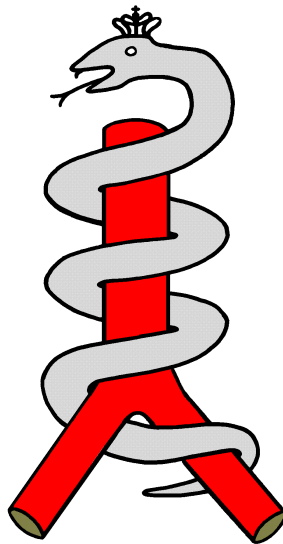


# **The Danish Vascular Registry**

**Landsregistret  
Karbase**



**Annual report 1998**

## Contents

CONTENTS .....	2
INTRODUCTION .....	3
MEMBERS AND REPRESENTATIVES OF THE DANISH VASCULAR REGISTRY:.....	4
<b>VASCULAR SURGICAL PROCEDURES 1998.....</b>	<b>5</b>
ALL PRIMARY VASCULAR PROCEDURES IN DENMARK 1993 – 1998 .....	6
PRIMARY PROCEDURES, 10 DEPARTMENTS, 1998.....	7
CHANGES IN NUMBER OF PROCEDURES 1996 - 98 .....	8
PERCENTUAL CHANGES IN NUMBER OF PROCEDURES 1996-98.....	8
OTHER OPERATIONS.....	9
ENDOVASCULAR PROCEDURES.....	9
PERCUTANEOUS TRANSLUMINAL ANGIOPLASTY (PTA).....	10
VASCULAR CORE-OPERATIONS.....	10
VASCULAR CORE-OPERATIONS.....	11
EUROVASC.....	12
<b>NUMBER OF VASCULAR PROCEDURES PER COUNTY (= “AMT”) IN DENMARK 1998.....</b>	<b>13</b>
THE VASCULAR PROCEDURES FOR EACH COUNTY .....	14
INHABITANTS PER COUNTY (AMT) 1 <sup>ST</sup> JANUARY 1998 .....	14
ALL PROCEDURES, CORE-PROCEDURES AND VENOUS PROCEDURES.....	15
PERCUTANEOUS TRANSLUMINAL ANGIOPLASTY (PTA, BALLOON-TREATMENT) .....	16
CAROTID TROMBENDARTERECTOMY (TEA) .....	17
PERIPHERAL BYPASS PROCEDURES.....	18
ABDOMINAL AORTIC ANEURYSMS (AAA).....	19
<b>THE QUALITY OF TREATMENT 1998 .....</b>	<b>20</b>
<u>CLEAN</u> OPERATIONS AND SURGICAL WOUND INFECTIONS 1998 .....	21
PRIMARY OPERATIONS AND COMPLICATIONS 1998 .....	22
PRESENTATION OF RESULTS FOR THE DEPARTMENTS .....	23
30 DAY MORTALITY FOR OPERATION OF RUPTURED ABDOMINAL AORTIC ANEURYSM .....	23
30 DAY MORTALITY FOR OPERATION OF ELECTIVE ABDOMINAL AORTIC ANEURYSM.....	25
GENERAL COMPLICATIONS OF OPERATION FOR ELECTIVE ABDOMINAL AORTIC ANEURYSM.....	26
CAUSES OF VARIATION.....	27
AGE AND EARLY MORTALITY AFTER RESECTION OF ELECTIVE ABDOMINAL AORTIC ANEURYSM .....	27
GENDER AND 30 DAY MORTALITY AFTER RESECTION OF ELECTIVE ABDOMINAL AORTIC ANEURYSM.....	28
PREVIOUS STROKE AND 30 DAY MORTALITY AFTER RESECTION OF ELECTIVE ABDOMINAL AORTIC ANEURYSM .....	28
PULMONARY INSUFFICIENCY AND 30 DAY MORTALITY AFTER RESECTION OF ELECTIVE ABDOMINAL AORTIC ANEURYSM .....	28
<b>REGISTRY FORMS AND DATASET .....</b>	<b>29</b>

## Introduction

This is the 1998 report of *The Danish Vascular Registry*. Owing to the growing European and international attention towards clinical databases, we have chosen to publish it in English for the first time.

In Denmark today, vascular services are confined to ten highly specialised departments. *The Danish Vascular Registry (Karbaser)* was introduced in 1989 at the University Hospital of Copenhagen, Rigshospitalet, and over the next years accepted by the other vascular departments, giving full coverage of the country in 1993. All ten departments have the same software with local data-collection and –processing. In the years 1993 – 95 it was agreed to publish the first reports with data on the number of vascular procedures and frequency of surgical infections. In 1996, it was agreed to establish a national registry with electronic reporting of all data except the surgeon identification. This is the third report since then.

The key event in the registry is the *primary operation*, defined as an operation with independent significance. More than one operation under the same admission can be of independent significance, thus leading to its own course and follow-up in the database. To complicate matters further, each *primary operation* can have a number of attached *supplementary operations* without independent significance (e.g. reoperation for bleeding), and one patient can have more than one admission during the year. In 1998, the registry contains information on

**4906** patients with  
**7013** admissions, undertaken  
**6250** primary operations and  
**763** supplementary operations

Hopefully, the information presented in this report will be useful in the continuing discussion among colleagues in vascular surgery, as means to secure and improve a high level of quality in the busy daily clinical life. To further aid this process each department will receive its own local copy of the report, with information of own results for comparison with the national data. However, others may find the report interesting, i.e. the health authorities, the hospital owners and the vascular patients, as it present updated results on vascular surgery in Denmark.

Every effort has been made to secure the validity of the presented data. A more comprehensive validation of the registry is in progress, and will be made public at a later stage.

In its present form, the report has been adopted by the representatives of the national registry at the meeting in Århus 6 October 1999.

Copenhagen 10<sup>th</sup> October 1999

Leif Panduro Jensen ([lpj@dadlnet.dk](mailto:lpj@dadlnet.dk))  
Chairman of The Danish Vascular Registry

## Members and representatives of the Danish Vascular Registry:

Rigshospitalet:	Consultant Jørgen E. Lorentzen
Viborg:	Consultant Torben Vestersgaard-Andersen
Hillerød:	Consultant Ole Michael Nielsen Ph. D.
Århus:	Consultant Jesper Laustsen
Odense:	Consultant Ole Røder
Kolding:	Consultant Jørn Jepsen
Aalborg:	Consultant Allan Kornmaaler Hansen
Slagelse:	Consultant Jørgen Andersen
Gentofte:	Consultant Leif Panduro Jensen
Esbjerg:	Consultant Thorbjörn Jonung Ph. D.

*In 1998, the elected board had the following representatives:*

Leif Panduro Jensen (chairman)  
Jesper Laustsen (secretary)  
Allan Kornmaaler Hansen (Treasurer)  
Ole Michael Nielsen

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from The Danish Vascular Registry (Karbasse)*

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## VASCULAR SURGICAL PROCEDURES

**1998**

Table 1 on the next page has been published in this format since 1993. Since then, the grouping of operations have changed, therefor it cannot be compared with the other tables presented on the following pages.

## The Danish Vascular Registry

### All primary vascular procedures in Denmark 1993 – 1998

*Table 1*

*NOTE! Reoperations / supplementary operations under the same admission are **not** included  
No information was available from Gentofte Hospital for 1994 and 1995.*

	<b>1993</b>	<b>1994</b>	<b>1995</b>	<b>1996</b>	<b>1997</b>	<b>1998</b>
Supraaortic procedure	143	156	155	208	187	198
Visceral procedure	36	31	33	55	34	24
Aorto/iliac-femoral prosthesis	393	345	356	443	412	404
Abdominal Aortic Aneurysm	588	501	569	631	664	649
Other aneurysms	155	127	136	169	187	170
TEA aortic / iliac	142	100	104	120	124	89
TEA other	113	120	139	113	119	147
In situ bypass	495	507	628	753	616	592
Fem-pop bypass (not in situ)	447	461	473	455	426	385
Fem-crural bypass (not in situ)	81	60	101	158	99	97
other bypass procedures	353	363	444	313	310	312
Embolectomy / thrombectomy	454	405	373	477	445	431
Endovascular procedure (PTA)	438	504	629	723	939	970
Reoperation / revision	116	93	160	185	178	166
Varicose veins	136	82	133	293	506	603
Other operations	609	514	653	702	1048	1013
TEA	385	357	385	425	406	421
Bypass vein	604	601	714	1026	763	721
Bypass prosthesis	1769	1703	1891	1964	1920	1864
Primary operation	3412	3325	3705	4129	4254	4109
REDO operation	472	368	450	484	479	536
Revision etc.	362	333	415	518	647	585
<b>ALL</b>	<b>4699</b>	<b>4369</b>	<b>5086</b>	<b>5798</b>	<b>6294</b>	<b>6250</b>

## Primary procedures, 10 departments, 1998

Table 2

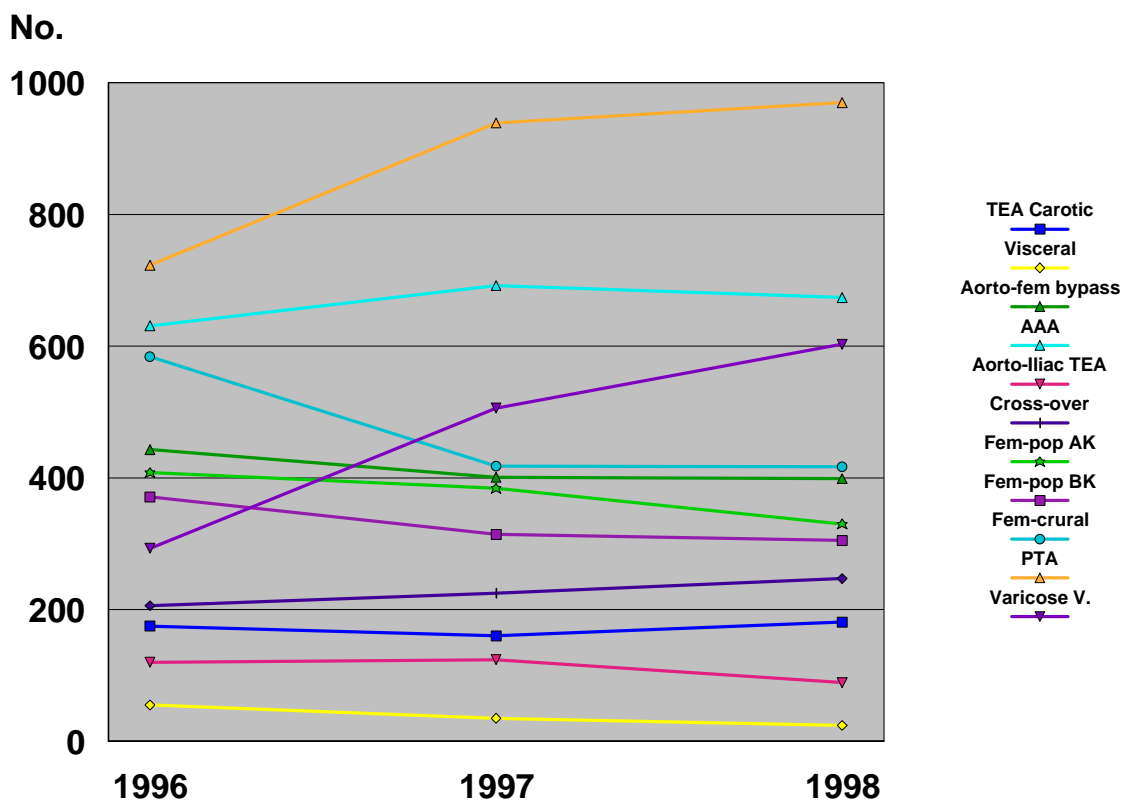
*NOTE! Reoperations / Supplementary operations under the same admission are **not** included*

