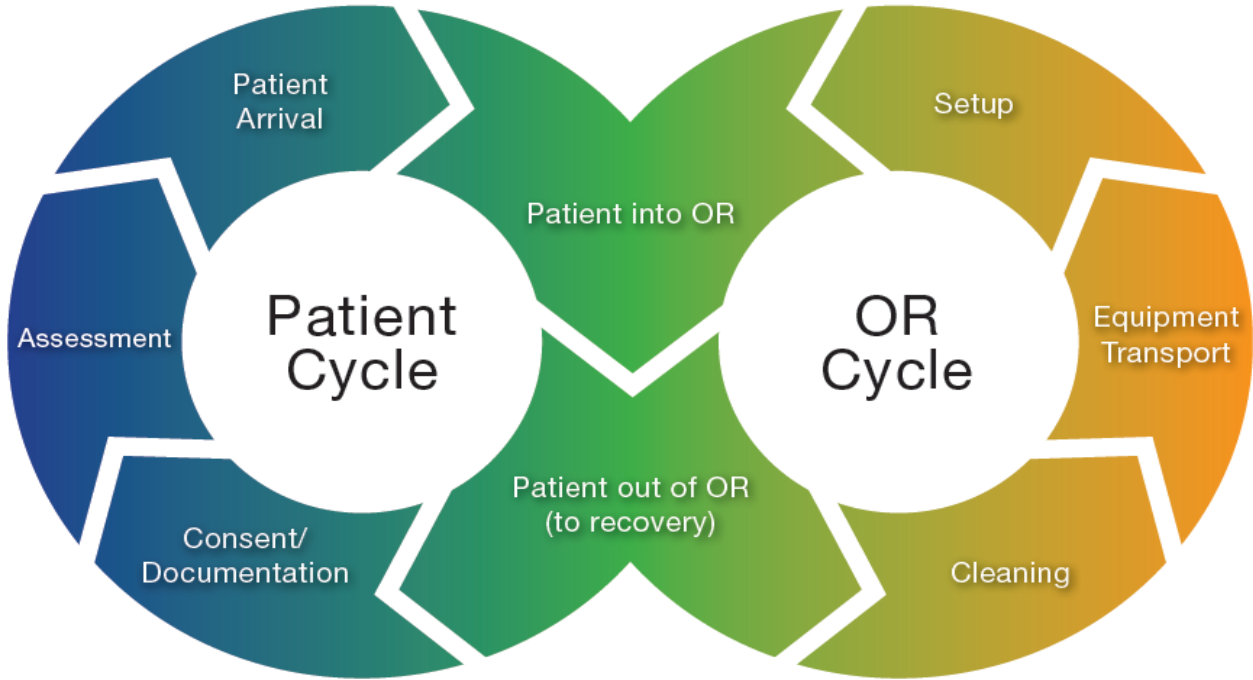


A hand in a white glove is shown holding a pair of surgical forceps. The hand is positioned over a tray containing various surgical instruments, including several pairs of forceps and two white plastic caps. The background is a blurred surgical setting. The entire image has a teal overlay.

# AORN Perioperative Efficiency Tool Kit 2016

The Perioperative Efficiency Tool Kit is funded by a grant from YOURCAREUNIVERSE through the AORN Foundation

# Perioperative Efficiency Tool Kit



*Courtesy of Beth Israel Deaconess Medical Center, Boston, MA. Adapted with permission.*

# Overview

Patient safety, patient satisfaction, patient flow and instrument preparation are all important elements of operational efficiency in the perioperative setting.

Opportunities exist to improve patient safety, the coordination of care, minimize delays and waste, increase operating room (OR) use, and enhance the perioperative experience for the patient and family, as well as for the perioperative team members.

# Goal

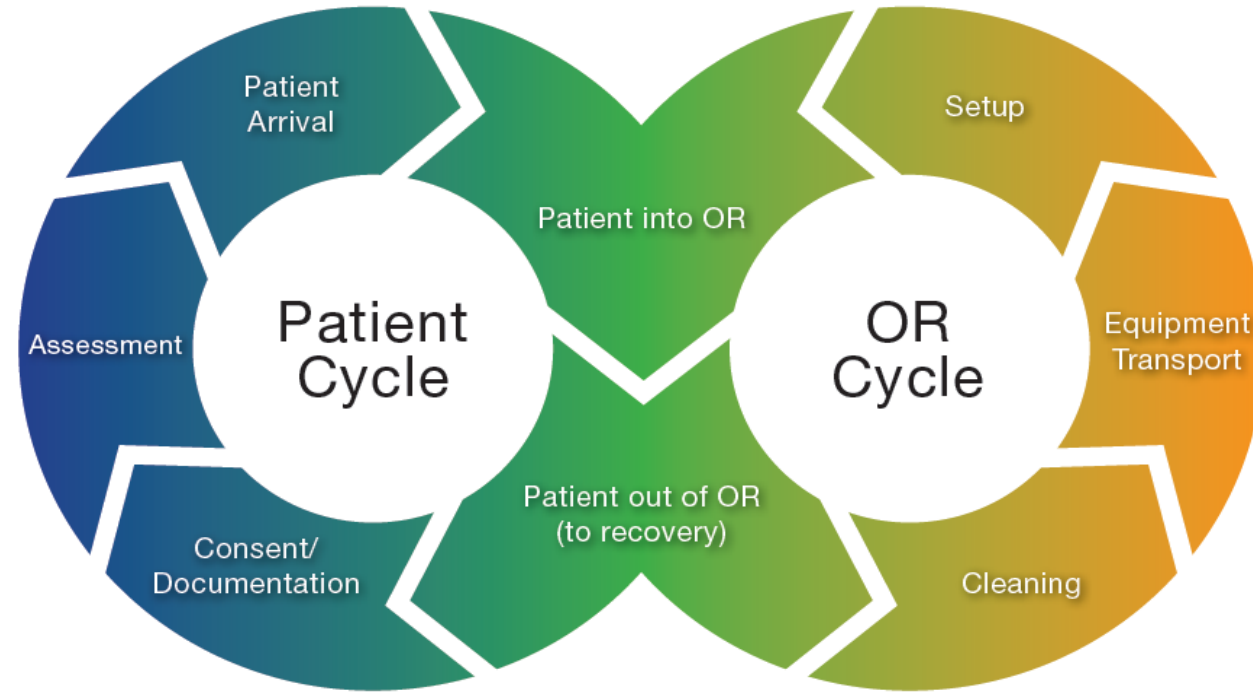
The goal of this learning activity is to educate perioperative RNs about effective patient- and team-focused strategies to improve operational efficiency in the perioperative setting, with an emphasis on safely preparing patients for surgery; patient, family, and perioperative team member satisfaction; instrument processing and preparation; and, starting surgical procedures on time.

