



BEST PRACTICES IN AMBULATORY SURGERY

The value of Ambulatory Surgery Centers (ASC) has reached its **highest point** in decades.

Industry-wide ASCs have continued to evolve, with cases formally handled in hospital settings taking place there as equipment and procedural sophistication continue to advance. The opportunity to create a “win” for all parties involved, particularly patients, is where the demand has developed. The ability to perform higher level complex cases in orthopedics, cardiology and other specialties has proven that safely testing the boundaries of these centers will continue.

With many health systems and private practices focusing on these dynamic environments due to reimbursement, efficiency, and convenience, it’s important to understand both the drivers and best practices for operation and the facilities themselves

The Right Size

One of the primary goals of developing an ASC is driving efficiency through operational approaches and scale. Operational approaches are based on balancing the principles of economies of scale and diminishing returns; in short: right sizing. A basis for good operational and facility planning will likely consist of:

- 4,800 to 5,200 gross square feet per OR
- 4 to 6 surgery rooms, however smaller specialized centers and slightly larger multi-specialty centers can be effectively developed (no smaller than 2, no larger than 8)
- 4 to 6 OR cases per day depending on specialties
- 3.5 prep and recovery spaces to 1 OR

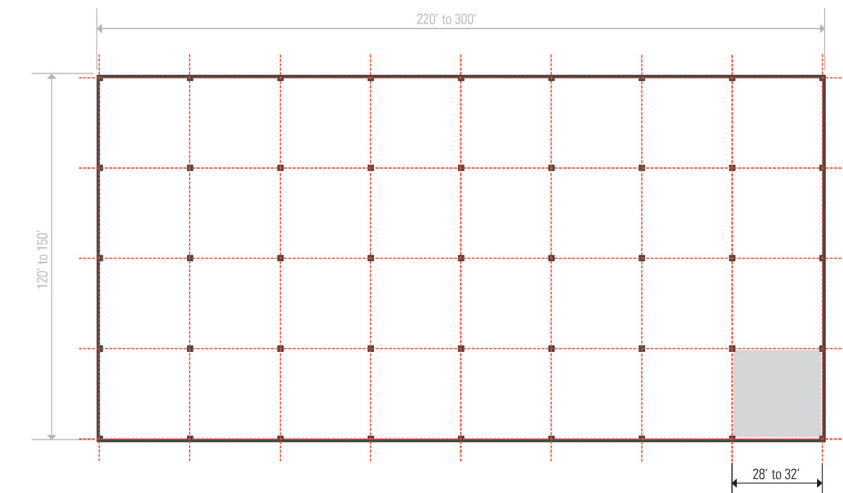
SHAPE AND SCALE

The shape of a floor plan for surgery settings varies from squares to rectangles. Rectangles with width to length ratios of 1:2 are highly favored for their flexibility. The building scale needs to be deep enough to accommodate multiple function types adjacent to each other and long enough to accommodate the desired operational scale (e.g. quantity of OR’s).



STRUCTURE

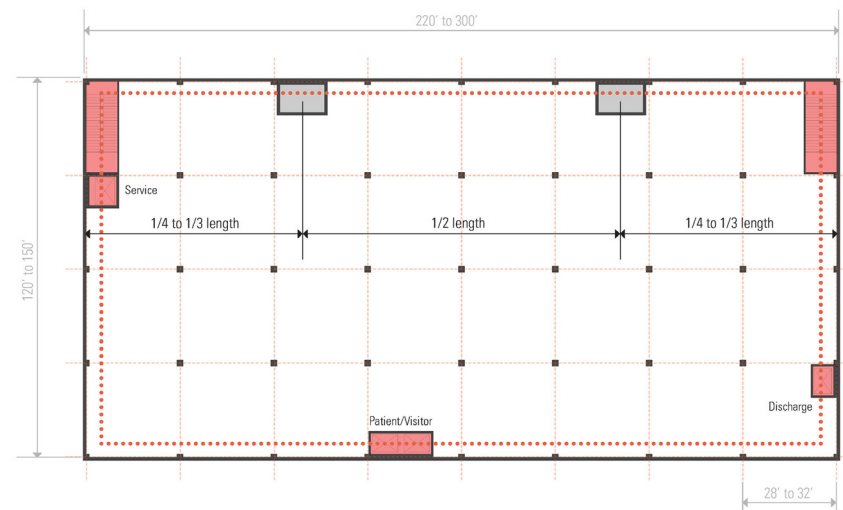
The unique planning configurations for surgery services require a structural grid capable of accommodating large OR’s and repeated smaller spaces such as prep and recovery spaces. A best practice is to place lateral bracing where necessary to exterior walls keeping the inside of the “box” free from limitations.



