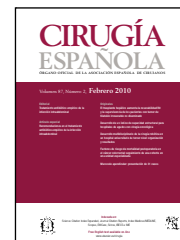


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## Special article

The training of a resident in breast surgery<sup>☆</sup>

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## A B S T R A C T

Breast surgery training of residents varies greatly in Spain and depends on the specialty chosen and the centre where this is carried out. Training programmes have been changing and have been updated within the current trend for subspecialisation. The results from a survey show that, for residents, training in breast surgery is not very attractive as they think that they do not receive adequate training.

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## La formación del residente en cirugía de la mama

## R E S U M E N

La formación de los médicos internos residentes en cirugía de la mama es muy variable en España y depende de la especialidad elegida y del centro donde ésta se realice. Los programas formativos han ido variando y se han actualizado dentro de la tendencia actual a la subespecialización. Los datos de una encuesta revelan que, para los residentes, la formación en cirugía de la mama es un área poco atractiva de la que piensan que no reciben una formación adecuada.

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## Palabras clave:

Formación

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## Introduction

Currently, in Spain, a physician may specialise in breast surgery following two different routes: specialising as a medical resident intern (MRI) in General Surgery and Digestive System or in Obstetrics and Gynaecology. It is also possible

for them to have access to br☆ast surgery, especially reconstruction techniques, by specialising in Repair and Plastic Surgery.

In this article we analyse how our residents train in breast surgery and we compare this training, according to the surgical specialisation undergone, with other systems,

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keeping in mind the current trend of General Surgery towards subspecialisations. We compare training in Spain with training in other countries. And even of greater importance, we have asked our residents, by means of a survey, how they rate their training in breast surgery at the end of their residence.

### **Training Programme for General Surgery and Digestive System Surgery**

In May 2007, the Spanish Official Journal (BOE) published the new training programme for specialisation in General Surgery and Digestive System Surgery of 5 years' duration, that replaced the previous one of April 1996.<sup>1</sup> In point 7.2 specific areas and contents of the specialty are described. As to breast surgery, this includes breast development pathologic conditions, inflammatory and infectious processes (mastitis), benign breast tumours, pre-neoplastic lesions, malignant breast tumours and breast reconstruction.

Annex IV defines a guiding scale to assess the degree of complexity of operations, according to the year of residence. In grade 1 we find breast nodule excision; in grade 3, simple mastectomy, and in grade 4, modified radical mastectomy. In grades 2 and 5, no breast disease operation is mentioned.

In Annex I, there is a guiding calendar in years for courses and rotations, which indicates that during the 4<sup>th</sup> year of residence courses/seminars on breast surgery must be attended; there is an obligatory month's rotation in Plastic Surgery and rotation in training/special interest areas. Endocrine and Breast Surgery (2-3 months).

Annex VI defines the minimum number of operations that a resident must have performed by the end of their residency. In the case of Breast Surgery these are 15 breast operations of benign conditions and 15 operations of breast cancer. Furthermore, during rotation in Plastic Surgery, the resident must participate as an assistant in 5 breast reconstructions.

If we compare this new programme for specialisation in Breast Surgery with the former one, published in April 1996, considering specific contents of the specialty, we can see that breast development pathological conditions, pre-neoplastic lesions and breast reconstruction were not included.<sup>2</sup> With reference to the degree of complexity of the operations, excision of breast nodules was not included, and surgery of breast pathological conditions did not appear until grade 3 with simple mastectomy. Nor were courses, seminars, specific rotation in the breast pathology unit or obligatory rotation in Plastic Surgery included. There was no defined minimum number of operations to accomplish as surgeon or as assistant.

Breast surgery is one more component of specialisation in General Surgery. With the appearance of new diagnostic and therapeutic techniques there is a tendency nowadays to subspecialise.<sup>3,4</sup> The new training programme published in 2007 includes breast reconstruction, which until then only formed part of specialisation in Plastic Surgery. This will encourage multidisciplinary treatment in patients with breast cancer. However, the remainder of the programme has not varied significantly in relation to the 1996 one. It is noteworthy that techniques which are current nowadays, such as sentinel lymph node surgery that makes it possible

to avoid unnecessary lymphadenectomies, are not included in this recently created programme. Furthermore, there is no mention of radio-guided occult lesion localisation (ROLL), occult breast lesion localisation plus sentinel node biopsy (SNOLL) or microductoscopy, techniques that have been used for years.

