

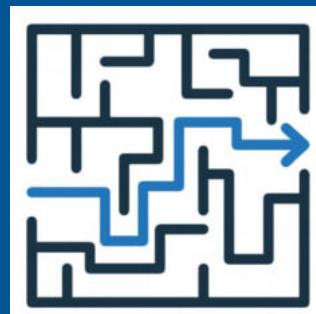


Optimisation du parcours TAVI : études FAST TAVI 2 et BENCHMARK

PALAIS DU PHARO
• MARSEILLE •

24 • 25 • 26
JANVIER 2024

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Flavien VINCENT, MD, PhD

CHU Lille



- TAVI indications are expanding
- TAVR volume is growing
- TAVR centers and medical resources are limited



- How to keep up with demand for TAVI ?
- How to maintain quality of care ?
- Need to optimize patient's pathway of care through dedicated program



Rouen's center pioneering minimalist approach

Transfemoral Aortic Valve Replacement With the Edwards SAPIEN and Edwards SAPIEN XT Prosthesis Using Exclusively Local Anesthesia and Fluoroscopic Guidance

Feasibility and 30-Day Outcomes

Eric Durand, MD, PHD,* Bogdan Borz, MD,* Matthieu Godin, MD,*
Christophe Tron, MD,* Pierre-Yves Litzler, MD, PHD,† Jean-Paul Bessou, MD,†
Karim Bejar, MD,* Chiara Fraccaro, MD,* Carlos Sanchez-Giron, MD,*
Jean-Nicolas Dacher, MD, PHD,‡ Fabrice Bauer, MD, PHD,* Alain Cribier, MD,*
Hélène Eltchaninoff, MD*

Vancouver Clinical pathway (2016)

FAST TAVI trial (2019)

pioneer... minimalist approach

JACC- CARDIOVASCULAR INTERVENTIONS
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The Vancouver 3M (Multidisciplinary, Multimodality, But Minimalist) Clinical Pathway Facilitates Safe Next-Day Discharge Home at Low-, Medium-, and High-Volume Transfemoral Aortic Valve Replacement Centers
The 3M TAVR Study
David A. Wood, MD,* Sandra B. Lauck, PhD,† John A. Cairns, MD,* Karin H. Humpal, MD, PhD,‡
Christophe Tron, MD
Karim Bejar, MD,* C
Jean-Nicolas Dacher, MD
Hélène Eltchaninoff, MD*

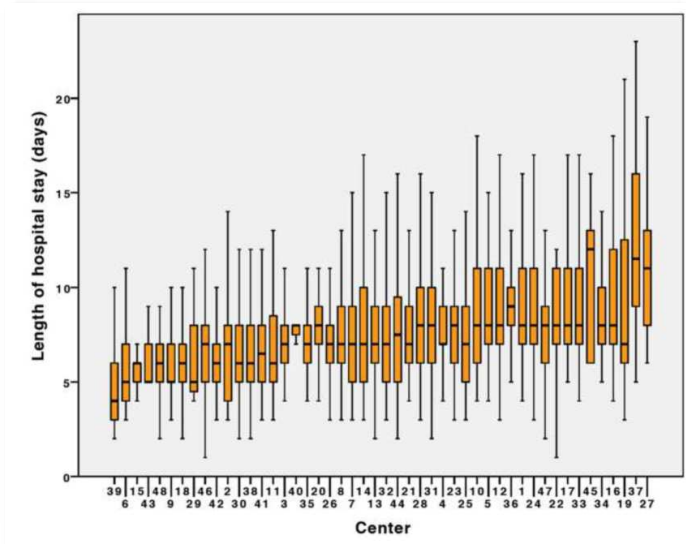
Optimising patient discharge management after transfemoral transcatheter aortic valve implantation: the multicentre European FAST-TAVI trial
Marco Barbanti¹*, MD; Martijn S. van Mourik², MD; Mark S. Spence³, MD; Fortunato Iacovelli^{4,5}, MD; Gian Luca Martinelli⁶, MD; Douglas F. Muir⁷, MD; Francesco Saia⁸, MD; Alessandro Santo Bortone⁹, MD; Cameron G. Densem¹⁰, MD; Frank van der Kley¹¹, MD; Peter Bramlage¹², MD; Marije Vis², MD; Corrado Tamburino¹, MD

Circulation: Cardiovascular Quality and Outcomes
Volume 9, Issue 3, May 2016, Pages 312-321
<https://doi.org/10.1161/CIRCOUTCOMES.115.002541>

INNOVATIONS IN CARE

Vancouver Transcatheter Aortic Valve Replacement Minimalist Approach, Standardized Care, and Discharge Criteria to Reduce Length of Stay
Sandra B. Lauck, PhD, David A. Wood, MD, Jennifer Baumbusch, PhD, Jae-Yung Kwon, MSN, Dion Stubb, MBBS, PhD, Leslie Achtem, BSN, Philipp Blanke, MD, Robert H. Boone, MD, Anson Cheung, MD, Danny Dvir, MD, Jennifer A. Gibson, MSN, Bobby Lee, MD, Jonathan Leipsic, MD, Robert Moss, MD, Gidon Perlman, MD, Jopie Polderman, BSN, Krishnan Ramanathan, MD, Jian Ye, MD, and John G. Webb, MD





