

Thesis propositions belonging to the thesis

## **Prediction and Outcome Analyses in Acute Neurological Diseases**

1. Age and clinical severity are the core predictors for functional outcome after ischemic stroke, aneurysmal subarachnoid hemorrhage and traumatic brain injury. (*this thesis*)
2. Although prognostic models for acute neurological diseases are increasingly externally validated, their methodological quality and reporting is currently insufficient and should be improved. (*this thesis*)
3. The primary conditions for prognostic models to be implemented in clinical practice are that predictions are reliable for the specific setting and impact clinical decisions. (*this thesis*)
4. Between-hospital variation in clinical outcomes after acute neurological diseases should be related to variation in treatment policies and quality of care to provide recommendations to improve clinical practice. (*this thesis*)
5. New patient-centered outcome measures for acute neurological diseases should only be used as primary endpoint in clinical trials if there is evidence on their validity and reliability. (*this thesis*)
6. Clinicians disagree on the best treatment option for individual patients with a ruptured intracranial aneurysm. (*Darsaut TE et al. J Neurosurg. 2019;131:25–31*) This necessitates the development of a prognostic model to support personalized decision making regarding endovascular coiling versus neurosurgical clipping.
7. Clinicians and patients generally overestimate the benefits and underestimate the harms of treatments and interventions. (*Hoffmann TC, Del Mar C. JAMA Intern Med. 2017;177(3):407-419 and Hoffmann TC, Del Mar C. JAMA Intern Med. 2015;175(2):274-286*) Integration of evidence-based medicine and shared decision making needs to be improved to achieve optimal treatment decisions.
8. The greatest challenge associated with (complex) statistical analyses in clinical research is the translation of findings into plain English to facilitate interpretation for clinical practice. (*based on Pocock SJ, Ware JH. Lancet. 2009;373(9679):1926-8*)
9. Target journals should be selected based on relevance and scientific accuracy and quality, not journal impact factors. (*Ioannidis JPA, Thombs BD. Eur J Clin Invest. 2019;49(9):e13151*)
10. High school students who are interested in medicine should have the opportunity to participate in a scientific pre-university program, since this stimulates combining clinical care and research in their future career. (*de Leng WE et al. BMC Med Educ. 2017;17:150*)
11. Strive not to be a success, but rather to be of value. (*Albert Einstein*)

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