

Keio University



Current status of TAVI in Japan

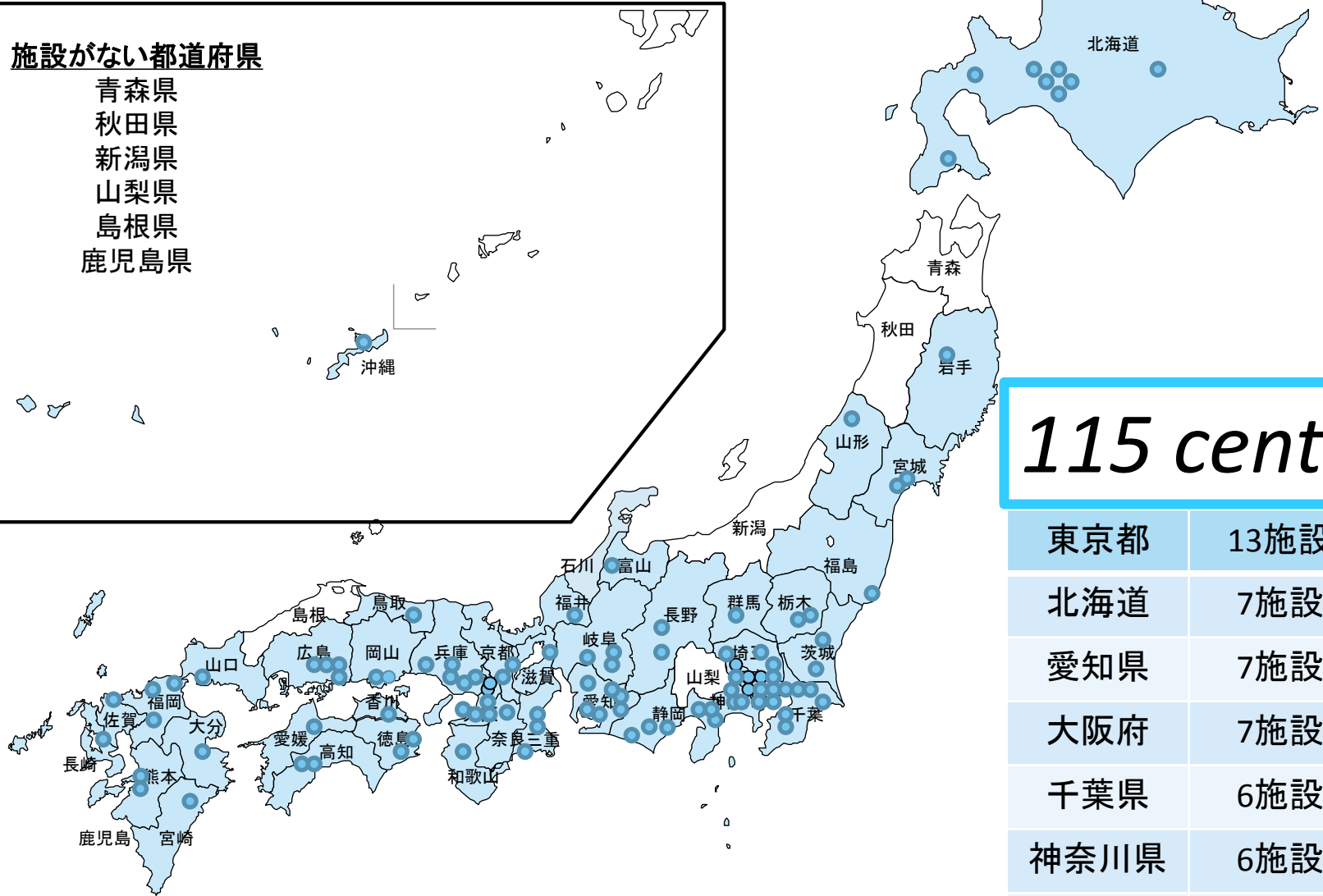
Kentaro Hayashida MD, PhD, FESC

27th, April 2017, TCTAP, Seoul

TAVI centers (Oct 2013-Mar 2017)