- **Period 2013 - 2015**
- **Median length of stay = 7 (5-9)**
- **Low rate of early discharge (4.4%)**

Durand et al. Clinical Research 2021

CLINICAL RESEARCH

Evaluation of length of stay after transfemoral transcatheter aortic valve implantation with SAPIEN 3 prosthesis: A French multicentre prospective observational trial



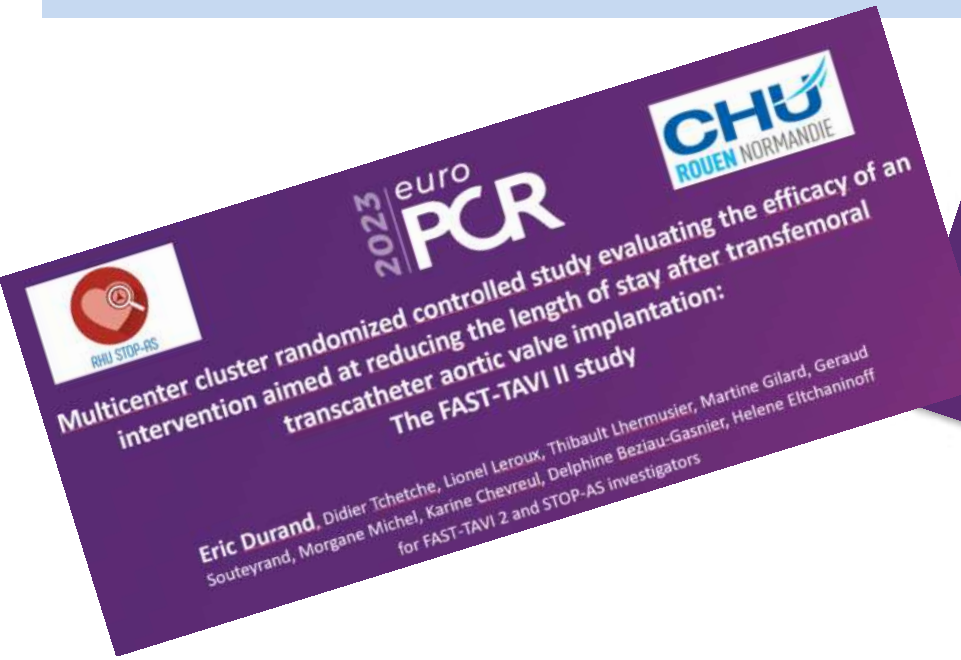
Évaluation des durées de séjour après implantation d'une bioprothèse aortique SAPIEN 3 par voie transfémorale

Eric Durand^{a,*}, Hervé Le Breton^b, Thierry Lefevre^c,

- **Period 2017 - 2018**
- **Median length of stay = 5 (3-7)**
- **Low rate of early discharge (21.8%)**

Durand et al. ACVD 2020

2 clinical studies, 1 goal



2023 euro PCR

CHU ROUEN NORMANDIE

RHU STOP-AS

Multicenter cluster randomized controlled study evaluating the efficacy of an intervention aimed at reducing the length of stay after transfemoral transcatheter aortic valve implantation:
The FAST-TAVI II study

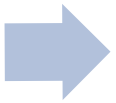
Eric Durand, Didier Tchetché, Lionel Leroux, Thibault Lhermusier, Martine Gilard, Geraud Souteyrand, Morgane Michel, Karine Chevreul, Delphine Beziau-Gasnier, Helene Eltchaninoff for FAST-TAVI 2 and STOP-AS investigators



