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## **Primary complications after cardiac surgery: towards better understanding, prediction, and prevention**

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# Pulmonary complications after cardiac surgery

Towards better understanding, prediction, and prevention

1. Muc5AC production is one of the many steps in the process of disruption of the pulmonary-capillary barrier that leads to lung injury in cardiac surgery patients. (This Thesis – Chapter 1)
2. For a longer time now, especially after the COVID-19 pandemic, respiratory viruses are implied to be involved in development of ARDS after cardiac surgery. However, this could not be confirmed in this thesis, with small and indirect studies. (This Thesis – Chapter 2 and 3)
3. The value of negative studies is underestimated. (Ana Mlinarić, et al. 2017 Biochem Med (Zagreb) 27(3): 030201) Only if one can fully overview the spectrum of positive and negative results, one can interpret thoughtfully.
4. From the preoperative leukocyte activation and platelet activatability patterns, patients at risk for a complicated pulmonary course can be identified. (This Thesis – Chapter 4)
5. Biomarkers are only of value if there are means to influence what they predict. (This Thesis – Chapter 5)
6. Using biomarkers to target therapies is regarded as a way towards a more efficient and cost-effective healthcare system, (Antonello di Paolo et al. 2017 BMC Health Serv Res 17(289)) This is particularly important in ageing populations with increasing chronic disorders, that challenge healthcare budgets.
7. The use of corticosteroids does not prevent ARDS or other unfortunate outcomes in cardiac surgery in general, though they are very effective in other ARDS patient groups (This Thesis – Chapter 6-7-8)
8. The experience of experts can be useful when developing guidelines, but structures need to be in place to avoid opinion being confused with evidence. (Holger J Schünemann et al. 2019 BMJ 19(366):l4606) In current structured guideline development, it is important to still provide opportunities for expert opinion based individualized medicine.
9. Within all age groups, more research to better define individual variability of the inflammatory response will help to better identify those in whom the application of steroids may be of benefit. (Jack H. Crawford et al. 2019. J Cardiothorac Vasc Anesth. 2019 Jul;33(7):2039-2045) Knowledge on differences between patients of apparent similar phenotypes, can improve the treatment of ARDS in cardiac surgical patients.
10. Integrity is doing the right thing, even when nobody is watching. (Clive S. Lewis 1889 - 1963) Integrity is ideally a large part of our internal compass.
11. The music is not in the notes, but in the silence in between. (Wolfgang A. Mozart, 1756-1791) Listening to what is not said, makes one understand what is meant to be said.
12. Ability to say “no” is all in nurture.  
If one learns that “ik zal erover nadenken” (my mother), “maybe later” (Ghanaians), “Yes” with a blank, staring gaze (non-English Africans), “Eh.. hah Eh.. Hah” (Tobagonians) All mean “No”. How should one learn to actually say “No”?