Procedure	All	Rigshospitalet									
		Gentofte	Hillerød	Slagelse	Odense	Kolding	Esbjerg	Skejby	Viborg	Aalborg	
<b>TEA a. carotis</b>	<b>181</b>	78	0	0	0	35	0	0	14	18	36
<b>Other supraaortic operation</b>	<b>17</b>	2	0	0	0	6	0	0	2	1	6
<b>Visceral operation</b>	<b>25</b>	4	9	2	0	2	1	0	2	1	4
Renal	10	1	4	0	0	0	0	0	1	1	3
Mesenteric	15	3	5	2	0	2	1	0	1	0	1
<b>Aorto/iliac-femoral bypass</b>	<b>400</b>	33	39	13	31	70	31	12	47	58	66
Open surgery	395	33	39	12	31	69	31	11	47	56	66
Endovascular	5	0	0	1	0	1	0	1	0	2	0
<b>Abominal Aortic Aneurysm</b>	<b>674</b>	107	77	35	71	100	52	22	59	65	86
Open surgery	662	104	77	34	71	92	52	22	59	65	86
Ruptured	264	43	29	11	30	41	25	7	18	22	38
Acute	127	21	17	6	10	20	2	4	15	22	10
Elective	243	39	28	16	27	30	23	11	24	18	27
Other (fibrosis etc.)	28	1	3	1	4	1	2	0	2	3	11
Endovascular	12	3	0	1	0	8	0	0	0	0	0
<b>Other aneurysms</b>	<b>196</b>	32	21	12	19	18	15	9	22	11	37
<b>Aorto-iliac TEA</b>	<b>89</b>	18	19	3	13	11	4	0	5	8	8
<b>Other TEA</b>	<b>147</b>	12	21	10	17	18	10	10	22	14	13
<b>Fem-fem cross-over bypass</b>	<b>247</b>	37	39	19	24	44	12	10	24	10	28
<b>Fem-pop bypass AK</b>	<b>330</b>	35	28	17	20	68	40	13	43	34	32
Prosthesis	296	30	22	15	16	60	36	13	42	32	30
In situ	31	5	5	2	3	7	4	0	1	2	2
Other	3	0	1	0	1	1	0	0	0	0	0
<b>Fem-pop bypass BK</b>	<b>305</b>	44	67	19	28	36	20	17	13	39	22
Prosthesis	54	12	16	3	6	7	0	0	1	5	4
In situ	223	29	46	12	18	24	16	17	12	33	16
Other	28	3	5	4	4	5	4	0	0	1	2
<b>Fem-crural bypass</b>	<b>419</b>	58	76	20	39	42	41	30	23	32	58
Prosthesis	40	1	18	0	2	2	3	2	9	1	2
In situ	325	48	47	17	33	34	33	27	11	28	47
Other	54	9	11	3	4	6	5	1	3	3	9
<b>Other arterial bypass</b>	<b>63</b>	17	6	6	9	9	3	0	5	2	6
<b>Embolectomy/Thrombectomy</b>	<b>431</b>	71	53	24	36	46	40	6	44	48	63
Bypass	122	15	13	3	5	14	14	0	20	16	22
Arteries	309	56	40	21	31	32	26	6	24	32	41
<b>Arterial thrombolysis</b>	<b>203</b>	68	40	15	0	5	0	12	55	8	0
<b>PTA</b>	<b>970</b>	195	175	59	39	173	69	46	100	66	48
Aorto-iliac	645	106	127	35	35	133	38	23	60	50	38
Femoro-crural	181	38	37	20	3	21	11	11	26	9	5
Bypass	98	36	2	1	1	5	20	12	12	6	3
Other	46	15	9	3	0	14	0	0	2	1	2
<b>Venous procedures</b>	<b>641</b>	53	124	45	3	3	45	16	2	137	213
Varicose veins	603	52	100	44	0	2	42	16	2	136	209
Thrombectomy	21	0	16	0	2	0	1	0	0	1	1
Other (e.g. thrombolysis)	17	1	8	1	1	1	2	0	0	0	3
<b>Reoperations</b>	<b>166</b>	35	9	6	8	32	18	9	12	8	29
<b>Other operations</b>	<b>746</b>	58	90	47	25	52	111	17	65	119	162
<b>All</b>	<b>6250</b>	<b>957</b>	<b>893</b>	<b>352</b>	<b>382</b>	<b>770</b>	<b>512</b>	<b>229</b>	<b>559</b>	<b>679</b>	<b>917</b>

*Odense has in addition performed 226 angioaccess operations, not included above.*

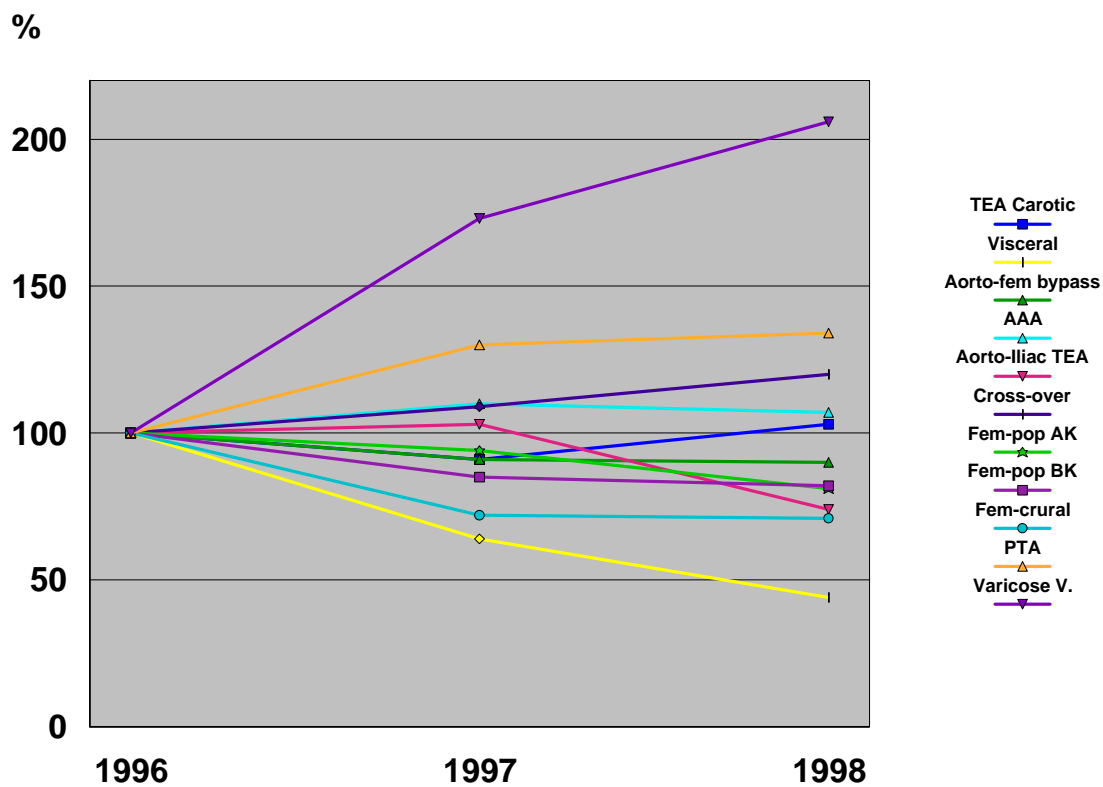
### Changes in number of procedures 1996 - 98

Figure 1



### Percentual changes in number of procedures 1996-98

Figure 2





## Other operations

Table 3

NCSP-code*	Explanation	No.
PBL30	A-v fistula from radial or ulnar artery	116
TPH20	Central venous catheder	69
PBL20	A-v fistula from the brachial artery	68
QDA10	Skin incision on the lower extremity	43
PEU82	Revision of bypass from the femoral artery	27
TPW99	Other small operation on artery, vein or lymphatic	20
PFU81	Ligature of fistula after bypass	19
KKB10	Excision of retroperitoneal tumour	18
PBU82	Revision of a-v fistula on the upper extremity	18
PEA10	Exploration of the common femoral artery	18
PEU81	Ligature of fistula after bypass from femoral artery	17
PEC10	Suture of the common femoral artery	16
PFA10	Exploration of the popliteal artery	15
PDU88	Excision of bypass from aorta	14
PEU99	Op.after reconstruction on the femoral/popliteal artery	14
JAH00	Explorative laparotomy	13
PEN11	Profundaplasty	13
KAC00	Nephrectomy	12
GAE40	Operation for Thoracic Outlet Syndrome	11
PEM10	Closure of fistula from femoral artery to femoral vein	10

\* NCSP = *Nordic Classification of Surgical Procedures. NOMESCO 1995, ISBN 87-16-11220-2, Internet: www.nom-nos.dk*

The group “Other operations” in [Table 2](#) is presented in detail here for codes with more than 10 occurrences.

## Endovascular procedures

Table 4

NCSP-code*	Explanation	No.
PCQ99	Endoprosthesis in other visceral artery	1
PDQ10	Endoprosthesis in infrarenal aorta	12
PDQ30	Endoprosthesis in iliac artery	5
PEQ10	Endoprosthesis in common femoral artery	1
PEQ12	Endoprosthesis in superficial femoral artery	1

\* NCSP = *Nordic Classification of Surgical Procedures. NOMESCO 1995, ISBN 87-16-11220-2*

Table 4 offers detailed information on the use of endoprostheses in Denmark. As it can be seen, the use of endoprostheses is still rare, and confined to a few centres ([Table 2](#)).

## Percutaneous Transluminal Angioplasty (PTA)

Table 5

NCSP-code*	Explanation	No.
PAP10	PTA of the brachiocephalic trunc (anonyma)	2
PAP20	PTA of the common carotid artery	1
PAP21	PTA of the internal carotid artery	7
PAP30	PTA of the subclavian artery	4
PAP99	PTA of other artery from the thoracic aorta	1
PBP20	PTA of the brachial artery	1
PBU83	PTA of a-v fistula on the upper extremity	4
PCP30	PTA of the superior mesenteric artery	2
PCP40	PTA of the renal artery	17
PCP99	PTA of other visceral artery	7
PCU83	PTA of the suprarenal aorta/visceral artery	1
PDP10	PTA of the infrarenal aorta	19
PDP30	PTA of the iliac artery	626
PDP50	PTA of the infrarenal aorta/iliac with stent	4
PDU83	PTA of bypass from infrarenal aorta/iliac artery	5
PEP10	PTA of the common femoral artery	17
PEP11	PTA of the deep femoral artery	2
PEP12	PTA of the superficial femoral artery	127
PEU83	PTA of bypass to the femoral or popliteal artery	49
PFP10	PTA of the popliteal artery	27
PFP30	PTA of crural or pedal artery	8
PFU83	PTA of bypass to crural or pedal artery	39

- NCSP = Nordic Classification of Surgical Procedures. NOMESCO 1995, ISBN 87-16-11220-2

Table 5 offers detailed information on the use of PTA in Denmark, with or without stenting.

### Vascular core-operations

In 1994 a document<sup>♦</sup> was released from the central health authorities defining the area of vascular surgery, and estimating the need for vascular surgery in the coming years. According to this document, the overall need could be estimated to be 132 – 140 procedures per 100,000 inhabitants. This estimate covers what we have chosen to call *vascular core-operations*, as defined below:

#### Definition of Vascular Core-operations:

- ❖ All arterial and venous reconstructions, including:
  - Open surgery, endovascular procedures and endoprostheses
  - Embolectomy and thrombectomy
  - Thrombolysis

❖ Sympathectomy

❖ Operation for Thoracic Outlet Syndrome

#### Not included:

- ❖ Revision / thrombectomy of reconstructions within 30 days
- ❖ Varicose Veins
- ❖ Angioaccess for haemodialysis, or revision of these
- ❖ Minor reoperations (bleeding etc.), coded by NCSP-codes PWxyy
- ❖ Amputations
- ❖ Biopsies, e.g. the temporal artery

The number of core-operations is presented in Table 6, and more details are given later in the tables of the Danish counties.

