

PhD Propositions: Darren Mylotte

1. Transcatheter aortic valve implantation (TAVI) is underutilized in several European nations due largely to the absence of reimbursement. (this thesis)
2. Transcatheter heart valve (THV) failure modes are similar to those of surgical bioprostheses, although unique failure modes have been identified. (this thesis)
3. Erroneous measurement of the aortic valve complex using two-dimensional echocardiography causes incorrect THV sizing and adverse procedural outcomes. (this thesis)
4. The treatment of bicuspid aortic valve stenosis using transcatheter technology can yield suboptimal procedural results, especially in cases where multislice computed tomography-based sizing has not been performed. (this thesis)
5. Transcarotid vascular access for TAVI is safe and feasible and should be considered an alternate when a transfemoral procedure is not possible. (this thesis)
6. Transcatheter aortic valve implantation is considered the standard of care for most patients with severe symptomatic aortic valve stenosis at excessive-, high-, and intermediate operative risk.¹
7. Transcatheter mitral valve implantation is challenging but appears to be safe and feasible in patients with severe mitral regurgitation at excessive operative risk.²
8. The success of TAVI has led to calls to lower the age (<65 years) at which a surgical bioprosthesis is considered appropriate in patients undergoing surgical aortic valve replacement. This hypothesis must be rigorously tested.
9. Embolic protection during TAVI may reduce the risk of procedure-related stroke and cognitive decline.³
10. Bioprosthetic valve thrombosis occurs frequently after transcatheter and surgical aortic valve replacement, and is associated with adverse long-term clinical outcomes.⁴
11. It is more important to know what sort of a person has a disease than to know what sort of a disease a person has. (*Hippocrates*)

References

1. Baumgartner H, Falk V, Bax JJ, et al. 2017 ESC/EACTS Guidelines for the management of valvular heart disease. *Eur Heart J*. 2017;38:2739-2791.
2. Muller DW, Farivar RS, Jansz P, et al. Transcatheter Mitral Valve Replacement for Patients With Symptomatic Mitral Regurgitation: A Global Feasibility Trial. *J Am Coll Cardiol*. 2017;69:381-391.
3. Kapadia SR, Kodali S, Makkar R, et al. Protection Against Cerebral Embolism During Transcatheter Aortic Valve Replacement. *J Am Coll Cardiol*. 2017;69:367-377.
4. Makkar RR, Fontana G, Jilaihawi H, et al. Possible Subclinical Leaflet Thrombosis in Bioprosthetic Aortic Valves. *New Engl J Med*. 2015;373:2015-24.