

Day Surgery Unit Guide

Standards and Recommendations

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Day Surgery Unit Guide

Standards and Recomendations



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Y CONSUMO



Authorship: Work group for the elaboration of Standards and Recommendations for the Day Surgery Unit

Coordinators

- Enrique Terol García. Spanish National Health System Quality Agency, Ministry of Health and Consumer Affairs.
- Inés Palanca Sánchez. Spanish National Health System Quality Agency, Ministry of Health and Consumer Affairs.

Experts

- Filadelfo Bustos Molina. President of the Spanish Agency of Day Surgery. Head of Anaesthesia Unit, Toledo Hospital Complex (Toledo H.C.).
- Jordi Colomer Mascaró. General surgeon.
- Maria-Dolors Estrada Sabadell. Medical Research & Technology Evaluation Agency (AATRM), Cataluña.
- María Cruz Isar Santamaría. Nursery vocal of the AECMA. Toledo H.C.
- Alfredo Jiménez Bernadó. Head of General Surgery. DS Unit Coordinator, Lozano Blesa Teaching Hospital, Zaragoza.
- Ignacio Landa García. Spanish Association of Surgeons (AEC). General Surgery Unit, 12 de Octubre Hospital, Madrid.
- Juan Murube del Castillo. Chairman of the Spanish Ophthalmology Association (SEO). Emeritus Professor, University of Alcalá de Henares.
- Francisco Muñoz Negrete. SEO. Head of Ophthalmology Unit, Ramón y Cajal Hospital and Professor of Ophthalmology, University of Alcalá de Henares.
- Juan Carlos de la Pinta García. Anaesthetist. DSU Manager, Fundación Jiménez Díaz, Madrid.
- José León Paniagua Caparrós. PHD Architect.
- Antonio Planas Roca. Spanish Anaesthesia and Reanimation Association (SEAR). Head of Anaesthesia and Reanimation Unit, Príncipe de Asturias University Hospital, Alcalá de Henares (Madrid).
- Santiago Revuelta Álvarez. General surgeon. Sierrallana Hospital, Torrelavega (Cantabria).

Spanish National Health System Quality Agency

- Susana Arroyo Velasco. Quality and Health Planification Office. Directorate General Spanish National Health System Quality Agency. Ministry of Health and Consumer Affairs.
- Almudena Martín Cruz. Quality and Health Planification Office. Directorate General Spanish National Health System Quality Agency. Ministry of Health and Consumer Affairs.
- María Isabel Moreno Portela. Health Information Institute (IIS). Directorate General Spanish National Health System Quality Agency. Ministry of Health and Consumer Affairs.

Technical Direction

- Javier Elola Somoza. Technical Director of the Project. Elola Consultores.
- José Luis Bernal Sobrino. EC Health Management and Consultancy.
- Justo M. Menéndez Fernández. Elola Consultores.

Administrative and Logistic Support

- Alberto Segura Fernández-Escribano. Spanish National Health System Quality Agency. Ministry of Health and Consumer Affairs.

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1. Introduction

Throughout the past fifteen years, Day Surgery Units (DSU) have been developed greatly, both in the Spanish National Health Service (SNS, in its Spanish acronym), and in private clinics. This has resulted in increased efficiency in the care of surgery patients, who would otherwise be hospitalized in conventional hospital units.

Due to the novelty of this care system, its important growth, the diversity of organizational, structural, functional... design, as well as its important impacts on patient care and security, it has become one of the priority units in which quality and safety criteria should be determined. Its assessment should be taken as basis for clinical and management decisions, within the framework of the objectives and actions described in the Spanish National Health System Quality Programme¹.

In 1992 the Ministry of Health and Consumer Affairs (MSC, in its Spanish acronym) commissioned a Day Surgery (DS) Guide². When published in 1993 (ahead of similar documents in other national health services with an important tradition in this field, such as the British NHS (National Health System) which published its own DS Guide³ later in the same year), the Guide had a significant impact, contributing to the large-scale development of day surgery within the Spanish National Health System.

This new Guide revises and updates the content of the 1993 edition. It has a more global approach, including new aspects such as those related to patients' rights and guaranties and patient safety, priority areas of Ministry of Health and Consumer Affairs policy developed in the Spanish National Health System Quality Programme (Strategy 7). It also benefits from other guides, published in Spain and abroad, and from Spanish and international experience in the use and expansion of day surgery.

The aim of this Day Surgery Unit Standards and Recommendations guide is to provide public health administrations, managers in both the public and private sectors and healthcare professionals with in-depth knowledge on these units, to help improve safety and quality conditions in day surgery, in all its quality aspects, including efficient service provision. Accordingly, the Guide includes aspects relating to:

- a) Patients rights and guaranties.
- b) Patients safety.
- c) Organization and management of DS centres / units.
- d) Physical structure and material resources of DSU.
- e) Human resources of DSU.

- f) Healthcare quality.
- g) Review and monitoring of the DSU Standards and Recommendations.

This Day Surgery Unit Guide is not a legal document, and it does not establish the minimum requisites or conditions for opening and/or running, or accreditation of day ambulatory surgery units.

Preparation of this Day Surgery Unit Guide was headed by the Directorate General of the Spanish National Health System Quality Agency, under its Quality Programme.

For the elaboration of this guide, the Ministry of Health and Consumer Affairs, Scientific Societies and Professional Organizations of relevance in the field, selected a Group of Experts basing on their experience and knowledge of the aspects covered by the Guide.

The Directorate General of the Quality Agency has also been assisted by a support group which, in addition to acting as secretariat of the Experts Group, monitored the work performed, provided technical support at the meetings of the Group of Experts, conducted the analysis of the present situation, reviewed the documents prepared by the experts, analyzed evidence and worked with the Quality Agency Directorate General in the preparation of the various draft reports and the final report.

The relevant bibliographical references are provided throughout the Guide on a chapter-by-chapter basis. A number of recommendations are considered «strong», either because they are supported by legal requirements or because they are based on evidence considered by Group of Experts to be sufficiently sound. In all cases these strong recommendations are expressly indicated as such and are highlighted in **bold type**.

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2. Present situation

Day or ambulatory surgery (DS) is a form of healthcare, that is, a specific organizational and health management modality, that responds to a particular type of health service demand (services portfolio). It therefore requires specific structural and functional means and resources to ensure that these services are provided effectively and in a high quality and safe environment. The definition of DS used in this Guide is that contained in the Royal Decree 1277/2003: «therapeutic or diagnostic surgical procedures, performed with general, loco-regional or local anaesthesia, with or without sedation, that require short post-operative care and thus not requiring hospitalization».

Section C.2.5.4 of the Royal Decree 1277/2003 defines Day Surgery Units as «healthcare centres dedicated to subsidiary surgical procedures performed with general, local or regional anaesthesia or sedation that require short post-operative care and thus not requiring hospitalization».

The development of DS units in Spain is only very recent and has implied legislative updates for authorization and registration purposes, as well as adaptation of health information systems and development of indicators for assessment of day surgery. Day surgery procedures have been introduced gradually and have come to represent a very high proportion of some surgical procedures.

This chapter presents a brief analysis of the present regulatory (authorization, accreditation and guides or recommendations —covering structural, organizational and management aspects—) and care (volume of activity and results) situation of DSU in Spain and abroad.

2.1. DSU in Spain: regulations

2.1.1. Authorization and registration

In Spain, both the State and all the regional governments have issued legislation on the authorization and registration of healthcare centres; the legislation (laws, decrees and Ministerial orders) ⁽¹⁾ here analyzed includes both State and regional governments' resolutions.

⁽¹⁾ General Health Act 14/1986 (25 April 1986); SNS Cohesion and Quality Act 16/2003; Royal Decree 1277/2003 establishing the general basis for authorization of healthcare centres, services and institutions.

All this legislation relates to healthcare centres and services in general. But the regulations may be divided into two types: those on authorization and registration, which assess healthcare centres before they come into operation; and those regarding regulations on accreditation, for evaluation of operational centres.

Since the publication of Royal Decree 1277/2003, 10 of Spain's 17 regional governments have amended their legislation to adapt it to these new regulations and 2 have developed and introduced healthcare centres accreditation systems.

In Aragon, Annex II of the Regional Health Authority Order of 8 March 2006 (Official Regional Gazette num. 36, dated 27/03/06) on in—and out— patient surgery centres establishes the requisites for authorization of healthcare centres and services that perform day surgery.

In Castilla-La Mancha, the Regional Health Authority Order of 29 June 2007 on administrative authorization of surgery centres and services (Official Regional Gazette of 12 July 2007) includes Day Surgery units and centres.

DSU in all other regions of Spain base their administrative operation on the authorization of the hospital on which they depend or, if they are not part of a wider healthcare organization, on the basis of a generic authorization as an outpatient centre, and are thus simply subject to the general rules on authorization of healthcare centres in Spain.

2.1.2. Accreditation

Experience of accreditation of healthcare centres and services is still very limited in Spain as only four regions (Catalonia, Andalusia, Galicia and Extremadura) have legislation and official programmes for accreditation of healthcare centres based on voluntary external assessment. Some regions, such as Madrid or the Basque Country, have accreditation programmes for specific types of centres, services or activities (i.e., organ transplants, assisted reproduction, haemotherapy, continued training, etc.), but to date there is no specific accreditation system in Spain for DS centres (DSC) or units (DSU).

2.1.3. Guides and recommendations

As indicated above, except for just two regions (Aragon and Castilla-La Mancha), there is no specific legislation in Spain on the requisites to be met by DS units or centres, complying then with the general law. However, there

are three guides which, while not being legally binding, lay down a set of recommendations that may act as guidelines for decision-making. One of these guides was prepared by the Ministry of Health and Consumer Affairs in 1993 and was, for many years, the only benchmark in Spain¹.

In 2002 the Catalan Regional Health Authority² issued a Day Surgery (DS) Guide defining technical criteria for administrative authorization of healthcare centres in the areas of day surgery and non-surgical diagnostic-therapeutic procedures (tests and explorations). In the same year, the Valencia Regional Health Authority³ published an DS Guide, focused on the design of action protocols and circuits.

In 2001 the Basque Regional Health Authority (Osakidetza) commissioned and published a research project on day surgery in the Basque Regional Health Service⁴, aiming to analyze the variability of use of day surgery in the region's hospitals, learn the opinion of the healthcare professionals involved and make recommendations for the development of day surgery.

2.2. DSU regulations in other countries

2.2.1. United States

In the United States, Ambulatory Surgery Centres (ASCs) are among the most highly regulated healthcare providers, mainly via accreditation. 85% of the day surgery centres are Medicare certified and 43 States require accreditation for authorization purposes, specifying the criteria to be met by the ASCs⁵. Both the State administration and Medicare assess the facilities and verify that standards are met⁶. All centres that wish to operate as Medicare service providers must receive accreditation; approximately 85% are successful, enabling them to perform services for Medicare and be reimbursed for these services.

In addition to the State and federal inspections, many ASCs voluntarily undergo peer accreditation processes. There are a number of accreditation agencies, including the Accreditation Association for Ambulatory Health Care, the Joint Commission of Hospital Accreditation (JCHA), the American Association for the Accreditation of Ambulatory Surgical Facilities and the AOA (American Osteopathic Association), all of which are recognized as valid accreditation granters by Medicare thanks to their rigorous demand of quality.

The JCHA has specific regulations for day surgery centres⁷. These are laid down in a long document (387 pages) which takes into account the 2007

National Patient Safety Goals and includes patient-focused requisites and standards and organization-focused requisites and standards. The JCHA's standards are limited to procedures and do not include aspects relating to the structure, design, size, equipment or organization of the centres.

2.2.2. United Kingdom

The National Health Service (NHS) has also developed extensive regulations on day surgery units; these regulations relate to physical structure and facilities, as well as to processes, procedures and quality enhancement programmes.

In the case of physical structure and facilities, the Health Building Note 52^{8,9} applies both to the design of new buildings and to the adaptation or extension of current buildings within general hospitals. This guide provides recommendations on general design and operation, patient flows, equipment, premises, areas, facilities and spatial sizing and design of the units.

Regarding the organization and operation of day surgery units, the NHS has elaborated an Operational Guide¹⁰, designed to help Unit Managers to improve the care provided and to raise efficiency levels.

The Healthcare Commission recently conducted a review of day surgery in NHS centres¹¹ and concluded that «day surgery has considerable advantages for patients, the public and the NHS». The Royal College of Anaesthetists has also published a report on criteria for best practice in day surgery services¹².

2.3. DS practice in Spain and abroad

2.3.1. DS in the Spanish National Health System

Day surgery began to take off in Spain in the early 1990s, after some previous isolated experiences. The first autonomous DS centre was opened in Viladecans (Barcelona) in 1990¹³ and the first DSU in the Toledo Hospital in 1992. Rivera *et al*¹⁴ were the first to publish on results of day surgery in 1988, and in 2001 E. Sierra¹⁵, one of the predecessors of day surgery in Spain, published a highly recommendable review of its development ten years after the start-up of the Viladecans centre.

In 1991 the Ministry of Health and Consumer Affairs gave an important boost to programme-associated contracts and activity-linked financing¹⁶ with

tools such as the Day Surgery: Organization and Working Guide¹⁷ and, in 1992, the payment by DS-process system in INSALUD's (National Health Service) programme-associated contracts¹⁸. Following publication of the Ministry of Health and Consumer Affairs Guide in 1993, day surgery expanded significantly throughout the Spanish National Health System. The Spanish Association for Day Surgery (AECMA, in its Spanish acronym) was founded in 1994 and, by 2005, day surgery accounted for 40.5% of all surgical procedures performed in Spanish National Health System hospitals¹⁹.

The Health Information Institute of the Spanish National Health System Quality Agency (Ministry of Health and Consumer Affairs) provided the data shown in Annexes 1 and 2, based on the 2005 Minimum Basic Dataset (CMBD). For surgical procedures performed mostly as day surgery in the Spanish National Health System, the Substitution Index ⁽²⁾ is 63%.

According to these data, the Substitution Index varied considerably among Spain's 17 autonomous regions, plus the enclaves of Ceuta and Melilla: from 78.6% in La Rioja to 40.35% in the region with the lowest rate. The average Substitution Index was 63.3%.

In a 2005 survey conducted for the IAAS (International Association of Ambulatory Surgery) in seven Spanish regions²⁰, the Substitution Index for 29 surgical procedures was 63.18%, thus confirming the calculation made on the basis of the IIS figures.

To conclude, comparing the situation in 1993 with the 2005 data:

- Since the first DS Guide was published in 1993 there has been considerable progress in the dissemination and expansion of day surgery techniques in the Spanish National Health System.
- Lens procedures are by far the most frequent day surgery procedures (35.5% of the total), with an overall Substitution Index in the Spanish National Health System of 91.9%.
- For the set of 28 procedures selected as suitable for day surgery, the Substitution Index in the Spanish National Health System is 63%.
- Certain procedures that are suitable for day surgery still record high inpatient rates and thus a low substitution index, such as, for example, inguinal hernias, termination of pregnancy or some otorhinolaryngology (ENT) procedures (e.g. tonsillectomy).
- There is great variation in DS penetration (measured by the Substitution Index) amongst the different regions (40%-79%).

⁽²⁾ $SI = \left(\frac{\sum \text{surgical DRGs suitable for ambulatory surgery performed via ambulatory surgery}}{\sum \text{DRGs suitable for ambulatory surgery performed via conventional and ambulatory surgery procedures}} \right) \%$. To calculate this index, a «basket» of surgical procedures suitable for ambulatory surgery must be defined (see also Chapter 8 —Quality— and Annex 17 —Definitions—).

2.3.2. DS at an international level

A survey conducted in 2003 by the International Association for Ambulatory Surgery (IAAS) on day procedures²¹ (including not only day surgery but also diagnostic procedures such as arthroscopy, bronchoscopy or colonoscopy) includes data from 17 countries. These data show that whilst in Spain just 39% of all surgical procedures were performed via day techniques in 2003, with a substitution index of 54%, many other countries, including those with similar health services (national health systems), recorded considerably higher day surgery rates (see table).

Table 2.1. Day surgery in 17 developed countries

Countries	% of Total	% Substitution Index
Australia 2003	40.50	74.00
Belgium 2004	30.00	
Canada 2002	87.70	84.40
Denmark 2004	55.20	79.30
Finland 2003	37.00	62.40
France 2003		44.90
Germany 2003	37.00	60.70
Italy 2002	29.00	41.00
Netherlands 2002	49.60	68.80
Norway 2003	48.00	68.00
Poland 2003	2.40	
Portugal 2003	10.70	18.50
Scotland 2003	39.00	66.00
Spain 2003 (*)	28.44	54.00
Sweden 2002	50.00	66.70
United Kingdom 2003		62.50
USA 2003 (Medicare)		83.50

(*) Six regions.

Source: Toftgaard C. «World Wide Day Surgery Activity 2003». The IAAS Survey on Day Surgery.

According to the British NHS data, by 2000 the majority of procedures included in day surgery programmes in the UK had substitution indexes higher than 60%, and in many cases (such as inguinal hernias or cataracts, two of the most frequent procedures due to their high prevalence rate) above 80%. That same year, the Healthcare Commission estimated that more than 120,000 conventional inpatient surgical procedures could have been performed in day surgery units. In the 2005-2006 financial year, day surgery accounted for 52% of the 7,215,286 surgical procedures performed in NHS hospitals in England²². Of a «basket» of the 25 main procedures selected by the British NHS to be resolved preferably via day surgery, in 2005 the substitution index was 67.6%, still short of the 75% target set in the Health Department's 2000 Health Programme²³. The overall cancellation rate was 14% ⁽³⁾, although in some centres it reached 33%.

In the United States, the Foundation for Ambulatory Surgery in America²⁵ estimates that 84% of all surgery is performed by means of day surgery. However, the AHRQ²⁶, in its 2003 report, indicated that day surgery accounted for 51.7% of the 7,574,100 surgical procedures performed in community hospitals (which represent 85% of the country's hospitals). The average cost of each day procedure was USD5,600, in comparison with an average cost for inpatient surgery of USD28,300. Cataract surgery, with or without lens replacement, was the most frequent procedure, followed by muscle and tendon operations, tonsillectomy and adenoidectomy, meniscus removal, inguinal or femoral hernia procedures and cholecystectomy. 90% of all of the procedures performed, were therapeutic and 10% diagnostic.

From the point of view of quality and efficiency, there is a generalized consensus on the quality, safety and efficiency superiority of day surgery. Referring to the Day Surgery Unit of Viladecans hospital (Barcelona), Sierra indicates that «the complications observed were few in number and minor, the rate of unplanned admissions was less than 2%, the mortality rate was zero and the general rate of satisfaction and acceptance by all the parties involved was optimum, above 96% in the latest surveys conducted». Sierra also refers to the lower unit cost of the procedures²⁷.

2.3.3. DS in Spain and abroad: conclusions

The European Observatory of the World Health Organization recently published a summary of the state-of-the-art of Day Surgery²⁸. Its

⁽³⁾ These figures are very high; the DSU of the Zaragoza Teaching Hospital has a cancellation rate of 4%²⁴.

conclusions, which coincide with those of the Healthcare Commission²⁹, highlight the following aspects for promotion of its development ⁽⁴⁾:

Care issues

- To date there are very few studies comparing day and inpatient surgery, but those that do exist show that there is no significant difference in the results obtained. These studies, as well as other non-random studies, demonstrate that day surgery is a safe care alternative if the existing clinical protocols and corresponding organizational principles are followed.
- The mortality rate within 30 days of day surgery is extraordinarily low (around 0.01%) and in most cases the deceases are not consequence of the surgery performed³⁰. The major morbidity rate directly associated with day surgery is less than 1%. In an important series published in Spain, the mortality rate was very low (1/25,553 patients), as was the rate of readmission post-discharge (0.15%)³¹.
- Day surgery reduces the risk of adverse events inherent to hospitalization, such as nosocomial infections³².
- The rate of unplanned consultations within 30 days of surgery is between 0.28% and 1.5%.
- The number of unplanned admissions may be reduced by clinical protocols.
- The most frequent post-operative problems are minor; most commonly pain, nausea, sickness, dizziness, tiredness, headache and a sore throat. The presence of these symptoms may affect the length of time patients remain in the unit before discharged, and may hinder resumption of their day-to-day activities.

Social issues

- The studies reflect a high degree of patient satisfaction (and of parental satisfaction in the case of paediatric patients) with day surgery. Patient satisfaction may be optimized by:
 - Achieving good control of pain, nausea and sickness at the post-operative stage.
 - Reducing pre-operative waiting times.
 - Providing an adequate attention to patients in a comfortable setting.
 - Avoiding the patient to feel hurriedly discharged.
 - Next-day telephone monitoring.

⁽⁴⁾ The following text, based on the two sources cited (28 and 29), is own compilation.

Economic issues

- The hospital costs of day surgery are 25% to 68% lower than the costs of inpatient surgery for the same procedure.
- Economic benefits of day surgery:
 - With no overnight hospital stays, more patients may be treated and waiting lists may be reduced.
 - Hospital beds are kept free for more urgent and complicated cases.
 - In dedicated day surgery units (see Chapter 5 for types of DSU), scheduling of surgery is enhanced, the number of cancellations is reduced (as these operations are not competing with emergency cases and/or for hospital beds) and the performance of operating theatres is increased.
 - Staffing levels are reduced, as patients do not generally need to remain in hospital overnight.
 - The theatre block equipment and installations are used more efficiently.

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3. Patient rights and guaranties

Healthcare centres and institutions that have DS units, or DS centres ⁽⁵⁾, must observe and respect all the rights granted to patients in the existing healthcare legislation. This chapter deals in detail with aspects related to the information to be provided to patients and their families on day surgery, and in general with other legislative aspects to be taken into account by DSU and, where appropriate, by the corresponding healthcare institutions.

3.1. Information to patients and families; Informed consent

Patients should receive clear, concise and sufficient information, including the following:

- Information on the general characteristics of the DSU.
- Detailed information on the DS procedure.
- Informed consent.
- Instructions and recommendations.

3.1.1. Information on the general characteristics of the DSU

The welcoming information (leaflet, booklet) **should include, at least, a description of the different stages the patient will go through and special recommendations or warnings.** Inclusion of photographs of the DSU may help patients understand and accept the day procedure.

A shortened version of the welcoming booklet could be distributed in admission areas and waiting rooms of hospitals and health care centres, to raise public awareness and facilitate acceptance of day surgery.

⁽⁵⁾ These criteria are applicable to healthcare centres and institutions that include DSU, applied, as appropriate, to these units, and to autonomous DSU.

3.1.2. Detailed information on the DS procedure

The information provided to patients will be procedure-specific and should include:

- A basic explanation of the surgical pathology.
- A basic explanation of the procedure to be performed.

3.1.3. Informed consent

DSU should have an informed consent form ⁽⁶⁾ for each procedure included in their service portfolio. Inclusion of a DSU consent form ⁽⁷⁾ is recommended.

3.1.4. Instructions and recommendations

Patients should receive the following written information:

- Instructions for the night before the operation.
- A checklist for prior to leaving home for the operation.
- Instructions for upon arrival at the day surgery unit.
- Instructions for the immediate post-operative stage.
- Instructions post-discharge. These instructions should be procedure-specific. The information should include all possible incidences that patients may experience in their homes or in the alternative accommodation provided. It should be accompanied by the medication / treatment to be administered and by a contact telephone number for patients to call in the event of any doubts.
- Data on access to continued care resources connected to the DSU or hospital.

⁽⁶⁾ For example, the forms prepared by the Spanish Association of Surgeons (AEC, in its Spanish acronym) for general surgery¹.

⁽⁷⁾ See Annex 3.

3.2. Ensuring patients' rights

Healthcare centres and institutions that have dedicated DSU, or DSC, should keep the following documentation, in addition to the more specific information indicated above:

- a) Service portfolio.
- b) Reception programme.
- c) Code of ethics.
- d) Clinical practice guides or protocols.
- e) Clinical trial procedures and protocols.
- f) Clinical records.
- g) Living wills (advanced directives).
- h) Medical discharge reports.
- i) Patient data protocols: safety, confidentiality and legal access.
- j) Complaints and suggestions forms/book.
- k) Current insurance policy.

All patients or relatives by family or fact should have guaranteed right to access to these documents, in accordance with the corresponding legislation, except for those indicated in points d), e) and i).

Below there is a more detailed description of some of these rights; points a) service portfolio, f) clinical records and h) medical discharge reports are discussed in Chapter 5 - Organization and Management.

3.2.1. Patient reception programme

Just as hospitals have a Reception Plan for inpatients, DSU may have a Reception Plan for ambulatory patients. This plan will include the general information indicated in sections 3.1.1, 3.1.2 and 3.1.4 above, as well as that included in the list of patients' rights and obligations (higher above).

3.2.2. Code of ethics

Healthcare centres and institutions that have DSU, or DSC, shall have a specific code of ethics which will include the rules and principles to guide their activity, in line with the professional deontology.

3.2.3. Clinical practice guides

All DSU shall have demonstrable evidence of the clinical practice guides or protocols they use in the healthcare services they are authorized to provide, together with the evaluations and, where appropriate, modifications and adaptations.

3.2.4. Clinical trial documents

All clinical trials must comply with the conditions and guaranties established in their correspondent legislation.

3.2.5. Price lists

All healthcare centres and institutions that have dedicated DSU, and all DSC, must have price lists available to users; these lists must also be notified to the competent authorities in accordance with applicable legislation in this matter.

3.2.6. Complaints and suggestions

1. All healthcare centres and institutions that have dedicated DSU, and all DSC, will have complaints and suggestions forms available to allow users/patients to record any complaints, claims, initiatives or suggestions they may wish to communicate in relation to the operation of the units.
2. Signs indicating the existence of these forms will be clearly visible and the forms will be easily available to facilitate their identification and use.
3. DSU users will be entitled to receive written replies from the Unit Manager or another authorized person to the complaints posted, besides their referral to the competent authority, in accordance with the provisions of regional applicable legislation.
4. All complaints, claims, initiatives and suggestions should be periodically reviewed.

3.2.7. Liability insurance

1. All healthcare professionals working in the private sector and all private bodies or corporate persons providing healthcare services of any kind must have the mandatory liability insurance or financial guarantee to meet any compensation claims that may derive from eventual harm caused to persons as a result of these services.
2. All private healthcare centres and institutions that have dedicated DS units, and all private DS centres, must have the necessary liability insurance policy to cover any possible compensation to harm caused to patients.

3.2.8. Policy records

All healthcare centres and, where appropriate, self-employed healthcare professionals, must keep copies of the documents showing the necessary liability insurance.

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4. Patient safety

This chapter deals with patient safety criteria in DSU.

4.1. Nosocomial infections

1. DSU shall have hospital-acquired infection control and prevention programmes, adapted to their specific characteristics and activities. These programmes will ensure that patients at risk and risky procedures are identified and that the necessary information is provided to the corresponding authorities, in accordance with all applicable legislation.
2. To this effect, a protocol shall be set up, which will include aspects related to hand hygiene, use of alcohol-based hand cleansers, antiseptics, surgical antibiotic prophylaxis, prevention and handling of incidents related to exposure to blood, patient isolation (situations and types of isolation) and risk of infection in invasive procedures.
3. DSU must be able to demonstrate effective compliance with this obligation.

