

ERASMUS MC

Report

Follow-up Investigative Committee Academic Integrity 2013

July 25, 2014

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## Abbreviations

ACCF:	American College of Cardiology
AHC:	American Heart Association
AMC	Academic Medical Centre, Amsterdam
CBS:	Statistics Netherlands (Netherlands Central Bureau of Statistics)
CRF:	Case Record Form
DECREASE:	Dutch Echocardiographic Cardiac Risk Evaluation Applying Stress Echo
DSE:	Dobutamine Stress Echo
ECG:	Electrocardiogram
ECHO:	Echocardiogram
Erasmus MC:	Erasmus University Medical Centre
GBA:	Local government population register
KNAW:	Royal Netherlands Academy of Arts and Sciences
LUMC:	Leiden University Medical Centre
METC:	Medical and Ethical Review Committee
NEJM:	New England Journal of Medicine
QRS:	Q, R and S designate three sequential components of an ECG
TASC II:	Trans-Atlantic Inter-Society Consensus Document on Management of Peripheral Arterial Disease
WMO:	Medical Research involving Human Subjects Act
ZIS:	Hospital Information System

# 1. Introduction

## 1.1. The Committee's terms of reference

On 5 February 2013, the Board of Erasmus MC decided to establish the Follow-up Investigative Committee (Academic Integrity) of 2013, referred to below as “the Committee.”

The Committee is the third committee to study possible breaches of academic integrity in publications by Dr D. Poldermans. To explain the background of the formation of this third Committee, we present two conclusions from the two previous committees:

1. “The Investigative Committee for Academic Integrity”  
 Established: 28 July 2011  
 Report: 8 November 2011 [1]  
 This Committee concluded that breaches of academic integrity occurred in at least three research projects for which Dr Poldermans was responsible. One of its recommendations was to conduct a more detailed study of some projects that this Committee had been unable to examine within the time available. This recommendation led the Board to establish a second committee (see following point).
  
2. The Follow-up Investigation Committee of 2012  
 Established: 1 January 2012  
 Report: September 2012 [2]  
 This Committee found that, in addition to the instances identified by the first Committee, breaches of academic integrity had occurred in at least three other research projects for which Dr Poldermans had been responsible. One of its recommendations was that further investigation of Dr Poldermans' publications would be indicated only if compelling new scientific or societal arguments arise in relation to specific components of his oeuvre.

In the autumn of 2012, compelling societal arguments did indeed arise in the scientific community, especially within the Royal Netherlands Academy of Arts and Sciences (KNAW), and Erasmus University was urged to screen the complete work of Dr Poldermans for indications of breaches of academic integrity. The Rector Magnificus agreed to these requests, and decided to ask Erasmus MC to conduct this investigation. This led to the establishment of the present committee.

The Committee has been charged (see Appendix 1) with studying all publications in which Dr Poldermans is named as author or co-author, and to select from them the publications reporting on research conducted by Dr Poldermans himself or under his immediate direction.

The Committee was asked to investigate as thoroughly as possible whether there were indications that academic integrity was breached during the preparation of these publications. The Committee's terms of reference specified that priority should be given to frequently cited publications and to those that had contributed to the formulation of medical guidelines. The Committee was also asked, where possible, to use the forensic statistical methods developed for detecting scientific fraud in published data.

The task facing this Committee was distinct from that facing the two previous committees, whose investigation focused on ascertaining whether academic misconduct could be excluded in a limited number of publications for which there were specific indications that academic integrity may have been breached. To establish that scientific misconduct had occurred, those committees examined these specific indications in detail, case by case, for example by interviewing those involved. In contrast, the present Committee was established to identify indications of scientific misconduct in an extensive body of scientific publications. As of April 1, 2013, PubMed listed 495 publications for which Dr D. Poldermans was an author or co-author. This task required different procedures (see Section 1.2).

The Committee had the following members:

- Dr J.M.W. Hazes, Professor of Rheumatology, Erasmus MC
- Dr P.J. van der Maas, Emeritus Professor of Social Health Care, Erasmus MC (Chair), until July 1, 2014
- Dr R.J.G. Peters, Professor of Cardiology, AMC
- Dr F.R. Rosendaal, Professor of Clinical Epidemiology, LUMC

Administrative support was provided by Dr R.E. Juttman, Department of Research Policy, Erasmus MC. To complete the Committee's job from July 1, 2014, Dr P.J. Koudstaal, Professor of Neurology, Erasmus MC, took over the tasks from Professor Van der Maas.

The Committee used the services of external experts for the technical aspects of its investigations. It began work on February 25, 2013, and met eight times.

## **1.2. Procedure**

In order of their publication date, each of the 495 publications in Dr Poldermans' oeuvre was assigned a unique identification number. The Committee then examined all the publications relating to studies based on original data that had been carried out either by Dr Poldermans himself (with Dr Poldermans as first author) or under his immediate direction (with Dr Poldermans as penultimate or last author, and one of his PhD candidates as the first author). Review articles, publications on the design of a planned study, commentaries and related publications were not considered. After this selection, 247 of the 495 publications remained.

Nine of these publications concerned clinical experimental studies known as the DECREASE studies and follow-up studies of the patients included in them.

- Four of these publications related to the DECREASE-1 study; these are discussed in Section 2.3. Two of these publications are also discussed in Section 2.1, with regard to the "findings from forensic statistical methods".
- Five of these publications related to the DECREASE-2 to DECREASE-5 studies, which have already been studied by the two previous committees. For the sake of completeness, those committees' conclusions on these five studies are summarized in Appendix 2.

One publication related to an experimental study for which the Erasmus MC was not the responsible institution under the WMO (Medical Research involving Human Subjects Act) definition. The authors in this case had participated in a study in which the responsible institution was a pharmaceutical company, which was responsible for the quality control of the data collected. The Committee has no indication that the responsibility for the quality control of this

study was insufficiently managed, and therefore refrained from further investigations regarding this publication.

Two publications that are not directly related to the DECREASE studies have already been examined by the Follow-up Investigation Committee of 2012 [2]. The Committee's conclusions on these two studies have also been summarized in Appendix 2. With regard to the findings from forensic statistical methods, the same studies are also discussed in Section 2.1 below.

The other 235 publications reported on observational clinical research. Many articles related one or more items of baseline data to the clinical outcome after a period of follow-up. In most cases, the data concerned patients who had had vascular surgery at the Erasmus MC.

Two Committee members (Professors Peters and Rosendaal) first studied all 235 abstracts and, where necessary, the full text of these publications, to determine whether there was reason to suspect a breach of academic integrity. If both Committee members felt there was reason for suspicion, the publication was studied in more detail. The Committee also decided that even if the two Committee members decided that one of these publications did not give for suspicion, it should nonetheless be studied if it was referred to in European or American medical guidelines (for an overview of these guidelines, see Appendix 3), or if it had been cited at least 50 times. Finally, the Committee decided that closer examination should be given to at least one article by each first author of the 235 publications. This approach yielded 81 publications for further study. It was also decided that this examination would be expanded if the findings regarding these 81 publications generated additional concern. For three aspects, this was the case. Therefore, for these three aspects, all 235 articles were studied in more detail; this is discussed in Section 2.4.

On the basis of this approach, the publications of which Dr Poldermans was the author or co-author were categorized as shown in the table below. In Appendix 4 (page 27), Table 1 provides a comprehensive overview of these publications, together with the relevant number and category. The right-hand column of the table below indicates the page in this report where publications in the relevant categories can be found.

### **Publications by Dr Poldermans registered in PubMed on April 1, 2013**

		Page
Publications not prepared by Dr Poldermans as first author and not conducted under his immediate direction, review articles, publications on the design of planned research, commentaries, and related publications. These publications are not covered in this report.	248	28
Publications of the DECREASE-2 to 5 studies evaluated by previous committees	5	44
Publications from DECREASE-1	4	45
Publications not directly relating to DECREASE studies already evaluated by previous committees	2	45
Publication of an industry study	1	45
Publications of observational studies	235	46
Total	495	

### 1.3. Research methods

The Committee conducted its investigation as follows:

1. To investigate whether forensic statistical methods developed for detecting academic fraud in published data could be applied to Dr Poldermans' oeuvre, the Committee requested the help of an expert in the field, Professor Dr C.A.J. Klaassen of the University of Amsterdam. Professor Klaassen agreed to study the work of Dr Poldermans as an advisor to the Committee.
2. The Committee asked the statistician who was a co-author in four publications of the DECREASE-1 study to respond in writing regarding the availability of the study data, and to present the available data to the Committee. The first authors of the 81 publications on observational studies that had been selected for further consideration were sent a questionnaire which, among other questions, asked whether they still had access to the analysis files or databases used for the publication. In this report, "analysis files" refers to the data files used for a specific publication, while "databases" are larger data sets used as a basis for one or more analysis file. The authors were asked to provide the Committee with these files, where available.
3. When multiple publications were based on a common database, the decision was made to examine at least one analysis file. For other publications, at least one of the analysis files provided by each first author was investigated. This research was intended to answer two questions:
  - a. Is the published patient information in broad accordance with the data in the analysis files?
  - b. Is the data in the analysis files in broad accordance with the raw data or data in the electronic patient file?

This investigation was performed for the Committee by two external research bureaus: Pallas Health Research and Consultancy (Pallas) and the Tridata Institute for Applied Statistics and Data Analysis (Tridata), the latter being commissioned by the Cardiology Department at Erasmus MC to evaluate the integrity of the DSE (Dobutamine Stress Echo) database. In close consultation with the Head of this Department, the Committee has been allowed to use the results of this evaluation.
4. Full texts of publications were analysed closely.
5. To verify various facts and to obtain further explanations, the Committee had direct discussions or correspondence with thirteen people (authors, database controllers, heads of departments, a secretary at the Medical and Ethical Review Committee, and members of the Adverse-Event Committee, Safety Committee, and Steering Committee referred to in publication 453).

## 2. Findings

### 2.1. Forensic statistical methods

After an initial exploratory study of Dr Poldermans' published work and two previous reports regarding breaches of academic integrity [1,2], Professor Klaassen concluded that the options for applying forensic statistical methods to this work were probably limited. This was due to differences between the breaches of academic integrity in Dr Poldermans' work and those in work by others that Professor Klaassen had previously studied, in which the data was entirely fictitious. Dr Poldermans' publications related to projects that had really been executed, but in some of which the data had been found to be unreliable or partly fictitious. Forensic statistical methods are less suitable for discovering such more limited flaws.

To judge the extent to which forensic statistical methods could nevertheless be useful for the Committee's investigations, Professor Klaassen applied these methods to four publications:

#### 453

Poldermans D, Boersma E, Bax JJ, et al. The Effect of Bisoprolol on Perioperative Mortality and Myocardial Infarction in High-Risk Patients Undergoing Vascular Surgery. *N Engl J Med* 1999; 341: 1789–1794.

#### 436

Poldermans D, Boersma E, Bax JJ, et al. Bisoprolol reduces cardiac death and myocardial infarction in high-risk patients as long as 2 years after successful major vascular surgery. *Eur Heart J* 2001; 22: 1353–1358.

#### 264

Feringa HHH, Elhendy A, Bax JJ et al. Baseline plasma N-terminal pro-B-type natriuretic peptide is associated with the extent of stress-induced myocardial ischemia during dobutamine stress echocardiography. *Coron Art Dis* 2006; 17: 255–259.

#### 260

Feringa HHH, Bax JJ, Elhendy A, et al. Association of plasma N-terminal pro-B-type natriuretic peptide with postoperative cardiac events in patients undergoing surgery for abdominal aortic aneurysm or leg bypass. *Am J Cardiol* 2006; 98: 111– 115.

The first two publications, which relate to randomized clinical trials, were chosen because the study in question – DECREASE-1 – has had a considerable impact on medical guidelines. Neither publication was studied by the two previous committees.

The second two publications, which relate to observational clinical follow-up studies, were chosen because the investigations of the Follow-up Investigation Committee of 2012 showed that they had been based on data that was largely incorrect. The assumption adopted by Professor Klaassen and the Committee was that if breaches of academic integrity could not be demonstrated by applying forensic statistical methods to the third and fourth publications, these methods could not be applied to the tasks facing the Committee.



Forensic statistical analyses did not identify internal inconsistencies in the statistical results in any of the four publications. Since the two most recent studies were based on data that was largely incorrect, Professor Klaassen concluded that the forensic statistical methods he had previously applied to other work could not be used to investigate Dr Poldermans' work. As a result, these methods were not applied to other publications.

## **2.2. The availability of data**

The statistician who was a co-author in four publications on the DECREASE-1 study was able to provide the Committee with the analysis file for one of these publications (440). According to his report, the files on the remaining publications were no longer available.

Of the 81 questionnaires regarding observational clinical studies that the Committee sent out, 72 were completed and returned. From 31 of the 35 first authors it had approached, the Committee received at least one completed questionnaire.

With regard to observational clinical studies, the questionnaires completed by the first authors enabled the Committee to recover the analysis files for 33 of the 81 publications involved. The analysis file of 11 of these publications were supplied to the Committee by the first authors themselves. The analysis files for the remaining 22 publications were available from one of the co-authors.

The responses in the questionnaires led the Committee to conclude that the researchers had not used CRFs or other written forms to collect data for observational clinical studies. Instead, data had been taken directly from patient files or other primary sources and entered in databases or analysis files.

## **2.3. Findings with regard to publications relating to the DECREASE-1 study**

The Committee focused on the following publications in relation to the DECREASE-1 study:

### **377.**

Kertai MD, Boersma E, Bax JJ, Thomson IR, Cramer MJ, van de Ven LL, Scheffer MG, Trocino G, Vigna C, Baars HF, van Urk H, Roelandt JR, Poldermans D; Dutch Echocardiographic Cardiac Risk Evaluation Applying Stress Echocardiography (DECREASE) Study Group. Optimizing long-term cardiac management after major vascular surgery: Role of beta-blocker therapy, clinical characteristics, and dobutamine stress echocardiography to optimize long-term cardiac management after major vascular surgery. *Arch Intern Med.* 2003; 163:2230-5.

### **436.**

Poldermans D, Boersma E, Bax JJ, Thomson IR, Paelinck B, van de Ven LL, Scheffer MG, Trocino G, Vigna C, Baars HF, van Urk H, Roelandt JR; Dutch Echocardiographic Cardiac Risk Evaluation Applying Stress Echocardiography Study Group. Bisoprolol reduces cardiac death and myocardial infarction in high-risk patients as long as 2 years after successful major vascular surgery. *Eur Heart J* 2001; 22: 1353-1358.

**440.**

Boersma E, Poldermans D, Bax JJ, Steyerberg EW, Thomson IR, Banga JD, van De Ven LL, van Urk H, Roelandt JR; DECREASE Study Group (Dutch Echocardiographic Cardiac Risk Evaluation Applying Stress Echocardiography) Predictors of cardiac events after major vascular surgery: Role of clinical characteristics, dobutamine echocardiography, and beta-blocker therapy. JAMA 2001; 285: 1865-1873.

**453.**

Poldermans D, Boersma E, Bax JJ, Thomson IR, van de Ven LL, Blankensteijn JD, Baars HF, Yo TI, Trocino G, Vigna C, Roelandt JR, van Urk H. The effect of bisoprolol on perioperative mortality and myocardial infarction in high-risk patients undergoing vascular surgery. N Engl J Med 1999; 341: 1789-1794.

**2.3.1. Analysis files**

The only analysis file the Committee was able to access was the file for publication 440. If a few discrepancies are disregarded, the patient information referred to in this publication generally accorded with the data in the analysis file.

As publication 453 relates to patients who were also subjects in publication 440, it was possible to compare some of the patient information reported in publication 453 with the analysis file of publication 440. This information again proved to be broadly congruent. Neither the remaining patient information for publication 453, nor the entirety of the patient information for publications 377 and 436, were included in the analysis file for publication 440.

Since the analysis file did not include patient identification numbers, it was not possible to verify whether the patient data found in the patient files matched with the inclusion criteria and the outcomes shown in the analysis file and the publication.

The comparisons of data described above were carried out by Pallas.

**2.3.2. Interviews with those involved**

As the DECREASE-1 study was an open-label study (with bisoprolol), the Committee focused particularly on whether proper procedures had been used to establish its outcomes. The Committee also examined the way in which the early termination of the study had come about.

The Committee proceeded on the basis of the research protocol for the study (which was later known as the DECREASE-1 study) that was available in the archive of the METC. While the researchers stated that there was a newer version of this protocol, the Committee did not find such a document in the documentation available at the METC.

**Determination of outcomes:**

The protocol available states the following: *“All study outcomes will be evaluated by an External Auditing Committee comprising three experienced, independent clinicians.”*

The relevant publication in the *New England Journal of Medicine* (no. 453) makes no mention of an External Auditing Committee, but rather of an “adverse event committee” consisting of two cardiologists from the Department of Cardiology at Erasmus MC. The methods section of this publication states that: “*All data were collected by the participating centers and evaluated in a masked fashion by members of the adverse events committee.*” The Committee observes that (apart from details such as the naming and the number of experts) the methods section essentially agrees with the protocol used by the Committee.

The Committee's interviews with the two members of the adverse event committee mentioned in the article revealed that one could only remember that he had evaluated ECGs which the researcher (Dr Poldermans) had presented to him. The other member could not recall anything about his possible participation in this project. Neither was aware that they had been named in the article as members of this Committee.

However, the first author (Dr Poldermans) and the last author testified that data on all DECREASE-1 patients thought to have a relevant study outcome were presented to the two cardiologists (the members of the adverse event committee), and that they had access to all the necessary data.

### **Interim analysis**

The protocol used by the Committee also states: “*After six months, the safety and efficacy committee will make an interim evaluation of the study results.*”

In publication 435, a “safety committee” is mentioned. The methods section of publication 453 states: “*As part of the study design, an interim analysis by an independent safety committee was planned after enrolment of the first 100 patients*”. In this respect (apart from the timing of the interim analysis) the methods section essentially agrees with the protocol used by the Committee as well.

The results section of this paper reports:

*“The significant difference between groups in the incidence of serious cardiac events prompted the safety committee to interrupt the study after the planned interim analysis. While the safety committee was evaluating the results, six additional patients underwent randomization.”*

The Committee's interviews with the two members of the “safety committee” mentioned in the article revealed that neither remembered participating in a “safety committee” or contributing to the analysis of the relevant data. One of these members did remember providing advice by telephone about “stopping rules” in general. The other member recalled a telephone conversation about extreme findings with the principal investigator, in which he had been asked for advice. Neither was aware that this article named them as members of this committee.

The first author (Dr Poldermans), the statistician who was a co-author, and the last author confirmed that, despite the statement made in the publication, the decision to stop the study was not taken by the safety committee, but by the executive board of the so-called steering committee, which consisted of three of the authors including Dr Poldermans. The first author (Dr Poldermans), the statistician/co-author, and the last author reported that the members of the

safety committee were thoroughly informed about the findings and were consulted, and that their recommendations were decisive.

## 2.4. Findings with regard to observational clinical research

### 2.4.1. Analysis files

#### **DSE database**

The analysis files of 14 publications whose analysis files were available had been derived from the DSE database managed by the Department of Cardiology. As explained in 2.2. above, these publications were among the 81 publications closely examined. A few dozen studies of the remaining 154 publications were also based on the DSE database. This database was studied by the Tridata Institute, together with two articles selected from the 14 publications based on the database. Tridata reports the following regarding the DSE database:

*“On the basis of the audit of the DSE database, we have reached the following conclusions:*

- *99.59 % of all patients in the DSE database could be traced through their ZIS numbers (personal ID number) in the Erasmus MC patient file system.*
- *94.47% of all patient appointments in the DSE database could be found in exactly the same form in the Erasmus MC patient file system. If we allow a one-day difference between the dates in these two data systems, this increases to 96.39 %.*
- *By linking the local government population register (GBA) to the DSE database, it is possible to determine the complete set of possible follow-up candidates.”*

In broad terms, the results published in the two articles selected could be reproduced from the analysis files. Although there are differences in the analytical results, these might be attributable to the use of different statistical programmes.

With regard to the analysis files for the two selected publications, the Committee observes that, per patient, there are three logical possibilities relating to study outcomes, such as cardiovascular complications or specific causes of death found at follow-up. Either:

1. the researcher knows that the outcome did occur in this patient, *or*
2. the researcher knows that the outcome did not occur in this patient, *or*
3. the researcher knows nothing about this outcome for this patient (a missing value).

The manager of the DSE database has shown the Committee that the database does record, for each patient, whether he or she matched possibility 1, 2, or 3. However, in the analysis file for the publication, the authors had chosen to reduce this to two possibilities: 1 (1) or 0 (2 or 3). In these publications, it is therefore impossible to distinguish between situations in which the outcome did not occur and those in which the researcher did not know whether it occurred. This could have distorted the results.

#### **ECHO database**

The Committee also gathered information on the ECHO database, which also included data that was used for the purposes of compiling analysis files for research studies. This database is managed by the Department of Anaesthesiology, but because it was revised in 2012, it is no

longer possible to reliably trace the data underlying older analysis files. This meant that the analysis files for at least five of the 81 publications selected for closer study could not be scrutinized.

### **Remaining files**

In addition to those of the 14 publications based on the DSE database, the analysis files of 19 additional publications were available. On the basis of the selection rules defined in see Section 1.3, seven of these were examined.

The general picture that emerged was as follows:

- Except for a few discrepancies and careless errors, the patient information published in the articles generally agreed with the data in the analysis files.
- Three analysis files made it possible to verify the original patient information in the electronic patient file. This allowed all patients in a number of random samples to be traced. One of the analysis files also enabled the Committee to verify the inclusion criteria in the patient files, where only minor discrepancies were encountered.
- In some of the analysis files that were studied, as in the two analysis files derived from the DSE database that were discussed above, no distinction was made between missing values and the non-occurrence of the outcome with regard to cause of death and cardiovascular events.

### **2.4.2. Textual analysis**

Many of the 81 studies selected for closer examination linked preoperative clinical data to a long-term clinical outcome. Examples of preoperative clinical data included the patient's gender, kidney function, QRS width in the ECG, and plasma phosphate levels. Many of these publications did not report that, in many cases, major surgery had occurred between the baseline assessment and the long-term outcome.

On the basis of its textual analyses of these 81 publications, the Committee made a number of findings which can be divided into three categories:

1. Reports that the METC had approved the study.
2. Reports that informed consent had been requested and obtained.
3. Reports on the completeness of follow-up data.

Since such reports were quite frequent within the 81 selected publications, the Committee decided to search the other 154 articles specifically for such statements. The results of this two-stage analysis are shown below for all 235 articles.

#### **1. Reports that the METC had approved the study**

The protocols of studies that fall under the Medical Research involving Human Subjects Act (WMO) must be reviewed and approved by the Medical and Ethical Review Committee (METC) before the study begins. Research is subject to the WMO if it satisfies two conditions:

- It is scientific medical research involving human subjects, and
- People receive treatment or are asked to follow specific rules of conduct.

Whereas experimental research in the Netherlands is always subject to the WMO, observational research is not, providing the treatment or rules of conduct whose effect is being observed are part of the health care routine. The Committee considers that, according to these basic principles, a large majority of the studies described in these publications were not subject to the WMO. In four cases that the Committee considered doubtful, the relevant publication was presented to a METC secretary who was responsible for preparing for decisions on whether research proposals are subject to the WMO. She concluded that, solely on the basis of reading the publications (and thus without reference to the original research protocol), no reliable and definitive answer could be given on whether these studies fell under the WMO.

In the 235 publications, the Committee found the following statements:

- *The METC approved the study* (51 times).
- *The METC approved the protocol* (91 times: in one case the protocol was found in the METC archives).
- *Patients were included after approval by the Medical Ethics Committee* (6 times).
- *Patients were included and the local government population register was approached after prior approval by the METC* (1 time).
- *The METC was informed about the research protocol but, in line with the agreed policy, was not asked for official approval* (9 times)
- *The participating hospitals satisfied requirements laid down by the local METC* (3 times).
- *The METC approved the DSE protocol* (11 times)
- *The METC was informed, and agreed to the procedures* (1 time)

The other 62 publications did not mention METC approval.