♦ ”KARKIRURGI – udvikling og organisation”, Sundhedsstyrelsen august 1994

## Vascular core-operations

*Table 6*

Procedure	All	Rigshospitalet									
		Gentofte	Hillerød	Slagelse	Odense	Kolding	Esbjerg	Skejby	Viborg	Aalborg	
<b>TEA a. carotis</b>	<b>181</b>	78	0	0	0	35	0	0	14	18	36
<b>Other supraaortic operation</b>	<b>17</b>	2	0	0	0	6	0	0	2	1	6
<b>Visceral operation</b>	<b>24</b>	4	8	2	0	2	1	0	2	1	4
Renal	10	1	4	0	0	0	0	0	1	1	3
Mesenteric	14	3	4	2	0	2	1	0	1	0	1
<b>Aorto/iliac-femoral bypass</b>	<b>398</b>	32	38	13	31	70	31	12	47	58	66
Open surgery	393	32	38	12	31	69	31	11	47	56	66
Endovascular	5	0	0	1	0	1	0	1	0	2	0
<b>Abominal Aortic Aneurysm</b>	<b>674</b>	107	77	35	71	100	52	22	59	65	86
Open surgery	662	104	77	34	71	92	52	22	59	65	86
Ruptured	264	43	29	11	30	41	25	7	18	22	38
Acute	127	21	17	6	10	20	2	4	15	22	10
Elective	243	39	28	16	27	30	23	11	24	18	27
Other (fibrosis etc.)	28	1	3	1	4	1	2	0	2	3	11
Endovascular	12	3	0	1	0	8	0	0	0	0	0
<b>Other aneurysms</b>	<b>193</b>	32	20	12	17	18	15	9	22	11	37
<b>Aorto-Iliac TEA</b>	<b>88</b>	17	19	3	13	11	4	0	5	8	8
<b>Other TEA</b>	<b>146</b>	12	20	10	17	18	10	10	22	14	13
<b>Fem-fem cross-over bypass</b>	<b>245</b>	37	38	19	24	43	12	10	24	10	28
<b>Fem-pop bypass AK</b>	<b>330</b>	35	28	17	20	68	40	13	43	34	32
Prosthesis	296	30	22	15	16	60	36	13	42	32	30
In situ	31	5	5	2	3	7	4	0	1	2	2
Other	3	0	1	0	1	1	0	0	0	0	0
<b>Fem-pop bypass BK</b>	<b>305</b>	44	67	19	28	36	20	17	13	39	22
Prosthesis	54	12	16	3	6	7	0	0	1	5	4
In situ	223	29	46	12	18	24	16	17	12	33	16
Other	28	3	5	4	4	5	4	0	0	1	2
<b>Fem-crural bypass</b>	<b>419</b>	58	76	20	39	42	41	30	23	32	58
Prosthesis	40	1	18	0	2	2	3	2	9	1	2
In situ	325	48	47	17	33	34	33	27	11	28	47
Other	54	9	11	3	4	6	5	1	3	3	9
<b>Other arterial bypass</b>	<b>63</b>	17	6	6	9	9	3	0	5	2	6
<b>Embolectomy/Thrombectomy</b>	<b>415</b>	68	50	24	32	46	37	6	43	48	61
Bypass	112	13	11	3	3	14	13	0	19	16	20
Arteries	303	55	39	21	29	32	24	6	24	32	41
<b>Arterial thrombolysis</b>	<b>202</b>	67	40	15	0	5	0	12	55	8	0
<b>PTA</b>	<b>970</b>	195	175	59	39	173	69	46	100	66	48
Aorto-iliac	645	106	127	35	35	133	38	23	60	50	38
Femoro-crural	181	38	37	20	3	21	11	11	26	9	5
Bypass	98	36	2	1	1	5	20	12	12	6	3
Other	46	15	9	3	0	14	0	0	2	1	2
<b>Venous procedures</b>	<b>38</b>	1	24	1	3	1	3	0	0	1	4
Varicose veins	0	0	0	0	0	0	0	0	0	0	0
Thrombectomy	21	0	16	0	2	0	1	0	0	1	1
Other (e.g. thrombolysis)	17	1	8	1	1	1	2	0	0	0	3
<b>Reoperations</b>	<b>0</b>	0	0	0	0	0	0	0	0	0	0
<b>Other operations</b>	<b>238</b>	19	44	8	20	29	21	4	29	12	52
<b>All</b>	<b>4946</b>	<b>825</b>	<b>730</b>	<b>263</b>	<b>363</b>	<b>712</b>	<b>359</b>	<b>191</b>	<b>508</b>	<b>428</b>	<b>567</b>

4984 core-operations corresponds to **94 procedures per 100,000 inhabitants**

## Eurovasc

In 1996 it was decided in the European Board of Vascular Surgery, Union Européenne des Médecins Spécialistes (UEMS), to establish a common European reporting of vascular procedures, the EURO-VASC. The aim was to get existing vascular registries to report comparable data, and to stimulate the creation of vascular registries in the countries where they still did not exist. This initiative was followed by the VASCUNET collaboration of existing vascular registries in 1997. Since 1997, several registries have reported EUROVASC data, now available on the Internet (<http://www.esvs.org/esvs/eurovasc0199.html>). The Danish Vascular Registry (Karbase) has participated in this collaboration from the beginning.

*Table 7*

EUROVASC 1998			Rigshospitalet									
Procedure	All	Per 100.000	Gentofte	Hillerød	Slagelse	Odense	Kolding	Esbjerg	Viborg	Skejby	Aalborg	
A. Open surg. on Carotid art.	181	3.4	78	0	0	35	0	0	14	18	36	
B. Open surg. for AAA	662	12.5	104	77	34	92	52	22	59	65	86	
C. Open surg. for COAD	730	13.8	87	97	34	124	47	21	76	74	102	
D. Open surg. for POAD AK	527	10.0	52	57	29	92	60	24	72	48	53	
E. Open surg. for POAD BK	735	13.9	102	144	39	80	64	47	38	72	80	
F. PTA central	650	12.3	106	127	35	135	38	23	61	52	38	
G. PTA peripheral	269	5.1	74	39	21	24	29	22	37	12	7	
H. Endoprostheses for AAA	12	0.2	3	0	1	8	0	0	0	0	0	
I. Endoprostheses for COAD	5	0.1	0	0	1	1	0	1	0	2	0	
J. Endoprostheses for POAD	2	0.0	0	1	0	0	0	0	1	0	0	
K. Arterial trauma	25	0.5	5	3	1	3	2	1	3	0	6	
L. Angioaccess	185	3.5	0	0	0	3	62	3	0	47	70	

**Explanations and comments:**

AAA = Abdominal Aortic Aneurysm

COAD = Central Occlusive Arterial Disease

POAD = Peripheral Occlusive Arterial Disease

PTA = Percutaneous Transluminal Angioplasty

Row B: - Laparotomy without reconstruction of aorta is also included (intention to treat)  
 - Juxtarenal AAA is included as well

Row C: - Femoro-femoral cross-over bypass is included here

Row F: - PTA of the renal and visceral arteries is not included  
 - PTA of reconstructions is included

Row L: - Only open surgical procedures are included

## **NUMBER OF VASCULAR PROCEDURES**

**PER COUNTY (= “AMT”)**

**IN DENMARK**

**1998**

The Danish Vascular Registry contains information regarding community and county of the patients, allowing for analysis of the frequency of vascular procedures in the different counties. The figures reveal huge differences between different parts of Denmark. The kind interpretation of this fact is that vascular diseases have different prevalence in different parts of the country. One could however choose a more unkind interpretation, i.e. differences in the vascular service offered.

### The Vascular Procedures for each county

All calculations are based on the postal code or community-code of each patient, as the basis for establishing in which county the patient is living. It is the primary operation that is used for the calculations, since it is the best indicator of the vascular service in each county.

The number of procedures is converted to numbers per 100,000 inhabitants by division with the population 1 January 1998 for each county. The information was obtained from the homepage of the National County Organisation (“Amtrådsforeningen”) at <http://www.arf.dk/stat/index.html>. The number of inhabitants in Greenland and the Faeroe Islands was obtained from:

Greenland: <http://www.greenland-guide.dk/gt/visist/intro-01.htm> (unknown year)

Faeroe Islands: <http://www.sleipnir.fo/faroe/popd.htm> (1995)

In the table below, *Denmark* is without Greenland and Faeroe Islands, whereas *All* includes them.

### Inhabitants per County (amt) 1<sup>st</sup> January 1998

	County code	Inhabitants
H:S	13-14	577,476
Københavns amt	15	610,261
Frederiksborg amt	20	359,839
Roskilde amt	25	228,202
Vestsjællands amt	30	292,146
Storstrøms amt	35	258,295
Bornholms amt	40	44,786
Fyns amt	42	471,873
Sønderjyllands amt	50	253,836
Ribe amt	55	223,818
Vejle amt	60	344,507
Ringkøbing amt	65	271,978
Århus amt	70	631,586
Viborg amt	76	233,143
Nordjyllands amt	80	493,114
Greenland	90	55,000
Faeroe Islands	97	43,700
Unknown / other		0
<b>DENMARK</b>		<b>5,294,860</b>
<b>ALL</b>		<b>5,393,560</b>

## All procedures, Core-procedures and venous procedures

County	Code	All procedures		Core-procedures		Varicose veins	
		No.	Per 100,000	No.	Per 100,000	No.	Per 100,000
H:S	13-14	733	127	609	105	56	9.7
København amt	15	836	137	715	117	74	12.1
Frederiksborg amt	20	371	103	278	77	48	13.3
Roskilde amt	25	162	71	148	65	5	2.2
Vestsjællands amt	30	207	71	195	67	0	0.0
Storstrøms amt	35	198	77	174	67	9	3.5
Bornholms amt	40	43	96	35	78	4	8.9
Fyns amt	42	549	116	500	106	10	2.1
Sønderjyllands amt	50	218	86	200	79	3	1.2
Ribe amt	55	281	126	229	102	23	10.3
Vejle amt	60	501	145	353	102	39	11.3
Ringkøbing amt	65	281	103	224	82	10	3.7
Århus amt	70	520	82	474	75	13	2.1
Viborg amt	76	400	172	206	88	116	49.8
Nordjyllands amt	80	906	184	570	116	193	39.1
Greenland	90	5	9	5	9	0	0.0
Faeroe Islands	97	8	18	8	18	0	0.0
Unknown / Other		31		23		0	
<b>Denmark</b>		<b>6206</b>	<b>117</b>	<b>4910</b>	<b>93</b>	<b>603</b>	<b>11.4</b>
<b>All</b>		<b>6250</b>	<b>116</b>	<b>4946</b>	<b>92</b>	<b>603</b>	<b>11.2</b>

The total number of operations exceeds the number of core-procedures and varicose veins. The missing operations primarily constitute angioaccess for haemodialysis, minor amputations etc.

In a document from the Danish National Board of Health (Sundhedsstyrelsen)<sup>2</sup> the need for vascular treatment was estimated on the basis of incidence of diseases and vascular surgical practice in other countries. The cumulated need for vascular procedures has been estimated to be 132 –140 arterial procedures per 100,000 inhabitants. In 1998, the core-procedures constituted 93 per 100,000 inhabitants, which are approximately 30% below the estimated need.

<sup>2</sup> KARKIRURGI – udvikling og organisation, notat, Sundhedsstyrelsen august 1994

**Percutaneous transluminal angioplasty (PTA, balloon-treatment)**

County	Code	All PTA		Central PTA		Peripheral PTA	
		No.	Per 100,000	No.	Per 100,000	No.	Per 100,000
H:S	13-14	160	28	93	16	37	6.4
København amt	15	164	27	121	20	34	5.6
Frederiksborg amt	20	56	16	33	9	18	5.0
Roskilde amt	25	32	14	19	8	7	3.1
Vestsjæ llands amt	30	24	8	17	6	1	0.3
Storstrø ms amt	35	21	8	15	6	1	0.4
Bornholms amt	40	11	25	5	11	0	0.0
Fyns amt	42	128	27	99	21	17	3.6
Sø nderjyllands amt	50	39	15	31	12	5	2.0
Ribe amt	55	49	22	23	10	11	4.9
Vejle amt	60	68	20	37	11	10	2.9
Ringkø bing amt	65	29	11	23	8	3	1.1
Århus amt	70	95	15	58	9	26	4.1
Viborg amt	76	38	16	27	12	6	2.6
Nordjyllands amt	80	51	10	40	8	5	1.0
Greenland	90	0	0	0	0	0	0.0
Faeroe Islands	97	1	2	1	2	0	0.0
Unknown / Other		4		3		0	
<b>Denmark</b>		<b>965</b>	<b>18</b>	<b>641</b>	<b>12</b>	<b>181</b>	<b>3.4</b>
<b>All</b>		<b>970</b>	<b>18</b>	<b>645</b>	<b>12</b>	<b>181</b>	<b>3.4</b>

The table includes all PTA-procedures whether stents have been deployed or not. Presumably, not all PTA-procedures are included in the figures above, since they are performed at radiological departments.



### Carotid trombendarterectomy (TEA)

County	Code	Carotid TEA	
		No.	Per 100,000
H:S	13-14	19	3.3
København amt	15	31	5.1
Frederiksborg amt	20	5	1.4
Roskilde amt	25	4	1.8
Vestsjællands amt	30	9	3.1
Storstrøms amt	35	7	2.7
Bornholms amt	40	1	2.2
Fyns amt	42	18	3.8
Sønderjyllands amt	50	5	2.0
Ribe amt	55	7	3.1
Vejle amt	60	6	1.7
Ringkøbing amt	65	7	2.6
Århus amt	70	14	2.2
Viborg amt	76	12	5.1
Nordjyllands amt	80	34	6.9
Greenland	90	1	1.8
Faeroe Islands	97	1	2.3
Unknown / Other		0	
<b>Denmark</b>		<b>179</b>	<b>3.4</b>
<b>All</b>		<b>181</b>	<b>3.4</b>

This procedure is performed to avoid embolisation to the brain from an atherosclerotic plaque in the carotid artery, thus avoiding death or paresis. In Denmark, only symptomatic patients are operated on. In the recommendations from the central health authorities, the need is estimated to be 4-6 per 100,000 inhabitant, but according to international experience, the need is more likely 8-10 per 100,000 inhabitants. As it can be seen from the table, the actual figures are substantially lower, as they have been for the last years, and there are huge variations between the different counties.

