

Les nouveaux traitements des pathologies valvulaires

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Conflits d'intérêt

- Consultant for Edwards Lifesciences
- Proctor for Abbott Vascular



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Incentive for transcatheter valve interventions

- **Demographic trends and increased burden of degenerative valve disease in elderly, high-risk patients**
 - ▶ Less invasive than surgery
 - ▶ Avoids bypass
 - ▶ Shorter hospital stay, faster recovery
 - ▶ Decreases mortality and morbidity
- **High level of scientific evidence - comparison with surgery**
 - ▶ TAVI+++
- **Failure does not burn bridges to surgery**
- **Popularity, self referral+++**



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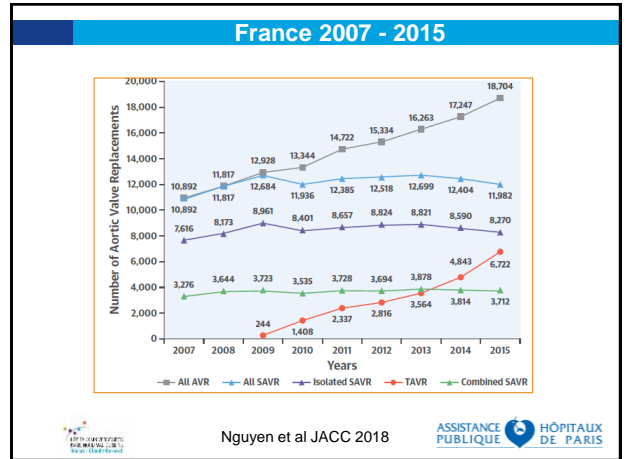
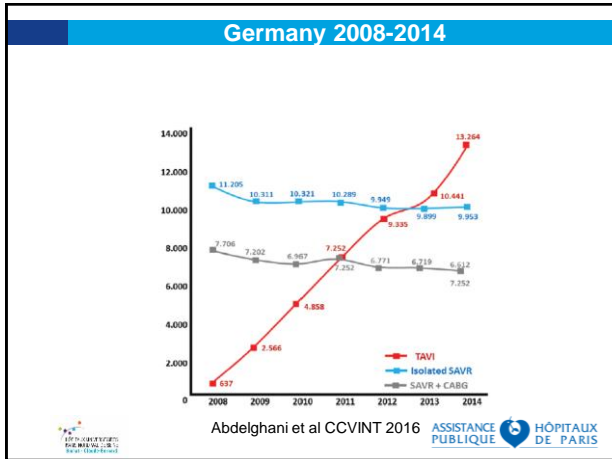
TAVI Pioneers

Alain Cribier

John Webb



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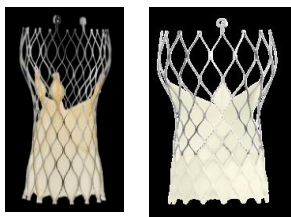



Technological improvements SAPIEN valve



	SAPIEN	SAPIEN XT	SAPIEN 3
Valve Technology			
Sheath Compatibility	22-24F	16-20F	14-16F
Available Valve Sizes	23 mm, 26 mm	23 mm, 26 mm, 29 mm	26 mm, 23 mm, 26 mm, 29 mm

SAPIEN 3 Valve

Medtronic Evolut R/Pro™

- Shortened self-expanding nitinol frame
- Porcine pericardium
- Supra-annular
- Extended skirt
- Partially repositionable
- 14F Enveo™ delivery system
- Inline™ sheath

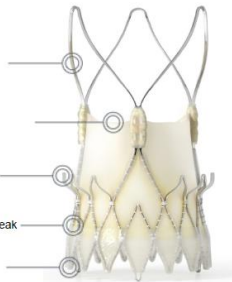





ACURATE

ACURATE neo™

Aortic Valve System

- Stabilization Arches**
Designed for axial self-alignment
- Supra-Annular Valve**
Porcine pericardium leaflets with BioFix™ anti-calcification process
- Upper Crown**
Minimal supra-annular anchoring
- Anti-PVL Skirt**
Sealing against paravalvular leak
- Lower Crown**
Minimal protrusion into LVOT

