common contaminant in each group. If contaminant species were not restricted to skin flora, there was an even larger difference between the 2 groups (4.4% *v* 2.8%). It is possible that some of these bacteria were part of transient skin flora in the patients. There was no difference in the incidence of true-positive bacterial cultures between the 2 groups. False-positive cultures were associated with important increases in hospital costs because of additional investigations and antibiotic therapy. The authors point out that the difference in contamination rates may be attributable to the greater rate of microbicidal activity with iodine tincture compared with povidone iodine. This also may be pertinent in a busy donor clinic setting. In addition to the different disinfectants, it is possible that the physical method of disinfection using a scrub brush and applicator is more effective than using gauze swabs. Finally, it is interesting that the rate of contamination using the standard method appears to have decreased during the 8-month study period as compared with the year before study commencement, perhaps showing the value of training and reinforcement of the importance of skin disinfection during the study. *(M.G.)*