### Peripheral bypass procedures

County	Code	All peripheral bypass		For claudication		For critical ischemia	
		No.	Per 100,000	No.	Per 100,000	No.	Per 100,000
H:S	13-14	130	23	10	1.7	108	19
København amt	15	161	26	27	4.4	109	18
Frederiksborg amt	20	57	16	9	2.5	47	13
Roskilde amt	25	23	10	3	1.3	17	7
Vestsjællands amt	30	36	12	7	2.4	27	9
Storstrøms amt	35	39	15	6	2.3	30	12
Bornholms amt	40	7	16	0	0.0	6	13
Fyns amt	42	114	24	29	6.1	74	16
Sønderjyllands amt	50	37	15	17	6.7	16	6
Ribe amt	55	66	29	19	8.5	44	20
Vejle amt	60	97	28	27	7.8	63	18
Ringkøbing amt	65	53	19	14	5.1	36	13
Århus amt	70	79	13	32	5.1	42	7
Viborg amt	76	53	23	9	3.9	39	17
Nordjyllands amt	80	113	23	24	4.9	74	15
Greenland	90	1	2	0	0.0	1	2
Faeroe Islands	97	2	5	0	0.0	2	5
Unknown / Other		3		1		1	
<b>Denmark</b>		<b>1065</b>	<b>20</b>	<b>233</b>	<b>4.4</b>	<b>732</b>	<b>14</b>
<b>All</b>		<b>1071</b>	<b>20</b>	<b>234</b>	<b>4.3</b>	<b>736</b>	<b>14</b>

Patients with peripheral ischaemia can be graded with regard to the presence of intermittent claudication (muscle pain when walking) or critical ischaemia (pain at rest) non-healing ulcers or gangrene. The latter group risk amputation within a short period. The incidence of symptomatic atherosclerotic disease in the legs can be estimated to be 9000 per year in Denmark, but only a minority of these progress to the need for an operation each year.

### Abdominal aortic aneurysms (AAA)

County	Code	All aneurysms		Elective open operation		Ruptured open operation	
		No.	Per 100,000	No.	Per 100,000	No.	Per 100,000
H:S	13-14	59	10	24	4.2	21	3.6
København amt	15	78	13	27	4.4	32	5.2
Frederiksborg amt	20	44	12	21	5.8	13	3.6
Roskilde amt	25	31	14	15	6.6	9	3.9
Vestsjællands amt	30	34	12	13	4.4	13	4.4
Storstrøms amt	35	32	12	6	2.3	20	7.7
Bornholms amt	40	6	13	2	4.5	3	6.7
Fyns amt	42	74	16	22	4.7	29	6.1
Sønderjyllands amt	50	31	12	12	4.7	12	4.7
Ribe amt	55	29	13	12	5.4	13	5.8
Vejle amt	60	45	13	21	6.1	20	5.8
Ringkøbing amt	65	39	14	7	2.6	14	5.1
Århus amt	70	54	9	22	3.5	15	2.4
Viborg amt	76	25	11	11	4.7	8	3.4
Nordjyllands amt	80	84	17	26	5.3	37	7.5
Greenland	90	1	2	0	0.0	0	0.0
Faeroe Islands	97	2	5	2	4.6	0	0.0
Unknown / Other		6		0		5	
<b>Denmark</b>		<b>665</b>	<b>13</b>	<b>241</b>	<b>4.6</b>	<b>259</b>	<b>4.9</b>
<b>All</b>		<b>674</b>	<b>12</b>	<b>243</b>	<b>4.5</b>	<b>264</b>	<b>4.9</b>

Besides the two groups *elective* and *ruptured*, the total figures above for abdominal aneurysm repair includes the groups *acute* and *other* from [Table 2](#).

## THE QUALITY OF TREATMENT 1998

The evaluation of various quality aspects of the treatments offered is very complicated. It is of course essential that registration covers reliable and validated indicators, that the indicators are registered in a uniform manner, and that the registration is complete. An evaluation of this process is laborious, but necessary. The Danish Vascular Registry is currently performing such an evaluation, which will be published in a later report.

The aim of vascular surgery is to prevent amputation, stroke and death from vascular atherosclerotic disease, but also to reduce the consequences in the form of pain, immobility and discomfort. In the Danish Vascular Registry several indicators are registered to document this: Amputation, stroke and death. Other quality-indicators are perioperative complications (e.g. surgical wound infection), and social conditions before and after surgery. Not all of these indicators have been sufficiently validated currently, and should therefore be interpreted with caution.

Another factor complicating the interpretation of quality indicators is the diversion in risk factors among the patients; The more ill the patient is before treatment (heart, lungs, etc.) the worse the outcome. There is therefore a need for correction, or explanation, of results regarding the use of risk factors. There is a huge methodological work to be done in this field, but progress is constantly made, allowing for more detailed analyses to be published. Uncorrected data are at best worthless, at worst misleading.

The data on the next pages should be looked at with the above-mentioned words of caution in mind.

## Clean operations and surgical wound infections 1998

*The figures only include operations classified as clean or potentially contaminated*

Procedure	Procedures No.	Superficial Wound Infections		Deep Wound Infections		All Wound Infections	
		No.	%	No.	%	No.	%
<b>TEA a. carotis</b>	<b>181</b>	0		0		0	
<b>Other supraaortic operation</b>	<b>16</b>	1	6.3	0		1	6.3
<b>Visceral operation</b>	<b>25</b>	0		1	4.0	1	4.0
Renal	10	0		0		0	
Mesenteric	15	0		1	6.7	1	6.7
<b>Aorto/iliac-femoral bypass</b>	<b>396</b>	12	3.0	3	0.8	15	3.8
Open surgery	393	12	3.1	3	0.8	15	3.8
Endovascular	5	0		0		0	
<b>Abominal Aortic Aneurysm</b>	<b>665</b>	13	2.0	6	0.9	19	2.9
Open surgery	653	13	2.0	6	0.9	19	2.9
Ruptured	259	3	1.2	2	0.8	5	1.9
Acute	127	6	4.7	2	1.6	8	6.3
Elective	243	4	1.6	2	0.8	6	2.5
Other (fibrosis etc.)	24	0		0		0	
Endovascular	12	0		0		0	
<b>Other aneurysms</b>	<b>189</b>	7	3.7	9	4.8	16	8.5
<b>Aorto-iliac TEA</b>	<b>88</b>	3	3.4	0		3	3.4
<b>Other TEA</b>	<b>146</b>	3	2.1	2	1.4	5	3.4
<b>Fem-fem cross-over bypass</b>	<b>243</b>	7	2.9	2	0.8	9	3.7
<b>Fem-pop bypass AK</b>	<b>330</b>	17	5.2	7	2.1	24	7.3
Prosthesis	296	14	4.7	5	1.7	19	6.4
In situ	31	3	9.7	2	6.5	5	16.1
Other	3	0		0		0	
<b>Fem-pop bypass BK</b>	<b>301</b>	20	6.6	4	1.3	24	8.0
Prosthesis	52	2	3.8	0		2	3.8
In situ	221	16	7.2	4	1.8	20	9.0
Other	28	2	7.1	0		2	7.1
<b>Fem-crural bypass</b>	<b>417</b>	21	5.0	10	2.4	31	7.4
Prosthesis	40	2	5.0	2	5.0	4	10.0
In situ	323	19	5.9	5	1.5	24	7.4
Other	54	0		3	5.6	3	5.6
<b>Other arterial bypass</b>	<b>59</b>	0		1	1.7	1	1.7
<b>Embolectomy/Thrombectomy</b>	<b>428</b>	9	2.1	2	0.5	11	2.6
Bypass	120	6	5.0	2	1.7	8	6.7
Arteries	308	3	1.0	0		3	1.0
<b>Arterial thrombolysis</b>	<b>203</b>	1	0.5	0		1	0.5
<b>PTA</b>	<b>968</b>	3	0.3	1	0.1	4	0.4
Aorto-iliac	644	2	0.3	1	0.2	3	0.5
Femoro-crural	180	1	0.6	0		1	0.6
Bypass	98	0		0		0	
Other	46	0		0		0	
<b>Venous procedures</b>	<b>641</b>	4	0.6	1	0.2	5	0.8
Varicose veins	603	4	0.7	1	0.2	5	0.8
Thrombectomy	21	0		0		0	
Other (e.g. thrombolysis)	17	0		0		0	
<b>Reoperations</b>	<b>80</b>	6	7.5	4	5.0	10	12.5
<b>Other operations</b>	<b>636</b>	6	0.9	5	0.8	11	1.7
<b>All</b>	<b>6014</b>	<b>133</b>	<b>2.2</b>	<b>58</b>	<b>1.0</b>	<b>191</b>	<b>3.2</b>

The level of Surgical Wound Infections is acceptable and lives up to international standards.

## Primary operations and complications 1998

Procedure	No.	Occlusion within 30 days	Wound complications	General complications	30 days mortality
<b>TEA a. carotis</b>	<b>181</b>	1.1	3.3	7.2	0.6
<b>Other supraaortic operation</b>	<b>17</b>	11.8	17.6	17.6	5.9
<b>Visceral operation</b>	<b>25</b>	12.0	0.0	36.0	28.0
Renal	10	20.0	0.0	60.0	20.0
Mesenteric	15	6.7	0.0	20.0	33.3
<b>Aorto/iliac-femoral bypass</b>	<b>400</b>	2.3	11.5	10.3	3.5
Open surgery	395	2.0	11.4	10.4	3.5
Endovascular	5	20.0	20.0	0.0	0.0
<b>Abominal Aortic Aneurysm</b>	<b>674</b>	1.6	5.5	30.3	22.6
Open surgery	662	1.7	5.4	30.8	23.0
Ruptured	264	2.3	4.9	46.2	45.5
Acute	127	0.8	7.9	26.0	9.4
Elective	243	0.8	4.5	17.7	7.4
Other (fibrosis etc.)	28	7.1	7.1	21.4	7.1
Endovascular	12	0.0	8.3	0.0	0.0
<b>Other aneurysms</b>	<b>197</b>	3.6	21.8	11.7	4.1
<b>Aorto-iliac TEA</b>	<b>89</b>	2.2	7.9	2.2	0.0
<b>Other TEA</b>	<b>147</b>	3.4	6.8	4.1	0.0
<b>Fem-fem cross-over bypass</b>	<b>247</b>	6.9	11.7	6.1	3.2
<b>Fem-pop bypass AK</b>	<b>330</b>	5.8	13.0	2.7	0.9
Prosthesis	296	4.7	10.8	2.7	0.3
In situ	31	12.9	32.3	3.2	6.5
Other	3	33.3	33.3	0.0	0.0
<b>Fem-pop bypass BK</b>	<b>305</b>	14.1	16.7	5.2	3.3
Prosthesis	54	14.8	13.0	1.9	7.4
In situ	223	14.3	17.0	5.8	2.7
Other	28	10.7	21.4	7.1	0.0
<b>Fem-crural bypass</b>	<b>419</b>	15.5	20.8	6.7	3.1
Prosthesis	40	17.5	7.5	2.5	2.5
In situ	325	15.1	23.4	7.1	3.1
Other	54	16.7	14.8	7.4	3.7
<b>Other arterial bypass</b>	<b>63</b>	4.8	6.3	7.9	9.5
<b>Embolectomy/Thrombectomy</b>	<b>431</b>	11.8	8.4	7.0	7.0
Bypass	122	16.4	15.6	4.1	3.3
Arteries	309	10.0	5.5	8.1	8.4
<b>Arterial thrombolysis</b>	<b>203</b>	12.3	5.9	5.9	3.4
<b>PTA</b>	<b>970</b>	3.2	4.4	1.4	1.8
Aorto-iliac	645	1.6	4.8	1.2	2.2
Femoro-crural	181	7.7	3.9	2.8	0.6
Bypass	98	6.1	4.1		1.0
Other	46	2.2	2.2	2.2	2.2
<b>Venous procedures</b>	<b>641</b>	1.6	0.5	0.3	0.3
Varicose veins	603	0.0	0.2	0.0	0.0
Thrombectomy	21	42.9	4.8	4.8	4.8
Other (e.g. thrombolysis)	17	5.9	5.9	5.9	5.9
<b>Reoperations</b>	<b>166</b>	1.2	20.5	1.8	2.4
<b>Other operations</b>	<b>745</b>	3.0	3.1	2.6	2.4
<b>All</b>	<b>6250</b>	<b>5.3</b>	<b>8.3</b>	<b>7.3</b>	<b>4.8</b>