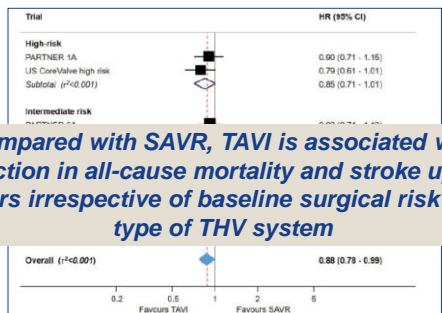






Metaanalysis TAVI vs SAVR


Trial	HR (95% CI)
High-risk	
PARTNER 1A	0.90 (0.71 - 1.15)
US CoreValve high risk	0.79 (0.61 - 1.01)
Subtotal (I ² =0.001)	0.85 (0.71 - 1.01)
Intermediate risk	
Overall (I ² <0.001)	0.88 (0.79 - 0.99)

Compared with SAVR, TAVI is associated with reduction in all-cause mortality and stroke up to 2 years irrespective of baseline surgical risk and type of THV system





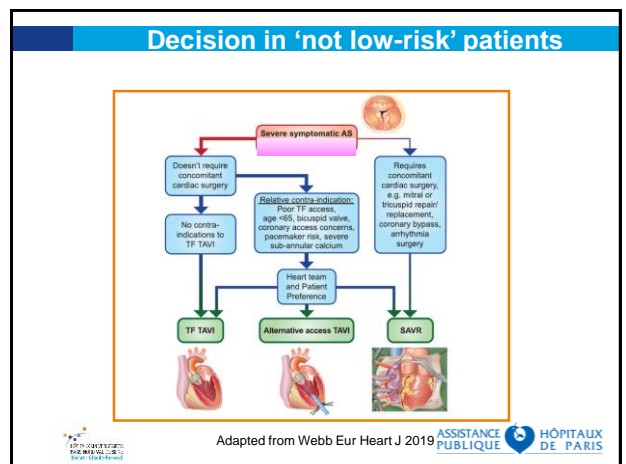
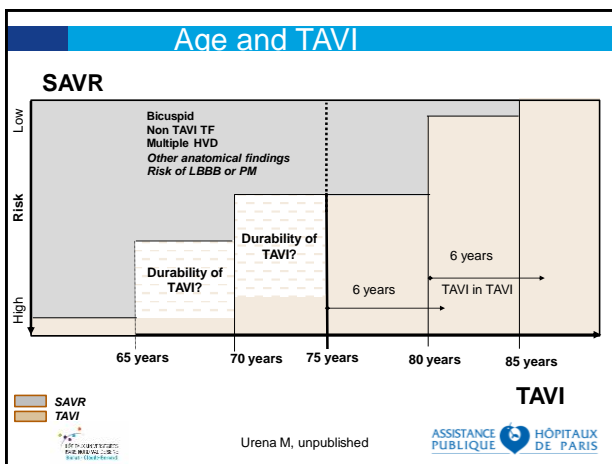
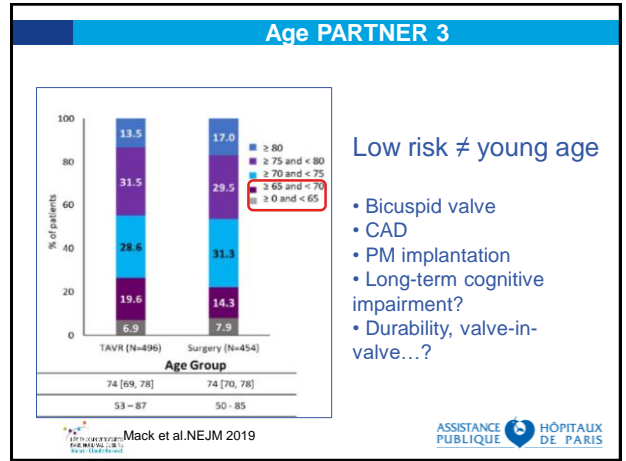
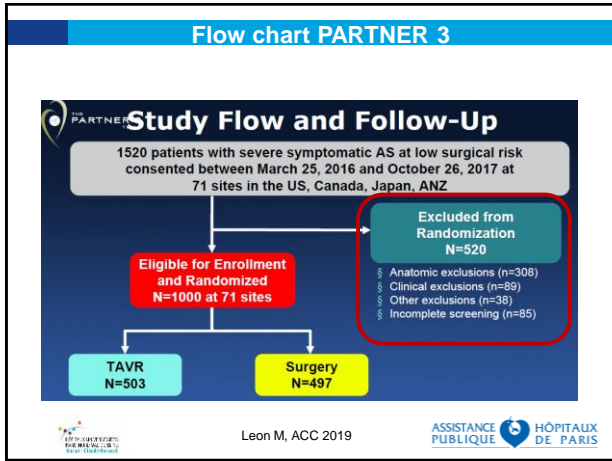