施設がない都道府県

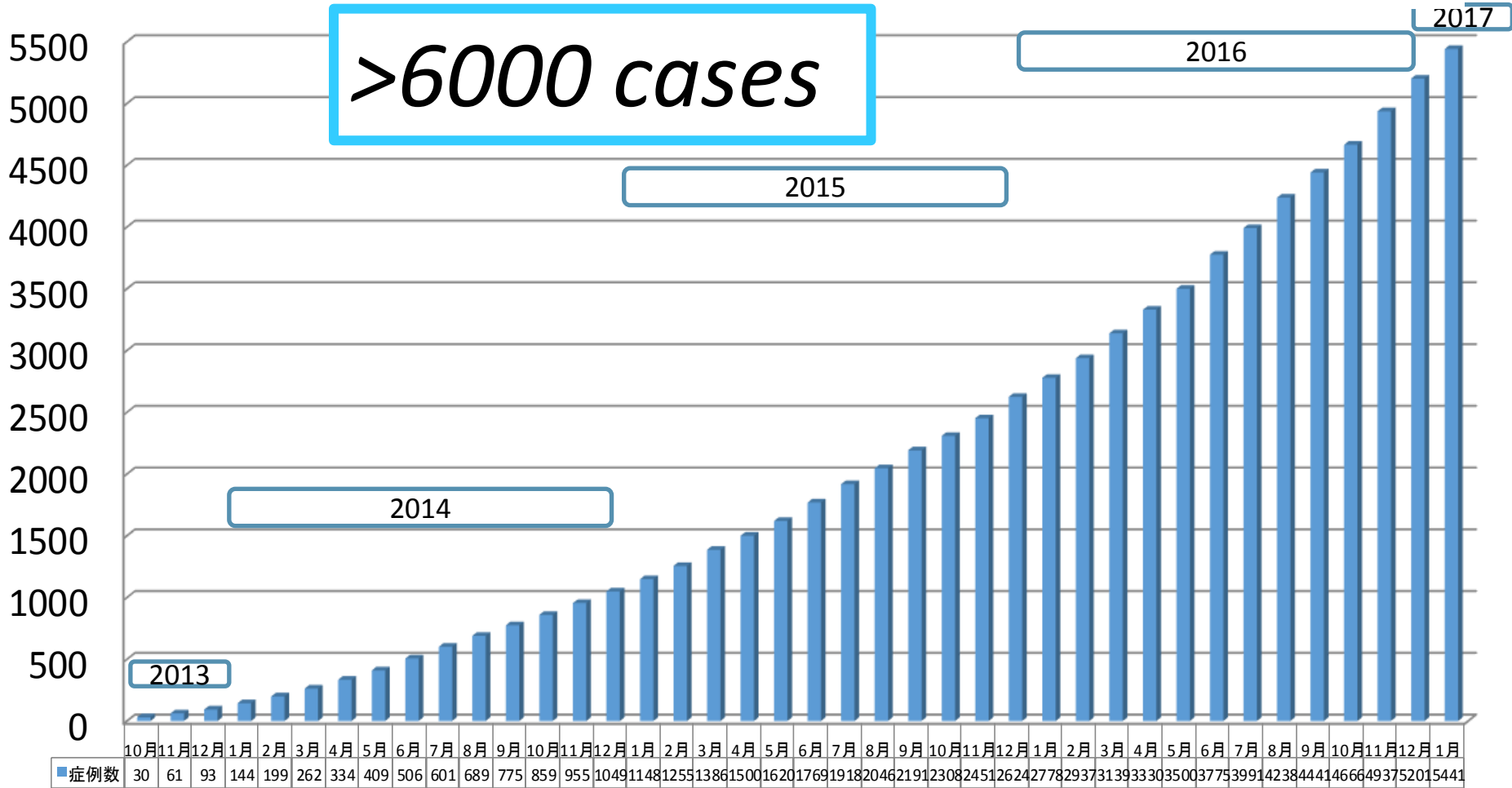
青森県
秋田県
新潟県
山梨県
島根県
鹿児島県



115 centers

東京都	13施設
北海道	7施設
愛知県	7施設
大阪府	7施設
千葉県	6施設
神奈川県	6施設
兵庫県	5施設

TAVI cases (Oct 2013-January 2017)





OCEAN-TAVI registry

14/100 cen
>1600 case
30-40% sh

- Keio Univ
- Toyohashi
- Teikyo Univ
- New Tokyo
- Kokura
- Yokohama
- Sendai
- Kamakura
- Ogaki
- Kishiwada
- Osaka City Univ
- Tokyo Bay
- Toyama



Baseline characteristics (Oct 2013 – July 2016)



Patient	N=1613
Age, years	84.4 ± 5.1
Female	1136 (70.4%)
Body weight, kg	49.9 ± 10.5 (110 pound)
Height, cm	149.7 ± 9.3 (58.6 inch)
BSA, m²	1.4 ± 0.2
BMI, kg/m ²	22.4 ± 10.4
NYHA class 3 or 4	816 (50.6%)
eGFR	51.9 ± 20.3
PAD	246 (15.3%)
Previous CABG	120 (7.5%)
STS PROM, %	8.3 ± 7.0

Procedural characteristics (Oct 2013 – July 2016)



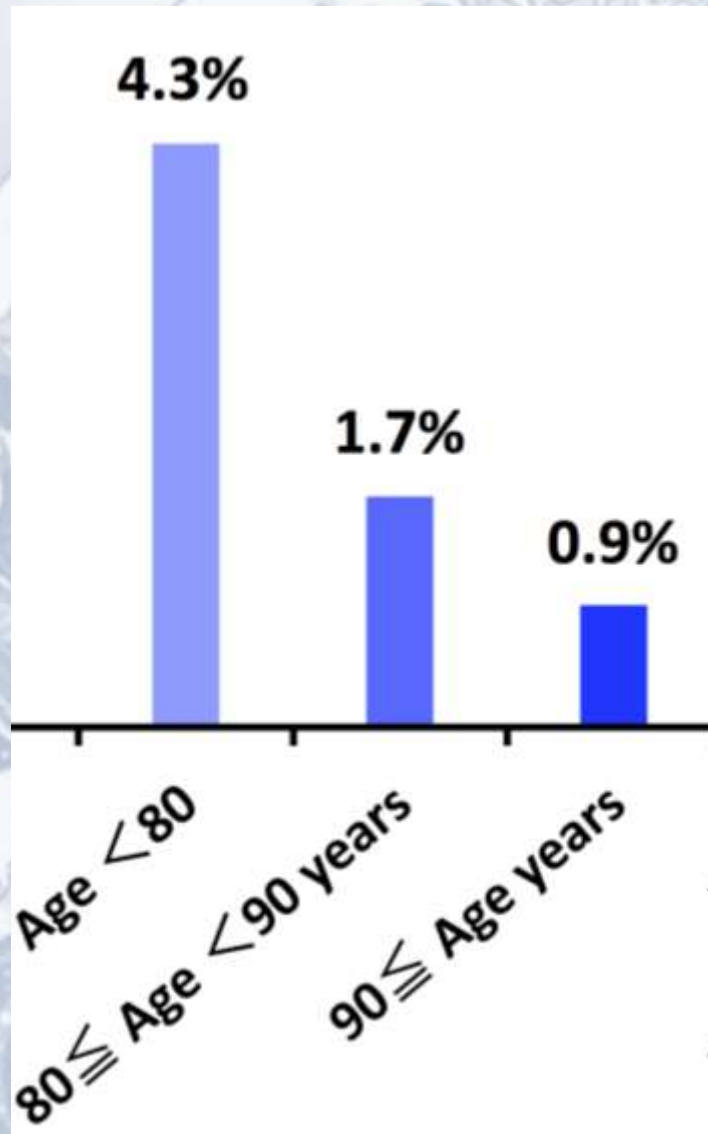
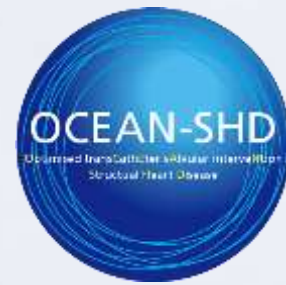
Patient	N=1613
Approach	
TF	1283 (79.5%)
TA	287 (17.9%)
TI	30 (1.9%)
DA	7 (0.4%)
TS	6 (0.4%)
Valve type	
Edwards Sapien XT	1328 (82.3%)
Edwards Sapien 3	141 (8.7%)
Medtronic CoreValve	144 (8.9%)
Local anesthesia	199/1283 TF (15.5%)
Puncture	702/1283 TF (54.7%)