### Presentation of results for the departments

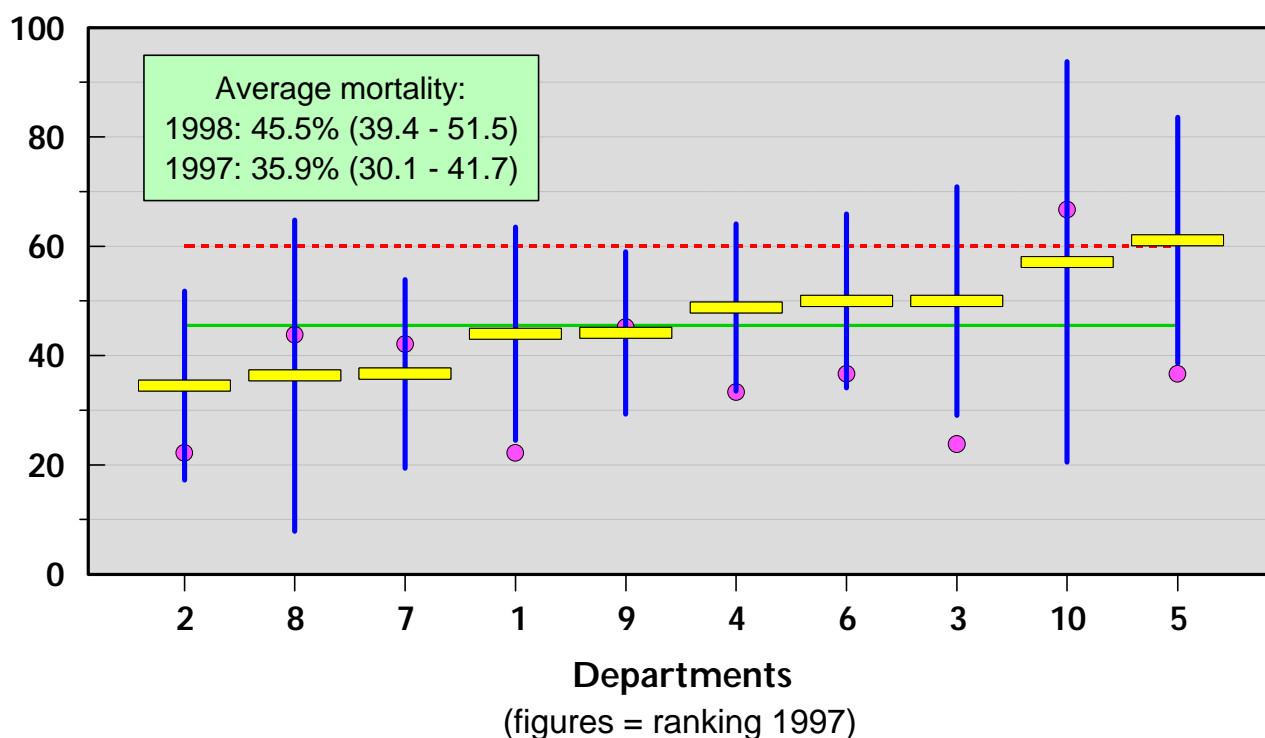
The quality data in this report are also given with results from each department. The name of the department is, however, *not* given, since the focus of the national report is on nation-wide variations rather than the individual departmental result. Each department is given its own result for comparison with results from other department, which leads to the first step in the quality process, the *internal audit*. If results divert significantly from the average, or are significantly worse than the accepted standards, attention should be given to explain and presumably correct the problem. If the poor results tend to be repeated over the years, it may lead to *external audit* initiated from the department itself or the board of the Danish Vascular Registry. In addition to the obvious explanation that bad results are a consequence of poor performance, bad results can emerge from improper understanding of the definitions of the dataset, improper datahandling, missing follow-up or factors related to risk factors and patient selection. Although the interpretation of data can get very complicated, it is still of great importance to publish the inter-department variation for the sake of auditing. Of course, it should be kept in mind that variations are inevitable according to the rules of statistics. When 10 departments are compared, there will always be five below and five above average, even if all are performing excellently.

To the public (patients) these data on variation are of lesser interest; here the important question is whether the department lives up to established levels of good standards or not. Few standards have been established in vascular surgery, but some will be presented in the next pages.

The following figures are structured in the same way: The result of each department is marked with a short horizontal (yellow) line, and the departments are ranked from best to worse. The 95% statistical confidence limit is marked with a vertical (blue) line, indicating the limits of reliability for each result. A (green) horizontal line marks the average result, and when known, a (red) horizontal line marks the established standard for good performance. Finally, a (purple) dot marks the result from 1997 for comparison with this years result, and the ranking of the department in 1997 is given on the x-axis.

### 30 day mortality for operation of Ruptured Abdominal Aortic Aneurysm

#### Mortality %



Patients dying during the operation are included, but not patients who died before the operation could be initiated. Untreated, this condition bears 100% mortality within hours or days. The Scandinavian

standard for treatment of this disease is mortality below 60%<sup>3</sup>, and the national average of 46% is well below. Only one department lies above the standard, but considering the statistical variation well below.

Comparing the results with last years reveals some interesting facts regarding variation. First, the average mortality has risen from 36 to 46%. There is no obvious reason for this. As seen from the figure, the rise is seen in a majority of departments. The higher mortality could be explained solely on statistical variation, as the confidence limits for each year overlap. Next, the ranking of departments has shifted, showing that statistical variation occurs, and should be considered important in the interpretation of data.

How should data be presented to the public then, if statistical variation is the major explanation for the diversities seen in the results? It seems more reasonable to present data in a uniform manner, excluding the random statistical variations, e. g. comparing the result of each department with the standard and average. Only if the confidence limits fall beyond the standard or average, should the department be considered deviant. In the case of ruptured aneurysms, this would lead to the following presentation:

	<i>Average = 46% mortality</i>			<i>Standard = below 60% mortality</i>		
	<i>Worse than average</i>	<i>Average</i>	<i>Better than average</i>	<i>Worse than the standard</i>	<i>Lives up to the standard</i>	<i>Better than the standard</i>
<b>Department 1</b>		X			X	
<b>Department 2</b>		X				X
<b>Department 3</b>		X			X	
<b>Department 4</b>		X			X	
<b>Department 5</b>		X			X	
<b>Department 6</b>		X			X	
<b>Department 7</b>		X				X
<b>Department 8</b>		X			X	
<b>Department 9</b>		X				X
<b>Department 10</b>		X			X	
<b>National</b>		X				X

*Departments numbered according to rank in 1997*

Again, this presentation should be judged with caution. The three departments with seemingly better results may not actual offer any better treatment than the rest, but may have better results due to patient selection and distribution of risk factors. Only a thorough audit process can reveal the influential factors, and should in the end lead to publication of risk-adjusted data.

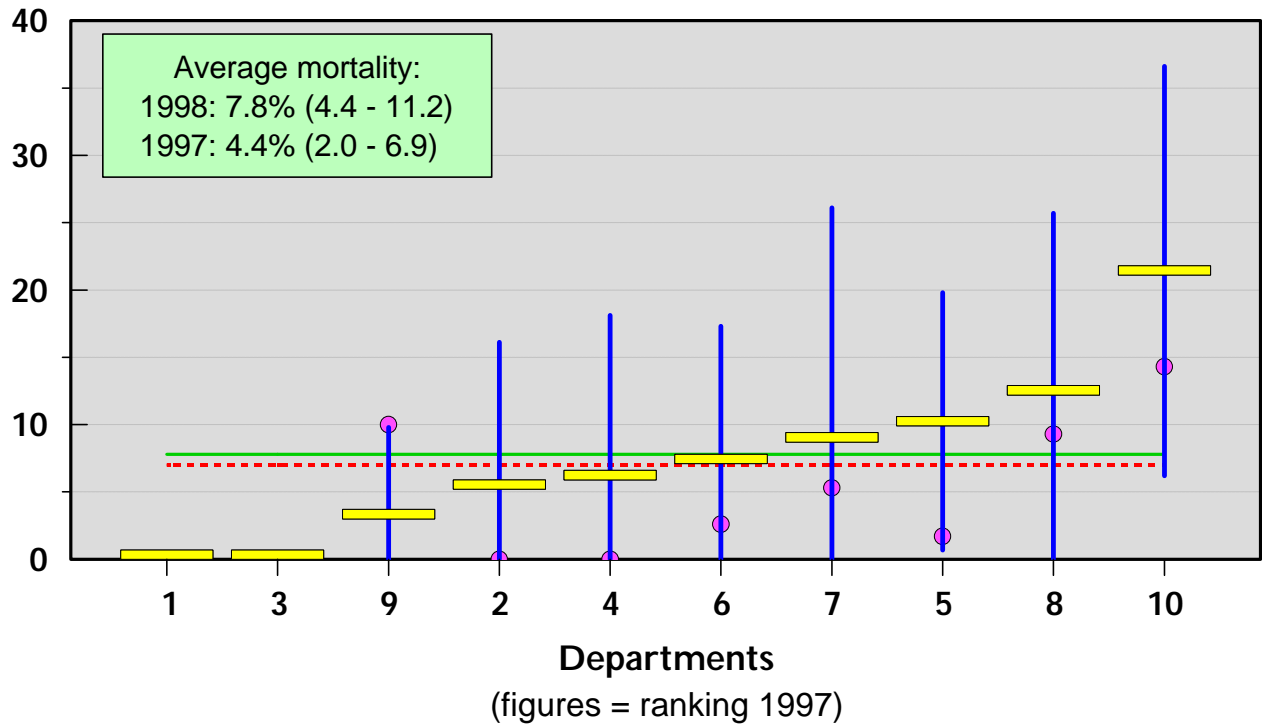
This table could be presented with the actual names of the departments, and in its internet version allow for comments from each department, e.g. explaining the result of an internal or external audit in case of poor results.

<sup>3</sup> Bergqvist D et al. Nordisk Medicin 1994; 109: 10: 256-7



### 30 day mortality for operation of Elective Abdominal Aortic Aneurysm

Mortality %



The national average is approximately the same as the standard, and as in the case of ruptured aneurysm, the mortality has risen since 1997, but not more than could be explained by random statistical variation. The table for public presentation and comparison would look like this:

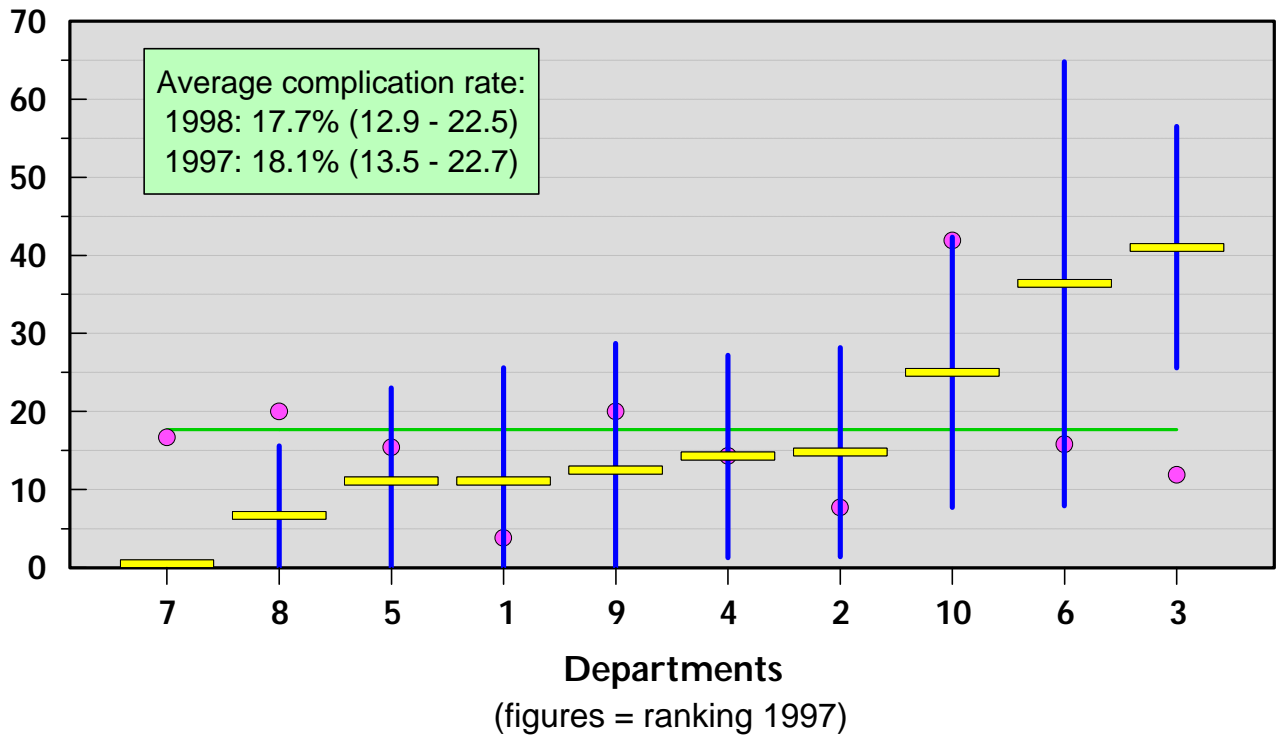
	Average = 7.8% mortality		Standard = below 7% mortality			
	Worse than average	Average	Better than average	Worse than the standard	Lives up to the standard	Better than the standard
Department 1			X			X
Department 2		X			X	
Department 3			X			X
Department 4		X			X	
Department 5		X			X	
Department 6		X			X	
Department 7		X			X	
Department 8		X			X	
Department 9		X			X	
Department 10		X			X	
National		X			X	

Departments numbered according to rank in 1997

The confidence limits for the two departments with zero mortality cannot be calculated, but even one death would still keep them better than the standard.