# Objectives

After completion of this continuing nursing education activity, the participant will be able to:

1. Identify the essential components for successfully improving perioperative operational efficiency.
2. List three ways to improve preoperative patient preparation.
3. Discuss a methodology for optimal first case, on-time starts.
4. Review common causes of delays both in surgery start times and room turnover.
5. Determine operational issues and efficiencies in the daily functions and workflow of the sterile processing department (SPD) and the OR.
6. Construct methods to measure SPD productivity to determine appropriate staffing formulas.

# Perioperative Efficiency Model



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# Definitions of Surgery Schedule Times

- First case on-time start
- Turnover time
- Surgeon time
- Total case time

# Definition: First Case On-Time Start

- **First case of the day start time**
  - The first scheduled case of the day in each room.
- Patient-in-room time is defined as the time at which the patient physically enters the room (“Patient into OR” on the Perioperative Efficiency Model).
- The scheduled case start time is the time at which the patient is scheduled to be in the room.
- Any case that enters the room after the scheduled time is counted as a delay. Any difference greater than ZERO minutes counts as a delay.



# Definition: Turnover Time

Definition: Time from previous patient leaving the room to succeeding patient arriving in the room

- “Patient into OR” to “Patient out of OR (to recovery)” on the Perioperative Efficiency Model
- Monitoring turnover time may contribute to satisfaction of the healthcare provider performing the procedure
- Turnover time must strike a balance between efficiency and patient safety, and thus must be incorporated into the analysis.
- Achieving minimal turnover times may have a higher cost (ie, allocating additional ancillary personnel), but may be appropriate.
  - Improving turnover time facilitates maximizing the clinician's time and impacts the hospital's bottom line.

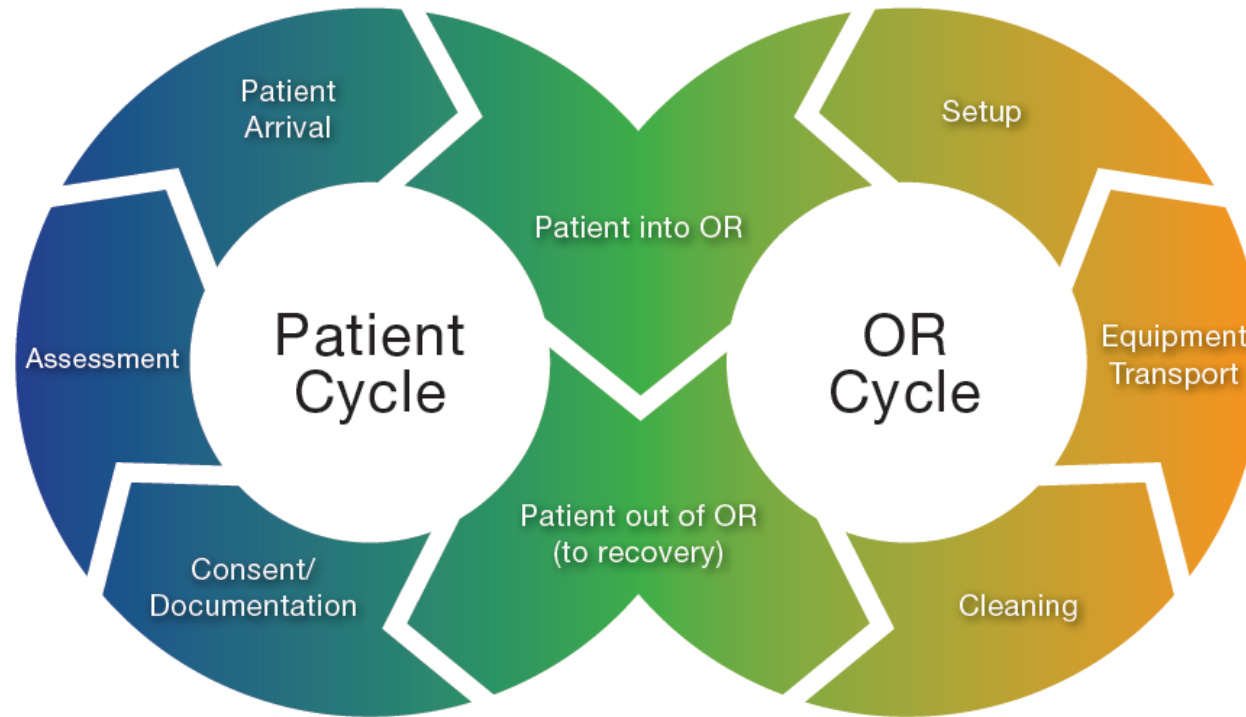
# Definitions: Surgeon Time and Sequential Scheduled Case

- Surgeon Time: Time from when the surgeon of record starts the procedure until he or she leaves the procedure.
  - This may be before the procedure ends if a resident, physician assistant, and/or RN first assistant close.
  - Sequential Scheduled Case: A case that follows on the same day for the same physician, to take place within one hour of one another

# Definition: Total Case Time

- Time from room setup start to room cleanup finish.
  - Definition includes all of the time for which a given procedure requires an Operating Room or other invasive procedure room.
  - It allows for the different room setup and cleanup times that occur because of the varying supply and equipment needs for a particular procedure.
  - For purposes of scheduling and efficiency analysis, this definition is ideal because it includes all of the time an OR must be reserved for a procedure.