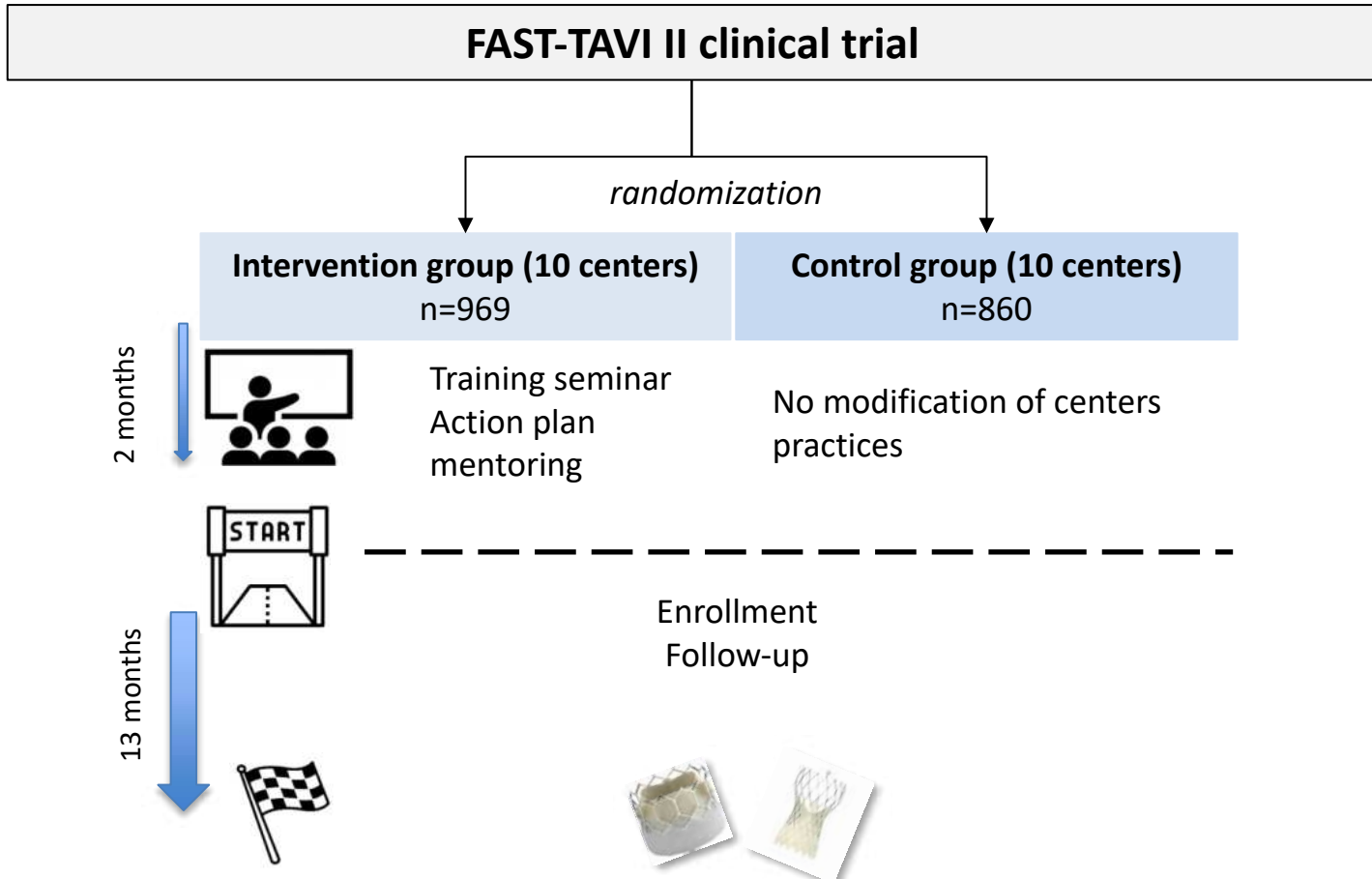
2023 euro PCR

BENCHMARK: streamlined TAVI pathway with retained safety in 28 European centres

Derk Frank, Eric Durand, Sandra Lauck, Mark Spence, Mariuca Vasa-Nicotera, Francesco Saia, Cristobal A. Urbano, Damien Bouchayer, Vlad Anton Iliescu, Christophe Saint Etienne, Florence Leclercq, Douglas Muir, David Wood, Claudia M. Lüske, Jodka Rakova, Wilbert Wesselink, Jana Kurucova, Peter Bramlage, Gemma McCalmont for the BENCHMARK registry group

