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Are the general and digestive surgery services prepared to offer quality training according to the new teaching plans?

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ABSTRACT

Introduction: In recent months we have witnessed an update of the residents training program and the regulation of important training aspects. Teaching units are an important aspect of the training process, which should be required to comply with the prerequisites adapted to changing times as a guarantee of quality.
Aim: To identify areas for improvement in training, and the baseline resources of the units to deal with the implementation of the new training program.
Material and methods: The study was carried out in all units with accredited educational programs in the Valencian Community with questionnaires answered by tutors and residents, and meetings held with them.
Results: The participation rate was high (100% of tutors and 92% of residents). Some deficiencies in the requirements of the surgical units and in the quality of the training felt by the residents are detected, mainly in the research and educational activity fields. Huge differences between hospitals are found.
Conclusions: More attention must be paid to fulfilling all the requirements needed for the accreditation of the teaching units, with an emphasis on educational and research activities. The implementation of the new training program requires monitoring to minimise the differences found between the units.

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¿Están los servicios de cirugía general y del aparato digestivo preparados para ofrecer docencia de calidad acorde con los nuevos planes de formación?

Palabras clave:
Formación del médico interno y residente
Acreditación de unidades docentes
Programa formativo de la especialidad

RESUMEN

Introducción: En los últimos meses se ha asistido a una actualización del programa formativo de los residentes y a una regulación de los aspectos importantes de su formación. Un elemento fundamental del proceso de formación son las unidades docentes, a las que se debe exigir que cumplan con los requisitos indispensables adaptados a los nuevos tiempos, como garantía de calidad.

Objetivo: Identificar los aspectos mejorables en la formación y conocer con qué recursos parten las unidades docentes para afrontar el cumplimiento del nuevo programa de formación.

Material y método: El estudio se ha realizado en todas las unidades docentes acreditadas para la formación de residentes en la Comunidad Valenciana mediante formularios enviados tanto a los tutores como a los residentes y reuniones mantenidas con los residentes.

Resultados: La tasa de participación fue elevada (el 100% de tutores y el 92% de residentes). Se han detectado deficiencias en los requisitos de las unidades docentes y en la calidad de la formación percibida por los residentes, sobre todo en los campos de la investigación y en la actividad docente. Se constatan importantes diferencias entre hospitales.

Conclusiones: Se debe incidir en el cumplimiento de todos los requisitos necesarios para la acreditación de las unidades docentes y hacer hincapié en la actividad docente e investigadora. La implementación de los nuevos planes de formación requiere de una supervisión que corrija las diferencias encontradas entre los distintos servicios.

Introduction

The new teaching programme for General and Digestive Tract Surgery was published in Spanish Official Journal of May 8, 2007.[1] Likewise, the Spanish Royal Decree 183/2008[2] regulates basic and essential aspects in the specialised health teaching and training system, such as those regarding tutor's role, teaching units, teaching boards, and assessment procedures.

The approval of these guidelines is justified by changes that occurred in the specialty in recent years, awareness of the importance of comprehensive training for residents, and the need to regulate certain aspects in the specialised health teaching and training system.

The Postgraduate Teaching Area of the Spanish Surgeons Association (*Asociación Española de Cirujanos*, AEC) carried out a critical analysis of the new programme, comparing it against the former one and concluding that *"…it is an ambitious, competitive and well-planned programme based on a deep analysis of both present and future of general surgery…However, there still persist certain doubts as to our teaching capacity, regarding hospitals and units. We need imaginative solutions of an almost urgent nature."*[3] An evaluation of the teaching quality requires examining not only the teaching process and the training specialist, but also the teaching units responsible for it.

The Directive Board of the Valencian Surgery Society (*Sociedad Valenciana de Cirugía*, SVC), willing to know the actual situation of training specialists in all hospitals at the Valencian Community, supported a study whose objectives were the following:

1. To know the degree of compliance with requirements of all accredited teaching units within the Valencian Community.
2. To know the teaching quality acquired and assess it according to standards set by the current teaching programme.

This article will not, of course, show the detailed results of each hospital, since it is up to the accredited auditing commissions to make them public; the overall perception, however, will be set down, which may, in turn, reflect that reality of the residents being trained in the rest of the country.

Material and method

This study was performed in all the hospitals at the Valencian Community that count on accredited General and Digestive Tract Surgery service to train residents (Table 1).