# Perioperative Governance



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# Perioperative Governance

Establish a Perioperative Governance Committee to:

- Serve as a forum to provide strategic planning to improve efficiency of patient flow
- Design and implement a program and standardized processes to help ensure the following:
  - Delivery of safe and effective patient care
  - Operative case time effectiveness:
    - First case on-time start
    - Turnover time
  - Patient, surgeon, anesthesia professional, and staff member satisfaction
  - Efficient management and preparation of instrumentation
  - Establish and post expectations for each member of the perioperative team

# Perioperative Governance

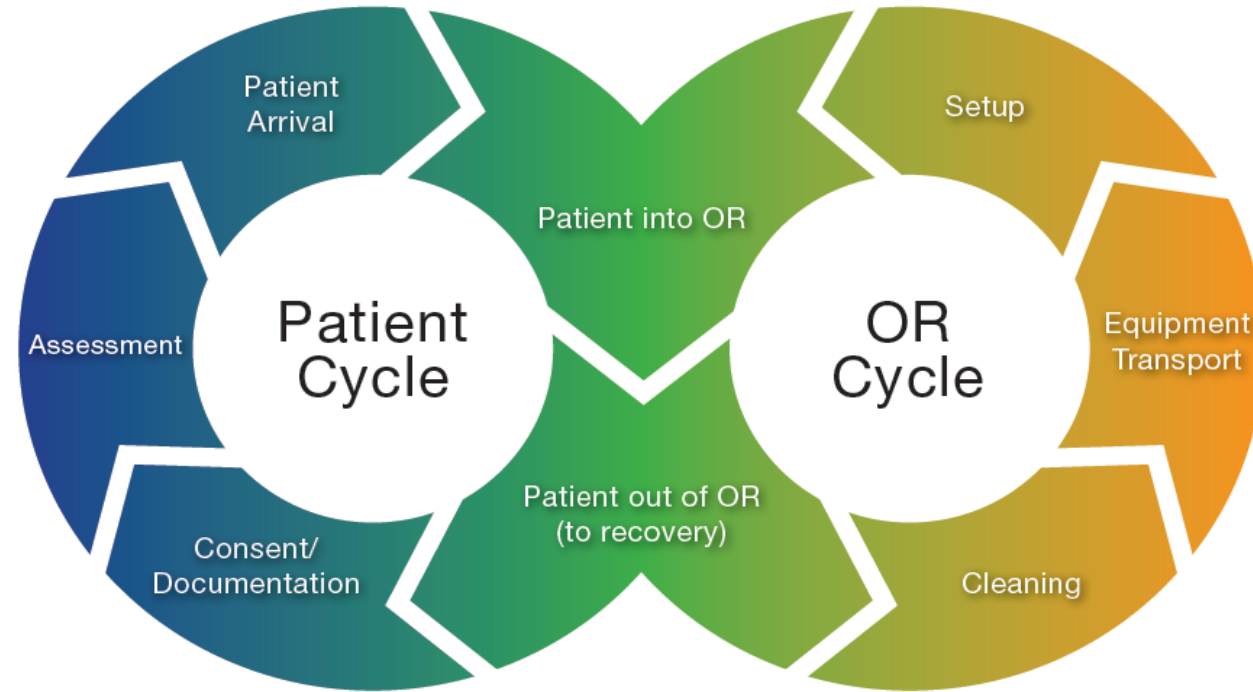
- Establish and enforce surgery operational performance.
- Define surgery scheduled times:
  - First case on-time start
  - Turnover time
  - Surgeon time
  - Total case time
- Work backward to determine the arrival time of:
  - Surgeons
  - Anesthesia professionals
  - Nursing personnel
  - Support personnel
- Set goals and post results.

# Perioperative Governance

See Supporting Documents:

- Draft Perioperative Governance By-laws
- Draft Perioperative Governance Charter
- Examples of Business Rules for Perioperative Services and Medical Staff

# Patient Cycle



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# Process

- Surgery schedule times definitions
- Pre- and post-procedure process
- OR Preparation
- First case starts
  - Delays in first case starts
- Room turnover
  - Delays in room turnover
- Instrument Preparation

# Scheduling of Surgery

## Physician's Office Personnel

- A standardized scheduling process:
  - Promotes accuracy of procedures scheduled.
  - Confirms special order items, implants, vendor notification.
- Patient instructions
  - Patient brochure (ie, guide to surgery/procedure)
  - Preoperative tests or clinic visit
  - Preoperative showering guidelines

# Scheduling of Surgery

## OR scheduling personnel:

- Develop standardized scheduling process.
- Help to ensure accuracy of procedures scheduled.
- Choose appropriate preference lists.
- Confirm special order items, implants, vendor notification, and equipment.

# Scheduling Recommendations

Establish an OR scheduling process improvement collaborative team comprising of:

- Surgeons
- Anesthesia professionals
- Perianesthesia manager and Preop and Postop representatives
- OR manager and OR representative
- Scheduling personnel
- Surgeon's offices schedulers x2

# Scheduling Recommendations

## Objectives of the OR Scheduling PI Team

- Develop a standardized scheduling process.
  - Design a standardized form for use via different methods (eg, hardcopy, e-mail, fax, or Web-based program)
- Develop a scheduling guidelines document.
  - Definitions of scheduling terms
  - Block scheduling and release plan, plus review criteria
  - Elective, urgent, and emergent plan
  - Bumping protocol
  - Daily schedule administration guidelines

# Pre-procedure Testing

Pre-procedure Testing Unit Leaders should meet monthly with all of the Office Managers of each Surgeon's Office that schedules surgical procedures in your OR.

This is to maintain clear communication, refine coordination of the pre-procedure and scheduling process and help with the orientation of new office schedulers to the hospital's processes

# The Preoperative Visit

## Preoperative Patient Information

- Determine the appropriate option to obtain information from the patient
  - Telephone interview
  - In-person interview
  - Internet portal

# Preoperative Phone Interview

To be conducted by an RN:

- Objectives of a phone interview are to:
  - Verify the correct spelling of the patient's name and his/her date of birth
  - Ask the patient to state and/or describe his/her procedure and surgeon's name
  - Obtain detailed patient medical/surgical history including allergies
  - Acquire a list of all medications taken, including dose and times
  - Discuss physician's orders pertaining to preoperative laboratory tests, studies, or specialist consultation
  - Reinforce that the patient must have an adult to drive him or her home
  - Obtain the BEST phone number at which to contact the patient
  - Answer any questions the patient may have about the scheduled procedure
  - Unless contraindicated, instruct the patient to perform two preoperative baths or showers with CHG, thoroughly rinse, dry with clean towel, and then don clean clothing



# Preoperative Phone Interview

Patient information for the day of the surgery.

