

Background

- Testicular torsion is an emergency condition where the testicle twists on its blood supply.
- A delay in treatment can result in the loss of the testicle.
- Pain duration >12 hours is associated with significant testis volume loss.
- Any effort to expedite early surgical treatment could potentially save the patient's testicle.

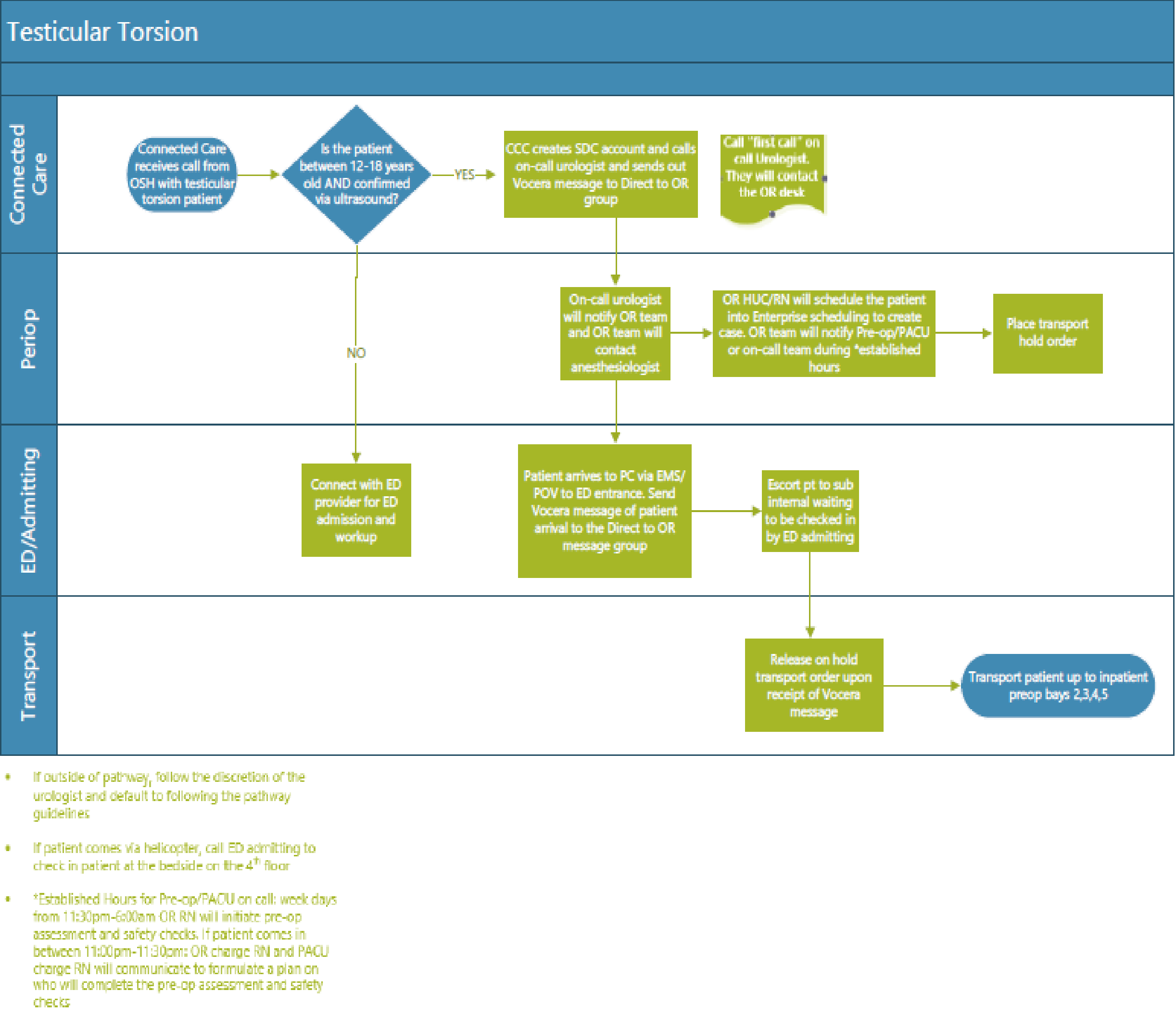
Objective

- The objective of this project was to decrease the time from patient registration to surgical start time for those transferred from outside facilities with confirmed testicular torsion.
- A secondary goal was to decrease the testicular atrophy and orchiectomy rates due to prolonged ischemia time.

