Endoscopic Ambulatory Surgery Centers

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ABSTRACT

Endoscopic ambulatory surgery centers are more efficient than hospital-based procedures, they are less costly to payers than hospital-based procedures, and they provide an additional source of revenue to healthcare providers. Physicians interested in establishing endoscopic ambulatory surgery centers must be aware of advantages and disadvantages of such units as well as optimal financing and equipment and personnel utilization.

KEYWORDS: Endoscopy, ambulatory surgery center, endo-center, management, office

Objectives: On completion of this article, the reader should be familiar with the advantages, disadvantages, and development of ambulatory surgery centers.

There are many reasons why endoscopic ambulatory surgery centers (EASCs) are thriving in the United States. We have an aging population and a shortage of physicians and healthcare costs are rising. As our population grows and grows older, there are increasing demands on physicians to become more efficient to keep up with the numbers. This is happening in a time when reimbursements are decreasing. Physicians are now at the point of having realized that they can increase efficiency only so far before they end up sacrificing good patient care and their own sense of well-being. EASCs fit well for everyone in this healthcare scenario. They are more efficient than hospital-based procedures, they are less costly to payers than hospital-based procedures, and they provide an additional source of revenue to healthcare providers.¹

In comparison with hospital-based procedures, EASCs are advantageous to all parties involved. A low-risk patient is provided with a pleasant, convenient, and less intimidating atmosphere. The EASC is also more economical for the patient, which adds to his or her positive view of the experience. The insurance provider/payer is assured that the patient is receiving quality care

in an accessible environment. In addition, the payer pays less for the EASC procedure than he or she would with a hospital-based procedure.

The physician also benefits from the EASC environment. When a group of physicians establishes an EASC, they are given control that they do not have in the hospital environment. This management aspect of the business allows the doctors to ensure that quality personnel are hired and trained to give both the patient and the physician the necessary services in a timely fashion. The physician is better able to control turnaround time and scheduling of procedures. Doctors are also able to incorporate their daily tasks, such as clinics and hospital rounds, with their time at the EASC because of their control over scheduling and the efficiency of the operation.

One major disadvantage of the EASC is the strain it often puts on the relationship between the physician and his/her affiliated hospital. A physician affiliated with an EASC who previously did all procedures in the hospital may now find it more difficult to schedule hospital-based procedures. This is probably due to a combination of factors: lack of resources, other

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physicians now using the hospital's allotted procedure times, and the hospital staff feeling lack of loyalty from the EASC-affiliated physician. Another issue that affects the hospital-physician relationship is the loss of revenue the hospital experiences when lucrative services such as endoscopy are moved from the hospital setting to an EASC.

Establishing an EASC means physicians must delve into the business aspect of medicine. The process means getting state licensure, becoming certified by payer groups, and accreditation by JACHO. Once these are approved, the decision-making process begins.

Many factors are involved in deciding how to run an EASC:

1. What services will be provided? The physicians have to decide which patients will be eligible to have a colonoscopy or endoscopy in this setting according to their risk factors.
2. Which physicians will be allowed to work in the EASC? Are only partners of a group or physicians who have a financial stake in the EASC be offered use of the facility, or will there be open access? The number of physicians and the size of the unit will affect these decisions. Gastroenterologists usually attend clinic or perform endoscopy while colorectal surgeons divide their time between the operating room, clinic, and the endoscopy unit. A facility that is not maximally utilized will be less efficient.
3. Which equipment will be used? There are many options to choose from when deciding on the type of equipment that will make the most physicians comfortable with their procedures. Of course, cost and which company is willing to provide the best deal to the EASC play a role as well. Will the equipment be leased or bought?
4. How will the facility be designed? The way in which an EASC is physically set up can be a great factor in how efficiently it is able to run and how the patient feels about the environment.
5. What criteria will be used to hire personnel? Hiring personnel means putting together an efficient and competent group of staff members. Issues to be considered include requirements for nursing degrees (what combination of RNs and LPNs one desires), medical assistants, front office/medical records staff, and billing staff. Along with hiring staff come decisions on appropriate salary compensation and benefits. Personnel will be the EASC's largest overhead expense.
6. How will quality of care be attained? All prior decisions impact the quality of care one will provide at the EASC. The services provided, the equipment used, the facility design will all factor into the quality of care provided. Personnel is the most costly aspect of the EASC, but it is also the

most important and the most influential on quality of care provided.²

EASC DEVELOPMENT

Is It Necessary?

