"Administering PLTs in a shorter timeframe may prove beneficial by possibly raising platelet counts to a higher level faster, and allowing patients to be disconnected from IV pumps sooner" Steck et al (2020).

Abstract:
BACKGROUND: Hematology-oncology patients often require blood and blood product transfusions, including platelets (PLTs), to maintain stability. Administering PLTs in a shorter timeframe may prove beneficial by possibly raising platelet counts to a higher level faster, and allowing patients to be disconnected from IV pumps sooner. OBJECTIVE: To evaluate the optimal (safe and effective) transfusion time by comparing standard administration of PLTs over 2-4 h to the investigational administration of PLTs over 30-45 min in the pediatric hematology-oncology inpatient population. METHODOLOGY: A pilot trial was conducted using a convenience sample of hematology-oncology children. Children prescribed a PLT transfusion while admitted to an inpatient unit were eligible. If randomized to the intervention group, the nurse administered the PLTs over 30-45 min. If randomized to the standard group, the nurse administered the PLTs over 2-4 h. Post transfusion PLT count was drawn 30 min after completion. The child was monitored closely for adverse reactions. RESULTS: Eleven participants were enrolled in the study and 20 PLT infusions administered. No adverse events were noted. There was not a significant difference in changes in PLT counts by group (post minus pre), $p = 0.082$. There was not a significant difference in post infusion PLT counts, $p = 0.727$. There was a significant difference in the rate of change in PLT counts by groups, $p = 0.003$. NURSING IMPLICATIONS: This pilot study provides preliminary evidence that PLTs may be safely and effectively administered over 30-45 min in pediatric hematology-oncology.
patients. With quicker PLT administration, patients can be disconnected from IV pumps sooner.

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