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## Pre-Implementation of a Fontan Post-Operative Clinical Pathway: Summary of 2016 PDSA Cycles

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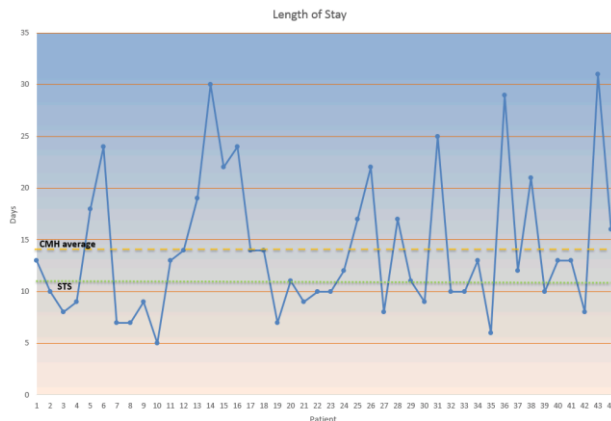
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## Background

Post-operative hospitalization for the Fontan repair tends to have an extended hospital length of stay (LOS). From 2013-2014, the average LOS at Children's Mercy for the Fontan repair is 14 days, whereas the U.S. national average is 11 days (Dean et al., 2011).

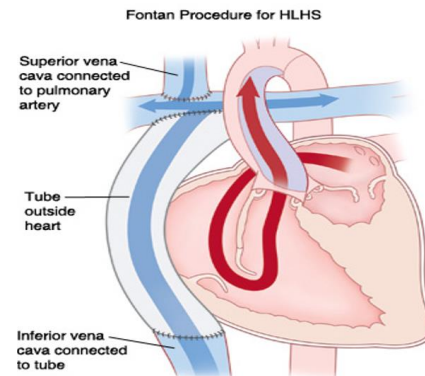


Post-operative management of this patient population is often caregiver dependent. It has been theorized that developing a more standardized post-operative management regimen tailored specifically toward the unique physiology

of Fontan patients may be able to improve outcomes and decrease LOS (Cava et al., 2005).

## Methods

A review of literature was performed and revealed three pediatric institutions in the U.S. have published their post-operative Fontan care guidelines (Cava et al., 2005; Pike et al., 2015; Sunstrom et al., 2014). Common elements from these care guidelines were identified and then trialed in 2016 on our post-operative Fontan population. Three patients were included in four individual PDSA cycles. Adherence to each intervention was tracked and information gathered regarding potential issues.



## Results

Use of supplemental oxygen prior to chest drainage tube removal had 100% adherence and no harm or negative side effects (e.g. nosebleeds, impeding ability to ambulate) reported. Following a low-fat diet has 100% adherence but the restriction of fluids component had 33% adherence with IV fluids started or IV fluid boluses given over the 80% fluid restriction in 2/3 patients. Following a standardized diuretic regimen had 100% adherence with no negative patient outcomes. Obtaining central access within 48 hours post-operatively via a PICC line had 100% adherence.

## Conclusion

By performing individual PDSA cycles, potential areas of concern were able to be identified and addressed or disproved. The Fontan clinical pathway was fully implemented in 2017 with plans to complete another full PDSA cycle.

## References

- Cava, J.R., Bevandic, S.M., Steltzer, M. M., & Tweddell, J. S. (2005). A medical strategy to reduce persistent chest tube drainage after the Fontan operation. *American Journal of Cardiology*, 96, 130-133. doi:10.1016/j.amjcard.2005.03.034
- Dean, P.N., Hillman, D.G., McHugh, K.E., & Gutgesell, H.P. (2011). Inpatient costs and charges for surgical treatment of hypoplastic left heart syndrome. *Pediatrics*, 128 (5), e1181-e1186. doi: 10.1542/peds.2010-3742
- Pike, N.A., Okuhara, C.A., Toyoma, J., Gross, B.P., Wells, W.J., & Starnes, V. A. (2015). Reduced pleural drainage, length of stay, and readmissions using a modified Fontan management protocol. *The Journal of Thoracic and Cardiovascular Surgery*, 150 (3), 481-487. doi:10.1016/j.jtcvs.2015.06.042
- Sunstrom, R.E., Muralidaran, A., Gerrah, R., Reed, R.D., Good, M.K., Armsby, L. R., . . . Langley, S.M. (2015). A defined management strategy improves early outcomes after the Fontan procedure: The Portland Protocol. *The Society of Thoracic Surgeons*, 99, 148-155. doi:10.1016/j.athoracsur.2014.06.121