To the extent that the Committee has been able to establish this on the basis of the METC archive, only one protocol of the 235 studies described in these publications was submitted to the METC for official examination and approval. As stated above, it is the Committee's opinion that, with the possible exception of four studies, such approval was not necessary.

Correspondence with the researchers showed that a statement that the METC had given its approval should be understood to mean that the METC: 1) was aware that researchers were conducting research that did not fall under the WMO, and 2) agreed that protocols for such studies would not be submitted for its examination and approval. The researchers also stated that, in case of doubt, the question was discussed with the METC chairperson. On this, however, the METC archives provided no information.

## **2. Reports that informed consent had been requested and obtained**

“Informed consent” for participation in scientific research means that, after having been informed about the specific research project in detail, both verbally and in writing, patients or the subjects in a trial are asked to agree to participate in that project by signing a form. The emphasis in the definition of informed consent lies on the requirement that patients should be informed specifically about the study in question. This makes informed consent essentially different from asking patients whether they object to the use of their data for scientific research in general.

Written informed consent is legally required for research falling under the WMO. In recent years it is also becoming usual for research that is *not* required to comply with the WMO, especially

under two conditions: 1) if it is clear in advance that the patient data and results of clinical or other examinations will be used for a study, and 2) it is possible to ask for consent. For most of the studies in question, however, it is the Committee's opinion that informed consent was not required.

In publications on observational clinical research, the authors made the following statements about informed consent:

- Reports of informed consent (134 times)
- Reports of written informed consent (2 times)
- *The patients agreed to participate* (6 times).
- *Because of the retrospective character of the study, it was not possible to ask each patient for permission* (1 time)
- *Patients gave permission for the use of their data* (4 times)

In 88 publications, nothing was said about informed consent, or it was stated that informed consent was not necessary.

Correspondence with the researchers shows that it was usual for the principal investigator to ask all patients who visited the outpatient clinic to agree verbally to the use of their data for research purposes. The questions and answers were not systematically recorded.

### **3. Reporting on the completeness of follow-up data**

As outcome measures, most of the studies discussed here used mortality or a combination of mortality (in some cases specified by cause of death) and non-fatal myocardial infarction. With regard to these outcomes, some of these publications gave incomplete information on the extent to which follow-up was complete. It was often reported that the follow-up was 100% or close to 100%. Correspondence with the researchers showed that in such cases their intention was to indicate that this high follow-up rate had been attained for the outcome of total mortality (without cause of death). While in most cases, this data could be derived from the local government population register, the same was not true of the cause-specific mortality or other outcomes mentioned in the publication, for which it was considerably more difficult to obtain information. Some researchers pointed out that the relevant publication made no explicit claim about the completeness of the other follow-up data. However, many of the publications examined here do not inform the reader about specific follow-up rates for cause-specific mortality and non-fatal outcomes. This may have implications for the reliability of the results.

With regard to important follow-up outcomes (cause of death or cardiovascular diseases), the Committee found the following information in the publications:

1. Unclear or incomplete follow-up reporting (101 times):
  - with a follow-up rate calculated for the total study population, which implies that the follow-up rate was 100% for all study outcomes (72 times)
  - with a follow-up rate calculated for the number of patients with the status "dead" or "alive" for whom follow-up was complete (15 times)
  - with no percentages stated for cause of death or myocardial infarct, just absolute numbers without reporting missing values (9 times)
  - other (5 times)

2. Complete or clear follow-up reporting (19 times):
  - the cause of death was based on CBS data, making it complete for all cases in which subjects had died (1 time)
  - mortality was assumed to be cardiac, unless there were explicit indications to suppose that it was not (4 times)
  - complete reporting: the percentage of patients for whom the outcome was unknown, or could be derived from the table or text (12 times)
  - full follow-up was implicitly or explicitly claimed, and, in view of the small number of patients, was indeed possible (2 times).

In 115 cases, specific long-term follow-up was not applicable.

Appendix 4, Table 2 provides an overview of the findings regarding METC approval, informed consent, and follow-up data for each publication.



## 3. Conclusions

### 3.1. Definition of academic misconduct

In accordance with its terms of reference, the Committee investigated indications for breaches of academic integrity in publications by Dr Poldermans. As its definition of a breach of academic integrity, the Committee has used the description of academic misconduct in the Erasmus MC Research Code of March 2011, Chapter 2.2, which states:

“The concept of academic misconduct extends at least to the following:

- a. falsifying data;
- b. secretly omitting unfavourable results;
- c. entering fictitious data;
- d. deliberately misusing statistical methods to achieve conclusions other than those justified by the data;
- e. deliberately interpreting results and conclusions falsely;
- f. plagiarizing results or other authors’ publications;
- g. pretending to be an author or co-author, or deliberately omitting to mention other authors;
- h. failure to exercise due care when conducting research;
- i. the theft of intellectual property.”

### 3.2. Conclusions on the availability of data

In view of the period in which the data in question was collected – the 1990s – it is the Committee’s opinion with regard to the DECREASE-1 study (see Section 2.3) that the lack of raw data, analysis files, and the absence of a file with patient identification numbers cannot be described as breaches of academic integrity.

Because of how long ago the research was executed, the inability to locate the version of the METC protocol, that according to the investigators was used during the study, is in the opinion of the Committee not an indication for a breach of academic integrity. Moreover, the version of the protocol that was available essentially agreed with the methods section of the relevant publication.

Today, it would generally not be regarded as conducive to proper control of research procedures if data for observational clinical studies were collected without using CRFs or other written forms, and if data from medical dossiers and other primary sources were entered directly into statistical analysis files. Nevertheless, the currently recommended procedures are still often not applied by researchers conducting studies which do not fall under WMO regulations. Therefore, also given the years during which most of the studies under discussion were performed, the Committee holds that the procedures followed in these studies cannot be considered breaches of academic integrity.

The Committee attempted to trace the analysis files relating to the 81 publications on observational clinical studies. These efforts were successful in 33 cases. As the Dutch legislation and regulations on the preservation of this data are ambiguous [3,4,5,6], the Committee considers that the limited availability of this data cannot be construed as a breach of academic integrity.

### **3.3. Conclusions about the DECREASE-1 study**

With regard to the conduct of the DECREASE-1 study, the written documentation of the research process is largely lacking. Various explanations could be given for the discrepancies that have been noted between publications 440 and 453, and the analysis file for publication 440. After the passage of 15 years, these explanations cannot be tested.

There were wide differences in the memories of those involved regarding the way in which outcomes had been determined in the DECREASE-1 study. Similar to the first author of publication 453 (Dr Poldermans), the last author claimed that these determinations were made in accordance with the stipulations defined in the protocol and reported in the publication. The members of the adverse event committee cannot confirm this.

Regarding the decision to prematurely terminate the DECREASE-1 study, the Committee finds that this decision was not taken by the safety committee, as suggested in publication 453, but by the three members of the executive board of the steering committee. Apart from this inaccuracy, memories of how closely the members of the safety committee were involved in the decision-making differ between those concerned.

On the basis of these findings, the Committee is unable to confirm or dispel doubts about neither the care with which the DECREASE-1 study was conducted – and thus about the study's integrity – nor about the reliability of its results.

### **3.4. Conclusions with regard to observational clinical research**

#### **3.4.1. Analysis files**

The analysis files were available for 33 of the 81 publications examined. Nine were examined more closely: two belonging to the 14 publications that were based on the DSE databases, and seven to the 19 remaining publications,

The DSE database – which also underlies several dozen of the remaining 154 articles that were not examined – was found to be very reliable. The two analysis files that were selected from the DSE showed good general agreement with the relevant articles. Similarly, apart from some minor discrepancies and careless errors, seven of the 19 remaining files that were available showed general agreement with the relevant articles. Five of the nine analysis files that were examined showed that it was possible to compare original patient information with the research data. This revealed general agreement with the research data. Based on these findings, the Committee did not find indications for breaches of academic integrity.

As the nine analysis files examined were essentially representative of the remaining 24 analysis files available – for example they either concerned the same patients, were derived from the same database, or both – the Committee decided not to examine all 24 files. On the basis of the same finding, the Committee also believed that it would be unnecessary to extend its activities by attempting to trace the analysis files for the remaining 154 observational studies. The Committee arrived at this conclusion also by considering the magnitude of the necessary investment in

labour and public means that would be required for substantially expanding the scope of the investigation, weighed against the expectation of a limited additional yield. Although the Committee cannot pass any judgement on the analysis files it did not investigate, following its terms of reference the Committee searched for indications of academic integrity breaches in a relevant selection of available material, and did not find them.

However, it is remarkable that a number of the analysis files did not distinguish between the non-occurrence of an outcome and the researcher's lack of knowledge about whether it had occurred. It is evident that this could bias the study conclusions. This is also relevant in failures to report incomplete follow-up for important outcomes, which are discussed below in Section 3.4.2.

### **3.4.2. Textual analysis**

As reported in paragraph 2.4.2, the Committee believes that a number of published statements indicate that academic integrity was breached. This opinion is based on the criterion for academic misconduct formulated in Chapter 2.2 paragraph (h) of the Erasmus MC Research Codes, "failure to exercise due care when conducting research".

This concerns the following statements:

#### ***In relation to approval by the METC***

- *The METC approved the study*
- *The METC approved the protocol*
- *Patients were included after approval by the METC, and*
- *Patients were included and the local government population register was approached after prior approval by the METC*

#### ***In relation to follow-up data***

- Unclear or incomplete reporting of the extent to which follow-up data was complete.

In the Committee's opinion, various consequences flow from a number of these shortcomings:

While the Committee considers it to be unacceptable that approval by the METC was reported incorrectly in relation to studies that did not need to be approved by the METC and where no approval was given, this did not influence the results of the research or the interpretation of those results. In the four cases in which examination and approval by the METC may have been necessary, the consequences of incorrect reporting on this point would have been much more serious. But since in these cases it cannot be established on the basis of those publications alone whether these observational studies did fall under the WMO requirements, the Committee cannot reach any clear conclusions on this point.

In the Committee's opinion, the failure to report incomplete follow-up for important outcomes has much greater implications for the study findings than the incorrect reports of informed consent and approval by the METC. The Committee considered whether in this case there was not only "failure to exercise due care when conducting research", but also a breach of academic integrity as defined in Chapter 2.2 paragraph (d) of the Erasmus MC Research Code: "deliberately misusing statistical methods to achieve conclusions other than those justified by the data." However, the Committee's view is that it is not certain that the authors who gave

incomplete information about the follow-up did so deliberately in order to support conclusions that differed from those justified by the data. The Committee is thus of the opinion that while there are no indications of breaches of academic integrity on the basis of Chapter 2.2 paragraph (d) of the Erasmus MC Research Code, there are indeed such indications on the basis of Chapter 2.2 paragraph (h).

It is nonetheless clear that the degree of completeness of the follow-up data was not adequately reported in a substantial number of publications, except for total mortality in the patients who were followed up; and that it is unlikely that the follow-up was in fact complete for the non-fatal outcomes, especially regarding myocardial infarctions. In certain cases this may have distorted the results, and erroneously added greater weight to the findings than justified by the data.

With regard to the many reports of informed consent referred to in paragraph 2.4.2, the Committee observes on the basis of the researchers' statements that where a publication reports informed consent, this probably refers to oral permission for the use of patient data, and not to informed consent in the actual sense of the term. The Committee is also of the opinion that, in many cases, it was not necessary to ask for informed consent. Such an approach is not consistent with acceptable standards for the transparent reporting of scientific procedures. However, in view of: 1) the period in which much of this research was done, and 2) the evolving notions with regard to the correct interpretation of the concept of "informed consent" for research that does not fall under the WMO requirements, the Committee does not view the qualification "breach of academic integrity due to failure to exercise due care when conducting research" to be applicable to these reports.

## 4. Recommendations

### 4.1. Recommendations with regard to the DECREASE-1 study

Because only limited written and digital data on the DECREASE-1 study is available, and as participants' memories differ with regard to how outcomes were determined and how the decision to end the study was taken, further investigation of possible breaches of academic integrity in this study is not advisable.

The DECREASE-1 study contributed to the formulation of European and American clinical guidelines, whose next revision is now being discussed. The Committee recommends that the present report should be brought to the attention of the organizations responsible for revising the relevant guidelines.

The Committee also recommends that this report should be sent to the editorial boards of the journals that published the relevant articles.

### 4.2. Recommendations with regard to the observational clinical research

#### 4.2.1. Analysis files

In the files it examined, the Committee found no indications that academic integrity had been breached in relation to the inclusion of patients and the results of the analyses. There are nonetheless concerns about the discrepancies and careless errors found in a number of publications. The Committee recommends measures aimed at prevention and control, based on meticulous documentation of research procedures as well as research data.

#### 4.2.2. Textual analysis

Regarding the involvement of the METC, the reporting of informed consent, and the completeness of the follow-up data, the defects in a number of publications appear to be related to flaws in the research culture during the period in which the research was being conducted. Since such flaws are not necessarily unique for this case, the Committee recommends measures aimed at reinforcing and promoting a more conscientious research culture. Supervision and constructive critique by one's colleagues play an essential role in preventing incorrect practices.

The Committee recommends that the editorial boards of the journals that published the articles considered here should also be sent this report. On the basis of the information it contains, the editors can make their own decisions with regard to acting on the Committee's findings. While incorrect reporting on informed consent and approval by the METC cannot be justified, it had no effect on the research results. As for the possible incompleteness of follow-up information, it is impossible to determine to what extent this was also ignored in the analyses and to what extent it affected the results. By affecting the weight that readers gave to the findings, incomplete information may also have created an incorrect picture in their minds.

### 4.3. Patients

This report makes no recommendations with regard to action involving patients. The DECREASE-1 study was of clear importance to patients, and received considerable attention in

the professional and general media. The Committee's report has produced no new insights in this respect. Considering that the patients who were included in the 235 observational studies experienced no changes to the clinical care they were provided, they were not exposed to any additional risk as a consequence of the research study. The Committee verified whether these publications influenced the phrasing of medical guidelines in such way that patients may have been harmed. The Committee is convinced that this did not occur.

#### **4.4. Data storage**

As the Committee has explained, due to the ambiguity of Dutch legislation and regulations on the preservation of data, the unavailability of research data for many of the studies in question cannot be characterized as a breach of academic integrity. Nevertheless, the Committee sees a lack of good record keeping and storage for research data as an impediment to good quality control in scientific activities. A solution to this problem will depend on the development by the scientific community of a clear and consistent policy on data storage.

## Appendix 1

**Terms of reference***February 5, 2013*

The Dean and Board of Erasmus MC has decided to establish the “Follow-up Investigative Committee (Academic Integrity) of 2013,” referred to below as the Committee.

The Committee has been established to act on the general recommendation of the Follow-up Investigation Committee of 2012 that further investigation of Dr D. Poldermans’ publications would be indicated if compelling new scientific or societal arguments were to arise in relation to specific components of his oeuvre (see the Report of The Follow-up Investigation Committee of 2012, September 2012).

The Committee is to study all publications in which Dr Poldermans is listed as an author or co-author and to select those that report on research conducted by Dr Poldermans himself or under his immediate direction.

The Committee is to investigate, to the extent possible, whether there are indications of breaches of academic integrity in the preparation of these publications. Priority is to be given to frequently cited publications and those that have contributed significantly to the formulation of medical guidelines.

Where possible, the Committee is to use statistical methods developed for detecting scientific fraud in published data.

The provisional Committee membership is:

- Dr P.J. van der Maas, Emeritus Professor of Social Health Care, Erasmus MC, Chairperson
- Dr R.J.G. Peters, Professor of Cardiology, AMC
- Dr F.R. Rosendaal, Professor of Clinical Epidemiology, LUMC
- Dr J.M.W. Hazes, Professor of Rheumatology, Erasmus MC

Administrative support will be provided by Dr R.E. Juttman of the Department of Research Policy. For technical aspects of its investigations, the Committee may request assistance from external experts.

The Committee is requested to inform the Board about its progress every two months, and to indicate before 1 July 2013 when it expects to complete its work.

## Summary of the findings of the previous committees

### ***DECREASE-2 and the follow-up study known as DECREASE-5 (publications 121, 214 and 243)***

The Committee considered the conduct of these studies to be negligent and/or scientifically incorrect with regard to the following:

- Negligence in following the informed consent procedure.
- Incomplete source documentation for a project subject to the WMO and conducted less than 15 years ago.
- The considerable number of discrepancies revealed by comparisons of the source documents, electronic patient files, and the study database. There were particularly significant discrepancies between source documents (especially regarding written patient data from other hospitals, General Practitioners, etc.), and the conclusions drawn from them as to the patients' risk profiles (a core element of the study).
- Serious deviations from the research protocol approved by the METC regarding the evaluation of Dobutamine Stress Echocardiograms (DSEs).
- The way the clinical outcomes were determined for this study, which deviated in practice from the protocol and the published report. Although the protocol provided for independent evaluation of the outcomes by a group including two cardiologists, and although the publication spoke of an adverse event committee, no such independent evaluation took place.

In the opinion of the Committee, the available information makes it impossible to vouch either for the reliability of the findings in the publications, or for the validity of their conclusions.

### ***DECREASE-3 (publication 98)***

Leaving aside the fact that the informed consent forms are no longer available for a project subject to the WMO and conducted less than 15 years ago, the Committee found no indications of breaches of academic integrity in the evaluation of this project. On the basis of multiple statements from witnesses, the Committee concludes that written informed consent was obtained in accordance with the procedure approved by the METC.

### ***DECREASE-4 (publication 114)***

The Committee considers that the conduct of this study was negligent and/or scientifically incorrect in the following respects:

- Incomplete source documentation for a project subject to the WMO and conducted less than 15 years ago.
- An inclusion rule was changed without validation and without permission from the METC.
- The manner by which patient outcomes were verified. While the protocol provided for independent evaluation of possible perioperative cardiovascular complications (the primary outcome of the study) by an adjudication committee consisting of three experts (a cardiologist, a surgeon and an anaesthetist), this was not done. The outcomes were determined by the researcher running the study and by a vascular surgeon.
- Failure to record and report the basis by which each outcome was determined.



In the Committee's opinion, the available information makes it impossible to vouch either for the reliability of the findings in the publication, or for the validity of the conclusions.

***Studies published in publications 260 and 264***

- The analysis file on which these publications are based is filled largely with data that did not accord with the facts (fictitious data).
- The substance of these publications can be fully reconstructed from this analysis file.
- The Committee considers it improbable that this analysis file was fabricated retrospectively by someone with malicious intent who wished to discredit these publications and who took the existing publications as a starting point. The Committee is therefore convinced that the analysis file was created as part of the scientific process in question, where its analysis would lead to the production of the relevant publications.
- As the first author and the principal investigator have given contradictory accounts of how the data was produced, the Committee cannot conclude who may be responsible for creating this fictitious data. Each person blames the other, and both state that they never checked the research data against the patient information.
- Due to the discrepancies between the authors' explanations and the text of the publications, the Committee considers the reporting of this study to have been negligent and scientifically incorrect.

## Medical guidelines

### **European Society of Cardiology**

- [Peripheral Artery Diseases \(Diagnosis and Treatment of\)](#)
- Guidelines on myocardial revascularization
- Guidelines for pre-operative cardiac risk assessment and perioperative cardiac management in non-cardiac surgery

### **American College of Cardiology/American Heart Association**

- Guidelines for the Management of Patients With Peripheral Arterial Disease (Lower Extremity, Renal, Mesenteric, and Abdominal Aortic)
- 2009 ACCF/AHA focused update on perioperative beta blockade incorporated into the ACC/AHA 2007 guidelines on perioperative cardiovascular evaluation and care for noncardiac surgery.

Trans-Atlantic Inter-Society Consensus Document on Management of Peripheral Arterial Disease (TASC II)

Table 1

## Overview of publications by Dr D. Poldermans

Table 1 provides a comprehensive overview of these publications, together with the relevant number and category. The right-hand column of the table below indicates the page in this report where publications in the relevant categories can be found.

		Page
Publications not prepared by Dr Poldermans as first author and not conducted under his immediate direction, review articles, publications on the design of planned research, commentaries, and related publications. These publications are not covered in this report.	248	28
Publications of the DECREASE-2 to 5 studies evaluated by previous committees	5	44
Publications from DECREASE-1	4	45
Publications not directly relating to DECREASE studies already evaluated by previous committees	2	45
Publication of an industry study	1	45
Publications of observational studies	235	46
Total	495	

Publications not prepared by Dr Poldermans as first author and not conducted under his immediate direction, review articles, publications on the design of planned research, commentaries, and related publications. These publications are not covered in this report:

2. Catapano AL, Reiner Z, De Backer G, Graham I, Taskinen MR, Wiklund O, et al. ESC/EAS Guidelines for the management of dyslipidaemias The Task Force for the management of dyslipidaemias of the European Society of Cardiology (ESC) and the European Atherosclerosis Society (EAS). *Atherosclerosis*. 2011 Jul;217(1):3-46.
3. Vidakovic R, Poldermans D, Neskovic AN. Preoperative cardiac risk management. *Acta Chir Iugosl*. 2011;58(2):9-18.
5. Hamm CW, Bassand JP, Agewall S, Bax J, Boersma E, Bueno H, et al. ESC Guidelines for the management of acute coronary syndromes in patients presenting without persistent ST-segment elevation: The Task Force for the management of acute coronary syndromes (ACS) in patients presenting without persistent ST-segment elevation of the European Society of Cardiology (ESC). *Eur Heart J*. 2011 Dec;32(23):2999-3054.
6. Regitz-Zagrosek V, Blomstrom Lundqvist C, Borghi C, Cifkova R, Ferreira R, Foidart JM, et al. ESC Guidelines on the management of cardiovascular diseases during pregnancy: the Task Force on the Management of Cardiovascular Diseases during Pregnancy of the European Society of Cardiology (ESC). *Eur Heart J*. 2011 Dec;32(24):3147-97.
7. Tendera M, Aboyans V, Bartelink ML, Baumgartner I, Clement D, Collet JP, et al. ESC Guidelines on the diagnosis and treatment of peripheral artery diseases: Document covering atherosclerotic disease of extracranial carotid and vertebral, mesenteric, renal, upper and lower extremity arteries: the Task Force on the Diagnosis and Treatment of Peripheral Artery Diseases of the European Society of Cardiology (ESC). *Eur Heart J*. 2011 Nov;32(22):2851-906.
10. Hoeks SE, Bouw E, Poldermans D. Quality assurance in perioperative care. *Best Pract Res Clin Gastroenterol*. 2011 Jun;25(3):435-41.
11. Goncalves FB, Koek M, Verhagen HJ, Niessen WJ, Poldermans D. Body-mass index, abdominal adiposity, and cardiovascular risk. *Lancet*. 2011 Jul 16;378(9787):227; author reply 8.
12. Catapano AL, Reiner Z, De Backer G, Graham I, Taskinen MR, Wiklund O, et al. ESC/EAS Guidelines for the management of dyslipidaemias: the Task Force for the management of dyslipidaemias of the European Society of Cardiology (ESC) and the European Atherosclerosis Society (EAS). *Atherosclerosis*. 2011 Jul;217 Suppl 1:S1-44.
13. Reiner Z, Catapano AL, De Backer G, Graham I, Taskinen MR, Wiklund O, et al. ESC/EAS Guidelines for the management of dyslipidaemias: the Task Force for the management of dyslipidaemias of the European Society of Cardiology (ESC) and the European Atherosclerosis Society (EAS). *Eur Heart J*. 2011 Jul;32(14):1769-818.
14. Bakker EJ, Ravensbergen NJ, Poldermans D. Perioperative cardiac evaluation, monitoring, and risk reduction strategies in noncardiac surgery patients. *Curr Opin Crit Care*. 2011 Oct;17(5):409-15.
15. Bakker EJ, Ravensbergen NJ, Voute MT, Hoeks SE, Chonchol M, Klimek M, et al. A randomised study of perioperative esmolol infusion for haemodynamic stability during major vascular surgery; rationale and design of DECREASE-XIII. *Eur J Vasc Endovasc Surg*. 2011 Sep;42(3):317-23.
16. Howell SJ, Hoeks SE, Poldermans D, West RM, Wheatcroft SB. OBTAIN: a study of the occurrence of bleeding and thrombosis during anti-platelet therapy in non-cardiac surgery. *Eur J Anaesthesiol*. 2011

Jun;28(6):456-9.