The study was informed in writing to all the department chiefs, the study chiefs of the local teaching boards and the tutors, and the residents were summoned by electronic mail or telephone. Residents active in the second semester of 2007 participated in the study, and also those who had finished their residency in June 2007. A form with 80 sections was given one of the tutors of each centre (Annex 1). The residents were provided with a questionnaire with 43 questions (Annex 2). Meetings with residents were also held where all aspects of the teaching programme were debated.

Tabla 1 – List of hospitals and number of residents participating in the study

Valencian Community hospitals	Number of residents (July, 2007)
Hospital Universitario La Fe (Valencia)	14
Hospital Clínico Universitario (Valencia)	11
Consorcio Hospital General Universitario de Valencia	10
Hospital General Universitario de Alicante	10
Hospital General de Castellón	4
Hospital Universitario Doctor Peset (Valencia)	4
Hospital de Sagunto (Valencia)	4
Hospital Universitario San Juan de Alicante	4
Hospital Arnau de Vilanova (Valencia)	3
Hospital General Universitario de Elche (Alicante)	3

The data were collected in an Excel spreadsheet and a statistical descriptive analysis was performed.

Results

At least one of the tutors for each service took part in the study (n=10).

Of the active (R1–R5) residents (R), (n=67), 56 (83.6%) took part in the study.

The data provided by the tutors, that make reference to the degree of compliance with the requirements demanded for accreditation of teaching units, are listed in Annex 3.

Of the questionnaire answered by the residents their main concerns are as follows:

1. The residents are given little responsibility at the operating room and are scarcely trained as first helping assistants. It is a widespread complaint that the number of surgical interventions performed by resident depends on the surgeon present at the operating room than on the official schedule.
2. Residents take on more responsibility in emergency interventions than in those scheduled to take place.
3. The training programme is deficient in the following areas within surgery: laparoscopic, oesophagogastric, endocrine metabolic, hepatobiliopancreatic, and assistance in poli-traumatism, not reaching compliance with the number of interventions recommended in the new teaching plan.
   In large hospitals residents perform few interventions grade 2 complexity, whereas in smaller hospitals they have few chances to take part in interventions grade 5 complexity and to receive adequate training in assisting poli-traumatised patients.
   These deficiencies were detected in all hospitals, although they varied depending on each hospital.
4. There is little dedication to scientific and teaching rounds. In 8 out of 10 hospitals scientific rounds of the kind and frequency recommended by the new teaching programme are not complied with. Only in 4 hospitals the residents hold periodic meetings with their tutor.
5. Attendance to accredited courses and congresses is acceptable among residents of larger hospitals. In 5 out of 10 hospitals attendance to courses is not made possible for the residents. In general (7 out of 10 hospitals), there is no calendar by year of residency.
6. Except in 2 hospitals, little motivation is perceived for scientific production. Significant differences are observed between residents of the same service.
7. Research experience of the residents is limited. Research experience is made possible only in 4 hospitals. In 5 hospitals the residents have access neither to clinical trials nor to experimental surgery, and there are no possibilities to carry out theses.
8. In 5 hospitals there is not one single unified resident book and only in one hospital the tutor checks this book periodically.
9. Most residents have an intermediate level of English knowledge, low-level knowledge of statistics and insufficient knowledge to handle data bases.

Discussion

We are witnessing a profound revision of the specialised medical training by the internal medicine resident system (IMRS), justified by the new technologies being developed and the changes that took place in recent years in certain areas of General and Digestive Tract Surgery, by reforms and innovations in the area of higher education that forces to standardise programmes, centres and qualifications with the rest of the European countries, and in view of the increasing number of openings offered against the deficit in the number of specialists.

A system that intends to improve the quality of any given process in an effective manner not only has to introduce measures considered effective beforehand, but it also has to keep active some tool to identify the deficiencies in such process together with the demands from those people involved in it, as well as the instruments at hand to carry out the reforms and, by doing so, indicate the guidelines that are considered appropriate.

The SVC supported this study to detect the deficiencies in the current teaching system in hospitals at the Valencian Community and afterward reflect on the suitability to apply those measures passed on from upper echelons, as well as to bring in suggestions to improve training for residents.

We believe that the high participation rate for this study (92% for residents, 100% for tutors) allows conclusions that faithfully translate daily training reality in the hospital environment (Table 2).

