Manual of Practice Management for Ambulatory Surgery Centers

An Evidence-Based Guide

Niraja Rajan
Editor

SOCIETY FOR AMBULATORY ANESTHESIA
Outpatient • Office Based • Non-Operating Room

Springer

Manual of Practice Management for Ambulatory Surgery Centers

Niraja Rajan
Editor

Manual of Practice Management for Ambulatory Surgery Centers

An Evidence-Based Guide

SOCIETY FOR AMBULATORY ANESTHESIA
Outpatient • Office Based • Non-Operating Room

Springer

Editor
Niraja Rajan
Department of Anesthesiology and Perioperative Medicine
Penn State Health
Hershey, PA
USA

ISBN 978-3-030-19170-2 ISBN 978-3-030-19171-9 (eBook)
https://doi.org/10.1007/978-3-030-19171-9

This Springer imprint is published by the registered company Springer Nature Switzerland AG
The registered company address is: Gewerbestrasse 11, 6330 Cham, Switzerland

Contents

Contributors

Claude Abdallah, MD, MSc The George Washington University Medical Center, Division of Anesthesiology, Children's National Health System, Washington, DC, USA

Fatima Ahmad, MD Department of Anesthesiology, Loyola University Medical Center, Maywood, IL, USA

Neil S. Bailard, MD Department of Anesthesiology and Perioperative Medicine, The University of Texas MD Anderson Cancer Center, Houston, TX, USA

David S. Beebe, MD Department of Anesthesiology, University of Minnesota Medical Center, Minneapolis, MN, USA

Kumar G. Belani, MBBS, MS, FAAP Department of Anesthesiology, University of Minnesota Masonic Children's Hospital, Minneapolis, MN, USA

Department of Anesthesiology, University of Minnesota Medical Center, Minneapolis, MN, USA

Steven D. Boggs, MD, MBA Department of Anesthesiology, University of Tennessee, Memphis, TN, USA

Marjorie P. Brennan, MD, MPH Ambulatory Surgery Center and Children's National Imaging, Children's National Health System, Department of Anesthesiology, Washington, DC, USA

The George Washington University Medical Center, Washington, DC, USA

Steven F. Butz, MD Medical College of Wisconsin, Milwaukee, WI, USA

Children's Hospital of Wisconsin Surgicenter, Milwaukee, WI, USA

Catherine Chiu, MD Department of Anesthesia and Perioperative Care, University of California, San Francisco, San Francisco, CA, USA

Timothy J. Del Rosario, MD Department of Anesthesiology, The Ohio State University Wexner Medical Center, Columbus, OH, USA

Shaina Drummond, MD Department of Anesthesiology and Pain Management, UT Southwestern Medical Center, Dallas, TX, USA

Parkland Ambulatory Surgery Center, Dallas, TX, USA

Ahmad Elsharydah, MD, MBA University of Texas Southwestern Medical Center at Dallas, Department of Anesthesiology and Pain Management, Dallas, TX, USA

Michael Guertin, MD, MBA The Ohio State University Wexner Medical Center, Eye and Ear Institute Outpatient Surgery Center, Jameson Crane Sports Medicine Institute, Department of Anesthesiology, Columbus, OH, USA

Jason Habeck, MD Department of Anesthesiology, University of Minnesota Medical Center, Minneapolis, MN, USA

Jarrett Heard, MD, MBA Department of Anesthesiology, The Ohio State University Wexner Medical Center, Columbus, OH, USA

Irving A. Hirsch, MD Case Western Reserve University School of Medicine, Cleveland, OH, USA

University Hospitals Suburban Ambulatory Center, University Hospitals Cleveland Medical Center, Department of Anesthesiology, Cleveland, OH, USA

Girish P. Joshi, MBBS, MD, FFARCSI University of Texas Southwestern Medical Center, Department of Anesthesiology and Pain Management, Dallas, TX, USA

Sakura Kinjo, MD Department of Anesthesia and Perioperative Care, University of California, San Francisco, San Francisco, CA, USA