## General complications of Operation for Elective Abdominal Aortic Aneurysm

Complication rate %



Elective surgery for AAA cannot be performed without a certain mortality and morbidity. The general complications illustrated above consist mainly of cardiac, pulmonary and renal complications and stroke. Last year, one department (no. 10) placed significantly higher than the rest, but in 1998 is back to the average. On the other hand, a new department has gone from one of the best to be significantly higher than average. Again, the departments have made huge shifts in rank, but still within statistical uncertainty.

In the public tabular format the data looks like this:

	<i>Average = 17.7% general complication rate</i>			<i>Standard = not available</i>		
	<i>Worse than average</i>	<i>Average</i>	<i>Better than average</i>	<i>Worse than the standard</i>	<i>Lives up to the standard</i>	<i>Better than the standard</i>
Department 1		X				
Department 2		X				
Department 3	X					
Department 4		X				
Department 5		X				
Department 6		X				
Department 7			X			
Department 8			X			
Department 9		X				
Department 10		X				
National		X				

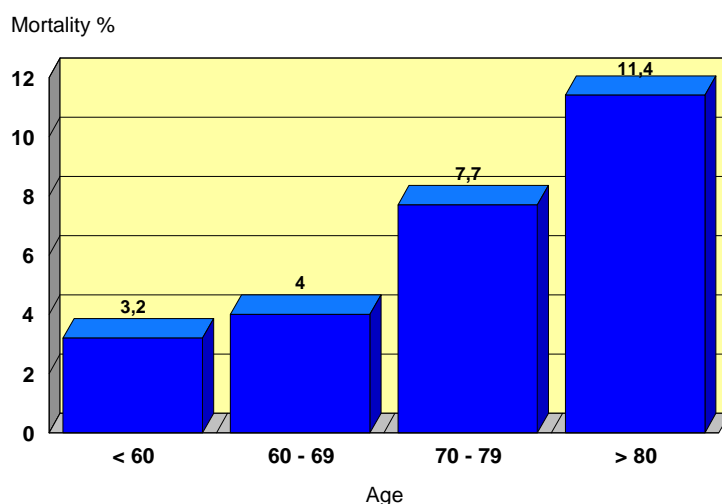
Departments numbered according to rank in 1997

## Causes of variation

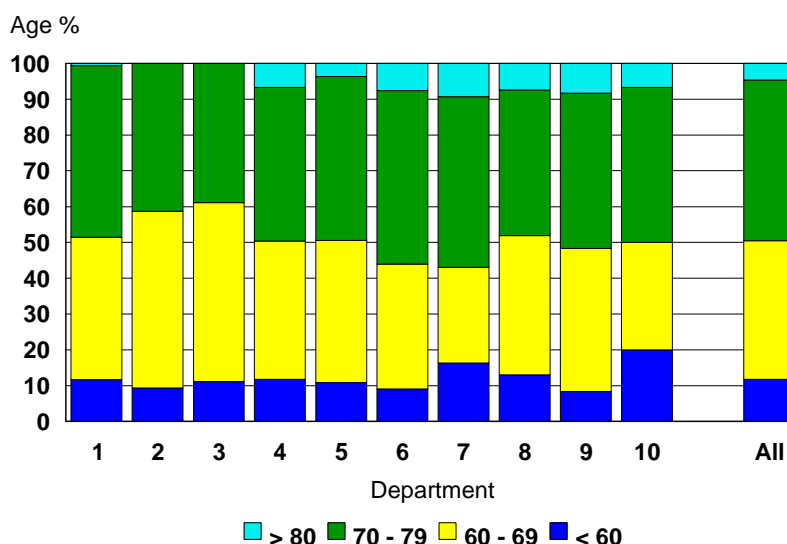
As it has been stated above, several factors can influence the outcome of the individual patient, and comparison of results from departments (or surgeons) should be made with caution and with adjustment for the most significant risk factors. Some factors are inherent in the patients themselves, and cannot be avoided. Sometimes the risk factors can be (partially) corrected with optimisation of preoperative treatment, or they may, at the least, give rise to a more precise evaluation of the risk for the patient and lead to a better patient selection. Below, this problem has been illustrated with data from 1996 – 98 for Elective Abdominal Aortic Aneurysms. The discussion below is not the most exhaustive of this problem, but only serves as an illustration of its complexity. It should, on the other hand, not lead to pessimism regarding the possibility for publishing relevant and interpretable data. The problems are difficult to solve, but not impossible, and should be approached with well-known, scientific epidemiological methods. The funding of this important work is still an unsolved issue in Denmark, since for all national registries, the agreement with the authorities only covers the harvesting of data. The work of validation and scientific interpretation of data should be recognised as equally important, only in this way understandable and relevant reporting be provided to the public.

## Age and early mortality after resection of Elective Abdominal Aortic Aneurysm

Age is a well-known risk factor for mortality and morbidity in surgery. Increasing age is more frequently associated with illnesses, but even if data are corrected for this, the risk remains higher in the elderly. The importance of age at time of operation is illustrated below:



Thus, age is an important risk factor for mortality after elective aneurysm resection. The patients of the ten vascular departments do not have the same age composition, as showed below. These differences in age composition may account for some of the differences in mortality between the departments.



**Gender  
and 30 day mortality after resection of Elective Abdominal Aneurysm**

	<i>Female</i>	<i>Male</i>
<b>30 day mortality</b>	<b>8.3 %</b>	<b>5.5 %</b>

**Previous stroke  
and 30 day mortality after resection of Elective Abdominal Aneurysm**

	<i>No previous stroke</i>	<i>Previous stroke</i>
<b>30 day mortality</b>	<b>5.4 %</b>	<b>12.0 %</b>

**Pulmonary insufficiency  
and 30 day mortality after resection of Elective Abdominal Aneurysm**

	<i>No pulmonary symptoms</i>	<i>Pulmonary symptoms</i>
<b>30 day mortality</b>	<b>4.7 %</b>	<b>11.0 %</b>

Above are three more examples of significant factors influencing early mortality. Other factors may be important, and the Danish Vascular Registry actually includes more variables and risk factors. The final task of correcting the results according to distribution of risk factors is complicated, and involves (logistic) multivariate analyses. The data and the methods should be validated before employing these tools, and are not presented in this years report.

## **REGISTRY FORMS AND DATASET**

The following pages show the datasheets used in the Danish Vascular Registry. Although the text is in Danish, it is mostly understandable, since it is international in its nature using a common medical language.

# LANDSREGISTRET KARBASE

Navn: \_\_\_\_\_  
 CPR: \_\_\_\_\_  
 Kommune/postnr.: \_\_\_\_\_  
 Indlæggelsesdato: \_\_\_\_\_  
 Indlæggelsestidspunkt: \_\_\_\_\_

(Prægeplade / Label)

<b>ANAMNESE</b>	(Journalsskrivende læge)	uvist
<b>Indlagt</b>	1 2 3	9
1 akut		
2 subakut		
3 planlagt		
<b>Tobak</b>	0 1 2	9
0 ikke ryger		
1 tidligere ryger		
2 ryger		
<b>Socialt</b>	1 2 3 4	9
1 erhvervsaktiv el dermed ligestillet		
2 alderspensionist		
3 efterløn, førtidspension		
4 langtidssygemeldt		
<b>Plejebehov</b>	1 2 3 4	9
1 selvhjulp		
2 klarer sig med hjemmehjælp		
3 beskyttet bolig		
4 plejehjem, hospital		
<b>Diabetes</b>	0 1 2 3 4	9
0 nej		
1 diætbehandlet		
2 tabletbehandlet		
3 insulinbehandlet		
4 insulinbehandlet, juvenil debut		
<b>Cerebralt</b>	0 1 2	9
0 nej		
1 amaurosis fugax/TIA		
2 stroke		
<b>Hypertension</b>	0 1 2 3 4	9
0 nej		
1 let styrbar, 1 stof		
2 2 stofs behandling		
3 > 2 stofsbehandling		
4 ubehandlet		
<b>Kardialt</b>	0 1 2 3 4	9
0 ingen symptomer		
1 arythmi, AMI > 6 mdr siden		
2 AP og / eller hjertemedicin		
3 ustabil AP, inkomp. Mb cordis, AMI < 6 mdr		
4 tidl hjerteopereret uden aktuelle sympt.		
<b>Pulmonalt</b>	0 1 2	9
0 ingen		
1 let funktionsdyspnoe		
2 svær dyspnoe		
<b>Andet</b>	0 1 2 3 8 9	
0 intet		
1 alkoholforbrug > 5 gst. dgl.		
2 aktuel cancersygdom; 3 dialyse		
8 andet:.....		
<b>Tidligere amputation</b>	0 1 2 3 4 9	
0 nej;		
1 høj tå/forfod; 2 høj crus/femur		
3 ve tå/forfod; 4 ve crus/femur		
	Højre	Venstre
<b>Sgmt. syst. blodtryk (mmHg)</b>	_____	_____
angives P for puls bliver index 100	_____ %	_____ %
<b>- Index</b>		
<b>- Niveau</b>	1 2 3	
1 ankel		
2 tå		
3 arm		

## PRÆOPERATIVT (Udfyldes af operatøren/epikriseskrivende)

<b>Tidl karkirurgi (incl. PTA)</b>	0 1 2 3 4 5 6 8 9
0 nej	
1 supraaortalt	
2 visceralt/renalt	
3 aorto-iliaco-femoralt	
4 hø.infraingvinalt	
5 ve.infraingvinalt	
6 embolektomi	
8 anden karrelateret kirurgi	
<b>Behandlingside:</b>	<b>H V B A</b>
H højre side, V venstre side	
B begge sider; A alt andet	
<b>Behandlingsindikation</b>	_____
(vælg 1-3 alternativer)	
01 akut ekstremitets iskæmi	26 uræmi
02 amaurosis fugax	27 varicer
03 aneurysme - asymptomatisk	28 vasospasme (Raynaud)
04 aneurysme - symptomgivende	29 venetrombose
05 aneurysme - rumperet	30 truende rekonstruktions svigt
06 aneurysme - tromboseret	31 permanent central venøs adgang
07 aneurysme - pseudo-	50 sårkomplikation
08 aneurysme - mykotisk	51 fascieruptur
09 aneurysme - dissektion	52 ileus
13 blødning, hæmatom	53 tarmiskæmi
14 infektion	54 aorto-intestinal fistel
15 intestinal iskæmi, angina abd.	55 protese infektion
16 funktionsbetinget iskæmi	56 kompartment syndrom
17 kronisk iskæmi - hvilesmerter	57 langvarig intubation
18 kronisk iskæmi - sår	58 retroperitoneal fibrose
19 kronisk iskæmi - gangræn	88 andet: (skriv hvad)
20 renovaskulær hypertension	
21 stroke	
22 thoracic outlet syndrome	
23 transitorisk iskæmisk attack (TIA)	
24 traume	
25 trombose af karrekonstruktion	
<b>Hæmoglobin:</b>	_____
Hgb anføres i mmol/l	
<b>Creatinin:</b>	_____
se-creatinin i mmol/l	
<b>Vægt:</b>	_____
anføres i kg	
<b>Højde:</b>	_____
anføres i cm	
<b>Total-kolesterol:</b>	_____
anføres i mmol/l	
<b>HDL-kolesterol:</b>	_____
anføres i mmol/l	