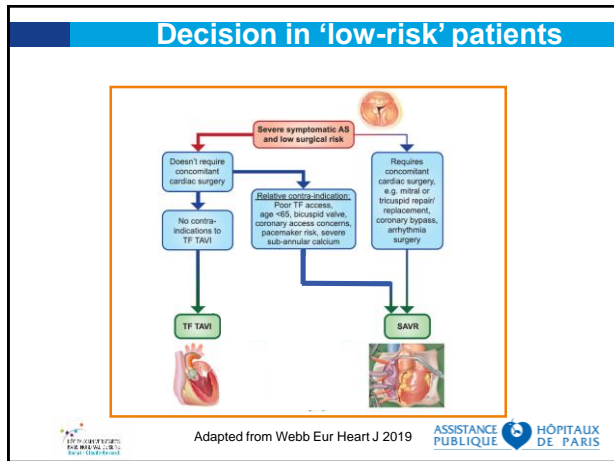
Stontis et al Eur Heart J 2019



TAVI for Everyone?





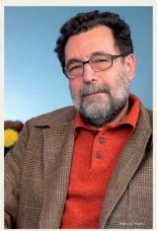
- ### TAVI Pending questions
- Durability of THVs over 7 years?
 - How to decrease the risk of conduction disturbances / PM implantation?
 - Clinical impact of subclinical leaflet thrombosis?
 - Best antithrombotic treatment?
 - Long-term clinical impact of MRI defects on cognitive function?
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Percutaneous mitral interventions pioneers

