

## **SURGICAL TRAINING IN BELGIUM. RESULTS OF A PROSPECTIVE STUDY CONDUCTED IN THE FRENCH-SPEAKING PART OF THE COUNTRY**

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***SURGICAL TRAINING IN BELGIUM. RESULTS OF A PROSPECTIVE STUDY CONDUCTED IN THE FRENCH-SPEAKING PART OF THE COUNTRY (Abstract):*** In 1999 we published the results of a retrospective study concerning the training of trainees in surgery from the Belgian French Community during the period 1990-1996. This present paper aims to give the results of a prospective study for the period 1996-2002, in order to establish a comparison with the results of the retrospective study, and to define the future requirements for surgical training for the period 2003-2009.

KEY WORDS: TRAINING IN SURGERY

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### **INTRODUCTION**

In 1999 we published [1] the results of a retrospective study concerning the training of trainees in surgery from the Belgian French Community during the period 1990-1996. This present paper aims to give the results of a prospective study for the period 1996-2002, in order to establish a comparison with the results of the retrospective study, and to define the future requirements for surgical training for the period 2003-2009.

### **METHODS**

In the wake of the retrospective study, the Commission of Agreement for Surgery<sup>†</sup> published in 1996 a inventory of procedures (overall exposure, first hand experience, experience in complex procedures, surgical autonomy etc.) which helped the study of the records of the trainees for the period 1996-2002. From 1996 until 2002, the data were recorded on a computer ready grid filled up by the trainees. This log book has allowed to perform a prospective study to analyze the results of surgical practice for 21 new trainees. These were equally distributed across the three networks of training in the three French Speaking Medical Schools (Université de Liège – 4, Université Catholique de Louvain – 12 et Université Libre de Bruxelles – 5) of whom 18 obtained the agreement for surgical practice after six years of training and three were required to undergo further training.

The goal of this present study was to evaluate the relevance of the quotas established in 1996 by the Commission of Agreement by analyzing prospectively the data recorded for the period 1992-2002 [1-4]. At the light of the results of the two studies and taking into account the technical evolution in surgery, the Agreement Commission decided to establish a

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new catalog of procedures adapted to current training demands for the next period 2003-2009, notably in mini-invasive surgery [4].

## RESULTS AND DISCUSSION

The results of the retrospective study during the period 1990-1996 have already been published [1,2]. Tables I and II show details about the requirements defined in the catalog which have been used for the period 1996 to 2002. Table III shows the results during the period 1996-2002. Table IV (overall) and V (per discipline) compare the results of the investigation 1990-1996, the requirements of the catalog, and the results of the prospective investigation 1996-2002.

**Table I Catalogus 1996**  
Number of surgical operations to be performed by the trainee according to the year of specialization (surgical autonomy expected)

SURGICAL SUBSPECIALITY	TOTAL NUMBER
Digestive	280
Vascular	100
<i>Venous</i>	70
<i>Arterial</i>	30
Bone surgery	100
<i>Traumatology</i>	70
<i>Orthopedics</i>	30
Cardiothoracic	50
Urology-gynecology	50
Endocrinology	20
Breast surgery	20
Others	130
<b>Total</b>	<b>750*</b>
* Minor interventions: 625 (N < N400; K < K180)	
Major interventions: 125 (N ≥ N400; K ≥ K180)	

**Table II Catalogus 1996**  
Number of surgical operations to realize by the trainee according to the year of specialization (surgical autonomy expected)

YEAR OF TRAINING	N° OF PROCEDURES AS MAIN OPERATOR	% OF PROCEDURES AS MAIN OPERATOR (SURGICAL AUTONOMY)
1	45	5
2	80	20
3	100	25
4	155	40
5	170	45
6	200	50
<b>Total</b>	<b>750</b>	

From the analysis of the different tables, it emerges that the catalog based on the retrospective data was realistic. The analysis of the 21 “prospective” records for the period 1996-2002 showed indeed that only three candidates (14.3%) were unable to fulfill the requirements of surgical experience after six years of training. It must also be added that this insufficiency of surgical exposition was not the only cause to delay the agreement of these 3 trainees.

Nevertheless, an analysis of the data from the 1996-2002 has meanwhile revealed (Table VI) that surgical exposure and practice were not achieved in three subspecialties: cardio-thoracic surgery, uro-gynecologic surgery, endocrine and breast surgery [3].