### **Obstetrics and Gynaecology Training Programme**

Also in April 1996 a guide for a 4 year training programme for specialists in Obstetrics and Gynaecology was published.<sup>5</sup> Compared with the current General Surgery programme of 2007, specific contents for the specialty in relation to breast disease are similar, with the exception of breast reconstruction that is not included. No reference is made to grades of complexity, courses, seminars or specific rotations. But a minimum number of 30 breast surgery operations are established (including operations for carcinoma), and at least 50% must be performed as first surgeon.

On 28 May 2009, a new training programme for the specialty of Obstetrics and Gynaecology was published in BOE.<sup>6</sup> In this programme there are new concepts and surgical techniques as part of training during the 3rd and 4th year of residence. Among them are included risk factors, extension studies, prognostic factors, prophylactic surgery, sentinel lymph node, reconstructive oncoplastic surgery, adjuvant and neoadjuvant treatment, immunotherapy, treatment of breast secretion, interpretation of diagnostic images of pathological breast conditions, invasive diagnostic procedures (fine needle biopsy [FNB], coarse needle biopsy [CNB]) and participation in multidisciplinary committees. There is also a mandatory rotation during the 4th year of residency in a Breast Pathology Unit.

The new training programme for Obstetrics and Gynaecology, put in place barely 2 years after the General Surgery training programme, is more updated and complete, and includes many diagnostic and therapeutic novelties.

### **Repair and Plastic Surgery Training Programme**

Both plastic surgeons and general surgeons can perform breast reconstruction in our centres. The current 5 year training programme for Plastic and Repair Surgery was published in April 1996 and has not been subsequently modified.<sup>7</sup> Included in the specific theoretic contents are benign and malignant tumours of the breast region and breast reconstruction techniques. Reconstructive surgery, is included in practical training and will be taught during the last 2 years of residency.

In Table the training programmes for General Surgery, Gynaecology and Plastic Surgery are compared.

### **How is this training performed in other countries?**

In countries such as Australia and the United Kingdom, the resident, after 3 years of General Surgery, specialises

**Table – Comparison of breast surgery training programmes in 3 specialities: General and Digestive System Surgery, Gynaecology and Plastic Surgery\***

	G&DS	Gynaecology	Plastic Surgery
Duration, years	5	4	5
Rotations in Breast Unit	+	+	+ (G&DS)
Conservative surgery	+	+	–
Radical mastectomy	+	+	–
Sentinel lymph node	–	+	–
X-ray techniques	–	+	–
Oncological treatment	–	+	–
Reconstructive techniques	+	+	+

G&DS indicates General and Digestive Surgery.

\*Plastic Surgery rotation is in General Surgery, but it is not specified that this must be a Breast Unit.

in Breast Surgery.<sup>8</sup> To accomplish this, they usually attend Breast Units at specialised centres. The training programme in both countries is similar and also similar to the current General Surgery training programme in Spain, but it includes techniques such as sentinel lymph node and procedures such as ductoscopy.<sup>9</sup> The main difference between both is that in Australia no reconstruction techniques are used, whereas in the United Kingdom the surgeons that perform them are defined as breast oncoplastic surgeons.

In other countries of the European Union, residencies are usually 6 years long, the 2 (Germany), 3 (France) or 4 (Austria) first years are common to other surgical specialties, and the remaining ones are dedicated to specialisation, without breast pathology being a specific subspecialty.<sup>10</sup>

In the United States, to specialise in breast surgery, after a 5 year residency in General Surgery, a Board certificate can be obtained for breast, skin and soft tissues, or a fellowship can be undertaken in breast surgery.<sup>11</sup>

In other countries, such as Chile, a residency in surgery is only 3 years long, but there is a specified minimum number of mastectomies and lymphadenectomies that must be performed, as also an obligatory 2-3 month's rotation in breast.<sup>12</sup>

It is important to point out that breast surgery is one of the most frequent surgeries performed by a general surgeon, even if they have not completed their subspecialisation in breast surgery.<sup>13,14</sup>

In 2001, Cameron et al published a study carried out in the United Kingdom on the subspecialties preferred by residents within surgery and they compared it with the possibilities of subsequently finding work in these specialties.<sup>15</sup> And found that 29.4% preferred colorectal surgery, followed by 27.2% who preferred oesophageal-gastric and hepatobiliary surgery, while 24.3% preferred vascular surgery and only 11.4% chose endocrine-breast surgery. However, when searching for a job 23.5% (second place) found one in endocrine-breast surgery, and this was only exceeded by colorectal with 25.6%.

Subsequently, in 2003, Kollias et al published a similar study in Australia, where breast surgery was only the first choice of 4.8%.<sup>16</sup> Among the reasons for not choosing breast surgery are incompatibility with other surgical subspecialties, the fact that technically it is not very demanding, repeated

stress, very demanding patients and the increase in lawsuits.