The first problem detected was lack of compliance with some requirements demanded to certify teaching suitability for a service. The parameters measuring health care activity are adequate in most cases; however, the weekly number of

Table 2 – Tutors and residents: their participation in the study

	Questionnaires answered	Questionnaires not answered	Participation rate per group, %
Tutors (n=10)	10	0	100
Residents R2–R5 (n=52)	48	4	92,3
Residents R6 (n=7)	5	2	71
Residents R1 (n=15)	8	7	53

weekly operating rooms per resident falls out of proportion in those hospitals with a larger number of residents, because the activity does not increase in accordance with the number of accredited residents.

Among the essential material resources, digestive endoscopy is not available during 24 hours in 3 hospitals, which forces patients with digestive diseases to be referred for emergency to other health centres which results in a teaching opportunity lost to the first hospital.

Teaching and audiovisual resources are enough and adequate for all units. The hospitals have libraries, although these are not available round the clock. This criterion should be revised, because nowadays physical access to texts and specialty magazines is being substituted by subscriptions via Internet, which is much more accessible and convenient.

Inner service organisation is important when it comes to teaching practice. In 4 out of 10 hospitals, services are not divided into units dedicated to specific diseases. This is often explained by lack of specialisation and possibly the small number of certain interventions, and has repercussions over the teaching quality offered to residents and organization of rotating internship.

Most residents point at deficiencies in their training regarding certain diseases, which are the same in almost all hospitals: oesophagogastric, hepatopancreatic, and laparoscopic. Additionally, it was surprising that some residents by the end of their training had never seen any bariatric, advanced laparoscopic or oesophagic surgical interventions, hepatic transplant or pancreatic renal transplant.

Complaints from residents in large hospitals insist mainly on the scarcity of surgical interventions of little difficulty, whereas those residents in small hospitals suffer from insufficient training in certain diseases that are referred over to reference centres. This problem could be dealt with by implementing inter-hospital teaching units and agreements for rotating internship between local hospitals. This concept was initially introduced in the teaching programme project,[4] but it is not being developed in the current programme.[1]

Large hospitals with reference units are being requested to massively rotate residents from other hospitals, which results in hospitals already crowded with residents to become over-crowded. Consequently, the hospital residents' interests clash with those of the visiting residents and it becomes complicated, if not impossible, to have all residents achieve the objectives recommended by the teaching and training programme. We wonder whether the objectives set by the new programme are addressed to all, which is practically impossible, or whether they are for those residents in large hospitals, which would be offensive for the rest. On the other hand, it is difficult to harmonise certain specialised surgery of excellence that is performed in some units by expert surgeons with the surgical objectives to be achieved by residents.

Apart from health care activity, the new programme regulates other aspects, such as research. The programme states that only those teaching units with scientific production sufficiently proven will be accredited, but this does not seem to correspond to reality, since research activity is not controlled. Most units are not arranged in one research centre and a large number of residents have never participated in any research project. Additionally, significant differences have been found between residents at the same service, which means that research activity depends to a large extent on each resident's personal interest and not only on the motivation from that service's scientific production.

Clinical and scientific rounds are important teaching pillars and are, probably, the most adequate forum to stimulate study, practical learning, acquisition of scientific mentality, and other capabilities, such as speaking in public. Regarding rounds recommended in the new programme, only 2 hospitals adjust to these in type and frequency. From the above stated, the present report reveals that there is no control over training of residents in aspects as important as statistics, English, database handling, research method, and procedural knowledge to write and defend a scientific paper.

There is a clear difference between residents regarding attendance to courses and congresses. In theory, this activity should be the same for everyone, and the new programme clearly states the need to attend these events, with inclusion of a guiding calendar by year of residence; but most frequently this activity is up to each resident's initiative. Most residents consider the courses organised by the Spanish Surgeons Association (AEC) as of high quality, but the only residents that seem to benefit from them are those in large hospitals. Just a few surgical services (3 out of 10) have an attendance calendar to courses and congresses by year of residence.

Finally, performance of tutors and evaluation of residents described in the new Spanish Royal Decree[2] should be assessed against current situation. The new regulation mentions that the tutor's labour must be acknowledge, although it does not

enter into details about it. The interviews between tutor and resident are also regulated (no less than 4 per year), which does not match real figures where only in 4 of the 10 hospitals the residents hold periodic meetings with their tutors to discuss issues relative to their training with them.

The resident book (obligatory by the new Royal Decree) should be unified for all the services and considered as the pillar by which the resident is evaluated. It is alarming that currently only one hospital gives enough importance to the resident book as to have tutors checking it periodically.

