# Becit 2007 - TTFM in CABG

Publication Summary

**Publication:**
The impact of intraoperative transit time flow measurement on the results of on-pump coronary surgery

**Authors:**
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## Abstract

### Objective
The purpose of this study is to evaluate the effect of detection of graft dysfunction by intraoperative transit time flow measurement (TTFM) on the surgical results of on-pump coronary artery bypass grafting.

### Methods
Two hundred patients undergoing on-pump isolate coronary artery bypass grafting via median sternotomy performed by the same surgical team were included into the study. TTFM was routinely performed for assessment of graft patency during operation after a transit time flow meter became available in our center in February 2006. The last 100 consecutive patients before this date formed the control group (Group A), and the first 100 consecutive patients after this date formed the study group (Group B). Interpretation of the values obtained using the TTFM in Group B patients has allowed us to reach a decision whether or not to revise a graft. Preoperative and postoperative variables of the two groups were compared.

### Results
The clinical features of control and study groups were comparable. We assessed patency of 303 grafts using TTFM. Revision was required for nine grafts in nine patients based on unsatisfactory TTFM findings. Incidences of overall mortality ($p<0.05$), peri- or postoperative myocardial infarction ($p<0.05$) and intraaortic balloon pump insertion ($p<0.05$) were significantly lower in Group B than Group A.

### Conclusions
We believe that TTFM seems to be a crucial tool for deciding if a graft is well-functioning or not, and it allows for improvement of graft failure during operation. Our results suggest that detection of graft dysfunction intraoperatively by TTFM improves the surgical outcome.

## Medistim comments

This publication is the background for the calculations of savings per procedure in the NICE guidelines.

**2018 NICE:**
By routine use of TTFM the cost saving associated with the MiraQ system is £141 per patient.

This study does not have a randomized, controlled design, but the two groups compared have CABG performed by the same surgeons with the same techniques. The preoperative characteristics and risk factors were not different between the two groups, making them comparable.

| | Group A<br>No TTFM<br>n=100 | Group B<br>TTFM<br>n=100 |
|---|---|---|
| Graft revisions | 0 | 9 |
| Overall morbidity* | 16 | 6 |
| Peri- or postoperative infarction* | 5 | 0 |
| Overall mortality* | 4 | 0 |

* ($p<0.05$)



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