4.2. Epidemiological alerts

All healthcare centres and institutions that have dedicated DSU, and all DSC, shall have epidemiological alert systems connected to the corresponding health authorities, in accordance with all applicable legislation.

4.3. Medication handling

1. Centres with DSU or DSC shall have procedures for storage, packaging, identification, handling and prescription of drugs, with special emphasis on drugs with high handling and administration risk, and on control of use-by dates.
2. All healthcare centres and institutions that have dedicated DSU, and all DSC, shall comply with the specific requirements established by the drug legislation.

4.4. Patient identification

1. All healthcare centres and institutions that have dedicated DSU, and all DSC, shall have a reliable, infallible, universal and sole system of patient identification.
2. This system shall allow patient identification prior to any surgical or diagnostic procedure and prior to administration of any medication or haemoderivatives.

4.5. Safety management

1. All healthcare centres and institutions that have dedicated DSU, and all DSC, shall ensure that patient safety, quality, technological adaptation and risk management measures are duly obeyed.
2. All C.1 healthcare centres⁽⁸⁾ as defined in Royal Decree 1277/2003 (10 October 2003) shall have a commission or unit, as appropriate, responsible for identifying and recording any adverse events that may occur as a result of the healthcare provided, and for applying and assessing any steps to be taken towards resolving or improving the situation.

4.6. Emergency procedures

1. All healthcare centres and institutions that have dedicated DSU, and all DSC, shall have an Emergency Plan that should establish the organization of human and material resources available for the prevention of fire or equivalent risks and that guarantees immediate action and evacuation in the event of a disaster occurring within or in the vicinity of the premises.
2. This Emergency Plan shall include risk assessment, protection measures, emergency drills and implementation and review measures.

⁽⁸⁾ C.1 hospitals (inpatient centres): healthcare centres providing specialist and continued inpatient care (minimum of one night stay), primarily dedicated to diagnosing or treating inpatients but which may also diagnose or treat ambulatory patients (Annex II, Royal Decree 1277/2003, of 10 October 2003, which establishes the general bases for authorization of healthcare centres, services and institutions).

5. Organization and management

Day surgery units (DSU) are defined as «organizations of healthcare professionals providing multidisciplinary health care via day surgery procedures, in conformity with a series of functional, structural and organizational requisites that ensure the quality and efficiency conditions needed to carry out this activity»^{1,2}. See Chapter 2 for the definition of day surgery and day surgery centres.

This chapter deals with the organizational point of view of DSU: procedures suitable for day surgery, day surgery service portfolios, patient inclusion criteria, unit organization and operation and aspects related to patient management.

Before considering the organizational characteristics of DSU, it should be noted that, in light of experience and of the progress made in surgical and anaesthetic techniques, the question of whether or not day surgery is appropriate in a certain case should change from the classical: «Is this patient suitable for day surgery?» to «Is there any justification for admitting this case as an inpatient?».

Day surgery should be considered a standard practice, and the first alternative for patients who are to undergo any of the surgical procedures included in Lists A and B (Annexes 4 and 5).

5.1. Selection of procedures

Each DSU must select the procedures to be included in its service portfolio. Below there is a list of the most commonly accepted criteria for this selection process.

Traditionally, in accordance with the Davis classification³ based on the type of care or post-operative monitoring required, all Type II and some Type III procedures are considered suitable for day surgery:

Type I: Procedures that may be performed in consulting/examination rooms with local anaesthesia and with no need of special post-operative care.

Type II: Procedures that may be performed with local, regional or general anaesthesia or sedation that require specific but non-intensive brief

post-operative care and administration, where necessary, of only oral analgesics.

Type III: Procedures that require extended hospital post-operative care.

Type IV: Procedures that require highly specialised or critical post-operative care.

Type II procedures were traditionally classified as major surgical procedures, but due to the advance made in surgical and anaesthetic techniques they are now suitable for day surgery. These procedures require specific post-operative care but not intensive or extended inpatient care.

Type II procedures make up List A (Annex 4). List A procedures should be the ones used for Substitution Index comparisons between hospitals and health services within the Spanish National Health System.

Type III procedures require extended post-operative care in a hospital environment. Some of these procedures could be included in day surgery, generally in DSU that have close hospital links or that are located within a hospital. List B (Annex 5) contains a set of these procedures selected as being possibly suitable for day surgery.

Type I procedures should not be considered as day surgery and should not be performed in the resource-demanding and expensive facilities of a DSU, but in consulting/examination rooms, treatment rooms or minor surgery rooms ⁽⁹⁾.

List C (Annex 6) is a list of these procedures, including non-surgical therapeutic-diagnostic tests.

Inclusion of ASA III patients ⁽¹⁰⁾ will depend not only on the extent to which their disorder or disease is controlled but also on factors related with surgical and anaesthetic techniques considered later in this Guide.

⁽⁹⁾ The Ambulatory Surgery Guide published by the Catalan Regional Health Authority in 2002 proposes a set of criteria for these procedures, but this is beyond the scope of this Guide.

⁽¹⁰⁾ According to the American Society of Anesthesiology classification, ASA III patients are those who suffer a serious disorder or disease of some kind that causes «a certain degree» of functional limitation.

5.2. Service portfolio

Each DSU must define its service portfolio, that is, the range of surgical procedures it performs, in accordance with care needs in its area of influence (or demand identified in the corresponding market research studies), the organizational and management characteristics of the healthcare institution it belongs to, and its human resources.

DSU should periodically review their service portfolio, on the basis of experience and scientific and technological development.

This Guide proposes a set of procedures that may be included in DSU service portfolios, as orientation on the procedures that should mainly be performed via ambulatory surgery and to establish a uniform base for Substitution Index comparisons between Spanish National Health System hospitals and health services.

With this aim in mind, the set of procedures suitable for ambulatory surgery has been defined using specific DRGs (Diagnostic Related Groups) (see List A in Annex 4). The drawback of this system is that single DRGs may include procedures that are suitable and others that are not suitable for day surgery, but the system also offers the following advantages:

1. Unequivocal and global definitions and descriptions for each DRG.
2. Spanish National Health System information system: comparison between Spanish National Health System hospitals and health services (Spanish National Health System DRG database) and even with health services in other countries.
3. Uniform cost comparison approach.

5.3. Patient inclusion criteria

All DSU should have a handbook establishing the criteria for inclusion of patients in ambulatory surgery programmes. The manual should include the general aspects indicated below, adapted to the specific procedures contained in the service portfolio of each unit.

a) Physiological aspects

Patients suitable for ambulatory surgery will be ASA I and II patients in accordance with the classification of the American Society of Anaesthesiologists (see Annex 7). Some ASA III patients may be scheduled for ambulatory surgery, after individual assessment of the benefits and risks involved (for example, ASA III patients with no decompensation in the previous three months).

In absolute terms, patients should not be excluded on the basis of age.

Infants under six months born full-term and infants under 12 months born premature should not be included in DS programmes, due to the risk of post-operative apnoea.

Elderly patients are not automatically excluded; assessment should be made on the basis of biological rather than chronological age.

Ambulatory surgery is ideal for children, as overnight stays are often the most distressing part of an operation for them. They should be treated separately from adults, for example in dedicated DSU or surgical sessions. They should receive nursing care in paediatric pre-discharge recovery areas which should include play facilities. All operations should be performed by surgeons and anaesthetists with appropriate experience in paediatric care.

Severe obesity is considered a contraindication that must be assessed on an individual basis. Patients with a Body Mass Index (BMI) over 30 (Obesity I) and over 35 (Obesity II) should be assessed individually. Ambulatory surgery is contraindicated for Obesity III type patients (BMI over 40: morbid obesity), save for specific cases which must be assessed individually.

It is also advisable to exclude patients on anticoagulant drugs who, due to their illness, cannot undergo prophylactic treatment ⁽¹¹⁾. Patients with personal or family histories of blood coagulation disorders, anaesthetic complications in previous operations, malignant hyperthermia and sudden death should all be assessed individually.

⁽¹¹⁾ Some units have specific protocols for anticoagulants, involving controlled suspension of the treatment three days before the operation, coagulation analysis prior to the operation and resumption of the treatment six hours after the end of the operation. Moreover in the majority of cases of phacoemulsification with topical anaesthetic it is not necessary to cancel warfarin treatment⁴.

Patients with personal histories of myopathy or neuropathy and patients with active drug-dependency problems will have to be assessed thoroughly before they can be included in an ambulatory day surgery programme.

b) Psychological aspects

Patients must give consent to the surgical procedure offered by a DSU. The following patients are not suitable for day surgery:

- Patients incapable of understanding and following spoken and written instructions on the procedures, unless an accompanying adult assumes full responsibility.
- Patients with psychiatric pathological condition that prevents them from collaborating with the medical staff.

c) Care aspects

Patients must be accompanied by a responsible adult throughout the pre-discharge recovery period, the transfer home and at least the first 24 hours after the operation.

The DSU must be reasonably close to the patient's home: no more than an hour in a conventional vehicle is the recommended standard, although some procedures, specially in the case of less aggressive anaesthetic and surgical techniques, may be performed safely on patients who live farther away⁵.

Patients at their home/post-discharge recovery place must have access to a telephone and to a minimum degree of comfort, accessibility and hygiene to allow an adequate recovery.

Nevertheless, patients should not be refused ambulatory surgery on the basis of poor living conditions; instead, they should be referred to an accommodation (a residential home or hotel lodging) that meets the conditions required.

Summarizing, in order to be included in a DS programme:

- Patients must be properly informed and must agree to the procedure.
- Patient inclusion process must be clearly defined.

- The DSU and patient's place of convalescence must be reasonably well communicated.

All these conditions should be assessed in the initial DS consultation.

5.4. Structure and types of DSU

There are various different administrative classifications of DSU^{6,7}; in this Guide they have been classified in terms of their physical and organizational links with hospitals (see table 4.1):

- Integrated units (organizationally and physically part of hospitals):
 - Type I: units that share all their resources with the rest of the hospital.
 - Type II: units that are organizationally independent but that share some elements —operating theatres— with the rest of the hospital.
- Autonomous units: independent from the rest of the hospital in terms of both organization and physical structure.
- Satellite units: located at a distance from the general hospital but administratively dependent on the hospital.
- Free-standing units: fully independent, in regards with both organization and structure, of a general hospital, for example a «Day Surgery Centre» as regulated in Spain (section C.2.5.4. of Royal Decree 1277/2003), or a DSU that belongs to other kinds of ambulatory centres, such as «high resolution centres».

Table 5.1. Types of DSU

Type	Organization	Structure
Integrated units		
Type I	<ul style="list-style-type: none">• Dependent for surgical services.• Manager or coordinator.	<ul style="list-style-type: none">• Share all hospital resources.• Separate admission.
Type II	<ul style="list-style-type: none">• Independent organization.• Dual dependency DSU - Surgical services.	<ul style="list-style-type: none">• Operating theatres in general theatre block but specifically assigned to AS procedures.• Separate admission.• Separate pre-discharge recovery area.
Autonomous units	<ul style="list-style-type: none">• Similar to Type II.	<ul style="list-style-type: none">• Separate premises within hospital layout.
Satellite units	<ul style="list-style-type: none">• Similar to Type II.	<ul style="list-style-type: none">• Physically separate from hospital.
Free-standing units	<ul style="list-style-type: none">• Separate organization.• No organic links with hospital.	<ul style="list-style-type: none">• Own premises, within a day-care or outpatient healthcare centre (C.2. R.D. 1277/2003) or a DS centre (C.2.5.4. R.D. 1277/2003).

The most appropriate types are probably the autonomous and satellite units as they offer the most benefits in terms of cost-effectiveness⁸. Type II integrated units may be an adequate solution for hospitals with structural limitations opening a new DSU, but in general this type is not recommended for new hospitals. The decision, nevertheless, must also take in account the volume of activity expected. Type I integrated units that share operating theatres and use conventional hospital wards are the least efficient model and are not recommended⁹, as the rate of hospital admission in these units may increase significantly¹⁰.

Hospital restoration and/or extension projects and new-to-build hospitals should be designed to include autonomous DSU.

In the case of free-standing units, strict viability studies on technical, care and economic aspects are required, given the high investment involved and the lack of flexibility of these units. The absence of physical and functional links with a support hospital limits both the amount of possible procedures and the patient selection criteria. This same argumentation may also apply to satellite units located at a significant distance from the associated hospitals (more than 20 minutes in emergency transport).

DSU with extended pre-recovery facilities

Some DSU are introducing organizational and management structures that allow them to add more complex procedures to their service portfolios (although the numbers and percentage of the total are still very limited). These procedures may require an overnight stay (time frame: less than 23 hours) or up to 48-72 hours (short-stay surgery)¹¹. The IAAS regards units that have organized their resources to care for patients who require an overnight stay within a time frame of less than 24 hours as «extended recovery facilities»¹². Another reason given for DSU to include the possibility of «extended recovery» is that it enables them to extend their surgical sessions into the early evening, although in this case the most appropriate solution is to have alternative accommodation available for patients (patient hotels).

The advantages and disadvantages of these organizational and management models have not been sufficiently evaluated. In the UK the Department of Health¹³ indicates that extended day surgery facilities may reduce «true day surgery activity» if used badly, as clinicians and patients may choose an overnight stay simply because the option is available; this problem could be avoided by distinguishing between day-care beds and 23-hour beds. Organization of nursing staff is the critical factor in extended day surgery facilities: rigorous cost-benefit analysis and evaluation of workload is essential to assess whether or not overnight nursing care can be justified in light of the foreseeable patient numbers and level of care required.

DSU with short-stay surgery programmes

Some DSU also include short-stay surgery programmes, to raise the level of complexity of the procedures available in autonomous DSU operating theatres. In case after the corresponding procedure and recovery, patients fail to meet the pre-established criteria for discharge home or to alternative

accommodation, they would be transferred to a conventional polyvalent hospital, either to a short-stay facility, wherever possible, or to a general hospital ward¹⁴.

The critical factor regarding DSU offering short-stay surgery programmes is that, as the complexity of the surgical procedures performed varies (potentially, although in practice in Spain it is still very limited), the structural and human resources required can also vary considerably (for example, numbers of operating theatres, post-anaesthesia care and recovery cubicles, operating hours, numbers of surgeons and post-anaesthesia care and recovery nursing staff) and this could affect the quality of care provided in the units and their level of efficiency. Moreover, these programmes could be included in DSU to cover up for organizational, management, technical or care-related shortcomings in the conventional inpatient surgical areas.

According to the definition of ambulatory or day surgery established in Royal Decree 1277/2003, which is used in this Guide, for the purposes of hospital data and recording systems, patients who have undergone a procedure in a DSU and remain in hospital overnight (whether in an extended recovery area, a short-stay facility or a conventional polyvalent hospital ward) are considered as inpatients.

For all these reasons, this Guide includes no recommendations on DSU with extended recovery facilities or short-stay surgery programmes. Current experience should be carefully assessed ahead of the next revision of the Guide to allow evidence-based recommendations to be made.

5.5. Organization of DSU

This description of the organization of DSU is made from the patient care angle: admission to, movement within the unit and post-discharge referrals. The tables illustrate schematically the different steps that make up the care process, including the organizational and management aspects dealt with in this chapter as well as the functional and structural aspects contemplated in the following chapter. Annex 8 contains a comprehensive scheme of patient flows in DSU.

Throughout the process, a series of organizational and management alternatives are presented for handling DSU patients; each healthcare institution, and within these institutions each DSU, should prioritize the alternatives that are most appropriate to its organizational and management system.

This guide recommends patient handling alternatives aiming at the following objectives:

- Making access to DSU as easy as possible for all patients who may benefit from ambulatory surgery.
- Encouraging the role of primary healthcare when attracting patients to ambulatory surgery and in monitoring patients.
- Using IT systems to prevent unnecessary trips to healthcare centres (agenda management) or repetition of additional tests (single clinical records), etc.
- Avoid «external» factors to prevent ambulatory surgery from being performed in the case of patients who meet all other criteria

5.5.1. Admission to DS programmes

The key objectives in this respect are: 1) to make ambulatory surgery available to all patients who are suitable for it, and 2) to ensure that the number of patients rejected is as low as possible. The aim to attract patients to ambulatory surgery should prevail over the aim to minimize the number of patients deemed unsuitable.

Patients may be admitted to DS programmes via three channels:

1. **From Primary healthcare.** Primary healthcare professionals should be aware of the portfolio of services offered by the corresponding DSU and of the patient inclusion criteria and they should refer patients who meet these criteria to the DSU (or better still, make appointments for them in DS outpatient clinic). Development of protocols between DSU and primary healthcare professionals can facilitate the inclusion of patients in DS programmes.
Patients' General Practitioners (GPs) or paediatricians should be informed of the date of the ambulatory surgery procedure to be performed in the DSU.
2. **Surgical clinics.** All healthcare professionals should be fully aware of the portfolio of services offered by the corresponding DSU and of the patient inclusion criteria. All patients who require surgical procedures suitable for ambulatory surgery (Lists A and B) and who meet the patient selection criteria should be referred to the DSU.
3. **Waiting lists.** Patients on waiting lists diagnosed for List A procedures can be referred directly to DS outpatient clinics.

Table 5.2. Patient flow in DSU care process: Admission

	Location	Action	Requisites/Aims
Referral	<ul style="list-style-type: none">• From Primary healthcare• From surgical clinics• From surgical waiting lists	<ul style="list-style-type: none">• Process diagnosis and indication of surgery• Previous selection	<ul style="list-style-type: none">• Prevent patient rejection in DSU• Detailed knowledge of:<ul style="list-style-type: none">— DSU service portfolio— Local selection criteria

TO: DAY SURGERY UNIT

5.5.2. Patient flow in DSU

DSU consulting and examination room

- DSU should have their own consulting/examination rooms with a separate administrative area and separate admission processes. At least these should provide facilities for consultant anaesthetists and nursing staff. Patients will generally be selected for ambulatory surgery at the surgical clinics of a specialist and will then be passed on to consultant anaesthetists who will confirm or reject the selection. Some DSU even have their own surgeons' clinics.
- Patients and their families should be provided comprehensive information as well as informed consent at the consultation stage ⁽¹²⁾.

⁽¹²⁾ «To be given in writing in cases of: surgical procedures, invasive diagnostic and therapeutic procedures and, in general, any procedures that imply risk of a known and foreseeable adverse impact on patient health». Art. 8.2. of Act 88/2002 on Patient Autonomy and Rights and Obligations regarding Clinical Documentation and Information.

Table 5.3. Patient flow in DSU: Consultation

	Location	Action	Requisites/Aims
Consultation	Dedicated DS consulting room.	<ul style="list-style-type: none">• Clinical assessment and indication.• Anaesthesia assessment.• Patient selection.• Information to patient and family members.• Acceptance.• Informed consent.• Additional tests ⁽¹³⁾.	<ul style="list-style-type: none">• Comfort.• Selection criteria.• Single clinical records.• Spoken and written information.
	DS administrative area.	<ul style="list-style-type: none">• Admission of patient.• Appointment for additional tests (if appropriate).• Appointment for operation.	<ul style="list-style-type: none">• Prevent patients having to return unnecessarily.• Short waiting times.
24 / 48 hours before operation ⁽¹⁴⁾	DS administrative area.	<ul style="list-style-type: none">• Confirmation of appointment by telephone.• Reminder of pre-operative preparations (Annex 9).	<ul style="list-style-type: none">• Prevent cancellations.• Prevent inefficiencies in surgical sessions (in the event of a cancellation, call patients on waiting list).

⁽¹³⁾ Patients should not have to return for further tests; these should be conducted on the same day the patient is assessed and selected.

⁽¹⁴⁾ Many DSU do not make telephone calls 24-48 hours before operations, only when they are newly opened. The UK Healthcare Commission suggests that calls «may» be made if more than six weeks have elapsed since the initial assessment was made and the date was set for the operation, to prevent cancellations¹⁵.

Preparation, Operation, Post-anaesthesia Care and Pre-discharge recovery

The following organizational requisites are essential to provide appropriate patient care the day of the surgical ambulatory procedure performed in a DSU:

- Separate distribution of operating hours for ambulatory surgery, with no possible interference with scheduled or emergency hospital surgery.
- Joint decision by surgeon and anaesthetist of discharge of patient.
- Comfort for patients and their escorts.
- Clear delimitation of entry and waiting areas within the theatre block and at the post-procedure area.

Table 5.4. Patient flow in DSU: Operation			
	Location	Action	Requisites/Aims
Admission	DS administrative area.	<ul style="list-style-type: none"> • Patient preparation. • Confirmation of appointment and process. 	<ul style="list-style-type: none"> • Patient preparation (distinct from inpatient admission).
Preparation	Preparation area.	<ul style="list-style-type: none"> • Confirmation of compliance with preparation activities. • Pre-operative anaesthesia assessment. • Specific preparation. 	<ul style="list-style-type: none"> • Comfort.
Operation	DS operating theatre.	<ul style="list-style-type: none"> • Operation. 	<ul style="list-style-type: none"> • Independent operating hours. • Prevent interferences.
Post-anaesthesia Recovery	Conventional post-anaesthesia recovery area.	<ul style="list-style-type: none"> • Post-anaesthesia recovery. 	<ul style="list-style-type: none"> • Not essential; in some cases, fast-track techniques allow patients receiving loco-regional and general anaesthetic to pass directly to the pre-discharge recovery area.

Table 5.4. (cont.) Patient flow in DSU: Operation

Secuencia	Location	Action	Requisites/Aims
Pre-Discharge Recovery	Pre-discharge recovery area.	<ul style="list-style-type: none">• Recovery.• Contact with relatives.• Comprehensive monitoring of patient.• Care of relative (future carer).• Fulfilment of post-discharge safety criteria.• Early assessment of possible future complications.• Pre-discharge surgical and anaesthesia assessment.• Discharge signed by the surgical team: surgeon and anaesthetist.• Instructions for patient and carer upon discharge.• Discharge, or hospital admission if necessary• Check-up scheduled: date and time, in DSU or specialist clinic.	<ul style="list-style-type: none">• Comfort.• Strict safety criteria upon discharge.• Precise post-discharge instructions.• Clear definition of post-DS care.• Determination of people responsible for care.

TO: HOME

5.5.3. Patient flow post-surgery

Patients will be discharged and sent home—or, where appropriate, to alternative accommodation—with only a small percentage of cases needing extended specific care that may imply admission to a conventional hospital. The alternatives offered to patients after surgery will basically depend on:

- The technical success of the operation performed.
- The condition of the patient.
- The organization of the DSU.

Table 5.5. Patient flow post-surgery

	Location	Action	Requisites/Aims
Home (or alternative accommodation)	<ul style="list-style-type: none"> • Patient's home. • Alternative accommodation (short-stay facility or patient hotel). 	<ul style="list-style-type: none"> • Monitoring by telephone during the first 24 hours. • Convalescence. 	<ul style="list-style-type: none"> • Home environment or alternative accommodation must meet minimum conditions. • Easily reachable and accessible from DSU.
Follow-up	<ul style="list-style-type: none"> • DS / primary healthcare / surgical - consulting room. 	<ul style="list-style-type: none"> • Conventional post-operative follow-up. 	<ul style="list-style-type: none"> • Achievement of patient satisfaction. • Monitoring of databases.

Surveys should be conducted among DSU users, to determine the degree of acceptance and satisfaction towards ambulatory surgery and to diagnose any problems in the service provided.

Table 5.6. Patient flow in DSU care process: Post-surgery alternatives

Alternatives	Destination
Pre-discharge assessment	
a) Patient is recovered and meets post-discharge safety criteria.	Home.
b) Patient requires extended care (patient is not recovered / fails to meet criteria).	Hospital (length of stay depending on problem).
c) Administrative problems (delay in discharge, patient's home environment failing to meet safety standards, etc.).	<ul style="list-style-type: none"> • Alternative accommodation (recommended). • Hospitalization < 23 hours (in short-stay beds assigned to DSU).
At home	
a) Normal convalescence.	Normal follow-up.

Table 5.6. (cont.) Patient flow in DSU care process: Post-surgery alternatives

Alternatives	Destination
b) Problems or perceived problems.	<ul style="list-style-type: none">• Medical care:<ul style="list-style-type: none">— Contact by telephone with DSU (recommended); or— Care in patient's home; or— Care by emergency services
c) Emergency.	Emergency services care.
Follow-up (according to protocol adapted to type of procedure and DSU)	
a) At the DSU.	DSU consulting room.
b) First consultation at the DSU.	First consultation in DSU, then referred to primary healthcare (recommended).
c) Follow ups at referral location.	First consultation at referral location (if surgical consulting room), then referred to primary healthcare.

5.5.4. Essential organizational requisites

According to the needs of the integrated patient care process included in a DS programme, the following conditions are considered essential:

- Working timetable and operating schedule designed to minimize hospital admissions due to administrative problems (late discharges, weekend closures, etc.).
- Availability of conventional hospital beds (according to activity; see Annex 14 on DSU resource sizing criteria).
- Direct responsibility of the DSU throughout the process, even though other healthcare organizations may provide specific support (primary healthcare, A&E services, conventional hospital units, intensive care units, etc.).
- Strict compliance with discharge criteria.
- Confirmation of patient home environment requisites, including availability of alternative accommodation.
- Detailed explanation of post-discharge care required and certainty that it has been understood by patients and their carers.

- Clear explanations of steps to be taken in the event of post-discharge complications:
 - DSU contact telephone.
 - Reasons for needing medical care.
 - Emergency situations and what to do in an emergency.
 - Place to go for medical care.
- Implementation of an appropriate IT system to monitor results.

5.6. Management structure

Irrespective of type, all DSU need specific management structure, including a Clinical Manager and a Nursing Manager. In addition, either one of these managers or another DSU staff member should assume the role of Unit Quality Manager.

At least one experienced administrative assistant will be required to provide support to the Clinical and Nursing Managers and to handle admissions and waiting lists.

The reporting lines of all DSU staff members should be clearly defined.

Since DSU may come to handle more than 50% of all surgery, they should be represented on the corresponding Hospital Board of Directors or Management Committee.

DS units, especially Type II integrated units, autonomous units and satellite units, should be organized as management centres within their respective hospitals.

It is thus advisable to appoint one person in charge —could be on a part-time basis— from each of the horizontal services (finance, human resources, general services, etc.) as support for the unit.

5.7. Organization and Operation Manual

DSU should have an Organization and Operation Manual containing:

- a) Organizational chart of the unit.
- b) Details of the physical layout of the unit and its structural resources and equipment.

c) Regulations manual:

- Description of each stage of the care process.
- Necessary protocols and their location in the care circuit.
- Responsibility chain in each action of the care process.

d) Service portfolio.

The manual must respect the general organizational requisites described above.

The manual should be open and subject to review and update, incorporating any changes made in the service portfolio or any structural or functional changes.

A) Organizational chart

All DSU will have a Clinical Manager and a Nursing Manager.

The responsibilities, chain of command and functions of each of the DSU staff members must be clearly defined.

Functional interference with other organizational structures (clinical services, administrative services, etc.) should be avoided, by clearly defining DSU staff reporting lines when they belong to multiple departments.

B) Physical layout

The Organization and Operation Manual should include:

- Details of the physical layout of the DSU and its relationship with other areas of the hospital.
- Description of the structural resources and equipment available to the DSU.