In sum, who controls those who teach and train? And, how are they controlled? Accreditation for a teaching unit to train residents should not be a rigid process, but, on the contrary, all services should be re-accredited periodically. If there is no outpatient supervision (which seems to be the only effective one) to health-care and scientific activity of the residents, with minimum requirements to acquiring the diploma, there will hardly be stimulus to their training, and, at the same time, services should be demanded upon to ease teaching to its highest standard and accredit specialists to this task with rewards that serve as *feedback* to improve teaching and training standards.[5] Once minimum standards are guaranteed, teaching excellence should be encouraged by bestowing prestige upon those institutions with more dedication to teaching. Some ideas for improvement are proposed in Table 3.There is still a lot to be done in the services, local teaching boards, hospital directive boards, and scientific societies. From the SVC some initiatives have been taken. The first one has been to know the real situation from which work can start toward improvement measures. During the last meeting, the study's results were exposed and individualised recommendations were made for each General and Digestive Tract Surgery service. All department chiefs have received a detailed report of their service situation and a new assessment will be made by an external commission within at least 3 years to check on progress made in each service's teaching and training standards. This issue no doubt concerns us all, and that is why scientific societies are invited to make similar efforts with aims at excelling in teaching and training residents.

Tabla 3 – Proposals to improve residents teaching and training

Extra-hospital supervision of performance carried out by teaching units, to guarantee minimum training standards
Periodic re-accreditation of teaching units and re-evaluation of number of accredited residents depending on educator's activity in each service
Obligatory implementation of unified resident book
Obligatory yearly report of teaching and scientific activities by teaching units
Implementation of inter-hospital teaching units to guarantee training in all surgical fields with external rotating internships
Planning of rotating internships with close coordination and collaboration between hospitals to adapt dates and objectives.
Motivation toward external rotating internships from teaching boards in all centres and increase of reference units
Encouragement from provincial scientific societies to hold inter-hospital gatherings and meetings to stimulate scientific production and presentation of clinical cases and studies
Provision to the tutor of training and adequate means to carry out his/her work, which should be assessed by an accreditation process and acknowledged curricularly or economically

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RESOURCE EVALUATION OF GENERAL AND DIGESTIVE SURGERY SERVICE, ACCORDING TO CURRENT MODEL FOR ACCREDITATION APPLICATION FOR TEACHING UNITS

Hospital:

1.- RESOURCES OF GENERAL AND DIGESTIVE TRACT SURGERY SERVICE
1.1. PHYSICAL AREA

1.1.1. Hospitalisation area	yes	no
1.1.2. Outpatient area	yes	no
1.1.3. Special diagnostic test area	yes	no
1.1.4. Operating rooms area	yes	no
1.1.5. Teaching unit secretary with administrative infrastructure	yes	no
1.1.6. Room for meetings	yes	no

1.2. HUMAN RESOURCES
Number of surgeons in staff:

1.3. MATERIAL RESOURCES
1.3.1. EQUIPMENT
1.3.1.1. Hospitalisation area
Number of beds:
Ner operating rooms available per week:
Average time for each intervention:
Percentage of time when operating room is being used:
Number of interventions per week:
Number of surgical interventions without admission:
Number of beds for ICU surgical patients:

1.3.1.2. Outpatient area
Number of offices for outpatient consultation:

1.3.1.3. Special diagnostic tests areas (at general and digestive tract surgery or at gastroenterology unit or central service)

Essential (available 24 h)		
Digestive endoscopy unit	yes	no
Imaging diagnosis unit (CT, ecography)	yes	no
Recommended		
Mammography unit	yes	no
Angioradiology unit	yes	no
Oesophagic exploration laboratory	yes	no

1.3.1.4. Operating rooms area
Number of operating rooms scheduled per week:

Mechanical sutures availability:	yes	no
Preoperative radiological explorations availability:	yes	no
Laparoscopic surgery availability:	yes	no
Preoperative ecography availability:	yes	no

1.3.2. TEACHING TOOLS

Classroom or seminary room with board, video, slide projector, negatoscope…	yes	no

1.3.3. CENTRAL LIBRARY

Medline bibliography, information available	yes	no
Library availability to study	yes	no

Library availability during day hours:

American Journal of Surgery	Annals of Surgery
Archives of Surgery	British Journal of Surgery
Cirugía Española	Current Surgery
Digestive Diseases and Science	Digestive Surgery
Diseases of the Colon and Rectum	European Journal of Surgery
Gastroenterology	Gastroenterología y Hepatología
Journal American College of Surgeons	Journal of Surgical Oncology
Journal of Trauma	Recent advances in Surgery
Revista Española Enfermedades Digestivas	Surgery
Surgery Annual	Surgical Clinics of North America
World Journal of Surgery	Year Book of Surgery

QUESTIONNAIRE ON SURGERY RESIDENT TRAINING IN HOSPITALS AT THE VALENCIAN COMMUNITY

HOSPITAL:
YEAR OF RESIDENCE:
NUMBER OF RESIDENTS IN YOUR SERVICE:

Annex 1 – Questionnaire sent to tutors to evaluate resources for each service in general and digestive surgery, according to current model for accreditation application of teaching units.

2. ORGANISATIONAL RESOURCES FOR THE TEACHING UNIT
2.1. Unit's Annual Report (no older than 2 years) yes no
2.2. Written standards for the internal organisation of the teaching unit, including
Organisational chart showing all hierarchical levels
Distribution of functions among staff members
Medical functions
Teaching functions
Research functions
Resident rotation plan (possibilities of the SCGAP and the hospital complying with it and written acceptance from the other divisions through which resident will rotate)
yes no
2.3. Annual report on educational activities (continuous training) prepared by staff members
yes no
2.4. Presence of written planning for activities and teaching (yearly programme detailing the medical, teaching and other types of objectives that SCGAP sets for itself)
yes no
2.5. In-person on-call duty at the emergency room for SCGAP personnel, whom the resident will join during the first year
yes no
2.6. Clinical histories taken according to the standards set forth by the hospital directors
yes no
2.7. Up-to-date diagnosis and treatment protocols and clinical pathways
yes no
2.8. Internal and external hospital quality checks
SCGAP member participation in committees:
Clinical History Committees yes no
Tissue Committee yes no
Mortality and Infection Committee yes no
Pharmacy and Treatment Protocol Committee yes no
2.9. List of complaints filed by users in the past two years compared with the hospital total and satisfaction survey for staff doctors and residents
yes no
3. RESOURCES FOR MEDICAL, TEACHING AND RESEARCH ACTIVITY
3.1. MEDICAL ACTIVITY
Admissions/year:
Hospital admissions/
Surgical procedures (excluding minor surgery)/year Emergency surgical procedures/year:
First visit to non-PCP/
Follow-up on surgical patients (second visits)/year:

Activity list by Divisions
yes no
Sufficient laparoscopic activity in own centre, or arranged with other centre
yes no
3.2. TEACHING ACTIVITIES
Describe the number of sessions and their frequency in the last two years:
Clinical sessions:
Literature sessions:
Seminars:
Programmed conferences for theoretical training:
3.3. ONGOING TRAINING ACTIVITIES
Ongoing training courses received by staff doctors/year:
Ongoing training courses taught and/or organised by staff doctors/year:
3.4. SCIENTIFIC AND RESEARCH ACTIVITIES
Number of publications in the last five years:
Number of conference lectures in the last five years:
Theses completed (registered or read) in the division in the last two years: List other activities in this field:
4. HOSPITAL RESOURCES
Presence of accredited teaching units (at the hospital or arranged with other centres) for:
Vascular Surgery yes no
Neurosurgery yes no
Thoracic Surgery yes no
Paediatric Surgery yes no
Urology yes no
Intensive care unit yes no
Experimental Surgery division yes no
5. VERIFICATION OF COMPLETION OF TRAINING PROGRAMME
5.1. Presence of evaluation standards determined by the SCGAP or the teaching committee
yes no
5.2. Presence of written evaluation standards for extending the resident's annual certification
yes no
5.3. Documental proof that the rules are applied
yes no
5.4. Resident booklet
yes no
6. RESIDENT TEACHING ABILITY
Number of residents:
Number of tutors:

Annex 1 – (*continued*)

1. Who is concerned about your training at your Service?
   (Write in an approximate percentage for each group)
   Chief of service:
   Tutor/tutors:
   Physicians:
   Major residents:

2. How many tutors do you have?
   One
   Two
   Three

3. How has/have your resident tutor/s been chosen?
   Vote cast by residents:
   Appointed by chief of service:
   I do not know:

4. How long has your resident tutor been active?
   One year
   Two years
   Three years
   Four years
   Five years
   More than five years