The perioperative RN should instruct patients:

- To contact the surgeon's office if they develop cold or flu-like symptoms
- About NPO restrictions and medications as ordered
- To bring a valid ID, insurance card, Medicare or Medicaid card
- Not to wear jewelry, makeup, powder, or deodorant
- To leave all valuables at home
- Arrive at \_\_\_\_\_ (insert time)
- Park at \_\_\_\_\_ (insert)
- Check in at \_\_\_\_\_ (insert)
- Eat or drink nothing after \_\_\_\_\_ (insert time) and take \_\_\_\_\_ (insert medications as ordered by the physician) at \_\_\_\_\_ (insert time)
- That an anesthesia professional will contact them to discuss their care and answer their questions
- That the patient's pain will be addressed by the physicians and nurses

# Pre-operative Preparation

- Establish coordination through the pre-procedure testing unit to ensure all required items and evaluations are completed by the medical staff a minimum of 72 hours prior to surgery.
- Ensure that all medication, such as blood thinners, that need to be stopped within a safe timeframe before surgery has been ordered by the medical staff.
- For patients without primary care providers, ensure that the pre-procedure testing unit providers can complete all medical work ups and connect the patient with any specialist, such as cardiologists and pulmonologists, to clear the patient for surgery if any co-morbidities are identified.

# Patient Education

- Preoperative patient education provided by the pre-procedure testing unit providers creates an opportunity for dedicated education and communication with the patient and family to ensure the patient arrives ready for surgery.
- A quality pre-operative education program not only educates the patient and their family as to what to expect the importance of NPO status and the use of pre-operative medications, it also reduces anxiety and makes for a more positive experience leading to improved surgical outcomes and HCAP scores.

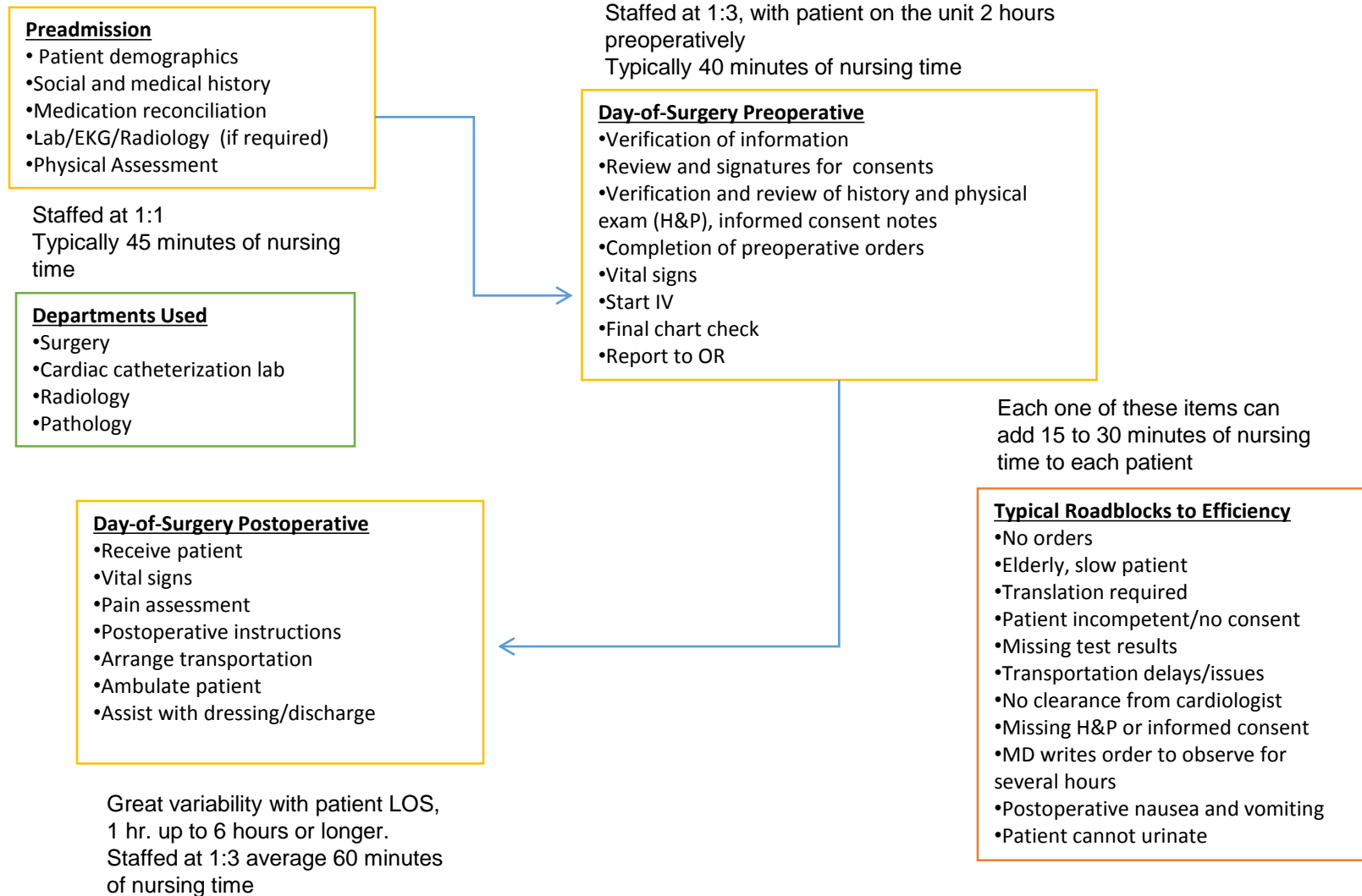
# Patient/Family Education

- NPO status
- Pain control
- Pre-screening for postoperative home care needs
- Postoperative medications/prescriptions
- Postoperative transportation

# Preoperative Showering

- Repeated applications of 4% CHG increase the residual antimicrobial activity
- Unless contraindicated, instruct patients to
  - perform two preoperative baths or showers with CHG:
    - Thoroughly rinse.
    - Dry with clean towel.
    - Don clean clothing.

