

Coronary Stenting :  
A Quantitative Angiographic and Clinical Evaluation

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*Stellingen*

The guidance of coronary stenting by visual assessment alone without the performance of on-line quantitative coronary angiography (QCA) in multiple projections, may result in suboptimal stent deployment - *this thesis*

The additional benefit of intracoronary ultrasound over QCA in multiple projections in the guidance of stent deployment during routine clinical practice has yet to be demonstrated but may be of potential value in the assessment of expansion of radiolucent stent struts and the quantification of restenosis within radiopaque tantalum stents - *this thesis*

The reliability of QCA has become of fundamental importance for both the optimal practice as well as the scientific evaluation of coronary stenting - *this thesis*

The insertion in porcine coronary arteries of balloon-mounted single-channel plexiglass "stent stenoses" of known internal diameter is feasible and offers an effective in-vivo model for the validation of coronary lumen quantification systems - *this thesis*

While QCA presents a safe, widely available, and cost effective method for measurement of coronary arterial dimensions, in-vivo as well as in-vitro validation studies reveal ground for improvement with both systematic as well as random errors - *this thesis*

The tendency for QCA systems to overestimate small diameters and underestimate large diameters might be addressed by the incorporation of a dynamic algorithm with adaptive weighting of the first and second derivatives - *this thesis*

The wide differences in the reliability of QCA systems revealed by comparative validation suggests that quantitative angiographic data from different core laboratories might not be directly comparable or merged without correction - *this thesis*

Deployment of a self-expanding stent may result in a negative luminal loss at 6 month angiographic follow-up in a significant number of patients - *this thesis*

Contrary to previous concerns over the long-term effect of a metallic foreign body exerting prolonged barotrauma in the coronary arterial wall, five year angiographic follow-up after implantation of a self-expanding stent suggests that progression of atherosclerosis within the stent may not be accelerated - *this thesis*

Stent sizing and optimization of deployment should make allowance for inhomogeneous stent inflation and recoil and should be tailored to the individual stent design - *this thesis*

The relative clinical and angiographic advantages of coronary stent implantation over balloon angioplasty are reduced in smaller coronary vessels - *this thesis*

Given their wide spectrum of designs and mechanical properties each coronary stent may have to prove its own indications and clinical niche - *this thesis*

Communication and compatibility of devices in interventional cardiology is unnecessarily hampered by the persistent use of inches, French, and gauge, in addition to the conventional unit of millimetres - *this thesis*

In doubt - let's randomize - *Andreas Grüntzig (echoed by Spencer King III & this thesis)*

Randomized trials almost never deliver the definitive answer, instead they identify the weaknesses and grey areas and thus raise further questions which in turn require additional randomized trials to address - *my promoter*

If a man will begin with certainties, he shall end in doubts; but if he will be content to begin with doubts, he shall end in certainties - *Francis Bacon*

The past should be a springboard - not a hammock - *Ivern Ball*

Never confuse comfort with happiness or wealth with success - *H Jackson Brown Jr.*

Life is what happens when you are making other plans - *John Lennon*

If you haven't any charity in your heart you have the worst kind of heart disease  
- *Bob Hope*

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