17. Voute MT, Hendriks JM, van Laanen JH, Pattynama PM, Muhs BE, Poldermans D, et al. Radial force measurements in carotid stents: influence of stent design and length of the lesion. *J Vasc Interv Radiol*. 2011 May;22(5):661-6.

19. Ng AC, Delgado V, Bertini M, Antoni ML, van Bommel RJ, van Rijnsoever EP, et al. Alterations in multidirectional myocardial functions in patients with aortic stenosis and preserved ejection fraction: a two-dimensional speckle tracking analysis. *Eur Heart J*. 2011 Jun;32(12):1542-50.

20. Hackam DG, Shojania KG, Spence JD, Alter DA, Beanlands RS, Dresser GK, et al. Influence of noninvasive cardiovascular imaging in primary prevention: systematic review and meta-analysis of randomized trials. *Arch Intern Med*. 2011 Jun 13;171(11):977-82.

23. Shanks M, Delgado V, Ng AC, Auger D, Mooyaart EA, Bertini M, et al. Clinical and echocardiographic predictors of nonresponse to cardiac resynchronization therapy. *Am Heart J*. 2011 Mar;161(3):552-7.

25. Cacoub PP, Zeymer U, Limbourg T, Baumgartner I, Poldermans D, Rother J, et al. Effects of adherence to guidelines for the control of major cardiovascular risk factors on outcomes in the REduction of Atherothrombosis for Continued Health (REACH) Registry Europe. *Heart*. 2011 Apr;97(8):660-7.

26. Levy M, Heels-Ansdell D, Hiralal R, Bhandari M, Guyatt G, Yusuf S, et al. Prognostic value of troponin and creatine kinase muscle and brain isoenzyme measurement after noncardiac surgery: a systematic review and meta-analysis. *Anesthesiology*. 2011 Apr;114(4):796-806.

27. Ravensbergen NJ, Voute MT, Poldermans D. Safety of perioperative beta-blocker use: how do beta-blockers compare in terms of side effects? *Expert Opin Drug Saf*. 2011 Jul;10(4):545-58.

28. van de Laar IM, Oldenburg RA, Pals G, Roos-Hesselink JW, de Graaf BM, Verhagen JM, et al. Mutations in SMAD3 cause a syndromic form of aortic aneurysms and dissections with early-onset osteoarthritis. *Nat Genet*. 2011 Feb;43(2):121-6.

29. Winkel TA, Rouwet EV, van Kuijk JP, Voute MT, de Melis M, Verhagen HJ, et al. Aortic surgery complications evaluated by an implanted continuous electrocardiography device: a case report. *Eur J Vasc Endovasc Surg*. 2011 Mar;41(3):334-6.

30. de Bruijne EL, Gils A, Rijken DC, de Maat MP, Guimaraes AH, Poldermans D, et al. High thrombin activatable fibrinolysis inhibitor levels are associated with an increased risk of premature peripheral arterial disease. *Thromb Res*. 2011 Mar;127(3):254-8.

32. Flu WJ, van Kuijk JP, Bax JJ, Poldermans D. Perioperative beta-blockers: is it still useful? *Indian Heart J*. 2010 Mar-Apr;62(2):118-22.

33. van Loon JE, Leebeek FW, Deckers JW, Dippel DW, Poldermans D, Strachan DP, et al. Effect of genetic variations in syntaxin-binding protein-5 and syntaxin-2 on von Willebrand factor concentration and cardiovascular risk. *Circ Cardiovasc Genet*. 2010 Dec;3(6):507-12.

36. Schinkel AF, Bax JJ, Delgado V, Poldermans D, Rahimtoola SH. Clinical relevance of hibernating myocardium in ischemic left ventricular dysfunction. *Am J Med*. 2010 Nov;123(11):978-86.

37. Voute MT, Winkel TA, Poldermans D. Optimal medical management around the time of surgery. *Heart*. 2010 Nov;96(22):1842-8.

39. Auger D, van Bommel RJ, Bertini M, Delgado V, Ng AC, Ewe SH, et al. Prevalence and characteristics of patients with clinical improvement but not significant left ventricular reverse remodeling after cardiac resynchronization therapy. *Am Heart J*. 2010 Oct;160(4):737-43.
40. Goei D, Poldermans D. Screening value of N-terminal pro-B-type natriuretic peptide as a predictor of perioperative cardiac events after noncardiac surgery. *Future Cardiol*. 2010 Sep;6(5):603-9.
41. Schouten O, Verhagen HJ, Poldermans D. Endovascular repair of abdominal aortic aneurysm. *N Engl J Med*. 2010 Oct 7;363(15):1480-1; author reply 1-2.
42. Bastos Goncalves F, Metz R, Hendriks JM, Rouwet EV, Muhs BE, Poldermans D, et al. Decision-making in type-B dissection: current evidence and future perspectives. *J Cardiovasc Surg (Torino)*. 2010 Oct;51(5):657-67.
44. van Kuijk JP, Flu WJ, Poldermans D. Risk factors and peripheral arterial disease; a plea for objective measurements. *Atherosclerosis*. 2011 Jan;214(1):37-8.
45. Schouten O, Welten GM, Poldermans D. Statins and postoperative renal function. *Eur J Vasc Endovasc Surg*. 2010 Nov;40(5):616-7.
46. van Kuijk JP, Voute MT, Flu WJ, Schouten O, Chonchol M, Hoeks SE, et al. The efficacy and safety of clopidogrel in vascular surgery patients with immediate postoperative asymptomatic troponin T release for the prevention of late cardiac events: Rationale and design of the Dutch Echocardiographic Cardiac Risk Evaluation Applying Stress Echo-VII (DECREASE-VII) trial. *Am Heart J*. 2010 Sep;160(3):387-93.
48. Hoeks SE, Stolker RJ, Poldermans D. Closing the gap between guidelines and practice in perioperative care. *Anesthesiology*. 2010 Sep;113(3):510-1.
49. Suarez C, Zeymer U, Limbourg T, Baumgartner I, Cacoub P, Poldermans D, et al. Influence of polyvascular disease on cardiovascular event rates. Insights from the REACH Registry. *Vasc Med*. 2010 Aug;15(4):259-65.
50. Hoeks SE, Poldermans D. European Society of Cardiology 2009 guidelines for preoperative cardiac risk assessment and perioperative cardiac management in noncardiac surgery: key messages for clinical practice. *Pol Arch Med Wewn*. 2010 Jul;120(7-8):294-9.
51. van Kuijk JP, Valentijn TM, Flu WJ, Poldermans D. Detection of coronary artery disease in patients with a permanent pacemaker. *Cardiology*. 2010;116(3):226-8.
55. Voute MT, Winkel TA, Poldermans D. Safety of fluvastatin in patients undergoing high-risk non-cardiac surgery. *Expert Opin Drug Saf*. 2010 Sep;9(5):793-800.
56. Schinkel AF, Valkema R, Geleijnse ML, Sijbrands EJ, Poldermans D. Single-photon emission computed tomography for assessment of myocardial viability. *EuroIntervention*. 2010 May;6 Suppl G:G115-22.
58. Cassar A, Poldermans D, Rihal CS, Gersh BJ. The management of combined coronary artery disease and peripheral vascular disease. *Eur Heart J*. 2010 Jul;31(13):1565-72.
60. Mebazaa A, Pitsis AA, Rudiger A, Toller W, Longrois D, Ricksten SE, et al. Clinical review: practical recommendations on the management of perioperative heart failure in cardiac surgery. *Crit Care*. 2010;14(2):201.
63. Flu WJ, van Kuijk JP, Hoeks S, Bax JJ, Poldermans D. Preoperative evaluation of patients with

possible coronary artery disease. *Curr Cardiol Rep.* 2010 Jul;12(4):286-94.

65. Flu WJ, Schouten O, van Kuijk JP, Poldermans D. Perioperative cardiac damage in vascular surgery patients. *Eur J Vasc Endovasc Surg.* 2010 Jul;40(1):1-8.

67. Helderma F, Manoch IJ, Breeuwer M, Kose U, Boersma H, van Sambeek MR, et al. Predicting patient-specific expansion of abdominal aortic aneurysms. *Eur J Vasc Endovasc Surg.* 2010 Jul;40(1):47-53.

68. Winkel TA, Schouten O, Voute MT, Hoeks SE, Welten GM, Bax JJ, et al. The effect of statins on perioperative events in patients undergoing vascular surgery. *Acta Chir Belg.* 2010 Jan-Feb;110(1):28-31.

69. Bohm M, Baumhakel M, Teo K, Sleight P, Probstfield J, Gao P, et al. Erectile dysfunction predicts cardiovascular events in high-risk patients receiving telmisartan, ramipril, or both: The ONgoing Telmisartan Alone and in combination with Ramipril Global Endpoint Trial/Telmisartan Randomized Assessment Study in ACE iNtolerant subjects with cardiovascular Disease (ONTARGET/TRANSCEND) Trials. *Circulation.* 2010 Mar 30;121(12):1439-46.

71. Datema FR, Poldermans D, Baatenburg de Jong RJ. Incidence and prediction of major cardiovascular complications in head and neck surgery. *Head Neck.* 2010 Nov;32(11):1485-93.

72. van Kuijk JP, Flu WJ, Poldermans D. Comparing endovascular and open repair of abdominal aortic aneurysm. *JAMA.* 2010 Feb 10;303(6):513-4; author reply 4.

74. Kaandorp TA, Bax JJ, Bleeker SE, Doornbos J, Viergever EP, Poldermans D, et al. Relation between regional and global systolic function in patients with ischemic cardiomyopathy after beta-blocker therapy or revascularization. *J Cardiovasc Magn Reson.* 2010;12:7.

75. van Lier F, Schouten O, Hoeks SE, van de Ven L, Stolker RJ, Bax JJ, et al. Impact of prophylactic beta-blocker therapy to prevent stroke after noncardiac surgery. *Am J Cardiol.* 2010 Jan 1;105(1):43-7.

77. Poldermans D, Bax JJ, Boersma E, De Hert S, Eekhout E, Fowkes G, et al. Guidelines for pre-operative cardiac risk assessment and perioperative cardiac management in non-cardiac surgery: the Task Force for Preoperative Cardiac Risk Assessment and Perioperative Cardiac Management in Non-cardiac Surgery of the European Society of Cardiology (ESC) and endorsed by the European Society of Anaesthesiology (ESA). *Eur J Anaesthesiol.* 2010 Feb;27(2):92-137.

78. Poldermans D, Devereaux PJ. The experts debate: perioperative beta-blockade for noncardiac surgery--proven safe or not? *Cleve Clin J Med.* 2009 Nov;76 Suppl 4:S84-92.

85. van Kuijk JP, Flu WJ, Verhagen HJ, Bax JJ, Poldermans D. Remote ischemic preconditioning in vascular surgery patients: the additional value to medical treatment. *J Endovasc Ther.* 2009 Dec;16(6):690-3.

88. Poldermans D. Statins and noncardiac surgery: current evidence and practical considerations. *Cleve Clin J Med.* 2009 Nov;76 Suppl 4:S79-83.

89. Schouten O, Sillesen H, Poldermans D. New guidelines from the European Society of Cardiology for perioperative cardiac care: a summary of implications for elective vascular surgery patients. *Eur J Vasc Endovasc Surg.* 2010 Jan;39(1):1-4.

95. Schuijf JD, Achenbach S, Zoghbi WA, Boersma E, Raggi P, Weber M, et al. How to identify the asymptomatic high-risk patient? *Curr Probl Cardiol.* 2009 Nov;34(11):539-77.

96. Poldermans D, Schouten O, van Lier F, Hoeks SE, van de Ven L, Stolker RJ, et al. Perioperative strokes and beta-blockade. *Anesthesiology*. 2009 Nov;111(5):940-5.
97. Van Kuijk JP, Flu WJ, Witteveen OP, Voute M, Bax JJ, Poldermans D. The influence of statins on the expansion rate and rupture risk of abdominal aortic aneurysms. *J Cardiovasc Surg (Torino)*. 2009 Oct;50(5):599-609.
100. van Kuijk JP, Flu WJ, Voute MT, Poldermans D, Schouten O. Asymptomatic perioperative cardiac damage: long-term prognosis. *Future Cardiol*. 2009 Sep;5(5):417-20.
101. Poldermans D, Bax JJ, Boersma E, De Hert S, Eeckhout E, Fowkes G, et al. Guidelines for pre-operative cardiac risk assessment and perioperative cardiac management in non-cardiac surgery. *Eur Heart J*. 2009 Nov;30(22):2769-812.
102. Flu WJ, van Kuijk JP, Bax JJ, Gorcsan J, 3rd, Poldermans D. Three-dimensional speckle tracking echocardiography: a novel approach in the assessment of left ventricular volume and function? *Eur Heart J*. 2009 Oct;30(19):2304-7.
106. van Kuijk JP, Schouten O, Flu WJ, den Uil CA, Bax JJ, Poldermans D. Perioperative blood glucose monitoring and control in major vascular surgery patients. *Eur J Vasc Endovasc Surg*. 2009 Nov;38(5):627-34.
111. van Kuijk JP, Flu WJ, Bax JJ, Poldermans D. Prevalence of (a)symptomatic peripheral arterial disease; the additional value of ankle-brachial index on cardiovascular risk stratification. *Eur J Vasc Endovasc Surg*. 2009 Sep;38(3):312-3.
112. Hoeks S, Flu WJ, van Kuijk JP, Bax J, Poldermans D. Cardiovascular risk assessment of the diabetic patient undergoing major noncardiac surgery. *Best Pract Res Clin Endocrinol Metab*. 2009 Jun;23(3):361-73.
116. Bongers TN, de Bruijne EL, Dippel DW, de Jong AJ, Deckers JW, Poldermans D, et al. Lower levels of ADAMTS13 are associated with cardiovascular disease in young patients. *Atherosclerosis*. 2009 Nov;207(1):250-4.
117. Flu WJ, van Kuijk JP, Winkel T, Hoeks S, Bax J, Poldermans D. Prevention of acute coronary events in noncardiac surgery: beta-blocker therapy and coronary revascularization. *Expert Rev Cardiovasc Ther*. 2009 May;7(5):521-32.
122. de Bruijne EL, Gils A, Guimaraes AH, Dippel DW, Deckers JW, van den Meiracker AH, et al. The role of thrombin activatable fibrinolysis inhibitor in arterial thrombosis at a young age: the ATTAC study. *J Thromb Haemost*. 2009 Jun;7(6):919-27.
124. Barry MC, Hendriks JM, van Dijk LC, Pattynama P, Poldermans D, Bouchier Hayes D, et al. A comparative study of myocardial injury during conventional and endovascular aortic aneurysm repair: measurement of cardiac troponin T and plasma cytokine release. *Ir J Med Sci*. 2010 Mar;179(1):35-42.
125. Guimaraes AH, de Bruijne EL, Lisman T, Dippel DW, Deckers JW, Poldermans D, et al. Hypofibrinolysis is a risk factor for arterial thrombosis at young age. *Br J Haematol*. 2009 Apr;145(1):115-20.
126. Welten GM, Schouten O, Chonchol M, Hoeks SE, Bax JJ, Van Domburg RT, et al. Prognosis of patients with peripheral arterial disease. *J Cardiovasc Surg (Torino)*. 2009 Feb;50(1):109-21.
127. Van Kuijk JP, Flu WJ, Dunckelgrun M, Bax JJ, Poldermans D. Coronary artery disease in patients



with abdominal aortic aneurysm: a review article. *J Cardiovasc Surg (Torino)*. 2009 Feb;50(1):93-107.

128. van Gestel YR, Sin DD, Poldermans D. Elevated N-terminal pro-B-type natriuretic peptide levels: the effect of chronic obstructive pulmonary disease. *J Am Coll Cardiol*. 2009 Feb 3;53(5):458; author reply -9.

129. Flu WJ, Hoeks SE, van Kuijk JP, Bax JJ, Poldermans D. Treatment recommendations to prevent myocardial ischemia and infarction in patients undergoing vascular surgery. *Curr Treat Options Cardiovasc Med*. 2009 Feb;11(1):33-44.

130. Damen J, Hagemeyer JW, van den Broek L, Poldermans D. [Prevention of perioperative cardiac complications in non-cardiac surgery: an evidence-based guideline]. *Ned Tijdschr Geneeskd*. 2008 Nov 29;152(48):2612-6.

131. Feringa HH, Bax JJ, Poldermans D. [Perioperative risk reduction in vascular surgery via cardio-protective medication]. *Ned Tijdschr Geneeskd*. 2008 Nov 29;152(48):2606-11.

132. Goto S, Bhatt DL, Rother J, Alberts M, Hill MD, Ikeda Y, et al. Prevalence, clinical profile, and cardiovascular outcomes of atrial fibrillation patients with atherothrombosis. *Am Heart J*. 2008 Nov;156(5):855-63, 63 e2.

133. Kristensen SD, Baumgartner H, Casadei B, Drexler H, Eeckhout E, Filippatos G, et al. Highlights of the 2008 Scientific Sessions of the European Society of Cardiology Munich, Germany, August 30 to September 3, 2008. *J Am Coll Cardiol*. 2008 Dec 9;52(24):2032-42.

134. Cacoub PP, Abola MT, Baumgartner I, Bhatt DL, Creager MA, Liao CS, et al. Cardiovascular risk factor control and outcomes in peripheral artery disease patients in the Reduction of Atherothrombosis for Continued Health (REACH) Registry. *Atherosclerosis*. 2009 Jun;204(2):e86-92.

138. Weimar C, Diener HC, Alberts MJ, Steg PG, Bhatt DL, Wilson PW, et al. The Essen stroke risk score predicts recurrent cardiovascular events: a validation within the REduction of Atherothrombosis for Continued Health (REACH) registry. *Stroke*. 2009 Feb;40(2):350-4.

139. Boersma E, Poldermans D. Beta blockers in non-cardiac surgery: haemodynamic data needed. *Lancet*. 2008 Dec 6;372(9654):1930-2.

141. Sicari R, Nihoyannopoulos P, Evangelista A, Kasprzak J, Lancellotti P, Poldermans D, et al. Stress Echocardiography Expert Consensus Statement--Executive Summary: European Association of Echocardiography (EAE) (a registered branch of the ESC). *Eur Heart J*. 2009 Feb;30(3):278-89.

149. Yusuf S, Teo K, Anderson C, Pogue J, Dyal L, Copland I, et al. Effects of the angiotensin-receptor blocker telmisartan on cardiovascular events in high-risk patients intolerant to angiotensin-converting enzyme inhibitors: a randomised controlled trial. *Lancet*. 2008 Sep 27;372(9644):1174-83.

151. Baumgartner I, Hirsch AT, Abola MT, Cacoub PP, Poldermans D, Steg PG, et al. Cardiovascular risk profile and outcome of patients with abdominal aortic aneurysm in out-patients with atherothrombosis: data from the Reduction of Atherothrombosis for Continued Health (REACH) Registry. *J Vasc Surg*. 2008 Oct;48(4):808-14.

152. Nucifora G, Marsan NA, Siebelink HM, van Werkhoven JM, Schuijf JD, Schalij MJ, et al. Safety of contrast-enhanced echocardiography within 24 h after acute myocardial infarction. *Eur J Echocardiogr*. 2008 Nov;9(6):816-8.

155. Sicari R, Nihoyannopoulos P, Evangelista A, Kasprzak J, Lancellotti P, Poldermans D, et al. Stress echocardiography expert consensus statement: European Association of Echocardiography (EAE) (a

- registered branch of the ESC). *Eur J Echocardiogr.* 2008 Jul;9(4):415-37.
157. Helderma F, Manoch IJ, Breeuwer M, Kose U, Schouten O, van Sambeek MR, et al. A numerical model to predict abdominal aortic aneurysm expansion based on local wall stress and stiffness. *Med Biol Eng Comput.* 2008 Nov;46(11):1121-7.
158. Poldermans D, Hoeks SE, Feringa HH. Pre-operative risk assessment and risk reduction before surgery. *J Am Coll Cardiol.* 2008 May 20;51(20):1913-24.
159. Fleisher LA, Poldermans D. Perioperative beta blockade: where do we go from here? *Lancet.* 2008 May 31;371(9627):1813-4.
162. Yusuf S, Teo KK, Pogue J, Dyal L, Copland I, Schumacher H, et al. Telmisartan, ramipril, or both in patients at high risk for vascular events. *N Engl J Med.* 2008 Apr 10;358(15):1547-59.
163. Rother J, Alberts MJ, Touze E, Mas JL, Hill MD, Michel P, et al. Risk factor profile and management of cerebrovascular patients in the REACH Registry. *Cerebrovasc Dis.* 2008;25(4):366-74.
166. Poldermans D. Beta-blocker: friend or enemy. *Acta Anaesthesiol Belg.* 2007;58(4):231.
167. Winkel T, Schouten O, Poldermans D. Long term risk prediction in patients undergoing abdominal aortic aneurysm repair: the ultimate stress test of open repair. *Eur J Vasc Endovasc Surg.* 2008 Apr;35(4):420-1.
168. Schouten O, Bax JJ, Poldermans D. Preoperative cardiac risk assessment in vascular surgery patients: seeing beyond the perioperative period. *Eur Heart J.* 2008 Feb;29(3):283-4.
172. Knuuti J, Poldermans D, Udelson JE, Wackers FJ, Bax JJ. Imaging highlights from the European Society of Cardiology, American Society of Nuclear Cardiology, and Heart Failure Society of America. *JACC Cardiovasc Imaging.* 2008 Jan;1(1):119-28.
174. Kristensen SD, Baumgartner H, Drexler H, Eeckhout E, Filippatos G, Gitt AK, et al. Highlights of the 2007 scientific sessions of the European Society of Cardiology Vienna, Austria, September 1-5, 2007. *J Am Coll Cardiol.* 2007 Dec 18;50(25):2421-30.
177. Hoeks SE, Schouten O, van der Vlugt MJ, Poldermans D. Preoperative cardiac testing before major vascular surgery. *J Nucl Cardiol.* 2007 Nov-Dec;14(6):885-91.
182. Schouten O, Bax JJ, Poldermans D. [Coronary risk assessment in the management of patients undergoing noncardiac vascular surgery]. *Rev Esp Cardiol.* 2007 Oct;60(10):1083-91.
185. Bax JJ, Poldermans D. Can tissue Doppler imaging detect myocardial viability in patients with left ventricular dysfunction? *Nat Clin Pract Cardiovasc Med.* 2007 Dec;4(12):644-5.
189. Schouten O, Poldermans D. Cardiac risk in non-cardiac surgery. *Br J Surg.* 2007 Oct;94(10):1185-6.
190. Mohler ER, 3rd, Mantha S, Miller AB, Poldermans D, Cropp AB, St Aubin LB, et al. Should troponin and creatinine kinase be routinely measured after vascular surgery? *Vasc Med.* 2007 Aug;12(3):175-81.
191. Roes SD, Kelle S, Kaandorp TA, Kokocinski T, Poldermans D, Lamb HJ, et al. Comparison of myocardial infarct size assessed with contrast-enhanced magnetic resonance imaging and left ventricular function and volumes to predict mortality in patients with healed myocardial infarction. *Am J Cardiol.*

2007 Sep 15;100(6):930-6.

192. Schouten O, Hoeks SE, Bax JJ, Poldermans D. Risk models in abdominal aortic aneurysm surgery; useful for policy makers or patients? *Eur J Vasc Endovasc Surg.* 2007 Nov;34(5):497-8.
193. Schouten O, Welten GM, Bax JJ, Poldermans D. Re: Secondary medical prevention in patients with peripheral arterial disease. *Eur J Vasc Endovasc Surg.* 2008 Jan;35(1):59-60.
199. Birjmohun RS, Kastelein JJ, Poldermans D, Stroes ES, Hostalek U, Assmann G. Safety and tolerability of prolonged-release nicotinic acid in statin-treated patients. *Curr Med Res Opin.* 2007 Jul;23(7):1707-13.
201. Schinkel AF, Poldermans D, Elhendy A, Bax JJ. Assessment of myocardial viability in patients with heart failure. *J Nucl Med.* 2007 Jul;48(7):1135-46.
202. Schinkel AF, Bax JJ, Poldermans D, Elhendy A, Ferrari R, Rahimtoola SH. Hibernating myocardium: diagnosis and patient outcomes. *Curr Probl Cardiol.* 2007 Jul;32(7):375-410.
208. Schouten O, Bax JJ, Poldermans D. Management of patients with cardiac stents undergoing noncardiac surgery. *Curr Opin Anaesthesiol.* 2007 Jun;20(3):274-8.
209. Feringa HH, Bax JJ, Poldermans D. Perioperative medical management of ischemic heart disease in patients undergoing noncardiac surgery. *Curr Opin Anaesthesiol.* 2007 Jun;20(3):254-60.
215. Schouten O, Bax JJ, Damen J, Poldermans D. Coronary artery stent placement immediately before noncardiac surgery: a potential risk? *Anesthesiology.* 2007 May;106(5):1067-9.
217. Schouten O, Hoeks SE, Bax JJ, Poldermans D. Cardiac risk reduction in patients with intermittent claudication. *Eur J Vasc Endovasc Surg.* 2007 Jun;33(6):715-6.
218. Bax JJ, Poldermans D, Schuijf JD, Scholte AJ, Elhendy A, van der Wall EE. Imaging to differentiate between ischemic and nonischemic cardiomyopathy. *Heart Fail Clin.* 2006 Apr;2(2):205-14.
221. Kaandorp TA, Lamb HJ, Viergever EP, Poldermans D, Boersma E, van der Wall EE, et al. Scar tissue on contrast-enhanced MRI predicts left ventricular remodelling after acute infarction. *Heart.* 2007 Mar;93(3):375-6.
222. Hoeks SE, Bax JJ, Poldermans D. Indications of prophylactic coronary revascularization in patients undergoing major vascular surgery: the saga continues. *Eur Heart J.* 2007 Mar;28(5):519-21.
223. Schouten O, Bax JJ, Poldermans D. Cardiac troponins as a risk stratification tool for patients with chronic critical limb ischemia. *Eur J Vasc Endovasc Surg.* 2007 Jun;33(6):708-9.
224. Feringa HH, Shaw LJ, Poldermans D, Hoeks S, van der Wall EE, Dion RA, et al. Mitral valve repair and replacement in endocarditis: a systematic review of literature. *Ann Thorac Surg.* 2007 Feb;83(2):564-70.
226. Schouten O, van Domburg RT, Bax JJ, de Jaegere PJ, Dunkelgrun M, Feringa HH, et al. Noncardiac surgery after coronary stenting: early surgery and interruption of antiplatelet therapy are associated with an increase in major adverse cardiac events. *J Am Coll Cardiol.* 2007 Jan 2;49(1):122-4.
228. Schouten O, Bax JJ, Dunkelgrun M, Feringa HH, Poldermans D. Pro: Beta-blockers are indicated for patients at risk for cardiac complications undergoing noncardiac surgery. *Anesth Analg.* 2007

Jan;104(1):8-10.