"If you build it, they will come." Does this adage really apply to EASCs? Every year there is an 8% increase in the number of EASCs. In 2003 there were 432. However, every year a small number of EASCs close or are bought up by hospitals or corporations. Limitations to success include the location of an EASC. Will the patient come to an area where real estate is more competitive, but is "on the other side of the track"? Is there a closer facility, specifically the hospital or another ambulatory surgery center (multiple versus single specialty)? Is transportation a limiting factor? All these questions should be considered from the patient's perspective.

Another barrier to setting up a viable EASC may be exclusive contracts that managed care companies have with hospitals. Most insurance companies will not contract with a facility until it is JACHO accredited.

In terms of viability, the revenue potential must be calculated. The number of cases multiplied by the base rate equals the potential gross revenue. An average of 1000 cases per physician per year at \$450 base rate would generate a gross revenue of \$900,000 for two physicians. One can expect the number of procedures to increase 5 to 10% per year and the revenue to grow 3.5% per year for all payers except Medicare. Medicare has frozen rates until 2009.³

The risk involved in setting up an EASC can limit physicians from undertaking this step. There are alternate setups, specifically corporate partners and hospital ventures. Is it worth it? It depends. Half of something is better than all of nothing. A corporate partner (hospital or third party) can help with planning and development, financing, negotiating contracts, staffing, marketing, and policy and procedures. In the end, physician-owners will have to share that revenue. Ultimately, it depends on the specific relationship between the physician and third party and if that relationship is necessary to get the ambulatory surgery center developed.⁴

Room Utilization

Before a decision is made to set up an EASC, it is crucial to determine the number of procedure rooms. That decision is based on the number of physicians participating in the EASC. If one calculates a capacity of 1000 procedures per room per year, it is possible to determine the number of endoscopy rooms that are necessary. The average EASC in the United States has between two to three procedure rooms. By calculating the average time a patient spends in an EASC from admission to

Table 1 Room Utilization

Time	Preop	Room 1	Postop	Preop	Room 2	Postop	Preop Area	Postop Area
							# of Patients	
6:30–7:00	PT # 1			PT # A			2	
7:00–7:30	PT # 2	PT # 1		PT # B	PT # A		2	
7:30–8:00	PT # 3	PT # 2	PT # 1	PT # C	PT # B	PT # A	2	2
8:00–8:30	PT # 4	PT # 3	PT # 2	PT # D	PT # C	PT # B	2	2
8:30–9:00	PT # 5	PT # 4	PT # 3	PT # E	PT # D	PT # C	2	2
9:00–9:30	PT # 6	PT # 5	PT # 4	PT # F	PT # E	PT # D	2	2
9:30–10:00	PT # 7	PT # 6	PT # 5	PT # G	PT # F	PT # E	2	2
10:00–10:30	PT # 8	PT # 7	PT # 6	PT # H	PT # G	PT # F	2	2
10:30–11:00	PT # 9	PT # 8	PT # 7	PT # I	PT # H	PT # G	2	2
11:00–11:30	PT # 10	PT # 9	PT # 8	PT # J	PT # I	PT # H	2	2
11:30–12:00		PT # 10	PT # 9		PT # J	PT # I		2
			PT # 10			PT # J		2

PT, patient.

discharge, one can determine the efficiency of the setup and the number of preop and recovery beds that would be needed. In general, allocating 20 minutes for preop, 30 minutes per procedure (including turn-around time), and 40 minutes for recovery is adequate. With this allocation, one to two preop beds and two to three recovery beds per procedure room seem to be necessary for adequate flow of patients.⁵ A sample flow pattern is described in Table 1.

If the endoscopists' procedure time is equal to or less than the room turnover time (end of one procedure to start of next procedure), the best physician efficiency is obtained if each endoscopist has at least two procedure rooms assigned.⁶ This allows the endoscopist to continue scoping in one room while "turnover" is occurring in the second room.