5. How often do you meet up with your tutor?
   Weekly
   Every fortnight
   Monthly
   On an irregular schedule (when a particular problem demands it)
   Never

6. Specify rotations (and duration) you have done since you began your residence:
   R1:
   R2:
   R3:
   R4:
   R5:

7. Do you have a pre-set rotating internship calendar that is respected by all residents?
   Yes and there is compliance (100%-75%)
   Yes, but it is changed frequently (50%)
   No, rotations are done on demand

8. Rotating internships by units are well differentiated or you are included in activities of other units on demand from that service?
   Differentiated
   Integrated

9. How well have rotations been complied with in percentages?
   Mostly: 75%-100%
   Mostly: 50%
   Mostly: 25%-50%
   Mostly: <25%

10. How many external rotations (other service) have you done in your residency? Name them.

11. How many external rotations (other hospital) have you done in your residency? Name them.

12. How are rotations evaluated?
   They are not evaluated
   They are all given the same mark
   They are evaluated according to objectives accomplished

13. Do you have any type of theoretical-practical exam at the end of each rotation or year of residence?
   Yes
   No

14. How many scheduled operating rooms (morning or evening) have you had per week in the last 3 months?
   One
   Two
   Three
   Four
   Five
   More than 5

Annex 2 – Questionnaire to residents.

15. Are the interventions you perform scheduled beforehand or do they depend on the surgeon with whom you operate to allow you to perform the intervention?
    - They are scheduled
    - They depend on the surgeon

16. Question only for R4 and R5: in what field of surgery do you consider you have not been trained appropriately? (You may choose as many as you need to.)
    - Abdominal wall surgery
    - Oesophagus-gastric surgery
    - Hepato-bilio-pancreatic surgery
    - Endocrine surgery
    - Obesity surgery
    - Coloproctologic surgery
    - Breast surgery
    - Laparoscopic surgery
    - Hepatic/Pancreatic transplant surgery
    - Poli-trauma assistance

17. How many times are you on call per month?

18. Are you tutorised well enough at your calls?
    - Yes (mostly >75%)
    - Yes (50%)
    - No

19. What time do your calls start?
    - 8 a.m.-9 a.m.
    - 3 p.m.

20. Do you have a day off after your call?
    - Yes (100%-75%)
    - Yes (50%)
    - Only if I am tired
    - Never

    - I am allowed a day off
    - I have to ask for permission to have a day off

21. Do you have a resident book?
    - Yes (it is the same model for all residents at the service)
    - Yes (each resident has a different book)
    - No

22. Is the resident book periodically checked by your tutor?
    - Yes
    - No

23. How many courses have you attended during your residency? Name and classify them >40 hours, PhD courses, courses sponsored by AEC, and conferences)
    - Research methodology
    - Bioethics
    - Clinical management
    - Scientific production
    - Outpatient major surgery
    - Surgical infection
    - Abdominal wall and hernias
    - Practical introduction to endoscopic surgery
    - Endocrine surgery
    - Breasts surgery
    - Oesophagus-gastric surgery
    - Advanced trauma life support (ATLS)
    - HBP surgery
    - Colorectal surgery
    - Advanced laparoscopic surgery
    - Organ transplant

24. How many congresses have you attended during your residency?
    - National congresses:
    - International congresses:

25. Is attendance to courses and congresses supported and encouraged?
    - Yes. There is a calendar scheduled and it is complied with.
    - Yes, but only those residents who solicit it attend and only if it does not affect service activity.
    - No. Residents are neither informed nor helped.

Annex 2 – (*continued*)

26. How many communications have you read during your residency?
    As 1st author:
    As 2nd author, et al:

27. How many posters have you made during your residency?
    As 1st author:
    As 2nd author, et al:

28. How many clinical articles/notes have you published during your residency?
    As 1st author:
    As 2nd author, et al:

29. Do you have change of shift daily rounds?
    Yes
    No

30. Do you have surgical planning rounds weekly?
    Yes
    No

31. How frequently do you have morbidity-mortality rounds?
    Weekly
    Fortnightly
    Monthly
    Never

32. How frequently do you have bibliographic rounds?
    Weekly
    Fortnightly
    Monthly
    Never

33. How frequently do you have inter-service clinical rounds?
    Weekly
    Fortnightly
    Monthly
    Never

34. How frequently do you have update rounds on resident issues?
    Weekly
    Fortnightly
    Monthly
    Never

35. Do you have an ongoing thesis project?
    Yes (it is only a project)
    Yes (I am gathering data and writing it already)
    No