VERTICAL CIRCULATION AND INFRASTRUCTURE

ASC’s are often part of multi-purpose outpatient facilities with examination clinics or diagnostic services being most common. Placing the surgery center on the top floor of the facility has several benefits from securing the center to HVAC efficiency. Vertical circulation for people, supply chain, and waste removal requires different elevators, so spacing appropriately around the perimeter provides opportunity for separation and flexibility for the interior functions.

Where necessary, shafts that provide air to lower floors can be placed at the exterior or interior if carefully planned.



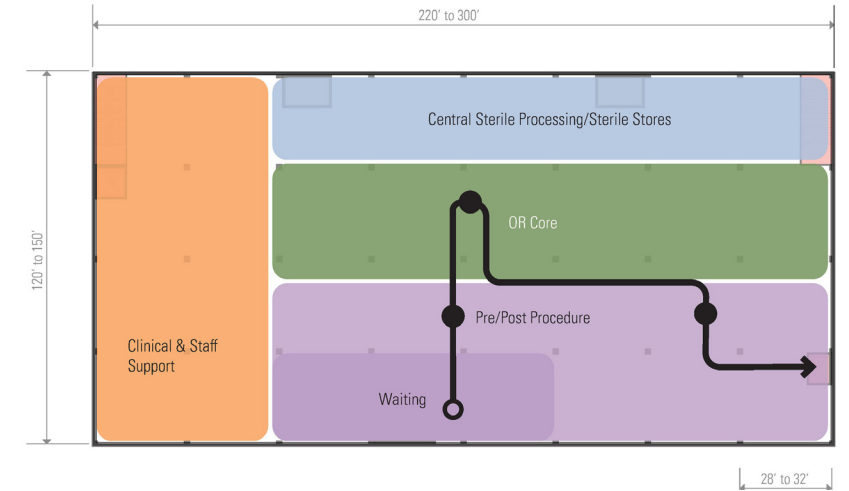
Functional Units and Proportions

There are 4 functional groupings that have proportions within ranges, the relationships between the 3 largest groups represent the best opportunity for efficient flow. The proportion of pre/post with waiting—roughly 35% of the total area of the ASC—is where detailed efficiency opportunities can be found with the area's relationship to the OR core.



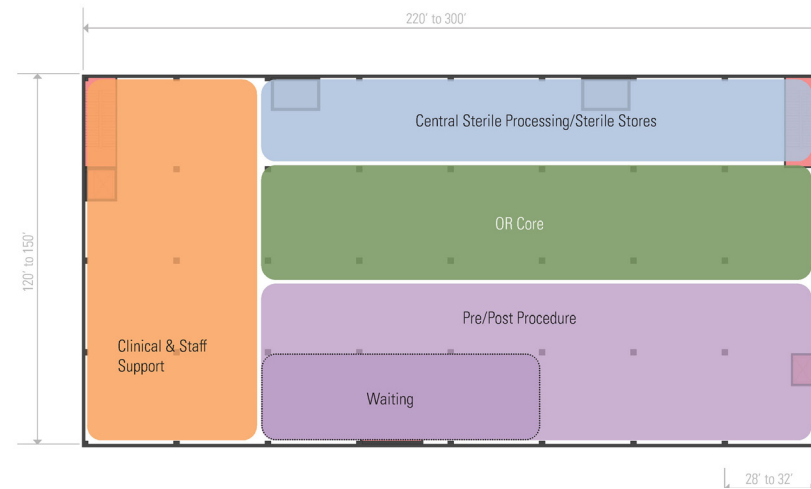
PATIENT FLOW

Typically, managing the design of patient flow to achieve the shortest travel distances and not crossing paths with other flows leads to a well-designed surgery center. The flow below suggests travel distances not exceeding 50' from any fixed stop.