229. Bax JJ, De Bruyne B, Gitt AK, Kristensen S, Linde C, Poldermans D, et al. Highlights of the 2006 scientific sessions of the European Society of Cardiology: Barcelona, Spain, September 2-5, 2006. *J Am Coll Cardiol*. 2006 Dec 19;48(12):2564-74.

231. Kaandorp TA, Lamb HJ, Poldermans D, Viergever EP, Boersma E, van der Wall EE, et al. Assessment of right ventricular infarction with contrast-enhanced magnetic resonance imaging. *Coron Artery Dis*. 2007 Feb;18(1):39-43.

233. Visser JJ, Bosch JL, Hunink MG, van Dijk LC, Hendriks JM, Poldermans D, et al. Endovascular repair versus open surgery in patients with ruptured abdominal aortic aneurysms: clinical outcomes with 1-year follow-up. *J Vasc Surg*. 2006 Dec;44(6):1148-55.

235. Schouten O, Bax JJ, Poldermans D. Assessment of cardiac risk before non-cardiac general surgery. *Heart*. 2006 Dec;92(12):1866-72.

236. Karagiannis SE, Karatasakis G, Spargias K, Louka L, Poldermans D, Cokkinos DV. Intermittent acute aortic valve regurgitation: a case report of a prosthetic valve dysfunction. *Eur J Echocardiogr*. 2008 Mar;9(2):291-3.

237. van den Meiracker AH, Baggen RG, Pauli S, Lindemans A, Vulto AG, Poldermans D, et al. Spironolactone in type 2 diabetic nephropathy: Effects on proteinuria, blood pressure and renal function. *J Hypertens*. 2006 Nov;24(11):2285-92.

238. Dunkelgrun M, Schouten O, Feringa HH, Noordzij PG, Hoeks S, Boersma E, et al. Perioperative cardiac risk stratification and modification in abdominal aortic aneurysm repair. *Acta Chir Belg*. 2006 Jul-Aug;106(4):361-6.

239. Schinkel AF, Bountiokos M, Poldermans D, Bax JJ. Letter by Schinkel et al regarding article, "Projected valve area at normal flow rate improves the assessment of stenosis severity in patients with low-flow, low-gradient aortic stenosis: the multicenter TOPAS (Truly or Pseudo-Severe Aortic Stenosis) study". *Circulation*. 2006 Oct 3;114(14):e526; author reply e7.

240. Elhendy A, Schinkel AF, Bax JJ, Poldermans D. Risk stratification with electrocardiographic-gated dobutamine stress imaging. *J Am Coll Cardiol*. 2006 Oct 3;48(7):1472; author reply -3.

241. Poldermans D, Bax JJ. Selecting optimal non-invasive cardiac imaging stress test in intermediate-risk patients using cost effectiveness analysis. *Eur Heart J*. 2006 Oct;27(20):2378-9.

245. Feringa HH, Poldermans D, Klein P, Braun J, Klautz RJ, van Domburg RT, et al. Plasma natriuretic peptide levels reflect changes in heart failure symptoms, left ventricular size and function after surgical mitral valve repair. *Int J Cardiovasc Imaging*. 2007 Apr;23(2):159-65.

251. Schinkel AF, Poldermans D, Elhendy A, Bax JJ. Prognostic role of dobutamine stress echocardiography in myocardial viability. *Curr Opin Cardiol*. 2006 Sep;21(5):443-9.

252. Schouten O, Bax JJ, Dunkelgrun M, Feringa HH, van Urk H, Poldermans D. Statins for the prevention of perioperative cardiovascular complications in vascular surgery. *J Vasc Surg*. 2006 Aug;44(2):419-24.

254. Kertai MD, Bogar L, Gal J, Poldermans D. Pre-operative coronary revascularization: an optimal therapy for high-risk vascular surgery patients? *Acta Anaesthesiol Scand*. 2006 Aug;50(7):816-27.

255. Biagini E, Shaw LJ, Poldermans D, Schinkel AF, Rizzello V, Elhendy A, et al. Accuracy of non-

- invasive techniques for diagnosis of coronary artery disease and prediction of cardiac events in patients with left bundle branch block: a meta-analysis. *Eur J Nucl Med Mol Imaging*. 2006 Dec;33(12):1442-51.
257. Palazzuoli A, Poldermans D, Capobianco S, Giannotti G, Iovine F, Campagna MS, et al. Rise and fall of B-type natriuretic peptide levels in patients with coronary artery disease and normal left ventricular function after cardiac revascularization. *Coron Artery Dis*. 2006 Aug;17(5):419-23.
258. Dunkelgrun M, Schouten O, Feringa HH, Vidakovic R, Poldermans D. Beneficial effects of statins on perioperative cardiovascular outcome. *Curr Opin Anaesthesiol*. 2006 Aug;19(4):418-22.
263. Bax JJ, Poldermans D. Can dobutamine stress echocardiography predict patient outcome after acute myocardial infarction? *Nat Clin Pract Cardiovasc Med*. 2006 Jun;3(6):304-5.
265. de Vrey EA, Bax JJ, Poldermans D, van der Wall EE, Holman ER. Mobile right heart thrombus and massive pulmonary embolism. *Eur J Echocardiogr*. 2007 Jun;8(3):229-31.
266. Bax JJ, Poldermans D. Mitral regurgitation and left ventricular dyssynchrony: implications for treatment. *Heart*. 2006 Oct;92(10):1363-4.
271. Paetsch I, Jahnke C, Ferrari VA, Rademakers FE, Pellikka PA, Hundley WG, et al. Determination of interobserver variability for identifying inducible left ventricular wall motion abnormalities during dobutamine stress magnetic resonance imaging. *Eur Heart J*. 2006 Jun;27(12):1459-64.
274. Schouten O, Poldermans D. Statins in the prevention of perioperative cardiovascular complications. *Curr Opin Anaesthesiol*. 2005 Feb;18(1):51-5.
277. Biagini E, Valgimigli M, Smits PC, Poldermans D, Schinkel AF, Rizzello V, et al. Stress and tissue Doppler echocardiographic evidence of effectiveness of myoblast transplantation in patients with ischaemic heart failure. *Eur J Heart Fail*. 2006 Oct;8(6):641-8.
278. Schouten O, Shaw LJ, Boersma E, Bax JJ, Kertai MD, Feringa HH, et al. A meta-analysis of safety and effectiveness of perioperative beta-blocker use for the prevention of cardiac events in different types of noncardiac surgery. *Coron Artery Dis*. 2006 Mar;17(2):173-9.
280. Feringa HH, Bax JJ, Klein P, Klautz RJ, Braun J, van der Wall EE, et al. Outcome after mitral valve repair for acute and healed infective endocarditis. *Eur J Cardiothorac Surg*. 2006 Mar;29(3):367-73.
282. de Vrey EA, Scholte AJ, Krauss XH, Dion RA, Poldermans D, van der Wall EE, et al. Intracardiac pseudotumor caused by mitral annular calcification. *Eur J Echocardiogr*. 2006 Jan;7(1):62-6.
287. Schuijf JD, Poldermans D, Shaw LJ, Jukema JW, Lamb HJ, de Roos A, et al. Diagnostic and prognostic value of non-invasive imaging in known or suspected coronary artery disease. *Eur J Nucl Med Mol Imaging*. 2006 Jan;33(1):93-104.
289. Schouten O, Bax JJ, Poldermans D. Prevention of perioperative cardiovascular complications in non-cardiac surgery: the future role of statins. *Future Cardiol*. 2005 Nov;1(6):701-4.
290. Schouten O, van Urk H, Feringa HH, Bax JJ, Poldermans D. Regarding "Perioperative beta-blockade (POBBLE) for patients undergoing infrarenal vascular surgery: results of a randomized double-blind controlled trial". *J Vasc Surg*. 2005 Oct;42(4):825; author reply 6.
292. Hoeks SE, Bax JJ, Poldermans D. Should the ACC/AHA guidelines be changed in patients undergoing vascular surgery? *Eur Heart J*. 2005 Nov;26(22):2358-60.

293. Fleisher LA, Newman MF, St Aubin LB, Cropp AB, Billing CB, Bonney S, et al. Efficacy of zonisipride, an Na/H exchange ion inhibitor, for reducing perioperative cardiovascular events in vascular surgery patients. *J Cardiothorac Vasc Anesth.* 2005 Oct;19(5):570-6.
296. Schouten O, Bax JJ, van Urk H, Poldermans D. Regarding "A prospective study of subclinical myocardial damage in endovascular versus open repair of infrarenal abdominal aortic aneurysms". *J Vasc Surg.* 2005 Sep;42(3):594; author reply -5.
299. Schouten O, Bax JJ, Poldermans D. Endovascular repair of abdominal aortic aneurysm. *N Engl J Med.* 2005 Sep 15;353(11):1181-2; author reply -2.
300. Haverkamp MC, Scholte AJ, Holman ER, Jongbloed MR, Schippers EF, de Roos A, et al. Contrast echocardiography as a useful additional diagnostic tool in evaluating a primary cardiac tumor. *Eur J Echocardiogr.* 2005 Oct;6(5):388-91.
302. Biagini E, Elhendy A, Schinkel AF, Bax JJ, Rizzello V, van Domburg RT, et al. Risk stratification of patients with classic angina pectoris and no history of coronary artery disease by dobutamine stress echocardiography. *J Am Coll Cardiol.* 2005 Aug 16;46(4):730-2.
304. Biagini E, Elhendy A, Bax JJ, Schinkel AF, Poldermans D. The use of stress echocardiography for prognostication in coronary artery disease: an overview. *Curr Opin Cardiol.* 2005 Sep;20(5):386-94.
305. Feringa HH, Bax JJ, Schouten O, Poldermans D. Ischemic heart disease in renal transplant candidates: towards non-invasive approaches for preoperative risk stratification. *Eur J Echocardiogr.* 2005 Oct;6(5):313-6.
306. Kertai MD, Poldermans D. The utility of dobutamine stress echocardiography for perioperative and long-term cardiac risk assessment. *J Cardiothorac Vasc Anesth.* 2005 Aug;19(4):520-8.
307. van Thiel SW, Bax JJ, Biermasz NR, Holman ER, Poldermans D, Roelfsema F, et al. Persistent diastolic dysfunction despite successful long-term octreotide treatment in acromegaly. *Eur J Endocrinol.* 2005 Aug;153(2):231-8.
309. Poldermans D, Boersma E. Beta-blocker therapy in noncardiac surgery. *N Engl J Med.* 2005 Jul 28;353(4):412-4.
310. Schuijf JD, Shaw LJ, Wijns W, Lamb HJ, Poldermans D, de Roos A, et al. Cardiac imaging in coronary artery disease: differing modalities. *Heart.* 2005 Aug;91(8):1110-7.
312. Scholte AJ, Holman ER, Haverkamp MC, Poldermans D, van der Wall EE, Dion RA, et al. Underestimation of severity of mitral regurgitation with varying hemodynamics. *Eur J Echocardiogr.* 2005 Aug;6(4):297-300.
313. Kertai MD, Klein J, Bax JJ, Poldermans D. Predicting perioperative cardiac risk. *Prog Cardiovasc Dis.* 2005 Jan-Feb;47(4):240-57.
314. Szili-Torok T, Bountiokos M, Muskens AJ, Theuns DA, Poldermans D, Roelandt JR, et al. The presence of contractile reserve has no predictive value for the evolution of left ventricular function following atrio-ventricular node ablation in patients with permanent atrial fibrillation. *Eur J Echocardiogr.* 2005 Oct;6(5):344-50.
320. Nette RW, van den Dorpel MA, Krepel HP, Ie EH, van den Meiracker AH, Poldermans D, et al. Hypotension during hemodialysis results from an impairment of arteriolar tone and left ventricular function. *Clin Nephrol.* 2005 Apr;63(4):276-83.

321. Biagini E, Elhendy A, Schinkel AF, Rizzello V, van Domburg RT, Krenning BJ, et al. Comparison of all-cause mortality in women with known or suspected coronary artery disease referred for dobutamine stress echocardiography with normal versus abnormal test results. *Am J Cardiol.* 2005 May 1;95(9):1072-5.
322. Kaandorp TA, Bax JJ, Lamb HJ, Viergever EP, Boersma E, Poldermans D, et al. Which parameters on magnetic resonance imaging determine Q waves on the electrocardiogram? *Am J Cardiol.* 2005 Apr 15;95(8):925-9.
325. Rizzello V, Poldermans D, Bax JJ. Assessment of myocardial viability in chronic ischemic heart disease: current status. *Q J Nucl Med Mol Imaging.* 2005 Mar;49(1):81-96.
326. Schouten O, Kertai MD, Bax JJ, Durazzo AE, Biagini E, Boersma E, et al. Safety of perioperative statin use in high-risk patients undergoing major vascular surgery. *Am J Cardiol.* 2005 Mar 1;95(5):658-60.
327. Bax JJ, Poldermans D, Elhendy A, Boersma E, van der Wall EE. Assessment of myocardial viability by nuclear imaging techniques. *Curr Cardiol Rep.* 2005 Mar;7(2):124-9.
329. Vourvouri EC, Poldermans D, Deckers JW, Parharidis GE, Roelandt JR. Evaluation of a hand carried cardiac ultrasound device in an outpatient cardiology clinic. *Heart.* 2005 Feb;91(2):171-6.
331. Schouten O, Poldermans D, Visser L, Kertai MD, Klein J, van Urk H, et al. Fluvastatin and bisoprolol for the reduction of perioperative cardiac mortality and morbidity in high-risk patients undergoing non-cardiac surgery: rationale and design of the DECREASE-IV study. *Am Heart J.* 2004 Dec;148(6):1047-52.
334. Schinkel AF, Bax JJ, Poldermans D. Clinical assessment of myocardial hibernation. *Heart.* 2005 Jan;91(1):111-7.
336. Poldermans D, Klein J. New frontiers in echocardiography: hand-carried ultrasound devices. The intensivist's view. *Eur J Echocardiogr.* 2004 Dec;5(6):403.
337. Krenning BJ, Geleijnse ML, Poldermans D, Roelandt JR. Methodological analysis of diagnostic dobutamine stress echocardiography studies. *Echocardiography.* 2004 Nov;21(8):725-36.
338. Janssen JA, Poldermans D, Hofland LJ, Vourvouri EC, Muller AF, Bax JJ, et al. There are no acute cardiac effects of a single iv dose of human ghrelin in severe growth hormone deficient patients. *J Endocrinol Invest.* 2004 Jul-Aug;27(7):659-64.
339. Bax JJ, Poldermans D, van der Wall EE. Evaluation of hibernating myocardium. *Heart.* 2004 Nov;90(11):1239-40.
348. Krenning BJ, Van Den Bosch AE, Poldermans D. [Clinical reasoning and decision-making in practice. A 76 year old woman with gastric carcinoma and cardiac valve disease]. *Ned Tijdschr Geneeskd.* 2004 Jul 17;148(29):1468-9; author reply 9.
354. Barry MC, Hendriks JM, Alberts G, Boomsma F, Van Dijk LC, Pattynama PM, et al. Comparison of catecholamine hormone release in patients undergoing carotid artery stenting or carotid endarterectomy. *J Endovasc Ther.* 2004 Jun;11(3):240-50.
355. Marwick TH, Case C, Poldermans D, Boersma E, Bax J, Sawada S, et al. A clinical and echocardiographic score for assigning risk of major events after dobutamine echocardiograms. *J Am Coll Cardiol.* 2004 Jun 2;43(11):2102-7.

356. Scholte AJ, Agema WR, Poldermans D, Somer ST, Holman ER, van der Wall EE, et al. Aortic valve regurgitation due to cusp aneurysm: a case report. *Eur J Echocardiogr.* 2004 Jun;5(3):231-6.
358. Damen J, Bax JJ, Kolkman E, Poldermans D. [Prophylactic perioperative beta-blockade reduces cardiac morbidity and mortality following non-cardiac surgery in patients at risk]. *Ned Tijdschr Geneeskd.* 2004 Feb 7;148(6):268-75.
360. Fleisher LA, Corbett W, Berry C, Poldermans D. Cost-effectiveness of differing perioperative beta-blockade strategies in vascular surgery patients. *J Cardiothorac Vasc Anesth.* 2004 Feb;18(1):7-13.
368. Kertai MD, Bax JJ, Klein J, Poldermans D. Is there any reason to withhold beta blockers from high-risk patients with coronary artery disease during surgery? *Anesthesiology.* 2004 Jan;100(1):4-7.
369. Smits PC, van Geuns RJ, Poldermans D, Bountiokos M, Onderwater EE, Lee CH, et al. Catheter-based intramyocardial injection of autologous skeletal myoblasts as a primary treatment of ischemic heart failure: clinical experience with six-month follow-up. *J Am Coll Cardiol.* 2003 Dec 17;42(12):2063-9.
375. Kertai MD, Boersma E, Bax JJ, Heijnenbrok-Kal MH, Hunink MG, L'Talien G J, et al. A meta-analysis comparing the prognostic accuracy of six diagnostic tests for predicting perioperative cardiac risk in patients undergoing major vascular surgery. *Heart.* 2003 Nov;89(11):1327-34.
379. Boersma E, Keil U, De Bacquer D, De Backer G, Pyorala K, Poldermans D, et al. Blood pressure is insufficiently controlled in European patients with established coronary heart disease. *J Hypertens.* 2003 Oct;21(10):1831-40.
383. Poldermans D, Bax JJ. Dobutamine echocardiography: a diagnostic tool comes of age. *Eur Heart J.* 2003 Sep;24(17):1541-2.
385. Rambaldi R, Bax JJ, Boersma E, Valkema R, Duncker DJ, Sutherland GR, et al. Value of pulse-wave tissue Doppler imaging to identify dyssynergic but viable myocardium. *Am J Cardiol.* 2003 Jul 1;92(1):64-7.
386. Bax JJ, Maddahi J, Poldermans D, Elhendy A, Schinkel A, Boersma E, et al. Preoperative comparison of different noninvasive strategies for predicting improvement in left ventricular function after coronary artery bypass grafting. *Am J Cardiol.* 2003 Jul 1;92(1):1-4.
387. Kertai MD, Poldermans D, Bax JJ, Klein J, Van Urk H. Cardiac risk and perioperative management. *J Cardiovasc Surg (Torino).* 2003 Jun;44(3):431-5.
388. Kertai MD, Bax JJ, Boersma E, Van Urk H, Poldermans D. The prognostic value of dobutamine stress echocardiography in patients with abdominal aortic aneurysm and concomitant coronary artery disease. *J Cardiovasc Surg (Torino).* 2003 Jun;44(3):423-30.
389. Vourvouri EC, Koroleva LY, Ten Cate FJ, Poldermans D, Schinkel AF, van Domburg RT, et al. Clinical utility and cost effectiveness of a personal ultrasound imager for cardiac evaluation during consultation rounds in patients with suspected cardiac disease. *Heart.* 2003 Jul;89(7):727-30.
391. Kertai MD, Klein J, van Urk H, Bax JJ, Poldermans D. Cardiac complications after elective major vascular surgery. *Acta Anaesthesiol Scand.* 2003 Jul;47(6):643-54.
394. Rambaldi R, Poldermans D, Bax JJ, Bountiokos M, Roelandt JR. Post-extrasystolic potentiation recruits incremental contractile reserve of dyssynergic myocardium during dobutamine stress testing: evidence by pulsed wave tissue Doppler imaging. *Eur J Echocardiogr.* 2003 Jun;4(2):148-51.



