Alternate Access Transcatheter Aortic Valve Replacement Limits Complication Rates

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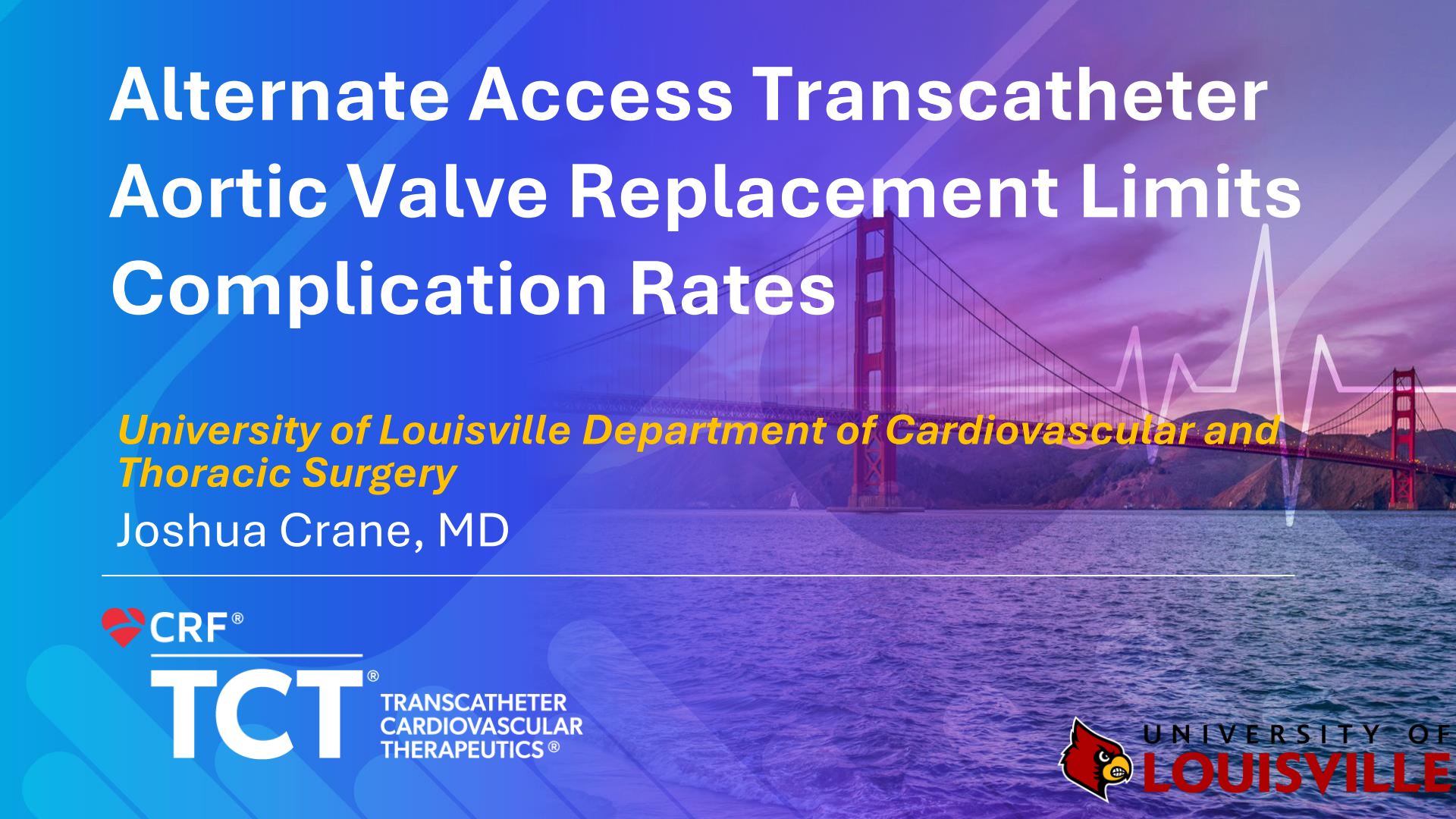