C) Regulations manual

All DSU shall have a regulations manual adapted to their organizational requisites that orderly describes each stage of the care process, the

necessary protocols and their location in the care circuit, as well as the reporting lines in each action of the care process.

The following tables present the structural and organizational requisites and protocols corresponding to each stage of the care process, following the patient flow scheme described in section 5.5:

Table 5.7. DSU regulations manual: Admission

Action	Structural requisites	Protocols	Personnel
<p>Initial DS consultation</p> <ul style="list-style-type: none"> Clinical record and assessment by surgeon. Anaesthesia assessment. Patient environment assessment. Selection for DS. Information on DS. 	<p>Dedicated clinic</p>	<ul style="list-style-type: none"> Selection of patients. Selection of procedures. Assessment of environment (alternative accommodation). Protocol for request of additional tests (see Annex 10). Informed consent (forms signed by anaesthetist, surgeon and patient). Agreement with DSU regulations. 	<ul style="list-style-type: none"> Surgeon. Anaesthetist. Nursing staff.
<p>Patient details</p> <ul style="list-style-type: none"> Performance of additional tests (where appropriate). Surgery appointment (date and time). 	<p>Dedicated admission area</p>	<ul style="list-style-type: none"> Information on pre-operative preparation. 	<ul style="list-style-type: none"> Administrative assistant Surgeon Nursing staff

Table 5.8. DSU regulations manual: Operations

Action	Structural requisites	Protocols	Personnel
Confirmation of appointment by telephone	Dedicated admission area		<ul style="list-style-type: none"> • Administrative assistant.
Admission to DSU <ul style="list-style-type: none"> • Confirmation of appointment, patient identity and process. 	<ul style="list-style-type: none"> • Dedicated admission area. • Reception area. • General waiting area (comfortable and separate from hospitalization area). 		<ul style="list-style-type: none"> • Administrative assistant. • Nursing staff.
General preparation <ul style="list-style-type: none"> • Confirmation that instructions have been met. • Safekeeping of personal belongings. 	Separate toilets and changing room <ul style="list-style-type: none"> • Toilets and changing room. • Lockers for safe storage of personal belongings. 	<ul style="list-style-type: none"> • Pre-operative preparation (confirmation). 	<ul style="list-style-type: none"> • Nursing staff.
Pre-surgical anaesthesia assessment	Pre-surgical or anaesthesia preparation	<ul style="list-style-type: none"> • Pre-anaesthesia overall assessment. 	<ul style="list-style-type: none"> • Anaesthetist.
Specific preparation		<ul style="list-style-type: none"> • Specific preparation protocol (where necessary). 	<ul style="list-style-type: none"> • Nursing staff.
Surgery	Dedicated surgical sessions / operating theatres	<ul style="list-style-type: none"> • Surgical procedure protocol. • Anaesthesia procedure protocol. 	<ul style="list-style-type: none"> • Surgeon. • Anaesthetist. • Nursing staff.
Post-anaesthesia care	Post-anaesthesia care area, not necessarily separate	<ul style="list-style-type: none"> • Conventional post-anaesthesia care. 	<ul style="list-style-type: none"> • Anaesthetist. • Nursing staff.
Pre-discharge recovery area	Separate recovery area (direct contact with relatives in comfortable surroundings).	<ul style="list-style-type: none"> • General pre-discharge safety protocol: <ul style="list-style-type: none"> — Awake and oriented — Vital signs. — Control of pain — Control of bleeding. 	<ul style="list-style-type: none"> • Nursing staff.
Decision on discharge or overnight stay <ul style="list-style-type: none"> • Assessment by nursing staff, surgeon and anaesthetist. • Confirmation of appropriate patient home environment. • Post-discharge instructions. 	Pre-discharge recovery area	<ul style="list-style-type: none"> • Discharge criteria (see Annex 11). • Post-discharge instructions. • Definition of DSU support in first 24 hours (contact telephone numbers). • Definition of post-discharge follow-up (recommendations, referral to responsible primary healthcare nursing). 	<ul style="list-style-type: none"> • Surgeon. • Anaesthetist. • Nursing staff.

Table 5.9. DSU regulations manual: Discharge

Action	Structural requisites	Protocols	Personnel
Discharge or hospitalization	Pre-discharge recovery area.	<ul style="list-style-type: none"> • Anaesthesia discharge. • Clinical surgery report. 	<ul style="list-style-type: none"> • Anaesthetist. • Surgeon.
Discharge home / alternative accommodation	<ul style="list-style-type: none"> • Home / appropriate alternative accommodation. • 24-hour medical care available (DSU back-up). 	<ul style="list-style-type: none"> • Discharge report. • Information post-discharge: <ul style="list-style-type: none"> — Care. — Control. — Pain relief. — Symptoms to look for. • Care lines: <ul style="list-style-type: none"> — Conventional care. — Emergency care. 	<ul style="list-style-type: none"> • DSU, according to type of organization.
Hospital admission	Conventional hospital nursing unit.		<ul style="list-style-type: none"> • DSU + hospital resources according to type of organization.
Check-up	Consulting room (DS's or other).	<ul style="list-style-type: none"> • Minimum basic dataset (CMBD) and DRG. • Follow-up database. • Satisfaction survey. 	<ul style="list-style-type: none"> • DSU or specialist.

Tabla 5.10. Manual de funcionamiento administrativo de la UCMA

Activity	Structural requisites	Procedures	Personnel
<ul style="list-style-type: none">• Handling of drugs.• Handling of materials.• Billing.• Accounting.• IT system.	<ul style="list-style-type: none">• Pharmacy (storeroom and central pharmacy).• General and pharmaceutical products storeroom.• IT system.	<ul style="list-style-type: none">• Recording of personal details and service provider details.• General & cost accounting.• Purchasing and ordering of materials (supply agreements).• Billing and collection of payment.	<ul style="list-style-type: none">• Administrative assistant.• Nursing manager.

5.8. IT system

Except for the free-standing DSU, the IT system will be part of the hospital general IT system and should meet the following DSU requirements:

- Patient management:
 - Personal details.
 - Appointments.
 - Admission.
 - Discharge and coding (minimum basic dataset - CMBD) (ICD-9-CM). Spain's Regional Health Authorities use a CMBD-coded hospital discharge database; these data are compiled by the Ministry of Health and Consumer Affairs for the whole of the Spanish National Health System. The database of patients discharged from general Spanish National Health System hospitals is available online (<http://www.msc.es/estadEstudios/estadisticas/docs/resumenAltas>). The database distinguishes DS procedures (those that do not involve hospitalization).

The database should be extended to include data from private hospitals, including those not belonging to the network of private hospitals that perform publicly-funded procedures for the Regional Health Authorities.

- Clinical record management.
- Economic-administrative and general services management ⁽¹⁵⁾:
 - Storeroom (supply agreements, inventory management, purchase orders, etc.).
 - Pharmacy (electronic prescription system, unit-doses).
 - Accounting.
 - Sterilization.
 - HR management (short-term disability, incidences, leave, substitutions, etc.).
- Assessment (management):
 - Costs per procedure (cost accounting).
 - Satisfaction surveys.
 - Activity indicators.
 - Quality indicators.
 - Performance indicators.

5.9. Patient management

5.9.1. Admission

Apart from the free-standing DSU, patient admission will be part of general admission procedures, although ideally activities related to admission (Type II integrated, autonomous and satellite DSU) should be performed by their own administrative support units. Again with the exception of free-standing DSU, all aspects concerning clinical records and documentation, patient records, discharge reports and data protection will belong to the general hospital.

⁽¹⁵⁾ Economic-administrative management will be centralized in all but free-standing units, although a number of administrative procedures will be performed within the DSU. Type II integrated, autonomous and satellite DSU should be organized as management centres and should have specific support managers (possibly on a part-time basis) from the economic-administrative and general services.

5.9.2. Clinical documentation

Clinical documentation refers to all the documents resultant from the care process, whatever their format or media, including, inter alia: patient clinical records, informed consent forms, prior instructions where appropriate, and hospitalization, transfer and medical discharge reports.

Clinical documentation will be handled by the admissions and clinical documentation unit or equivalent; clinical documentation handling includes creation, safekeeping, lending, copying, follow-up and processing of clinical documents.

Clinical documentation must be kept so as to ensure a correct and safe condition for an appropriate period and, in all cases, for at least five years from the date of completion of the corresponding care process.

5.9.2.1. Clinical records

All patients must have individual clinical records shared between medical staff and centres. These records must meet the technical compatibility requisites established by each Regional Health Authority.

Clinical records may be in paper, digital, telematic or electronic format, but they must guarantee complete access to all the information at all times. As far as the design, minimum content, requisites, guarantees and uses of clinical records are concerned, the provisions of Act 41/2002 (14 November 2002) on Patient Autonomy and Rights and Obligations regarding Clinical Documentation and Information shall apply.

Each healthcare centre shall have a unique clinical records register to centralize all the data on the activities conducted in that centre. This register will be managed in accordance with a protocol that guarantees that the information can be traced and located and that includes written criteria on document filing, safekeeping and access.

5.9.2.2. Patient register

The patient register shall contain all the necessary data to ensure correct identification of patients, of the corresponding care processes and of the form of funding of these processes. Minimum data to be recorded:

- Identification of hospital or healthcare centre.
- Identification of patient: full name.
- Date of birth.
- Sex.
- Address.

- Funding and, where appropriate, medical card number.
- Date of admission or of provision of care.
- Circumstances of admission or of provision of care.
- Process.
- Procedure.
- Date and destination of transfer, where appropriate.
- Date of medical discharge.
- Circumstances of discharge.
- Identification of doctor signing discharge report.

5.9.2.3. Discharge report

Upon completion of the care process or, where appropriate, transfer to another healthcare centre, patients or, where appropriate, their relatives or carers are entitled to receive from the DSU the medical discharge report contemplated in the abovementioned Act on Patient Autonomy and Rights and Obligations regarding Clinical Documentation and Information ⁽¹⁶⁾.

5.9.3. Health data protection

5.9.3.1. Obligations and rights

Personal data related to patient health are classified as special protection data for the purposes of Organic Law 15/1999 (13 December 1999) on Personal Data Protection.

Healthcare centres shall take all the organizational, procedural and technical measures necessary to guarantee the safety, confidentiality and integrity of all data on patient health, and to facilitate exercise of the rights to access, rectify and cancel such data.

5.9.3.2. File manager

All centres and institutions shall ensure that all files, automated or not, are kept safely and in good condition.

All healthcare centres shall designate a file manager to take charge of automated files, and must notified of this appointment to the corresponding authorities.

⁽¹⁶⁾ Single transitory provision. Discharge report. «Discharge reports shall be governed by the provisions of the Ministerial Order of the Ministry of Health of 6 September 1984 until the provisions of Art. 20 of this present law are developed».

The file manager and all those involved at any point with the processing of patient data shall comply with «professional secrecy rule».

5.9.3.3. Data confidentiality

All patients are entitled to confidentiality on their health state, according to the provisions of the Act on Patient Autonomy and Rights and Obligations regarding Clinical Documentation and Information.

5.9.3.4. Data transfer

Any transfer of patient data shall need the express consent of the persons concerned, subject to the exemptions contained in health and data protection legislation.

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6. Physical structure and material resources

This chapter deals with the structural and functional conditions of DSU: functional design programme, equipment and premises. Annexes 14 to 16 develop related aspects: resource sizing criteria (Annex 14); an example of a functional design programme of an autonomous DSU (Annex 15) and an estimate of duration of List A surgical procedures (Annex 16).

6.1. Functional design programme

Within the different types of DSU described earlier, each individual unit should have a defined functional design programme and organizational structure.

The functional design programme should take into account future development needs criteria, including:

- Demographic analysis of the surrounding area (with special reference to the patient source area and patient selection criteria), or a market research study in the case of private organizations.
- Study of theoretical ambulatory surgery demand, considering the number of List A procedures and the unit's market penetration capacity once it is fully operational.
- Analysis of facilities to house the day surgery unit (design of new buildings or alteration of existing premises).
- Analysis of the production capacity in high and low efficiency scenarios.
- Study of the unit's requirements in terms of human and material resources, depending on demand, estimated activity levels and hospital service portfolio.
- Description of the unit's operation based on the regulations manual, and patients, staff, relatives and equipment flow diagrams.
- Definition of the unit's care circuit (patient admission to and movements within the unit, alternatives upon discharge, etc.), forms of post-discharge medical care and functional relations with other units (surgical, central services, A&E, primary healthcare, etc.).
- The functional design programme will be developed in accordance with each unit's specific organizational characteristics.

- A viability study, including the budget for essential infrastructure, equipment, staff and maintenance and the economic and healthcare impact of the unit's activities on the healthcare organization on which it depends.

As indicated in section 5.4 above, integrated DSU are not recommended; where possible, as in the case of renovation and/or expansion projects, and in new-build hospitals, autonomous DSU should be created. Consequently, this section on functional design programmes refers at all times to autonomous DSU (applicable, by extension, to satellite units). Annex 14 contains resource sizing criteria for DSU and Annex 15 an example of a functional design programme of an autonomous DSU with four operating theatres.

6.1.1. Structural aspects of DSU

DSU require a certain amount of structural resources and equipment, basically dependent on the characteristics of the clinical activity scheduled and the degree of autonomy the units enjoy in relation with the existing resources.

In light of the growth and progress made in ambulatory surgery, the structural conditions of the DSU should meet the requisites established in this Guide, with preference for autonomous units over all other types. The criteria set forth in this Guide, including the functional criteria, must be adapted to each individual situation; decisions on the functional structure of DSU will be conditioned by the organizational and management structure adopted by each individual unit, and in particular by the organization and management of the human resources in the care and administrative processes and by the structural conditioning factors, if any, of the physical facilities.

When designing a DSU, the functions and activities indicated earlier, in their order of appearance, must be considered:

- 1) Entrance.
- 2) Admission.
- 3) Pre-operative care.
- 4) Surgery.
- 5) Post-anaesthesia care.
- 6) Pre-discharge recovery.

For this purpose, three main functional-clinical units or areas should be defined:

- **Clinical and administrative area**, including dedicated DS consulting and examination rooms, administrative areas and waiting and rest areas for patients and their relatives.
- **Functional surgical area**, including the preparation area and conventional theatre block (operating theatre and post-anaesthesia care).
- **Surgical day care centre** (pre-discharge recovery area).

Design of all these areas should in all cases take into account the possibility that the DS unit's patients may include children.

Below there is a description of the functional structural units, based on ideal patient flows and the succession of acts taken on a DS patient.

This sequential concept should be the key guideline for the architectural design of DS, as it constitutes the basis of a well-planned DSU, even though the architectural design will obviously adapt to the existing structure.

1) Clinical and administrative area

Table 6.1 describes the structural aspects, in order of use, of the clinical and administrative area.

1.a) Entrance

DSU must be easily accessible:

- Entrance to the units should be clearly signposted. A separate car park is recommended, as patients will travel to and from the units in their own vehicles.
- Wherever possible, DSU should be located on the same level as the entrance. If the premises are shared with other services, the units should be located as close as possible to the point of entry and should be clearly signposted.
- The design must comply with all regulations on disabled access and with the Technical Building Code.
- Separate entries are recommended for patients and staff.
- There must be a separate entrance/exit for supplies and equipment (laundry, pharmaceutical products, waste, etc.).

1.b) Reception and admission

All types of DSU must have a dedicated reception and admission area. This area must be big enough to allow staff to attend to patients and their relatives/carers (considering the need of a certain degree of privacy) during the admission process: recording of patient details, organization of appointments, organization of lists and anticipation of cancellations, communication with patients, etc.

The administrative area should have the necessary equipment to enable its efficient operation (electronic office and IT equipment, e-mail, telephones, fax, answering machine for calls outside working hours). It should also have space for storage of documentation: protocols, informative brochures, etc.

1.c) Consulting/examination room and staff areas

The pre-operative care provided in the consulting and administrative area includes diagnosis, clinical assessment and patient selection, as well as supply of information and obtaining of patient consent.

All these functions will be performed in consulting rooms, whose number will depend on the volume of activity and working hours. Resource sizing criteria are developed in detail in Annex 14.

The clinical-administrative area will also include the necessary space for staff offices and meeting rooms, for performance of healthcare and teaching activities and for relaxation.

DSU staff will have dedicated toilets; they may also have changing rooms, according to the organizational structure of each unit and the vicinity of such facilities in the hospital premises.

The area dedicated for cleaning materials may be a part of the general washroom area.

1.d) Waiting rooms

Clinical and administrative area shall also include a specific waiting area for patients and their relatives/carers; this area may be the same as the one used during surgery. The waiting area must be comfortable and must have toilets, telephones and drinking water fountains. Depending on the volume of paediatric surgery, installation of television or video may be considered.

Figure 6.1. Signposting for a DSU waiting room



The size of the waiting area will depend on the volume of activity scheduled and the socio-cultural characteristics of the area. Under normal circumstances, there should be 1.5 comfortable chairs (waiting times may be lengthy) per patient inside the unit.

The waiting area should include a play area for children.

1.e) Patient changing rooms

Changing rooms may be in the clinical-administrative area or the theatre block, depending on the individual unit design.

Figure 6.2. Patient changing rooms, adjacent to the general waiting area at the entrance to the DSU



There will be separate changing rooms for men and women; each will have sufficient space for lockers where patients may leave their personal belongings, as well as washbasins and toilets (1 for every 10 patients). Baths and/or showers are not essential.

Table 6.1. Physical characteristics of the clinical-administrative functional unit

Area	Purpose	Physical characteristics
ENTRANCE	<ul style="list-style-type: none">• Entry.	<ul style="list-style-type: none">• Adequate signposting.• Separate car park desirable.• Close to entrance if shared.• Disabled access.• Separate goods entrance.
ADMISSION	<ul style="list-style-type: none">• Admission.	<ul style="list-style-type: none">• Appropriate size.• Guarantee of a certain degree of privacy.
RECEPTION	<ul style="list-style-type: none">• Reception.	<ul style="list-style-type: none">• Appropriate equipment: office and computer equipment, e-mail, telephones, answering machine, fax, etc.• Storage and filing space.
CONSULTING/ EXAMINATION ROOMS & STAFF AREAS	<ul style="list-style-type: none">• Clinical assessment.• Diagnosis.• Selection.• Information.• Support.	<ul style="list-style-type: none">• Number of consulting rooms in accordance with volume of activity.• Staff offices and meeting rooms.• Separate staff toilets.• Separate staff changing rooms, according to hospital design.• Separate staff and patient flows.• Cleaning materials in general washroom area.
WAITING AREA	<ul style="list-style-type: none">• Waiting and resting area for patients and relatives.	<ul style="list-style-type: none">• Comfortable surroundings (lengthy waits possible).• 1.5 comfortable chairs for each patient in the Unit.• Toilets.• Telephones.• Television /video (optional).• Drinking water fountain.
PATIENT CHANGING ROOMS	<ul style="list-style-type: none">• Pre-operative changing facilities.• Safekeeping of personal belongings.	<ul style="list-style-type: none">• Located in clinical area or theatre block.• Separate facilities for men and women.• Washbasins and toilets (1 for every 10 patients).• Baths and/or showers not essential.• Lockers (number in accordance with volume of activity).

2) Surgical functional area

The surgical functional area comprises the pre-operative preparation areas, the theatre block and the post-anaesthesia care area. It does not include the pre-theatre changing rooms as in functional terms these are not necessarily part of the surgical area. Table 6.2 describes the different components, in order of use, of the surgical area.

2.a) Pre-operative care area

In this area DSU staff confirm the procedure to be performed, check that the patient has fulfilled all the pre-operative instructions, and the anaesthesia assessment is carried out, together with all other specific preparations (shaving, IV/intravenous perfusion, etc.).

Access from the changing rooms should meet all the abovementioned requisites on patient movement and flows.

There are several possible layouts for this area, basically depending on the design of the building itself.

The pre-operative care and post-operative recovery areas may share a nurse station. The advantage is that this allows the two areas to share staff and equipment and prevents patient «dispersal»; the disadvantage is that it requires very careful design to ensure that there are no problems of interference or confusion among patients. If this option is chosen, the following aspects must be considered:

- Neither area must be visible from the other and each must ensure complete privacy; at the same time, nursing staff must have correct visual control of both areas.
- Flows must be unidirectional, to prevent any confusion.

If the nurse station is shared, it must be open-plan and must be the hub of all the unit's intra-hospital relations. It will be suited with all support facilities (medication, minor surgery equipment, food, laundry and clean and dirty utility rooms), which will be shared with the recovery area.

In the case of a unit with paediatric patients, the pre-operative care area should be designed to enable the adults accompanying these patients to stay with them as long as possible, and should take into account the specific requirements of these patients.

Portable medical equipment should be stored out of sight, to prevent unnecessary anxiety for patients and/or their relatives/carers.

Entry and exit of equipment and supplies will be clearly differentiated from the staff flows.

2.b) Pre-anaesthesia or pre-theatre area

Anaesthesia will be administered in accordance with the chosen way of organization (pre-theatre, operating theatre, etc.). There will generally be one pre-anaesthesia or pre-theatre area for all the operating theatres; this area may also be shared by the post-anaesthesia care area (PACU).

Figures 6.3 and 6.4. Pre- and post-anaesthesia boxes: detail of equipment at head and annexed paediatric cubicle



2.c) Theatre block

This is the area in which patients undergo surgery and, as such, should be identical to conventional operating theatres in terms of design, equipment and support.

Access from the preparatory area should meet all the abovementioned requisites on patient and staff movement and flows.

In terms of facilities, DS operating theatres must comply with the same requisites as conventional operating theatres (40m², minimum 6m in both length and width) and they must be fitted with the same equipment.

Figure 6.5. Entry to a DS operating theatre in a theatre block



As the operating theatres will be used by different specialists, the design should facilitate the use of procedure-specific equipment (ENT, orthopaedic, ophthalmology, endoscopic procedures, etc.) and should include sufficient storage space.

For purposes of functionality and efficiency, all DS units should have a minimum of two operating theatres.

The theatre block will house all the necessary surgical support equipment and facilities: staff changing rooms, scrub room, sterile equipment, general and equipment storerooms, and utility rooms.

2.d) Post-anaesthesia care unit (PACU)

Patients will be monitored in this area until they are sufficiently awake and their vital signs show that they are ready to be transferred to the pre-discharge recovery area.

The post-anaesthesia care area of a DSU is identical to that of a conventional theatre block, and for determination of its size the following items should be considered: 1) the higher level of activity of DSU operating theatres; 2) the average length of time patients are likely to remain in the area; and 3) the possibility, as indicated in section 5.5.2 on patient flows, of

fast-tracking some patients who have been administered local, regional or general anaesthetic directly through to the pre-discharge recovery area. Resource sizing criteria are developed in detail in Annex 14.

Post-anaesthesia care area cubicles must allow sufficient room to grant staff access to the head and sides of each bed (minimum of 80 cm on each side). Minimum floor space per cubicle: 10 m². All patients must be clearly visible from the nurse station.

As post-anaesthesia care areas are generally located next to operating theatres, in most cases, in units that use existing theatre blocks there will be no problems of access. However, transfer to the pre-discharge recovery area must meet all the general requisites on patient movement and flows.

Table 6.2. Physical characteristics of the surgical functional unit		
Area	Purpose	Physical characteristics
PRE-OPERATIVE PREPARATION	<ul style="list-style-type: none"> • Confirmation of process. • Pre-anaesthesia assessment. • Pre-operative information. • Specific preparation. 	<ul style="list-style-type: none"> • Nurse station support. • Specific preparation cubicles or areas. • If the nurse station is shared with the Recovery Area, it must meet the following conditions: <ul style="list-style-type: none"> — Visual separation and privacy for both areas. — Adequate visual control from nurse station. — No patient cross-flows between pre-anaesthesia and recovery.
PRE-THEATRE / PRE-ANAESTHESIA	<ul style="list-style-type: none"> • Local or regional anaesthesia, with or without sedation. 	<ul style="list-style-type: none"> • Trend in favour of a shared area for all the unit operating theatres; may be shared with the post-anaesthesia area.

Table 6.2. (cont.) Physical characteristics of the surgical functional unit

Area	Purpose	Physical characteristics
THEATRE BLOCK	<ul style="list-style-type: none">• Anaesthesia.• Surgery.	<ul style="list-style-type: none">• Minimum efficient number of operating theatres: two.• Requirements common to conventional operating theatres:<ul style="list-style-type: none">— Floorspace: 40 m², minimum length and width: 6 m ⁽¹⁷⁾.— Same minimum equipment level.— Specific equipment according to activities performed (by specialities).• Flows defined within general theatre block.• Staff changing rooms.• Scrub room.• Sterile equipment area.• Sufficient space for storage of specific equipment and consumables.
POST-ANAESTHESIA CARE	<ul style="list-style-type: none">• Immediate post-operative care.	<ul style="list-style-type: none">• Conventional post-anaesthesia care area (floorspace: 10 m² per cubicle).• Size in accordance with volume of activity and surgical mix.• Nurse station.

⁽¹⁷⁾ These are recommended figures; the regulations on minimum size in some Spanish regions are less demanding.

3) Surgical day care centre (pre-discharge recovery area)

This area plays a key role in Ambulatory Surgery and it is based on the premises of comfort, safety and contact with relatives or carers.

Pre-discharge monitoring is completed in this area, all safety requisites are assessed by the attending surgeon and anaesthetist, and patients are provided with all the necessary information and instructions for appropriate convalescence. Where necessary, patients are transferred from this area to conventional hospital wards.

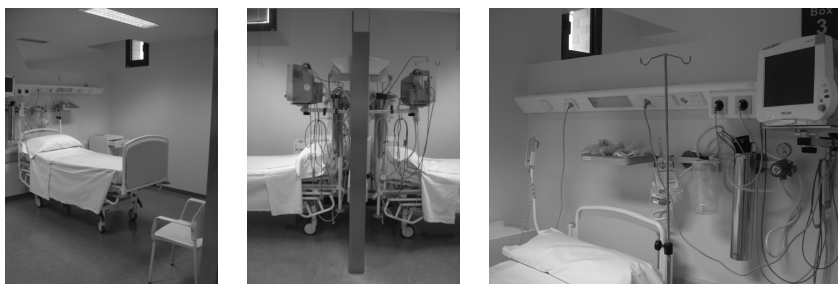
Figure 6.6. Inside circulation of a pre-discharge recovery area, with boxes for reclining chairs and beds along the façade and central control



The possible design features are contemplated in the previous section on pre-operative preparation. The requirements of the nurse station are as indicated above.

This should be an open-plan area; where possible it should have natural light.

Figures 6.7, 6.8 and 6.9. Pre-discharge recovery box with patient's bed and chair for escort. Detail of equipment at head of recovery beds



The size of the pre-discharge recovery area is important and will depend on the volume of surgery performed (Annex 14).

Figures 6.10 and 6.11. Nurse station in pre-discharge recovery area and signposting of boxes



Figures 6.12, 6.13 and 6.14. Consumables storeroom, clean utility room and medication and treatment trolleys all close to nurse station



Each pre-discharge recovery area cubicle should have sufficient room for a bed or reclining chair, adequate light at the bed head, equipment to permit administration of oxygen and breathing apparatus (these may be portable) and a chair for a relative/carer. There should be sufficient privacy (not compromising patient safety though).