30-day mortality

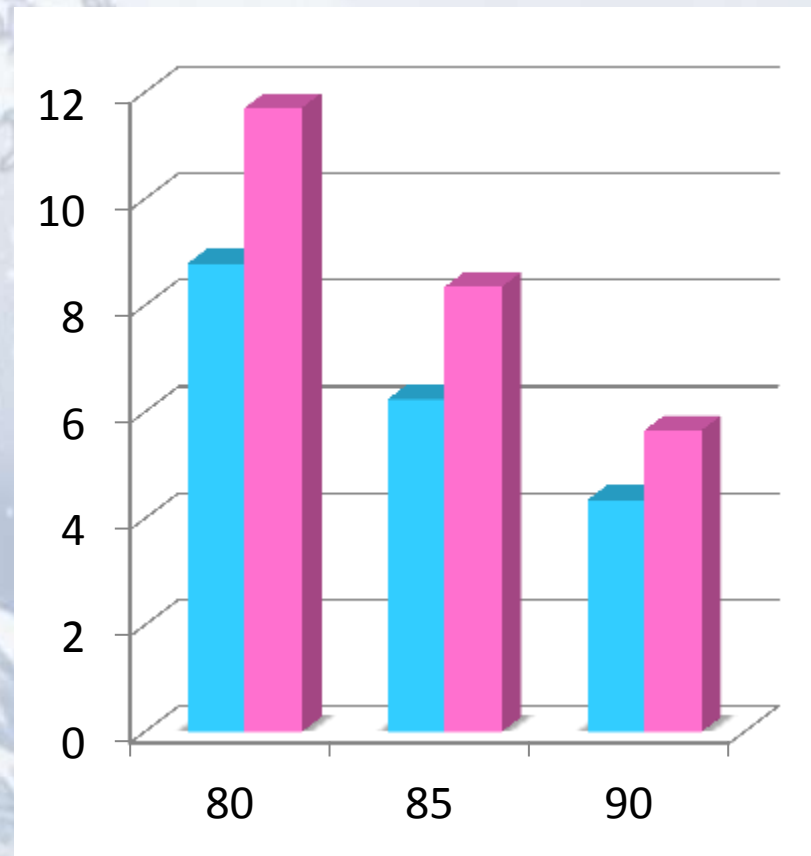


Patient	N=1613
Overall	28/1613 (1.7%)
Valve type	
Edwards Sapien XT	22/1328 (1.7%)
Edwards Sapien 3	2/141 (1.4%)
Medtronic CoreValve	4/144 (2.8%)
Approach	
TF	20/1283 (1.6%)
non TF	8/330 (2.4%)

30-day mortality (by age)