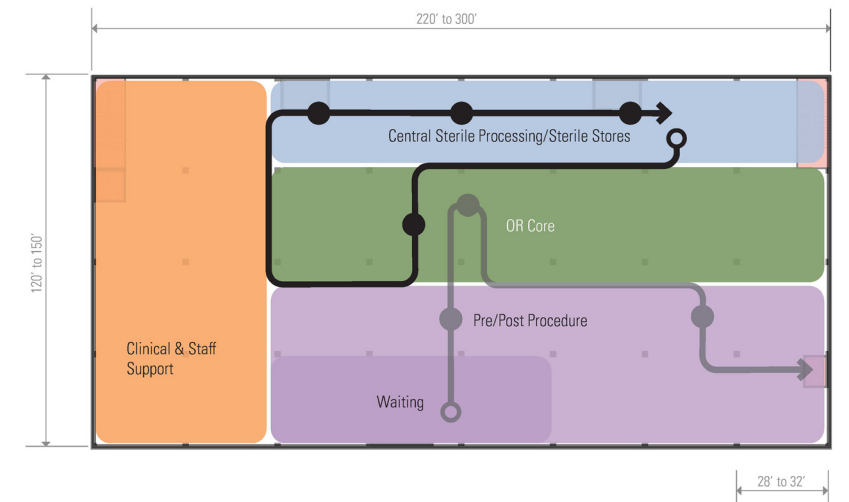
MACRO PLANNING

The 4 main functional groupings must all work together but should be simply arranged to provide functional clarity and simplified wayfinding. While boundaries of the groupings should be clear, they should also be permeable.



INSTRUMENT/STERILE FLOW

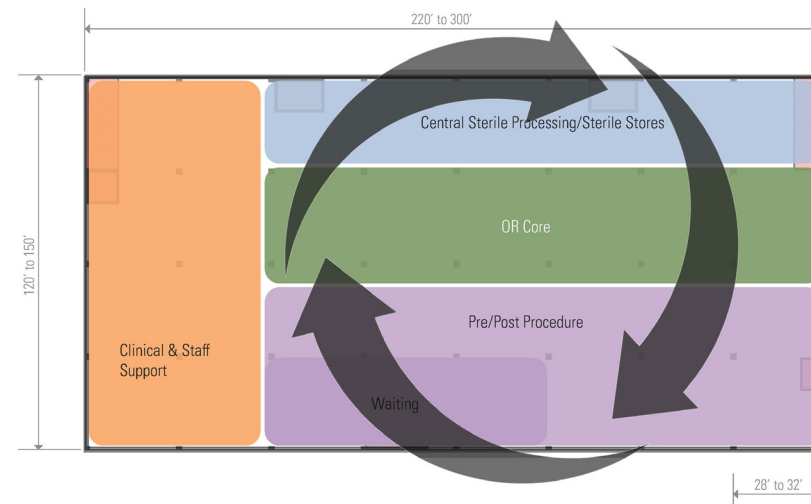
Pathways for clean-to-dirty without crossing paths and circular flow are ideal approaches to central sterile processing/OR. While the CSP function is a back of the house service, it's functionality and reliability is crucial to a highly effective center.



CIRCULAR FLOW

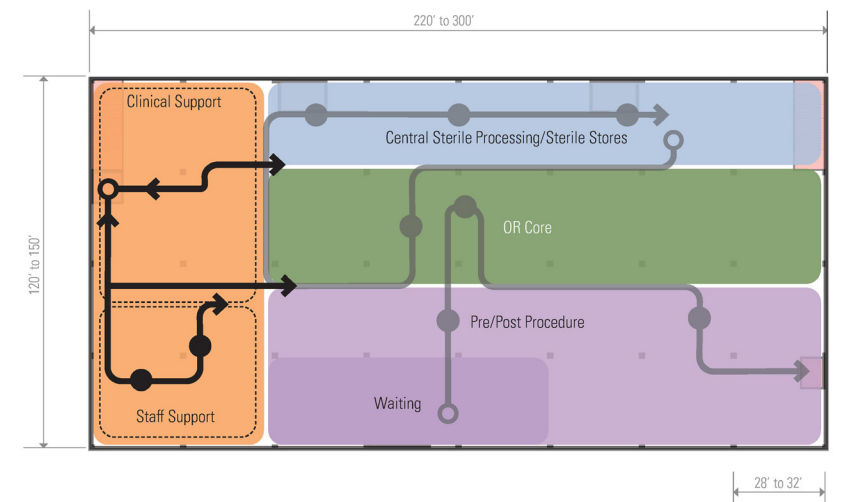
Setting the center of the space up for specific flow models for all services reduces walking steps and limits crossing paths, both leading to higher operational efficiency.

Circular, or one-way flows, are the best approach to reducing waste, improving cycle time, improving satisfaction, and clarifying operations.



CLINICAL & STAFF FLOW

Clear pathways for supply chain and soiled material removal from the center and specific routes to highly active spaces help maintain efficient flow. Staff support functions can be easily placed in surgical centers with reduced requirements for traditional gowning protocol.



These guidelines represent opportunities to engage conversation, recognize where costs and opportunities lie, and provide reasonable views into making the facility flexible and efficient for the present and future.

ABOUT THE AUTHORS

David Jaeger AIA, LEED AP, EDAC (left) and Bruce MacPherson AIA, LEED AP (right) are Principals with HED, based out of the firm's Detroit and Los Angeles office. They can be reached at djaeger@hed.design and bmacpherson@hed.design.