K Inoue



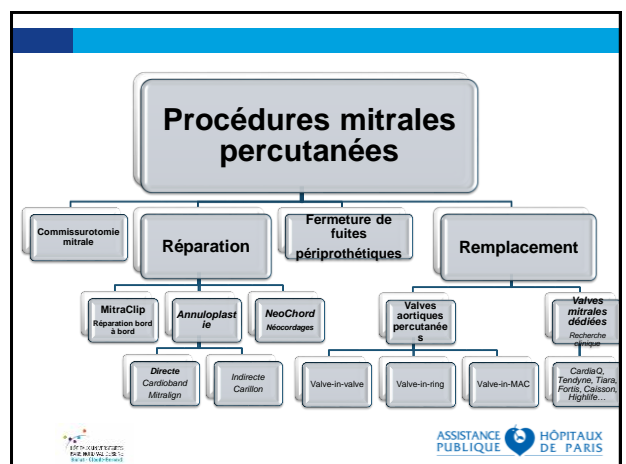
A Vahanian

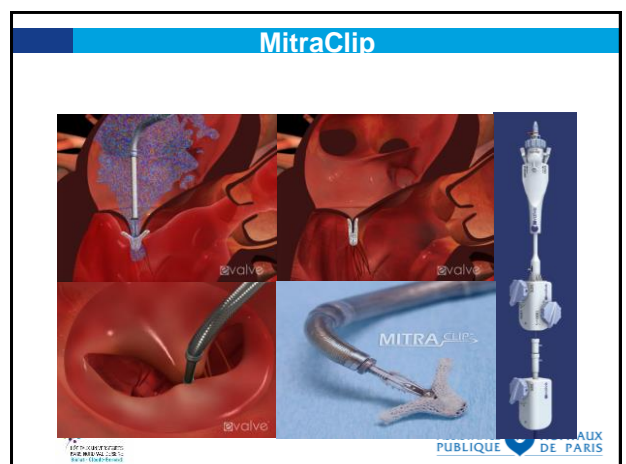
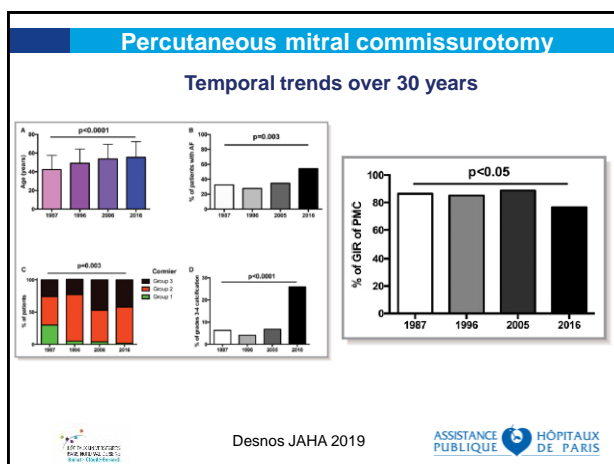
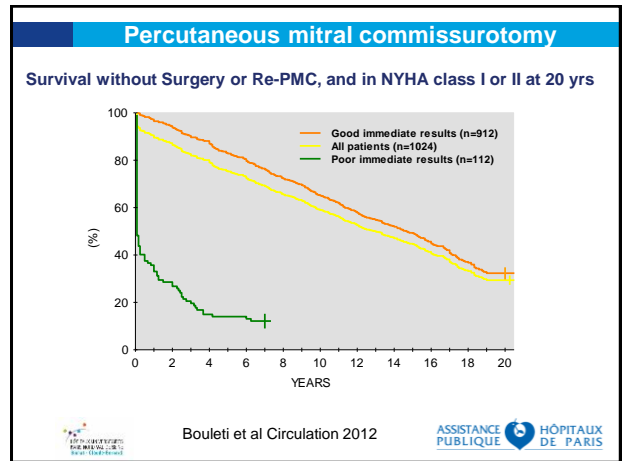
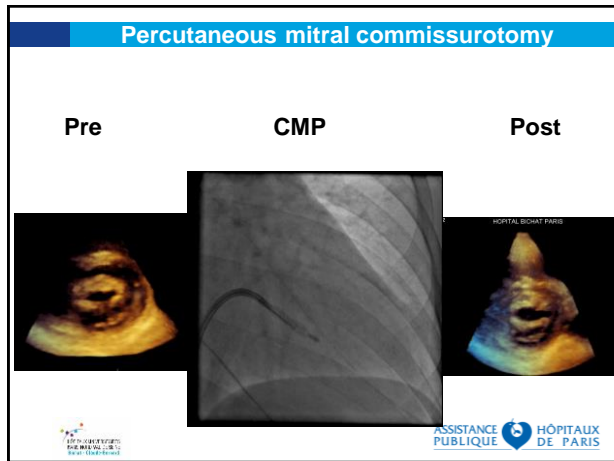


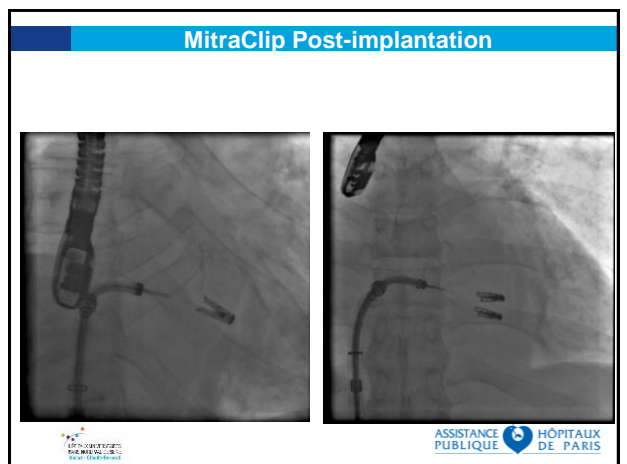
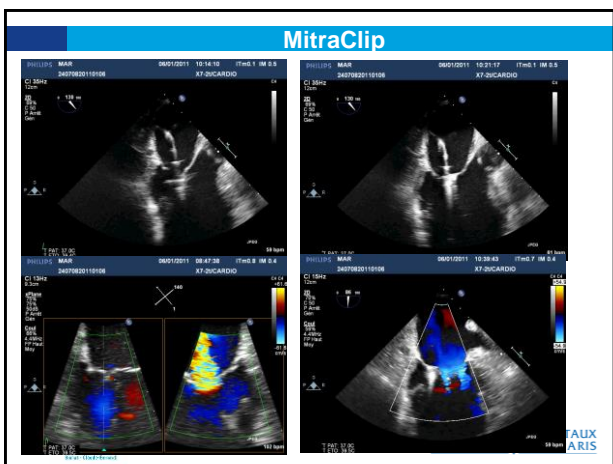
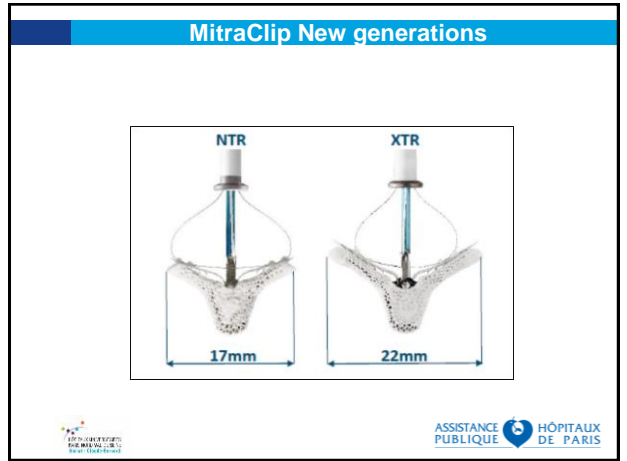
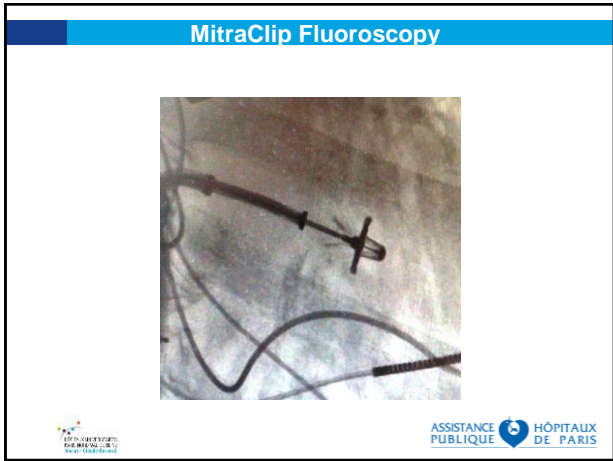
F Maisano