Outside Spain, breast surgery is not attractive to residents, in spite of the subsequent greater number of work possibilities.

### Where do our residents train?

On 19 September 2008 the BOE published a call to fill posts for training in specialisations for physicians (MRI) for 2009.<sup>17</sup> The offer consisted of 197 places in General and Digestive Surgery in 113 different centres.

The European Society of Mastology, EUSOMA, published in 2000 the requirements for a Breast Unit.<sup>18</sup> The main team must be formed by, among others, 2 surgeons, 2 radiologists, 1 oncologist, nurses, a psychologist, radiology technicians and a data administrator. All with exclusive dedication to breast pathology. The team would have to treat a minimum of 150 new breast cancer cases a year and 30 new patients should be seen by week. Each surgeon must operate at least 50 cases a year and diagnose 1 case of cancer a week. Every radiologist must read a minimum of 1,000 mamograms a year and diagnose 1 case of cancer a week. It must have available all the facilities necessary for diagnosis, breast reconstruction, genetic risk consultation, and a weekly multidisciplinary session must be held.

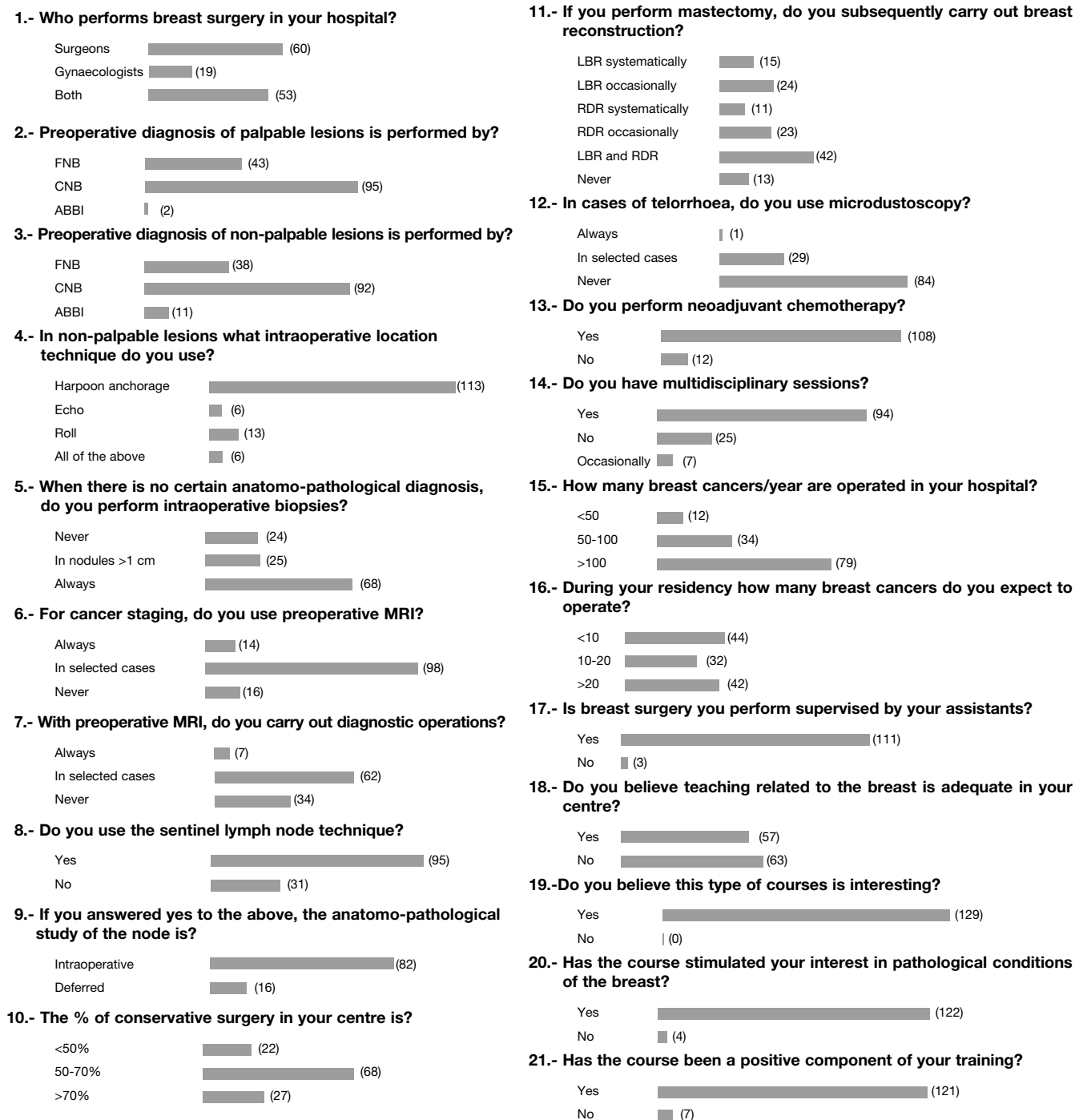
In 2005, Merck et al published a study on the compliance of Spanish Breast Units with EUSOMA criteria.<sup>19,20</sup> To perform this study they sent surveys to 241 hospitals, of which 164 (68%) answered. General surgeons manage breast pathology in 131 hospitals, in 51 of them jointly with the Gynaecology Service. Only 14 hospitals had 150 new cancer cases a year, and another 31 had over 100. As to the central team, only 8.4% of the hospitals had surgeons with exclusive dedication to breast pathology; 60.3% had radiologists and pathologists with exclusive dedication to breast pathology; and 42.8% had medical oncologists with exclusive dedication to breast pathology. Of these 31.3% had a Radiotherapy Service in their centre and only 73.6% held weekly multidisciplinary meetings.