Physical Plant

Once you have determined that developing an EASC is a worthwhile undertaking and you are willing to invest the time and energy to set one up, you must determine the amount of space that will be necessary. Should you rent or build a free-standing EASC? The advantages to renting or leasing a space are decreased financial risk and location closer to a hospital. You can also offset tension with the hospital by leasing a space in the hospital office building. The advantages to building a free-standing EASC are freedom of design and little need for space or expansion reconstruction.

Marasco and Associates, Inc, a healthcare consulting firm, has developed a formula to help determine the square footage necessary for an EASC (Table 2).

Equipment

Deciding on the type of equipment and the number of endoscopes can be the most difficult part of the planning

process. In general, five scopes (three lower and two upper) per room is a good rule. However, if you have an excess of scopes, you are wasting money on leasing or buying expensive equipment. On the other hand, if there are not enough scopes, you may be waiting around to do procedures, resulting in reduced physician efficiency.

One must also consider what type of equipment is necessary for keeping the EASC running efficiently: what type of software will you use? Do you want to use electronic medical records (EMR) to keep records? The different vendors (such as Olympus, Pentax, and Fuji) each have their unique advantages and disadvantages. One must consider scopes, software, long-term service, and cost before making a decision.

According to Gastrointestinal Associates, P.C., one can estimate equipment costs at \$500,000 for the first procedure room and \$150,000 for each additional procedure room.⁶ The types of equipment required for an EASC are listed in Table 3.

If capital is available and the equipment will be efficiently used, purchase of the equipment is the best financial option. If startup capital is limited, most of the major equipment companies have lease options available. With leasing, the unit is charged a fixed amount for each procedure performed. The amount of the charge is contractual, based on the cost of the equipment and its utilization (number of procedures performed per month or year). A typical lease agreement may charge \$35 to \$50 per colonoscopy.

Anesthesia and Sedation

Sedation for procedures can vary from moderate sedation (pain and sedative medication such as fentanyl, meperidine, and/or midazolam) administered by RNs to deep sedation (propofol) which is administered by certified RN anesthetists or anesthesiologists. Unless

Table 2 Endoscopic Ambulatory Surgery Center Space Requirements

A. ENTRY/WAITING MODULE				TOTAL SF
1	Vestibule/Wheelchair	80 SF		80
2	Waiting room	9 seats/procedure room @ 15 SF each	4 × 9 × 15	540
3	Nourishment/TV	35 SF		35
4	Toilet(s)	1/30 seats (round up) @ 50 SF each	2 × 50	100
5	Consultation room	80 SF (optional w/private prep/recovery room(s))		0
	Subtotal			755
B. RECEPTION/BUSINESS MODULE				TOTAL SF
1	Reception	0.5/procedure room (round up) @ 50 SF each	2 × 50	100
2	Private interviews	0.5/procedure room (round up) @ 50 SF each	2 × 50	100
3	Billing/Collections	0.5/procedure room (round up) @ 35 SF each	2 × 35	70
4	Medical Records room	35 SF/first procedure room (round up) + 15 SF every additional procedure room	35 + 45	80
5	Administrator's office	100 SF (optional—usually with 4 or more procedure rooms)		100
6	Nurse Director	100 SF		100
7	Work/Storage	50 SF		50
8	Computer/Telephone	35 SF		35
9	Break room	80 SF/first procedure room + 40 SF/every additional procedure room	80 + 120	200
10	Vestibule	50 SF		50
	Subtotal			885
C. PREP/RECOVERY MODULE				TOTAL SF
1	Control/Drug distribution station	100 SF/first procedure room + 50 SF every additional procedure room	100 + 150	250
2	Private prep/Recovery	3/procedure room @ 85 SF each	4 × 3 × 85	1020
3	Step-down recovery	1/procedure room @ 50 SF each	4 × 50	200
4	Patient toilet/dressing	1/procedure room @ 50 SF each	4 × 50	200
5	Soiled/Housekeeping workroom	35 SF		35
6	Exit vestibule	65 SF		65
	Subtotal			1770
D. PROCEDURE/PROCESSING MODULE				TOTAL SF
1	Procedure room(s)	1/2880 procedures @ 250 SF each	4 × 250	1000
2	Cleaning room(s)	0.5/procedure room (round up) @ 120 SF each	2 × 120	240
3	Disinfecting room	0.5/procedure room (round up) @ 120 SF each	2 × 120	240
4	Dictations/Medical Records	0.5/procedure room (round up) @ 50 SF each	2 × 50	100
5	Housekeeping workroom	35 SF		35
6	Anesthesia workroom	35 SF/first procedure room + 15 SF/any additional procedure room(s)	35 + 15	50
7	Waste disposal room	35 SF/first procedure room + 15 SF/any additional procedure room(s)	35 + 15	50
8	Equipment storage	50 SF (optional—usually only for fluoroscopy or multispecialty)		50
	Subtotal			1765
E. RECEIVING/STORAGE MODULE				TOTAL SF
1	Receiving	35 SF/first procedure room + 15 SF/any additional procedure room(s)	35 + 15	50
2	General storage	100 SF/first procedure room + 50 SF/any additional procedure room (s)	100 + 150	250
	Total			300
F. STAFF CHANGING MODULE				TOTAL SF
1	Female locker room	65 SF/first procedure room + 25 SF/every additional procedure room	65 + 75	140
2	Female toilet/shower	55 SF		55
3	Male locker room	50 SF/first procedure room + 25 SF/every additional procedure room	50 + 75	125