Figures 6.15 and 6.16. Reclining chairs in pre-discharge recovery area and recovery area for paediatric patients



When discharged home, patients should have easy and rapid access to a vehicle pick-up point.



Table 6.3. Physical characteristics of the pre-discharge recovery functional unit		
Area	Purpose	Physical characteristics
PRE-DISCHARGE RECOVERY	<ul style="list-style-type: none">• Re-establish vital signs.• Re-gain consciousness.• Meet pre-discharge requisites.• Pre-discharge assessment by surgeon and anaesthetist.• Information to patients and relatives/carers.	<ul style="list-style-type: none">• Surgery day care centre, with following characteristics:<ul style="list-style-type: none">— Comfort.— Size in accordance with level of activity (0.75 cubicles per patient per day).— Facilities to enable relatives to accompany patients.— Connection with general hospital (administrative and physical).— Patient toilets.— Disabled-friendly toilets.• Nurse station, with support facilities:<ul style="list-style-type: none">— Head nurse's office.— Clean utility room.— Dirty utility & waste disposal room.— Cleaning equipment room.— Kitchen.— Laundry room.— Storage of portable equipment.
	<ul style="list-style-type: none">• Discharge.	<ul style="list-style-type: none">• Patient flow and access to exit as described.

The following table contains a list of the spaces to be included in an autonomous DSU (see Annex 15 for a specific example of an autonomous DSU with four operating theatres).

Table 6.4. DSU accommodation program				
Area	Spaces	Number	Floorspace	Total m ²
ENTRANCE, RECEPTION & ADMISSION	1. Entrance and lobby. 2. Reception. 3. Secretariat and Admission. 4. Information. 5. General waiting area. 6. Children's waiting/play area. 7. Public toilet. 8. Disabled toilet.			
CONSULTING/ EXAMINATION ROOMS & STAFF AREAS	9. Consulting room. 10. Consulting office. 11. Unit Manager's office. 12. Mixed-use room. 13. Toilets and changing rooms.			
PRE-OPERATIVE AND PRE-DISCHARGE RECOVERY	14. Patient changing rooms. 15. Patient toilet. 16. Disabled toilet. 17. Preparation patients. 18. Nurse station. 19. Staff room. 20. Recovery area. 21. Clean utility room. 22. Dirty utility & waste disposal room. 23. Cleaning equipment room. 24. Kitchen. 25. Equipment storeroom. 26. Laundry room. 27. Wheelchairs. 28. Head nurse's office.			
DS THEATRE BLOCK	29. Entrance. 30. Nurse station. 31. Pre-anaesthesia / Pre-theatre. 32. Operating theatre. 33. Scrub room. 34. Operating theatre staff changing rooms. 35. Cleaning staff changing rooms. 36. Sterilization point. 37. Equipment storeroom. 38. Cleaning equipment room. 39. Dirty utility & waste disposal room. 40. Staff office. 41. Staff room. 42. Equipment storeroom. 43. Portable X-ray equipment storeroom. 44. General storeroom. 45. Nurse station. 46. PACU.			

6.2. Equipment and facilities

Resource sizing criteria are developed in detail in Annex 14, whilst Annex 15 contains a functional design programme (including accommodation program) describing the facilities and equipment of an autonomous or satellite type DSU with four operating theatres.

The criteria and recommendations contained in these Annexes may help to determine the equipment required in a DSU which, in general and as defined in Annex 12, should be equipped similarly to a conventional theatre block.

6.3. Medical supplies; Sterilization

All healthcare centres should exercise strict control over the storage and distribution of medical supplies and instruments, with special attention to the expiry dates.

All healthcare centres must have safe areas for correct storage and control of medical supplies and instruments, with the appropriate capacity in accordance with needs.

All healthcare centres must ensure that sterile equipment is used correctly. Single-use equipment must be disposed of after each use and must not, under any circumstances, be re-used. Sterile equipment packaging must always indicate the date on which the equipment was sterilized and the use-by date.

All non-disposable equipment or instruments that penetrate the skin or mucous membranes or that come into contact with mucus, blood or other body fluids must be correctly and effectively cleaned and sterilized after each use.

Autonomous and satellite DS units should have sterilization centres, whilst DS centres should have specific sterilization areas, separated according to the level of contamination and with defined flows for clean and dirty equipment.

Wherever necessary, staff and patients will be equipped with the appropriate personal protection.

6.4. Hygiene protocols

Optimum hygiene and cleanliness is essential in all healthcare centres and organizations, in all areas and premises and with respect to all equipment, apparatus and medical supplies.

DSU will have a hygiene, disinfection and pest control protocol, in accordance with their specific needs. Disinfection and pest control services may be outsourced or performed by own staff.

They should also have a protocol for cleaning, disinfection and, where appropriate, sterilization of non-disposable apparatus and equipment.

6.5. Hospital waste management

All centres and organizations are obliged to identify and separate hospital waste, ensuring that it is correctly removed and disposed of.

For this purpose, they shall have a protocol for internal identification, separation and handling of hospital waste, in accordance with the provisions of the applicable legislation which must be known and applied by DSU staff.

7. Human resources

This chapter deals with personnel management: administrative aspects (registration, qualifications, etc.), training and guidelines for calculation of correct staff levels.

7.1. Register of medical staff

All centres and organizations should have an up-to-date register of medical personnel, whatever their contractual relationship with the centre or organization or the way or place in which they render their services.

This register shall include the following data: registration number, full name, qualifications, professional category, specialty, function, nature of relationship with the centre or organization; where appropriate, date of leaving, dismissal or retirement, in addition to all other data that may be required to comply with the general principles established by the Spanish National Health System Interterritorial Board pursuant to all legislation on the medical profession.

The register of medical personnel shall be updated whenever there is a staffing change and shall be reviewed at least once every three years, verifying that all staff meet all the necessary requirements for exercise of their profession.

7.2. Personal files

All centres and organizations shall keep a personal file on each medical worker, including retired employees, with all documentation on their qualifications, specialist training, professional experience and work history. The persons concerned must be entitled to access these files, which must guarantee the safety and confidentiality of all personal data.

7.3. Qualifications

All personnel shall exercise their profession in accordance with the principles, conditions and requisites established in the medical profession

law and in all other legal and deontological ethic codes applicable ⁽¹⁸⁾. DS units will require the following staff:

Unit Manager: an anaesthetist or surgeon, responsible in general for:

- Organizing a group of healthcare staff, with different medical specialties, within a framework of consensus and protocol, making appropriate use of the resources allocated.
- Organizing the unit, adapting demand to the resources available.
- Controlling quality in the unit.

The Unit Manager and the person responsible in his/her absence should be of public knowledge and must, therefore, be indicated in the unit regulations.

Surgeons: in each specialty covered by the DSU.

Anaesthetists: Physicians specialized in anaesthesia and post-anaesthesia.

Nursing staff: Qualified/graduated nurses for operating theatres, post-anaesthesia, recovery and consultations.

Nurses' aide: for operating theatres, recovery and consultations.

Hospital porter: hospital porter.

Secretary: Administrative staff with the corresponding qualifications, as in other hospital departments.

7.4. Medical manager

The Manager or other medical staff member acting in his/her stead must be present at all times when the DSU is open to the public.

7.5. Identification and discrimination of staff members

All healthcare centres and organizations shall ensure that patients and/or their escorts can identify staff members and can distinguish between their

⁽¹⁸⁾ Medical Profession Act 44/2003 (21 November 2003).

different professional categories, to allow them to know who is attending them.

Medical personnel shall be distinguished by wearing uniforms accordingly with their professional category and identified by personal ID tags that clearly state their full name and category.

Medical personnel are obliged to identify themselves when asked to do so by patients or users, indicating their full name, professional qualification and specialty, as well as their professional category and role, provided in all cases that this is previously defined.

7.6. Documentation

For correct exercise of their profession, in accordance with their professional category, medical personnel will have access to the following resources:

- a) Patients' clinical records.
- b) Healthcare and clinical practice guides or protocols.
- c) Documents on internal regulations, general and specific objectives and functions of the day surgery unit.
- d) All healthcare, informative or statistical documents decided to include by the healthcare centre.
- e) All procedures, reports, joint protocols or indicators that may help to guarantee continued patient care.

7.7. Undergraduate and postgraduate training¹

7.7.1. Future objectives

Teaching of Medicine and specialist training should include in the upcoming years not only the new forms of care, such as day surgery, but also current trends in medicine, the cost-effective use of technological advances, quality control, competition between service providers, elaboration of clinical guides and pathways namely, it should adapt to clinical management techniques. As to ambulatory surgery, it should meet the following objectives:

1. Take advantage of the large number of DS patients to provide medical students with practical experience.
2. Train recent medical graduates in the different elements of ambulatory surgery.
3. Sustained by the two previous objectives, help to promote the basic principles of managed healthcare.

7.7.2. DS training for undergraduates and postgraduates

Medical students and recent medical graduates in family and community medicine, in general, and recent medical graduates in surgical specialties in particular, should be aware of the differences between conventional and ambulatory surgery. Postgraduate training will follow the programmes approved by each respective Specialty National Commission; in accordance with the system contemplated in the Medical Profession Act, currently at the implementation stage, DS training for all medical students should be scheduled in the first two years.

Nursing staff should have received previous training and instruction in ambulatory care, due to the number of patients involved and the wide range of diseases or disorders dealt with.

7.8. Continued training

Day surgery units should take the necessary measures to allow their medical staff to receive continued training and to undertake research and teaching activities.

They should offer training programmes to allow staff to keep up-to-date, in accordance with their respective functions, in safety and quality aspects.

Health services should ensure that the public receives information on ambulatory surgery and the form of operation of DSU from primary healthcare medical personnel (doctors and nurses).

Health services and other healthcare organizations should collaborate with anaesthetists and surgeons to develop ambulatory surgery as opposed to conventional inpatient surgery. For this purpose, when so requested, they should provide:

- Specific training for surgeons and anaesthetists in ambulatory and minimally invasive surgery techniques and on the advantages of these techniques for patients.
- Opportunities to attend and work in DSU.
- Local incentives.

7.9. Criteria for calculation of staffing levels

Staffing levels will vary according to the portfolio of services offered and the organizational and management criteria of each individual unit. The criteria set forth below are, therefore, purely illustrative, corresponding to an autonomous DSU in a hospital operating with a fully computerized clinical record and administrative and clinical management system.

- Each surgical team should have at least one surgeon, one anaesthetist and two nurses, one acting as instrumentalist and the other as circulating nurse (1.5 nurses and 0.5 nurse aides per operating theatre in operation).
- The post-anaesthesia care area (in some cases also the pre-theatre area) should have one nurse for every three patients and one nurse's aide (assistant) for every four patients in the area. The number of patients requiring care in this area will not necessarily be the same as the number of patients undergoing surgery, as almost all patients who have been administered local or loco-regional anaesthetic will be fast-tracked to the pre-discharge recovery area. Average estimated time in the post-anaesthesia care area: one hour.
- The recovery area should have one nurse for every eight patients and one assistant for every twelve patients in the area. Average estimated time in the pre-discharge recovery area: three hours.
- It is recommended an integral nursing staff management, assigning workers to the post-anaesthesia care and pre-discharge recovery areas as required in each area at each time. The physical layout of the DSU should encourage this form of organization.
- Non-medical support staff. Except in very large DSU, one full-time administrative assistant will be sufficient ⁽¹⁹⁾. The number of hospital porters will depend on the type of unit and its volume of activity.

⁽¹⁹⁾ More administrative staff may be required, according to the centre's level of computerization and the distribution of administrative and structural support functions between the DSU and other hospital units.

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8. Quality

8.1. Accreditation

The Accreditation Committee of the Spanish Association for Ambulatory Surgery (SECMA, in its Spanish acronym) has an Accreditation Manual which has been validated in seven DSU¹ and may serve as a guideline for recognized accreditation agencies or organizations.

8.2. Quality indicators

In accordance with the criteria established in Annex 13, a set of nine indicators has been selected, summarized in the following table:

Table 8.1. DSU quality indicators

Quality dimension	Indicator	Calculation
Scientific-technical quality and efficiency of DSU	1. Cancellation of procedure.	% [(cancellations / patients with appointments)].
	2.1. Same-day unplanned repeated surgery.	% [(repeated surgery / patients undergoing surgery)].
	2.2. Unplanned overnight stay.	% [(unplanned overnight stays ⁽²⁰⁾ / patients undergoing surgery)].
	2.3. Emergency consultation.	% [(emergencies / patients undergoing surgery)].
	2.4. Readmission to hospital.	% [(admissions / patients undergoing surgery)].
System efficiency	2.5. Risk-adjusted complications index.	Number of patients with complications / Expected number of patients with complications according to risk of complication in each individual patient.
	3. Substitution Index - List A procedures.	% [(\sum List A DRGs performed via ambulatory surgery / \sum List A surgical DRGs performed via conventional and ambulatory surgery)].
	4. Ambulatory surgery index.	% [(\sum Surgical DRGs performed via ambulatory surgery / \sum all surgical DRGs)].
Quality perceived by DSU users	5. Satisfaction Index.	% in each response category.

As indicated in section 2.3.3, there are very few studies comparing ambulatory and inpatient surgery. Prior to the next revision of this DSU Guide, a study will be conducted on the incidence of adverse events in DSU in comparison with conventional hospital figures for the same procedures.

⁽²⁰⁾ Excludes all patients who, due to their home environment and if there is no other residential accommodation available, are scheduled for admission to conventional hospital beds assigned to DSU.

Bibliography

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9. Criteria for the review and follow up of the Guide

In the thirteen years that have elapsed since the Ministry of Health and Consumer Affairs published the first Day Surgery Guide, there have been significant changes, not only in relation to DSU but also in health service organization and management overall. Future heralds even more dramatic changes, on account of scientific and technical advances in communications and information technology and in health service organization and management. Consequently, another thirteen years should not be allowed to pass, and it is thus recommended that **this Guide be reviewed and updated within ten years at the most**, and possibly less if the changes made make it necessary to amend any important aspects and/or any of the «strong» recommendations contained in the Guide.

It is also recommended that **Lists A and B of procedures suitable for ambulatory surgery (Annexes 4 and 5) be updated at least once every five years.**

Although there is ample evidence of the quality and efficiency of ambulatory surgery, during the discussion process prior to the making of this Guide a number of knowledge gaps were identified, especially with regard to the availability of information on DSU and proven experience of how they operate in the Spanish health service. To fill this gap and provide a basis for preparation of recommendations sustained, if not on evidence at least on experience, it is recommended that the next Guide should include, in addition to the topics contemplated in the present one, the following items:

- Analysis of all CMBD-coded DS discharges, grouped by processes / procedures (DRGs or other groups used throughout the Spanish National Health System), including **private sector** discharges.
- **Adverse events** study, comparing the incidence of adverse events in day surgery units and in conventional hospital wards for the same type of procedures, complexity and risk.
- Update of the study on **surgery duration** in List A procedures included in this Guide.
- **Assessment** of the experience of «extended recovery» facilities and «short-stay surgery» programmes in DS units. This assessment should be made before these organizational and management systems become generalized without the sufficient cost-benefit analysis.

- **Production cost** study of DSU in Spain, comparing the different types of units.
- Systematic analysis of the DSU **quality indicators** that comprise the set of indicators recommended in section 8.2 of this Guide.
- Evidence-based **consensus document on pre-operative test requests for patients included in DS programmes**.

10. Annexes

- Annex 1. Most frequent Spanish National Health System ambulatory surgery procedures (2005).
- Annex 2. Substitution Index of ambulatory surgery procedures (Spanish National Health System-2005).
- Annex 3. DSU informed consent form.
- Annex 4. Procedures suitable for day surgery: List A.
- Annex 5. Procedures suitable for day surgery: List B.
- Annex 6. List C of the referred as minor ambulatory surgery procedures or those performed preferably in endoscopy units or other treatment and diagnosis rooms.
- Annex 7. Anaesthesia criteria for patient cataloguing, American Society of Anaesthesiologists (ASA).
- Annex 8. Patient flows in DSU.
- Annex 9. Recommendations to be followed before ambulatory surgery.
- Annex 10. Request of additional tests.
- Annex 11. Discharge criteria.
- Annex 12. Equipment of a DSU.
- Annex 13. Criteria for selection of DSU quality indicators.
- Annex 14. Resource sizing criteria.
- Annex 15. Functional design programme for a DSU with four operating theatres.
- Annex 16. Study of surgery duration of List A procedures (Annex 4).
- Annex 17. Definitions.
- Annex 18. Abbreviations.

Annex 1. Most frequent Spanish National Health System ambulatory surgery procedures (2005)

DRG AP	Description	Ambulatory (Day)	Inpatient	(%)
39	LENS PROCEDURES, WITH OR WITHOUT VITRECTOMY	204,499	18,088	91.9
270	OTHER SKIN, SUBCUTANEOUS TISSUE & BREAST PROCEDURES W/O CC (WITHOUT COMPLICATIONS)	85,713	7,891	91.6
40	EXTRAOCULAR PROCEDURES EXCEPT ORBIT, AGE>17	27,508	4,338	86.4
6	CARPAL TUNNEL RELEASE	22,106	3,499	86.3
162	INGUINAL & FEMORAL HERNIA PROCEDURES, AGE>17, W/O CC	20,720	33,336	38.3
266	SKIN GRAFT &/OR DEBRIDEMENT EXCEPT FOR SKIN ULCER OR CELLULITIS, W/O CC	18,744	5,751	76.5
359	UTERINE & ANEXA PROCEDURE FOR NON-MALIGNANCY W/O CC	15,325	42,198	26.6
225	FOOT PROCEDURES	15,271	17,147	47.1
229	HAND OR WRIST PROCEDURE, EXCEPT MAJOR JOINT PROCEDURES, W/O CC	14,551	11,686	55.5
119	VEIN LIGATION & STRIPPING	13,996	14,821	48.6
364	DILATATION & CURETTAGE, CONIZATION EXCEPT FOR MALIGNANCY	12,956	6,512	66.6
231	LOCAL EXCISION & REMOVAL OF INTERNAL FIXATION DEVICES EXCEPT HIP & FEMUR	12,462	14,730	45.8
55	MISCELLANEOUS EAR, NOSE, MOUTH & THROAT PROCEDURES	10,977	21,625	33.7
267	PERIANAL & PILONIDAL PROCEDURES	10,801	5,481	66.3
158	ANAL & STOMAL PROCEDURES W/O CC	10,593	22,310	32.2
342	CIRCUMCISION AGE>17	10,437	194	98.2
60	TONSILLECTOMY &/OR ADENOIDECTOMY ONLY, AGE<18	9,544	10,656	47.2
42	INTRAOCULAR PROCEDURES EXCEPT RETINA, IRIS & LENS	8,666	7,021	55.2
222	KNEE PROCEDURES W/O CC	8,251	15,093	35.3
160	HERNIA PROCEDURES EXCEPT INGUINAL & FEMORAL, AGE>17, W/O CC	8,094	17,615	31.5
262	BREAST BIOPSY & LOCAL EXCISION FOR NON-MALIGNANCY	7,994	5,197	60.6
227	SOFT TISSUE PROCEDURES W/O CC	7,169	10,564	40.4
381	ABORTION WITH DILATION & CURETTAGE, ASPIRATION CURETTAGE OR HYSTEROTOMY	7,082	32,991	17.7
343	CIRCUMCISION AGE<18	6,530	1,425	82.1
232	ARTHROSCOPY	6,056	3,433	63.8
Total Spanish National Health System		576,045	333,602	63.33
Total ambulatory cases, total inpatient cases and ambulatory surgery rate of most frequent ambulatory DRGs (number of ambulatory cases/total, expressed as a %).				
Source: Health Information Institute, Spanish National Health System Quality Agency (Ministry of Health and Consumer Affairs).				

Annex 2. Substitution Index of ambulatory surgery procedures (Spanish National Health System-2005)

DRG AP	Description	Ambulatory	Inpatient	Substitution Index (%)
351	STERILIZATION, MALE	15,288	75	99.5
342	CIRCUMCISION, AGE>17	10,437	194	98.2
39	LENS PROCEDURES, WITH OR WITHOUT VITRECTOMY	204,499	18,088	91.9
40	EXTRAOCULAR PROCEDURES EXCEPT ORBIT, AGE>17	27,508	4,338	86.4
6	CARPAL TUNNEL RELEASE	22,106	3,499	86.3
343	CIRCUMCISION, AGE<18	6,530	1,425	82.1
61	MYRINGOTOMY WITH TUBE INSERTION AGE>17	2,112	477	81.6
362	ENDOSCOPIC TUBAL INTERRUPTION	3,925	1,537	71.9
38	PRIMARY IRIS PROCEDURES	622	301	67.4
364	DILATATION & CURETTAGE, CONIZATION EXCEPT FOR MALIGNANCY	12,956	6,512	66.6
41	EXTRAOCULAR PROCEDURES EXCEPT ORBIT AGE<18	3,978	2,008	66.5
267	PERIANAL & PILONIDAL PROCEDURES	10,801	5,481	66.3
232	ARTHROSCOPY	6,056	3,433	63.8
262	BREAST BIOPSY & LOCAL EXCISION FOR NON-MALIGNANCY	7,994	5,197	60.6
163	HERNIA PROCEDURES AGE<18	5,070	3,428	59.7
229	HAND OR WRIST PROCEDURE, EXCEPT MAJOR JOINT PROCEDURES, W/O CC	14,551	11,686	55.5
42	INTRAOCULAR PROCEDURES EXCEPT RETINA, IRIS & LENS	8,666	7,021	55.2
119	VEIN LIGATION & STRIPPING	13,996	14,821	48.6
60	TONSILLECTOMY &/OR ADENOIDECTOMY ONLY AGE<18	9,544	10,656	47.2
225	FOOT PROCEDURES	15,271	17,147	47.1
231	LOCAL EXCISION & REMOVAL OF INTERNAL FIXATION DEVICES EXCEPT HIP & FEMUR	12,462	14,730	45.8
361	LAPAROSCOPY & INCISIONAL TUBAL INTERRUPTION	999	1,332	42.9
227	SOFT TISSUE PROCEDURES W/O CC	7,169	10,564	40.4
162	INGUINAL & FEMORAL HERNIA PROCEDURES AGE>17 W/O CC	20,720	33,336	38.3
340	TESTES PROCEDURES, NON-MALIGNANCY AGE<18	2,039	3,673	35.7
228	MAJOR THUMB OR JOINT PROCEDURE, OR OTHER HAND/WRIST PROCEDURES WITH CC	527	1,711	23.5
59	TONSILLECTOMY &/OR ADENOIDECTOMY ONLY, AGE>17	1,022	3,786	21.3
494	LAPAROSCOPIC CHOLECYSTECTOMY WITHOUT COMMON DUCT EXPLORATION W/O CC	1,399	22,866	5.8
Total Spanish National Health System		483,250	83,629	63.02
Total ambulatory cases, total inpatient cases and ambulatory surgery rate of DRGs selected.				
Source: Health Information Institute, Spanish National Health System Quality Agency (Ministry of Health and Consumer Affairs).				

Annex 3. DSU informed consent form ⁽²¹⁾

I have been informed of the characteristics of DAY SURGERY, under general, regional or local anaesthetic, and of the fact that I will be discharged home, if appropriate, on the day of the operation.

The doctor has explained to me the known risks and the possible alternatives. He/She has also insisted that:

1. I must organize my return home accompanied by a responsible adult.
2. I must not drink alcohol in the first 24 hours after the operation.
3. I must not drive a vehicle of any kind until at least 24 hours after the anaesthetic.
4. I must telephone the hospital or my doctor in the event of any anomaly in my recovery.
5. If complications arise the doctor may insist that I remain in hospital.
6. If possible I should take no important decisions during the first 24 hours after the operation.

Accordingly, I hereby authorize the DAY SURGERY UNIT of _____
_____ Hospital to perform ambulatory surgery.

PATIENT / ESCORT/ PERSON IN CHARGE

DOCTOR

Bibliography

1. Jiménez A., «Documento Consentimiento Informado UCMA», Hospital Clínico, Zaragoza (Spain).

⁽²¹⁾ Jiménez A. Informed Consent Form of DSU. Zaragoza Clinical Hospital

Annex 4. List A of suitable procedures for day surgery ⁽²²⁾

Recommended procedures		
DRG AP	Definition of Process	DRG Description ¹
351	STERILIZATION, MALE	A medical DRG: male patients admitted to be sterilized.
342	CIRCUMCISION AGE>17	A surgical DRG: patients over 17 undergoing circumcision.
39	LENS PROCEDURES, WITH OR WITHOUT VITRECTOMY	A surgical DRG: patients admitted for eye diseases undergoing lens procedures such as phacoemulsification and cataract aspiration, lens implants simultaneous to removal of cataracts or any kind of extracapsular lens removal, with or without vitrectomy.
40	EXTRAOCULAR PROCEDURES EXCEPT ORBIT AGE>17	A surgical DRG: patients over 17 admitted for eye diseases undergoing extraocular procedures such as dacryocystorhinostomy, pterygium excision, resection or recession of extraocular muscles, lacrimal sac excision, nasolacrimal duct intubation or eyelid repair.
6	CARPAL TUNNEL RELEASE	A surgical DRG: patients undergoing carpal tunnel release.
343	CIRCUMCISION AGE<18	A surgical DRG: patients under 18 undergoing circumcision.
61	MYRINGOTOMY WITH TUBE INSERTION AGE>17	A surgical DRG: patients over 17 admitted for an ENT disease undergoing myringotomy with transtympanic drainage.
362	ENDOSCOPIC TUBAL INTERRUPTION	A surgical DRG: female patients admitted for a gynaecological disease or for sterilization undergoing sterilization exclusively by endoscopic bilateral tubal ligation or section.
38	PRIMARY IRIS PROCEDURES	A surgical DRG: patients admitted for eye diseases undergoing iris procedures such as cyclocryotherapy, cyclophotocoagulation, iridoplasty, corioplasty or other anti-glaucoma procedures except for trabeculectomy.
364	DILATATION & CURETTAGE, CONIZATION EXCEPT FOR MALIGNANCY	A surgical DRG: female patients admitted for a gynaecological disease, except for malignancy, undergoing cervical or endometrial biopsy or curettage, cervical conization or radio-implant.
41	EXTRAOCULAR PROCEDURES EXCEPT ORBIT AGE<18	A surgical DRG: patients under 18 admitted for eye diseases undergoing extraocular procedures such as dacryocystorhinostomy, pterygium excision, resection or recession of extraocular muscles, lacrimal sac excision, nasolacrimal duct intubation or eyelid repair.

⁽²²⁾ Arranged by substitution index in descending order (range: from 99.5% to 5.8%).