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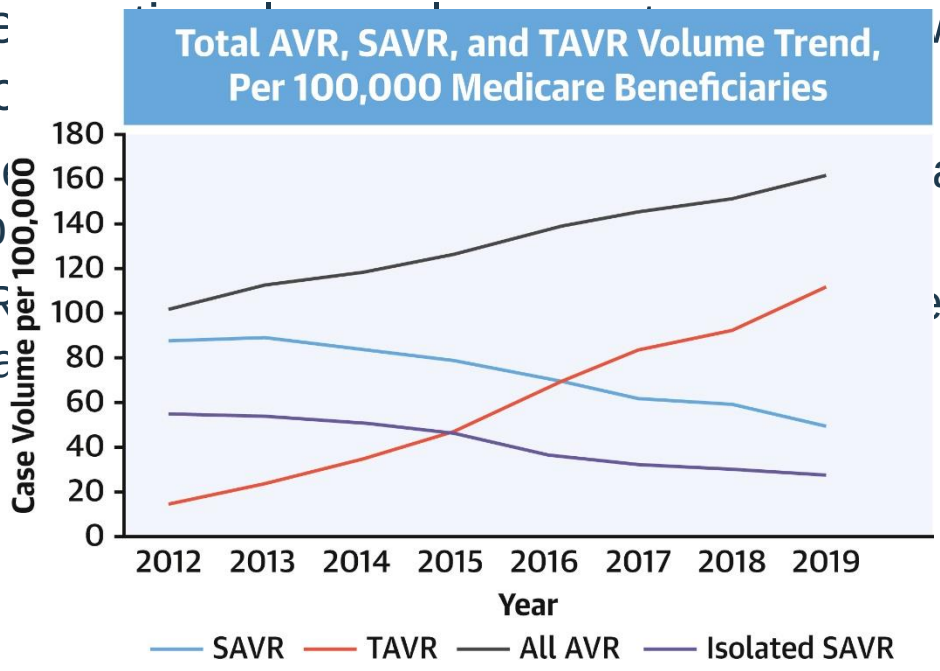
Disclosure of Relevant Financial Relationships

I, Joshua Crane DO NOT have any financial relationships to disclose.

Background

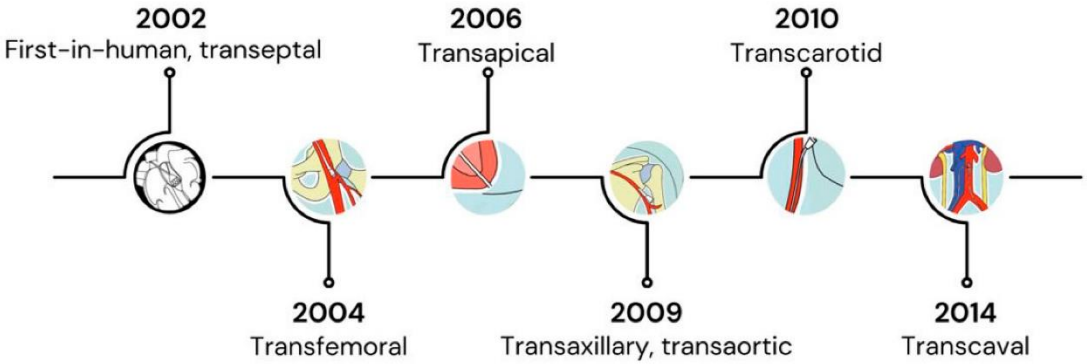
- Transcathete[illegible]wing modality for the replac[illegible]
  - Currently th[illegible]and is expected to reach $10 b[illegible]
  - Overall AVR[illegible]es. SAVR rates have decrea[illegible]



Mori et al., *JACC*, 2021

Background

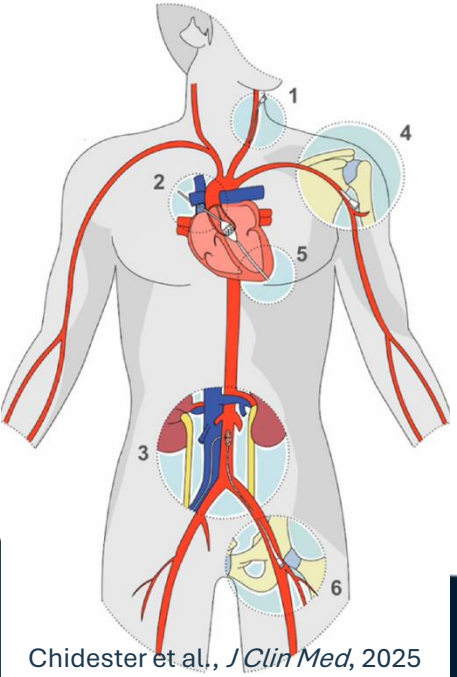
- TAVR began as a transseptal approach in 2002
- Transfemoral TAVR gained popularity next in 2004 and has remained the most popular mechanism for TAVR since then
  - In 2019, making up more than 95% of all TAVR