**Table III Period 1996 – 2002**  
**Number of surgical operations realized by the trainee in surgery during six years of training**

	AVERAGE	MEDIAN	RANGE
N° of procedures in which trainee surgeon participates	3270	3365	1843-5068
N° of procedures carried out as leader by trainee surgeon	1195 36.5%	1150 34.2 %	601-1860
Minor interventions (< K180 or N 400)	996	977	527-1463
% of total	30.5 % (996/3270)		
% of “personal activity”	83.3 % (996/1195)		
Major interventions n° (≥ K180 or N 400)	199	173	74-397
% of total	6.1 % (199/3270)		
% of “personal activity”	16.7 % (199/1195)		

**Table IV Comparison of the overall results of the retrospective study 1990-1996, the requirements of the catalog established in 1996 and the prospective study 1996-2002 (average numbers)**

	RETROSPECTIVE STUDY 1990 – 1996	QUOTAS 1996	PROSPECTIVE STUDY 1996 - 2002
N° of procedures in which trainee participates	2969	2500	3270
N° of procedures carried out as leader by trainee surgeon	987	750	1195
minor interventions	806	625	996
major interventions	181	125	199

**Table V Comparison of the overall results of the retrospective study 1990-1996, the requirements of the catalog established in 1996, and the prospective study 1996-2002 (average numbers)**

SURGICAL DISCIPLINE	RETROSPECTIVE STUDY 1990 - 1996	QUOTAS 1996	PROSPECTIVE STUDY 1996 – 2002
Cardiothoracic	57	50	66
Vascular	88	A 30 V 70	A 65 V 133
Digestive	284	280	420
Ortho-traumatology	148	O 30 T 70	O 62 T 150
Urology Gynecology	U 45 G 6	51	U 63 G 28
Endocrinology Breast surgery	?	E 20 S 20	40 28
Varia	121	130	200

This observation could be easily explained in breast surgery by the fact that these breast procedures are performed in Belgium by gynecologists (a trend which seems not easily reversed). Concerning endocrine surgery, most of these procedures are also concentrated in

some specialized centers. Nevertheless, owing the prevalence of endocrine surgical diseases, the Commission has considered that the trainees should have a minimal experience in this subspecialty and particularly in thyroid surgery.

**Table VI Study 1996 – 2002**  
**Disciplines in which more than 50% of the specialist candidates do not meet the requirements of the Commission of Recognition**

DISCIPLINE	N <sup>o</sup> OF THE CANDIDATES	RESULTS (%)
Thoracic	11	11/21 – 52 %
Urology – gynecology	11	11/21 – 52 %
Endocrinology – breast surgery	15	15/21 – 71 %

The insufficient training in cardio-thoracic surgery is less easily explained except by the fact that these complex procedures are rarely consigned to trainees. The same situation indeed existed seven years ago for vascular surgery progressively become more routine explaining that the criteria were now reached in these subspecialty.

It must be also mentioned that the number of surgical procedures in the both disciplines is declining in Belgium owing to the development of endovascular procedures and that the number of trainee positions in these disciplines remains limited.

Last of all, the data for the urologic and gynecologic subspecialties are probably explained by progressive autonomy of these both surgical specialties.

**Table VII Catalogus 2003**  
**Operations to realize first hand by the specialist candidate during six years of training**

SURGICAL SUBSPECIALITY	TOTAL NUMBER
Digestive	280
Vascular	100
<i>Venous</i>	70
<i>Arterial</i>	30
Bone surgery	100
<i>Traumatology</i>	70
<i>Orthopedics</i>	30
Cardiothoracic	30
Urology-gynecology	50
Endocrinology	20
Others	170
<b>Total</b>	<b>750*</b>
* Minor interventions: 625 (N < N400; K < K180)	
Major interventions: 125 (N ≥ N400; K ≥ K180)	
<u>N.B.</u> : the minimal number of surgical procedures to perform by trainees during the 6 years training is 2,500	

Consequently, the Commission of Agreement decided to reduce the exposure and practice in cardio-thoracic surgery (requirement of 30 procedures instead of 50 ). In endocrine and breast surgery the total quota is reduced to 20 instead of 40 and taking only into account thyroid surgery and for gynecologic – urologic surgery decreasing the total quoto to 30 instead of 50 and no longer taking urologic surgery into account. On the other hand, owing to the increasing importance of training in coelioscopic surgery, the Commission of Agreement recommended a minimal training in this surgical approach (Table VII) [3,4].

Moreover, due to the new regulations in oncology and surgical oncology (Ministerial Decree of 11.03.2003 published 26.03.2003), the trainees surgical exposure and practice in this subspecialty will also be taken into account.

**Table VIII Catalogus 2003**  
**Requirement for training in mini-invasive (coelioscopic) surgery**

	PARTICIPATION OF THE SPECIALIST CANDIDATE	PROCEDURES AS LEADER
Cholecystectomy	50	<b>25</b>
Appendicectomy	60	<b>15</b>
Hernia surgery	60	<b>10</b>
Gastro-esophageal reflux	20	<b>5</b>
Colectomy	30	<b>5</b>
N.B.: option: splenectomy, surrenalectomy, thoracoscopy		

Finally, in order not to avoid bias in the records, some operations have been included in a more appropriate category named miscellaneous (biopsy of temporal artery, pleural drainage etc.) and some itemized “major” interventions due to the same bilateral procedure (bilateral saphenectomy, bilateral inguinal hernia) are now registered in the log book as unilateral approach.

The new digital catalog is available on the web site of the Ministry of Public Health (<http://www.health.fgov.be/AGP>) and has enforced since 1 October 2003 (Table VIII).

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