Recommended procedures		
DRG AP	Definition of Process	DRG Description ¹
267	PERIANAL & PILONIDAL PROCEDURES	A surgical DRG: patients admitted for pilonidal cysts or certain perianal skin diseases having pilonidal cysts removed or undergoing other procedures performed in the perianal region. NB: The majority of patients undergoing perianal surgery (such as abscess drainage, fistulectomy or anal sphincter repair) are classified under DRG 158 «Anal & stomal procedures w/o CC» in MDC 6 «Diseases and disorders of the digestive system».
232	ARTHROSCOPY	A surgical DRG: patients admitted for a musculoskeletal disease or disorder undergoing diagnostic arthroscopy. This DRG does not include patients undergoing arthroscopic correction.
262	BREAST BIOPSY & LOCAL EXCISION FOR NON-MALIGNANCY	A surgical DRG: patients admitted for a non-malignant disease of the skin, subcutaneous tissue or breast such as fibrocystic mastopathy, benign neoplasia or inflammation of the breast undergoing a breast biopsy or local excision.
163	HERNIA PROCEDURES AGE<18	A surgical DRG: patients under 18 admitted for a digestive disorder undergoing inguinal, crural, umbilical or ventral herniorrhaphy, including patients with bilateral herniorrhaphy.
229	HAND OR WRIST PROCEDURE, EXCEPT MAJOR JOINT PROCEDURES, W/O CC	A surgical DRG: patients admitted for a musculoskeletal disease or disorder undergoing an operation on a hand or wrist, except for major joint procedures. The most frequent procedures in this category are: hand fasciectomy, ganglion excision, trigger finger repair, tendon suture, tendon excision, reduction of fracture with internal fixation, excision of soft tissue lesion or bone graft.
42	INTRAOCULAR PROCEDURES EXCEPT RETINA, IRIS & LENS	A surgical DRG: patients admitted for eye diseases undergoing intraocular procedures such as trabeculectomy, mechanical vitrectomy, vitreous extraction or perforating keratoplasty.
119	VEIN LIGATION & STRIPPING	A surgical DRG: patients admitted for a disorder of the circulatory system undergoing varicose vein removal, vein ligation or sclerosant injection.
60	TONSILLECTOMY &/OR ADENOIDECTOMY ONLY, AGE<18	A surgical DRG: patients under 18 admitted for an ENT disease undergoing tonsillectomy &/or adenoidectomy only.
225	FOOT PROCEDURES	A surgical DRG: patients admitted for a musculoskeletal disease or disorder undergoing a foot operation such as bunionette excision, mallet/hammer or claw toe repair, metatarsal alignment or interphalanx arthrodesis.
231	LOCAL EXCISION & REMOVAL OF INTERNAL FIXATION DEVICES EXCEPT HIP & FEMUR	A surgical DRG: patients admitted for a musculoskeletal disease or disorder undergoing a procedure on the tibia, fibula, ulna, radius or humerus such as local excision of bone lesion, removal of internal fixation device or removal of bone for graft.

Recommended procedures		
DRG AP	Definition of Process	DRG Description ¹
361	LAPAROSCOPY & INCISIONAL TUBAL INTERRUPTION	A surgical DRG: female patients admitted for a gynaecological disease or for sterilization undergoing laparoscopy or sterilization by bilateral tubal ligation or section, except for endoscopic procedures.
227	SOFT TISSUE PROCEDURES W/O CC	A surgical DRG: patients admitted for a musculoskeletal disease or disorder undergoing a soft tissue procedure (except on the hand) such as tendon suture, soft tissue excision, wrist revision, tendon plasty, bursectomy or tenotomy.
162	INGUINAL & FEMORAL HERNIA PROCEDURES AGE>17 W/O CC	A surgical DRG: patients over 17 admitted for a digestive disorder undergoing inguinal or crural herniorrhaphy, including patients with bilateral herniorrhaphy.
340	TESTES PROCEDURES NON-MALIGNANCY AGE<18	A surgical DRG: patients under 18 admitted for a non-malignant disorder of the male reproduction system undergoing a procedure such as hydrocelectomy, varicocelectomy, epididymal cyst excision, uni- o bilateral orchiectomy, testis implant insertion or open testicular biopsy.
228	MAJOR THUMB OR JOINT PROCEDURE, OR OTHER HAND/WRIST PROCEDURES WITH CC	A surgical DRG: patients admitted for a musculoskeletal disease or disorder undergoing a major thumb or joint procedure on the hand or other hand or wrist procedure. Most frequent examples: thumb arthroplasty or hand fasciectomy. These patients also present complications or comorbidities, such as chronic obstructive pulmonary disease.
59	TONSILLECTOMY &/OR ADENOIDECTOMY ONLY, AGE>17	A surgical DRG: patients over 17 admitted for an ENT disease undergoing tonsillectomy &/or adenoidectomy only.
494	LAPAROSCOPIC CHOLECYSTECTOMY WITHOUT COMMON DUCT EXPLORATION W/O CC	A surgical DRG: patients admitted for a hepatobiliary disease undergoing a laparoscopic cholecystectomy without common duct exploration.

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Annex 5. List B of suitable procedures for day surgery

One way to approach List B is to analyze all procedures that obtain an ambulatory surgery rate in the Spanish National Health System DRG database over 25% and are not included in List A. The following table shows the results of this analysis ⁽²³⁾:

DRG	DRG AP	Ambulatory (Day)	Inpatient	Day surgery rate %
365	OTHER FEMALE REPRODUCTIVE SYSTEM OPERATING ROOM PROCEDURES	1,559	784	66.54
169	MOUTH PROCEDURES W/O CC	4,663	3,291	58.62
62	MYRINGOTOMY WITH TUBE INSERTION AGE<18	5,125	4,915	51.05
315	OTHER KIDNEY & URINARY TRACT OPERATING ROOM PROCEDURES	3,141	3,683	46.03
268	SKIN, SUBCUTANEOUS TISSUE & BREAST PLASTIC PROCEDURES	1,606	2,169	42.54
293	OTHER ENDOCRINE, NUTRITION & METABOLIC OPERATING ROOM PROCEDURES W/O CC	323	455	41.52
360	VAGINA, CERVIX & VULVA PROCEDURES	4,896	6,897	41.52
341	PENIS PROCEDURES	2,605	3,684	41.42
408	MYELOPROLIFERATIVE DISORDER OR POORLY DIFFUSED NEOPLASMS WITH OTHER OPERATING ROOM PROCEDURES	735	1,120	39.62
344	OTHER MALE REPRODUCTIVE SYSTEM OPERATING ROOM PROCEDURES FOR MALIGNANCY	299	471	38.83
534	OCULAR PROCEDURES WITH MAJOR CC	206	339	37.80
477	NON-EXTENSIVE OPERATING ROOM PROCEDURE UNRELATED TO PRINCIPAL DIAGNOSIS	2,184	3,756	36.77
461	OPERATING ROOM PROCEDURE WITH DIAGNOSES OF OTHER CONTACT WITH HEALTH SERVICES	1,875	3,320	36.09
363	DILATION & CURETTAGE, CONIZATION & RADIO-IMPLANT, FOR MALIGNANCY	1,248	2,244	35.74
394	OTHER OPERATING ROOM PROCEDURES OF THE BLOOD AND BLOOD FORMING ORGANS	1,416	2,561	35.60

⁽²³⁾ DRG 270 (Other skin, subcutaneous tissue & breast procedures without complications), DRG 187 (dental extractions & restorations) and DRG 266 (skin graft &/or debridement except for skin ulcer or cellulitis without complications) are not included as they are classified as minor surgery.

DRG	DRG AP	Ambulatory (Day)	Inpatient	Day surgery rate %
125	CIRCULATORY DISORDERS EXCEPT AMI, WITH CARDIAC CATHETER WITHOUT COMPLEX DIAGNOSES	4,506	9,053	33.23
313	URETHRAL PROCEDURES AGE>17 W/O CC	1,084	2,250	32.51
55	MISCELLANEOUS EAR, NOSE, MOUTH & THROAT PROCEDURES	10,977	23,143	32.17
51	SALIVARY GLAND PROCEDURES EXCEPT SIALOADENECTOMY	128	286	30.92
36	RETINAL PROCEDURES	2,964	6,737	30.55
158	ANAL & STOMAL PROCEDURES W/O CC	10,593	24,756	29.97
160	HERNIA PROCEDURES EXCEPT INGUINAL & FEMORAL AGE>17 W/O CC	8,094	19,047	29.82
8	PERIPHERAL & CRANIAL NERVE & OTHER NERVE SYSTEM PROCEDURES W/O CC	1,819	4,304	29.71
37	ORBITAL PROCEDURES	542	1,331	28.94
269	OTHER SKIN, SUBCUTANEOUS TISSUE & BREAST PROCEDURES WITH CC	375	1,000	27.27
222	KNEE PROCEDURES W/O CC	8,251	22,305	27.00
118	CARDIAC PACEMAKER DEVICE REPLACEMENT	790	2,160	26.78
117	CARDIAC PACEMAKER REVISION EXCEPT DEVICE REPLACEMENT	256	729	25.99
339	TESTES PROCEDURES, NON-MALIGNANCY AGE>17	2,375	6,793	25.91
56	RHINOPLASTY	2,099	6,200	25.29
359	UTERINE & ADNEXA PROCEDURE FOR NON- MALIGNANCY W/O CC	15,325	45,936	25.02
		102,059	215,719	47.31

Other systems recommend other possible procedures that are not included in List A and do not record an ambulatory surgery rate in the Spanish National Health System DRG database in excess of 25%. The National Health Service Audit Commission includes in its Annex B⁽²⁴⁾ the following procedures as being suitable for ambulatory surgery in some cases. As the Audit Commission lists specific procedures and not DRGs, the corresponding DRG codes, definition and description have been added.

⁽²⁴⁾ The Audit Commission's «Basket of 25» not included in List A, or «Annex B»¹. The «description of procedure» is the literal definition of the procedure included in the Audit Commission's List B.

Procedures suitable for ambulatory surgery		
DRG AP	Definition ⁽²⁵⁾	DRG Description
311	TRANSURETHRAL RESECTION OF BLADDER TUMOUR (TRANSURETHRAL PROCEDURES W/O CC)	A surgical DRG: patients admitted due to a kidney or urinary tract disease undergoing transurethral procedures except prostatectomy. Most frequent examples: vesicular biopsy, resection of vesicular lesion or removal of renal pelvis or ureter obstruction (all transurethral procedures).
290	PARTIAL THYROIDECTOMY (THYROID PROCEDURES)	A surgical DRG: patients admitted for an endocrine, nutrition or metabolic disease undergoing a thyroid procedure such as partial or total thyroidectomy, thyroid biopsy or thyroid or parathyroid re-implantation.
260	SUBTOTAL MASTECTOMY FOR MALIGNANCY W/O CC (SUBTOTAL MASTECTOMY FOR MALIGNANCY W/O CC)	A surgical DRG: patients admitted for breast malignancy undergoing surgery such as removal of tumour without total mastectomy, quadrantectomy or open breast biopsy with or without mammary reconstruction in the same admission.
337	LASER PROSTATECTOMY (TRANSURETHRAL PROSTATECTOMY W/O CC)	A surgical DRG: patients admitted for a disorder of the male reproduction system undergoing a transurethral prostatectomy.
261	SUBCUTANEOUS MASTECTOMY (BREAST PROCEDURE FOR NON-MALIGNANCY EXCEPT BIOPSY & LOCAL EXCISION)	A surgical DRG: patients admitted for a non-malignant disease of the skin, subcutaneous tissue or breast undergoing breast procedures except biopsy and local excision. Most frequent examples: reduction mammoplasty, mammary reconstruction, quadrantectomy, mammary implant or subcutaneous mastectomy.

This dual approach provides the following DRGs recommended for inclusion in List B:

⁽²⁵⁾ Definition of the procedure, with definition of the corresponding DRG in brackets. The DRG description may include other procedures that are not suitable for ambulatory surgery.

Recommended procedures		
DRG AP	Definition	DRG Description ²
365	OTHER FEMALE REPRODUCTIVE SYSTEM OPERATING ROOM PROCEDURES	A surgical DRG: female patients admitted for a gynaecological disease undergoing various procedures such as explorative laparotomy, relaparotomy, peritoneal biopsy, removal of adhesions, vesicular fistula repair or other vesicular procedures.
169	MOUTH PROCEDURES W/O CC	A surgical DRG: patients admitted for an ENT disease undergoing excision of a dental, labial or lingual lesion or lesion of the mouth, gingivoplasty, alveoloplasty, apicectomy or tongue biopsy.
62	MYRINGOTOMY WITH TUBE INSERTION AGE<18	A surgical DRG: patients under 18 admitted for an ENT disease undergoing myringotomy with transtympanic drainage.
315	OTHER KIDNEY & URINARY TRACT OPERATING ROOM PROCEDURES	A surgical DRG: patients admitted for a kidney or urinary tract disease undergoing procedures such as arteriovenous (AV) fistula creation for dialysis or cutaneous peritoneal fistula creation, percutaneous angioplasty in peripheral arteries, bone biopsy, laparotomy or laparoscopy.
268	SKIN, SUBCUTANEOUS TISSUE & BREAST PLASTIC PROCEDURES	A surgical DRG: patients admitted for a disease of the skin, subcutaneous tissue or breast undergoing plastic procedures on these structures such as scar relaxation or skin shrinkage or repair of nasal pyramid, eyelid, mouth or outer ear.
293	OTHER ENDOCRINE, NUTRITION & METABOLIC OPERATING ROOM PROCEDURES W/O CC	A surgical DRG: patients admitted for an endocrine, nutrition or metabolic disease undergoing various procedures such as thymus surgery, bone or lymphatic biopsy, certain ocular or eyelid procedures, certain vascular or digestive repair procedures, pancreatic transplant or implantation of infusion pump.
360	VAGINA, CERVIX & VULVA PROCEDURES	A surgical DRG: female patients admitted for a gynaecological disease undergoing procedures such as vulvar abscess drainage, cervical amputation, uni- or bilateral vulvectomy or colonic and rectovaginal fistula repair.
341	PENIS PROCEDURES	A surgical DRG: patients admitted for a disorder of the male reproduction system undergoing procedures such as correction of hypo-/epispadias, urethral stenosis release or other urethral repair procedures, corporoplasty, penis biopsy, amputation or reimplantation.
408	MYELOPROLIFERATIVE DISORDER OR POORLY DIFFUSED NEOPLASMS WITH OTHER OPERATING ROOM PROCEDURES	A surgical DRG: patients admitted for a myeloproliferative disorder or poorly diffused neoplasms undergoing surgery, other than major surgery, such as destruction of bladder lesion, transurethral biopsy or excision of mammary or skin lesion.

Recommended procedures		
DRG AP	Definition	DRG Description ²
344	OTHER MALE REPRODUCTIVE SYSTEM OPERATING ROOM PROCEDURES FOR MALIGNANCY	A surgical DRG: patients admitted for a malignant disorder of the male reproduction system undergoing procedures such as transurethral destruction of vesicular lesion, biopsy or excision of lymphatic ganglia, open prostate or bone biopsy, urethral procedures, infusion pump insertion or radio-implant. This group does not include patients with malignancies of the male reproduction system undergoing a prostatectomy (not transurethral) or radical dissection of iliac or periaortic lymphatic ganglia who are classified under DRGs 334 or 335. Patients undergoing a transurethral prostatectomy are classified under DRGs 336 or 337.
534	OCULAR PROCEDURES WITH MAJOR CC	A surgical DRG: patients admitted for any ophthalmic disease who have undergone an ocular procedure and who also present another diagnosis classified as a major complication or comorbidity. Of these, the most frequent examples are: operating wound dehiscence, respiratory insufficiency, carotid occlusion or acute myocardial infarction.
477	NON-EXTENSIVE OPERATING ROOM PROCEDURE UNRELATED TO PRINCIPAL DIAGNOSIS	A surgical DRG: patients who have received minor surgery unrelated to the reason for their admission.
461	OPERATING ROOM PROCEDURE WITH DIAGNOSES OF OTHER CONTACT WITH HEALTH SERVICES	A surgical DRG: patients who have received surgery, having been admitted for a circumstance which, whilst not a current disease, affects their health. For example, a patient admitted for a suspected disease that is ruled out and who has undergone a laparoscopy.
363	DILATION & CURETTAGE, CONIZATION & RADIO-IMPLANT, FOR MALIGNANCY	A surgical DRG: female patients admitted for a primary or secondary gynaecological malignancy or a gynaecological malignancy in situ or of uncertain development, undergoing cervical or endometrial biopsy or curettage, cervical conization or radio-implant.
394	OTHER OPERATING ROOM PROCEDURES OF THE BLOOD AND BLOOD FORMING ORGANS	A surgical DRG: patients admitted for diseases of the blood or of the haematopoietic or immune system undergoing procedures such as biopsy or excision of lymphatic ganglia, thymus biopsy or excision, mediastinoscopy, laparoscopy or explorative laparotomy. The most frequent diagnoses that lead to admission of these patients are tuberculous or inspecific lymphadenitis or adenopathy.
313	URETHRAL PROCEDURES AGE >17 W/O CC	A surgical DRG: patients over 17 admitted for a kidney or urinary tract disease undergoing urethral procedures such as urethral stenosis release and other urethral plasty procedures, urethrotomy, urethral meatotomy, periurethral incision or suture of urethral laceration.

Recommended procedures		
DRG AP	Definition	DRG Description ²
55	MISCELLANEOUS EAR, NOSE, MOUTH & THROAT PROCEDURES	A surgical DRG: patients admitted for an ENT disease undergoing ENT procedures such as miringoplasty, decortication of vocal cords, submucous resection of nasal septum or stapedectomy.
51	SALIVARY GLAND PROCEDURES EXCEPT SIALOADENECTOMY	A surgical DRG: patients admitted for an ENT disease undergoing procedures on salivary glands, except sialoadenectomy, such as excision of salivary gland lesion, open biopsy of salivary gland or duct, marsupialization of salivary gland cyst or close of salivary gland fistula.
36	RETINAL PROCEDURES	A surgical DRG: patients admitted for ocular diseases undergoing retinal procedures such as scleral indentation with implant, sclerotic resection, pneumoretinopexy or other procedures for repair of detached or torn retina such as cryotherapy or photocoagulation.
158	ANAL & STOMAL PROCEDURES W/O CC	A surgical DRG: patients admitted for a digestive disorder undergoing procedures such as perianal abscess drainage, haemorrhoidectomy, anal fistulectomy or revision of enterostomy.
160	HERNIA PROCEDURES EXCEPT INGUINAL & FEMORAL AGE>17 W/O CC	A surgical DRG: patients over 17 admitted for a digestive disorder undergoing ventral o umbilical herniorrhaphy.
8	PERIPHERAL & CRANIAL NERVE & OTHER NERVE SYSTEM PROCEDURES W/O CC	A surgical DRG: patients admitted for a disorder of the central nervous system undergoing procedures on a cranial or peripheral nerve except carpal tunnel release. Most frequent examples: excision of cranial or peripheral nerve, peripheral nerve or ganglion adhesion lysis or decompression, nerve suture or transposition or implant of spinal neurostimulator.
37	ORBITAL PROCEDURES	A surgical DRG: patients admitted for ocular diseases undergoing orbital procedures such as extraction of ocular content, eyeball evisceration, eye enucleation with or without implant or repair of orbital wound.
269	OTHER SKIN, SUBCUTANEOUS TISSUE & BREAST PROCEDURES WITH CC	A surgical DRG: patients admitted for a disease of the skin, subcutaneous tissue or breast undergoing various procedures such as local removal or destruction of skin and subcutaneous tissue lesion, abdominal wall incision, amputations, removal of axillary lymph nodes, insertion of vascular access device or braquitherapy on breast. These patients also present another diagnosis classified as a complication or comorbidity such as metastasis, gangrene, post-operative infection or bruising or complicated diabetes.

Recommended procedures		
DRG AP	Definition	DRG Description ²
222	KNEE PROCEDURES W/O CC	A surgical DRG: patients admitted for a musculoskeletal disease or disorder undergoing knee surgery (except prosthetic implant) such as meniscectomy, repair of crossed ligaments, pateleectomy, sinovectomy or knee arthrodesis. Some of these procedures may have been performed via arthroscopy.
118	CARDIAC PACEMAKER DEVICE REPLACEMENT	A surgical DRG: patients admitted for a disease of the circulatory system who have had a cardiac pacemaker device replaced.
117	CARDIAC PACEMAKER REVISION EXCEPT DEVICE REPLACEMENT	A surgical DRG: patients admitted for a disease of the circulatory system who have had a pacemaker lead inserted, replaced, revised, reset or removed, a pacemaker bag revised or a pacemaker device revised or removed. This DRG does not include patients who have had a pacemaker device replaced.
339	TESTES PROCEDURES, NON-MALIGNANCY AGE>17	A surgical DRG: patients over 17 admitted for a non-malignant disorder of the male reproduction system undergoing procedures such as hydrocelectomy, varicocelectomy, epididymal cyst excision, uni- o bilateral orchiectomy, testis implant insertion or open testicular biopsy.
56	RHINOPLASTY	A surgical DRG: patients admitted for an ENT disease undergoing nose surgery such as rhinoplasty, septoplasty (except submucous resection of nasal septum), revision of rhinoplasty or total nose reconstruction.
359	UTERINE & ADNEXA PROCEDURE FOR NON-MALIGNANCY W/O CC	A surgical DRG: female patients admitted for a gynaecological disease, except malignancy not in situ, undergoing procedures such as abdominal hysterectomy with or without double anexectomy, uni- or bilateral anexectomy, total, partial or wedge ovariectomy or excision of uterine or ovarian lesion. Most frequent reasons for admission: uterine myoma, ovarian cyst or benign tumour or endometriosis.
311	TRANSURETHRAL PROCEDURES W/O CC	A surgical DRG: patients admitted for a kidney or urinary tract disease undergoing transurethral procedures except prostatectomy. Most frequent examples: vesicular biopsy, resection of vesicular lesion or removal of renal pelvis or ureter obstruction (all transurethral procedures).
289	PARATHYROID PROCEDURES (PARATHYROID ADENOMA SURGERY)	A surgical DRG: patients admitted for obesity undergoing procedures such as gastroenterostomy, proximal gastric bypass, reduction mammoplasty or other reduction plasty procedures.

Recommended procedures		
DRG AP	Definition	DRG Description ²
290	THYROID PROCEDURES (PARTIAL THYROIDECTOMY) ³	A surgical DRG: patients admitted for an endocrine, nutrition or metabolic disease undergoing a thyroid procedure such as partial or total thyroidectomy, thyroid biopsy or thyroid or parathyroid reimplantation.
260	SUBTOTAL MASTECTOMY FOR MALIGNANCY W/O CC	A surgical DRG: patients admitted for breast malignancy undergoing procedures such as removal of tumour without total mastectomy, quadrantectomy or open breast biopsy with or without mammary reconstruction in the same admission.
337	TRANSURETHRAL PROSTATECTOMY W/O CC	A surgical DRG: patients admitted for a disorder of the male reproduction system undergoing a transurethral prostatectomy.
261	BREAST PROCEDURE FOR NON-MALIGNANCY EXCEPT BIOPSY & LOCAL EXCISION	A surgical DRG: patients admitted for a non-malignant disease of the skin, subcutaneous tissue or breast undergoing breast procedures except biopsy and local excision. Most frequent examples: reduction mammoplasty, mammary reconstruction, quadrantectomy, mammary implant or subcutaneous mastectomy.

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1. Department of Health. «Day Surgery: Operational guide. Waiting, booking and choice». August 2002.
2. Yetano J., López Arbeloa G., López Arbeloa P. (coord.). «Manual de Descripción de los Grupos Relacionados por el Diagnóstico (AP-GRD v.18.0)». Osakidetza-Fundación SIGNO - Basque Regional Government (Spain).
3. Sánchez Blanco J.M., Recio Moyano G., Guerola Delgado A. et al. «Tiroidectomía en régimen de cirugía mayor ambulatoria. Estudio Prospectivo». Cir Esp. 2006; 80: 206-13.

Annex 6. List C of the referred as minor ambulatory surgery procedures or those performed preferably in endoscopy units or other treatment and diagnosis rooms.

Minor ambulatory surgery may be defined as simple therapeutic and/or diagnostic procedures included in Type I of the Davis classification, that is, procedures that may be performed with local or troncular anaesthesia, on patients who require no overnight stay and no special post-operative care (pre-discharge recovery)¹. These procedures have traditionally been performed in outpatient clinics and A&E units.

Accordingly, the following are not considered DS procedures:

Interventional therapeutic-diagnostic explorations and tests²:

- Embolizations.
- Endocavitary biopsies.
- General duct dilations (except lacrimal duct).
- Explorations using endovenous or intradural contrast (LCR).
- Amniocentesis.
- Hysteroographies.
- Minor curettage.
- Drainage puncture, pericardiocentesis (interventional radiology).
- MRI or CAT in babies, coma patients or other persons unable to collaborate with medical staff.
- Procedures relating to transfer of embryos.
- Lumbar puncture procedures.
- Electrotherapy.

Explorations and interventions in consulting rooms / treatment rooms:

- Colposcopy.
- Hysteroscopy.
- Minor operations with local or troncular anaesthesia.

Endoscopies

Bronchoscopy.
Colonoscopy.
Cystoscopy.
Esophagoscopy – Gastroscopy – duodenoscopy.
Sigmoidoscopy.

Procedures conducted in day-care hospitals:

Chemotherapy.
Blood transfusions.
Pain relief.
Urodynamics.

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2. Idem, pp. 31-33.

Annex 7. Anaesthesia criteria for patient cataloguing, American Society of Anaesthesiologists (ASA)¹

ASA I: Patient with no organic, biochemical or psychiatric disorders other than the localized process subject to surgery. Healthy patient.

ASA II: Patient with a mild or moderate systemic disorder which causes no functional limitation or incapacity (mild diabetes, mild or moderate systemic hypertension...).

ASA III: Patient with any serious disease or disorder which causes a certain degree of defined functional limitation (severe diabetes with vascular repercussion, moderate or severe respiratory insufficiency...).

ASA IV: Patient with a systemic life-threatening disease that cannot be corrected via surgery (organic heart disease with signs of heart failure, advanced renal insufficiency, hepatic or respiratory insufficiency...).

ASA V: Patient who is not expected to live, even if surgery is performed; patient who is unlikely to live beyond a day, with or without surgery.

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1. American Society of Anaesthesiologists. Physical Status Classification System. <http://www.asahq.org/clinical/physicalstatus.htm>.

Annex 8. Patient circulatory flow scheme in DSU

	Location	Action	Requisites/Aims
Referral	<ul style="list-style-type: none"> • From Primary healthcare. • From surgical clinics. • From surgical waiting lists. 	<ul style="list-style-type: none"> • Process diagnosis and indication of surgery. • Prior selection. 	<ul style="list-style-type: none"> • Prevent patient rejection in DSU. • Detailed knowledge of: <ul style="list-style-type: none"> — DS unit service portfolio. — Local selection criteria.
TO: DAY SURGERY UNIT			
Consulting/ Examination Room	Dedicated DS consulting room.	<ul style="list-style-type: none"> • Clinical assessment and indication. • Anaesthesia assessment. • Patient selection. • Information to patient and escorts. • Acceptance. • Informed consent. • Additional tests ⁽²⁶⁾. 	<ul style="list-style-type: none"> • Comfort. • Selection criteria. • Single clinical records. • Spoken and written information.
	DS administrative area.	<ul style="list-style-type: none"> • Patient admission. • Appointment for additional tests (if appropriate). • Appointment for operation. 	<ul style="list-style-type: none"> • Prevent patients having to return unnecessarily. • Short waiting times.
24 / 48 hours before operation ⁽²⁷⁾	DS administrative area.	<ul style="list-style-type: none"> • Confirmation of appointment by telephone. • Reminder of pre-operative preparations (Annex 9). 	<ul style="list-style-type: none"> • Prevent cancellations. • Prevent inefficiencies in surgical sessions (in the event of a cancellation, call patients on waiting list).