Jeffrey W. Lee, MD University of Wisconsin Hospital and Clinics, Department of Anesthesiology, Madison, WI, USA

Rita Mack, RN, BSN, MHA Hershey Outpatient Surgery Center, United Surgical Partners International, Hershey, PA, USA

Maria A. Michaelis, MD, FASA University of Nebraska Medical Center/Nebraska Medicine, Department of Anesthesiology, Omaha, NE, USA

Michael O'Rourke, MD Department of Anesthesiology and Perioperative Care, Loyola University Medical Center, Maywood, IL, USA

Pascal Owusu-Agyemang, MD The University of Texas MD Anderson Cancer Center, Department of Anesthesiology, Critical Care and Pain Medicine, Houston, TX, USA

Uma R. Parekh, MBBS, FRCA, FFARCSI Penn State Hershey Medical Center, Hershey, PA, USA

Chhaya Patel, MD Emory University School of Medicine, Satellite Blvd. Ambulatory Surgery Center, Division of Pediatric and Ambulatory Anesthesiology, Children's Healthcare of Atlanta, Atlanta, GA, USA

Tjorvi E. Perry, MD, MMSc Department of Anesthesiology, University of Minnesota Medical Center, Minneapolis, MN, USA

William R. Phillips, PhD RITEway Building Services, Inc., Health Facilities Department, Winter Park, FL, USA

Stanford R. Plavin, MD Department of Anesthesiology, Technical Anesthesia Strategies and Solutions LLC, Atlanta, GA, USA

Niraja Rajan, MD Department of Anesthesiology and Perioperative Medicine, Penn State Health, Hershey, PA, USA

Medical Director, Hershey Outpatient Surgery Center, Hershey, PA, USA

Rosalind Ritchie-Dabney, MD Department of Anesthesiology, University of Kentucky College of Medicine, Lexington, KY, USA

Judith Jurin Semo, JD, PLLC PLLC, Washington, D.C, USA

David W. Sobel, MD Department of Surgery, University of Vermont Larner College of Medicine, Burlington, VT, USA

Jaspinder Sra, MD Department of Anesthesiology, University of Vermont Larner College of Medicine, Burlington, VT, USA

Mitchell H. Tsai, MD, MMM Department of Anesthesiology, University of Vermont Larner College of Medicine, Burlington, VT, USA

Department of Surgery, University of Vermont Larner College of Medicine, Burlington, VT, USA

Department of Orthopaedics and Rehabilitation, University of Vermont Larner College of Medicine, Burlington, VT, USA

Antoinette Van Meter, MD The University of Texas MD Anderson Cancer Center, Department of Anesthesiology, Critical Care and Pain Medicine, Houston, TX, USA

Uduak Ursula Williams, MD The University of Texas MD Anderson Cancer Center, Department of Anesthesiology, Critical Care and Pain Medicine, Houston, TX, USA

ASC Design and Construction

1

William R. Phillips

Introduction

Building and operating an ambulatory surgery center (ASC) is a great undertaking of substantial financial and personal commitment from beginning to end. For all practical purposes this presentation is a simplistic overview to set up reference guidelines for the overall ASC development process to ensure a successful outcome.

This chapter begins with the assumption that the property location or site has been selected, the property is an "improved" property and all of the site preparation related due diligence and impact fees have already been dealt with and therefore all of those processes are not part of this discussion. Whether or not the facility is a renovation project or a new clean build-out project will also not be discussed. We are going to discuss some of the processes that need to occur in order to make this endeavor a successful undertaking for the staff, physicians and owners.

The complexity of a project of the scope and size of a surgery center rivals that of a hospital project in many ways. One of the most important things to remember is that when constructing an ambulatory surgery center, we are in fact building out the most complicated section of a hospital– the operating room complex, into a standalone facility – the outpatient surgery center.