## KONSERVATIV BEHANDLING (Epikriseskrivende læge - udfyld også "PRÆOPERATIVT")

<b>HVORFOR</b>	1 2 3 4 5 6 8 9
1 teknisk inoperabel; 2 dårlig AT	
3 teknisk op., men ikke indikation	
4 obs pro - ej befundet; 5 arteriografi	
6 operation aflyst pga. manglende kapacitet	
8 anden årsag - skriv hvilken!	
<b>HVILKEN</b>	0 1 2 8 9
0 ingen	
1 medicinsk behandling	
2 formaliseret gangtræning	
8 andet - skriv!	
<b>EVT. DØDSÅRSAG</b>	0 1 2 3 4 5 6 7 8 9
0 levende; 1 cardiel; 2 cerebrovaskulær;	
3 uræmi; 4 blødning	
5 MOF; 6 tarngangræn	
7 neoplasme; 8 andet; 9 ukendt årsag	
<b>UDSKRIVINGS- /DØDSDATO:</b>	_____

## Vejledende procedurekoder,

hvis koden ikke er på listen henvises til

Sundhedsstyrelsens klassifikation

### OPERATIONSKODER

#### Bypass

Husk tillægskode for bypass materiale

PAH25	bypass fra a. carotis til a. subclavia
PAH30	bypass fra a. subclavia
PBH10	bypass fra a. axillaris
PBH20	bypass fra a. brachialis
PBH99	bypass fra anden arterie i OE (radialis/ulnaris)
PGH23	axillo-bifemoral bypass
PGH22	axillo-femoral bypass
PCH10	bypass fra aorta abdominalis (supracoeliakalt-juxtarenalt)
PCH20	bypass fra truncus coeliacus
PCH30	bypass fra a. mesenterica superior
PCH40	bypass fra a. renalis
PCH99	bypass fra anden visceral arterie (mes. inf.)
PDH20	aorto-iliakal bypass
PDH21	aorto-biliakal bypass
PDH22	aorto-iliakal/femoral bypass, kontralateralt
PDH23	aorto-femoral bypass
PDH24	aorto-bifemoral bypass
PDH30	iliaca bypass
PDH35	iliaco-femoral bypass.
PGH40	femoro-femoral bypass
PEH20	bypass fra a. femoralis til a. poplitea over knæ
PEH30	bypass fra a. femoralis til a. poplitea under knæ
PFH10	bypass fra a. poplitea til a. poplitea
PFH23	bypass fra a. femoralis/poplitea til truncus tibiofibulare
PFH24	bypass fra a. femoralis/poplitea til a. tibialis posterior proximalt
PFH25	bypass fra a. femoralis/poplitea til a. tibialis posterior distalt
PFH29	bypass fra a. femoralis/poplitea til a. plantaris pedis
PFH26	bypass fra a. femoralis/poplitea til a. peronealis proximalt
PFH27	bypass fra a. femoralis/poplitea til a. peronealis distalt
PFH21	bypass fra a. femoralis/poplitea til a. tibialis anterior proximalt
PFH22	bypass fra a. femoralis/poplitea til a. tibialis anterior distalt
PFH28	bypass fra a. femoralis/poplitea til a. dorsalis pedis

#### Fjernelse af bypass

PGU88	fjernelse af axillo-femoral/bifemoral bypass
PDU88	fjernelse af bypass fra aorta infrarenalis / iliaca
PGU88	fjernelse af femoro-femoral bypass
PEU88	fjernelse af bypass fra a. femoralis til a. poplitea over knæ

#### Operativ revision af infraligamentære bypass operationer

forlængelse kodes som ny operation

PEU74	trombektomi/embolektomi af bypass fra a. fem. til a. poplitea
PEU81	ligatur af fistel ved bypass fra a. femoralis til a. poplitea
PEU82	plastik på bypass fra a. femoralis
PEU89	ligatur af bypass fra a. femoralis
PEU99	Anden OP efter tidl. rekonstruktion fra a. femoralis til a. poplitea
PFU74	trombektomi/embolektomi af bypass fra femoralis/poplitea til cruskar
PFU81	ligatur af fistel ved bypass fra a. femoralis/poplitea til cruskar
PFU82	plastik på bypass fra a. femoralis/poplitea til cruskar (ikke oprettet)
PFU89	ligatur af bypass fra a. femoralis/poplitea til cruskar
PFU99	Anden OP efter tidl. rekonstruktion fra a. femoralis/poplitea til cruskar

#### Operation for aneurisme

PCC99	aneurismeoperation på anden visceral arterie
PDG10	aneurismeoperation på infrarenale aorta
PDG20	aneurismeoperation med aorto-iliakal bypass
PDG21	aneurismeoperation med aorto-biliakal bypass
PDG22	aneurismeoperation med aorto-iliaca/femoral bypass kontralateral
PDG23	aneurismeoperation med aorto-femoral bypass
PDG24	aneurismeoperation med aorto-bifemoral bypass
PDG30	aneurismeoperation på a. iliaca
PDG35	aneurismeoperation med iliaco-femoral bypass
PDG99	aneurismeoperation på a. iliaca med anden bypass
PEG10	aneurismeoperation på a. femoralis communis
PEG11	aneurismeoperation på a. profunda femoris
PEG12	aneurismeoperation på a. femoralis superficialis
PFG10	aneurismeoperation på a. poplitea

#### TEA

PAF20	TEA a. carotidis communis
PAF21	TEA a. carotidis interna
PAF22	TEA a. carotidis externa
PAF30	TEA a. subclavia
PCF40	TEA a. renalis
PDF10	TEA infrarenale aorta
PDF15	TEA aorta-iliaca
PDF30	TEA a. iliaca
PDF35	TEA iliaca-femoralt
PEF10	TEA a. femoralis communis
PEF11	TEA a. profunda femoris
PEF12	TEA a. femoralis superficialis

#### Exploration af arterie

PBA20	exploration af a. brachialis
PEA10	exploration af a. femoralis com.
PEA11	exploration af a. prof. femoris
PEA12	exploration af a. femoralis sup.
PFA10	exploration af a. poplitea

#### Ligatur af arterie

PCB99	ligatur af anden visceral arterie (mes. inf.)
-------	---

#### Ligatur af bypass

PEU89	ligatur af iliaco-fem bypass
PFU89	ligatur af bypass fra a. fem /a. popl

#### Sutur af arterie

PBC10	sutur af a. axillaris
PBC20	sutur af a. brachialis
PBC30	sutur af a. radialis eller ulnaris
PBC99	sutur af anden arterie i overekstremiteten
PDC30	sutur af a. iliaca
PEC10	sutur af a. femoralis communis
PEC11	sutur af profunda femoris
PEC12	sutur af a. femoralis superfic.
PFC10	sutur af a. poplitea

#### Transposition af arterie

PAJ30	transpositio a. subclavia
PCJ99	transpositio af anden visceral arterie (mes. inf.)

#### Plastik på arterie

PEN11	plastik på a. profunda femoris
-------	--------------------------------

#### PTA

Hvis der er lagt stent anvendes også tillægskoden ZPD30

PAP30	PTA a. subclavia
PCP40	PTA a. renalis
PCP99	PTA anden visceral arterie
PDP10	PTA infrarenale aorta
PDP30	PTA a. iliaca
PEP10	PTA a. femoralis communis
PEP11	PTA a. profunda femoris
PEP12	PTA a. femoralis superficialis
PFP10	PTA a. poplitea
PFP30	PTA crus eller fodarterie
PBU83	PTA A-V fistel på OE
PCU83	PTA bypass på suprarenale aorta + viscerale arterier
PDU83	PTA bypass fra infrarenale aorta og a. iliaca
PEU83	PTA bypass fra a. femoralis til poplitea over/under knæet
PEU83	PTA bypass fra a. femoralis og dens grene
PFU83	PTA bypass fra a. femoralis/a. poplitea/crusarterier

#### Endovaskulær protese

Evt. supplerende PTA skal ikke kodes selvstændigt

P\*Q\*\* endovaskulært implantat i .....

P\*U84 endovaskulært implantat i bypass på .....

#### Injektion af lægemiddel eller embolisering (f. eks. THROMBOLYSE)

Husk tillægskode for lægemiddel ex. thrombolytisk agens

PDT 10	Inj. af lægemiddel eller embolisering af infrarenale aorta
PET 20	Inj. af lægemiddel eller embolisering i bypass fra a.fem. til a. pop.
PFT 20	Inj. af lægemiddel eller embolisering i bypass fra a.fem. til crusart.

#### Trombektomi / embolektomi af arterie / bypass

PBE10	trombektomi/embolektomi a. axillaris
PGU74	trombektomi/embolektomi af axillo-bifemoral/femoral bypass
PBE20	trombektomi/embolektomi a. brachialis
PBE30	trombektomi/embolektomi a. radialis/ulnaris
PCE99	trombektomi/embolektomi af anden visceral arterie
PDE10	trombektomi/embolektomi af infrarenale aorta
PDU74	trombektomi/embolektomi af bifurkationsprotese
PDE30	trombektomi/embolektomi a. iliaca
PEE10	trombektomi/embolektomi a. femoralis communis
PEE11	trombektomi/embolektomi a. profunda femoris
PEE12	trombektomi/embolektomi a. femoralis superficialis
PGU74	trombektomi/embolektomi af cross-over bypass
PFU74	trombektomi/embolektomi af femoro-popl. bypass
PFU74	trombektomi/embolektomi af femoro-distal bypass sv.t. anatomikoden
PFE10	trombektomi/embolektomi af a. poplitea
PFE30	trombektomi/embolektomi af cruralcar

### Kommentarer:

## Vejledende procedurekoder,

hvis koden ikke er på listen henvises til

Sundhedsstyrelsens klassifikation

### Venekirurgi

PHB10	ligatur af v. saphena magna
PHB12	ligatur af v. saphena parva
PHB13	ligatur af perforanter på crus
PHB14	ligatur af perforanter på femur
PHD10	resektion af v. saphena magna
PHD11	resektion af stella venosa
PHD12	resektion af v. saphena parva
PHD15	resektion af kommunikanter på crus og femur
PHD99	resektion af anden vene
PHE22	trombektomi af v. femoralis
PHE23	trombektomi af v. iliaca
PHE30	trombektomi af v. cava inferior
PHE31	trombektomi af v. renalis
PHE99	trombektomi af anden vene

### Reoperationer

Revision af bypass kodes med koder for dette

JWA00	sutur af sårruptur efter laparotomi
PWA00	sutur af sårruptur perifert
PWB00	reoperation for overfladisk sårinfektion
PWC00	reoperation for dyb infektion
PWD00	reoperation for overfladisk blødning
PWE00	reoperation for dyb blødning
PWH00	reoperation for lymfocele
PWW99	sårrevision

### Sårrevision

QDA10	incision af absces på UE inkl. fod
QDB00	sutur af hud på UE inkl. fod
QDE00	excision af hud på UE inkl. fod
QDG20	revision af ulcus på UE inkl. fod

### Diverse forekommende operationer

PBL20	Anlæggelse af a-v fistel fra a. brachialis
PBL30	Anlæggelse af a-v fistel fra a. radialis eller a. ulnaris
ADA20	sympatectomia thoracalis
ADA30	sympatectomia lumbalis
GAE40	resectio costae (incl. excisio costa cervicalis)
GBB00	tracheostomia
JAH00	laparotomia explorativa
JMA10	splenectomia
KAC00	nephrectomia
KAJ00	nephrostomia
KBH50	ureterolysis
KKB10	excisio tumoris retroperitonealis
KKW96	andre operationer på retroperitonealt væv
NGM09	fasciotomia cruris
NHQ17	amputatio digiti pedis partialis
NHQ16	amputatio digiti pedis totalis
NHQ14	amputatio transmetatarsalis
QDA10	incision af absces
QDB00	sutur af hud på UE
QDC00	operativ fjernelse af gentamycinkugler på femur
TPH20	centralt kateter (Broviac, Hickmann, Porth-a-kath, mv.)
TPW99	Anden mindre operation (fjernelse af Hickmann kateter, mv.)