⁽²⁶⁾ Patients should not have to return for further tests; these should be conducted on the same day as the patient is assessed and selected.

⁽²⁷⁾ Many DSU do not make telephone calls 24-48 hours before operations, only when they are newly opened. The UK Healthcare Commission suggests that calls «may» be made if more than six weeks have elapsed since the initial assessment was made and the date set for the operation, to prevent cancellations¹.

	Location	Action	Requisites/Aims
Day of operation			
Admission	DS administrative area.	<ul style="list-style-type: none"> • Patient preparatory activities. • Confirmation of appointment and process. 	<ul style="list-style-type: none"> • Patient preparation and activities different from inpatient admission.
Preparation	Preparation area.	<ul style="list-style-type: none"> • Confirmation of preparation. • Pre-operative anaesthesia assessment. • Specific preparation. 	<ul style="list-style-type: none"> • Comfort.
Operation	DS operating theatre.	<ul style="list-style-type: none"> • Operation. 	<ul style="list-style-type: none"> • Independent operating hours. • Prevent interferences.
Post-anaesthesia care	Conventional post-anaesthesia care area.	<ul style="list-style-type: none"> • Post-anaesthesia care. 	<ul style="list-style-type: none"> • Not essential; in some cases, fast-track techniques allow patients receiving spinal and (specially) general anaesthetic to pass directly to the pre-discharge recovery area.
Pre-discharge recovery	Pre-discharge recovery area.	<ul style="list-style-type: none"> • Pre-discharge recovery. • Contact with relatives. • Comprehensive monitoring of patient. • Care of relative (future carer). • Fulfilment of post-discharge safety criteria. • Early assessment of possible future complications. • Pre-discharge surgical and anaesthesia assessment. • Sign-off by surgical team: surgeon and anaesthetist. • Instructions for patient and carer upon discharge. • Discharge, or hospital admission if necessary. • Check-up scheduled: date and time, in DSU or specialist clinic. 	<ul style="list-style-type: none"> • Comfort. • Strict safety criteria upon discharge. • Precise post-discharge instructions. • Clear definition of post-DS care. • Determination of persons responsible for care.

Location	Action	Requisites/Aims
HOME		
Home (or alternative accommodation)	<ul style="list-style-type: none">• Patient's home.• Alternative accommodation (short-stay facility or patient hotel).• Monitoring by telephone during the first 24 hours.• Convalescence.	<ul style="list-style-type: none">• Home environment or alternative accommodation must meet minimum conditions.• Easily contactable and accessible from DSU.
Follow-up	<ul style="list-style-type: none">• DS / primary healthcare / surgical - consulting room.• Conventional post-operative follow-up.	<ul style="list-style-type: none">• Achieve patient satisfaction.• Monitoring databases.
Alternative patient flows post-surgery:		
Alternatives	Destination	
Pre-discharge assessment	Home.	
a) Patient is recovered and meets post-discharge safety criteria.		
b) Patient requires extended care (patient is not recovered / fails to meet criteria).	Hospital (length of stay depending on problem).	
c) Administrative problems (delay in discharge, safety failings in patient's home environment, etc.).	<ul style="list-style-type: none">• Alternative accommodation (recommended)• Hospitalization < 23 hours (in short-stay beds assigned to DSU).	
At home	Normal follow-up	
a) Normal convalescence.		
b) Problems or perceived problems.	<ul style="list-style-type: none">• Medical care:<ul style="list-style-type: none">— Contact by telephone with DSU (recommended); or— Care in patient's home; or— Care by emergency services.	
c) Emergency.	A&E services.	
Follow-up (according to protocol adapted to type of procedure and DSU).		
a) Comprehensive check-ups at DSU.	DSU consulting room.	
b) First consultation at DSU.	First consultation in DS unit, then referred to primary healthcare (recommended).	
c) Follow ups at referral location.	First consultation at referral location (if surgical clinic), then referred to primary healthcare.	

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http://www.healthcarecommission.org.uk/_db/_documents/04018392.pdf

Annex 9. Recommendations to be followed before ambulatory surgery

REMINDERS

- Medication to be taken the previous day, when prescribed.
- Address and access to DSU.
- Time of arrival at DSU and scheduled time of operation.
- General rules: shower, no valuables, no dentures, no make-up, no nail polish.
- No food within six hours before surgery; no drinks within two hours before surgery.
- Patients should take their usual medication with the least possible amount of water, unless otherwise indicated by the anaesthetist or surgeon.
- Document proving entitlement to treatment (e.g. medical card).
- Patient to be accompanied by a responsible adult who will subsequently accompany patient home or to alternative accommodation.

QUESTIONS

- Does the patient have fever?
- Is the patient pregnant (women between 15 and 50 years of age)?
- Does the patient have any doubts? If so, all the necessary explanations will be given.
- If the patient has a temperature, discomfort or is pregnant, or if there is any other circumstance that may contraindicate surgery, the surgeon responsible for the patient or the day surgery Unit Manager should be contacted to verify whether or not there is reason to suspend the procedure.

MAKE AVAILABLE

- DSU contact telephone number.
- Transmit safety and confidence.

Annex 10. Request of additional medical tests^{1,2}

Consensus questionnaire to facilitate identification of asymptomatic patients

- Do you have any health problems not related to the reason for surgery?
- Do you have any disease other than which is reason for surgery?
- Can you climb 10 steps without tiring?
- Do you get breathless when you lie down?
- Do you have a cough?
- Do you wheeze?
- Do your ankles ever swell?
- Do you get chest pain when you exert yourself?
- Have you ever suffered from excessive bleeding in a previous operation or when you've been wounded or had dental treatment? Do you bruise easily?
- Have you or any close relative ever had problems with anaesthesia?
- Do you have any kind of allergy?
- Have you taken any medication in the last three months?
- Do you smoke? How many cigarettes a day?
- Do you drink alcohol regularly?
- When was your last period?
- Do you consume toxic substances other than alcohol or tobacco?
- Do you think you could be carrying an infectious disease such as hepatitis, HIV, etc.?
- Have you ever suffered from vertigo, dizziness or loss of consciousness?

Table A.10.1. Criteria for request of additional tests for pre-operative assessment in programmed surgery

Test	Asymptomatic patients
<ul style="list-style-type: none"> • Electrocardiogram (ECG) 	<ul style="list-style-type: none"> • ≥ 60 years of age. • > 40 years with no ECG. • More than 20 cigarettes a day. • Obese, with BMI $> 30\%$.
<ul style="list-style-type: none"> • Chest X-ray 	<ul style="list-style-type: none"> • 60 years of age. • Obese, with BMI $> 30\%$. • ≥ 20 cigarettes a day. • Medium-sized or large goitre.
<ul style="list-style-type: none"> • Haemogram 	<ul style="list-style-type: none"> • > 60 years of age. • Women of childbearing age. • Surgery that could involve heavy bleeding.
<ul style="list-style-type: none"> • Haemostasia 	<ul style="list-style-type: none"> • Anamnesis with suspicion of coagulation problems. • Treatment with drugs that affect haemostasia. • ≥ 500 c.c. of wine per day or equivalent (> 60 gr of alcohol / day). • Spinal anaesthesia (optional).
<ul style="list-style-type: none"> • Biochemical 	<ul style="list-style-type: none"> • General biochemical profile (glycaemia, renal and hepatic profile) only in >40s.
	Symptomatic patients
<ul style="list-style-type: none"> • ECG 	<ul style="list-style-type: none"> • Heart disease. • Systemic disease, possibly associated with heart disease. • Treatment with potentially cardiotoxic drugs.
<ul style="list-style-type: none"> • Chest X-ray 	<ul style="list-style-type: none"> • Respiratory or cardiovascular disease. • Developed malignancies. • Systemic diseases possibly affecting the chest.
<ul style="list-style-type: none"> • Haemogram 	<ul style="list-style-type: none"> • Systemic disease (or indicative symptoms) with possible haematological repercussions (anaemia, polyglobulia, etc.). • Arterial hypertension.
<ul style="list-style-type: none"> • Haemostasia ⁽²⁸⁾ 	<ul style="list-style-type: none"> • Diseases connected with haemostasia disorders. • Existence of symptoms suggesting a haemostasia disorder.
<ul style="list-style-type: none"> • Biochemical 	<ul style="list-style-type: none"> • Symptoms indicative of systemic disease. • Treatment with diuretics, corticoids or digitalis.
<ul style="list-style-type: none"> • Urine sample 	<ul style="list-style-type: none"> • Only in cases indicative of urine infection.

⁽²⁸⁾ **Haemostasia tests before spinal anaesthesia.** Optional: there is no consensus on this, as 60% are in favour and 40% against. Individual analysis of the opinions of anaesthetists gives similar results (52.9% in favour; 47.1% against). Revision of this particular question shows that there is no scientific evidence to back up the need for these tests before spinal anaesthesia.

Validity of additional tests (assuming no change in the patient's physical condition):

- ASA I and II patients: six (6) months.
- ASA III and IV patients: three (3) months.

The request for additional tests established on the basis of consensus between surgeons and anaesthetists, promoted by the Quality Management Unit of the Spanish Association of Surgeons (SEC), which is the document indicated above, applies both to ambulatory and conventional surgery. Based on a review of the literature, Papaceit *et al*³ make the following recommendations and reach the following conclusions in the case of patients included in DS programmes:

1. Clinical records, anamnesis and physical exploration are all fundamental and indispensable for pre-operative anaesthesia assessment.
2. Routine requests for pre-operative tests in the case of asymptomatic patients would not appear to be very helpful in identifying unsuspected diseases, altering pre- or peri-operative handling or preventing peri-operative complications.
3. As a general rule, requests for pre-operative tests should be selective, according to the type of surgical procedure proposed and the associated disease, determined by review of the patient's clinical record, anamnesis and physical exploration.

These authors recommend that the following tests be required for asymptomatic patients included in DS programmes:

Table A.10.2. Criteria for request of additional tests for pre-operative assessment in DS programmes

	General or regional anaesthesia		Sedation, MAV, peripheral blocks
	Men	Women	
0-2 months	Hb	Hb	
1-40 years		Hb	
> 40 years	ECG	Hb	
> 50 years	ECG	ECG Hb	
> 60 years	ECG Chest X-ray? Hb Glycaemia? Creatinine?	ECG Chest X-ray? Hb Glycaemia? Creatinine?	ECG? Chest X-ray? Hb? Glycaemia? Creatinine?

MAV: monitorized anaesthesia vigilance: ? - Indication is doubtful.

The proposal put forward by Papaceit *et al* refers specifically to ambulatory surgery, but it is not a consensus document, as opposed to the SEC document referred to above. The authors indicate the need for preferably random studies to obtain scientific evidence and strict clinical regulations.

The Ministry of Health & Consumer Affairs should promote an evidence-based consensus document on requests for pre-operative tests in patients included in DS programmes, with the collaboration of the scientific societies most involved in ambulatory surgery procedures.

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3. Papaceit J., Solsona B., Ferrer C., Rull M., Gomar C. «Utilidad de las pruebas de laboratorio y complementarias en la evaluación preoperatoria de cirugía electiva. Implicaciones en CMA». Cir. May. Amb. 2002. Vol. 7 (num. 4): 150-161.

Annex 11. Discharge criteria

Table A.11.1. Modified Aldrete score¹ (PACU discharge)

Concept	Points	Criteria
Activity	2	Able to move all four extremities.
	1	Able to move two extremities.
	0	Unable to move extremities.
Respiration	2	Able to breathe and cough normally.
	1	Dyspnoea or limited breathing.
	0	Apnoea.
Circulation	2	BP \pm 20% pre-anaesthetic level.
	1	BP \pm 20%-50% pre-anaesthetic level.
	0	BP \pm 50% pre-anaesthetic level.
Saturation	2	SpO ₂ > 92% on room air.
	1	Needs extra O ₂ to maintain SpO ₂ at > 90%.
	0	SpO ₂ < 92% even with extra O ₂ .
Consciousness	2	Awake and oriented.
	1	Wakes when called.
	0	Not responding.

Table A.11.2. Clinical discharge criteria in DSU

Clinical discharge criteria in DSU

1. Vital signs stable for at least one hour.
2. No respiratory depression.
3. Awake and oriented.
4. Tolerates liquids*.
5. Spontaneous urination*.
6. Able to dress him/herself and walk without difficulty.
7. No nausea or vomiting.
8. Pain controllable with oral analgesic.
9. Dressings checked with no signs of bleeding.
10. Understands post-operative instructions.
11. Accepts discharge.
12. Accompanied by a responsible adult.

* Optional criteria.

Source: Bustos F., Gutierrez J.M., Toledo ASU, adapted from Kortilla, K².

Table A.11.3. Chung's discharge criteria (adapted) ⁽²⁹⁾ for DSU³

Aspect	Points	Criteria
Vital signs	2	± 20% pre-operative level.
	1	± 20%-40% pre-operative level.
	0	± 50% pre-operative level.
Wandering	2	Without help.
	1	With help.
	0	Unable to walk / dizziness.
Nausea / Vomiting	2	None.
	1	Minimum.
	0	Severe.
Pain	2	None or minimum.
	1	Moderate.
	0	Severe.
Surgical wound	2	Normal.
	1	Dressing lightly bloodstained.
	0	Bleeding wound.
Urination	2	Normal.
	1	Needed catheter.
	0	No spontaneous urination.
Drinking	2	Normal.
	0	Unable to drink (optional criterion).
Total: ≥ 12 ⇒ Discharge.		
Total: < 12 points or any obligatory criteria = 0 ⇒ Hospitalization.		

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3. Chung F. «El proceso del alta. Anestesia Ambulatoria de Twersky RS». Ed. Mosby/ Doyma. Books 1996; 457-475.

⁽²⁹⁾ Adapted by A. Jiménez, Hospital Clínico Universitario «Lozano Blesa», Zaragoza (Spain). Criteria used for discharge from Recovery area, to permit discharge home.

Annex 12. Equipment of a DSU ⁽³⁰⁾

List of equipment	
Premises	Equipment
Entrance, Reception, Admission	
Entrance and lobby	<ul style="list-style-type: none"> • No specific equipment.
Reception <i>Reception of patients and escorts.</i> <i>Administrative registration and discharge procedures.</i>	<ul style="list-style-type: none"> • Work stations / computers. • Laser printer. • Counter. • Drawers. • Shelves. • Ergonomic office chairs. • Telephone. • Waste bin.
Secretariat and Admission <i>Administrative support for DSU.</i>	<ul style="list-style-type: none"> • Ergonomic office chair. • Shelved closet with doors. • Picture. • Work station / computer. • Laser printer. • Desks with drawers. • Telephone. • Waste bin. • Coat stand. • Chairs. • Filing cabinet. • Wall-mounted blackboard.
Information office <i>Information to patients and escorts.</i>	<ul style="list-style-type: none"> • Ergonomic office chair. • Chairs. • Modular work desk with drawers. • Work station / computer. • Telephone. • Picture. • Waste bin.
General waiting area <i>For patients and their escorts.</i>	<ul style="list-style-type: none"> • Chairs and other seats. • 3-seat benches. • Pictures. • Low tables. • Coat stands. • Waste bins.

⁽³⁰⁾ No mention is made of the recommended numbers of individual pieces of equipment, as this will depend on the number of operating theatres and on other structural and functional variables.

List of equipment	
Premises	Equipment
Children's waiting/play area <i>Specific waiting area for children.</i>	<ul style="list-style-type: none"> • Low round tables for children. • Children's chairs. • Children's decorations. • Waste bins. • Children's toys/games. • Television.
Public toilet <i>Toilets for visitors and patients.</i>	<ul style="list-style-type: none"> • Paper dispensers. • Paper towel dispensers. • Toilet brushes. • Mirrors. • 25L swing lid waste bin. • Coat stand. • Soap dispenser.
Disabled toilet <i>Disabled toilets for visitors and patients.</i>	<ul style="list-style-type: none"> • Paper dispensers. • Paper towel dispensers. • Toilet brushes. • Mirrors. • 25L swinging lid waste bin. • Coat stand. • Soap dispenser.
Consulting rooms & Staff area	
Consulting rooms <i>With exploration and consulting room - office area.</i>	<ul style="list-style-type: none"> • Consulting room cupboard. • Chairs. • Tall metallic display cabinet with sliding doors. • Ergonomic office chair. • Exploration bed. • Picture. • Miscellaneous consulting room instruments, according to specialties. • Pen torch. • Modular desk with drawers. • Front lamp. • Portable digital sphygmomanometer. • Weight & height scale. • Laser printer. • Phonendoscope. • Exploration lamp. • Telephone. • Work stations / computers. • Vacuumeter. • Flow meter. • Paper towel dispensers. • 25L swinging lid waste bin. • Soap dispenser.

List of equipment	
Premises	Equipment
Clinical office <i>Work area for medical staff.</i>	<ul style="list-style-type: none"> • Wooden shelves. • Ergonomic office chairs. • Wall-mounted blackboard. • Coat stand. • Waste bin. • Laser printer. • Work stations / computers. • Pictures. • Overhead projector. • Filing cabinets. • Modular desks with drawers. • Round conference table. • Chairs. • Telephones.
Unit Manager's office	<ul style="list-style-type: none"> • Ergonomic office chair. • Cupboard with shelves. • Picture. • Work station / computer. • Ink jet printer. • L-shaped executive desk with drawer. • Round conference table. • Waste bin. • Coat stand. • Chairs. • Filing cabinet. • Wall-mounted blackboard. • Telephone.
Mixed-use room <i>For clinical sessions, seminars, classes.</i>	<ul style="list-style-type: none"> • Coat stand. • Filing cabinet. • Overhead projector. • Picture. • Work stations / computers. • Wooden shelves. • Waste bin. • Wall-mounted blackboard. • Ergonomic office chair. • Modular desk with drawers. • Tablet arm chairs.
Staff toilets and changing rooms <i>Staff toilets changing and locker rooms.</i>	<ul style="list-style-type: none"> • Paper dispensers. • Paper towel dispensers. • Toilet brushes. • Mirrors. • 25L swinging lid waste bin. • Coat stand. • Soap dispenser. • Individual lockers. • Benches.

List of equipment	
Premises	Equipment
Pre-operative & Pre-discharge recovery area	
Patient changing rooms <i>Changing and locker rooms.</i>	<ul style="list-style-type: none"> • Individual lockers. • Benches.
Patient toilet <i>Patient toilets, next to changing rooms.</i>	<ul style="list-style-type: none"> • Paper dispensers. • Paper towel dispensers. • Toilet brushes. • Mirrors. • 25L swinging lid waste bin. • Coat stand. • Soap dispenser.
Disabled toilet. <i>Disabled patient toilet.</i>	<ul style="list-style-type: none"> • Paper dispensers. • Paper towel dispensers. • Toilet brushes. • Mirrors. • 25L swinging lid waste bin. • Coat stand. • Soap dispenser.
Patient preparation area <i>Patient preparation area next to changing room.</i> <i>Included in general open-plan area.</i> <i>(The pre-anaesthesia area may be used for this purpose).</i>	<ul style="list-style-type: none"> • Exploration beds. • Wall cupboard for consumables. • Chairs. • Auxiliary tables. • Clinical unit with sink above storage space.
Nurse station <i>Located at a central point in the recovery area. Must permit direct visual control of all cubicles.</i>	<ul style="list-style-type: none"> • Counter. • Ergonomic office chairs. • Laser printer. • Filing cabinet. • Picture. • Metal shelves. • Communications system, type Tel DECT. • Telephone. • Modular desk with drawers. • Waste bin. • Care management PDAs. • Coat stand. • Chairs. • Cupboard with shelves. • Work stations / computers. • Wall clock with date. • Display panel (buzzers, warning lights).

List of equipment

Premises	Equipment
Staff room <i>For staff relaxation.</i>	<ul style="list-style-type: none"> • Floor and wall cupboards. • Pictures. • Worktop with sink, microwave and refrigerator. • Central table. • Telephone. • Coat stand. • Chairs. • Reclining chairs. • 25L swinging lid waste bin. • Paper towel dispenser.
Recovery area <i>For re-establishment of vital signs and recovery of consciousness. An open-plan area located close to the general waiting area and the unit exit, with direct visual control of all the cubicles from the nurse station.</i>	<ul style="list-style-type: none"> • Treatment chairs. • Self-inflatable resuscitation balloons. • Flow meters. • Vacuometers. • Work stations / computers. • Miscellaneous equipment (drip stands, ceiling hooks, etc.). • Overbed table. • 25L swinging lid waste bins. • Multi-parameter monitor. • Chairs.
Clean utility room <i>For clean equipment and medication storage.</i>	<ul style="list-style-type: none"> • Fixed 60 cm stool. • Clinical unit with double sink above storage space. • Soap dispenser. • 25L swinging lid waste bin. • Paper towel dispenser. • Wall-mounted glass case (80 x 90 x 35 cm). • Refrigerator. • Paper towel dispenser. • Treatment trolley with drawers. • 25L swinging lid waste bin.
Dirty utility & waste disposal room <i>For dirty laundry and waste disposal.</i>	<ul style="list-style-type: none"> • Double sink and waste disposal unit. • 25L swinging lid waste bin. • Paper towel dispenser. • Instrument container trolley. • Waste selection bins. • Worktop. • Metal shelving units. • Waste disposal chute (fixed fitting).
Cleaning equipment room <i>For cleaning products and equipment.</i>	<ul style="list-style-type: none"> • Metal shelves. • Double sink and waste disposal unit

List of equipment	
Premises	Equipment
Kitchen <i>For preparation of drinks and/or food for patients during recovery period.</i>	<ul style="list-style-type: none"> • Kitchenware cupboard. • Refrigerator. • Microwave. • Double sink and draining board and waste disposal unit. • 25L swinging lid waste bin. • Paper towel dispenser.
Equipment storeroom <i>For apparatus and equipment.</i>	<ul style="list-style-type: none"> • Metal shelves.
Laundry room <i>For clean laundry.</i>	<ul style="list-style-type: none"> • Clean laundry trolleys. • Metal shelves.
Wheelchairs <i>Storeroom for wheelchairs.</i>	<ul style="list-style-type: none"> • Wheelchairs for patients.
Charge nurse's office	<ul style="list-style-type: none"> • Ergonomic office chair. • Cupboard with shelves. • Picture. • Work station / computer. • Ink jet printer. • L-shaped executive desk with drawers. • Round conference table. • Waste bin. • Coat stand. • Chairs. • Filing cabinet. • Wall-mounted blackboard. • Telephone.
AS Theatre Block	
Entrance <i>Connected to patient changing room and pre-operative preparation area.</i>	<ul style="list-style-type: none"> • No specific equipment.
Nurse station <i>Located at a central point in the pre-anaesthesia area. Must permit direct visual control of all cubicles.</i>	<ul style="list-style-type: none"> • Counter. • Ergonomic office chairs. • Laser printer. • Filing cabinet. • Picture. • Metal shelves. • Communications system, type Tel DECT. • Telephone. • Modular desk with drawers. • Waste bin. • Care management PDAs. • Coat stand. • Chairs. • Cupboard with shelves. • Work stations / computers. • Wall clock with date. • Display panel (buzzers, warning lights).

List of equipment

Premises	Equipment
Pre-anaesthesia / Pre-surgery <i>For pre-anaesthesia. Open-plan, or individual cubicles for surgery (pre-surgery). Sink. Computers.</i>	<ul style="list-style-type: none"> • Electric adjustable beds with accessories. • Auxiliary tables. • Work stations / computers. • Medication trolley. • Cardiac emergency trolley. • Multi-parameter monitors. • Defibrillator with adult and paediatric paddles. • Self-inflatable resuscitation balloon. • Infusion pumps. • Vacuumeter. • Flow meter. • Wall cupboard for consumables. • Clinical unit with sink above storage space. • 25L swinging lid waste bin. • Paper towel dispenser. • Soap dispenser. • Sterile glass cabinet.
Operating theatre	<ul style="list-style-type: none"> • Anaesthesia infusion pump. • Cryocoagulator. • Flow meter. • Suture trolley. • Operating room medication and equipment trolley. • Cardiac emergency trolley. • Anaesthesia trolley. • Satellite arm with TFT screen. • Ultracision-harmonic scalpel. • Electric scalpel. • Bipolar scalpel for dermatology. • Endosurgery instruments. • Bases for TCI pumps. • Arthroscope. • Vascular surgery and angiology instruments. • TV camera. • Technical panel with plasma screen. • Miscellaneous surgical instruments. • C-shaped instrument table. • Defibrillator with adult paddles. • Field preparation table. • Universal surgical table with accessories. • Surgical microscope for Ophthalmology. • Modular multi-parameter monitor to control ECG, BP and SaO₂, etc. • Dacryocystorhinostomy drill. • Standard Mayo table. • Indirect ophthalmoscope. • Hydraulic Mayo table. • Rectoscope. • Surgical chair. • Gas extraction system. • High stool with back. • Tonometer. • Laparoscopy towers.

List of equipment

Premises	Equipment
Operating theatre	<ul style="list-style-type: none"> • Vacuumeter. • Videoproctoscope. • Direct ophthalmoscope. • Urology surgery instruments. • General surgery instruments. • Paediatric surgery instruments. • Dermatology surgery instruments. • Gynaecology surgery instruments. • Ophthalmology surgery instruments. • L-shaped instrument table. • Traumatology surgery instruments. • Stainless steel 1200 instrument table. • Traumatology drills with accessories. • ENT surgery instruments. • Auxiliary Mayo table. • Receptacles on wheels. • Clothes basket. • Electromagnetic apparatus. • Phacoemulsifier with accessories, including anterior vitrectomy. • Operating room lamp (3 elements: main + satellite). • Image inverter. • Laser printer. • Work stations / computers. • Telephone. • Anaesthesia equipment with pulse oximetry, capnography, respirator, haemod. • Stainless steel instrument table. • Aspiration system. • Self-inflatable balloon with O₂ tank. • Airway intubation equipment. • Active patient warming systems. • Fluid pressurizer and heater. • Clock.
Scrub room <i>For disinfection and putting on of protective clothing (gloves, masks).</i>	<ul style="list-style-type: none"> • Surgical scrub brush dispenser. • Surgical soap dispenser. • Metal shelves unit. • Surgical thermostatic photocell hand-washes. • Clock. • Automatic hand-dryer.
Operating theatre personnel gowning rooms <i>Access to clean area for operating theatre personnel.</i>	<ul style="list-style-type: none"> • Mirror. • 25L swinging lid waste bin. • Paper towel dispenser. • Coat stand. • Soap dispenser. • Paper dispenser. • Locker. • Bench. • Toilet brush. • Towel rail.