# Pre- and Postprocedure Process



# Preoperative Checklist

- Patient identity verified
- ID band on
- NPO confirmed
- Patient allergies
- Correct procedure and site confirmed
- History and physical on chart - updated
- Consent signed
- Antibiotics hanging
- Beta blockers taken within 24 hrs
- Type/screen and type/crossmatch for blood products
- Medication reconciliation is updated and in the chart
- Hair removal  N/A
- Diagnostic tests verified

# Example of Roadblocks to Efficiency

- No orders
- Patient Care Delays (extended time required for nursing care)
- Translation required
- Missing test results
- Transportation delays/issues
- No clearance from cardiologist
- History and physical examination missing and/or not updated
- Informed consent missing, consent not valid, patient unable to consent
- Physician writes order to observe for several hours
- Patient experiences nausea and vomiting
- Patient cannot urinate

**Note: each “roadblock” item can add up to 15 to 30 minutes of nursing time per patient.**



# First Case Start Process

- Patient decides to have surgery (surgeon's office)
- Surgery scheduled
- Preoperative assessment
- Registration
- Patient arrives in preoperative area
- Patient assessed and prepared by RN, anesthesia professional, and surgeon
- Surgical checklist is completed
- OR is available; patient leaves the preoperative area
- Team assembled in OR for pre-induction sign-in

## Surgery:

- Surgeon and Patient: Surgery discussed and scheduled
- Surgeon/surgical attending completes consent and other paperwork (eg, history and physical exam)

## Preoperative Nursing:

- Assigns 1<sup>st</sup> case patient name on whiteboard by 1700 the night before

## Surgery:

- Checks 1<sup>st</sup> case patients to see who needs consent and/or history and physical exam.
- Posts name of resident or assistant on whiteboard in OR (for all cases) and in preoperative area for 1<sup>st</sup> cases

## Patient

- Arrives at lobby front desk, or
- Is currently an inpatient

## Ambassador

- Brings patient to preoperative area, or
- Transporter brings him/her from the nursing unit

## Patient

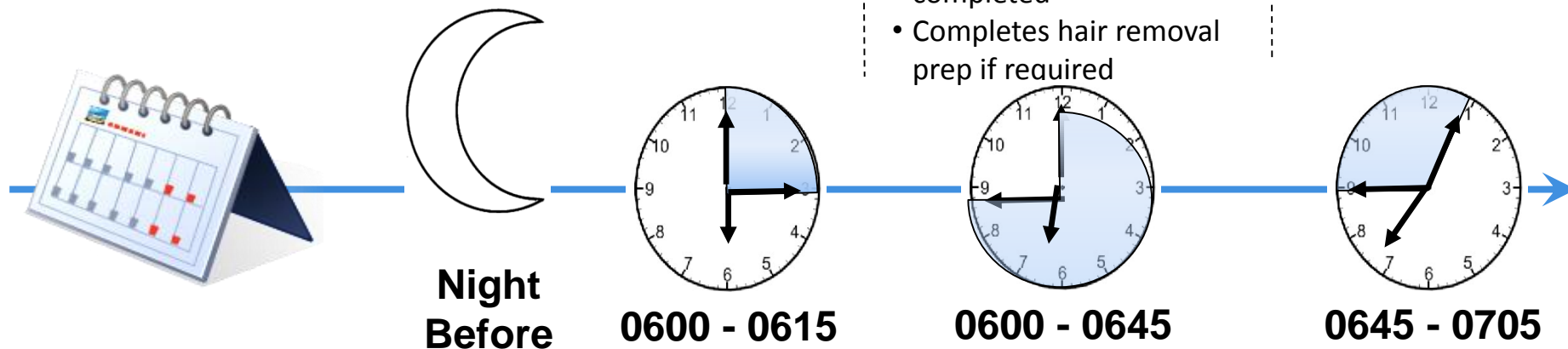
- Changes into gown and hair cap

## Preoperative Nursing:

- Greets patient
- Measures patient's vital signs
- Completes preadmission assessment if required
- Reviews paperwork
- Flags chart until documentation is completed
- Completes hair removal prep if required

## Surgery:

- Greets patient
- Completes history and physical, if required
- Signs consent, if required
- Completes same-day update
- Writes orders
- Starts site marking at 0645 and completes by 0745



## Preoperative Nursing:

- Administers ordered meds

## Anesthesia:

- Greets patient
- Signs anesthesia consent if required
- Inserts peripheral lines
- Start epidurals, a-lines and blocks by 0705; complete by 0720

## Preoperative Area Nursing:

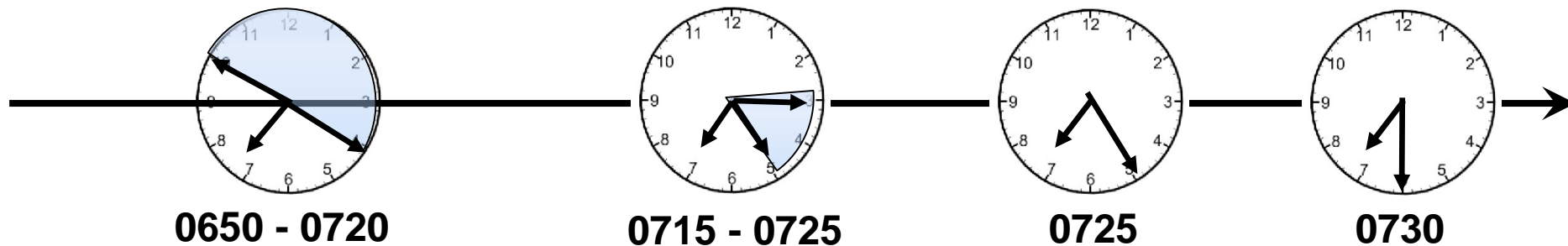
- Completes all checks to validate equipment/implant availability
- Sees patient in preoperative area for assessment and to validate relevant patient information

## Surgery:

- Attending/physician assistant/nurse practitioner/resident are present in preoperative area