### Tillægskoder/materialekoder

ZPM00	intet implantat
ZPM10	autolog vendt vene eller venepatch
ZPM20	autolog in-situ vene
ZPM30	autolog arterie
ZPM40	dacron
ZPM50	biologisk homograft
ZPM60	biologisk heterograft
ZPM70	PTFE
ZPM80	sammensat graft
ZPM98	andet specificeret materiale
ZPM99	andet uspecificeret materiale
ZPD12	arteriovenøs extern shunt eller anden shunt til/fra karsystemet
ZPD20	vena cava filter
ZPD30	endovaskulær stent, angiv desuden fabrikat/materiale 1 - 9
ZPD40	embolisationsmateriale
ZPD41	skleroserende agens
ZPD50	trombolytisk agens
ZPD51	vasomotorisk agens

## OPERATION (Udfyldes af operatøren, HUSK "PREOPERATIVT")

Opkode 1 \_\_\_\_\_ matr.kode 1 \_\_\_\_\_

Opkode 2 \_\_\_\_\_ matr.kode 2 \_\_\_\_\_

Opkode 3 \_\_\_\_\_ matr.kode 3 \_\_\_\_\_

Hvis opkode 2 og 3 er selvstændige indgreb skal de indtastes separat på nye skemaer.

Protese navn og type: \_\_\_\_\_  
(for kunststof)

### Akut/elektiv:

- 1 OP start akut < 2 timer efter incl.  
2 OP start akut > 2 timer efter incl.  
3 Elektiv

1 2 3

### Assistanceoperation:

- 0 Nej  
1 Ja

0 1

### Operationstype:

- 1 primær karkirurgisk rekonstruktion  
2 primær kar operation, hvor der tidligere er opereret proximalt eller distalt for aktuelle  
3 sekundær rekonstruktion (redo) dvs. patienten er tidligere opereret i samme segment  
4 trombektomi/revision af bestående rekonstrukt.  
5 operation for komplikation til karkirurgi

1 2 3 4 5 8

8 alle andre operationer

Hvis op-type er 2,3,4 el 5,  
**Primære operationsdato:**

\_\_\_\_\_

### og kode

Ikke materialekode

\_\_\_\_\_

### Aktuelle operations dato:

\_\_\_\_\_

### Operations start og slut:

\_\_\_\_\_

### Kirurger:

initialer på operatør og assistenter.

\_\_\_\_\_

### Blodtab:

skønnet blodtab i ml

\_\_\_\_\_

### Perop blodtransfusioner:

Antal SAGM port./ antal autotransf.

\_\_\_\_\_

### Anæstesi:

- 0 ingen  
1 generel anæstesi alene  
2 epidural/spinal anæstesi alene  
3 generel + epidural/spinal i kombination  
4 lokal analgesi  
8 andet

0 1 2 3 4 8

### Incision:

- 0 ingen abdominal/  
thorakal operation  
1 midtlinie laparotomi  
2 tvær laparotomi  
3 retroperitoneal adgang  
4 thoraco-abdominal adgang  
5 thoracotomi

0 1 2 3 4 5

### Sårets renhedsgrad:

- 1 rent  
2 potentielt kontamineret  
3 kontamineret  
4 pus

1 2 3 4



## POSTOP. FORLØB TIL UDSKRIVELSE

**Dato for udskrivelse** \_\_\_\_\_

**Udskrevet hvortil**                      **1 2 3 4**                      **8 9**  
1 hjemmet  
2 plejehjem  
3 hospital - skriv hvilket og afdeling: \_\_\_\_\_  
4 død

**Rekonstruktionens åbenhed/patency ved udskrivelsen**                      **0 1**                      **8 9**  
0 lukket                      1 åben  
8 ej rekonstr.                      9 uvist

**Antal okklusioner postoperativt**                      **0 1 2 3 4 5**

Hvis rekonstruktionen er lukket eller har været trombeokkluderet angives

**Dato for okklusion** \_\_\_\_\_ første  
Har rekonstruktionen været lukket mere end én gang: \_\_\_\_\_ sidste

**- Behandling:**                      **0 1 2 3**                      **7 9** første  
0 ingen; 1 trombeokklusion;  
2 trombeokklusion samt revision;  
3 ny rekonstruktion = redo NYT SKEMA  
7 rekanalisering mislykket

**Antal supplerende indgreb under samme indlæggelse:**                      **0 1 2 3 4 5 6**  
0 ingen  
1, 2, 3 etc: *husk* at udfylde de dertil svarende rubrikker

**Sgmt. syst. blodtryk (mmHg)**                      **Hø:**                      **Ve:**  
angives P for puls bliver index 100                      \_\_\_\_\_                      \_\_\_\_\_

**Index:**                      \_\_\_\_\_ %                      \_\_\_\_\_ %

**Hvis amputation**

**- Niveau:**                      **0 1 2 3 4**                      **9**  
0 ingen; 1 tå el forfod; 2 crus;  
3 knæeks.; 4 femur.

**Dato:** \_\_\_\_\_

**Side:**                      **H V**  
H højre; V venstre

**Operationssår komplikationer:**                      **0 1 2 3**                      **8 9**  
0 ingen; 1 hæmatom;  
2 lymfesivens>2dg eller lymfocele;  
3 randnekrose

**Infektion i operationssår:**                      **0 1 2**                      **8 9**  
0 ingen; 1 overfladisk el subcutan infektion;  
2 dyb infektion incl. proteinfektion

**- Bakterietype:**                      **0 1 2 3 4 5**                      **8 9**  
0 steril; 1 Staph aureus; 2 Staph epidermidis;  
3 gramneg. stave; 4 anaerob; 5 blandingsflora  
8 andet; 9 ikke podet

**- Dato for infektion:** \_\_\_\_\_

**Andre kirurgiske komplikationer:**                      **0 1 2 3 4 5 6 7 9**  
0 ingen; 1 beh. krv. blødning; 2 fascieruptur; 3 ileus;  
4 beh. krv. tarmiskæmi; 5 perifer embolisering; 6 neurologisk kompl.(carotis);  
7 perifer nervelesion

**Almene komplikationer:**                      **0 1 2 3 4 5 6 7 8 9**  
0 ingen; 1 kardielle (AMI/ pumpevig/arytmi);  
2 beh. krv. atelektase el. pneumoni;  
3 respirator>2dgn;  
4 se-creatinin stigning( +100%);  
5 dialyse; 6 intensiv afd>3dgn;  
7 stroke.10 DVT; 11 lungeemboli;12 kompart. syndr. med faciotomi;13 MOF

**Blodtransfusioner i alt:**                      \_\_\_\_\_  
Antal SAGM port./ antal autotransf. under hele indl.

**AK behandling efter udskrivelsen:**                      **0 1 2**                      **8 9**  
0 ingen; 1 ASA eller anden aggr.hæmmer; 2 kumarinderivater

**Død - dato årsag:**                      \_\_\_\_\_  
0 levende; 1 cardiel; 2 cerebrovaskulær;  
3 uræmi; 4 blødning                      **0 1 2 3 4 5 6 7 8 9**  
5 MOF; 6 tarmgangræn  
7 neoplasme; 8 andet; 9 ukendt årsag

### 1. SUPPLERENDE INDGREB: (Udfyldes af operatøren)

**Dato:** \_\_\_\_\_

**Behandlingsside:**                      **H V B A**  
H højre side; V venstre side  
B begge sider; A alt andet

**Behandlingsindikation:**                      \_\_\_\_\_

Opkode 1 \_\_\_\_\_ matr.kode 1 \_\_\_\_\_

Opkode 2 \_\_\_\_\_ matr.kode 2 \_\_\_\_\_

**Akut/subakut/elektiv:**                      **1 2 3**

**Operationstype:**                      **4 5 8**  
*NB nyt skema ved 1,2 eller 3*

**Operations start og slut:** \_\_\_\_\_

**Kirurger:** \_\_\_\_\_

**Blodtab(ml):** \_\_\_\_\_

**Perop blodtransfusioner:**                      \_\_\_\_\_  
Antal SAGM port./ antal autotransf.

**Anæstesi:**                      **0 1 2 3 4 8**

**Incision:**                      **0 1 2 3 4 5**

**Sårets renhedsgrad:**                      **1 2 3 4**

### 2. SUPPLERENDE INDGREB: (Udfyldes af operatøren)

**Dato:** \_\_\_\_\_

**Behandlingsside:**                      **H V B A**  
H højre side; V venstre side  
B begge sider; A alt andet

**Behandlingsindikation:**                      \_\_\_\_\_

Opkode 1 \_\_\_\_\_ matr.kode 1 \_\_\_\_\_

Opkode 2 \_\_\_\_\_ matr.kode 2 \_\_\_\_\_

**Akut/subakut/elektiv:**                      **1 2 3**

**Operationstype:**                      **4 5 8**  
*NB nyt skema ved 1,2 eller 3*

**Operations start og slut:** \_\_\_\_\_

**Kirurger:** \_\_\_\_\_

**Blodtab(ml):** \_\_\_\_\_

**Perop blodtransfusioner:**                      \_\_\_\_\_  
Antal SAGM port./ antal autotransf.


**Anæstesi:**                      **0 1 2 3 4 8**

**Incision:**                      **0 1 2 3 4 5**

**Sårets renhedsgrad:**                      **1 2 3 4**

Followup Dato: \_\_\_\_\_

Navn: \_\_\_\_\_  
 CPR: \_\_\_\_\_

	Højre	Venstre	Bilateralt / andet
<b>Operations dato:</b> _____	_____	_____	_____
<b>Operations kode:</b> _____	_____	_____	_____
<b>Rekonstruktionens åbenhed/ patency:</b> 0 lukket; 1 åben 8 ikke rekonstrueret; 9 uvist  Hvis rekonstruktionen er lukket eller er genåbnet <u>siden sidste kontrol</u>	0 1 8 9	0 1 8 9	0 1 8 9
<b>Dato for okklusion:</b> _____	_____	_____	_____
<b>Behandling:</b> 0 ingen; 1 trombektomi; 2 trombektomi samt revision; 3 ny rekonstruktion = redo.	0 1 2 3	0 1 2 3	0 1 2 3
<b>Sgmt. syst. blodtryk (mmHg)</b> angives P for puls bliver index 100	_____	_____	
<b>Index</b> _____%	_____%	_____%	
<b>Niveau</b> 1 ankel; 2 tå; 3 arm	1 2 3	1 2 3	
<b>Ekstremitetsstatus:</b> 1 bevaret, ingen symptomer; 2 claudikatio; 3 hvilesmerter 4 gangræn/ikke helende sår; 5 amputeret;  Hvis patienten efter udskrivelse/siden sidst er amputeret angives	1 2 3 4 5 8 9	1 2 3 4 5 8 9	
<b>Amputationsdato:</b> _____	_____	_____	
<b>Niveau:</b> 0 ingen; 1 tå el forfod; 2 crus; 3 knæeks.; 4 femur.	0 1 2 3 4 8 9	0 1 2 3 4 8 9	
<b>Sår status:</b> 0 ingen sår; 1 mgl. heling af operationssår; 2 nye iskæmiske sår i rel. til operationen opstået; 3 præop. iskæmiske sår resterer.	0 1 2 3 9	0 1 2 3 9	0 1 2 3 9
<b>Infektion</b> i operationssåret opstået efter udskrivelse	_____	_____	_____
<b>Dato:</b> _____	_____	_____	_____
<b>Type:</b> 0 ingen; 1 overfladisk el subcutan infektion; 2 dyb infection incl. graftinfektion.	0 1 2 8 9	0 1 2 8 9	0 1 2 8 9
<b>Bakterietype:</b> 0 steril; 1 Staph aureus; 2 Staph epidermidis; 3 gramneg. stave; 4 anaerob; 5 blandingsflora 8 andet; 9 uvist	0 1 2 3 4 5 8 9	0 1 2 3 4 5 8 9	0 1 2 3 4 5 8 9

**Social status:**  
 1 erhvervsaktiv, el dermed ligestillet  
 2 alderspensionist;  
 3 førtidspens el efterløn  
 4 langtidssygemeldt  
 1 2 3 4 9

**Plejebehov:**  
 1 selvhjulpn  
 2 klarer sig med hjemme hjælp  
 3 beskyttet bolig ;  
 4 plejehjem el hospital.  
 1 2 3 4 9

**Død efter udskrivelsen/siden  
sidste kontrol - Dato:** \_\_\_\_\_

**Årsag:**  
 0 levende; 1 cardiel;  
 2 cerebrovaskulær;  
 3 uræmi; 4 blødning  
 5 MOF; 6 tarmgangræn  
 7 neoplasme; 8 andet;  
 9 ukendt årsag  
 0 1 2 3 4 5 6 7 8 9