List of equipment

Premises	Equipment
Cleaning staff changing rooms. <i>Access to clean area for auxiliary and cleaning staff.</i>	<ul style="list-style-type: none"> • Mirror. • 25L swinging lid waste bin. • Paper towel dispenser. • Coat stand. • Soap dispenser. • Paper dispenser. • Locker. • Bench. • Toilet brush. • Towel rail.
Sterilization point <i>For sterilizations.</i>	<ul style="list-style-type: none"> • Instrument baskets. • Miniclave. • Thermal disinfection instrument washer. • Instrument washer. • Metal shelf. • Transport trolley. • Cold sterilizers. • Fixed 60 cm stool. • Clinical unit with double sink above storage space. • Soap dispenser. • 25L swinging lid waste bin. • Paper towel dispenser. • Wall-mounted glass cabinet (80 x 90 x 35 cm).
Equipment storeroom <i>For sterile equipment.</i>	<ul style="list-style-type: none"> • Metal shelf. • Stackable containers. • Instrument container trolley. • Shelving system with stainless steel baskets.
Cleaning equipment room <i>For cleaning products and equipment.</i>	<ul style="list-style-type: none"> • Metal shelves. • Double sink and waste disposal unit.
Dirty utility & waste disposal room <i>For dirty laundry and waste disposal.</i>	<ul style="list-style-type: none"> • Double sink and waste disposal unit. • 25L swinging lid waste bin. • Paper towel dispenser. • Instrument container trolley. • Waste disposal bins. • Worktop. • Metal shelves. • Waste disposal chute (fixed fitting).

List of equipment

Premises	Equipment
Staff office	<ul style="list-style-type: none"> • Ergonomic office chair. • Cupboard with shelves. • Picture. • Work station / computer. • Ink jet printer. • L-shaped executive desk with pedestal unit. • Round conference table. • Waste bin. • Coat stand. • Chairs. • Filing cabinet. • Wall-mounted blackboard. • Telephone.
Staff resting room	<ul style="list-style-type: none"> • Floor and wall cupboards. • Pictures. • Worktop with sink, microwave and refrigerator. • Central table. • Telephone. • Coat stand. • Chairs. • Reclining chairs. • 25L swing lid waste bin. • Paper towel dispenser.
Equipment storeroom <i>For apparatus and equipment.</i>	<ul style="list-style-type: none"> • Metal shelving units.
Portable X-ray equipment storeroom <i>For portable X-ray and image intensifier equipment.</i>	<ul style="list-style-type: none"> • Portable X-ray equipment. • Image intensifier equipment.
General storeroom <i>For storage of surgical instruments, prosthesis, consumables.</i>	<ul style="list-style-type: none"> • Metal shelving units. • Double drawer storage system.
Nurse station <i>Located at a central point in the post-anaesthesia area. Must permit direct visual control of all cubicles.</i>	<ul style="list-style-type: none"> • Counter. • Ergonomic office chairs. • Laser printer. • Filing cabinet. • Picture. • Metal shelf. • Communications system, type Tel DECT. • Telephone. • Modular desk with pedestal. • Waste bin. • Care management PDAs. • Coat stand. • Chairs. • Cupboard with shelves. • Work stations / computers. • Wall clock with date. • Display panel (buzzers, warning lights).

List of equipment	
Premises	Equipment
PACU <i>Post-anaesthesia care of patients after surgery.</i>	<ul style="list-style-type: none"> • Electric adjustable beds with accessories. • Medicine and equipment unit. • Vacuumeter. • Wall clock with date. • 25L swinging lid waste bin. • Perfusion pump. • Cardiac emergency trolley. • Emergency medication trolley. • Flow meter. • Defibrillator with adult and paediatric paddles. • Work stations / computers. • Metal shelves. • Laser printer. • Miscellaneous equipment (rails, ceiling hooks, etc.). • Telemeter unit. • Multi-parameter monitor. • Self-inflatable resuscitation balloon. • Telephone. • Volumetric respirator with capnography. • Infusion pump-syringe. • Head for critical patient cubicle with accessories. • Miscellaneous instruments. • Care management PDAs. • Surgical brush dispenser. • Surgical soap dispenser. • Surgical thermostatic photocell hand-washes. • Automatic hand-dryer. • Spirometer. • Gastric aspirator. • Liquid heater. • Active patient warming systems. • Support systems for perfusion and healthcare equipment.

Annex 13. Criteria for selection of DSU quality indicators

At the General Assembly of the IAAS held in 2003 in Boston (USA), a set of five indicators was selected, based on the Australian and French clinical systems. These five indicators are summarized in the following table:

Table A.13.1. IAAS DSU quality indicators		
Indicator	Definition	Calculation
1. Cancellation of procedure.		% [(cancellations / patients with appointments)].
1.1. Patient fails to appear.	<ul style="list-style-type: none"> Onset of acute or intercurrent disease. Patient's decision. Administrative reasons. Other (detail). 	% [(cancellations due to non-appearance of patient / patients with appointments)].
1.2. Cancellation after patient enters DSU.	<ul style="list-style-type: none"> Existing medical problem. Onset of acute or intercurrent disease. Administrative reasons. Other (detail). 	% [(cancellations after patient enters DSU / patients with appointments)].
2. Same-day unplanned repeated surgery.		% [(repeat surgery / patients undergoing surgery)].
3. Unplanned overnight stay.	<ul style="list-style-type: none"> Surgical reasons. Anaesthesia reasons. Administrative reasons. 	% [(unplanned overnight stays ⁽³¹⁾ / patients undergoing surgery)].
4. Consulta urgente.	<ul style="list-style-type: none"> In the first 24 hours. Within 24 hours and 28 days. 	% [(emergencies / patients undergoing surgery)].
5. Readmission to hospital	<ul style="list-style-type: none"> In the first 24 hours. Within 24 hours and 28 days. 	% [(admissions / patients undergoing surgery)].

⁽³¹⁾ Excludes all patients who, due to their home environment and if there is no other residential accommodation available, are scheduled for admission to conventional hospital beds assigned to DSU.

On 14 March 2007 the Ministry of Health and Consumer Affairs Quality Agency presented to the Interterritorial Board the Spanish National Health System Key Indicators¹ for comprehensive and systematic information on the healthcare system. These indicators include the Ambulatory Surgery Index (overall and procedure-specific), defined as ambulatory surgery procedures as a percentage of all surgical procedures, measured annually². For a number of selected procedures, this Index is included in international statistics (Eurostat, European Health Care Indicators and OECD).

Table A.13.2. DSU quality indicators: Substitution and Ambulatory Surgery Index		
Indicator	Definition	Calculation
1. Substitution Index.		
1.1. Substitution Index - List A procedures.	Measures DSU efficiency in attracting procedures suitable for ambulatory surgery.	% [(\sum List A DRGs performed via ambulatory surgery / \sum List A surgical DRGs performed via conventional and ambulatory surgery)].
1.2. Substitution Index - List B procedures.	Measures DSU efficiency in developing day surgery and minimally invasive techniques and procedures.	% [(\sum List B DRGs performed via ambulatory surgery / \sum List B surgical DRGs performed via conventional and ambulatory surgery)].
3. Ambulatory surgery index.	Measures the overall impact of ambulatory surgery on the hospital's surgical activity.	% [(\sum Surgical DRGs performed via ambulatory surgery / \sum All surgical DRGs)].

Finally, satisfaction surveys should be used to evaluate apparent or perceived quality. To make these surveys comparable between DSU, the following methodology³ could be used:

- Overall, the care you received in the DSU was ...?
- Very good.
 - Good.
 - Average.
 - Poor.
 - Very poor.
 - Don't know / No answer.

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Annex 14. Resource sizing criteria

1. Introduction

Determination of the basic dimensions of the care facilities of a DSU depends on: demographic factors (population structure); epidemiological factors (morbidity); clinical factors (surgical indication and substitution criteria) and management factors (use of available capacity).

It is, in all cases, a question of determining needs, on the basis of estimated expected demand, and of adapting resource size to these needs, in line with a previously determined productivity profile.

2. Estimate of expected number of DS procedures to be performed in one year

The first estimate should be the number of DS procedures (DS Proc.) expected to be performed in the unit in one year.

In the case of DSU with an assigned area of reference, this figure may be estimated by statistical analysis of the population distribution and of population projections in the time scale chosen.

The frequency of surgery (Fr. SG) should then be determined, defined as the rate of use of ambulatory surgery per 1000 persons per year.

The expected number of DS procedures (DS Proc.) will thus be:

$$\text{SG Proc.} = \text{Population} \times \frac{\text{Fr. SG}}{1000}$$

where:

SG Proc. is the total number of surgical procedures performed in one year in the specific area; and

Population is the number of inhabitants of such area.

$$\text{Prog. SG Proc.} = \text{SG Proc.} \times \% \text{ Prog. SG Proc.}$$

where:

Prog. SG Proc. is the total number of programmed surgical procedures performed in one year in the specific area,

% Prog. SG Proc. is the number of programmed surgical procedures as a percentage of the total of surgical procedures performed in one year in the area,

and:

$$\text{DS Proc.} = \text{Prog. SG Proc.} \times \% \text{ DS}$$

where:

% DS is the number of surgical procedures typified as DS procedures as a percentage of the total number of programmed surgical procedures.

3. Examples of calculation of expected number of DS procedures to be performed in one year

In practice, estimates of these variables will depend on the information available. Two examples show this below:

<p>Table A.14.1. Example 1. Calculation of expected number of DS procedures to be performed in one year (based on overall frequency rate of DS procedures)</p> <p>Chapter 2 contains an overview of ambulatory surgery trends in the Spanish National Health System (section 1.3.3.1) and internationally (section 1.3.3.2). On the basis of this information, the expected number of DS procedures to be performed in one year may be calculated as follows:</p> <ul style="list-style-type: none">Data sources<p>Ministry of Health and Consumer Affairs statistics on inpatient healthcare institutions (www.msc.es/estadEstudios/estadisticas/estHospilInternado/inforAnual/home.htm) provide annual data on programmed surgical activity in hospitals, broken down by the type of organization (Spanish National Health System, other public and private, profit and non-profit) and by the type of surgical procedure (inpatient, day, other day procedures). The municipal census published by the Spanish Statistics Institute (INE) (www.ine.es/inebase/cgi/um?M=%2Ft20%2Fe260&O=inebase&N=&L) provides official population figures. The Institute also provides population projections for 2017 and 2060 (www.ine.es/inebase/cgi/um?M=%2Ft20%2Fp251&O=inebase&N=&L).</p>Calculation method<p>Using these data and the calculation methodology described above, we obtain an overall DS frequency rate for 2005 (the latest year for which statistics are available) of 22.43%. By 2017, assuming a year-on-year increase of approximately 2% in the surgery frequency rate and a substitution index of 50%, this figure would rise to 33.67%. Thus, for an area with 250,000 inhabitants, the estimate would be approximately 8,400 DS procedures per year.</p>

Table A.14.2. Example 2. Calculation of expected number of DS procedures to be performed in one year (based on more detailed information on a specific area)

Resource sizing is one of the key elements of functional design of healthcare centres, and specially hospitals.

The complexity of hospital infrastructures and the need to optimize functional relations between the different units and services means that detailed analysis of requirements is essential.

The following example is an adaptation of a Functional Programme conducted in 200x, that is 200 times, (the demographic information has been modified so as to preserve the hospital's identity), with results broken down by specialties. The example relates to a hypothetical population of 250,000 (but with the same population structure as in the original case).

To make the results comparable with the previous example, the calculations relate to the same time scale, that is, 2017, and the same estimate of year-on-year increase in the surgery frequency rate has been used, that is, 2%, although with a higher substitution index. The following table shows the results obtained on the basis of surgical activity performed in 200x, taken as the base year for the functional programme:

	Population	Proce- dures 2004	Fre- quency 2004	Estima- ted Total Fre- quency	% Programmed		% Emer- gencies/ Admi- ssions	Procedures 2017			
					Inpa- tient	DS		Total	Program- med Inpatient	DS	Emer- gencies
Angiology & vascular surgery	250,000	260	1.04	2.10	85	15	20	525	357	79	89
General & digestive surgery	250,000	4,985	19.94	25.00	60	40	20	6,250	3,000	2,500	750
Ophthalmology	250,000	2,083	8.33	11.00	12	88	20	2,750	264	2,420	66
ENT	250,000	1,033	4.13	5.00	30	70	20	1,250	300	875	75
Traumatology	250,000	1,460	5.84	10.00	65	35	20	2,500	1,300	875	325
Urology	250,000	1,383	5.53	6.00	60	40	20	1,500	720	600	180
Gynaecology	112,300	1,329	11.83	15.00	50	50	20	1,685	674	842	168
TOTAL		12,531						16,460	6,615	8,191	1,654

4. Estimate of expected number of DS procedures to be performed in one year in units with no population reference area

In the case of DS units with no reference area, the number of DS procedures (DS Proc.) will be estimated using statistical (historical series) or economic tools (analysis of market position versus rival units, business plans, etc.).

5. Calculation of number of operating theatres

To calculate the number of operating theatres (*SG*) necessary to deal with the expected number of DS procedures to be performed in one year, the following variables must be taken into account:

- Available Surgery Time (*AST*), based on the time during which patients may be scheduled for DS procedures and the effective working hours of the DS operating theatres.
Available Surgery Time may be defined as follows:

$$AST = \text{Hours/session} \times \text{Sessions / week} \times \text{Weeks / year}$$

where:

- Hours/session** is the projected number of working hours per operating session,
- Sessions/week** is the projected number of operating sessions per week, and
- Weeks/year** is the projected number of weeks in the year during which the operating theatres will work.

- Occupancy level of operating theatres (*OSG*), which will be a percentage of *AST* expressed as:

$$OSG = \left(\frac{UST}{AST} \right) \times 100$$

where:

UST is the time during which the operating theatres are effectively used for DS procedures.

Accordingly,

$$SG = \left(\frac{DS \text{ Proc.} \times TDS \text{ Proc.}}{AST \times OSG} \right)$$

Table A.14.3. Example 3. Calculation of number of DS operating theatres (morning shift only)

On the basis of the 8,400 DS procedures determined in Example 1, and assuming:

- operating room sessions of seven (7) hours;
- five (5) sessions per week (Mon-Fri, mornings only);
- 50 weeks a year;
- 70% occupancy; and
- average duration of DS procedures of 45 minutes,

then the number of operating theatres necessary is $5.14^1 \approx 6$

¹ Figure has been rounded up so as to provide an additional safety margin. For planning purposes, there are two objectives: a) resource size should be sufficient to meet future demand (even though this will always be difficult to predict), and b) management targets should be designed to optimize available capacity.

Table A.14.4. Example 4. Calculation of number of DS operating theatres (morning and afternoon shifts)

On the basis of the same 8,400 DS procedures taken in the previous example, and assuming:

- 7-hour operating room sessions (mornings) and 4-hour sessions (afternoons), or two 6-hour sessions;
- Ten (10) sessions per week (Mon-Fri), that is, five (5) morning and five (5) afternoon sessions;
- 247 days a year;
- 80% occupancy; and
- average duration of DS procedures of 45 minutes,

then the number of operating theatres necessary is $2.9 \approx 3-4$

This result leads to the following reflection:

Surgery frequency rates in Spain are considerably lower than in other developed countries, including in comparison with countries with national health systems. The substitution index is still a long way behind that of the United States, Canada or other countries (see Chapter 2). Moreover, the future development of surgical and anaesthesia techniques and clinical management models will likely permit a significant increase in the number of procedures suitable for day surgery, and in short in the total number of ambulatory surgery procedures performed.

From this point of view, and in conditions similar to those seen in this example, we note that experience (the 1993 Guide) tells us that projections can fall short and that the possibility of designing DSU to include extra available space as a safety net should be considered, to allow future expansion if and when necessary.

Accordingly, in all cases in which there is space available (for example, in new-built hospitals), the possibility of including the extra operating theatre (in the above example, the fourth) should be considered, together with all the additional basic and auxiliary resources that this capacity increase implies, calculated in accordance with the criteria described below.

It is recommended that DSU operating theatres be used in both morning and afternoon shifts.

6. Sizing of other basic care resources in DSU: pre-discharge recovery cubicles, consulting and examination rooms,...

Annex 15 contains a functional design programme of a DS unit corresponding to a model that is quite frequent in the case of hospitals with a high volume of DS procedures.

The different areas contemplated in this programme (in general, in any programme) may be divided into two separate groups: basic healthcare resources, whose size will determine the unit's capacity (operating theatres, recovery cubicles...), and auxiliary areas (waiting rooms, offices...), whose number and size will depend on the size of the basic healthcare resources.

These areas include, in addition to the operating theatres, the following:

- Post-anaesthesia recovery cubicles: two (2) per operating theatre ⁽³²⁾.
- Pre-discharge recovery cubicles (*RC*), whose number will depend on the following variables:
 - Number of ambulatory surgery procedures to be performed in the DSU in one year (**Proc.**)
 - Average length of stay in recovery cubicles (*ALS*)
 - Time available in recovery cubicles (*TARC*), expressed as:

$$TARC = \text{Days/year} \times \text{Working hours} / \text{day}$$

where:

Days/year is the number of working days in the unit per year,
and

Working hours/day is the number of working hours in the unit per day.

⁽³²⁾ This criterion is taken from the functional programme of a conventional theatre block. The actual need for post-anaesthesia recovery cubicles may be considerably less, as almost all patients who have been administered local anaesthesia—generally more than 50% of DS patients—pass directly to the pre-discharge recovery room.

— Occupancy level of recovery cubicles (*ORC*)

Thus the number of recovery cubicles necessary may be calculated as follows:

$$RC = \left(\frac{DS \text{ Proc.} \times ALS}{TARC \times ORC} \right)$$

Table A.14.5. Example 5. Calculation of number of pre-discharge recovery cubicles

For the 8,400 AS procedures considered in the previous examples, and assuming:

- 3-hour average stays in recovery cubicles;
- 247 days a year;
- 12 hours a day; and
- 70% occupancy,

then the number of pre-discharge recovery cubicles (reclining chairs / beds) necessary is
 $12.15 \cong 13$

- Consulting/examination rooms (**C**), whose size will depend on the following variables:

- Number of AS procedures to be performed in the DS unit in one year (**DS Proc.**)
- Average number of consultations per DS procedure (**Cons./Proc.**)
- Total number of DS consultations (**DS Cons.**), expressed as:

$$DS \text{ Cons.} = \text{Cons./Proc.} \times DS \text{ Proc.}$$

- Average estimated time per DS consultation (*T DS Cons.*)
- Time available for DS consultations (*TADSC*), expressed as:

$$TADSC = \text{Days/year} \times \text{Cons.Hours / day}$$

where:

Days/year is the number of working days in the unit per year, and

Cons.Hours/day is the number of DS consultation hours per day.

— Occupancy level of DS consulting rooms (*ODSC*).

Thus the number of consulting/examination rooms necessary may be calculated as follows:

$$C = \left(\frac{DS \text{ Cons.} \times TDS \text{ Cons.}}{TADSC \times ODSC} \right)$$

Example of calculation of number of anaesthesia consulting rooms

Table A.14.6. Example 6. Calculation of number of anaesthesia consulting rooms ⁽³³⁾

For the 8,400 DS procedures considered in the previous examples, and assuming:

- 1.2 consultations per DS procedure;
- 20 minutes per consultation;
- 247 days a year;
- six (6) hours a day; and
- 70% occupancy,

then the number of clinics necessary is $2.70 \cong 3$

⁽³³⁾ Nursing consulting rooms must also be considered, as well as rooms for any surgical specialists who have consultation in the DSU. Accordingly, in this example, a minimum of four days must be considered.

Annex 15. Functional design programme for a DSU with four operating theatres

In relation with the development of ergonomic designs for DSU premises and the critical dimensions of key areas, it is included below, for purposes of illustration, a functional design programme of an autonomous DSU (or a satellite unit, excluding the area for transport facilities) with four operating theatres, a model that is quite common for hospitals with a high volume of AS activity (\cong 8,400 - 11,500 procedures/year ⁽³⁴⁾):

Table A.15.1. Functional design programme

AUTONOMOUS DAY SURGERY UNIT (four operating theatres)					
Area	Premises	Floor-space	Num.	Total floor-space	Observations: functional and technical characteristics
ENTRANCE, RECEPTION & ADMISSION	Entrance & lobby	30	1	30	Open space.
	Reception	12	1	12	Entry of patients and escorts. Administrative processes: registration and discharge. The reception area should permit good visual control of the entrance. It should be located next to the general waiting area for patients and relatives/carers and next to the information office. The counter should not represent a barrier and should include a lower area, accessible to wheelchair users. Computers and telephones.
	Secretariat & Admission	18	1	18	Administrative support for DSU. Connected with reception and with the patient preparation area. To include, where appropriate, space for clinical record trolleys and communication tools. Computers and telephones.
	Information office	12	1	12	Where patients and relatives are given all the necessary information, equipped with computers and telephones.
	General waiting area	80	1	80	For patients and escorts, located close to the entrance and with easy access to the consultation rooms and patient changing rooms. Equipped taking into account possible lengthy waits (several hours) capacity depending on the size of the DSU. Telephones and background music. Cold food and drink machines. Drinking water fountain.

⁽³⁴⁾ See Annex 14 on resource sizing criteria.

Table A.15.1. (cont.) Functional design programme

AUTONOMOUS DAY SURGERY UNIT (four operating theatres)					
Area	Premises	Floor-space	Total floor-space Num. space		Observations: functional and technical characteristics
	Children's waiting/play area	18	1	18	Specific waiting area for children, including a play area (indoor and outdoor). Television.
	Public toilet	6	2	12	Toilets for visitors and patients, equipped with washbasin and WC.
	Disabled toilet	5	1	5	Toilets for disabled visitors and patients, equipped with washbasin and WC. Baby-changing facilities.
	Total entrance area			199	
CONSULTING ROOMS & STAFF AREAS	Consulting/examination room	18	4	72	Including exploration area and office. Consulting room unit, with stainless steel worktop, washbasin and elbow mixer taps with thermostat control. Specific lighting for exploration bed. Computers and telephones; oxygen and vacuum connections.
	Clinical office	18	1	18	Work area for medical staff, with computers and telephones.
	Unit Manager's office	14	1	14	Work area for medical staff, with computers and telephones.
	Mixed-use room	24	1	24	Clinical sessions, seminars, teaching area; equipped with computers and telephones.
	Staff toilets and changing rooms	12	2	24	Staff toilets and changing rooms / locker rooms. Located at entrance for internal hospital traffic. Equipped with washbasin and WC.
	Total consulting rooms			152	There should be a separate staff entrance for internal hospital traffic; this entrance may also be used for admissions (where appropriate), paediatric day hospital traffic (where appropriate) and supplies.
PRE-OPERATIVE & PRE-DISCHARGE RECOVERY	Patient changing rooms	16	2	32	Changing rooms / lockers.
	Patient toilets	4	2	8	Patient toilets, located next to changing rooms, equipped with washbasin and WC.
	Disabled toilet	5	1	5	Disabled patient toilet, equipped with washbasin and WC. Within the patient toilet block.
	Patient preparation area	12	4	48	Open-plan patient preparation area, next to changing rooms. (This area is not essential; the pre-anaesthesia room may be used for this purpose).

Table A.15.1. (cont.) Functional design programme

AUTONOMOUS DAY SURGERY UNIT (four operating theatres)					
Area	Premises	Floor-space	Total floor-space Num. space		Observations: functional and technical characteristics
	Nurse station	18	1	18	Located at a central point in the recovery area. Must permit direct visual control of all cubicles. Fitted with communication system between patients and nurses via warning lights and buzzers. Pneumatic tube terminal, safety and fire alarm control panel, gas escape alarm control panel, computers and telephones.
	Staff room	18	1	18	Next to nurse station; including small utility room. Natural light. Telephones and sink.
	Pre-discharge recovery room	200	1	200	For re-establishment of vital signs and recovery of consciousness. An open-plan area next to the general waiting area and the unit exit guaranteeing direct visual control of all the cubicles from the nurse station. Natural light and environmental conditions to assist recovery. Windows with blocking devices and cleaning/airing position. Each cubicle will have a treatment chair and sufficient space to enable patients to be accompanied by a relative/carer throughout the recovery period. Power points and oxygen and vacuum connections. Possibility of closing off cubicles for privacy (compatible with patient safety). Integral call and interphone system with nursing staff. Pre-installation of television and music. Computer connections.
	Clean utility room	10	1	10	For clean equipment and medication storage. Double sink unit.
	Dirty utility & waste disposal room	8	1	8	For dirty laundry and waste disposal, with sink and space for advanced waste selection.
	Cleaning equipment room	4	1	4	For cleaning products and equipment. Sink.
	Kitchen	8	1	8	For preparation of drinks and/or food for patients during the recovery period. Refrigerator, microwave and double sink with draining board.
	Equipment storeroom	8	1	8	For apparatus and equipment. To enhance safety and reduce patient anxiety.
	Laundry room	6	1	6	For clean laundry.
	Wheelchairs	2	1	2	For wheelchairs.
	Charge nurse's office	14	1	14	Equipped with computers and telephones.
Total area			389		

Table A.15.1. (cont.) Functional design programme

AUTONOMOUS DAY SURGERY UNIT (four operating theatres)					
Area	Premises	Floor-space	Num.	Total floor-space	Observations: functional and technical characteristics
DS THEATRE BLOCK	Entry	20	1	20	Connected to patient changing room area and pre-operative preparation area. Fitted with stainless steel automatic doors.
	Nurse station	8	1	8	Located at a central point in the pre-anaesthesia area. Must permit direct visual control of all cubicles. Fitted with communication system between patients and nurses via warning lights and buzzers. Pneumatic tube terminal, safety and fire alarm control panel, gas escape alarm control panel, computers and telephones.
	Pre-anaesthesia / Pre-surgery	12	4	48	For pre-anaesthesia. General area (or separate cubicles for each operating theatre). Includes storage of anaesthetic equipment, sterile equipment and perfusion fluids. Each cubicle in the pre-anaesthesia area will have at least four power points, a compressed air connection and a vacuum connection. Sink; computers.
	Operating theatre	42	4	168	<p>Minimum usable floorspace per operating theatre will be 40m², with a minimum free height of 3m and large enough to be able to draw a circle 6m of diameter around the operating table. The walls and ceilings will be hard, not porous, impermeable, washable and fire-resistant, with no cracks and no shine. There will be no rails or other elements that can collect dirt and all wall-fitted devices will be built-in fixtures. Floors will be washable, semi-conductive and earthed, with no sharp angles between the vertical and horizontal and no windows. The doors will have a minimum width of 1.5m, preferably automatic sliding doors on an outside rail. Each operating theatre will have:</p> <ul style="list-style-type: none"> — Two identical gas control panels, each with connections for nitrogen protoxide, medical grade compressed air, oxygen (2), CO₂, vacuum and anaesthetic gas extraction, as well as a gas pressure control panel fitted with an alarm system. — Sealed light sources for general lighting; if fluorescent lights are used all necessary measures will be taken to ensure that there is no interference between the light switches and the electro-medical equipment. — At least 12 single-phase 16-amp earthed power points and at least one duly identified single-phase 20-amp earthed power point for X-ray diagnosis and laser equipment, where appropriate. <p>For anaesthesia and surgery, articulated arms will preferably be used. Lamp securing device. Protection against electrical risks. Room lighting of at least 1,000lux, with 25,000lux on the operating table.</p>