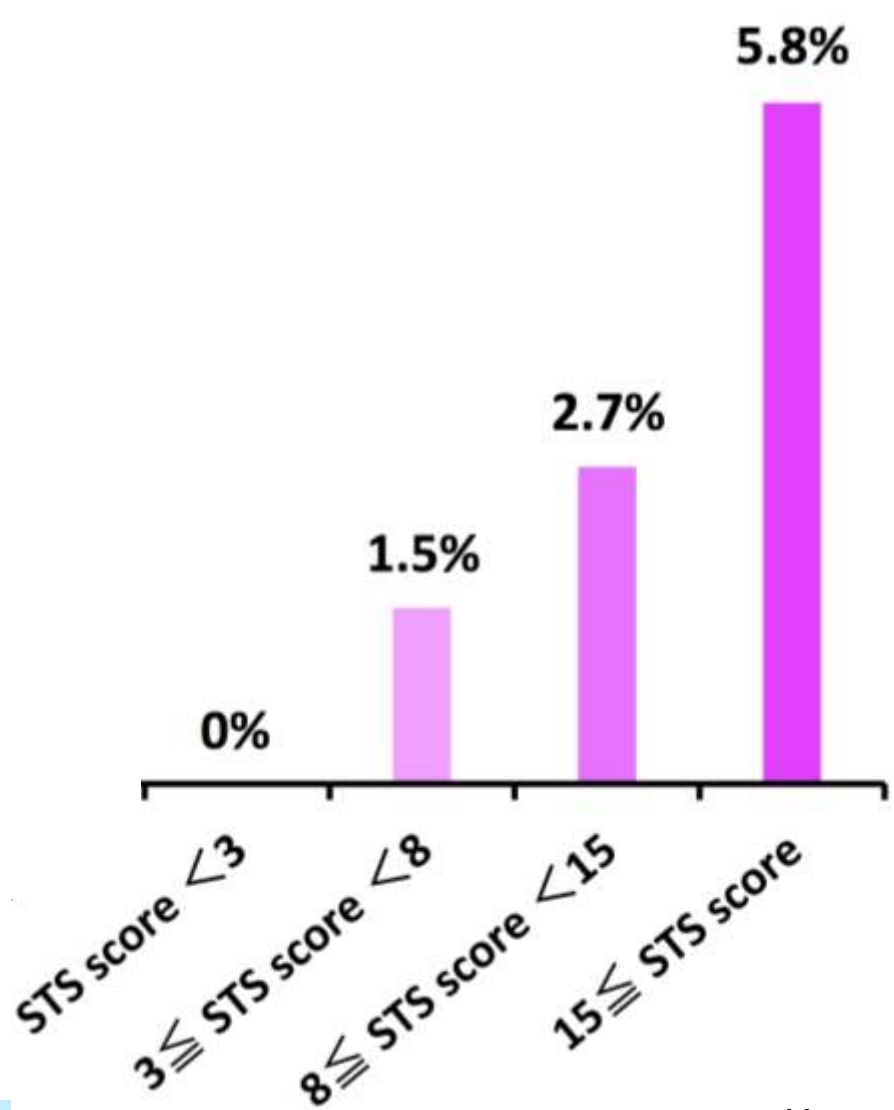


Life expectancy of elderly people

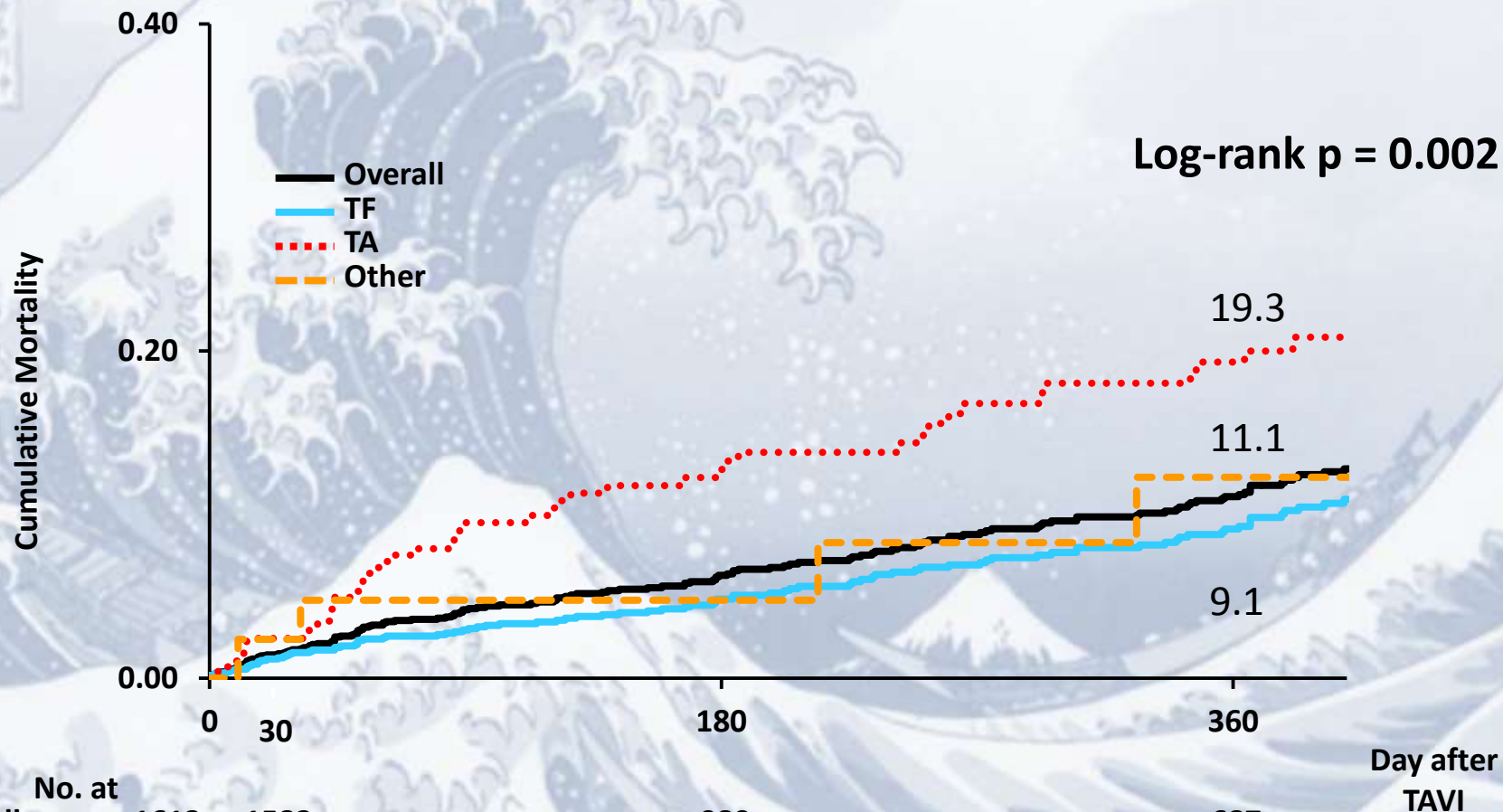




30-day mortality (STS score)



All cause mortality



	No. at	0	30	180	360
Overall Risk	1613	1583	989	687	
TF approach	1283	1261	789	544	
TA approach	288	281	174	123	
Other approach	42	41	29	22	