Although from many vantage points there are considerable similarities between a hospital operating room complex and an ambulatory surgery center, on closer inspection, there are many more differences. In the early days of the business the physical appearance of the surgery center was similar to an OR complex from any hospital. Today, the ambulatory surgery center has taken on a look and direction of its own. In terms of design, function and performance, an ASC is a completely different operation than a hospital OR complex. Recently, the design standards have

W. R. Phillips (✉)
RITEway Building Services, Inc., Health Facilities Department, Winter Park, FL, USA
e-mail: wphillips@ritewayservices.net

N. Rajan (ed.), *Manual of Practice Management for Ambulatory Surgery Centers*, https://doi.org/10.1007/978-3-030-19171-9_1

been segregated to create standalone standards and guidelines for ambulatory surgery centers completely separate from other ambulatory patient care guidelines and hospital standards. In the early years of the development of surgery centers, primarily all cases were elective cases of short duration such as ophthalmology and endoscopy. Cases performed in the surgery centers presently are still primarily elective cases, but case types and patients are becoming more complex, integrating higher levels of technology and covering just about every surgical specialty including the integration of robotics. Consequently, the construction, design and expectations for the surgery center project have also become more complex. Another factor to be considered when building the ambulatory surgery center is that the throughput and efficiency of ambulatory surgery centers rivals and often exceeds that of their hospital cousins.

Throughout this presentation we would like to explore an outline of the means, methods and sequences to be considered for the development of a surgical center designed from the ground up. These types of projects are extremely complex with several predictable and conditional problems that are encountered. In this discussion we plan to present some of these problems and discuss potential ways to include proactive ideas to work through these challenges and avoid pitfalls.

The Project Team

Our discussion of the project team will be confined to the design and construction of the surgery center leaving out the financial considerations and elements of the project. These are subjects of separate discussions and continuous arguments over best processes and out of the scope of this chapter.

There are primarily two methods by which the design team and the contractor work in conjunction with one another on projects of this type.

- ***The traditional method.*** This method considers the architect as the project leader of the design team and includes the engineer services required to complete the design of the project. This team is retained directly by the project developers whom from now on we will refer to as the *owner*. When the design is complete or nearly complete, a contractor is selected sometimes with the aid of the design team of architects and engineers and sometimes by the owner, independent of any input from the design team.
- ***The design build method.*** Under the design build concept, the contractor is selected as a primary lead in the project and the contractor retains design services of the architect and design engineers and coordinates the entire work project with the owner directly. The architects and engineers work for the contractor in this arrangement.

Retention of services There are many ways to craft a contractual arrangement between the design team and the contractor. Some parties retain legal services and produce unique documents specific to their project. The most economical method is

to use template documents offered by professional architectural and engineering associations with some minimal legal assistance to meet the requirements for their projects. The templates have been rigorously tested within the professional and legal systems as valid proven contract instruments; why reinvent the wheel!

It is important to have a well-crafted document that discusses the mechanics of the design and construction process and lays out the details for procedures that are to be followed and utilized by the project team to manage the project effectively. Without a predetermined process considerable discussion can be wasted to debate the methods to resolve disputes [1]. The American Institute of architects (AIA) and other national construction and engineering organizations offer templates for use as a foundation for solid contracts between design professionals, contractors and owners (See Resources). These documents provide a template for sound management practices for an effective functional project, minimizing disputes over contract semantics. It is recommended that the legal team utilize one of these contract templates as the basis for their agreements. It is very important to emphasize the change order process as part of the contract so this will work effectively to make for a well-managed and organized project.

Who Else Works on the Project Team?

Other team members may be selected to assist in the development of the project. Some common selections include *interior designers*, *equipment planners*, *project estimators* and *project schedulers*. The need for interior designers and equipment planners is pretty much left to the discretion of the owners on the project, relative to their experience and needs. Sometimes the architect will offer interior design services. Many of the comments that will follow, relative to directing services of the design professionals, are also applicable to all of these other design or consultant professionals that may be selected for the work project.