395. Schinkel AF, Poldermans D. Post-extrasystolic potentiation: a viable viability test. *Eur J Echocardiogr.* 2003 Jun;4(2):79-80.
396. Schinkel AF, Bax JJ, Geleijnse ML, Boersma E, Elhendy A, Roelandt JR, et al. Noninvasive evaluation of ischaemic heart disease: myocardial perfusion imaging or stress echocardiography? *Eur Heart J.* 2003 May;24(9):789-800.
398. Sloof GW, Knapp FF, Jr., van Lingen A, Eersels J, Poldermans D, Bax JJ. Nuclear imaging is more sensitive for the detection of viable myocardium than dobutamine echocardiography. *Nucl Med Commun.* 2003 Apr;24(4):375-81.
399. Nette RW, Krepel HP, van den Dorpel MA, van den Meiracker AH, Poldermans D, Boomsma F, et al. Hemodynamic response to lower body negative pressure in hemodialysis patients. *Am J Kidney Dis.* 2003 Apr;41(4):807-13.
401. Boersma E, Mercado N, Poldermans D, Gardien M, Vos J, Simoons ML. Acute myocardial infarction. *Lancet.* 2003 Mar 8;361(9360):847-58.
405. Kam BL, Valkema R, Poldermans D, Bax JJ, Reijs AE, Rambaldi R, et al. Feasibility and image quality of dual-isotope SPECT using 18F-FDG and (99m)Tc-tetrofosmin after acipimox administration. *J Nucl Med.* 2003 Feb;44(2):140-5.
408. De Sutter J, Poldermans D, Vourvouri E, Van Donburg R, Elhendy A, Bax J, et al. Long-term prognostic significance of complex ventricular arrhythmias induced during dobutamine stress echocardiography. *Am J Cardiol.* 2003 Jan 15;91(2):242-4.
409. Elhendy A, Bax JJ, Poldermans D. Dobutamine stress myocardial perfusion imaging in coronary artery disease. *J Nucl Med.* 2002 Dec;43(12):1634-46.
410. Bax JJ, Visser FC, Poldermans D, Elhendy A, Boersma E, Visser CA, et al. Prognostic value of perfusion-FDG mismatch in ischemic cardiomyopathy. *J Nucl Cardiol.* 2002 Nov-Dec;9(6):675-7.
411. Bax JJ, Visser FC, Poldermans D, Van Lingen A, Elhendy A, Boersma E, et al. Safety and feasibility of cardiac FDG SPECT following oral administration of Acipimox, a nicotinic acid derivative: Comparison of image quality with hyperinsulinemic euglycemic clamping in nondiabetic patients. *J Nucl Cardiol.* 2002 Nov-Dec;9(6):587-93.
414. Bax JJ, Lamb HJ, Poldermans D, Schalijs MJ, de Roos A, van der Wall EE. Non-compaction cardiomyopathy-echocardiographic diagnosis. *Eur J Echocardiogr.* 2002 Dec;3(4):301-2.
415. Kertai MD, Boersma E, Poldermans D. Small abdominal aortic aneurysms. *N Engl J Med.* 2002 Oct 3;347(14):1112-5; author reply -5.
416. Bax JJ, Poldermans D, Schinkel AF, Boersma E, Elhendy A, Maat A, et al. Perfusion and contractile reserve in chronic dysfunctional myocardium: relation to functional outcome after surgical revascularization. *Circulation.* 2002 Sep 24;106(12 Suppl 1):I14-8.
421. Bax JJ, Maddahi J, Poldermans D, Elhendy A, Cornel JH, Boersma E, et al. Sequential (201)Tl imaging and dobutamine echocardiography to enhance accuracy of predicting improved left ventricular ejection fraction after revascularization. *J Nucl Med.* 2002 Jun;43(6):795-802.
423. Hoffmann R, Marwick TH, Poldermans D, Lethen H, Ciani R, van der Meer P, et al. Refinements in stress echocardiographic techniques improve inter-institutional agreement in interpretation of dobutamine stress echocardiograms. *Eur Heart J.* 2002 May;23(10):821-9.

425. Elhendy A, van Domburg RT, Vantrimpont P, Poldermans D, Bax JJ, van Gelder T, et al. Prediction of mortality in heart transplant recipients by stress technetium-99m tetrofosmin myocardial perfusion imaging. *Am J Cardiol.* 2002 Apr 15;89(8):964-8.
426. Bax JJ, Visser FC, Poldermans D, van Lingen A, Elhendy A, Boersma E, et al. Feasibility, safety and image quality of cardiac FDG studies during hyperinsulinaemic-euglycaemic clamping. *Eur J Nucl Med Mol Imaging.* 2002 Apr;29(4):452-7.
427. Szili-Torok T, Kimman GP, Theuns D, Poldermans D, Roelandt JR, Jordaens LJ. Deterioration of left ventricular function following atrio-ventricular node ablation and right ventricular apical pacing in patients with permanent atrial fibrillation. *Europace.* 2002 Jan;4(1):61-5.
428. Hagens T, Gussenhoven EJ, Poldermans D, van Urk H, van der Lugt A. Rationale and design for the SARIS trial; effect of statin on atherosclerosis and vascular remodeling assessed with intravascular sonography. *Effect of Statin on Atherosclerosis and vascular Remodeling assessed with Intravascular Sonography. Cardiovasc Drugs Ther.* 2001 Jul;15(4):339-43.
430. Poldermans D, Boersma E, Bax JJ, Kliffen M, van Urk H, van de Ven L, et al. Correlation of location of acute myocardial infarct after noncardiac vascular surgery with preoperative dobutamine echocardiographic findings. *Am J Cardiol.* 2001 Dec 15;88(12):1413-4, A6.
433. Bax JJ, Visser FC, Poldermans D, Elhendy A, Cornel JH, Boersma E, et al. Time course of functional recovery of stunned and hibernating segments after surgical revascularization. *Circulation.* 2001 Sep 18;104(12 Suppl 1):I314-8.
435. Schinkel AF, Bax JJ, Boersma E, Elhendy A, Roelandt JR, Poldermans D. How many patients with ischemic cardiomyopathy exhibit viable myocardium? *Am J Cardiol.* 2001 Sep 1;88(5):561-4.
438. Poldermans D, Sozzi FB, Bax JJ, Boersma E, Duncker DJ, Vourvouri E, et al. Influence of continuation of beta blockers during dobutamine stress echocardiography for the assessment of myocardial viability in patients with severe ischemic left ventricular dysfunction. *Am J Cardiol.* 2001 Jul 1;88(1):A7, 68-70.
439. Elhendy A, van Domburg RT, Sozzi FB, Poldermans D, Bax JJ, Roelandt JR. Impact of hypertension on the accuracy of exercise stress myocardial perfusion imaging for the diagnosis of coronary artery disease. *Heart.* 2001 Jun;85(6):655-61.
441. Elhendy A, van Domburg RT, Vantrimpont P, Sozzi FB, Bax JJ, Poldermans D, et al. Impact of heart transplantation on the safety and feasibility of the dobutamine stress test. *J Heart Lung Transplant.* 2001 Apr;20(4):399-406.
442. Bax JJ, Poldermans D, Elhendy A, Boersma E, Rahimtoola SH. Sensitivity, specificity, and predictive accuracies of various noninvasive techniques for detecting hibernating myocardium. *Curr Probl Cardiol.* 2001 Feb;26(2):147-86.
443. Bax JJ, Visser FC, Poldermans D, Elhendy A, Cornel JH, Boersma E, et al. Relationship between preoperative viability and postoperative improvement in LVEF and heart failure symptoms. *J Nucl Med.* 2001 Jan;42(1):79-86.
445. Bax JJ, Patton JA, Poldermans D, Elhendy A, Sandler MP. 18-Fluorodeoxyglucose imaging with positron emission tomography and single photon emission computed tomography: cardiac applications. *Semin Nucl Med.* 2000 Oct;30(4):281-98.
447. Poldermans D, Bax JJ, Thomson IR, Boersma E, van Der Meer P, Fioretti PM, et al. Role of dobutamine stress echocardiography for preoperative cardiac risk assessment before major vascular

surgery: a diagnostic tool comes of age. *Echocardiography*. 2000 Jan;17(1):79-91.

450. Elhendy A, van Domburg RT, Bax JJ, Poldermans D, Sozzi FB, Roelandt JR. Accuracy of dobutamine technetium 99m sestamibi SPECT imaging for the diagnosis of single-vessel coronary artery disease: comparison with echocardiography. *Am Heart J*. 2000 Feb;139(2 Pt 1):224-30.

451. Elhendy A, van Domburg RT, Bax JJ, Poldermans D, Nierop PR, Geleijnse ML, et al. The grade of worsening of regional function during dobutamine stress echocardiography predicts the extent of myocardial perfusion abnormalities. *Heart*. 2000 Jan;83(1):35-9.

452. Bax JJ, Poldermans D, Visser FC, Elhendy A, Boersma E, Cornel JH, et al. Delayed recovery of hibernating myocardium after surgical revascularization: implications for discrepancy between metabolic imaging and dobutamine echocardiography for assessment of myocardial viability. *J Nucl Cardiol*. 1999 Nov-Dec;6(6):685-7.

455. Bax JJ, Visser FC, Elhendy A, Poldermans D, Cornel JH, van Lingen A, et al. Prediction of improvement of regional left ventricular function after revascularization using different perfusion-metabolism criteria. *J Nucl Med*. 1999 Nov;40(11):1866-73.

456. Hoogerbrugge N, Happee C, van Domburg R, Poldermans D, van den Brand MJ. Corneal arcus: indicator for severity of coronary atherosclerosis? *Neth J Med*. 1999 Oct;55(4):184-7.

458. Cornel JH, Bax JJ, Elhendy A, Visser FC, Boersma E, Poldermans D, et al. Agreement and disagreement between "metabolic viability" and "contractile reserve" in akinetic myocardium. *J Nucl Cardiol*. 1999 Jul-Aug;6(4):383-8.

460. Bax JJ, Poldermans D, Elhendy A, Cornel JH, Boersma E, Rambaldi R, et al. Improvement of left ventricular ejection fraction, heart failure symptoms and prognosis after revascularization in patients with chronic coronary artery disease and viable myocardium detected by dobutamine stress echocardiography. *J Am Coll Cardiol*. 1999 Jul;34(1):163-9.

461. Kasprzak JD, Paelinck B, Ten Cate FJ, Vletter WB, de Jong N, Poldermans D, et al. Comparison of native and contrast-enhanced harmonic echocardiography for visualization of left ventricular endocardial border. *Am J Cardiol*. 1999 Jan 15;83(2):211-7.

463. Rambaldi R, Poldermans D, Vletter WB, Bax JJ, Roelandt JR. Tissue Doppler imaging and the quantification of myocardial function. *Int J Card Imaging*. 1998 Aug;14(4):241-50; discussion 51-2.

464. Poldermans D, ten Cate FJ, Elhendy A, Rocchi G, Bax JJ, Vletter W, et al. Ventricular tachycardia during dobutamine stress myocardial contrast imaging. *Chest*. 1999 Jan;115(1):307-8.

467. Rambaldi R, Hamburger JN, Geleijnse ML, Poldermans D, Kimman GJ, Aiazian AA, et al. Early recovery of wall motion abnormalities after recanalization of chronic totally occluded coronary arteries: a dobutamine echocardiographic, prospective, single-center experience. *Am Heart J*. 1998 Nov;136(5):831-6.

469. Bax JJ, Cornel JH, Visser FC, Fioretti PM, van Lingen A, Huitink JM, et al. Comparison of fluorine-18-FDG with rest-redistribution thallium-201 SPECT to delineate viable myocardium and predict functional recovery after revascularization. *J Nucl Med*. 1998 Sep;39(9):1481-6.

471. Bax JJ, Poldermans D, Rambaldi R, Valkema R, Slavich GA, Fioretti PM. Myocardial viability: known and unknown. *G Ital Cardiol*. 1998 Mar;28(3):229-36.

472. Bax JJ, Cornel JH, Poldermans D, van Eck-Smit BL, van der Wall EE. [Myocardial tissue vitality: clinical relevance, pathophysiology and identification]. *Ned Tijdschr Geneesk*. 1998 Jan 10;142(2):67-

71.

473. Bax JJ, Valkema R, Visser FC, Poldermans D, Cornel JH, van Lingen A, et al. Detection of myocardial viability with F-18-fluorodeoxyglucose and single photon emission computed tomography. *G Ital Cardiol.* 1997 Nov;27(11):1181-6.

474. Cornel JH, Bax JJ, Elhendy A, Poldermans D, Vanoverschelde JL, Fioretti PM. Predictive accuracy of echocardiographic response of mildly dyssynergic myocardial segments to low-dose dobutamine. *Am J Cardiol.* 1997 Dec 1;80(11):1481-4.

475. Elhendy A, Geleijnse ML, van Domburg RT, Nierop PR, Poldermans D, Bax JJ, et al. Gender differences in the accuracy of dobutamine stress echocardiography for the diagnosis of coronary artery disease. *Am J Cardiol.* 1997 Dec 1;80(11):1414-8.

476. Rambaldi R, Poldermans D, Vletter WB, ten Cate FJ, Roelandt JR, Fioretti PM. Doppler tissue imaging in the new era of digital echocardiography. *G Ital Cardiol.* 1997 Aug;27(8):827-39.

478. Bax JJ, Valkema R, Visser FC, van Lingen A, Cornel JH, Poldermans D, et al. FDG SPECT in the assessment of myocardial viability. Comparison with dobutamine echo. *Eur Heart J.* 1997 Jun;18 Suppl D:D124-9.

479. Poldermans D, Rambaldi R, Fioretti PM, Boersma E, Thomson IR, van Sambeek MR, et al. Prognostic value of dobutamine-atropine stress echocardiography for peri-operative and late cardiac events in patients scheduled for vascular surgery. *Eur Heart J.* 1997 Jun;18 Suppl D:D86-96.

480. Poldermans D, van Urk H, Blankensteijn JD. Regarding "Selection of patients for cardiac evaluation before peripheral vascular operations". *J Vasc Surg.* 1997 May;25(5):957.

486. Salustri A, Poldermans D, Arnese M, Cornel JH, McNeill AJ, el-Hendy A, et al. [Stress echocardiography: 4 years of experience at the Thoraxcenter]. *G Ital Cardiol.* 1994 Jul;24(7):915-30.

491. Poldermans D, Kool DR. Isocaloric feeding and medium chain triglycerides fail to improve liver function tests in a patient with Crohn's disease and a high output stoma. *Clin Nutr.* 1992 Jun;11(3):158-60.

492. Poldermans D, Gerritsen GP, Bruining HA. Pyomyositis: an unusual complication of *Staphylococcus aureus* infection. *Neth J Surg.* 1990 Feb;42(1):14-5.

493. Poldermans D, van Blankenstein M. Pancreatitis induced by disodium azodisalicylate. *Am J Gastroenterol.* 1988 May;83(5):578-80.

494. Wenting GJ, Blankestijn PJ, Poldermans D, van Geelen J, Derkx FH, Man in't Veld AJ, et al. Blood pressure response of nephrectomized subjects and patients with essential hypertension to ramipril: indirect evidence that inhibition of tissue angiotensin converting enzyme is important. *Am J Cardiol.* 1987 Apr 24;59(10):92D-7D.

495. Lamberts SW, Poldermans D, Zweens M, de Jong FH. Familial cortisol resistance: differential diagnostic and therapeutic aspects. *J Clin Endocrinol Metab.* 1986 Dec;63(6):1328-33.

Publications of the DECREASE-2 to 5 studies evaluated by previous committees:

5

98. Schouten O, Boersma E, Hoeks SE, Benner R, van Urk H, van Sambeek MR, et al. Fluvastatin and

perioperative events in patients undergoing vascular surgery. *N Engl J Med.* 2009 Sep 3;361(10):980-9.

114. Dunkelgrun M, Boersma E, Schouten O, Koopman-van Gemert AW, van Poorten F, Bax JJ, et al. Bisoprolol and fluvastatin for the reduction of perioperative cardiac mortality and myocardial infarction in intermediate-risk patients undergoing noncardiovascular surgery: a randomized controlled trial (DECREASE-IV). *Ann Surg.* 2009 Jun;249(6):921-6.

121. Schouten O, van Kuijk JP, Flu WJ, Winkel TA, Welten GM, Boersma E, et al. Long-term outcome of prophylactic coronary revascularization in cardiac high-risk patients undergoing major vascular surgery (from the randomized DECREASE-V Pilot Study). *Am J Cardiol.* 2009 Apr 1;103(7):897-901.

214. Poldermans D, Schouten O, Vidakovic R, Bax JJ, Thomson IR, Hoeks SE, et al. A clinical randomized trial to evaluate the safety of a noninvasive approach in high-risk patients undergoing major vascular surgery: the DECREASE-V Pilot Study. *J Am Coll Cardiol.* 2007 May 1;49(17):1763-9.

243. Poldermans D, Bax JJ, Schouten O, Neskovic AN, Paelinck B, Rocci G, et al. Should major vascular surgery be delayed because of preoperative cardiac testing in intermediate-risk patients receiving beta-blocker therapy with tight heart rate control? *J Am Coll Cardiol.* 2006 Sep 5;48(5):964-9.

#### Publicaties DECREASE-1:

4

377. Kertai MD, Boersma E, Bax JJ, Thomson IR, Cramer MJ, van de Ven LL, et al. Optimizing long-term cardiac management after major vascular surgery: Role of beta-blocker therapy, clinical characteristics, and dobutamine stress echocardiography to optimize long-term cardiac management after major vascular surgery. *Arch Intern Med.* 2003 Oct 13;163(18):2230-5.

436. Poldermans D, Boersma E, Bax JJ, Thomson IR, Paelinck B, van de Ven LL, et al. Bisoprolol reduces cardiac death and myocardial infarction in high-risk patients as long as 2 years after successful major vascular surgery. *Eur Heart J.* 2001 Aug;22(15):1353-8.

440. Boersma E, Poldermans D, Bax JJ, Steyerberg EW, Thomson IR, Banga JD, et al. Predictors of cardiac events after major vascular surgery: Role of clinical characteristics, dobutamine echocardiography, and beta-blocker therapy. *JAMA.* 2001 Apr 11;285(14):1865-73.

453. Poldermans D, Boersma E, Bax JJ, Thomson IR, van de Ven LL, Blankensteijn JD, et al. The effect of bisoprolol on perioperative mortality and myocardial infarction in high-risk patients undergoing vascular surgery. Dutch Echocardiographic Cardiac Risk Evaluation Applying Stress Echocardiography Study Group. *N Engl J Med.* 1999 Dec 9;341(24):1789-94.

#### Publications not directly relating to DECREASE studies already evaluated by previous committees:

2

260. Feringa HH, Bax JJ, Elhendy A, de Jonge R, Lindemans J, Schouten O, et al. Association of plasma N-terminal pro-B-type natriuretic peptide with postoperative cardiac events in patients undergoing surgery for abdominal aortic aneurysm or leg bypass. *Am J Cardiol.* 2006 Jul 1;98(1):111-5.

264. Feringa HH, Elhendy A, Bax JJ, Boersma E, de Jonge R, Schouten O, et al. Baseline plasma N-terminal pro-B-type natriuretic peptide is associated with the extent of stress-induced myocardial ischemia during dobutamine stress echocardiography. *Coron Artery Dis.* 2006 May;17(3):255-9.

## Publication of an industry study

1

212. Poldermans D, Glazes R, Kargiannis S, Wernsing M, Kaczor J, Chiang YT, et al. Tolerability and blood pressure-lowering efficacy of the combination of amlodipine plus valsartan compared with lisinopril plus hydrochlorothiazide in adult patients with stage 2 hypertension. *Clin Ther*. 2007 Feb;29(2):279-89.

## Publications of observational studies

235

1. Pedone C, Elhendy A, van Domburg RT, Nelwan SP, Biagini E, Di Pasquale G, et al. Prognostic significance of baseline ST-T-wave abnormalities in diagnostic stress echocardiography. *Coron Artery Dis*. 2011 Dec;22(8):559-64.
4. Kertai MD, Boersma E, Westerhout CM, Klein J, van Urk H, Bax JJ, et al. Reprinted article "A combination of statins and beta-blockers is independently associated with a reduction in the incidence of perioperative mortality and nonfatal myocardial infarction in patients undergoing abdominal aortic aneurysm surgery". *Eur J Vasc Endovasc Surg*. 2011 Sep;42 Suppl 1:S96-104.
8. van Lier F, van der Geest PJ, Hoeks SE, van Gestel YR, Hol JW, Sin DD, et al. Epidural analgesia is associated with improved health outcomes of surgical patients with chronic obstructive pulmonary disease. *Anesthesiology*. 2011 Aug;115(2):315-21.
9. Grootenboer N, Hunink MG, Hoeks S, Hendriks JM, van Sambeek MR, Poldermans D. The impact of gender on prognosis after non-cardiac vascular surgery. *Eur J Vasc Endovasc Surg*. 2011 Oct;42(4):510-6.
18. de Liefde I, Verhagen HJ, Stolker RJ, van Domburg RT, Poldermans D. The value of treadmill exercise test parameters together in patients with known or suspected peripheral arterial disease. *Eur J Prev Cardiol*. 2012 Apr;19(2):192-8.
21. de Liefde I, Klein J, Bax JJ, Verhagen HJ, van Domburg RT, Poldermans D. Exercise ankle brachial index adds important prognostic information on long-term out-come only in patients with a normal resting ankle brachial index. *Atherosclerosis*. 2011 Jun;216(2):365-9.
22. de Liefde I, Welten GM, Verhagen HJ, van Domburg RT, Stolker RJ, Poldermans D. Exercise blood pressure response and perioperative complications after major vascular surgery. *Coron Artery Dis*. 2011 Jun;22(4):228-32.
24. van Kuijk JP, Flu WJ, Valentijn TM, Chonchol M, Voute MT, Kuiper RJ, et al. Preoperative left ventricular dysfunction predisposes to postoperative acute kidney injury and long-term mortality. *J Nephrol*. 2011 Nov-Dec;24(6):764-70.
31. Goei D, van Kuijk JP, Flu WJ, Hoeks SE, Chonchol M, Verhagen HJ, et al. Usefulness of repeated N-terminal pro-B-type natriuretic peptide measurements as incremental predictor for long-term cardiovascular outcome after vascular surgery. *Am J Cardiol*. 2011 Feb 15;107(4):609-14.
34. Flu WJ, van Kuijk JP, Chonchol M, Winkel TA, Verhagen HJ, Bax JJ, et al. Timing of pre-operative Beta-blocker treatment in vascular surgery patients: influence on post-operative outcome. *J Am Coll Cardiol*. 2010 Nov 30;56(23):1922-9.
35. Winkel TA, Voute MT, de Melis M, Hoeks SE, Schouten O, Kessels R, et al. Sudden death during follow-up after new-onset ventricular tachycardia in vascular surgery patients. *J Vasc Surg*. 2011

Mar;53(3):732-7; discussion 7.

38. van Kuijk JP, Flu WJ, Galal W, Chonchol M, Goei D, Verhagen HJ, et al. The influence of polyvascular disease on the obesity paradox in vascular surgery patients. *J Vasc Surg.* 2011 Feb;53(2):399-406.

43. Winkel TA, Schouten O, Hoeks SE, Voute MT, Chonchol M, Goei D, et al. Prognosis of vascular surgery patients using a quantitative assessment of troponin T release: is the crystal ball still clear? *Eur J Vasc Endovasc Surg.* 2010 Dec;40(6):739-46.

47. van Kuijk JP, Flu WJ, Valentijn TM, Chonchol M, Kuiper RJ, Verhagen HJ, et al. Influence of left ventricular dysfunction (diastolic versus systolic) on long-term prognosis in patients with versus without diabetes mellitus having elective peripheral arterial surgery. *Am J Cardiol.* 2010 Sep 15;106(6):860-4.

52. van Kuijk JP, Flu WJ, Chonchol M, Valentijn TM, Verhagen HJ, Bax JJ, et al. Elevated preoperative phosphorus levels are an independent risk factor for cardiovascular mortality. *Am J Nephrol.* 2010;32(2):163-8.

53. Hoogwegt MT, Hoeks SE, Pedersen SS, Scholte op Reimer WJ, van Gestel YR, Verhagen HJ, et al. Smoking cessation has no influence on quality of life in patients with peripheral arterial disease 5 years post-vascular surgery. *Eur J Vasc Endovasc Surg.* 2010 Sep;40(3):355-62.

54. Winkel TA, Schouten O, Hoeks SE, Flu WJ, Hampton D, Kirchhof P, et al. Risk factors and outcome of new-onset cardiac arrhythmias in vascular surgery patients. *Am Heart J.* 2010 Jun;159(6):1108-15.

57. Hoeks SE, Scholte Op Reimer WJ, Lingsma HF, van Gestel Y, van Urk H, Bax JJ, et al. Process of care partly explains the variation in mortality between hospitals after peripheral vascular surgery. *Eur J Vasc Endovasc Surg.* 2010 Aug;40(2):147-54.

59. Flu WJ, van Kuijk JP, Hoeks SE, Kuiper R, Schouten O, Goei D, et al. Prognostic implications of asymptomatic left ventricular dysfunction in patients undergoing vascular surgery. *Anesthesiology.* 2010 Jun;112(6):1316-24.

61. Issa SM, Hoeks SE, Scholte op Reimer WJ, Van Gestel YR, Lenzen MJ, Verhagen HJ, et al. Health-related quality of life predicts long-term survival in patients with peripheral artery disease. *Vasc Med.* 2010 Jun;15(3):163-9.

62. van Kuijk JP, Flu WJ, Chonchol M, Hoeks SE, Winkel TA, Verhagen HJ, et al. Temporary perioperative decline of renal function is an independent predictor for chronic kidney disease. *Clin J Am Soc Nephrol.* 2010 Jul;5(7):1198-204.

64. Noordzij PG, Poldermans D, Schouten O, Bax JJ, Schreiner FA, Boersma E. Postoperative mortality in The Netherlands: a population-based analysis of surgery-specific risk in adults. *Anesthesiology.* 2010 May;112(5):1105-15.