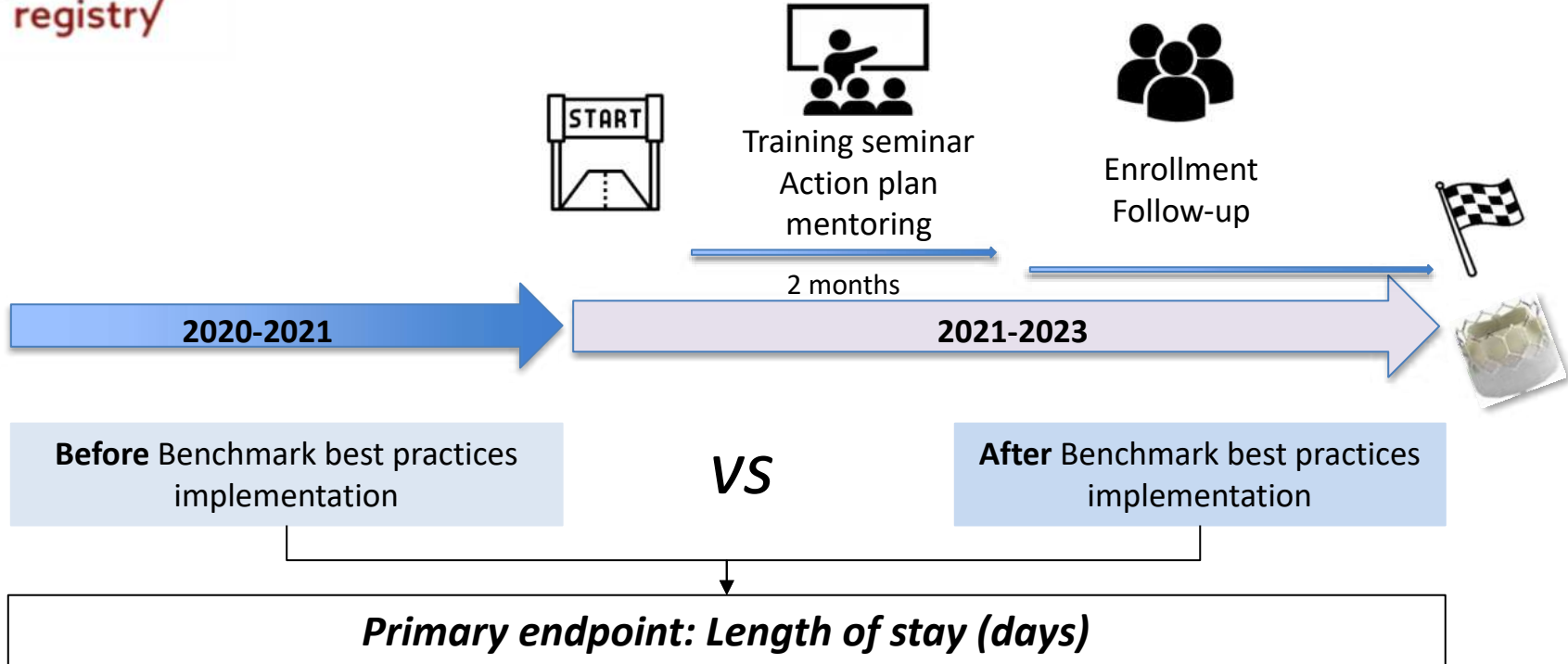


Evaluation of the impact of implementation of a dedicated clinical pathway on the length of stay after TAVI



BENCHMARK registry

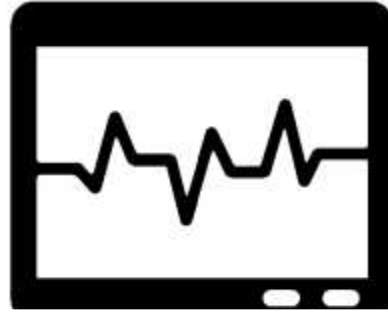
28 sites, 7 countries, 2405 patients





Pre-procedural

- Education medical & paramedical team
- Education patient & family
- Anticipated discharge date at admission



Procedural (minimalist TAVR)

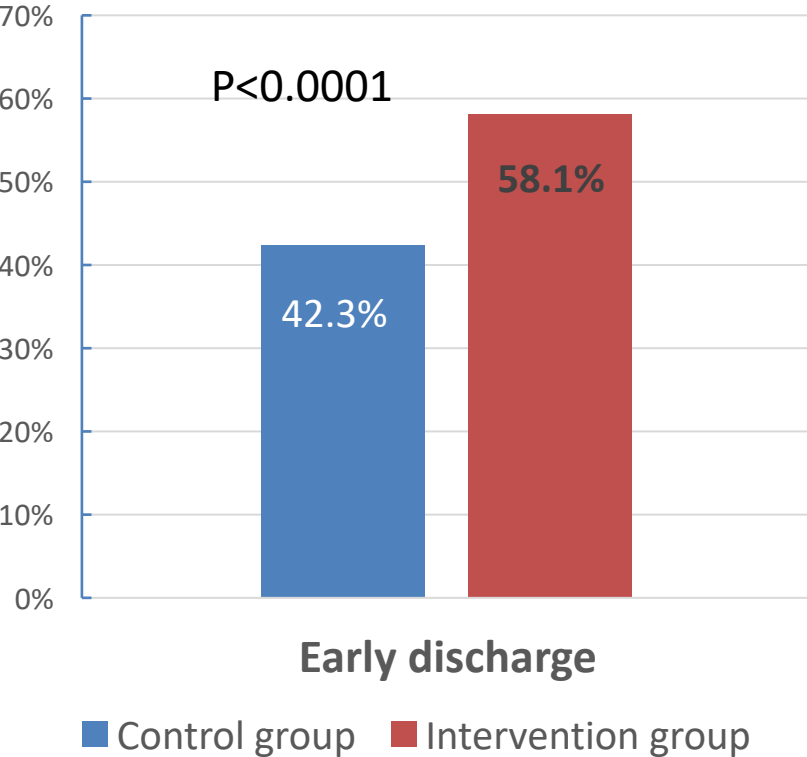
- Echo-guided puncture
- No urinary catheter, radial access
- No deep sedation
- Measures to reduce bleeding
- Measures to reduce AKI
- LV rapid pacing
- 2 hours monitoring in cath-lab