The one team member that is very important and normally gets left off the project team is a ***project scheduler***. This individual or profession is left out sometimes as a cost-saving measure up front because the architect and the contractor insist that they can manage the schedule effectively and can assure a certain outcome. More often than not, healthcare projects run into delays that result in extended timelines which adversely impact opening dates and budgets. The delays occur because of conflicts on the job, changes in plans, material deliveries issues, and work inefficiencies all which have the effect of slowing down the project. The project scheduler lays out the project timeline in detail, and reviews progress through regular meetings keeping the project on track in spite of these other conditions that affect the project order of events. Some delays occur because of changes that arise or are required to be made in order to deliver the design intended or to meet regulatory requirements that surface during plan reviews or project site walk-throughs. The project scheduler reviews the project schedule and considers the impact of every issue, always addressing concerns to pick up time for necessary changes and keep

the project on track after every consideration is given to reasons why the project time should be extended or changed. Delays in the project will cause project cost overruns very quickly. The project scheduler evaluates the critical path keeping all processes on track even when taking into consideration design changes and/or proposed construction delays due to conflicts that may occur with the design, delays with construction materials or construction processes or delays for any other reason. The project scheduler keeps the project moving forward and is not a party to the cause of delays so is not sympathetic to inefficiencies brought on by these issues that affect project progress. Often the project scheduler, when utilized is solely responsible for the project finishing on time. So, if the project timeline is important, hiring an independent project scheduler to manage the scheduling of the project is highly recommended.

The owners need to consider the experience level and the expertise each professional brings to the project and pick a design team and contractor that they feel they will be the most successful in working with. Once the best possible team has been assembled for the project, the owner and operator of the ASC make the effort to drive and control the direction, design and construction of the surgery center and ensure that the project stays on track.

Architects are well versed in implementing the requirements of the codes and standards into their final design. Contractors know how to take the design and efficiently build it to create a usable finished product. But, what are they building? Answer: an ambulatory surgery center.

The Importance of a Functional Program

The functional program provides a lot of information to the design team. Some of the basic information would be the preferred number of operating rooms, procedure rooms, recovery spaces and types of cases being performed in the surgery center. The design team uses this information to create a coordinating functional design incorporating all the requirements of the codes and standards and fitting it into the footprint or shape of the shell into which they are putting the surgery center (Figure 1.1). It is almost as though they are master puzzle makers shifting the pieces of design requirements around to fit in the defined project space. If building and design for the surgery center is constricted by a fixed square footage this restriction will no doubt affect the final design. Sometimes the shape of the shell space in which the surgery center is to be built will have a confining effect on the design or at a very minimum how departments interface internally. If the surgery center is to be a standalone center, site conditions may determine how spatial relationships may align. Meeting the codes and standards and putting this puzzle together is the primary responsibility of the design team.

The owner's responsibility is to put as much information into the functional program as possible. It is important to describe in detail, how patients will receive care and what services are going to be delivered in the patient care areas. In previous eras relative to design and space utilization, we referred to *pre-op services* and *post*