## Surgery/Anesthesia/Nursing:

- Transports the patient into the room

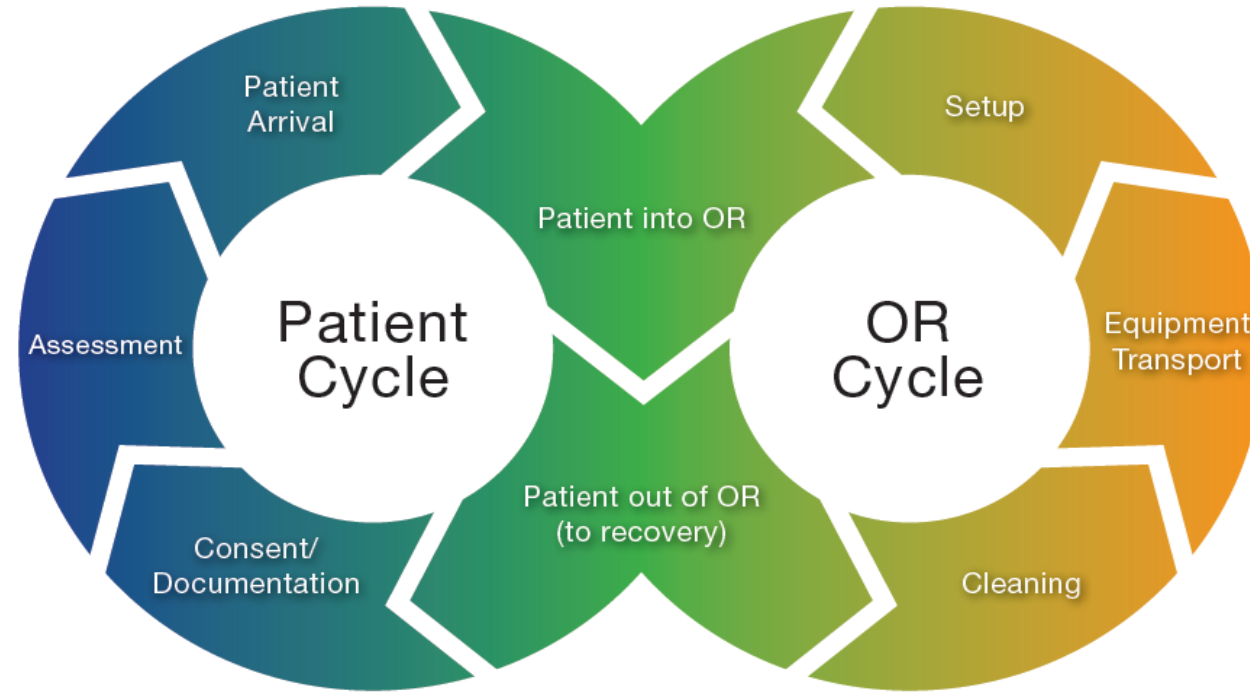


# Patient Cycle

See Supporting Documents:

- Definitions of Surgery Schedule Times
- List of Delay Reasons (aka Delay Codes)
- List of Cancellation Reasons (aka Cancellation Codes)
- Getting Started: Establishing Day-of-Surgery Processes (BIDMC)
- Preoperative Surgical Antimicrobial Skin Cleansing (BIDMC)
- Your Preoperative Telephone interview and Patient Preop Education (BIDMC)

# OR Cycle



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# OR Preparation

- Ensure that the surgical specialty leaders have current and correct preference cards.
- Establish and maintain proactive communication with surgeons to create an opportunity for dialogue and planning several days before surgery to prevent scheduling conflicts with sets and equipment.
- Develop an inventory management process to ensure that supplies are maintained at an adequate level for the surgical workload.

# OR Preference Card Design in the EHR

- The preference card should be standard in design and layout throughout the OR
- The card should follow the pattern of the procedure
  - positioning gear, instrument sets, supplies, specialty equipment, suture, dressings, nursing notes, items to have available in the room
- Should have ICD 9/10 and CPT codes to identify cards for surgical procedure scheduled

# Physician Communication

- Do you have a standard process to communicate with physicians about their preference cards?
  - On a routine basis (every six months), charge nurses of specialty services should meet with their surgeons to review each preference card for accuracy.
- Room RNs should be able to update preference cards real time. (Within the EHR or pen & ink changes, but only a designated person should make permanent changes)
- Ensure the establishment of an onboarding process for new physicians to capture their preference cards.



# Preference Card Maintenance

- Time should be set aside for specialty service leaders to manage preference cards.
  - All supply numbers and costs should be validated with supply chain, as well as possible changes to reduce supply costs.
  - Items should be removed that are not used 80% of time and include them in have available category. If items in the have available category have not been used in six months they should be removed.(Ensure communication with physicians takes place before changes are finalized)
  - Validate positioning equipment and other equipment needs are accurate.
- Service specialty leaders should work with SPD manager to ensure instrument sets are accurate with the least number of instruments required for case.

# Preference Card Maintenance

- Establish a routine process for preference card updates
  - After validation of changes by Specialty leaders, the use of non-nursing staff to make preference card changes within the EHR is best use of nursing resources and reduces man power costs.
  - This top to bottom process should occur at least quarterly.

# RN Circulator and Patient Advocacy

- **Patient advocacy** is a critical role for every RN circulator
- During the turnover process, an RN circulator has the opportunity to receive a transfer of patient care information (hand-off communication)
- There is time allowed for the RN circulator to have a conversation with the patient to understand any physical, spiritual, social needs, or wishes of the patient prior to the initiation of the intraoperative period