66. Winkel TA, Hoeks SE, Schouten O, Zeymer U, Limbourg T, Baumgartner I, et al. Prognosis of atrial fibrillation in patients with symptomatic peripheral arterial disease: data from the REduction of Atherothrombosis for Continued Health (REACH) Registry. *Eur J Vasc Endovasc Surg.* 2010 Jul;40(1):9-16.

70. van Gestel YR, Goei D, Hoeks SE, Sin DD, Flu WJ, Stam H, et al. Predictive value of NT-proBNP in vascular surgery patients with COPD and normal left ventricular systolic function. *COPD.* 2010 Feb;7(1):70-5.

73. Galal W, Hoeks SE, Flu WJ, van Kuijk JP, Goei D, Galema T, et al. Relation between preoperative

and intraoperative new wall motion abnormalities in vascular surgery patients: a transesophageal echocardiographic study. *Anesthesiology*. 2010 Mar;112(3):557-66.

76. Flu WJ, van Kuijk JP, Galal W, Kuiper R, van de Ven LL, Verhagen HJ, et al. Prevalence and pharmacological treatment of left-ventricular dysfunction in patients undergoing vascular surgery. *Eur J Heart Fail*. 2010 Mar;12(3):288-93.

79. van Kuijk JP, Flu WJ, Chonchol M, Welten GM, Verhagen HJ, Bax JJ, et al. The prevalence and prognostic implications of polyvascular atherosclerotic disease in patients with chronic kidney disease. *Nephrol Dial Transplant*. 2010 Jun;25(6):1882-8.

80. van Kuijk JP, Flu WJ, Chonchol M, Bax JJ, Verhagen HJ, Poldermans D. Metabolic syndrome is an independent predictor of cardiovascular events in high-risk patients with occlusive and aneurysmatic peripheral arterial disease. *Atherosclerosis*. 2010 Jun;210(2):596-601.

81. van Kuijk JP, Flu WJ, Welten GM, Hoeks SE, Chonchol M, Vidakovic R, et al. Long-term prognosis of patients with peripheral arterial disease with or without polyvascular atherosclerotic disease. *Eur Heart J*. 2010 Apr;31(8):992-9.

82. Hoeks SE, Scholte op Reimer WJ, van Gestel YR, Schouten O, Lenzen MJ, Flu WJ, et al. Medication underuse during long-term follow-up in patients with peripheral arterial disease. *Circ Cardiovasc Qual Outcomes*. 2009 Jul;2(4):338-43.

83. Flu WJ, van Gestel YR, van Kuijk JP, Hoeks SE, Kuiper R, Verhagen HJ, et al. Co-existence of COPD and left ventricular dysfunction in vascular surgery patients. *Respir Med*. 2010 May;104(5):690-6.

84. Lipton JA, Nelwan SP, van Domburg RT, Kors JA, Elhendy A, Schinkel AF, et al. Abnormal spatial QRS-T angle predicts mortality in patients undergoing dobutamine stress echocardiography for suspected coronary artery disease. *Coron Artery Dis*. 2010 Jan;21(1):26-32.

86. van Gestel YR, Flu WJ, van Kuijk JP, Hoeks SE, Bax JJ, Sin DD, et al. Association of COPD with carotid wall intima-media thickness in vascular surgery patients. *Respir Med*. 2010 May;104(5):712-6.

87. Schinkel AF, Elhendy A, van Domburg RT, Biagini E, Rizzello V, Veltman CE, et al. Prognostic significance of QRS duration in patients with suspected coronary artery disease referred for noninvasive evaluation of myocardial ischemia. *Am J Cardiol*. 2009 Dec 1;104(11):1490-3.

90. Goei D, Flu WJ, Hoeks SE, Galal W, Dunkelgrun M, Boersma E, et al. The interrelationship between preoperative anemia and N-terminal pro-B-type natriuretic peptide: the effect on predicting postoperative cardiac outcome in vascular surgery patients. *Anesth Analg*. 2009 Nov;109(5):1403-8.

91. van Kuijk JP, Flu WJ, Schouten O, Hoeks SE, Schenkeveld L, de Jaegere PP, et al. Timing of noncardiac surgery after coronary artery stenting with bare metal or drug-eluting stents. *Am J Cardiol*. 2009 Nov 1;104(9):1229-34.

92. de Liefde I, van Domburg RT, Bax JJ, Klein J, Verhagen HJ, Poldermans D. A decline in walking distance predicts long-term outcome in patients with known or suspected peripheral artery disease. *Eur J Cardiovasc Prev Rehabil*. 2010 Jun;17(3):321-8.

93. Flu WJ, van Kuijk JP, Voute MT, Kuiper R, Verhagen HJ, Bax JJ, et al. Asymptomatic low ankle-brachial index in vascular surgery patients: a predictor of perioperative myocardial damage. *Eur J Vasc Endovasc Surg*. 2010 Jan;39(1):62-9.

94. Smolderen KG, Hoeks SE, Pedersen SS, van Domburg RT, de L, II, Poldermans D. Lower-leg



symptoms in peripheral arterial disease are associated with anxiety, depression, and anhedonia. *Vasc Med.* 2009 Nov;14(4):297-304.

99. van Gestel YR, Hoeks SE, Sin DD, Huzair V, Stam H, Mertens FW, et al. COPD and cancer mortality: the influence of statins. *Thorax.* 2009 Nov;64(11):963-7.

103. Winkel TA, Schouten O, Hoeks SE, Verhagen HJ, Bax JJ, Poldermans D. Prognosis of transient new-onset atrial fibrillation during vascular surgery. *Eur J Vasc Endovasc Surg.* 2009 Dec;38(6):683-8.

104. Flu WJ, van Kuijk JP, Hoeks SE, Kuiper R, Schouten O, Goei D, et al. Intima media thickness of the common carotid artery in vascular surgery patients: a predictor of postoperative cardiovascular events. *Am Heart J.* 2009 Aug;158(2):202-8.

105. van Lier F, Schouten O, van Domburg RT, van der Geest PJ, Boersma E, Fleisher LA, et al. Effect of chronic beta-blocker use on stroke after noncardiac surgery. *Am J Cardiol.* 2009 Aug 1;104(3):429-33.

107. de Liefde I, Hoeks SE, van Gestel YR, Klein J, Bax JJ, Verhagen HJ, et al. The prognostic value of impaired walking distance on long-term outcome in patients with known or suspected peripheral arterial disease. *Eur J Vasc Endovasc Surg.* 2009 Oct;38(4):482-7.

108. Vidakovic R, Schouten O, Kuiper R, Hoeks SE, Flu WJ, van Kuijk JP, et al. The prevalence of polyvascular disease in patients referred for peripheral arterial disease. *Eur J Vasc Endovasc Surg.* 2009 Oct;38(4):435-40.

109. Winkel TA, Schouten O, van Kuijk JP, Verhagen HJ, Bax JJ, Poldermans D. Perioperative asymptomatic cardiac damage after endovascular abdominal aneurysm repair is associated with poor long-term outcome. *J Vasc Surg.* 2009 Oct;50(4):749-54; discussion 54.

110. Flu WJ, van Kuijk JP, Merks EJ, Kuiper R, Verhagen HJ, Bosch JG, et al. Screening for abdominal aortic aneurysms using a dedicated portable ultrasound system: early results. *Eur J Echocardiogr.* 2009 Jul;10(5):602-6.

113. van Gestel YR, Hoeks SE, Sin DD, Stam H, Mertens FW, Bax JJ, et al. Beta-blockers and health-related quality of life in patients with peripheral arterial disease and COPD. *Int J Chron Obstruct Pulmon Dis.* 2009;4:177-83.

115. Rizzello V, Poldermans D, Biagini E, Schinkel AF, Boersma E, Boccanelli A, et al. Prognosis of patients with ischaemic cardiomyopathy after coronary revascularisation: relation to viability and improvement in left ventricular ejection fraction. *Heart.* 2009 Aug;95(15):1273-7.

118. Hoeks SE, op Reimer WJ, van Gestel YR, Smolderen KG, Verhagen H, van Domburg RT, et al. Preoperative cardiac risk index predicts long-term mortality and health status. *Am J Med.* 2009 Jun;122(6):559-65.

119. van Kuijk JP, Dunkelgrun M, Schreiner F, Flu WJ, Galal W, van Domburg RT, et al. Preoperative oral glucose tolerance testing in vascular surgery patients: long-term cardiovascular outcome. *Am Heart J.* 2009 May;157(5):919-25.

120. van Gestel YR, Chonchol M, Hoeks SE, Welten GM, Stam H, Mertens FW, et al. Association between chronic obstructive pulmonary disease and chronic kidney disease in vascular surgery patients. *Nephrol Dial Transplant.* 2009 Sep;24(9):2763-7.

123. Goei D, Hoeks SE, Boersma E, Winkel TA, Dunkelgrun M, Flu WJ, et al. Incremental value of high-sensitivity C-reactive protein and N-terminal pro-B-type natriuretic peptide for the prediction of

postoperative cardiac events in noncardiac vascular surgery patients. *Coron Artery Dis.* 2009 May;20(3):219-24.

135. Elhendy A, Schinkel AF, van Domburg RT, Bax JJ, Feringa HH, Noordzij PG, et al. Comparison of outcome after myocardial infarction in patients with and without abnormalities on previous stress Tc-99m tetrofosmin myocardial perfusion imaging. *Clin Nucl Med.* 2008 Dec;33(12):852-5.

136. Hoeks SE, Smolderen KG, Scholte Op Reimer WJ, Verhagen HJ, Spertus JA, Poldermans D. Clinical validity of a disease-specific health status questionnaire: the peripheral artery questionnaire. *J Vasc Surg.* 2009 Feb;49(2):371-7.

137. Schouten O, Hoeks SE, Goei D, Bax JJ, Verhagen HJ, Poldermans D. Plasma N-terminal pro-B-type natriuretic peptide as a predictor of perioperative and long-term outcome after vascular surgery. *J Vasc Surg.* 2009 Feb;49(2):435-41; discussion 41-2.

140. de Liefde I, Hoeks SE, van Gestel YR, Klein J, Verhagen HJ, van Domburg RT, et al. Prognostic value of hypotensive blood pressure response during single-stage exercise test on long-term outcome in patients with known or suspected peripheral arterial disease. *Coron Artery Dis.* 2008 Dec;19(8):603-7.

142. Hoeks SE, Scholte Op Reimer WJ, Schouten O, Lenzen MJ, van Urk H, Poldermans D. Statin use in the elderly: results from a peripheral vascular survey in The Netherlands. *J Vasc Surg.* 2008 Oct;48(4):891-5; discussion 5-6.

143. Pedone C, Elhendy A, Biagini E, van Domburg RT, Schinkel AF, Di Pasquale G, et al. Prognostic significance of myocardial ischemia by dobutamine stress echocardiography in patients without angina pectoris after coronary revascularization. *Am J Cardiol.* 2008 Nov 1;102(9):1156-8.

144. Schouten O, Lever TM, Welten GM, Winkel TA, Dols LF, Bax JJ, et al. Long-term cardiac outcome in high-risk patients undergoing elective endovascular or open infrarenal abdominal aortic aneurysm repair. *Eur J Vasc Endovasc Surg.* 2008 Dec;36(6):646-52.

145. de Liefde I, Hoeks SE, van Gestel YR, Bax JJ, Klein J, van Domburg RT, et al. Usefulness of hypertensive blood pressure response during a single-stage exercise test to predict long-term outcome in patients with peripheral arterial disease. *Am J Cardiol.* 2008 Oct 1;102(7):921-6.

146. Dunkelgrun M, Welten GM, Goei D, Winkel TA, Schouten O, van Domburg RT, et al. Association between serum uric acid and perioperative and late cardiovascular outcome in patients with suspected or definite coronary artery disease undergoing elective vascular surgery. *Am J Cardiol.* 2008 Oct 1;102(7):797-801.

147. Smolderen KG, Hoeks SE, Aquarius AE, Scholte op Reimer WJ, Spertus JA, van Urk H, et al. Further validation of the peripheral artery questionnaire: results from a peripheral vascular surgery survey in the Netherlands. *Eur J Vasc Endovasc Surg.* 2008 Nov;36(5):582-91.

148. Poldermans D, Dunkelgrun M, Schouten O, Hostalek U. Prolonged-release nicotinic acid in patients with atherosclerotic disease in the Netherlands. *Eur Surg Res.* 2008;41(4):313-8.

150. Galal W, van Gestel YR, Hoeks SE, Sin DD, Winkel TA, Bax JJ, et al. The obesity paradox in patients with peripheral arterial disease. *Chest.* 2008 Nov;134(5):925-30.

153. Welten GM, Chonchol M, Schouten O, Hoeks S, Bax JJ, van Domburg RT, et al. Statin use is associated with early recovery of kidney injury after vascular surgery and improved long-term outcome. *Nephrol Dial Transplant.* 2008 Dec;23(12):3867-73.

154. van Gestel YR, Hoeks SE, Sin DD, Simsek C, Welten GM, Schouten O, et al. Effect of statin

therapy on mortality in patients with peripheral arterial disease and comparison of those with versus without associated chronic obstructive pulmonary disease. *Am J Cardiol.* 2008 Jul 15;102(2):192-6.

156. van Gestel YR, Hoeks SE, Sin DD, Welten GM, Schouten O, Witteveen HJ, et al. Impact of cardioselective beta-blockers on mortality in patients with chronic obstructive pulmonary disease and atherosclerosis. *Am J Respir Crit Care Med.* 2008 Oct 1;178(7):695-700.

160. Welten GM, Schouten O, Hoeks SE, Chonchol M, Vidakovic R, van Domburg RT, et al. Long-term prognosis of patients with peripheral arterial disease: a comparison in patients with coronary artery disease. *J Am Coll Cardiol.* 2008 Apr 22;51(16):1588-96.

161. Dunkelgrun M, Hoeks SE, Welten GM, Vidakovic R, Winkel TA, Schouten O, et al. Anemia as an independent predictor of perioperative and long-term cardiovascular outcome in patients scheduled for elective vascular surgery. *Am J Cardiol.* 2008 Apr 15;101(8):1196-200.

164. Dunkelgrun M, Hoeks SE, Schouten O, Feringa HH, Welten GM, Vidakovic R, et al. Methionine loading does not enhance the predictive value of homocysteine serum testing for all-cause mortality or major adverse cardiac events. *Intern Med J.* 2009 Jan;39(1):13-8.

165. Dunkelgrun M, Schreiner F, Schockman DB, Hoeks SE, Feringa HH, Goei D, et al. Usefulness of preoperative oral glucose tolerance testing for perioperative risk stratification in patients scheduled for elective vascular surgery. *Am J Cardiol.* 2008 Feb 15;101(4):526-9.

169. Feringa HH, Vidakovic R, Karagiannis SE, Dunkelgrun M, Elhendy A, Boersma E, et al. Impaired glucose regulation, elevated glycated haemoglobin and cardiac ischaemic events in vascular surgery patients. *Diabet Med.* 2008 Mar;25(3):314-9.

170. van Domburg RT, Hoeks SE, Welten GM, Chonchol M, Elhendy A, Poldermans D. Renal insufficiency and mortality in patients with known or suspected coronary artery disease. *J Am Soc Nephrol.* 2008 Jan;19(1):158-63.

171. Feringa HH, Bax JJ, Karagiannis SE, Noordzij P, van Domburg R, Klein J, et al. Elderly patients undergoing major vascular surgery: risk factors and medication associated with risk reduction. *Arch Gerontol Geriatr.* 2009 Jan-Feb;48(1):116-20.

173. Goei D, Schouten O, Boersma E, Welten GM, Dunkelgrun M, Lindemans J, et al. Influence of renal function on the usefulness of N-terminal pro-B-type natriuretic peptide as a prognostic cardiac risk marker in patients undergoing noncardiac vascular surgery. *Am J Cardiol.* 2008 Jan 1;101(1):122-6.

175. Vidakovic R, Feringa HH, Kuiper RJ, Karagiannis SE, Schouten O, Dunkelgrun M, et al. Comparison with computed tomography of two ultrasound devices for diagnosis of abdominal aortic aneurysm. *Am J Cardiol.* 2007 Dec 15;100(12):1786-91.

176. Feringa HH, Bax JJ, Hoeks S, van Wanang VH, Elhendy A, Karagiannis S, et al. A prognostic risk index for long-term mortality in patients with peripheral arterial disease. *Arch Intern Med.* 2007 Dec 10;167(22):2482-9.

178. Feringa HH, Vidakovic R, Karagiannis SE, de Jonge R, Lindemans J, Goei D, et al. Baseline natriuretic peptide levels in relation to myocardial ischemia, troponin T release and heart rate variability in patients undergoing major vascular surgery. *Coron Artery Dis.* 2007 Dec;18(8):645-51.

179. Karagiannis SE, Feringa HH, Elhendy A, van Domburg R, Chonchol M, Vidakovic R, et al. Prognostic significance of renal function in patients undergoing dobutamine stress echocardiography. *Nephrol Dial Transplant.* 2008 Feb;23(2):601-7.

180. Feringa HH, Karagiannis SE, Vidakovic R, Elhendy A, Schouten O, Boersma E, et al. Glycemic control, lipid-lowering treatment, and prognosis in diabetic patients with peripheral atherosclerotic disease. *Ann Vasc Surg.* 2007 Nov;21(6):780-9.
181. Welten GM, Chonchol M, Hoeks SE, Schouten O, Dunkelgrun M, van Gestel YR, et al. Statin therapy is associated with improved outcomes in vascular surgery patients with renal impairment. *Am Heart J.* 2007 Nov;154(5):954-61.
183. Feringa HH, Karagiannis S, Vidakovic R, Noordzij PG, Brugts JJ, Schouten O, et al. Comparison of the incidences of cardiac arrhythmias, myocardial ischemia, and cardiac events in patients treated with endovascular versus open surgical repair of abdominal aortic aneurysms. *Am J Cardiol.* 2007 Nov 1;100(9):1479-84.
184. Feringa HH, Schouten O, Karagiannis SE, Brugts J, Elhendy A, Boersma E, et al. Intensity of statin therapy in relation to myocardial ischemia, troponin T release, and clinical cardiac outcome in patients undergoing major vascular surgery. *J Am Coll Cardiol.* 2007 Oct 23;50(17):1649-56.
186. Feringa HH, Karagiannis SE, Vidakovic R, Elhendy A, ten Cate FJ, Noordzij PG, et al. The prevalence and prognosis of unrecognized myocardial infarction and silent myocardial ischemia in patients undergoing major vascular surgery. *Coron Artery Dis.* 2007 Nov;18(7):571-6.
187. Hoeks SE, Scholte op Reimer WJ, Lenzen MJ, van Urk H, Jorning PJ, Boersma E, et al. Guidelines for cardiac management in noncardiac surgery are poorly implemented in clinical practice: results from a peripheral vascular survey in the Netherlands. *Anesthesiology.* 2007 Oct;107(4):537-44.
188. Welten GM, Chonchol M, Hoeks SE, Schouten O, Bax JJ, Dunkelgrun M, et al. Beta-blockers improve outcomes in kidney disease patients having noncardiac vascular surgery. *Kidney Int.* 2007 Dec;72(12):1527-34.
194. Feringa HH, Hendriks JM, Karagiannis S, Schouten O, Vidakovic R, van Sambeek MR, et al. Carotid artery stenting versus endarterectomy in relation to perioperative myocardial ischemia, troponin T release and major cardiac events. *Coron Artery Dis.* 2007 Sep;18(6):483-7.
195. Elhendy A, Schinkel AF, van Domburg RT, Bax JJ, Feringa HH, Noordzij PG, et al. Prognostic implications of stress Tc-99m tetrofosmin myocardial perfusion imaging in patients with left ventricular hypertrophy. *J Nucl Cardiol.* 2007 Jul;14(4):550-4.
196. Karatasakis G, Leontiadis E, Papadakis E, Koutsogiannis N, Athanassopoulos G, Spargias K, et al. Transthoracic Doppler echocardiography assessment of left anterior descending artery flow in patients with previous anterior myocardial infarction. *Eur J Echocardiogr.* 2008 May;9(3):363-7.
197. Welten GM, Schouten O, Chonchol M, Hoeks SE, Feringa HH, Bax JJ, et al. Temporary worsening of renal function after aortic surgery is associated with higher long-term mortality. *Am J Kidney Dis.* 2007 Aug;50(2):219-28.
198. Schouten O, Hoeks SE, Welten GM, Davignon J, Kastelein JJ, Vidakovic R, et al. Effect of statin withdrawal on frequency of cardiac events after vascular surgery. *Am J Cardiol.* 2007 Jul 15;100(2):316-20.
200. Welten GM, Schouten O, van Domburg RT, Feringa HH, Hoeks SE, Dunkelgrun M, et al. The influence of aging on the prognostic value of the revised cardiac risk index for postoperative cardiac complications in vascular surgery patients. *Eur J Vasc Endovasc Surg.* 2007 Dec;34(6):632-8.
203. Karagiannis SE, Feringa HH, Vidakovic R, van Domburg R, Schouten O, Bax JJ, et al. Value of myocardial viability estimation using dobutamine stress echocardiography in assessing risk

preoperatively before noncardiac vascular surgery in patients with left ventricular ejection fraction <35%. *Am J Cardiol.* 2007 Jun 1;99(11):1555-9.

204. Galal W, van Domburg RT, Feringa HH, Schouten O, Elhendy A, Bax JJ, et al. Relation of body mass index to outcome in patients with known or suspected coronary artery disease. *Am J Cardiol.* 2007 Jun 1;99(11):1485-90.

205. Karagiannis SE, Roelandt J, Qazi M, Krishnan S, Feringa HH, Vidakovic R, et al. Automated coupled-contour and robust myocardium tracking in stress echocardiography. *Eur J Echocardiogr.* 2007 Dec;8(6):431-7.

206. Feringa HH, Elhendy A, Karagiannis SE, Noordzij PG, Dunkelgrun M, Schouten O, et al. Improving risk assessment with cardiac testing in peripheral arterial disease. *Am J Med.* 2007 Jun;120(6):531-8.

207. Feringa HH, Karagiannis SE, Schouten O, Vidakovic R, van Waning VH, Boersma E, et al. Prognostic significance of declining ankle-brachial index values in patients with suspected or known peripheral arterial disease. *Eur J Vasc Endovasc Surg.* 2007 Aug;34(2):206-13.

210. Sozzi FB, Elhendy A, Rizzello V, Biagini E, van Domburg RT, Schinkel AF, et al. Prognostic significance of myocardial ischemia during dobutamine stress echocardiography in asymptomatic patients with diabetes mellitus and no prior history of coronary events. *Am J Cardiol.* 2007 May 1;99(9):1193-5.

211. Feringa HH, Karagiannis SE, Chonchol M, Vidakovic R, Noordzij PG, Elhendy A, et al. Lower progression rate of end-stage renal disease in patients with peripheral arterial disease using statins or Angiotensin-converting enzyme inhibitors. *J Am Soc Nephrol.* 2007 Jun;18(6):1872-9.

213. Dunkelgrun M, Hoeks SE, Elhendy A, van Domburg RT, Bax JJ, Noordzij PG, et al. Significance of hypotensive response during dobutamine stress echocardiography. *Int J Cardiol.* 2008 Apr 25;125(3):358-63.

216. Karagiannis SE, Elhendy A, Feringa HH, van Domburg R, Bax JJ, Vidakovic R, et al. The long prognostic value of wall motion abnormalities during the recovery phase of dobutamine stress echocardiography after receiving acute beta-blockade. *Coron Artery Dis.* 2007 May;18(3):187-92.

219. Feringa HH, Karagiannis SE, van Waning VH, Boersma E, Schouten O, Bax JJ, et al. The effect of intensified lipid-lowering therapy on long-term prognosis in patients with peripheral arterial disease. *J Vasc Surg.* 2007 May;45(5):936-43.

220. Sozzi FB, Elhendy A, Rizzello V, Biagini E, van Domburg RT, Vourvouri EC, et al. Prognostic significance of akinesis becoming dyskinesis during dobutamine stress echocardiography. *J Am Soc Echocardiogr.* 2007 Mar;20(3):257-61.