Post-procedural

- Direct transfer to the ward
- Early mobilization
- Pacemaker decision tree
- Daily visit by the implanter
- Criteria based discharge

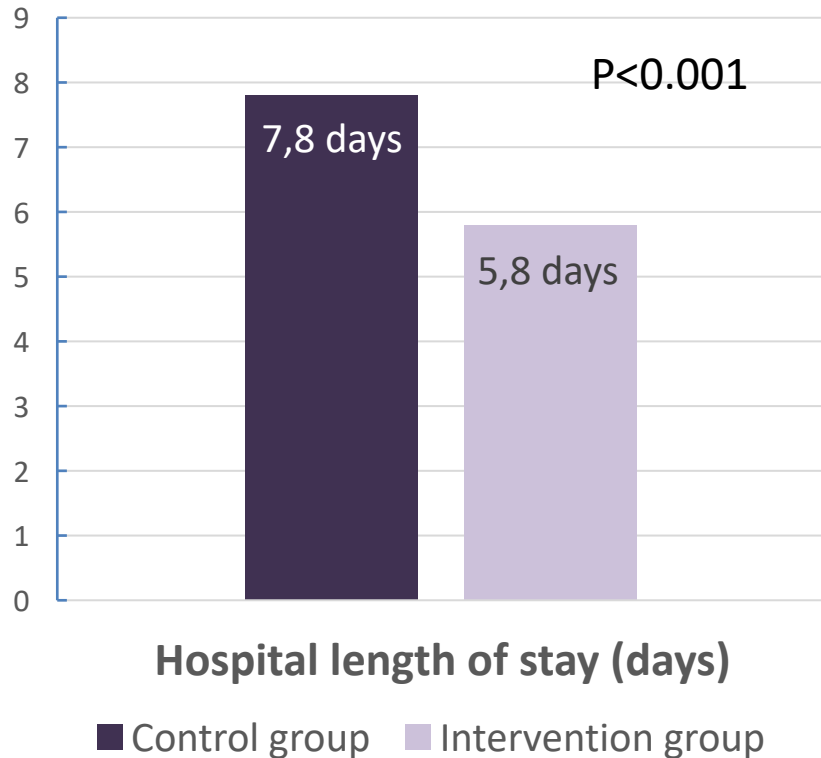
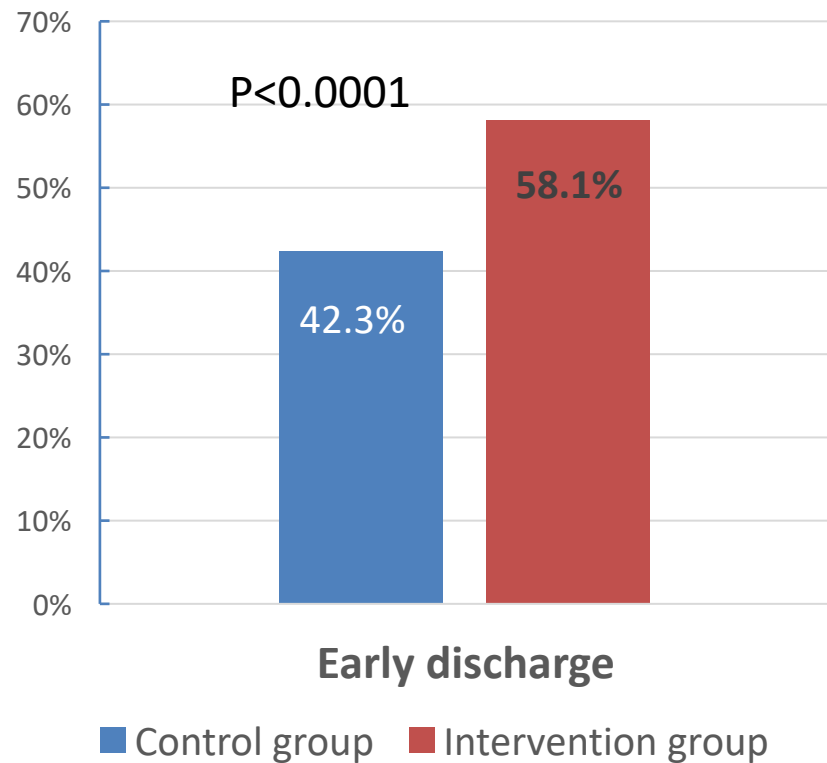
FAST TAVI 2 primary endpoint