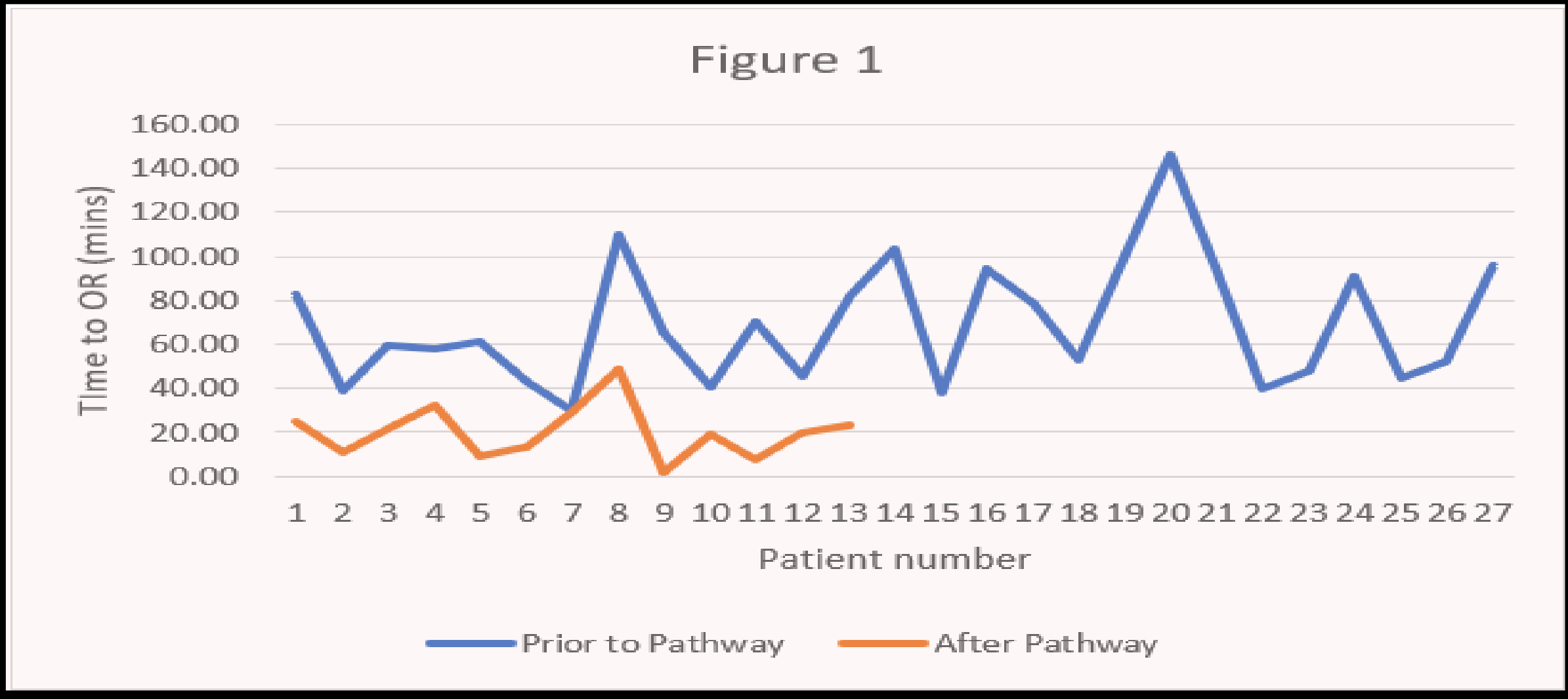
Methods

- A management pathway was created to bypass the Emergency Department and send patient straight to the preoperative area to prepare for surgery.
- Criteria was based on age and ultrasound confirmation to avoid chances of a false positive testicular torsion.
- The subgroup of patients that follow this pathway are pre-pubertal typically aged 12 – 18 years old.
- Patients are typically coming from outside hospitals (OSH) that cannot support this surgical intervention or from our other local Phoenix Children's hospital.

Results



	Before Pathway JAN 2022-DEC 2022 N=36	After Pathway Initiation AUG 2023-NOV 2023 N=13	P value
Time from registration to OR start (mins); mean (SD)	69.1 (28)	20.2 (12)	<0.0001
Orchiectomy; n (%)	10/36 (28%)	2/13 (15%)	0.4737
Testicular atrophy; n (%)	2/26 (15%)	1/11 (9%)	1.0000



	Before pathway N=36	After pathway N=35	P value
Age in years; mean (SD)	13 (3.1)	15 (1.7)	0.0025
Time from registration to OR in minutes; mean (SD)	70 (32)	23 (17)	<0.0001
Orchiectomy; n (%)	10 (28)	5 (14)	0.2454
Testicular atrophy; n (%)	4/26 (15)	5/30 (17)	1.0000
Length of follow up in days; mean (SD)	76 (95.3)	90 (73.9)	0.6605

References:

1. Grimsby GM, Schlomer BJ, Menon VS, Ostrov L, Keays M, Sheth KR, Villanueva C, Granberg C, Dajusta D, Hill M, Sanchez E, Harrison CB, Jacobs MA, Bungu B, Hennes H, Baker LA. Prospective Evaluation of Predictors of Testis Atrophy After Surgery for Testis Torsion in Children. Urology. 2018 Jun; 116:150-155. doi: 10.1016/j.urology.2018.03.009. Epub 2018 Mar 20. PMID: 29572055; PMCID: PMC6291205.
2. Kieran K, Wallace B, K, Takacs E, Cohen S, Gans W, & Sloughhouse B. (2021). The Acute Scrotum. American Urological Association Education and Research, Inc. <https://www.auanet.org/Documents/education/Acute-Scrotum.pdf>
3. American Society of PeriAnesthesia Nurses. 2023-2024 Perianesthesia Nursing Standards, Practice Recommendations, and Interpretive Statements. ASPAN; 2022.

Outcomes

- **Outcome Measure:** Time from registration to operating room (OR) start for patients transferred to PC from an OSH with confirmed testicular torsion.
- **Process Measure:** The testicular salvage rate and testicular atrophy rate for patients transferred to Phoenix Children's from an OSH with confirmed testicular torsion.
- **Balancing Measure:** Implementation of the pathway identified a need to streamline the communication process to ensure communication is effective.

Limitations

- Community awareness about early detection of testicular torsions and seeking rapid treatment.
- Registration process delays to quickly identify these patients and register them prior to OR time.

Conclusions

- Within the 4 months of implementation, we were able to significantly decrease the amount of time from registration to surgery for patients with confirmed testicular torsion transferred from outside hospitals.
- We continued with the same positive outcomes during the first year of the pathway.
- In the future, we hope to show improved testicular salvage rates with prolonged follow-up and pathway refinements.

Contact