225. Noordzij PG, Boersma E, Schreiner F, Kertai MD, Feringa HH, Dunkelgrun M, et al. Increased preoperative glucose levels are associated with perioperative mortality in patients undergoing noncardiac, nonvascular surgery. *Eur J Endocrinol.* 2007 Jan;156(1):137-42.

227. Schouten O, Dunkelgrun M, Feringa HH, Kok NF, Vidakovic R, Bax JJ, et al. Myocardial damage in high-risk patients undergoing elective endovascular or open infrarenal abdominal aortic aneurysm repair. *Eur J Vasc Endovasc Surg.* 2007 May;33(5):544-9.

230. Noordzij PG, Poldermans D, Schouten O, Schreiner F, Feringa HH, Dunkelgrun M, et al. Beta-blockers and statins are individually associated with reduced mortality in patients undergoing

noncardiac, nonvascular surgery. *Coron Artery Dis.* 2007 Feb;18(1):67-72.

232. Karagiannis SE, Feringa HH, Bax JJ, Elhendy A, Dunkelgrun M, Vidakovic R, et al. Myocardial viability estimation during the recovery phase of stress echocardiography after acute beta-blocker administration. *Eur J Heart Fail.* 2007 Apr;9(4):403-8.

234. Feringa HH, Bax JJ, de Jonge R, Elhendy A, van Domburg RT, Dunkelgrun M, et al. Impact of glomerular filtration rate on minor troponin T elevations for risk assessment in patients undergoing operation for abdominal aortic aneurysm or lower extremity arterial obstruction. *Am J Cardiol.* 2006 Dec 1;98(11):1515-8.

242. Schouten O, Kok NF, Hoedt MT, van Laanen JH, Poldermans D. The influence of aneurysm size on perioperative cardiac outcome in elective open infrarenal aortic aneurysm repair. *J Vasc Surg.* 2006 Sep;44(3):435-41.

244. Elhendy A, Schinkel AF, Bax JJ, van Domburg RT, Valkema R, Biagini E, et al. Accuracy of stress Tc-99m tetrofosmin myocardial perfusion tomography for the diagnosis and localization of coronary artery disease in women. *J Nucl Cardiol.* 2006 Sep;13(5):629-34.

246. Hoeks SE, Scholte Op Reimer WJ, van Urk H, Jorning PJ, Boersma E, Simoons ML, et al. Increase of 1-year mortality after perioperative beta-blocker withdrawal in endovascular and vascular surgery patients. *Eur J Vasc Endovasc Surg.* 2007 Jan;33(1):13-9.

247. Vidakovic R, Schouten O, Feringa HH, Dunkelgrun M, Karagiannis SE, Merks E, et al. Abdominal aortic aneurysm screening using non-imaging hand-held ultrasound volume scanner--a pilot study. *Eur J Vasc Endovasc Surg.* 2006 Dec;32(6):615-9.

248. Elhendy A, Schinkel AF, van Domburg RT, Bax JJ, Valkema R, Huurman A, et al. Prognostic value of exercise stress technetium-99m-tetrofosmin myocardial perfusion imaging in patients with normal baseline electrocardiograms. *Am J Cardiol.* 2006 Sep 1;98(5):585-90.

249. Feringa HH, Schouten O, Dunkelgrun M, Bax JJ, Boersma E, Elhendy A, et al. Plasma N-terminal pro-B-type natriuretic peptide as long-term prognostic marker after major vascular surgery. *Heart.* 2007 Feb;93(2):226-31.

250. Rizzello V, Poldermans D, Schinkel AF, Biagini E, Boersma E, Elhendy A, et al. Outcome after redo coronary artery bypass grafting in patients with ischaemic cardiomyopathy and viable myocardium. *Heart.* 2007 Feb;93(2):221-5.

253. Elhendy A, Schinkel AF, van Domburg RT, Bax JJ, Valkema R, Biagini E, et al. Prognostic stratification of obese patients by stress 99mTc-tetrofosmin myocardial perfusion imaging. *J Nucl Med.* 2006 Aug;47(8):1302-6.

256. Feringa HH, Bax JJ, Elhendy A, van Domburg RT, Schouten O, Krenning B, et al. Hemodynamic responses and long-term follow-up results in patients using chronic beta 1-selective and nonselective beta-blockers during dobutamine stress echocardiography. *Coron Artery Dis.* 2006 Aug;17(5):447-53.

259. Feringa HH, Bax JJ, Boersma E, Kertai MD, Meij SH, Galal W, et al. High-dose beta-blockers and tight heart rate control reduce myocardial ischemia and troponin T release in vascular surgery patients. *Circulation.* 2006 Jul 4;114(1 Suppl):I344-9.

261. Bountiukos M, Schinkel AF, Bax JJ, Lampropoulos S, Poldermans D. The impact of hypertension on systolic and diastolic left ventricular function. A tissue Doppler echocardiographic study. *Am Heart J.* 2006 Jun;151(6):1323 e7-12.

262. Elhendy A, Schinkel AF, van Domburg RT, Bax JJ, Valkema R, Biagini E, et al. Prognostic value of stress <sup>99m</sup>Tc-tetrofosmin myocardial perfusion imaging in predicting all-cause mortality: a 6-year follow-up study. *Eur J Nucl Med Mol Imaging*. 2006 Oct;33(10):1157-61.
267. Feringa HH, Bax JJ, Schouten O, Poldermans D. Protecting the heart with cardiac medication in patients with left ventricular dysfunction undergoing major noncardiac vascular surgery. *Semin Cardiothorac Vasc Anesth*. 2006 Mar;10(1):25-31.
268. van de Pol MA, van Houdenhoven M, Hans EW, Boersma E, Bax JJ, Feringa HH, et al. Influence of cardiac risk factors and medication on length of hospitalization in patients undergoing major vascular surgery. *Am J Cardiol*. 2006 May 15;97(10):1423-6.
269. Schouten O, Kok NF, Boersma E, Bax JJ, Feringa HH, Vidakovic R, et al. Effects of statins on renal function after aortic cross clamping during major vascular surgery. *Am J Cardiol*. 2006 May 1;97(9):1383-5.
270. Elhendy A, Schinkel AF, van Domburg RT, Bax JJ, Valkema R, Poldermans D. Non-invasive diagnosis of in stent stenosis by stress <sup>99m</sup>Tc tetrofosmin myocardial perfusion imaging. *Int J Cardiovasc Imaging*. 2006 Oct;22(5):657-62.
272. Noordzij PG, Boersma E, Bax JJ, Feringa HH, Schreiner F, Schouten O, et al. Prognostic value of routine preoperative electrocardiography in patients undergoing noncardiac surgery. *Am J Cardiol*. 2006 Apr 1;97(7):1103-6.
273. Feringa HH, van Waning VH, Bax JJ, Elhendy A, Boersma E, Schouten O, et al. Cardioprotective medication is associated with improved survival in patients with peripheral arterial disease. *J Am Coll Cardiol*. 2006 Mar 21;47(6):1182-7.
275. Feringa HH, Bax JJ, van Waning VH, Boersma E, Elhendy A, Schouten O, et al. The long-term prognostic value of the resting and postexercise ankle-brachial index. *Arch Intern Med*. 2006 Mar 13;166(5):529-35.
276. Schouten O, van Laanen JH, Boersma E, Vidakovic R, Feringa HH, Dunkelgrun M, et al. Statins are associated with a reduced infrarenal abdominal aortic aneurysm growth. *Eur J Vasc Endovasc Surg*. 2006 Jul;32(1):21-6.
279. Karagiannis SE, Bax JJ, Elhendy A, Feringa HH, Cokkinos DV, van Domburg R, et al. Enhanced sensitivity of dobutamine stress echocardiography by observing wall motion abnormalities during the recovery phase after acute beta-blocker administration. *Am J Cardiol*. 2006 Feb 15;97(4):462-5.
281. Schinkel AF, Poldermans D, Rizzello V, van Domburg RT, Valkema R, Elhendy A, et al. Impact of diabetes mellitus on prediction of clinical outcome after coronary revascularization by <sup>18F</sup>-FDG SPECT in patients with ischemic left ventricular dysfunction. *J Nucl Med*. 2006 Jan;47(1):68-73.
283. Biagini E, Schinkel AF, Elhendy A, Bax JJ, Rizzello V, van Domburg RT, et al. Pacemaker stress echocardiography predicts cardiac events in patients with permanent pacemaker. *Am J Med*. 2005 Dec;118(12):1381-6.
284. Schinkel AF, Elhendy A, Bax JJ, van Domburg RT, Huurman A, Valkema R, et al. Prognostic implications of a normal stress technetium-<sup>99m</sup>-tetrofosmin myocardial perfusion study in patients with a healed myocardial infarct and/or previous coronary revascularization. *Am J Cardiol*. 2006 Jan 1;97(1):1-6.
285. Feringa HH, Bax JJ, Schouten O, Kertai MD, van de Ven LL, Hoeks S, et al. Beta-blockers improve in-hospital and long-term survival in patients with severe left ventricular dysfunction

undergoing major vascular surgery. *Eur J Vasc Endovasc Surg.* 2006 Apr;31(4):351-8.

286. Elhendy A, Schinkel AF, van Domburg RT, Bax JJ, Valkema R, Huurman A, et al. Risk stratification of patients with angina pectoris by stress <sup>99m</sup>Tc-tetrofosmin myocardial perfusion imaging. *J Nucl Med.* 2005 Dec;46(12):2003-8.

288. Biagini E, Elhendy A, Schinkel AF, Rizzello V, Bax JJ, Sozzi FB, et al. Long-term prediction of mortality in elderly persons by dobutamine stress echocardiography. *J Gerontol A Biol Sci Med Sci.* 2005 Oct;60(10):1333-8.

291. Elhendy A, Huurman A, Schinkel AF, Bax JJ, van Domburg RT, Valkema R, et al. Association of ischemia on stress (<sup>99m</sup>Tc)-tetrofosmin myocardial perfusion imaging with all-cause mortality in patients with diabetes mellitus. *J Nucl Med.* 2005 Oct;46(10):1589-95.

294. Boersma E, Kertai MD, Schouten O, Bax JJ, Noordzij P, Steyerberg EW, et al. Perioperative cardiovascular mortality in noncardiac surgery: validation of the Lee cardiac risk index. *Am J Med.* 2005 Oct;118(10):1134-41.

295. Rizzello V, Poldermans D, Biagini E, Schinkel AF, Boersma E, Elhendy A, et al. Benefits of coronary revascularisation in diabetic and non-diabetic patients with ischaemic cardiomyopathy: role of myocardial viability. *Eur J Heart Fail.* 2006 May;8(3):314-20.

297. Schouten O, van Waning VH, Kertai MD, Feringa HH, Bax JJ, Boersma E, et al. Perioperative and long-term cardiovascular outcomes in patients undergoing endovascular treatment compared with open vascular surgery for abdominal aortic aneurysm or iliaco-femoro-popliteal bypass. *Am J Cardiol.* 2005 Sep 15;96(6):861-6.

298. Elhendy A, Biagini E, Schinkel AF, van Domburg RT, Bax JJ, Rizzello V, et al. Clinical and prognostic implications of angina pectoris developing during dobutamine stress echocardiography in the absence of inducible wall motion abnormalities. *Am J Cardiol.* 2005 Sep 15;96(6):788-93.

301. Biagini E, Elhendy A, Schinkel AF, Nelwan S, Rizzello V, van Domburg RT, et al. Prognostic significance of left anterior hemiblock in patients with suspected coronary artery disease. *J Am Coll Cardiol.* 2005 Sep 6;46(5):858-63.

303. Elhendy A, Sozzi F, van Domburg RT, Bax JJ, Schinkel AF, Roelandt JR, et al. Effect of myocardial ischemia during dobutamine stress echocardiography on cardiac mortality in patients with heart failure secondary to ischemic cardiomyopathy. *Am J Cardiol.* 2005 Aug 15;96(4):469-73.

308. Rizzello V, Poldermans D, Biagini E, Schinkel AF, Elhendy A, Leone AM, et al. Relation of improvement in left ventricular ejection fraction versus improvement in heart failure symptoms after coronary revascularization in patients with ischemic cardiomyopathy. *Am J Cardiol.* 2005 Aug 1;96(3):386-9.

311. Pedone C, Bax JJ, van Domburg RT, Rizzello V, Biagini E, Schinkel AF, et al. Long-term prognostic value of ejection fraction changes during dobutamine-atropine stress echocardiography. *Coron Artery Dis.* 2005 Aug;16(5):309-13.

315. Bigi R, Bax JJ, van Domburg RT, Elhendy A, Cortigiani L, Schinkel AF, et al. Simultaneous echocardiography and myocardial perfusion single photon emission computed tomography associated with dobutamine stress to predict long-term cardiac mortality in normotensive and hypertensive patients. *J Hypertens.* 2005 Jul;23(7):1409-15.

316. Biagini E, Schinkel AF, Bax JJ, Rizzello V, van Domburg RT, Krenning BJ, et al. Long term outcome in patients with silent versus symptomatic ischaemia during dobutamine stress



echocardiography. *Heart*. 2005 Jun;91(6):737-42.

317. Schinkel AF, Bax JJ, Biagini E, Elhendy A, van Domburg RT, Valkema R, et al. Myocardial technetium-99m-tetrofosmin single-photon emission computed tomography compared with 18F-fluorodeoxyglucose imaging to assess myocardial viability. *Am J Cardiol*. 2005 May 15;95(10):1223-5.

318. Pedone C, Schinkel AF, Elhendy A, van Domburg RT, Valkema R, Biagini E, et al. Incremental prognostic value of dobutamine-atropine stress 99mTc-tetrofosmin myocardial perfusion imaging for predicting outcome in diabetic patients with limited exercise capacity. *Eur J Nucl Med Mol Imaging*. 2005 Sep;32(9):1057-63.

319. Kertai MD, Boersma E, Klein J, van Sambeek M, Schouten O, van Urk H, et al. Optimizing the prediction of perioperative mortality in vascular surgery by using a customized probability model. *Arch Intern Med*. 2005 Apr 25;165(8):898-904.

323. Rambaldi R, Bax JJ, Rizzello V, Biagini E, Valkema R, Roelandt JR, et al. Post-systolic shortening during dobutamine stress echocardiography predicts cardiac survival in patients with severe left ventricular dysfunction. *Coron Artery Dis*. 2005 May;16(3):141-5.

324. Rizzello V, Poldermans D, Schinkel AF, Biagini E, Boersma E, Elhendy A, et al. Long term prognostic value of myocardial viability and ischaemia during dobutamine stress echocardiography in patients with ischaemic cardiomyopathy undergoing coronary revascularisation. *Heart*. 2006 Feb;92(2):239-44.

328. Rizzello V, Poldermans D, Biagini E, Schinkel AF, van Domburg R, Elhendy A, et al. Improvement of stress LVEF rather than rest LVEF after coronary revascularisation in patients with ischaemic cardiomyopathy and viable myocardium. *Heart*. 2005 Mar;91(3):319-23.

330. Bountiukos M, Schinkel AF, Bax JJ, Biagini E, Rizzello V, Krenning BJ, et al. Pulsed-wave tissue Doppler quantification of systolic and diastolic function of viable and nonviable myocardium in patients with ischemic cardiomyopathy. *Am Heart J*. 2004 Dec;148(6):1079-84.

332. Schinkel AF, Elhendy A, Biagini E, van Domburg RT, Valkema R, Rizzello V, et al. Prognostic stratification using dobutamine stress 99mTc-tetrofosmin myocardial perfusion SPECT in elderly patients unable to perform exercise testing. *J Nucl Med*. 2005 Jan;46(1):12-8.

333. Biagini E, Elhendy A, Bax JJ, Rizzello V, Schinkel AF, van Domburg RT, et al. Seven-year follow-up after dobutamine stress echocardiography: impact of gender on prognosis. *J Am Coll Cardiol*. 2005 Jan 4;45(1):93-7.

335. Elhendy A, Schinkel AF, van Domburg RT, Bax JJ, Valkema R, Poldermans D. Prognostic value of stress Tc-99m tetrofosmin SPECT in patients with previous myocardial infarction: impact of scintigraphic extent of coronary artery disease. *J Nucl Cardiol*. 2004 Nov-Dec;11(6):704-9.

340. Rizzello V, Poldermans D, Boersma E, Biagini E, Schinkel AF, Krenning B, et al. Opposite patterns of left ventricular remodeling after coronary revascularization in patients with ischemic cardiomyopathy: role of myocardial viability. *Circulation*. 2004 Oct 19;110(16):2383-8.

341. Elhendy A, Schinkel AF, van Domburg RT, Bax JJ, Poldermans D. Incidence and predictors of heart failure during long-term follow-up after stress Tc-99m sestamibi tomography in patients with suspected coronary artery disease. *J Nucl Cardiol*. 2004 Sep-Oct;11(5):527-33.

342. Biagini E, Schinkel AF, Rizzello V, van Domburg RT, Pedone C, Elhendy A, et al. Prognostic stratification of patients with right bundle branch block using dobutamine stress echocardiography. *Am J*

Cardiol. 2004 Oct 1;94(7):954-7.

343. Rizzello V, Poldermans D, Biagini E, Kertai MD, Schinkel AF, Boersma E, et al. Comparison of long-term effect of coronary artery bypass grafting in patients with ischemic cardiomyopathy with viable versus nonviable left ventricular myocardium. *Am J Cardiol.* 2004 Sep 15;94(6):757-60.
344. Sozzi FB, Elhendy A, Rizzello V, van Domburg RT, Kertai M, Vourvouri E, et al. Prognostic value of dobutamine stress echocardiography in patients with systemic hypertension and known or suspected coronary artery disease. *Am J Cardiol.* 2004 Sep 15;94(6):733-9.
345. Bax JJ, Schinkel AF, Boersma E, Elhendy A, Rizzello V, Maat A, et al. Extensive left ventricular remodeling does not allow viable myocardium to improve in left ventricular ejection fraction after revascularization and is associated with worse long-term prognosis. *Circulation.* 2004 Sep 14;110(11 Suppl 1):II18-22.
346. Kertai MD, Boersma E, Westerhout CM, Klein J, Van Urk H, Bax JJ, et al. A combination of statins and beta-blockers is independently associated with a reduction in the incidence of perioperative mortality and nonfatal myocardial infarction in patients undergoing abdominal aortic aneurysm surgery. *Eur J Vasc Endovasc Surg.* 2004 Oct;28(4):343-52.
347. Bountiukos M, Elhendy A, van Domburg RT, Schinkel AF, Bax JJ, Krenning BJ, et al. Prognostic value of dobutamine stress echocardiography in patients with previous coronary revascularisation. *Heart.* 2004 Sep;90(9):1031-5.
349. Elhendy A, Schinkel AF, van Domburg RT, Bax JJ, Poldermans D. Differential prognostic significance of peri-infarction versus remote myocardial ischemia on stress technetium-99m sestamibi tomography in patients with healed myocardial infarction. *Am J Cardiol.* 2004 Aug 1;94(3):289-93.
350. Rizzello V, Bax JJ, Schinkel AF, Boersma E, Bountiukos M, Vourvouri EC, et al. Does resting two-dimensional echocardiography identify patients with ischemic cardiomyopathy and low likelihood of functional recovery after coronary revascularization? *Coron Artery Dis.* 2004 Aug;15(5):269-75.
351. Elhendy A, Schinkel AF, Bax JJ, Van Domburg RT, Poldermans D. Prognostic value of dobutamine stress echocardiography in patients with normal left ventricular systolic function. *J Am Soc Echocardiogr.* 2004 Jul;17(7):739-43.
352. Schinkel AF, Bax JJ, Elhendy A, van Domburg RT, Valkema R, Vourvouri E, et al. Long-term prognostic value of dobutamine stress echocardiography compared with myocardial perfusion scanning in patients unable to perform exercise tests. *Am J Med.* 2004 Jul 1;117(1):1-9.
353. Kertai MD, Boersma E, Klein J, Van Urk H, Bax JJ, Poldermans D. Long-term prognostic value of asymptomatic cardiac troponin T elevations in patients after major vascular surgery. *Eur J Vasc Endovasc Surg.* 2004 Jul;28(1):59-66.
357. Bountiukos M, Schinkel AF, Bax JJ, Rizzello V, Valkema R, Krenning BJ, et al. Pulsed wave tissue Doppler imaging for the quantification of contractile reserve in stunned, hibernating, and scarred myocardium. *Heart.* 2004 May;90(5):506-10.
359. Bountiukos M, Schinkel AF, Poldermans D, Rizzello V, Vourvouri EC, Krenning BJ, et al. QT dispersion correlates to myocardial viability assessed by dobutamine stress echocardiography in patients with severely depressed left ventricular function due to coronary artery disease. *Eur J Heart Fail.* 2004 Mar 1;6(2):187-93.
361. Elhendy A, Schinkel AF, van Domburg RT, Bax JJ, Valkema R, Poldermans D. Prediction of all-cause mortality in women with known or suspected coronary artery disease by stress technetium-99m

tetrofosmin myocardial perfusion imaging. *Am J Cardiol.* 2004 Feb 15;93(4):450-2.

362. Rizzello V, Biagini E, Schinkel AF, Bountiukos M, Boersma E, Vourvouri EC, et al. Comparison of functional recovery of mildly hypokinetic versus severely dysfunctional left ventricular segments after revascularization in patients with ischemic cardiomyopathy. *Am J Cardiol.* 2004 Feb 15;93(4):394-8.

363. Schinkel AF, Vourvouri EC, Bax JJ, Boomsma F, Bountiukos M, Rizzello V, et al. Relation between left ventricular contractile reserve during low dose dobutamine echocardiography and plasma concentrations of natriuretic peptides. *Heart.* 2004 Mar;90(3):293-6.

364. Schinkel AF, Poldermans D, Rizzello V, Vanoverschelde JL, Elhendy A, Boersma E, et al. Why do patients with ischemic cardiomyopathy and a substantial amount of viable myocardium not always recover in function after revascularization? *J Thorac Cardiovasc Surg.* 2004 Feb;127(2):385-90.

365. Kertai MD, Boersma E, Westerhout CM, van Domburg R, Klein J, Bax JJ, et al. Association between long-term statin use and mortality after successful abdominal aortic aneurysm surgery. *Am J Med.* 2004 Jan 15;116(2):96-103.

366. Kertai MD, Bountiukos M, Boersma E, Bax JJ, Thomson IR, Sozzi F, et al. Aortic stenosis: an underestimated risk factor for perioperative complications in patients undergoing noncardiac surgery. *Am J Med.* 2004 Jan 1;116(1):8-13.

367. Schinkel AF, Poldermans D, Vanoverschelde JL, Elhendy A, Boersma E, Roelandt JR, et al. Incidence of recovery of contractile function following revascularization in patients with ischemic left ventricular dysfunction. *Am J Cardiol.* 2004 Jan 1;93(1):14-7.

370. Vourvouri EC, Schinkel AF, Roelandt JR, Boomsma F, Sianos G, Bountiukos M, et al. Screening for left ventricular dysfunction using a hand-carried cardiac ultrasound device. *Eur J Heart Fail.* 2003 Dec;5(6):767-74.

371. Elhendy A, Schinkel AF, van Domburg RT, Bax JJ, Valkema R, Poldermans D. Risk stratification of patients after myocardial revascularization by stress Tc-99m tetrofosmin myocardial perfusion tomography. *J Nucl Cardiol.* 2003 Nov-Dec;10(6):615-22.

372. Sozzi FB, Elhendy A, Roelandt JR, van Domburg RT, Schinkel AF, Vourvouri EC, et al. Long-term prognosis after normal dobutamine stress echocardiography. *Am J Cardiol.* 2003 Dec 1;92(11):1267-70.

373. Bountiukos M, Doorduijn JK, Roelandt JR, Vourvouri EC, Bax JJ, Schinkel AF, et al. Repetitive dobutamine stress echocardiography for the prediction of anthracycline cardiotoxicity. *Eur J Echocardiogr.* 2003 Dec;4(4):300-5.

374. Elhendy A, Schinkel AF, van Domburg RT, Bax JJ, Poldermans D. Prognostic significance of fixed perfusion abnormalities on stress technetium-99m sestamibi single-photon emission computed tomography in patients without known coronary artery disease. *Am J Cardiol.* 2003 Nov 15;92(10):1165-70.