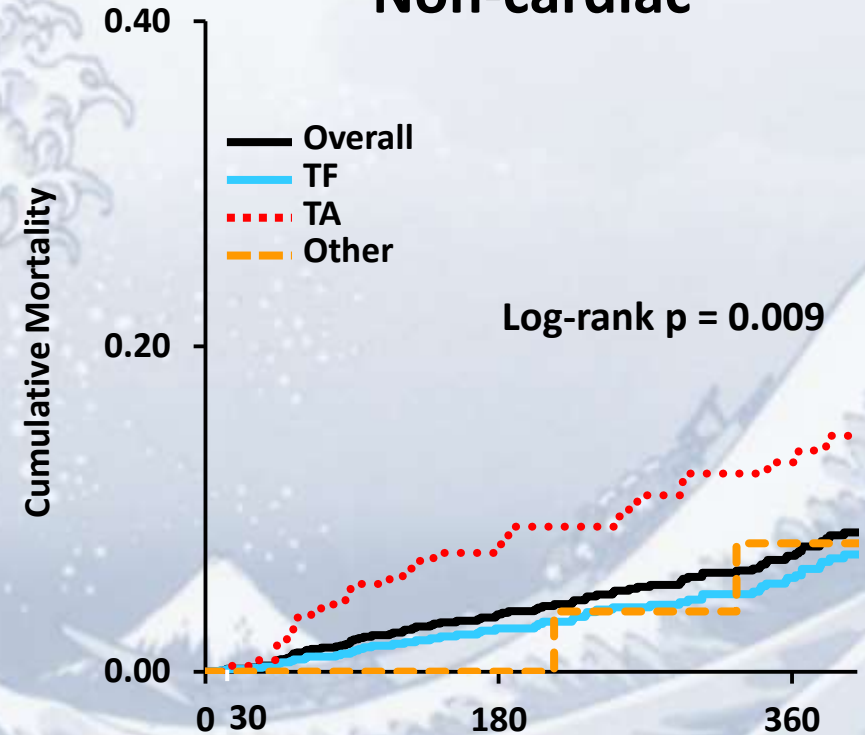
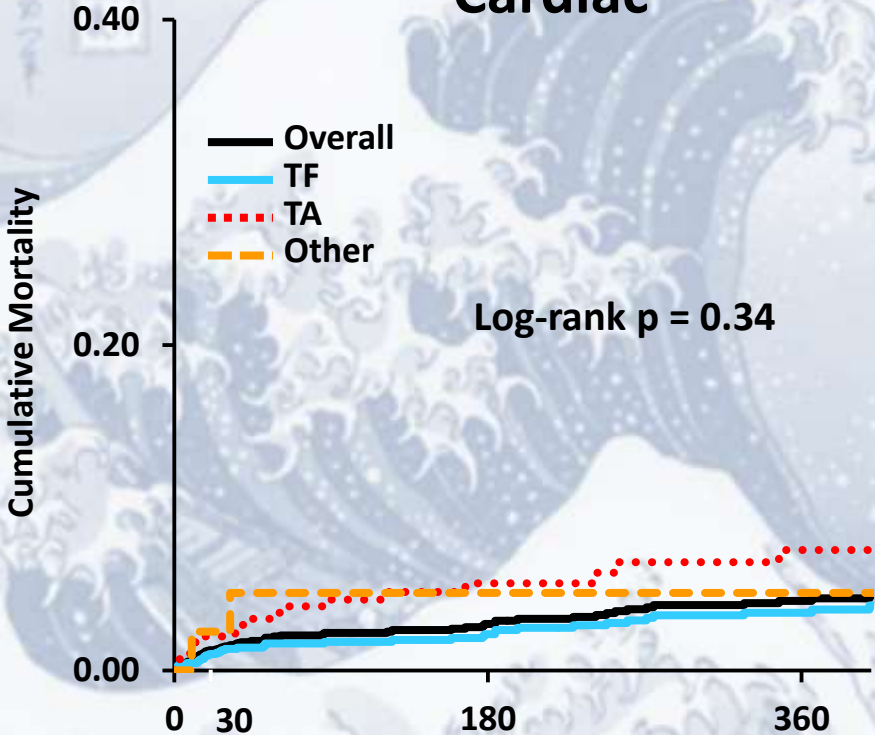
Day after TAVI



