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"Save the vein" initiative in children with chronic kidney disease

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Quality Improvement Abstract Title
"**Save the Vein**" **initiative in children with chronic kidney disease**

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IRB Number (if applicable):

Describe role of Submitting/Presenting Trainee in this project (limit 150 words):
I was a core member of the team, involved in baseline data analysis, formulating the save the vein critical note, education of the medical staff, data collection and analysis of data.

Problem Statement/Question:
An arteriovenous fistula (AVF) in the non-dominant arm is the preferred vascular access for hemodialysis (HD) patients. Unfortunately, prior intravenous line placement in that arm can lead to stenosis and thrombosis of veins, compromising future success with AVF placement. Preservation of veins in children with end-stage renal disease (ESRD) is particularly important due to their young age and potential need for HD over their lifetime. A review of the current practice of peripheral intravenous line (PIV) placement at CMH in dialysis and kidney transplant patients, showed that only 48% of patients overall and only 25% of children < 5 years had a PIV placed in the preferred (dominant) arm.

Background/Project Intent (Aim Statement):
To develop a standard process for PIV placement in the dominant arm for patients with CKD stage 3-5, ESRD and kidney transplant admitted to the Nephrology service

Methods (include PDSA cycles):
The "Save the Vein" quality improvement (QI) initiative was instituted which education of physicians, nurses, phlebotomist/Vascular access team (VAT), operating room/ anesthesia teams and patients/parents regarding the importance of vein preservation and the preferred site of IV placement. Individualized critical notes were placed in the EMR with the preferred arm for PIV placement. Pink restricted extremity arm bands were placed on the non-dominant arm and the VAT team was contacted to place PIV in patients as needed to limit bedside nurse attempts to < 2.

Results: Following implementation of the QI initiative, review of 187 PIV placements revealed that the frequency of placement in the preferred (dominant) arm improved from 48% to 90% in 12 months. In children <5 years, the rate increased from 25% to 94% . The most common reason for failure to use the preferred arm was difficulty placing the IV because of poor vasculature.

Conclusions:

A standardized process can help preserve peripheral vessels in patients with advanced CKD