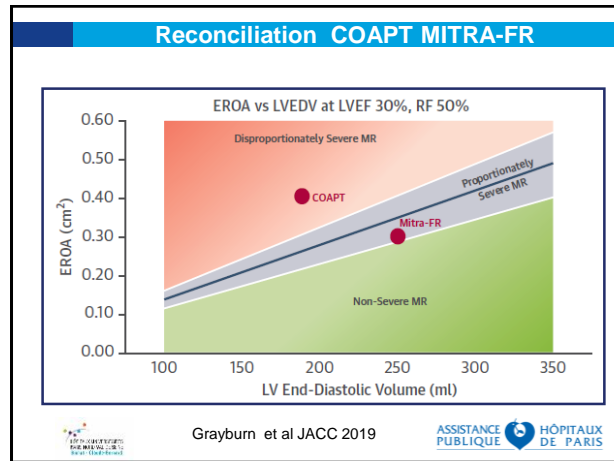
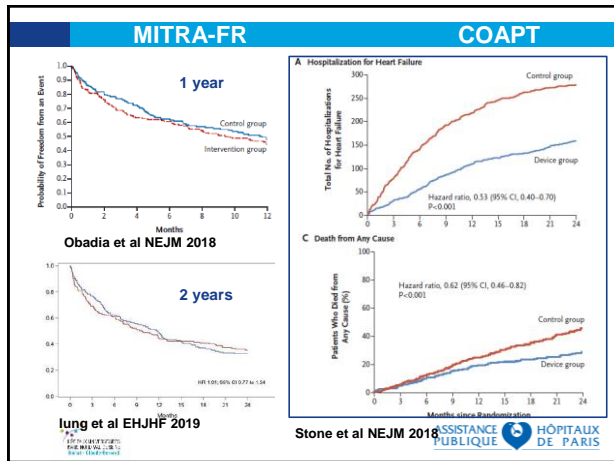


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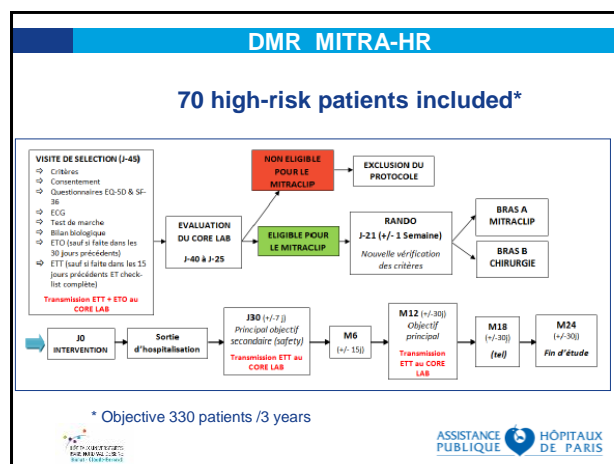