Cardiac and non-cardiac death

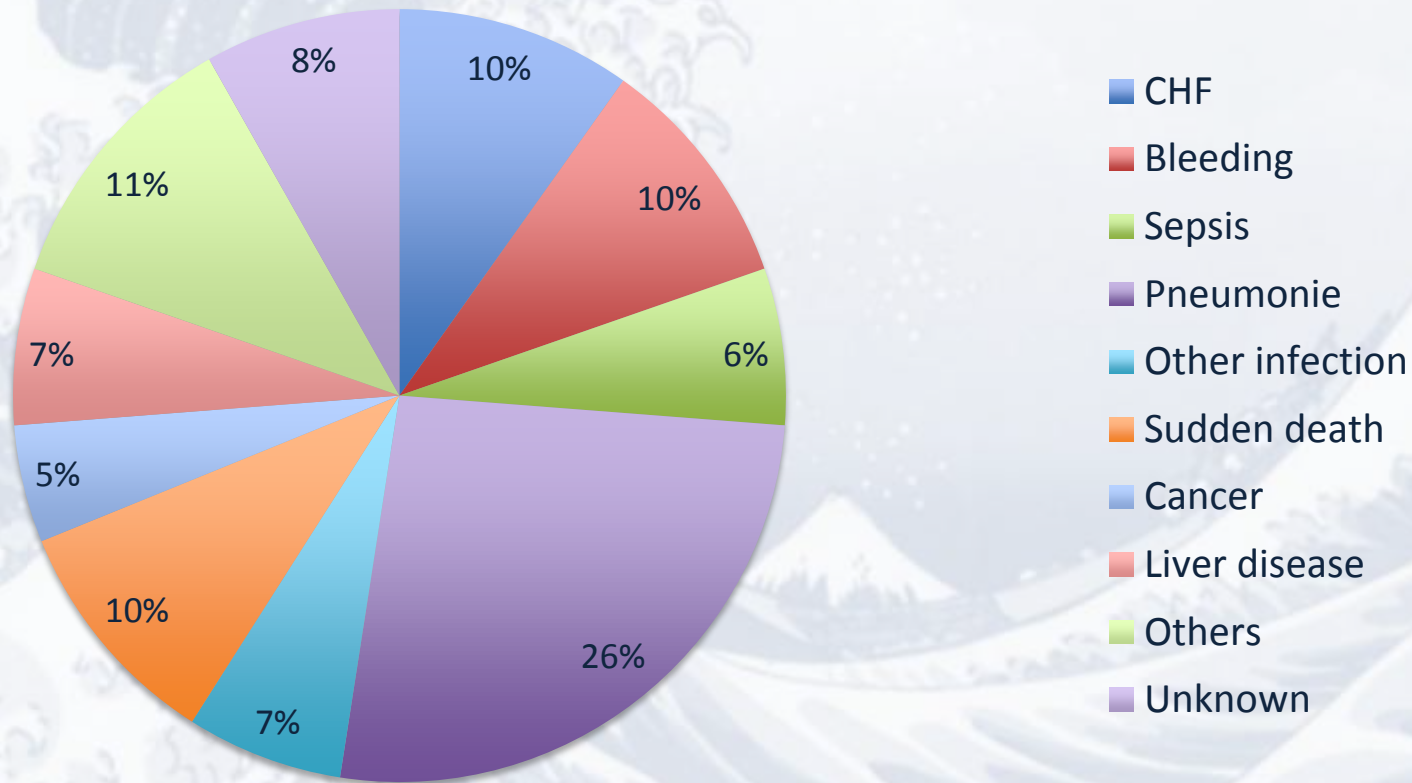
Cardiac

Non-cardiac



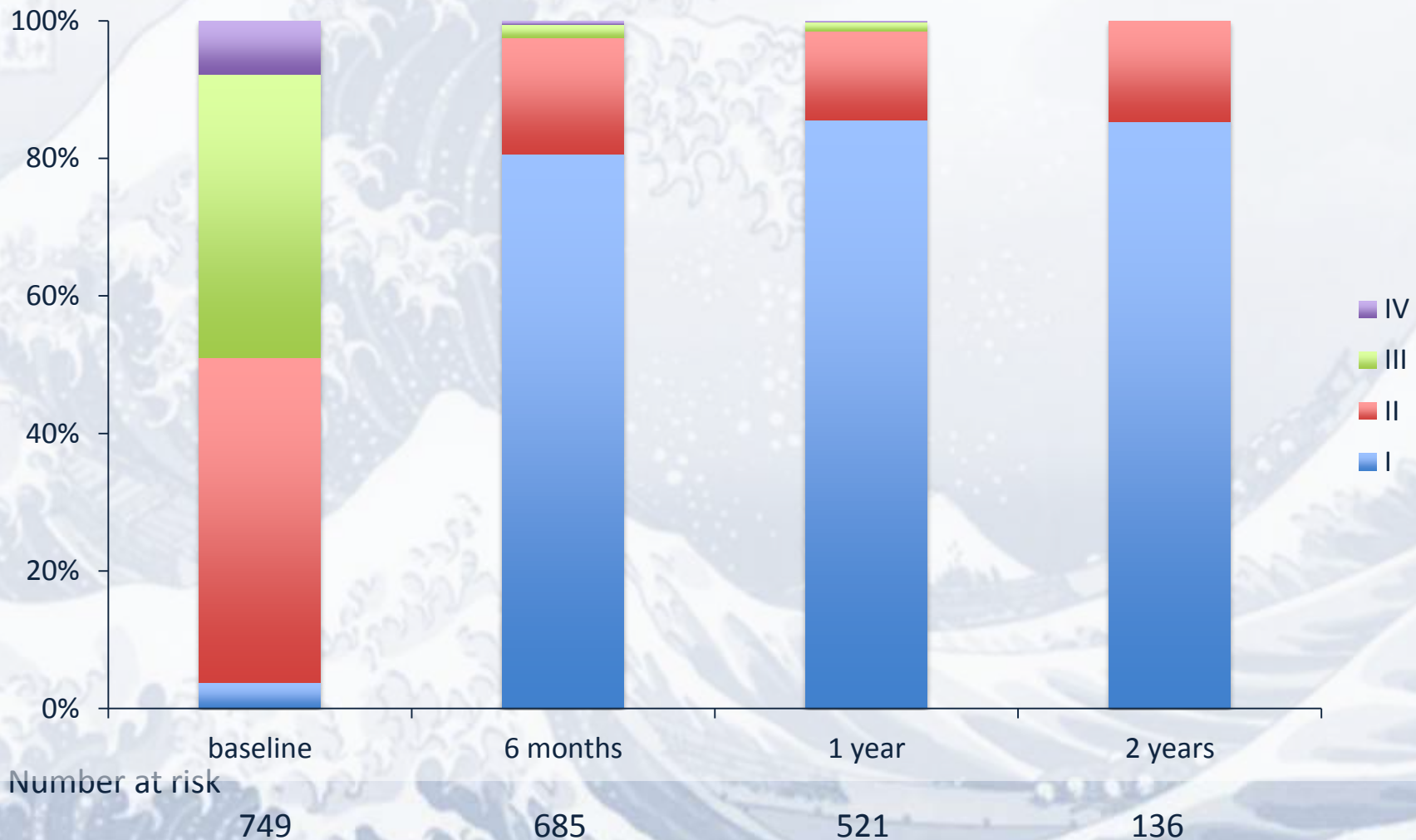
1613	1583	989	687	Overall	1613	1583	989	687
1283	1261	789	544	TF approach	1283	1261	789	544
288	281	174	123	TA approach	288	281	174	123
42	41	29	22	Other approach	42	41	29	22

Cause of death (>30days)



N = 61

NYHA Class (All)



Pre-procedural DAPT increases bleeding risk during TAVI



- DAPT vs. SAPT:

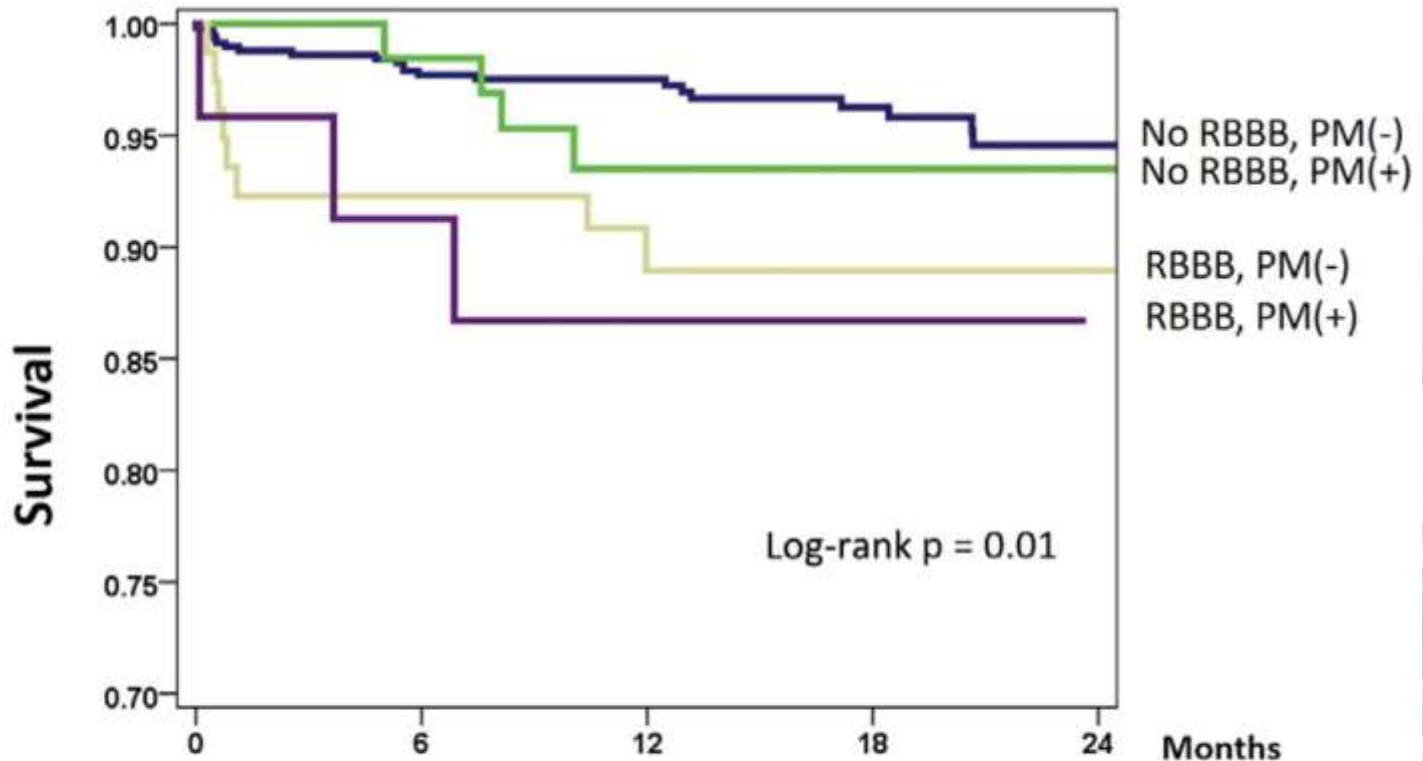
OR 2.05, [95% CI 1.16 to 3.65]

- DAPT vs. no antiplatelet therapy:

OR 2.30, [95% CI 1.08 to 4.90]

→ *Pre-procedural antiplatelet Tx is not mandatory!!*

RBBB has negative impact on survival after TAVR



No. at risk	No RBBB, PM(-)	No RBBB, PM(+)	RBBB, PM(-)	RBBB, PM(+)
0	578	67	77	23
6	547	64	68	20
12	466	48	59	14
18	268	28	29	9
24	91	10	16	4

Clinical frailty score predicts mortality after TAVR



Clinical Frailty Scale

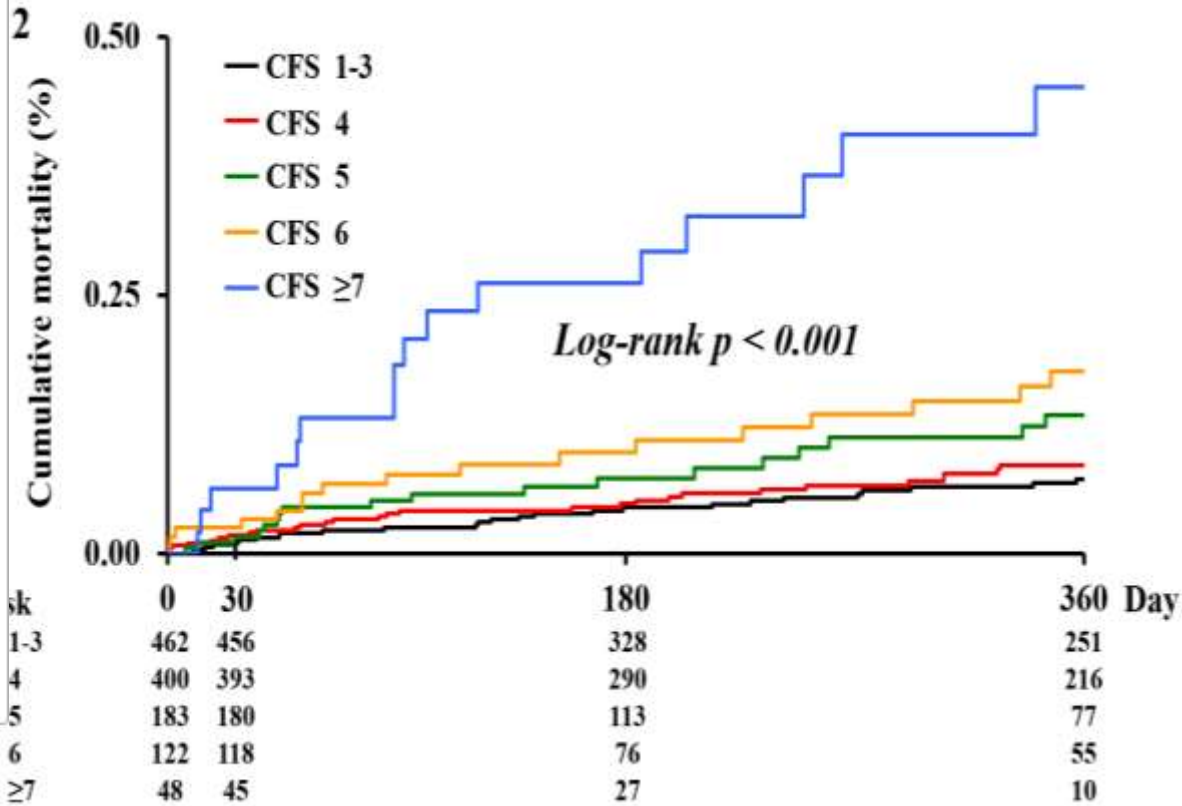
<p>1 Very Fit – People who are robust, active, energetic and motivated. These people commonly exercise regularly. They are among the fittest for their age.</p> <p>2 Well – People who have no active disease symptoms but are less fit than category 1. Often, they exercise or are very active occasionally, e.g. seasonally.</p> <p>3 Managing Well – People whose medical problems are well controlled, but are not regularly active beyond routine walking.</p> <p>4 Vulnerable – While not dependent on others for daily help, often symptoms limit activities. A common complaint is being "slowed up", and/or being tired during the day.</p> <p>5 Mildly Frail – These people often have more evident slowing, and need help in high order (ADLs) (finances, transportation, heavy housework, medications). Typically, mild frailty progressively impairs shopping and walking outside alone, meal preparation and housework.</p> <p>6 Moderately Frail – People need help with all outside activities and with keeping house. Inside, they often have problems with stairs and need help with bathing and might need minimal assistance (cuing, standby) with dressing.</p>	<p>7 Severely Frail – Completely dependent for personal care, from whatever cause (physical or cognitive). Even so, they seem stable and not at high risk of dying (within ~6 months).</p> <p>8 Very Severely Frail – Completely dependent, approaching the end of life. Typically, they could not recover even from a minor illness.</p> <p>9 Terminally Ill – Approaching the end of life. This category applies to people with a life expectancy <5 months, who are not otherwise evidently frail.</p>
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Scoring frailty in people with dementia