Table 2 (continued)

4 Male toilet/shower	55 SF		55
Subtotal			375
G. BUILDING SERVICES MODULE			TOTAL SF
1 Mechanical room	50 SF/first procedure room + 25 SF/every additional procedure room	50 + 75	125
2 Electrical room	50 SF/first procedure room + 25 SF/every additional procedure room	50 + 75	125
3 Medical gas room	35 SF/first procedure room + 15 SF/every additional procedure room	35 + 45	80
Subtotal			330
H. TOTAL BUILDING SIZE			TOTAL SF
1 Total net area	A + B + C + D + E + F + G		6180
2 Circulation	40% of the total net area	6,180 × 40%	2472
3 Total gross area	Total net area + circulation	6,180 + 2,472	8652

SF, square footage.

specific reimbursement is available to support the additional charge for anesthesia personnel, nurse-administered sedation is the most cost-effective and safe option. Physical control of the anesthesia medications must also be considered.

Staffing Cost

Once the physical plant and equipment are in place, the largest recurrent expense for the EASC will be staffing costs.⁶ Again, a good balance must be achieved in which staff members are utilized to their maximum efficiency without being over- or underworked. Too few staff members or staff that is improperly matched to a job (e.g., an RN assigned to a tech job) can result in higher turnover and ultimately higher staffing costs. It is essential to establish a hardworking and motivated staff that is determined to make the EASC a success. Profit-sharing plans and/or financial bonus structures can give staff a sense of ownership and spark efficiency and the necessary work drive. The quality of service depends critically on the staff and affects not only the participating doctor, but also the patient and referring physicians. This will also be reflected by customer loyalty.

There are certain fundamentals to consider before making staffing decisions. One must consider the number of procedures, the number of rooms, the number of staff members who will be part- or full-time, and the qualifications of the staff (i.e., nurse versus tech for a

particular position). Generally, one can use the formula below to decide on the appropriate number of staff members.

Time per procedure × number of procedures

$$\text{per day} = \frac{\text{hours required}}{8} = \text{FTE}$$

FTE = full-time employee(40 hours/week)

Gastrointestinal Associates, P.C., has provided estimates on numbers for staffing as well as salaries (Tables 4 and 5).

Maximizing efficiency without affecting the morale of staff members is one way to control staff cost. Efficiency is based on the time from admission to discharge. Patient flow management can help increase efficiency and decrease costs. Time studies can help identify where problems lie. Studies of issues listed in column A of Table 6 can help identify delay reasons listed in column B and can ultimately help increase efficiency.