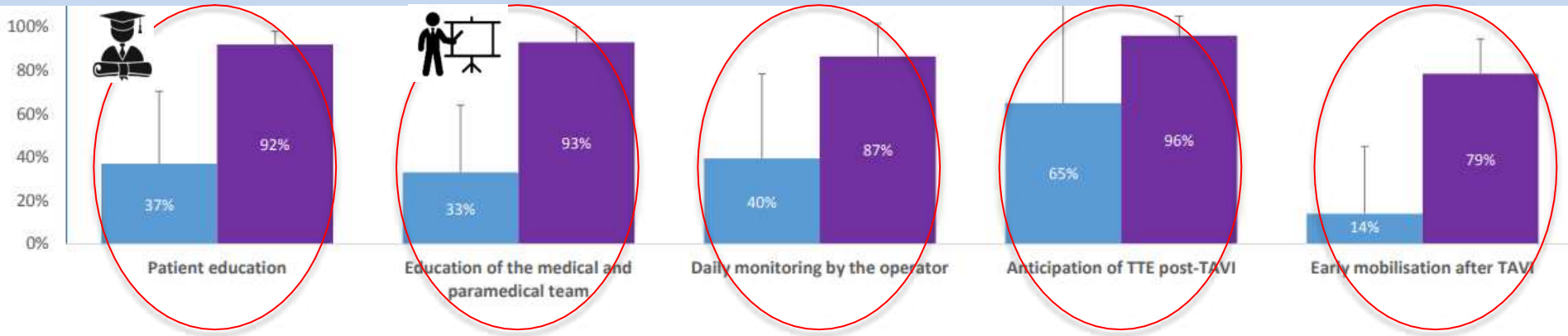
FAST TAVI 2 primary endpoint



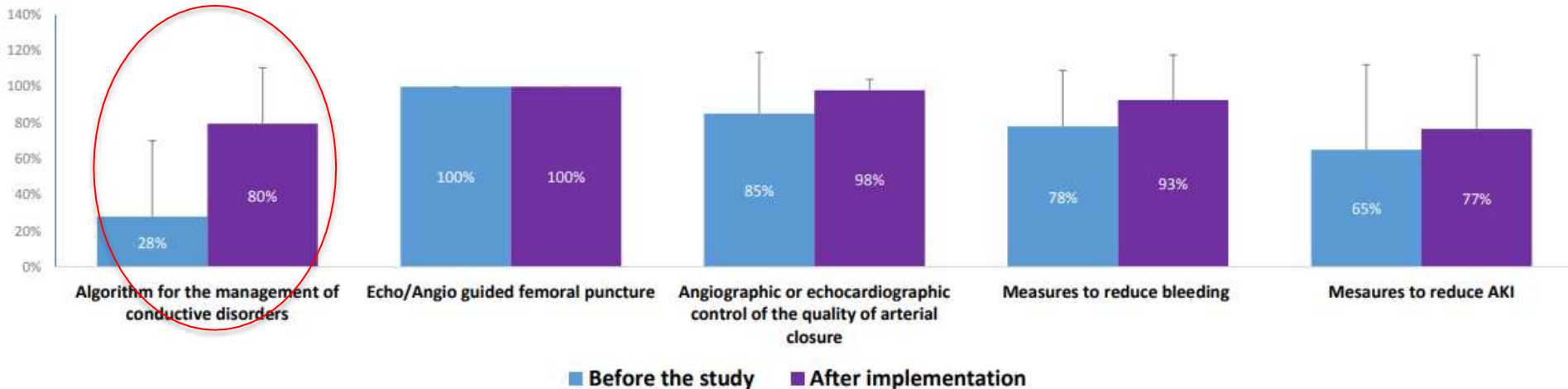
primary endpoint



Implementation success of FAST-TAVI 2 practices