See the proposed statement in the tool kit

Video - Efficiency Task Report at AORN Congress Forum 2013

# Comprehensive Surgical Checklist

COMPREHENSIVE SURGICAL CHECKLIST			
Blue = World Health Organization (WHO)   Green = The Joint Commission - Universal Protocol (JC) 2010 National Patient Safety Goals   Orange = JC and WHO			
PREPROCEDURE CHECK-IN	SIGN-IN	TIME-OUT	SIGN-OUT
In Holding Area	Before Induction of Anesthesia	Before Skin Incision	Before the Patient Leaves the Operating Room
<b>Patient/patient representative actively confirms with Registered Nurse (RN):</b>  Identity <input type="checkbox"/> Yes Procedure and procedure site <input type="checkbox"/> Yes Consent(s) <input type="checkbox"/> Yes Site marked <input type="checkbox"/> Yes <input type="checkbox"/> N/A by person performing the procedure  <b>RN confirms presence of:</b> History and physical <input type="checkbox"/> Yes  Preanesthesia assessment <input type="checkbox"/> Yes  Diagnostic and radiologic test results <input type="checkbox"/> Yes <input type="checkbox"/> N/A  Blood products <input type="checkbox"/> Yes <input type="checkbox"/> N/A  Any special equipment, devices, implants <input type="checkbox"/> Yes <input type="checkbox"/> N/A  <div style="border: 1px solid black; padding: 2px;">                         Include in Preprocedure check-in as per institutional custom:                          Beta blocker medication given (SCIP) <input type="checkbox"/> Yes <input type="checkbox"/> N/A                          Venous thromboembolism prophylaxis ordered (SCIP) <input type="checkbox"/> Yes <input type="checkbox"/> N/A                          Normothermia measures (SCIP) <input type="checkbox"/> Yes <input type="checkbox"/> N/A                     </div>	<b>RN and anesthesia care provider confirm:</b>  Confirmation of: identity, procedure, procedure site and consent(s) <input type="checkbox"/> Yes Site marked <input type="checkbox"/> Yes <input type="checkbox"/> N/A by person performing the procedure  Patient allergies <input type="checkbox"/> Yes <input type="checkbox"/> N/A  Difficult airway or aspiration risk? <input type="checkbox"/> No <input type="checkbox"/> Yes (preparation confirmed)  Risk of blood loss (> 500 ml) <input type="checkbox"/> Yes <input type="checkbox"/> N/A # of units available _____  Anesthesia safety check completed <input type="checkbox"/> Yes  <b>Briefing:</b> All members of the team have discussed care plan and addressed concerns <input type="checkbox"/> Yes	<b>Initiated by designated team member</b> All other activities to be suspended (unless a life-threatening emergency) Introduction of team members <input type="checkbox"/> Yes  <b>All:</b> Confirmation of the following: identity, procedure, incision site, consent(s) <input type="checkbox"/> Yes Site is marked and visible <input type="checkbox"/> Yes <input type="checkbox"/> N/A  Relevant images properly labeled and displayed <input type="checkbox"/> Yes <input type="checkbox"/> N/A  Any equipment concerns?  <b>Anticipated Critical Events Surgeon:</b> States the following: <input type="checkbox"/> critical or nonroutine steps <input type="checkbox"/> case duration <input type="checkbox"/> anticipated blood loss  <b>Anesthesia Provider:</b> <input type="checkbox"/> Antibiotic prophylaxis within one hour before incision <input type="checkbox"/> Yes <input type="checkbox"/> N/A <input type="checkbox"/> Additional concerns?  <b>Scrub and circulating nurse:</b> <input type="checkbox"/> Sterilization indicators have been confirmed <input type="checkbox"/> Additional concerns?	<b>RN confirms:</b>  Name of operative procedure Completion of sponge, sharp, and instrument counts <input type="checkbox"/> Yes <input type="checkbox"/> N/A Specimens identified and labeled <input type="checkbox"/> Yes <input type="checkbox"/> N/A Any equipment problems to be addressed? <input type="checkbox"/> Yes <input type="checkbox"/> N/A  <b>To all team members:</b> What are the key concerns for recovery and management of this patient? _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____

April 2010



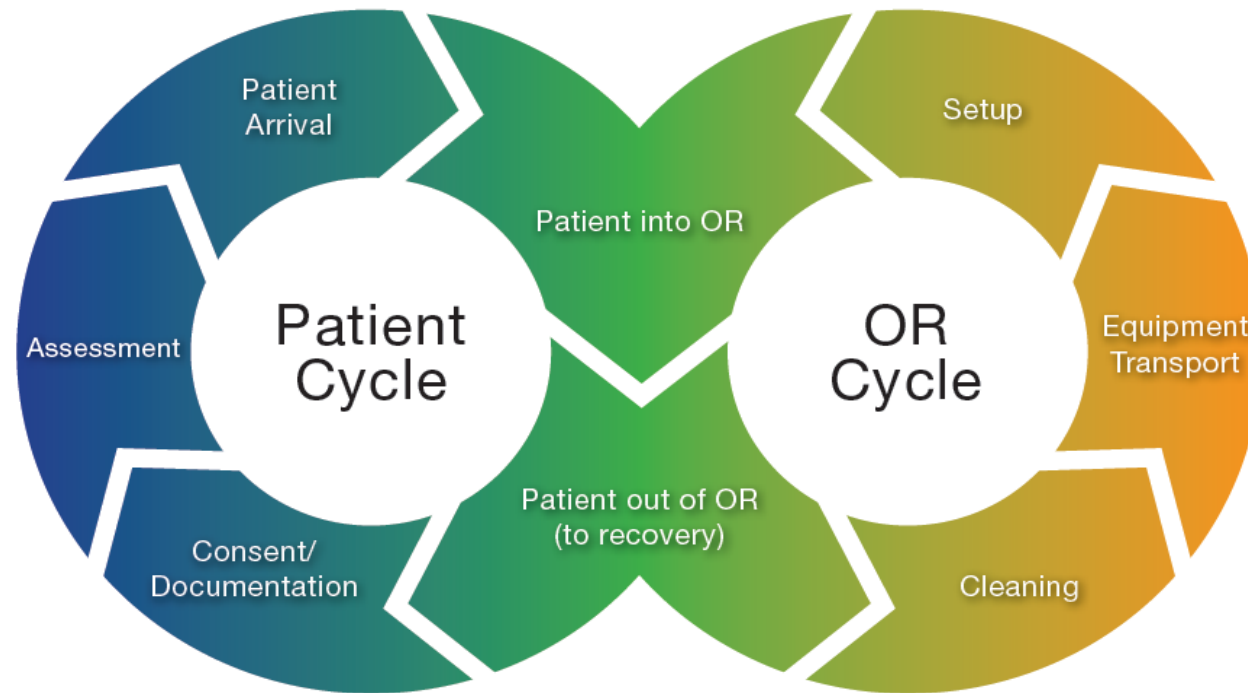
The JC does not stipulate which team member initiates any section of the checklist except for site marking.  
 The Joint Commission also does not stipulate where these activities occur. See the Universal Protocol for details on the Joint Commission requirements.

