

Platelet collection efficiency did not differ significantly between the V-50 Plus (37 %) and the CS-3000 Plus (34 %), ($p>0.05$). The two devices provided equivalent high yield platelet products, the V-50 = 4.78×10^{11} , the CS-3000 = 4.41×10^{11} . The CS-3000 Plus products were more likely to contain $< 1 \times 10^8$ WBCs (14/30) than those of the V-50 Plus (0/30). In the remaining products, the median white cell content was 3.48×10^8 for the V-50 Plus and 1×10^8 for the CS-3000 Plus ($p<0.05$). There was a significant difference for the median red cell content of the V-50 Plus products (2.21 ml) and the CS-3000 Plus products (1.76 ml), but both contents were under acceptable limits. The CS-3000 Plus was capable of collecting large number of platelets in a median processing times of 87.5 minutes (range 80-120 mins), which was shorter than the median processing times of the V-50 Plus (110 mins , range 90-135 mins , $p<0.05$).

In conclusion, both blood cell separators achieved the equivalent high platelet yields and collection efficiency. However, the CS-3000 Plus seemed to be superior for shorter processing times and lower white cell and red cell contents in platelet products. In contrast, the white cell contamination was low enough in the CS-3000 Plus products to prevent febrile transfusion reactions, but was not sufficient to prevent alloimmunization. Further studies to improve white cell contamination should be considered.