376. Bountiukos M, Schinkel AF, Bax JJ, Rizzello V, Rambaldi R, Vourvouri EC, et al. Quantification of regional left ventricular function in Q wave and non-Q wave dysfunctional regions by tissue Doppler imaging in patients with ischaemic cardiomyopathy. *Heart.* 2003 Nov;89(11):1322-6.

378. Elhendy A, Schinkel AF, Van Domburg RT, Bax JJ, Poldermans D. Prediction of cardiac death in hypertensive patients with suspected or known coronary artery disease by stress technetium-99m tetrofosmin myocardial perfusion imaging. *J Hypertens.* 2003 Oct;21(10):1945-51.

380. Schinkel AF, Bountiokos M, Poldermans D, Elhendy A, Valkema R, Vourvouri EC, et al. Relation between QT dispersion and myocardial viability in ischemic cardiomyopathy. *Am J Cardiol.* 2003 Sep 15;92(6):712-5.
381. Bax JJ, Schinkel AF, Boersma E, Rizzello V, Elhendy A, Maat A, et al. Early versus delayed revascularization in patients with ischemic cardiomyopathy and substantial viability: impact on outcome. *Circulation.* 2003 Sep 9;108 Suppl 1:II39-42.
382. Bountiokos M, Rizzello V, Krenning BJ, Bax JJ, Kertai MD, Vourvouri EC, et al. Effect of atorvastatin on myocardial contractile reserve assessed by tissue Doppler imaging in moderately hypercholesterolemic patients without heart disease. *Am J Cardiol.* 2003 Sep 1;92(5):613-6.
384. Bountiokos M, Kertai MD, Schinkel AF, Vourvouri EC, Rizzello V, Krenning BJ, et al. Safety of dobutamine stress echocardiography in patients with aortic stenosis. *J Heart Valve Dis.* 2003 Jul;12(4):441-6.
390. Rizzello V, Schinkel AF, Bax JJ, Boersma E, Bountiokos M, Vourvouri EC, et al. Individual prediction of functional recovery after coronary revascularization in patients with ischemic cardiomyopathy: the scar-to-biphasic model. *Am J Cardiol.* 2003 Jun 15;91(12):1406-9.
392. Elhendy A, Schinkel A, Bax JJ, van Domburg RT, Poldermans D. Long-term prognosis after a normal exercise stress Tc-99m sestamibi SPECT study. *J Nucl Cardiol.* 2003 May-Jun;10(3):261-6.
393. Schinkel AF, Bax JJ, Valkema R, Elhendy A, van Domburg RT, Vourvouri EC, et al. Effect of diabetes mellitus on myocardial 18F-FDG SPECT using acipimox for the assessment of myocardial viability. *J Nucl Med.* 2003 Jun;44(6):877-83.
397. Poldermans D, Bax JJ, Kertai MD, Krenning B, Westerhout CM, Schinkel AF, et al. Statins are associated with a reduced incidence of perioperative mortality in patients undergoing major noncardiac vascular surgery. *Circulation.* 2003 Apr 15;107(14):1848-51.
400. Sozzi FB, Elhendy A, Roelandt JR, van Domburg RT, Schinkel AF, Vourvouri EC, et al. Prognostic value of dobutamine stress echocardiography in patients with diabetes. *Diabetes Care.* 2003 Apr;26(4):1074-8.
402. Schinkel AF, Elhendy A, van Domburg RT, Bax JJ, Vourvouri EC, Bountiokos M, et al. Incremental value of exercise technetium-99m tetrofosmin myocardial perfusion single-photon emission computed tomography for the prediction of cardiac events. *Am J Cardiol.* 2003 Feb 15;91(4):408-11.
403. Kertai MD, Steyerberg EW, Boersma E, Bax JJ, Vergouwe Y, van Urk H, et al. Validation of two risk models for perioperative mortality in patients undergoing elective abdominal aortic aneurysm surgery. *Vasc Endovascular Surg.* 2003 Jan-Feb;37(1):13-21.
404. Kertai MD, Boersma E, Bax JJ, van den Meiracker AH, van Urk H, Roelandt JR, et al. Comparison between serum creatinine and creatinine clearance for the prediction of postoperative mortality in patients undergoing major vascular surgery. *Clin Nephrol.* 2003 Jan;59(1):17-23.
406. Schinkel AF, Bax JJ, van Domburg R, Elhendy A, Valkema R, Vourvouri EC, et al. Dobutamine-induced contractile reserve in stunned, hibernating, and scarred myocardium in patients with ischemic cardiomyopathy. *J Nucl Med.* 2003 Feb;44(2):127-33.
407. Elhendy A, Schinkel AF, van Domburg RT, Bax JJ, Poldermans D. Comparison of late outcome in patients with versus without angina pectoris having reversible perfusion abnormalities during dobutamine stress technetium-99m sestamibi single-photon emission computed tomography. *Am J*

Cardiol. 2003 Feb 1;91(3):264-8.

412. Schinkel AF, Elhendy A, Van Domburg RT, Bax JJ, Valkema R, Roelandt JR, et al. Long-term prognostic value of dobutamine stress 99mTc-sestamibi SPECT: single-center experience with 8-year follow-up. *Radiology*. 2002 Dec;225(3):701-6.

413. Schinkel AF, Bax JJ, Boersma E, Elhendy A, Vourvouri EC, Roelandt JR, et al. Assessment of residual myocardial viability in regions with chronic electrocardiographic Q-wave infarction. *Am Heart J*. 2002 Nov;144(5):865-9.

417. Vourvouri EC, Poldermans D, Schinkel AF, Koroleva LY, Sozzi FB, Parharidis GE, et al. Left ventricular hypertrophy screening using a hand-held ultrasound device. *Eur Heart J*. 2002 Oct;23(19):1516-21.

418. Kertai MD, Boersma E, Sicari R, L'Italien GJ, Bax JJ, Roelandt JR, et al. Which stress test is superior for perioperative cardiac risk stratification in patients undergoing major vascular surgery? *Eur J Vasc Endovasc Surg*. 2002 Sep;24(3):222-9.

419. Schinkel AF, Elhendy A, van Domburg RT, Bax JJ, Vourvouri EC, Sozzi FB, et al. Prognostic value of dobutamine-atropine stress myocardial perfusion imaging in patients with diabetes. *Diabetes Care*. 2002 Sep;25(9):1637-43.

420. Schinkel AF, Bax JJ, Sozzi FB, Boersma E, Valkema R, Elhendy A, et al. Prevalence of myocardial viability assessed by single photon emission computed tomography in patients with chronic ischaemic left ventricular dysfunction. *Heart*. 2002 Aug;88(2):125-30.

422. Schinkel AF, Elhendy A, van Domburg RT, Bax JJ, Roelandt JR, Poldermans D. Prognostic value of dobutamine-atropine stress (99m)Tc-tetrofosmin myocardial perfusion SPECT in patients with known or suspected coronary artery disease. *J Nucl Med*. 2002 Jun;43(6):767-72.

424. Schinkel AF, Bax JJ, Elhendy A, Boersma E, Vourvouri EC, Sozzi FB, et al. Assessment of viable tissue in Q-wave regions by metabolic imaging using single-photon emission computed tomography in ischemic cardiomyopathy. *Am J Cardiol*. 2002 May 15;89(10):1171-5.

429. Vourvouri EC, Poldermans D, De Sutter J, Sozzi FB, Izzo P, Roelandt JR. Experience with an ultrasound stethoscope. *J Am Soc Echocardiogr*. 2002 Jan;15(1):80-5.

431. Sozzi FB, Poldermans D, Bax JJ, Elhendy A, Vourvouri EC, Valkema R, et al. Improved identification of viable myocardium using second harmonic imaging during dobutamine stress echocardiography. *Heart*. 2001 Dec;86(6):672-8.

432. Vourvouri EC, Poldermans D, Bax JJ, Sianos G, Sozzi FB, Schinkel AF, et al. Evaluation of left ventricular function and volumes in patients with ischaemic cardiomyopathy: gated single-photon emission computed tomography versus two-dimensional echocardiography. *Eur J Nucl Med*. 2001 Nov;28(11):1610-5.

434. Vourvouri EC, Poldermans D, Schinkel AF, Sozzi FB, Bax JJ, van Urk H, et al. Abdominal aortic aneurysm screening using a hand-held ultrasound device. "A pilot study". *Eur J Vasc Endovasc Surg*. 2001 Oct;22(4):352-4.

437. Sozzi FB, Poldermans D, Bax JJ, Boersma E, Vletter WB, Elhendy A, et al. Second harmonic imaging improves sensitivity of dobutamine stress echocardiography for the diagnosis of coronary artery disease. *Am Heart J*. 2001 Jul;142(1):153-9.

444. Poldermans D, Bax JJ, Elhendy A, Sozzi F, Boersma E, Thomson IR, et al. Long-term prognostic

value of dobutamine stress echocardiography in patients with atrial fibrillation. *Chest*. 2001 Jan;119(1):144-9.

446. Sozzi FB, Poldermans D, Boersma E, Elhendy A, Bax JJ, Borghetti A, et al. Does second harmonic imaging improve left ventricular endocardial border identification at higher heart rates during dobutamine stress echocardiography? *J Am Soc Echocardiogr*. 2000 Nov;13(11):1019-24.

448. Rocchi G, Poldermans D, Bax JJ, Rambaldi R, Boersma E, Elhendy A, et al. Usefulness of the ejection fraction response to dobutamine infusion in predicting functional recovery after coronary artery bypass grafting in patients with left ventricular dysfunction. *Am J Cardiol*. 2000 Jun 15;85(12):1440-4.

449. Rambaldi R, Poldermans D, Bax JJ, Boersma E, Elhendy A, Vletter W, et al. Doppler tissue velocity sampling improves diagnostic accuracy during dobutamine stress echocardiography for the assessment of viable myocardium in patients with severe left ventricular dysfunction. *Eur Heart J*. 2000 Jul;21(13):1091-8.

454. Poldermans D, Man in 't Veld AJ, Rambaldi R, Van Den Meiracker AH, Van Den Dorpel MA, Rocchi G, et al. Cardiac evaluation in hypotension-prone and hypotension-resistant hemodialysis patients. *Kidney Int*. 1999 Nov;56(5):1905-11.

457. Poldermans D, Rambaldi R, Boersma E, Vletter W, Carlier S, Elhendy A, et al. Stroke volume changes during dobutamine-atropine stress echocardiography: the influence of heart rate and ischaemia. *Int J Card Imaging*. 1999 Aug;15(4):263-9.

459. Rambaldi R, Poldermans D, Bax JJ, Boersma E, Valkema R, Elhendy A, et al. Dobutamine stress echocardiography and technetium-99m-tetrofosmin/fluorine 18-fluorodeoxyglucose single-photon emission computed tomography and influence of resting ejection fraction to assess myocardial viability in patients with severe left ventricular dysfunction and healed myocardial infarction. *Am J Cardiol*. 1999 Jul 15;84(2):130-4.

462. Poldermans D, Fioretti PM, Boersma E, Bax JJ, Thomson IR, Roelandt JR, et al. Long-term prognostic value of dobutamine-atropine stress echocardiography in 1737 patients with known or suspected coronary artery disease: A single-center experience. *Circulation*. 1999 Feb 16;99(6):757-62.

465. Poldermans D, Rambaldi R, Bax JJ, Cornel JH, Thomson IR, Valkema R, et al. Safety and utility of atropine addition during dobutamine stress echocardiography for the assessment of viable myocardium in patients with severe left ventricular dysfunction. *Eur Heart J*. 1998 Nov;19(11):1712-8.

466. Elhendy A, van Domburg RT, Bax JJ, Poldermans D, Nierop PR, Kasprzak JD, et al. Optimal criteria for the diagnosis of coronary artery disease by dobutamine stress echocardiography. *Am J Cardiol*. 1998 Dec 1;82(11):1339-44.

468. Elhendy A, van Domburg RT, Poldermans D, Bax JJ, Nierop PR, Geleijnse ML, et al. Safety and feasibility of dobutamine-atropine stress echocardiography for the diagnosis of coronary artery disease in diabetic patients unable to perform an exercise stress test. *Diabetes Care*. 1998 Nov;21(11):1797-802.

470. Rambaldi R, Poldermans D, Fioretti PM, ten Cate FJ, Vletter WB, Bax JJ, et al. Usefulness of pulse-wave Doppler tissue sampling and dobutamine stress echocardiography for the diagnosis of right coronary artery narrowing. *Am J Cardiol*. 1998 Jun 15;81(12):1411-5.

477. Poldermans D, Boersma E, Fioretti PM, Cornel JH, Sciarra A, Salustri A, et al. Hemodynamic changes, plasma catecholamine responses, and echocardiographically detected contractile reserve during two different dobutamine-infusion protocols. *J Cardiovasc Pharmacol*. 1997 Jun;29(6):808-13.

481. Poldermans D, Arnese M, Fioretti PM, Boersma E, Thomson IR, Rambaldi R, et al. Sustained

prognostic value of dobutamine stress echocardiography for late cardiac events after major noncardiac vascular surgery. *Circulation*. 1997 Jan 7;95(1):53-8.

482. Poldermans D, Arnese M, Fioretti PM, Salustri A, Boersma E, Thomson IR, et al. Improved cardiac risk stratification in major vascular surgery with dobutamine-atropine stress echocardiography. *J Am Coll Cardiol*. 1995 Sep;26(3):648-53.

483. Poldermans D, Boersma E, Fioretti PM, van Urk H, Boomsma F, Man in 't Veld AJ. Cardiac chronotropic responsiveness to beta-adrenoceptor stimulation is not reduced in the elderly. *J Am Coll Cardiol*. 1995 Apr;25(5):995-9.

484. Poldermans D, Fioretti PM, Boersma E, Thomson IR, Cornel JH, ten Cate FJ, et al. Dobutamine-atropine stress echocardiography in elderly patients unable to perform an exercise test. Hemodynamic characteristics, safety, and prognostic value. *Arch Intern Med*. 1994 Dec 12-26;154(23):2681-6.

485. Poldermans D, Fioretti PM, Boersma E, Cornel JH, Borst F, Vermeulen EG, et al. Dobutamine-atropine stress echocardiography and clinical data for predicting late cardiac events in patients with suspected coronary artery disease. *Am J Med*. 1994 Aug;97(2):119-25.

487. Poldermans D, Fioretti PM, Forster T, Boersma E, Arnese M, du Bois NA, et al. Dobutamine-atropine stress echocardiography for assessment of perioperative and late cardiac risk in patients undergoing major vascular surgery. *Eur J Vasc Surg*. 1994 May;8(3):286-93.

488. Poldermans D, Fioretti PM, Boersma E, Forster T, van Urk H, Cornel JH, et al. Safety of dobutamine-atropine stress echocardiography in patients with suspected or proven coronary artery disease. *Am J Cardiol*. 1994 Mar 1;73(7):456-9.

489. Fioretti PM, Poldermans D, Salustri A, Forster T, Bellotti P, Boersma E, et al. Atropine increases the accuracy of dobutamine stress echocardiography in patients taking beta-blockers. *Eur Heart J*. 1994 Mar;15(3):355-60.

490. Poldermans D, Fioretti PM, Forster T, Thomson IR, Boersma E, el-Said EM, et al. Dobutamine stress echocardiography for assessment of perioperative cardiac risk in patients undergoing major vascular surgery. *Circulation*. 1993 May;87(5):1506-12.

- Totaal:

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## Table 2

### Overview of noteworthy statements in publications about observational clinical research

#### Key

##### METC:

1. The METC approved the study.
2. The METC approved the protocol.
3. Patients were included with the prior approval of the METC.
4. The METC gave its prior approval to the inclusions of patients and for requests for data from the local government register of population.
5. The METC was informed about the research protocol but, in line with the agreed policy, was not asked for official approval.
6. The participating hospitals satisfied requirements laid down by the local METC.
7. The METC approved the DSE protocol.
8. The METC was informed and agreed to the procedures
9. Nothing was said about approval by the METC.

##### Informed consent

1. Reports informed consent.
2. Reports written informed consent.
3. The patients agreed to participate.
4. Because of the retrospective character of the study, it was not possible to ask each patient for permission.
5. Patients gave permission for the use of their data.
9. Nothing was said about informed consent or it was stated that informed consent was not necessary.

##### Degree of completeness of the patient follow-up:

Unclear or incomplete follow-up reporting, and

1. The follow-up percentage was calculated for the total study population.
2. The percentage was calculated for the number of patients with a complete follow-up for the status “dead” or “alive.”
3. No percentages were given for cause of death or myocardial infarction, only absolute numbers without reporting of missing values.
4. Other.

Complete or clear follow-up reporting, and

5. The cause of death was based on CBS data, making it complete for all cases in which subjects had died.
6. Mortality was assumed to be cardiac, unless there were explicit indications to suppose that it was not.
7. Correct reporting: the percentage of patients for whom the outcome was unknown was stated, or could be derived from the table or text
8. Full follow-up was implicitly or explicitly claimed, and in view of the small number of patients that was indeed possible.
9. There was no long term follow-up



<b>Article Nr</b>	<b>METC</b>	<b>Informed consent</b>	<b>Follow-up</b>
1	1	9	2
4	9	9	9
8	1	9	9
9	9	9	4
18	9	9	7
21	1	5	5
22	1	5	9
24	3	1	1
31	5	9	6
34	1	1	9
35	1	9	1
38	4	9	7
43	1	9	1
47	3	1	1
52	3	1	2
53	6	9	9
54	1	9	1
57	1	1	9
59	1	2	1
61	6	1	9
62	1	1	1
64	9	9	9
66	1	2	1
70	1	9	9
73	1	1	9
76	1	1	9
79	3	1	7
80	3	9	1
81	3	1	7
82	6	1	9
83	1	1	9
84	9	9	1
86	5	9	6
87	2	1	1
90	8	9	9
91	9	9	9
92	9	9	7
93	1	1	1
94	9	9	9
99	9	9	2
103	1	9	1
104	1	1	6
105	9	9	9
107	1	5	7
108	1	1	9
109	1	9	9
110	1	1	9
113	9	9	9
115	1	1	9
118	9	9	9

<b>Article Nr</b>	<b>METC</b>	<b>Informed consent</b>	<b>Follow-up</b>
119	9	1	1
120	9	9	9
123	1	9	9
135	1	1	9
136	9	9	9
137	1	9	9
140	1	5	7
142	1	1	9
143	1	1	7
144	1	9	8
145	9	9	7
146	1	1	1
147	1	1	9
148	9	9	9
150	2	9	9
153	5	9	9
154	9	9	9
156	9	9	9
160	5	9	4
161	1	1	1
164	1	1	1
165	9	1	9
169	1	1	1
170	2	9	4
171	5	9	7
173	1	9	6
175	1	1	9
176	1	1	9
178	2	1	9
179	7	1	1
180	9	9	1
181	5	9	4
183	1	1	8
184	1	1	1
186	2	1	1
187	1	1	9
188	9	3	9
194	1	1	9
195	2	1	2
196	1	9	9
197	9	9	7
198	1	9	9
200	5	9	9
203	2	1	1
204	2	9	1
205	9	9	9
206	2	3	1
207	2	3	1
210	2	1	2
211	9	3	1
213	2	1	1
216	2	1	1

<b>Article Nr</b>	<b>METC</b>	<b>Informed consent</b>	<b>Follow-up</b>
219	2	1	1
220	2	1	1
225	9	9	9
227	1	9	9
230	9	9	1
232	2	1	9
234	9	1	1
242	1	9	9
244	1	1	9
246	1	1	4
247	9	9	9
248	2	1	1
249	9	1	1
250	2	1	1
253	2	1	2
256	7	1	1
259	9	1	1
261	2	1	9
262	2	1	9
267	9	9	9
268	9	9	9
269	9	9	9
270	9	1	9
272	9	9	9
273	9	9	9
275	2	3	1
276	5	9	9
279	7	9	9
281	2	1	1
283	2	1	1
284	2	1	1
285	9	9	9
286	2	1	1
288	2	1	2
291	2	1	1
294	1	4	9
295	2	1	1
297	2	9	1
298	2	1	1
301	2	1	1
303	2	1	2
308	2	1	9
311	9	9	1
315	2	1	2
316	2	1	2
317	2	1	9
318	2	1	1
319	9	9	9
323	2	1	1
324	2	1	1
328	2	1	9
330	2	1	9

<b>Article Nr</b>	<b>METC</b>	<b>Informed consent</b>	<b>Follow-up</b>
332	2	1	1
333	2	1	2
335	2	1	1
340	2	1	3
341	2	1	1
342	2	1	1
343	2	1	1
344	2	1	1
345	2	1	1
346	9	9	9
347	2	1	1
349	2	1	1
350	2	1	1
351	2	1	1
352	2	1	1
353	9	9	1
357	2	1	9
359	2	1	9
361	2	1	1
362	2	1	9
363	2	1	9
364	2	1	9
365	5	9	9
366	9	9	7
367	2	1	9
370	1	1	9
371	2	1	1
372	2	1	3
373	2*	1	9
374	2	1	1
376	2	1	9
378	2	1	1
380	2	1	9
381	2	1	1
382	2	1	9
384	9	9	9
390	2	1	9
392	9	9	3
393	2	1	9
397	9	9	9
400	2	1	3
402	2	1	2
403	9	9	9
404	9	9	9
406	2	1	9
407	2	1	1
412	2	1	2
413	2	1	9
417	9	9	9
418	9	9	9
419	2	1	2
420	2	1	9

<b>Article Nr</b>	<b>METC</b>	<b>Informed consent</b>	<b>Follow-up</b>
422	2	1	2
424	2	1	9
429	9	9	9
431	2	1	9
432	9	9	9
434	9	9	9
437	2	1	9
444	9	9	3
446	9	1	9
448	9	9	9
449	9	9	9
454	2	3	9
457	9	9	9
459	2	9	9
462	9	9	3
465	9	9	9
466	9	9	9
468	7	1	9
470	9	9	9
477	7	1	9
481	2	1	1
482	7	1	9
483	7	1	9
484	7	1	3
485	7	1	3
487	2	1	3
488	7	1	9
489	7	1	9
490	2	1	9

\* In this case the protocol and approval were found in the METC archives

## References

1. Report Summary Committee for Investigation Scientific Integrity, November 16, 2011  
[http://www.erasmusmc.nl/5663/135857/3664573/3397899/report\\_summary\\_investigation\\_integrity](http://www.erasmusmc.nl/5663/135857/3664573/3397899/report_summary_investigation_integrity)
2. Report on the 2012 follow-up investigation of possible breaches of academic integrity, September 30, 2012  
[www.erasmusmc.nl/1172194/2090115/Integrity\\_report\\_2012-10.pdf](http://www.erasmusmc.nl/1172194/2090115/Integrity_report_2012-10.pdf)
3. De Nederlandse Gedragscode Wetenschapsbeoefening, Principes van goed wetenschappelijk onderwijs en onderzoek, Vereniging van Universiteiten VSNU, 2004, herziening 2012 (Dutch Code of Practice for Science, Principles of correct scientific research and education, Association of Universities in the Netherlands VSNU, 2005)
4. Gedragscode voor gebruik van persoonsgegevens in wetenschappelijk onderzoek, Vereniging van Universiteiten VSNU, 2005. (Code of Practice for the use of personal data in academic research, Association of Universities in the Netherlands VSNU, 2005)
5. Gedragscode Gezondheidsonderzoek, Gedragscode van de Nederlandse biomedische onderzoeksgemeenschap goedgekeurd door het College Bescherming van Persoonsgegevens in 2004, Federatie van Medisch Wetenschappelijke Verenigingen, 2003, 2004 (Code of Conduct for Health Research: a code of conduct for the Netherlands biomedical research community, approved by the Board for the Protection of Personal Particulars in 2004, Federation of Medical Scientific Associations, 2003, 2004)
6. Dutch legislation:
  - Wet op de geneeskundige behandelingsovereenkomst (WGBO) (the Medical Treatment Contract Act)
  - Wet medisch-wetenschappelijk onderzoek met mensen (WMO) (the Medical Research involving Human Subjects Act)
  - Archiefwet (Public Records Act)