In the call for residents made to MRIs we see the large variety of centres offered for residencies in the specialty. This encourages variability of training. In Spain, although this is improving, there are still very few Breast Units that comply or come close to complying with EUSOMA criteria. There are few residents that have the option of training in breast pathology in one of these centres. The new training programme includes a 2-3 month rotation in Breast Surgery,

which the resident should try to carry out in one of these Breast Units.

### What do the residents think?

In April 2008, in the Hospital of Getafe, we held the "First Multidisciplinary Course for the Diagnosis and Treatment of



**Figure – Survey completed by participants in the "First Multidisciplinary Course for the Diagnosis and Treatment of Breast Pathology for Residents", Hospital of Getafe, April 2008. CNB indicates coarse needle biopsy; FNB, fine needle biopsy.**

Breast Pathology for Residents", sponsored by the Spanish Association of Surgery with 161 registrations. At the end of the course the attendees were given a questionnaire in which they were asked questions on different aspects of their training, the characteristics of the centres where they were training, and, what we considered more important, their opinion of their training during their residency in breast pathology. The survey was answered by 132 participants. It is possible to see the answers in Figure.

In most centres surgeons deal with breast disease, either exclusively or together with Gynaecology. The most frequently used diagnostic technique, and with great differences, for suspicious palpable or non-palpable lesions, during the preoperative period was coarse needle biopsy. The intraoperative location of non-palpable lesions (NPL), in spite of the popularity of ROLL, continues, in 90% of cases, to be by means of harpoon anchorage and subsequently an intraoperative study is performed in a high percentage of cases. During the preoperative breast cancer extension study, nuclear magnetic resonance (NMR) is included, but few centres locate the lesion with this technique when suspicious lesions are found. Techniques for sentinel lymph node detection and their intraoperative study are widely used. Also widely in practice are conservative surgery, breast reconstruction, neoadjuvant chemotherapy and multidisciplinary sessions. In the case of telorrrheas, microductoscopy is very little used and some say they do not know what this technique consists of and that they have never heard it mentioned. In 37% of centres less than 100 cases of cancer a year are operated and in almost 10% less than 50. As to the number of breast cancer operations they expect to carry out during their residency, 37.3% did not expect to perform 10 and, in some cases, they said they would not get to perform any breast operations since their service did not treat breast pathologies. Their assistants do supervise these operations. Of those surveyed 52.5% believe that the teaching on breast diseases at their centre is not adequate. Most think that these types of courses are interesting, that they stimulate their interest in breast surgery and that they are positive contributions to their formation.

By means of the survey we found that our residents consider their training lacking. That it does not fulfil their expectations or comply with the national programme for the specialty in the number of operations performed, technology or characteristics of the training centre. Attendance at specific updating courses, also included in the new programme, stimulates their interest in this specialty.

## Conclusions

Breast Surgery is currently a sub-speciality within General Surgery which is not attractive to our residents. The new training programme may have been put in place when it was already obsolete, without adapting to new techniques (as we have seen in our survey, our residents sometimes do not even know what these are) or ever-increasing under-specialisation. Although mostly Breast Pathology Units are formed by general surgeons,

the training programme for Gynaecologists is much more complete and up-to-date. In view of the disparities between training programmes at training centres, rotations in specialised units should be encouraged as also specific courses targeting updating and adaptation to new techniques. Breast surgery, due to its importance and large numbers, should occupy an ever more relevant place within general surgery and, above all, among the expectations of our residents.

## Conflict of interest

The authors affirm that they have no conflicts of interest.

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