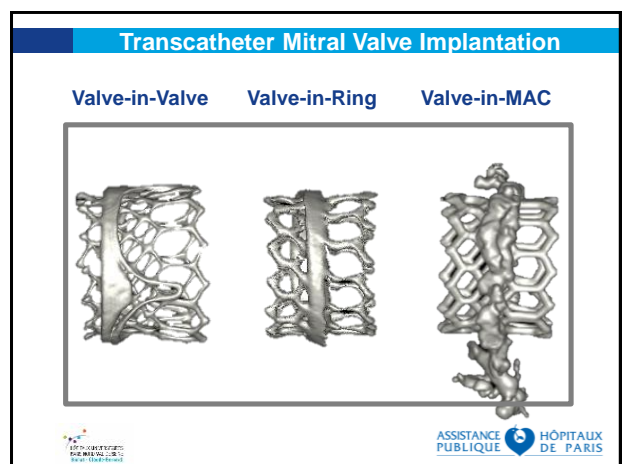
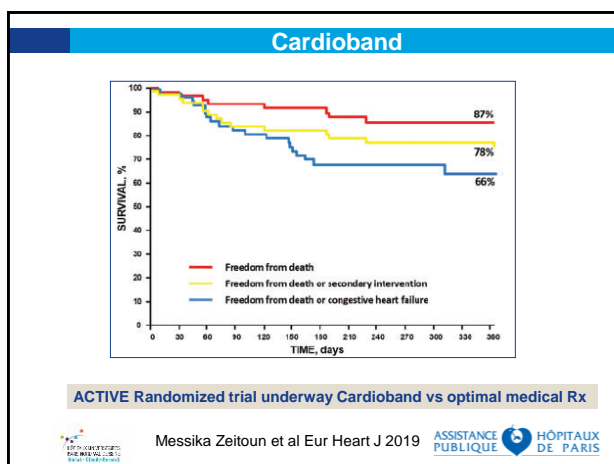
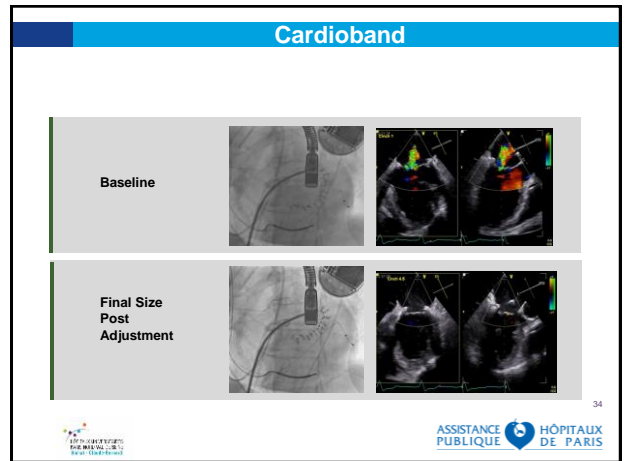
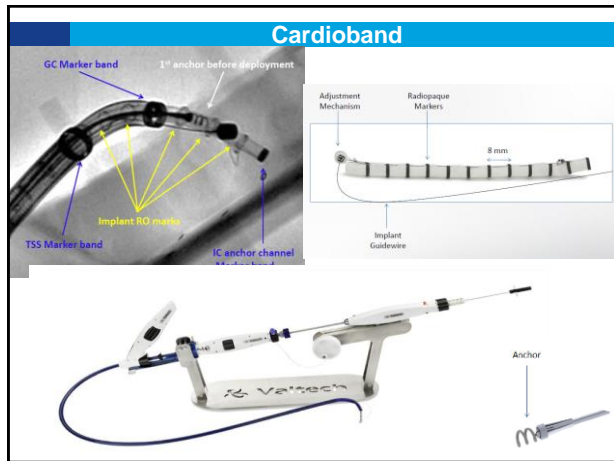