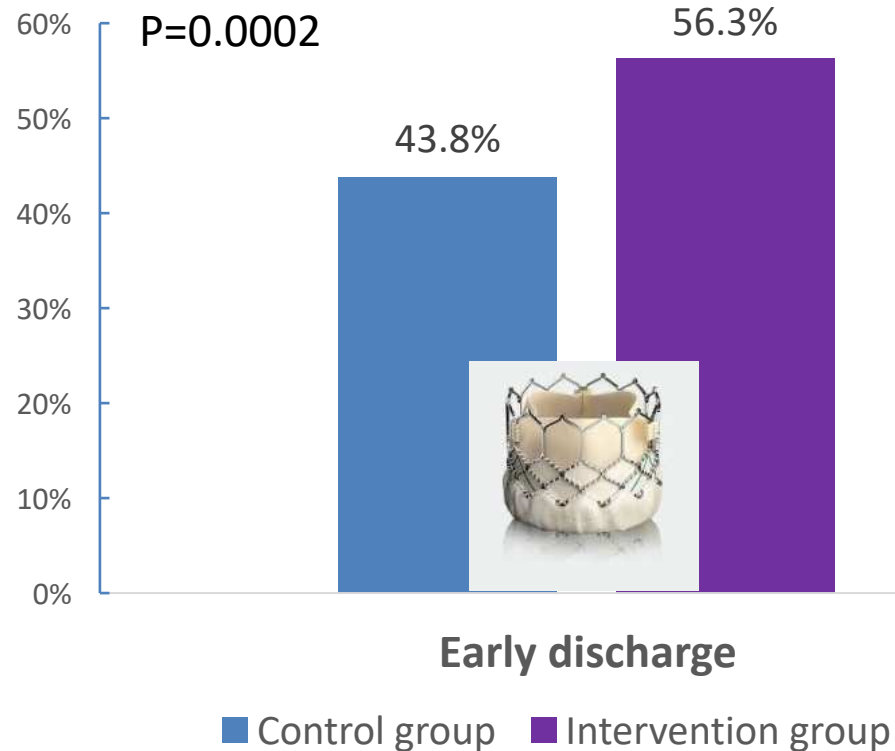


Prevention of complication QoC measures

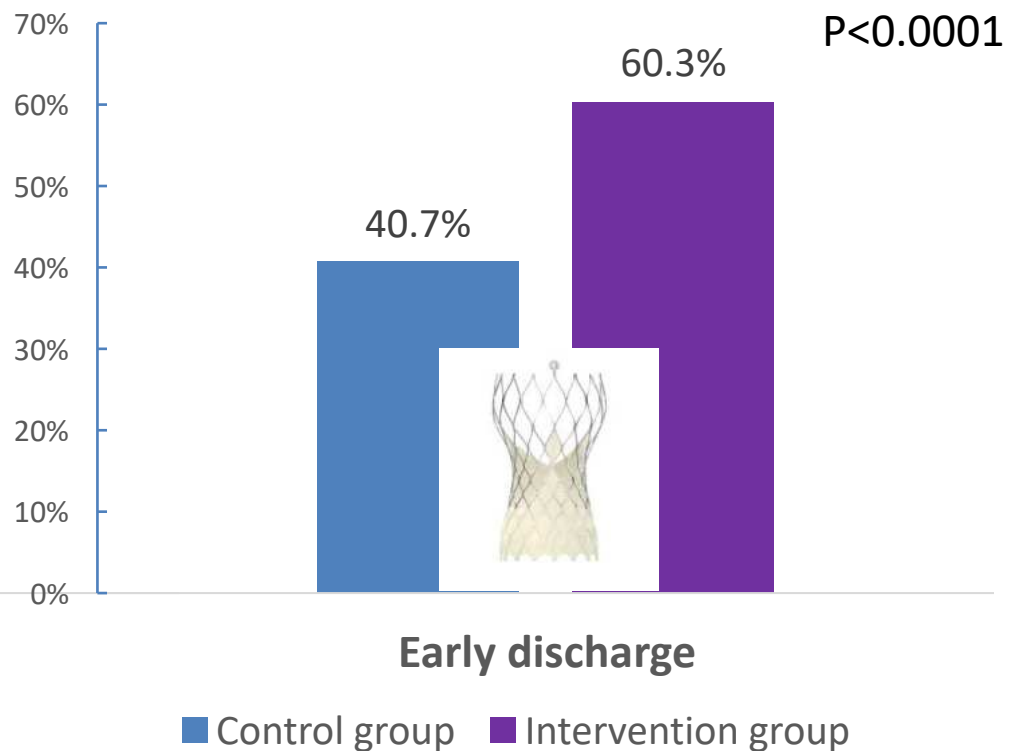


Similar impact on both valves types (FAST TAVI 2)