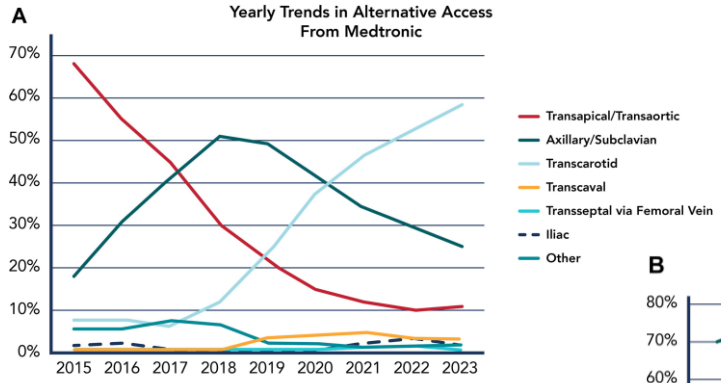
Chidester et al., *J Clin Med*, 2025

Background

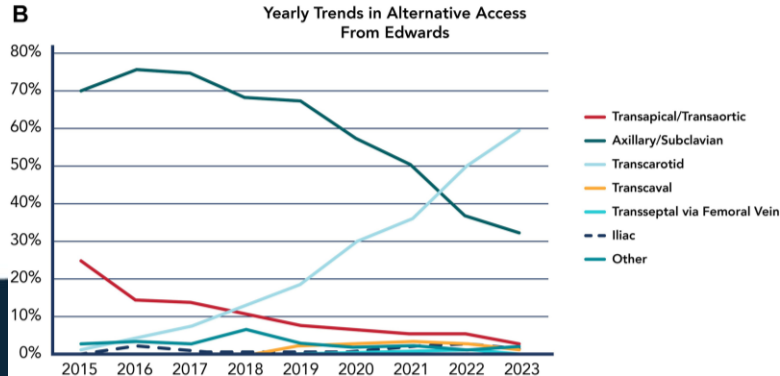
- However other access sites gained popularity
- In 2010, T. Modine performed the first transcarotid TAVR



Chidester et al., *J Clin Med*, 2025



Sherwood et al., *JSCAI*, 2025



Background

- TAVR patients with morbid obesity, excessive height, or peripheral vascular disease are often candidates for suprasternal TAVRs
- **Primary objective: Evaluate the suprasternal TAVRs impact on complication rates**

Methods

- TVT Registry
- Retrospective review of all adult patients that underwent TAVR between January 2021 and December 2024
  - Included ≥18yo, transfemoral TAVR, suprasternal TAVR
  - Excluded any patient with other alternative access TAVR

Methods

- Patients were separated into:
  - Femoral TAVR
  - Suprasternal TAVR
- Demographics, comorbidities, preoperative hemodynamics were compared
- Mortality, stroke, and major bleeding rates were compared

Results

- 413 patients underwent TAVR
  - 366 (88.6%) Femoral TAVR
  - 47 (11.4%) Suprasternal TAVR
- No difference in:
  - Age
  - Gender
  - Race
  - BMI

	fTAVR (n=366)	sTAVR (n=47)	p-value
Age	77 (72-83)	76 (70-81)	0.09
Gender (M)	59%	59%	0.91
Race (W)	92%	93%	0.66
BMI (kg/m^2)	29 (25-33)	27 (26-31)	0.4

Results

- No difference in:
  - STS Risk Score
  - Preop Cr
  - Preop EF
  - Mean Gradient
  - Peak Gradient
- PVD greater in suprasternal TAVR group
- Prior CVA greater in suprasternal TAVR group

	fTAVR (n=366)	sTAVR (n=47)	p-value
STS Risk Score	3.8 (2.2-6.5)	4.9 (2.6-8.6)	0.06
Creatinine (mg/dL)	1.0 (0.86-1.3)	1.0 (0.84-1.2)	0.37
Prior Cerebrovascular Disease	23%	51%	<0.01
Prior Peripheral Vascular Disease	14%	55%	<0.01
Ejection Fraction (%)	58 (51-63)	58 (53-64)	0.85
Mean Gradient (mmHg)	36 (28-44)	34 (28-42)	0.44
Peak Gradient (mmHg)	62 (50-74)	57 (50-63)	0.09