CONCLUSION

EASCs are not only a profitable addition to a gastrointestinal or colorectal practice, but they are also a means of controlling efficiency and quality of the care provided. It is difficult to predict the future and how favorable or unfavorable the climate will be for EASCs. There are

Table 3 Equipment Necessary for an Endoscopic Ambulatory Surgery Center

1. Scope washer	6. Crash cart
2. Autoclave	7. Office equipment
3. Preparation and recovery beds	8. Office furnishings
4. Endoscopes	9. Telephones/Computers
5. Monitors	

Table 4 Staffing Needs for an Endoscopic Ambulatory Surgery Center

	1 Room	2 Rooms	3 Rooms	4 Rooms
Director	1	1	1	1
RN	2	3	4	5
LPN	2	3	4	5
Other	1	2	3	4
Total	6	9	12	15

Table 5 2003 Salary Levels

Position	Hourly Salary	# of Positions	Total
Director	\$31	1	\$31
RN	\$22	5	\$110
LPN	\$17	5	\$85
Other	\$13	4	\$52
		15	\$278
Average salary per hour			\$18.53

Table 6 Efficiency Issues

Column A	Column B
• Arrival to facility • Chart to ambulatory surgery center • Patient to ambulatory surgery center • Admission complete • Procedure begins • Procedure complete • Admit to recovery • Ready for discharge • Discharge	• Late arrival of patient • Late arrival of physician • No staff available • Difficult IV placement • No bed space • Previous procedure still going • Equipment not available • Physician delay • Medical reasons • Transportation not available

many factors that could hurt EASC development including lack of EASC set referral, expanded certificate of need review, and more rigorous licensure requirements.

If you can't have an EASC, office endoscopy is a good alternative. This type of service mainly exists in states with certificate of need requirements. The advantages are lower cost setup compared with an EASC, seemingly fewer hassles, and optional accreditation in many states. The disadvantage is lower profit margins. Medicare reimbursement does have a site of service differential (Table 7).⁷

EASCs provide control over the quality of care one provides, control over the efficiency with which one provides that care, and an alternate source of revenue.

Table 7 Medicare Reimbursement Model for Gastrointestinal Endoscopy

Procedure	Location	Professional Fee	Facility Fee	Total
EGD	Hospital	\$135–159		\$135–159
	Office	\$286–324	None	\$286–324
	EASC	\$135–159	\$340–455	\$475–614
Colonoscopy	Hospital	\$208–241		\$208–241
	Office	\$374–442	None	\$374–442
	EASC	\$208–241	\$455	\$663–696

EGD, esophagogastroduodenoscopy; EASC, endoscopic ambulatory surgery center.

The average EASC is small, independently owned, successful, and growing.

REFERENCES

1. Ganz RA. The Future of Gastroenterology: Gastroenterology Practice and Endoscopic ASCs—Creating Success. Knoxville, TN; 2004
2. Frakes JT. The Endoscopic Ambulatory Surgery Center: Its Importance to Your Practice: Gastroenterology Practice and Endoscopic ASCs—Creating Success. Knoxville, TN; 2004
3. Zamojski D, Marasco J, Mahan G. Developing an Endoscopic ASC: AMSURG America's Single Specialty Surgery Center Leader: Gastroenterology Practice and Endoscopic ASCs—Creating Success. Knoxville, TN; 2004
4. Deas TA. Corporate Partner: A Relationship That Works: Gastroenterology Practice and Endoscopic ASCs—Creating Success. Knoxville, TN; 2004
5. Zamojski D, Marasco J, Mahan G. Developing an Endoscopic ASC: Marasco & Associates, Inc. Healthcare Architects and Consultants: Gastroenterology Practice and Endoscopic ASCs—Creating Success. Knoxville, TN; 2004
6. Zamojski D, Marasco J, Mahan G. Developing an Endoscopic ASC: Gastrointestinal Associates, P.C.: Gastroenterology Practice and Endoscopic ASCs—Creating Success. Knoxville, TN; 2004
7. Romansky M. Washington/Legislative Update, Endoscopic ASCs: Creating Success: McDermott, Will & Emery: Gastroenterology Practice and Endoscopic ASCs—Creating Success. Knoxville, TN; 2004