Table A.15.1. (cont.) Functional design programme

AUTONOMOUS DAY SURGERY UNIT (four operating theatres)				
Area	Premises	Floor-space	Total floor-Num. space	Observations: functional and technical characteristics
				<p>Room temperatures in accordance with UNE 100173 (regulations on air temperature in hospitals), ASHRAE and AIA requirements. Technical requirements as in a conventional operating theatre (RITE). Special protection (X-ray, laser,...) according to the surgical procedures to be performed. All installation equipment should be on a different level to the theatre block, preferably at roof level. Computers and telephones.</p>
Scrub room	10	4	40	<p>For disinfection and putting on of gloves and masks. Next to the operating room but separate from the general patient flow in the theatre block. At least two sink areas per operating room, equipped with non-manual taps, anti-septic gel dispensers, an automatic hand-dryer and a clock. Sufficient space for this room to be shared by two operating theatres.</p>
Operating theatre staff changing rooms	30	2	60	<p>Filtered access to clean area for theatre staff. Enclosed from outside the theatre block to internal traffic. Washroom area with washbasin, toilet and shower.</p>
Cleaning staff changing rooms	20	1	20	<p>Filtered access to clean area for auxiliary and cleaning staff. Enclosed from outside the theatre block to internal traffic. Washroom area with washbasin, toilet and shower.</p>
Sterilization point	18	1	18	<p>The unit sterile equipment is all produced externally. It will have a small sterilization point for occasional urgent needs. Necessary facilities for sterilization point: sterilization worktop, power points and sink.</p>
Equipment storeroom	20	1	20	<p>For sterile equipment. Compressor for positive pressure, air temperature equipment with absolute filters.</p>
Cleaning equipment room	4	1	4	<p>For cleaning products and equipment. Sink.</p>
Dirty utility & waste disposal room	8	1	8	<p>Connected to operating theatres' dirty traffic exits. For dirty laundry and waste disposal, with sink and space for advanced waste selection.</p>
Staff office	12	1	12	<p>Computers and telephones.</p>
Staff restroom	24	1	24	<p>Next to nurse station; including small utility room. Natural light. Telephones; sink.</p>
Equipment storeroom	20	1	20	<p>For appliances and equipment.</p>

Table A.15.1. (cont.) Functional design programme

AUTONOMOUS DAY SURGERY UNIT (four operating theatres)					
Area	Premises	Floor-space	Num.	Total floor-space	Observations: functional and technical characteristics
	Portable X-ray equipment storeroom	8	1	8	For storage of portable X-ray and image intensifier equipment. Power points to facilitate equipment checks.
	General storeroom	20	2	40	For storage of surgical instruments, prosthesis, consumables.
	Nurse station	18	1	18	Located at a central point in the post-anaesthesia care area. Must permit direct visual control of all cubicles. Fitted with communication system between patients and nurses via warning lights and buzzers. Pneumatic tube terminal, safety and fire alarm control panel, gas escape alarm control panel, computers and telephones.
	Post-anaesthesia care area	80	1	80	Post-anaesthesia care of patients after surgery. Connected to the patient theatre exit and close to the recovery area. The doors, preferably automatic, will have a minimum width of 1.5m. Each cubicle will have 8 single-phase 16-amp power points and one duly identified single-phase earthed 20-amp power point for X-ray equipment. Each cubicle will have its own individual light. Open-planed, accessible to anaesthesia personnel. Possible separation by means of screens. Each bed will have power points, medical grade gas, oxygen and vacuum and sufficient space to enable staff to move around the beds comfortably (minimum of 80cm on each side). Minimum floorspace per cubicle: 10m ² . Computers and telephones.
	Total pre-operative and pre-discharge recovery area			616	No single flow diagram is determined for staff, patients or supplies (sterile materials, dirty laundry and waste disposal) within the theatre block, as many different flow systems may be valid, provided in all cases that the criteria for air renewal and circulation between the different parts of the theatre block and the cleanliness protocols for personnel, instruments and equipment are all met. The total area (m ²) will depend on the internal traffic flows chosen for the theatre block. In light of the evidence showing the lack of connection between the theatre block flows and the incidence of hospital-acquired infection, it is recommended to use the simplest design possible, to facilitate comprehension by all theatre block users.
TOTAL DS UNIT				1,356	All buildings must comply with all existing legislation on disabled access. Temperature, humidity, ventilation and lighting conditions must be appropriate for correct performance of the activities in each area. All installations must comply with existing safety and protection legislation.

Table A.15.1. (cont.) Functional design programme

AUTONOMOUS DAY SURGERY UNIT (four operating theatres)				
Area	Premises	Floor-space	Total floor- Num. space	Observations: functional and technical characteristics
				<p><i>DSU should be designed to ensure that there are no cross-flows among the different users. They should provide an accessible and pleasant environment that will help to mitigate the natural anxiety related with surgical procedures. The furniture and fittings should give the appearance of a residential setting rather than of a strictly clinical environment.</i></p> <p><i>Corridors between areas should be at least 2m wide.</i></p> <p><i>Technical installations:</i></p> <p><i>Electricity. Must comply with all the corresponding regulations (REBT). Each operating theatre will have its own electrical isolation panel, located outside the operating room and easily accessible, with an overcurrent protection device, an isolation transformer and an electrical leak detection monitor. All operating room power points will pass through the isolation panel and will be distributed amongst at least four circuits. Each operating theatre will have its own emergency lighting equipment guaranteeing full supply for at least two hours to: the central operating room lights and vital equipment, the operating room power points except for the X-ray and laser equipment, and at least two power points in each cubicle in the pre-anaesthesia area and all electrical points in the post-anaesthesia care area.</i></p> <p><i>HVAC (Heating, Ventilating and Air Conditioning) system. The system will run at different overpressure levels to ensure the air current to the outside. The pipes will be of plate, with maximum roughness of 0.3mm and side/lateral registers (each with a minimum of 5m) to permit cleaning. The outside air intake points will be located at least 8m from the outlets for gases, smoke, bad smells or other sources of air contamination and, if on the façade, at least 2m above ground level. The HVAC system described is for the clean area of the theatre block; all other areas will have «all outside air» type systems with air filters. The HVAC system of the clean area of the surgical theatre block will be an «all external air» type, with no re-circulation, comprising of two spaces: the clean area itself, subject to above mentioned criteria (except presence of absolute filters), and sterile area, which refers to operating theatres. Each operating theatre will have an air treatment unit with an independent control panel. The HVAC system will ensure a minimum of 15-20 air renewals/hour.</i></p>

Table A.15.1. (cont.) Functional design programme

AUTONOMOUS DAY SURGERY UNIT (four operating theatres)				
Area	Premises	Floor-space	Total floor- Num. space	Observations: functional and technical characteristics
				<p>The room temperature will be adjustable within a range of 20°C to 24°C, with relative humidity between 45% and 60%, via a steam humidifier unit. The air treatment unit will have a staggered filtration system, via the following types of filters: a 25% efficiency prefilter; a high or 90% efficiency filter; an absolute 99.97% efficiency HEPA filter. The system will include a dirty filter detection system, based on differentiated pressure drills or similar, with a gauge set in a visible place. The absolute filter may be installed in the climatizer unit or in the operating theatre air intakes, behind the grilles. The operating theatres will run at overpressure in relation with the adjacent areas; the air supply flow will be approximately 15% higher than the air extraction flow. The air will enter at ceiling level and will be extracted at ground level, by means of a series of grilles set at a minimum of 15 cm from the finished floor. The noise produced by the air inlet and extraction systems in the operating theatres will not exceed 40 dBA. Recommendation: operating theatres should include a bacteriological filter system, by means of germicidal ultraviolet (UV) lamps, and an air sample analyzer to permit control of air quality.</p> <p>Piped medical gases and vacuum. There will be fixed pipes for supply of medical gases and vacuum from the outside storage area to the theatre block; all connections will be clearly identified by universal signalling.</p> <p>Computer network.</p> <p>The total roofed area of the DSU (depending on the flow model used in the theatre block) is estimated as 1.3x the programmed floorspace. In this case, the total roofed area of the unit would be 1,716m².</p>

Annex 16. Study of surgery duration of List A procedures (Annex 4)

Surgery scheduling is crucially important to ensure optimal utilization of DSU resources. The final objective is to identify those patients who may be operated each day in each available operating theatre, on the basis of the surgery time available and the list of patients suitable for day surgery procedures. In addition to factors relating to clinical priority, waiting lists and validity of pre-operative assessments, the estimated duration of each surgical procedure is basic for patient selection.

Most Spanish hospitals use nowadays IT systems that systematically record, inter alia, the time of start and finish of each surgical procedure. Nevertheless, there is scarce published data on which to base an estimate of the standard duration of the most frequent procedures. This would allow a more efficient distribution of the time available between procedures and to optimize operating theatre use.

As a preliminary approach to creating tool of this kind, a study was conducted among the hospitals represented on the working group responsible for preparation of the Guide⁽³⁵⁾. The aim of the study was to obtain an estimated average duration for the List A surgical procedures established hereby and to analyze any significant statistical difference between the results obtained from the different hospitals.

Each hospital was asked to provide the following data:

Aim: To estimate the average duration of day surgery procedures, to establish suggested durations that may facilitate the task of scheduling surgery.

Based on a list of procedures suitable for day surgery⁽³⁶⁾, to identify the duration of all the day (no inpatient) procedures performed in each hospital in 2006 (last complete year) in which the main process is recorded under any of the codes included in the list.

Data: The data necessary on each surgical procedure that meets these conditions are:

⁽³⁵⁾ Hospital Doce de Octubre (Madrid), Hospital Sant Pau y Santa Creu (Barcelona), Complejo Hospitalario de Toledo, Hospital de Sierrallana (Cantabria), Hospital Clínico Lozano Blesa (Zaragoza), Hospital Ramón y Cajal (Madrid), Hospital de la Princesa (Madrid), Fundación Jiménez Díaz (Madrid).

⁽³⁶⁾ Only the most frequent ambulatory surgery procedures performed in the SNS have been considered, based on prior analysis of the CMBD data (SNS minimum basic dataset) on List A procedures (see Annex 1 and Chapter 4).

Surgical procedure code.

Duration of procedure (in minutes, calculated as the difference between the start and finish time of the operation).

DRG code, if available.

Source: Operating theatre records, DS minimum basic dataset.

Universe: All hospital records for last complete year available (2006).

The feedback obtained presented the following events:

- One hospital failed to send DRG data on each procedure.
- Two hospitals sent the average duration of each surgical procedure already calculated, with no breakdown per procedure as requested.

The original data have been adjusted to:

- Unify field formats.
- Create separate databases for each procedure.
- Eliminate: 1) all procedures in which the frequencies observed are insufficient to guarantee significant results, and 2) all extreme values in the respective distributions which may distort the resultant average durations and the variability analysis.

Using variance analysis techniques (ANOVA of a factor, with a significance level $\alpha = 0.05$), the following null hypotheses were contrasted:

- Equality of average duration of each surgical procedure in each hospital ($H_0: t_{mh1} = t_{mh2} = t_{mh3} = t_{mh4} = t_{mh5}$).
- Equality of average duration of each surgical procedure within each DRG ($H_0: t_{mgrd1} = t_{mgrd2} = t_{mgrd3} = t_{mgrd4} = t_{mgrdn}$).

The results of this analysis show that in the hospitals studied:

Table A.16.1. ANOVA results summary				
Contrast	Number	Insufficient degrees of freedom	H ₀ : Equality of measurements	
			Accepted	Rejected
PROCEDURES	34	1	2 (6.5%)	31 (93.5%)
DRGs	28	3	5 (25%)	20 (75%)

1. Surgical practice (and/or surgical records) present a high degree of variability: in the vast majority of cases (93.5% of the most frequent day surgery procedures) the average duration is different, even though in the remaining 6.5% surgical practice is sufficiently standardized and, independent of «local factors», presents no statistically significant differences.
2. The DRG groupings of the most frequent day surgery procedures present statistically significant differences in the majority of cases (75%), although in the remaining 25% there are no statistically significant differences.

On the basis of these results, pending a more complete and significant study, it was considered that the highest of the following values could be proposed as the «optimum» duration of the surgical procedures analyzed:

- **Average minus 0.5x the standard deviation:** $T^* = T_m - \sigma/2$.
- **Average minus 0.5x the difference between the average and the lowest average of the six hospitals:** $T^* = T_m - t_{mm}/2$.

The resultant values (Tables 2 and 3) constitute a benchmark for average duration of the most frequent day surgery procedures. This may be considered a quality target for DSU, encouraging units recording higher average times to move towards these figures and those recording lower average times to maintain their averages.

Table A.16.2. Surgical duration by procedure

Procedure ⁽³⁷⁾	T_m	σ	T_{mm} ⁽³⁸⁾	T^*
04.43 CARPAL TUNNEL RELEASE	28.45	16.29	17.33	23
08.20 ELIMINATION OF LESION OF EYELID, NOT OTHERWISE SPECIFIED	34.10	24.08	20.00	27
09.42 CATHETERIZATION OF NASOLACRIMAL DUCT	25.38	15.09	20.88	23
11.39 OTHER EXCISION OF PTERYGIUM	40.80	14.60	37.17	39
12.64 TRABECULECTOMY AB EXTERNO	88.39	36.96	32.67	70

⁽³⁷⁾ The shadowed procedures are those that record no statistically significant difference in average duration in the hospitals included in the study.

⁽³⁸⁾ t_{mm} is the lowest of the averages; T^* is the optimum duration.

Table A.16.2. (cont.) Surgical duration by procedure

Procedure ⁽³⁷⁾	T_m	σ	T_{mm} ⁽³⁸⁾	T^*
13.41 PHACOEMULSIFICATION & CATARACT ASPIRATION	43.61	17.96	32.66	38
20.01 MYRINGOTOMY WITH TUBE INSERTION	32.10	15.36	17.46	25
28.2 TONSILLECTOMY WITHOUT ADENOIDECTOMY	43.09	19.95	31.40	37
28.3 TONSILLECTOMY WITH ADENOIDECTOMY	26.58	20.39	15.18	21
28.6 ADENOIDECTOMY WITHOUT TONSILLECTOMY	37.16	21.35	14.91	26
38.59 LIGATION & STRIPPING OF VARICOSE VEINS IN LOWER LIMBS	65.42	22.56	41.79	54
38.89 OTHER SURGICAL OCCLUSION OF VEINS IN LOWER LIMBS	55.89	20.33	55.89	56
53.00 UNILATERAL REPAIR OF INGUINAL HERNIA, NOT OTHERWISE SPECIFIED	48.35	19.71	41.81	45
53.05 REPAIR OF INGUINAL HERNIA WITH GRAFT OR PROSTHESIS, NOT OTHERWISE SPECIFIED	45.99	21.01	36.35	41
53.49 OTHER UMBILICAL HERNIORRHAPHY	43.66	19.74	20.00	34
54.21 LAPAROSCOPY	78.59	30.52	70.83	75
62.5 ORCHIDOPEXY	66.41	24.28	59.39	63
64.0 CIRCUMCISION	40.66	16.76	28.89	35
66.29 OTHER BILATERAL ENDOSCOPIC DESTRUCTION OR OCCLUSION OF FALLOPIAN TUBES	58.23	21.30	36.54	48
68.12 HYSTEROSCOPY	27.27	19.19	17.50	22
68.16 CLOSED BIOPSY OF UTERUS	22.32	9.09	21.46	22
77.54 EXCISION OF BUNIONETTE	48.63	18.54	29.29	39
77.56 REPAIR OF HAMMER TOE	41.35	15.86	31.85	37
77.57 REPAIR OF CLAW TOE	47.00	23.18	33.57	40
77.59 OTHER BUNIONECTOMY	61.61	31.90	35.29	48
78.63 REMOVAL OF IMPLANTED DEVICES FROM BONE - RADIUS & ULNA	37.05	24.48	25.53	31
78.67 REMOVAL OF IMPLANTED DEVICES FROM BONE - TIBIA & FIBULA	38.96	19.92	25.45	32
80.26 ARTHROSCOPY OF KNEE	53.01	22.97	37.11	45
82.01 EXPLORATION OF TENDON SHEATH OF HAND	33.55	17.61	13.32	25

Table A.16.2. (cont.) Surgical duration by procedure

Procedure ⁽³⁷⁾	T_m	σ	T_{mm} ⁽³⁸⁾	T^*
82.21 EXCISION OF LESION OF TENDON SHEATH OF HAND	35.11	16.10	18.47	27
82.35 OTHER FASCIECTOMY OF HAND	49.79	24.59	34.28	42
83.39 EXCISION OF LESION OF OTHER SOFT TISSUE	44.96	30.64	4.00	30
85.21 LOCAL EXCISION OF LESION OF BREAST	45.93	23.59	9.75	34
86.21 EXCISION OF PILONIDAL CYST OR SINUS	34.00	15.71	21.41	28

Table A.16.3. Surgical duration by DRG

DRG AP	Procedure ⁽³⁹⁾	T_m	σ	T_{mm}	T^*
342	CIRCUMCISION AGE>17	41.52	17.03	28.00	35
39	LENS PROCEDURES WITH OR WITHOUT VITRECTOMY	50.46	18.66	44.77	48
40	EXTRAOCULAR PROCEDURES EXCEPT ORBIT AGE>17	35.78	21.37	34.21	35
6	CARPAL TUNNEL RELEASE	31.10	17.59	21.64	26
343	CIRCUMCISION AGE<18	40.35	16.93	29.54	35
61	MYRINGOTOMY WITH TUBE INSERTION AGE>17	39.12	13.61	20.00	32
362	ENDOSCOPIC TUBAL INTERRUPTION	63.99	25.90	48.69	56
38	PRIMARY IRIS PROCEDURES	39.00	26.54	25.00	32
364	DILATION & CURETTAGE, CONIZATION EXCEPT FOR MALIGNANCY	24.49	11.41	21.45	23
41	EXTRAOCULAR PROCEDURES EXCEPT ORBIT AGE<18	21.29	8.90	19.50	20
267	PERIANAL & PILONIDAL PROCEDURES	32.69	15.31	25.98	29
232	ARTHROSCOPY	66.73	19.70	61.41	64
262	BREAST BIOPSY & LOCAL EXCISION FOR NON-MALIGNANCY	49.26	18.85	9.75	40

⁽³⁹⁾ The shadowed DRGs are those in which no statistically significant difference has been identified in average duration in the surgical procedures included in the group.

Table A.16.3. (cont.) Surgical duration by DRG

DRG AP	Procedure ⁽³⁹⁾	T_m	σ	T_{mm}	T^*
163	HERNIA PROCEDURES AGE<18	45.49	17.55	38.54	42
229	HAND OR WRIST PROCEDURE, EXCEPT MAJOR JOINT PROCEDURES, W/O CC	44.17	20.61	33.15	39
42	INTRAOCULAR PROCEDURES EXCEPT RETINA, IRIS & LENS	89.92	33.95	26.00	73
119	VEIN LIGATION & STRIPPING	65.92	24.74	52.50	59
60	TONSILLECTOMY &/OR ADENOIDECTOMY ONLY, AGE<18	29.00	20.19	15.80	22
225	FOOT PROCEDURES	52.49	25.20	45.47	49
361	LAPAROSCOPY & INCISIONAL TUBAL INTERRUPTION	57.92	27.85	34.33	46
227	SOFT TISSUE PROCEDURES W/O CC	49.45	22.78	38.34	44
162	INGUINAL & FEMORAL HERNIA PROCEDURES AGE>17 W/O CC	49.47	21.51	40.98	45
340	TESTES PROCEDURES, NON-MALIGNANCY, AGE<18	63.84	24.42	56.74	60
228	MAJOR THUMB OR JOINT PROCEDURE, OR OTHER HAND OR WRIST PROCEDURES WITH CC	53.28	15.56	53.28	53
59	TONSILLECTOMY &/OR ADENOIDECTOMY ONLY, AGE>17	51.73	22.38	46.43	49

Annex 17. Definitions

Accreditation: *«Authorization to allow a data system or network to process sensitive information, and determination of the degree to which the design and characteristics of the system meet the pre-established technical safety requirements».*

A voluntary procedure in which an independent body certifies that an organization meets the requirements set.

Authorization (Healthcare authorization): an administrative resolution authorizing installation or operation of a healthcare centre, service or institution, modification of their activities or, where appropriate, their closure, all in accordance with the corresponding regulations.

Autonomous day surgery unit: A unit that is physically and organizationally separate from the rest of the hospital.

Clinical documentation: All data, of whatever form, class or type, that provide or amplify knowledge on a person's physical state and health or on the form of maintaining, caring for, improving or recovering such physical state and health (Art. 3 of Act 41/2002 on Patient Autonomy and Rights and Obligations regarding Clinical Documentation and Information).

Clinical record: Set of documents containing data, assessments and information of all kinds on a patient's situation and clinical evolution throughout the care process, including identification of the medical and other personnel involved in the care process (Arts. 3 and 14 of Act 41/2002 on Patient Autonomy and Rights and Obligations regarding Clinical Documentation and Information).

Code of ethics: Code of moral rules governing professional conduct with regard to the care provided in the healthcare centre.

Day procedure: An operation or procedure performed in a clinic or treatment/diagnosis room of a public or private hospital, with no overnight stay.

Day surgery (DS) patient: A patient having an operation/procedure, excluding a consulting room procedure, who is admitted and discharged on the same working day.

Day surgery (DS): Therapeutic or diagnostic surgical procedures, performed with general, loco-regional or local anaesthetic, with or without sedation, that require short post-operative care and that do not therefore require hospitalization. In terms of surgical procedures, in accordance with the Davis classification, all Type II procedures and some Type III procedures are considered to be suitable for day surgery, based on the type of care or post-operative monitoring required (see section 5.1).

IAAS definition: An operation/procedure, excluding an office/surgery or outpatient operation/procedure, where the patient is admitted and discharged on the same working day.

Day surgery centres (DSC): Healthcare centres dedicated **exclusively**⁽⁴⁰⁾ to surgical procedures that may be performed under general, local or regional anaesthetic or sedation that require short post-operative care and that do not therefore require hospitalization.

Day Surgery Index: $(\sum \text{surgical DRGs performed via day surgery} / \sum \text{all surgical DRGs}) \%$. This is a crude efficiency index, as it depends on the type of procedures considered.

Day surgery unit (DSU) or ambulatory surgery unit: Group of healthcare professionals offering multidisciplinary health care via ambulatory surgery procedures, in accordance with a series of functional, structural and organizational requirements that ensure appropriate conditions of quality and efficiency.

IAAS definition: A centre (facility) designed for the optimum management of a day surgery/procedure patient.

Synonyms: Day surgery; Ambulatory surgery; Day-day surgery⁽⁴¹⁾.

Time frame: no overnight stay in hospital.

Day surgery unit with extended recovery facilities: A specific recovery area (new-build or reconverted) created for patients requiring extended pre-discharge recovery after a day surgery procedure.

Discharge report: Document issued by the doctor responsible in a healthcare centre upon completion of each patient's care process or transfer to a different healthcare centre, specifying all the patient's details, a summary of his/her clinical record, a description of the healthcare provided, the diagnosis and the therapeutic recommendations. Other similar terms used: clinical discharge report; medical discharge report (Art. 3 of Act 41/2002 on Patient Autonomy and Rights and Obligations regarding Clinical Documentation and Information; Ministerial Order of the Ministry of Health dated 6 September 1984).

Extended recovery: Surgery with a stay of < 23 h. Time frame: single night, < 24 hours.

Free-standing day surgery unit: A unit that is totally independent, physically and organizationally, of a general hospital. May correspond to a

⁽⁴⁰⁾ Bold added to the definition contained in Royal Decree 1277/2003.

⁽⁴¹⁾ Synonyms proposed by the IAAS (Suggested international terminology and definitions. Approved by the Executive Committee - Paris 9/27/2003).

Day Surgery Centre (DSC) (as regulated in Spain in section C.2.5.4. of Royal Decree 1277/2003).

Healthcare centre: Set of technical resources and premises in which qualified staff provide healthcare services designed to improve patient health.

Hotel: Hotel accommodation, with no healthcare provision, provided for ambulatory patients for socio-cultural, personal or geographical reasons.

Informed consent: A voluntary and conscious statement by patients, made freely and in full possession of their faculties, after receiving all the appropriate information, agreeing to an operation or procedure.

Inpatient: A patient requiring an overnight stay in a hospital bed.

Integrated day surgery unit: A unit included, physically and organizationally, in a hospital. May be divided into two types:

- Type I: A unit that shares all resources with the rest of the hospital.
- Type II: A unit that is organized separately but that shares some elements – operating theatres – with the rest of the hospital.

Outpatient clinic: An area of a hospital or DSU, whether public or private, providing outpatient care.

Outpatient operation or procedure: Operation or procedure performed in a consulting room, meeting the appropriate conditions in terms of design, equipment and safety.

Outpatient: A patient treated exclusively in an outpatient clinic, including ambulatory procedures, interventional radiology, radiotherapy, oncology, renal dialysis, etc.

Patient hotel: Hotel accommodation provided for day surgery patients where professional health care is available on an on-call basis (limited care accommodation).

Patient records: Set of selected data on patients and their relation with the healthcare centre resulting from a healthcare process.

Quality audit (Audit): *«Process in which an organization's books, accounts and records are examined to verify its financial statements».* A methodical and independent examination conducted to determine whether or not the quality-related results and activities meet the pre-established conditions and to verify that these conditions are fulfilled efficiently and are appropriate to meet the objectives set.

Register of healthcare centres, services and institutions: Record of all authorizations for operation, modification and, where appropriate, installation and closure of healthcare centres, services and institutions granted by the corresponding health authorities.

Satellite day surgery unit: A unit located at some distance from the general hospital, but dependent on the hospital in administrative terms.

Synonyms: Day surgery unit (DSU); Day-care hospital.

Service portfolio: Set of techniques, technologies or procedures, based on knowledge and scientific experience by which a healthcare centre, service or institution effectively provides the corresponding healthcare services.

Short-stay: Time frame: 24 to 72 hours in a conventional hospital.

Substitution Index: $(\sum \text{surgical DRGs suitable for day surgery performed via day surgery} / \sum \text{DRGs suitable for day surgery performed via conventional and day surgery}) \%$. This is an efficiency and quality indicator that requires prior definition of a «basket» of procedures suitable for day surgery (Annex 4. Procedures suitable for day surgery: List A).

Terms of authorization: Conditions, expressed in qualitative or quantitative terms, that healthcare centres, services and institutions must meet in order to receive authorization from the health authorities, designed to ensure that they have the technical resources and facilities and the human resources necessary to provide the corresponding health services.

Annex 18. Abbreviations

AS	Ambulatory Surgery.
CMBD	Spanish minimum basic dataset.
DRGs	Diagnostic-Related Groups.
DS	Day Surgery (Ambulatory surgery performed in dedicated units, within the day).
DSC	Day Surgery Centre.
DSU	Day Surgery Unit.
IAAS	International Association of Ambulatory Surgery.
JCHA	Joint Commission of Hospital Accreditation.
MSC	Spanish Ministry of Health & Consumer Affairs.
NHS	UK National Health Service.
SNS	Spanish National Health System.
H.C.	Hospital Complex.
ASA	American Society of Anaesthesiologists.



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