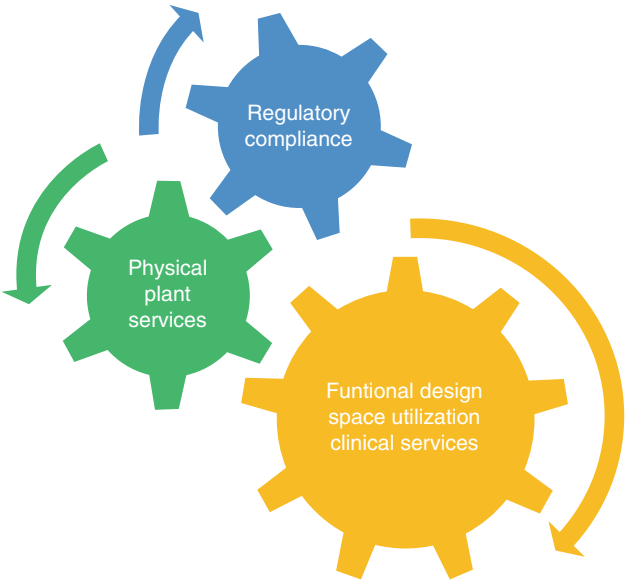

Figure 1.1 Integration of design, space utilization, patient care and compliance

anesthesia care unit services (recovery). Today all of these areas are considered *patient care areas* and the owners can designate what these areas are going to be used for and communicate with the designers, what services are going to be delivered in each area and how they are to be delivered. Additionally, designers need to be provided with information on supplies, patient and equipment flow through the surgery center, staffing, and what is required from the physical plant to support these services. Detailed descriptions regarding the patient flow pathway from the point the patient enters the building, as the patient passes through the building while various services are performed to receive care and treatment, what criteria need to be met to discharge the patient, and the ideal environment in which services would be delivered should be provided. Descriptions should include specific parameters necessary including temperatures, humidity, special use for spaces, special access, what types of equipment might be used at various points within the facility inclusive of imaging equipment and sterilization equipment. All of these factors help the design team to work more efficiently to develop the project. We will cover some of these aspects only in outline format but we cannot overemphasize the importance of the functional program. This is perhaps the single most important element left out of any project (Figure 1.2).

SERVICEABILITY and MAINTAINABILITY Part of the functional program that is commonly "assumed" by designers is the after project service requirements and support capability of the surgery center staff. To communicate these requirements the functional program should include a section devoted to this aspect of the design elements of the project. Considerations to include are listed as follows:

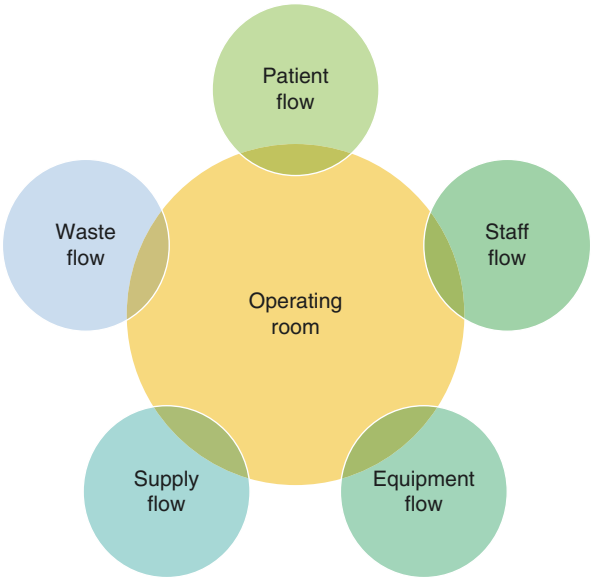

Figure 1.2 Flow of elements needed for an effective operating room

- Simplicity of systems.
- Automatic reset for alarms and monitoring limits.
- Accessibility and labeling of serviceable items.
- Service life expectancy and service life costs.
- After reviewing the functional program the design team will produce a design for review. This design process goes through several stages or steps.

Schematic diagrams The first product of the design team after reviewing the functional program will be a schematic diagram. The schematic diagram illustrates the layout and relationship of spaces to each other and shows staff and owners the functional direction and patient flows and equipment flows throughout the facility. Staff and owners should review the schematic layout with the design team and discuss the pros and cons of things that work and do not work as related to elements of the functional program. An important aspect of this segment of the design process is to assess the flows of staff, patients, materials, equipment and supplies through the facility, ensuring that the design enables staff to be compliant with the regulatory requirements and also enhances the patient experience all the while optimizing staff efficiency. Making changes to review options in this phase is relatively simple and inexpensive. (See Table 1.1)

Design development The engineers are introduced to the design as part of the design development phase. This is where systems that support the surgery center become integrated into the design and the placement and structure of these systems are important to the overall design. Support spaces for systems often have to be included in the design and may change the schematic diagram of the facility that