Balloon-expandable valve



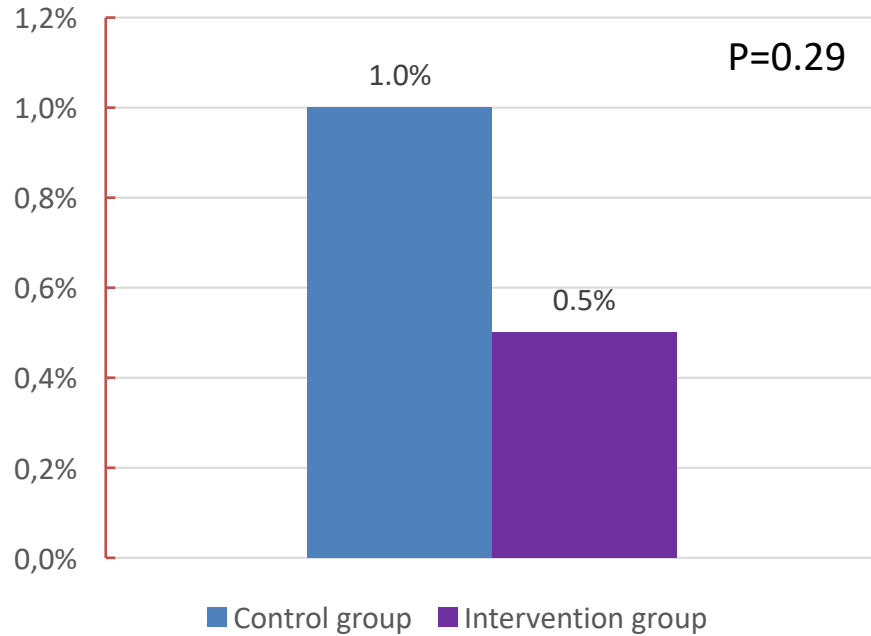
Self-expandable valve



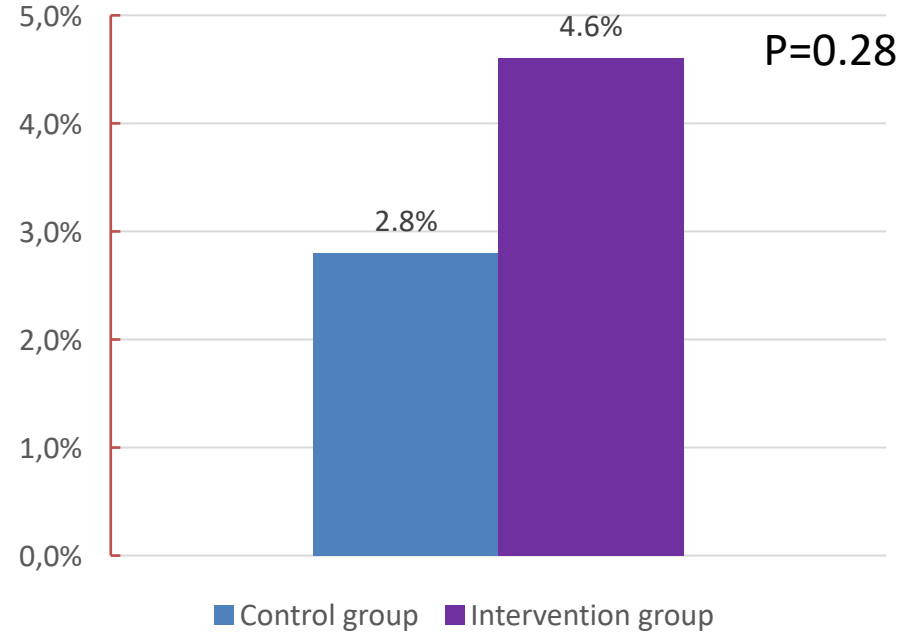
Procedural Outcomes	Prior to BENCHMARK		BENCHMARK		p-value
	N	n (%)	N	n (%)	
Technical success (at exit from procedure room)	882	877 (99.4)	1437	1423 (99.0)	0.291
Pacemaker	888	68 (7.7)	1451	82 (5.7)	0.042

In-hospital Complications					
Death	900	1 (0.1)	1508	7 (0.5)	0.145
Stroke / TIA	887	7 (0.8)	1424	15 (1.1)	0.525
Life-threatening bleeding	886	10 (1.1)	1422	13 (0.9)	0.614
AKI (stage 2/3, incl. dialysis)	886	2 (0.2)	1422	9 (0.6)	0.222
Coronary artery obstruction requiring intervention	887	3 (0.3)	1422	3 (0.2)	0.681

30-day death



30-day re-admission



Take Home messages on dedicated TAVI pathway

Short LOS and high rate of (safe) early discharge



60% early discharge < 3 days
Mean LOS = 3 days



Most impactful measures



Early mobilization

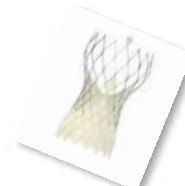


*Patient family
education*



Conduction disorders
management algorithm

Similar benefit for balloon and self-expandable prostheses



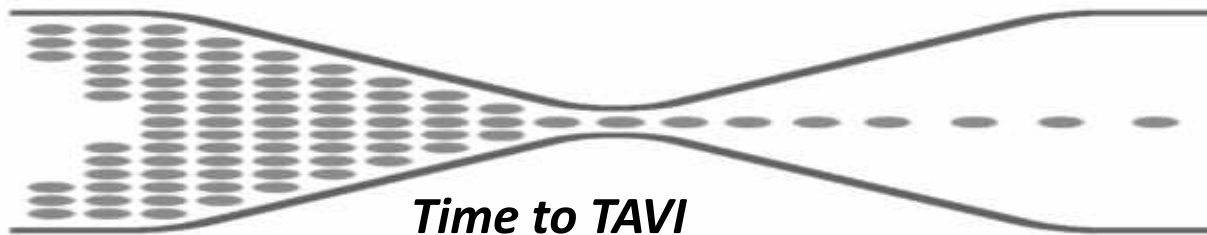
Streamlining TAVR procedure



Workload & Financial burden



Magnitude of the impact of reduction of LOS on TAVI waiting list is uncertain



Symptoms

Time to diagnosis

Diagnosis Referral

TAVI Work-up time

Waiting list time

Post-procedural care

- Coronary angiogram,
- CT-scan,
- anesthesiologist / IC / surgeon / geriatrician
- dentist / heart team meeting

- Cathlab access
- Anesthesiologist resources
- Bed availability

- Early discharge

Patient's journey through TAVI

Here's my two cents...



Dedicated peri-procedural TAVI optimization program is necessary and efficient
Broader optimization of patient's journey is necessary to improve access to TAVR and keep up
with TAVI demand

Thank You !