36. Have you taken part in any research project? Name it.

37. Have you taken part in any clinical trial? Name it.

38. Have you taken part in any experimental surgery project? Name it.

39. What is your knowledge of statistics (courses…)?

40. What is your knowledge of English (courses, diplomas…)?

41. What database do you usually use?
    Excel
    Access
    SPSS

42. How do you assess the number of residents in your service?
    Insufficient (more position should be requested)
    Adequate
    Excessive (positions should be reduced)

Annex 2 – *(continued)*

43. List the interventions you have performed as surgeon so far (approximately):

Oesophagus gastric surgery
Antireflux surgery:
Paraoesophagic hernia:
Achalasia:
Approach to cervical oesophagus:
Complicated peptic ulcer:
Partial gastrectomy:
Total Gastrectomy:

Coloproctologic surgery
Hemorrhoidectomy:
Internal sphincterotomy:
Fistulas/abscess:
Colectomies:
Rectum anterior resection:

Hepato-bilio-pancreatic surgery
Minor hepatic resection:
Open cholecystectomy:
Biliary tract surgery:
Splenectomy:

Endocrine surgery
Thyroidectomy:
Parathyroidectomy:

Breast surgery
Nodule exeresis:
Simple Mastectomy:
Quadrantectomies:
Radical Mastectomy:

Abdominal wall surgery
Inguinal crural hernia repair:
Umbilical hernia repair:
Eventrations:

Laparoscopic surgery
Cholecystectomies:
Appendectomies:

Emergencies
All type of interventions:

List the number of interventions in which you have taken part as first assistant so far (approximately):

Abdominoperineal amputation:
Oesophageal resection:
Duodenopancreatectomies:
Major Hepatic resections:
Hepatic transplant:
Hepatic extraction:
Complex laparoscopic surgery:

Recount the number of procedures that you have performed (approximately) in your external rotations as surgeon (or assistant):

ICU/anaesthesia
Central venous access:
Orotracheal intubation:

Endoscopy
Oesophagogastroscopy:
Rectocolonoscopy:
Endoscopic retrograde cholangiopancreatography:
Therapeutic endoscopy:

Thoracic surgery
Thoracocentesis:
Thoracoscopy:
Lung resections:
Opening and closing of thoracic cavity:

Vascular surgery
Saphenectomies:
Embolectomy:
Direct arterial surgery:

Urology
Kidney, bladder and prostate interventions:

Plastic surgery
Local plasty:
Breast reconstruction:

1. Teaching unit requirements
    A. Minimal human resources: 10/10 (100%)
    B. Material resources.
        1. Number of beds: 2/10 (20%)
        2. Outpatient consultation area: 10/10 (100%)
        3. Number of operating rooms weekly: 10/10 (100%)

Annex 2 – (*continued*)

4. Operating rooms areas well equipped with material 10/10 (100%) (exception: intraoperative ecography available in 7/10 [70%])
C. Diagnostic tests areas
1. Essential diagnostic tests: 7/10 (70%)
2. Recommended diagnostic tests: 4/10 (40%)
D. Teaching resources (computers, audiovisuals, etc): 10/10 (100%)

2. Requirements to organise a teaching unit
A. GDS service divided into specialised unites: 6/10 (60%)
B. Plan for stable rotations: 5/10 (50%)
C. Written programming for annual teaching objectives: 5/10 (50%)
D. Written regulations for internal organisation: 10/10 (100%)
E. Annual record of continuing teaching activities: 6/10 (60%)

3. Requirements for health care, teaching and research activities
A. Health care activity indicators: 10/10 (100%)
B: Scientific rounds
Frequency recommended for current teaching programme: 2/10 (20%)
Frequency less than recommended for current teaching programme 3/10 (30%).
No scientific round of any type: 5/10 (50%)
C. Publication of works and communications (according to recommendations from current teaching programme): 3/10 (30%)
D. Registration of any thesis in the last 2 years: 4/10 (40%)

4. Requirements from the hospital to appropriate teaching of each specialty
A. Accreditation of all teaching units: 4/10 (40%)
B. Resident book unified for all residents: 5/10 (50%)

Annex 3 – Degree of compliance of main requirements for teaching units after analysing questionnaires answered by tutors.

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