The degree of frailty corresponds to the degree of dementia. Common **symptoms in mild dementia** include forgetting the details of a recent event, though still remembering the event itself, repeating the same question/story and social withdrawal.

In **moderate dementia**, recent memory is very impaired, even though they seemingly can remember their past life events well. They can do personal care with prompting.

In **severe dementia**, they cannot do personal care without help.





OCEAN-TAVI registry

Original Studies

Streamlining the Learning Process for TAVI: Insight From a Comparative Analysis of the OCEAN-TAVI and the Massy Registries

Taku Inohara,¹ Kenryo Hayashida,¹ Yusuke Watanabe,² Masanori Yamamoto,³ Takahide Arai,⁴ Thierry L...

Comparison of aortic annulus dimensions between Japanese and European patients undergoing transcatheter aortic valve implantation as determined by multi-detector computed tomography: results from the OCEAN-TAVI (Optimised transCatheter vAlvular interveNtion) registry and a European

... MD, PhD; ... miaki Yushima⁴, MD; ... ichi Fukuda⁴, MD, PhD;

15 papers accepted

>20 projects ongoing

Impact of preparatory risk of acute coronary valve implantation

Masanori Yamamoto^{a,b,c}, Yusuke Watanabe^c, Norio Tada^d, Kensuke Takagi^e, Motoharu Araki^f, Shinichi Shirai^g, Kentaro Hayashida^h

...vular

...shitake Yamada^e, ... zu^f, Masahiro Jinzaki^g.

Comparison of Results of Transcatheter Aortic Valve Implantation in Patients With Versus Without Active Cancer

Yusuke Watanabe, MD^{a,b}, Ken Kozuma, MD, PhD^a, Hirofumi Hioki, MD^a, Hideyuki Kawashima, MD^a, Yugo Nara, MD^a, Akihisa Kataoka, MD, PhD^a, Shinichi Shirai, MD^b, Norio Tada, MD^c, Motoharu Araki, MD^d, Kensuke Takagi, MD^e, Futoshi Yamanaka, MD^f, Masanori Yamamoto, MD, PhD^{g,h}, and Kentaro Hayashida, MD, PhDⁱ

...y in patients undergoing transcatheter aortic valve implantation increases risk of bleeding

Hirofumi Hioki,¹ Yusuke Watanabe,¹ Ken Kozuma,¹ Yugo Nara,¹ Hideyuki Kawashima,¹ Akihisa Kataoka,¹ Masanori Yamamoto,² Kensuke Takagi,³ Motoharu Araki,⁴ Norio Tada,⁵ Shinichi Shirai,⁶ Futoshi Yamanaka,⁷ Kentaro Hayashida,⁸ And on behalf of OCEAN-TAVI investigators



OCEAN-SHD family (2017)

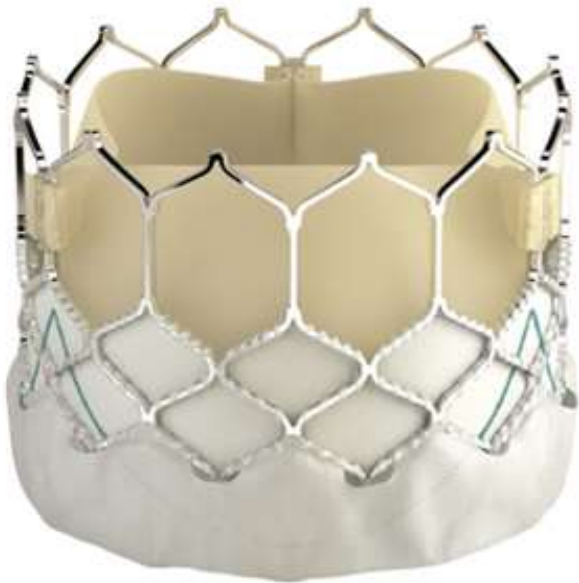


Keio experience: 412 cases (Oct 2013-Feb 2017)

Sapien XT : 217
Sapien 3 : 147

Lotus:18

CoreValve :15
Evolut R : 15



Keio experience

N = 412	Value
Conversion to open chest surgery	0
<i>154 patients (2016)</i>	
In-hospital mortality	4 (1.0%)
<i>0% 30-day mortality</i>	
Cerebral infarction, n (%)	4 (1.0%)
Major vascular complications	18 (4.4%)
New PM implantation, n (%)	25 (6.2%)
Coronary obstruction, n (%)	4 (1.0%)

Conclusion

- TAVI is now safely introduced in Japan and the numbers of cases and centers are increasing.



#PCRtokyo