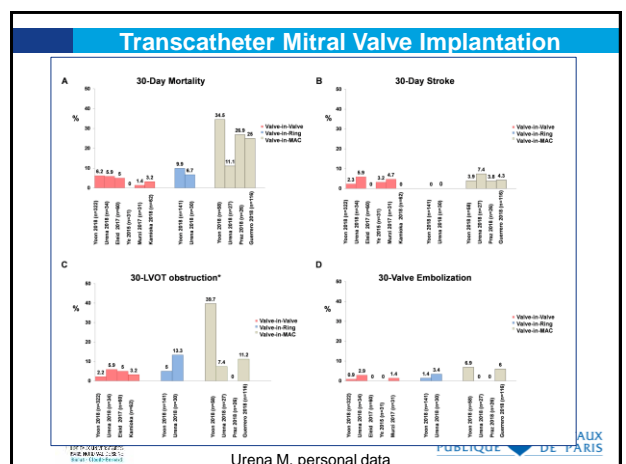
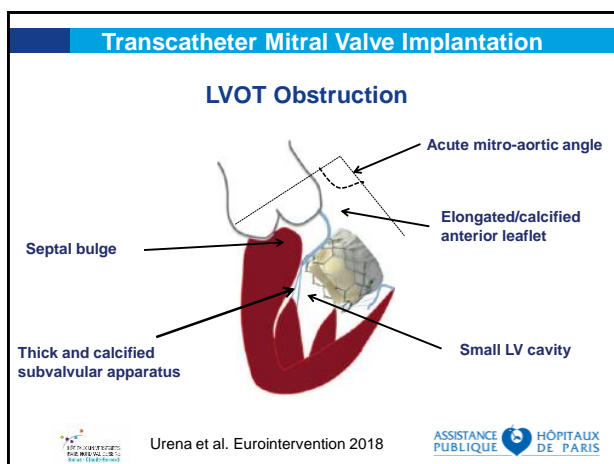
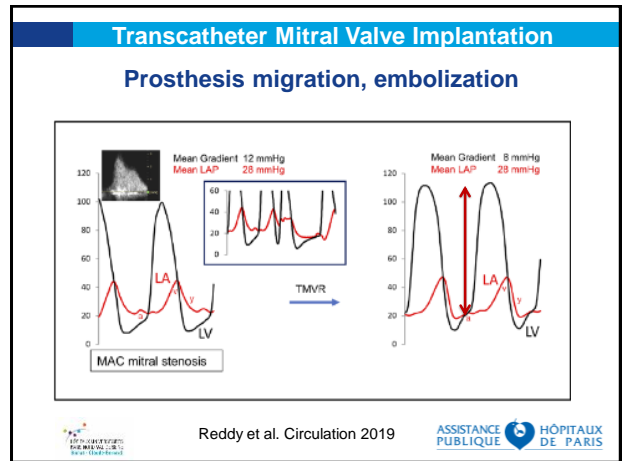
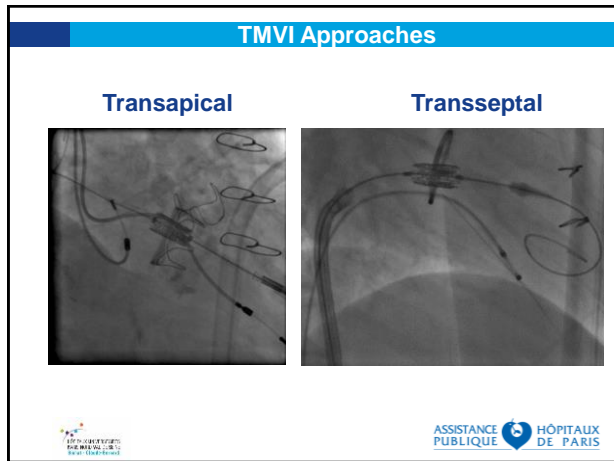
FMR Waiting for reimbursement

- MR > 2+
- LVEF 20 to 50%
- ROA > 30mm²
- EDLVV ≤ 96ml/m² if SOR ≤ 30mm²

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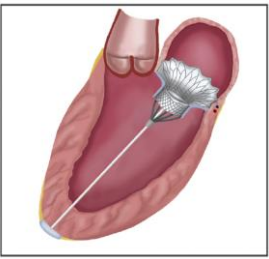






Transcatheter Mitral Valve Implantation

Tendyne (Abbott Vascular)







- 100 patients
- **Technical success: 96%**
- **No procedural death**
- **1-year mortality 26%**
- **88% of survivors NYHA I/II**

Sorajja et al JACC 2019

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Transcatheter Mitral Valve Implantation

Challenges

- > Positioning
- > Fixation
- > Paravalvular leaks
- > Valve gradient and LV outflow track obstruction
- > Thrombosis
- > Durability
- > Feasibility of reintervention
- >