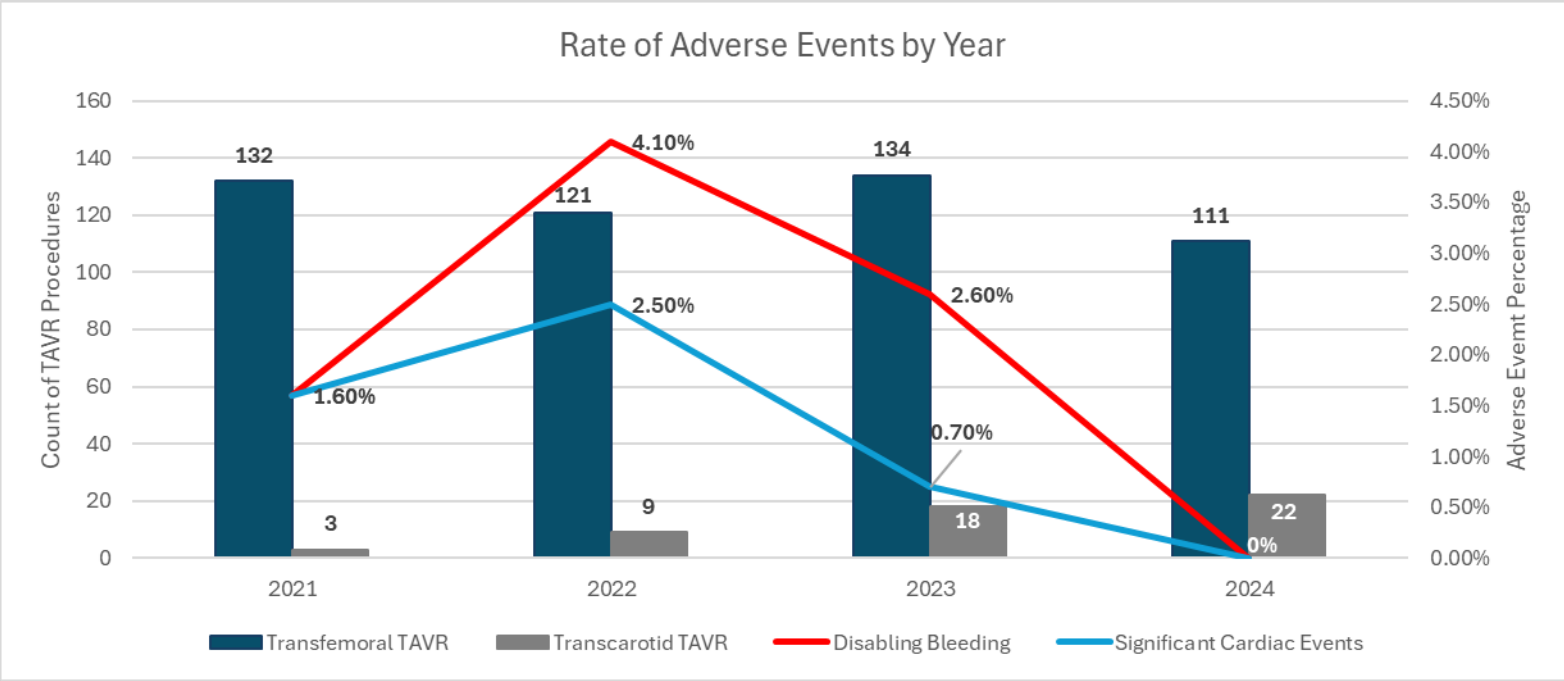
Primary Outcome

- Patients that underwent Suprasternal TAVR had no significant difference in in-hospital mortality, in-hospital stroke, or major bleeding
  - No in-hospital mortality
  - No major bleeding events

	fTAVR (n=366)	sTAVR (n=47)	p-value
In-hospital Mortality	2.0%	0.0%	0.3
In-hospital stroke	2.0%	2.0%	0.98
Major Bleeding	1.0%	0.0%	0.47

Results

- Proper patient selection decreases overall morbidity rates



Conclusion

- Suprasternal TAVR provides a safe, reproducible option for TAVR patients
- With proper patient selection, suprasternal TAVR offers acceptable and equivocal morbidity and mortality compared to femoral TAVR
- Proper patient selection for each TAVR access site offers an overall morbidity benefit