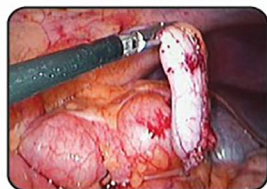


**4<sup>th</sup>**  
Edition



# Basic Surgical Skills & Techniques

**With New Chapter on Preoperative care and fully revised chapters on Robotic Surgery and Endoscopy**



*Editor*  
**Sudhir Kumar Jain**  
**Mrunal Bharat Kshirsagar**



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# Wrong Site Surgery: Consequences, Prevention, and Medicolegal Aspect

Mrunal Bharat Kshirsagar, Sudhir Kumar Jain

*“Wrong site surgery is a punishable offense”*

## ■ INTRODUCTION

Surgery represents a critical domain within healthcare where preventable medical errors and near misses can significantly impact patient’s safety. Prior to the groundbreaking 1999 Institute of Medicine report, “To Err Is Human,” clinicians lacked a clear understanding of the magnitude of surgery-related injuries, fatalities, and near misses due to the absence of standardized processes for recognizing, reporting, and tracking these incidents.

Among the most concerning types of surgical errors is wrong site surgery (WSS). This term encompasses a range of grave mistakes, including surgeries performed on the incorrect side or site of the body, the wrong surgical procedure being executed, or operations conducted on the wrong patient

altogether. Notably, WSS is not limited to traditional operating rooms; it also includes any invasive procedure that subjects patients to more than minimal risk in other settings, such as special procedure units, endoscopy suites, and interventional radiology departments.

The Joint Commission—previously known as the “Joint Commission on Accreditation of Healthcare Organizations”—categorizes WSS as a sentinel event. This designation highlights its serious nature, marking it as one of the top three types of events that can lead to significant patient’s harm, including death or severe physical or psychological injuries. The recognition of WSS as a sentinel event emphasizes the urgent need for comprehensive strategies to prevent such occurrences and enhance the overall safety of surgical practices.

## ■ CAUSES OF WRONG SITE SURGERY (TABLE 1)

**TABLE 1:** Factors causing the wrong site surgery.

<b>System factors</b>	<b>Process factors</b>
<ul style="list-style-type: none"> <li>• Lack of institutional controls/formal system to verify the correct site of surgery</li> <li>• Lack of a checklist to make sure every check was performed</li> <li>• Exclusion of certain surgical team members</li> <li>• Reliance solely on the surgeon for determining the correct surgical site</li> <li>• Unusual time pressures (e.g., unplanned emergencies or large volume of procedures)</li> </ul>	<ul style="list-style-type: none"> <li>• Inadequate patient’s assessment</li> <li>• Inadequate care planning</li> <li>• Inadequate medical record review</li> <li>• Miscommunication among members of the surgical team and the patient</li> <li>• More than one surgeon involved in the procedure</li> </ul>

Contd...

Contd...

<b>System factors</b>	<b>Process factors</b>
<ul style="list-style-type: none"> <li>• Pressures to reduce preoperative preparation time</li> <li>• Procedures requiring unusual equipment or patient's positioning</li> <li>• Team competency and credentialing</li> <li>• Availability of information</li> <li>• Organizational culture</li> <li>• Orientation and training</li> <li>• Staffing</li> <li>• Environmental safety/security</li> <li>• Continuum of care</li> <li>• Patient's characteristics, such as obesity or unusual anatomy, that require alterations in the usual positioning of the patient</li> </ul>	<ul style="list-style-type: none"> <li>• Multiple procedures on multiple parts of a patient performed during a single operation</li> <li>• Failure to include the patient and family or significant others when identifying the correct site</li> <li>• Failure to mark or clearly mark the correct operation site</li> <li>• Incomplete or inaccurate communication among members of the surgical team</li> <li>• Noncompliance with procedures</li> <li>• Failure to recheck patient's information before starting the operation</li> </ul>

## Universal Protocol for Preventing Wrong Site, Wrong Procedure, and Wrong Person Surgery (Table 2)

**TABLE 2:** Universal protocol for preventing wrong site, wrong procedure, and wrong person surgery.

<b>Step</b>	<b>Purpose</b>	<b>Process</b>
Preoperative verification	To ensure all relevant documents and studies are available, reviewed, and consistent with patient's expectations and the team's understanding of the intended procedure, patient, and site. Any missing information or discrepancies must be resolved before the procedure begins	An ongoing process of information gathering and verification that starts with the decision to proceed with the surgery. This continues through all preoperative settings and interventions, culminating in the "time out" just before the procedure
Marking the operative site	To clearly identify the intended site for incision or insertion, eliminating ambiguity	For procedures requiring right/left distinction, multiple structures (e.g., fingers and toes), or various levels (e.g., spinal surgery), the intended site must be marked visibly, even after the patient has been prepared and draped
"Time out" before the procedure	To conduct a final verification of the correct patient, procedure, site, and, where applicable, any implants	All surgical team members engage in active communication, initiated by a designated individual, ensuring a "fail-safe" mode. The procedure will not commence until all questions or concerns are addressed

### ■ CONCLUSION

The reported instances of WSS are on the rise as healthcare organizations become increasingly transparent about medical errors. Many of these organizations are

leveraging error-prevention theories and lessons from the aviation industry, recognizing that such transparency can lead to systemic changes and improved patient's outcomes. However, complete reporting of WSS remains

unlikely due to factors such as industry-wide report cards, concerns about litigation, and varying perspectives among professionals.

While the overall numbers of WSS may not be alarming, the consequences for affected patients are severe and often life-altering.

#### KEY POINTS

- *Increase in reported wrong site surgeries (WSS):* Instances of WSS are on the rise, largely due to greater transparency in healthcare organizations about medical errors.
- *Use of error-prevention theories:* Healthcare organizations are adopting error-prevention strategies and lessons learned from the aviation industry to reduce medical mistakes, including WSS.
- *Impact of transparency:* Greater transparency about errors is seen as a means to drive systemic changes and improve patient's outcomes over time.
- *Challenges in complete reporting:* Full reporting of WSS remains unlikely due to challenges such as:
  - Industry-wide report cards
  - Concerns about litigation
  - Varying perspectives among healthcare professionals on what constitute a reportable incident.
- *Severity of consequences:* While the overall number of WSS cases may not be alarming, the consequences for affected patients are severe and often lead to life-altering outcomes.

# Basic Surgical Skills & Techniques

## *Salient Features*

- The book has been thoroughly revised and updated
- Chapters pertaining to preoperative preparation such as informed consent, enhanced recovery after surgery, WHO safety check list, wrong-site surgery, and duty of candor which form an important part of preoperative preparation have been added
- Chapters on Robotic Surgery, Surgical Instruments, Staplers, Endoscopy, and Basic Surgical Operations have been rewritten
- All other chapters have been updated
- This book will be useful for surgical trainees and practicing surgeons

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