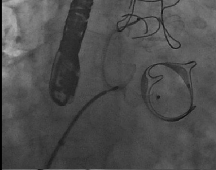

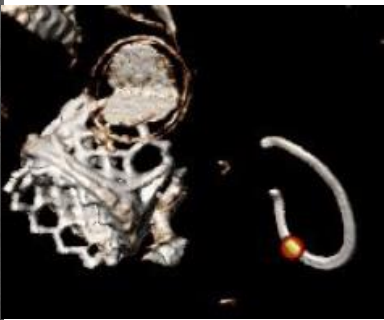
A

B

C

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Paraprosthetic leak closure

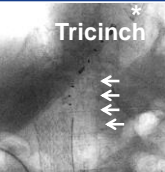
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Tricuspid Valve Interventions

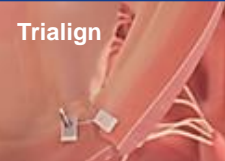
Triclip




Tricinch*




Trialign




Cardioband



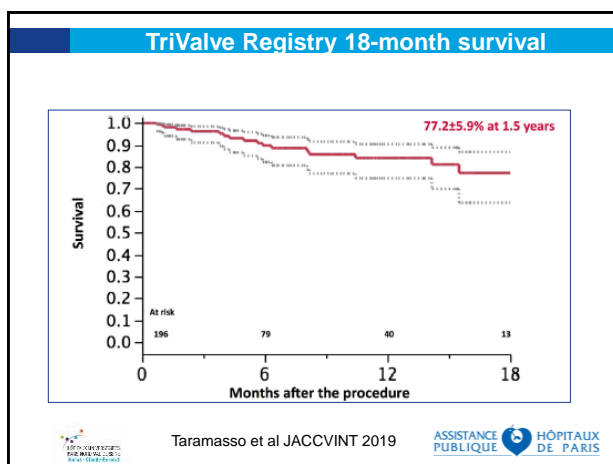
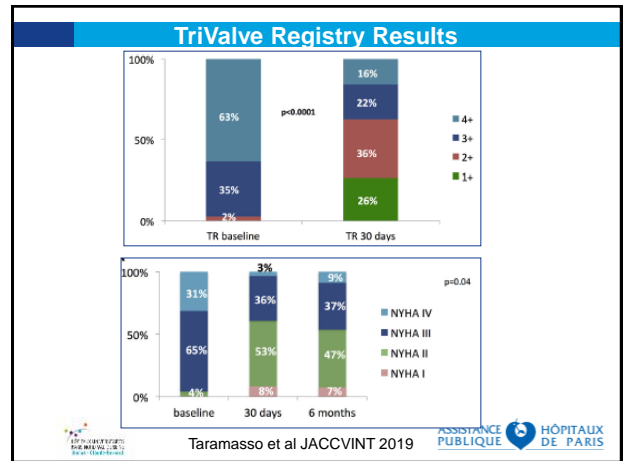
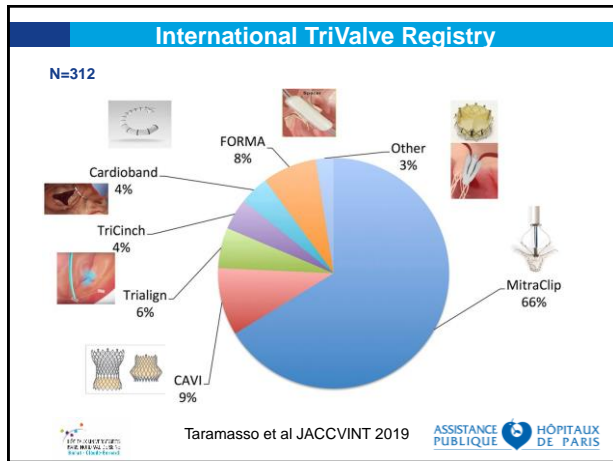
TTVI



CAVI



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- ### Tricuspid Valve Interventions Pending issues
- Population with functional TR is heterogeneous : isolated TR or combined with left-side heart disease
 - How to select patients ?
 - Which criteria are the most relevant : clinical, echocardiographic parameters (TR severity, TA diameter, EROA.....)
 - What are the best endpoints ? Clinical outcomes and/or echocardiographic parameters
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Transcatheter valve interventions Conclusion

■ TAVI: Change of paradigm

- ▶ Before: « *SAVR if possible, TAVI if necessary* »
- ▶ Now: « *TAVI if possible, SAVR if necessary* »?

John Webb

■ Mitral valve repair and replacement

- ▶ « *The end of the beginning?* »

Alec Vahanian

■ Tricuspid valve repair and replacement

- ▶ No longer the forgotten valve
- ▶ But still a long way ahead !

?

Thank you!