# OR Cycle

See Supporting Documents:

- Room Readiness Checklist
- Comprehensive Surgical Checklist

# Patient Out of OR Cycle



## Room Turnover Process Staff Responsibilities

Patient Status	RN Circulator	ST/RN Scrub	First Assistant	OR Assistant
Wound closure begins	Perform first count and notify PACU that closure has started. Give an approximate time of arrival at PACU.	After the count, begin instrument gathering. Prepare back table to break down case.	Assist surgeon.	Stage (outside room) equipment/supplies for cleanup.
Dressing applied by surgeon or assistant or RN	Secure dressing with tape. Page: Turnover Room #_____ Assist with stretcher; ready for patient transfer.	Break down back table. If necessary, assists with removing of drapes.	Remove drapes and place in proper receptacle.	Bring stretcher into the room as the dressing is secured.
Transfer patient to stretcher team	Anesthesia professional directs transfer to stretcher ASAP following dressing application. Assist with patient transfer to stretcher.	Continue to break down case.	Assist with patient transfer to stretcher.	Assist with patient transfer to stretcher. If anesthesia professional continues to care for the patient, make ready room cleanup supplies and remove equipment not needed for next case.
Patient readied for transfer team	Assist anesthesia professional with transfer to PACU. Follow procedure for handling of specimen.	Transport case cart to decontamination area.	Assist with room cleanup.	Start room cleanup. Move out equipment Rearranged room per next case
Patient transferred to PACU team	Anesthesia and nursing reports given to PACU nurse Anesthesia professional and RN circulator discuss and agree on timing of next patient to the room. Return to room and complete documentation while observing next case setup.	Moves case cart into room. Double checks case cart supplies. Begin sterile setup.	Assist with sterile setup.	Proceed with turnover activities. Prepares room for next patient. Move equipment and setup into room for next case. Position equipment per plan. Obtain positioning aids.

Patient	RN Circulator	ST/RN Scrub	First Assistant	OR Assistant
Preoperative area	Meet next patient. Complete assessment and final check of chart. Ready patient for transfer to OR.	Setup back table and prepare instruments and draping items.	Assist with opening of supplies. Obtain any additional instruments or supplies.	Obtain any additional equipment, positioning aids, etc.
Room setup	Return to room for counts and final prep of room. Send for patient. Notify anesthesia professional . See patient.	Continue with setup and count with the RN.	Continue with setup. Open and prepare prep supplies.	Per circulator request, transfer patient from preoperative area to the OR.
Patient in room	Greet patient and assist patient onto OR bed. Begin intraoperative documentation. Notify surgeon of patient in room.	Continue with setup.	Continue with setup.	Assist w/patient transfer to OR bed and removes stretcher from room
Patient induction	Assist anesthesia professional with application of EKG leads and induction. Stay at patient's side until the patient is asleep.	Continue with setup.	Continue with setup.	Assist surgical team as needed.
Patient positioning	Position patient per procedure and/or assists surgeon with positioning. Apply ESU grounding device.	Continue with setup.	Assist with positioning.	Assist with positioning.
Patient prep	Prep patient.	Continue with setup.	Assist with prep if necessary; scrub hands, and don gown and gloves.	Assist with prep if necessary.
Patient draping	Assist with sterile setup: -Position back table. -Attach ESU and suction. -Position other equipment.		Assist with draping.	Continually monitor rooms and be available to assist with running for items.
Incision	Continue with EMR documentation.			



## First Case Start and Turnover Time Delay Factors

- **Manpower** - late providers (surgeon, anesthesia, nursing)
- **Documentation** - incomplete (by 12 Noon prior to DOS)
- **Environment** - Preop bed not available
- **Materials**
  - Supplies, Instruments, Equipment, Implants
- **Patient**
  - Arrived late, language barrier, lack of patient/family education, pre-procedure in another department (needle localization)
- **Communication**
  - Lack of pre-planning therefore multiple phone calls
  - No resident, PA, NP assigned to first assist
  - Patient multiple questions for anesthesia

# First Case Start and Turnover Time Delay Factors

## **MANPOWER**

- Late Providers –
  - Surgeon and/or resident
  - Anesthesia professional and/or resident, CRNA
  - Resident, PA, NP assignment not timely
  - Resident not orientated to protocol/process
- Late Providers – Nursing
  - Preoperative RN is not available
  - OR RN to complete interview
  - Outside contracted labor not available
- Late Providers – Ancillary Personnel
  - Interpreter late or not booked
  - Biomedical personnel not available
  - Transport delays

# First Case Start and Turnover Time Delay Factors

## **DOCUMENTATION**

- Signed consent not available
- Consent/procedure discrepancy
- History and Physical (H&P)
  - H&P confirmed within 30 days not available
  - H&P 24-hour update not complete
- Preoperative orders not available
- Missing chart documents
- Nursing preoperative assessment not available
- Consent obtained in preoperative area
- Patient to OR without all paperwork complete

## First Case Start and Turnover Time Delay Factors

### **COMMUNICATION**

- Increased number of phone calls to OR during setup time
- Lack of patient/family education
- No resident, PA, or NP assignment on OR schedule
- Patient did not arrive early enough
- Patient did not follow preoperative instructions because he or she didn't understand them
- Patient requests to speak with attending surgeon
- Patient scheduled in another department for pre-procedure radiology (eg, needle localization), endoscopy
- Patient requests to speak with attending surgeon
- Unable to locate surgeon

# First Case Start and Turnover Time Delay Factors

## **METHODS**

- Invasive lines and blocks
- Consent for blocks may lead to multiple patient questions (ie, inadequate preoperative information)
- Inaccurate booking
- Lack of standardization
  - Surgeon and/or resident
  - Anesthesia professional
  - Resident, PA, or NP assignment not timely
  - Resident not oriented to protocol/process

# First Case Start and Turnover Time Delay Factors

## **METHODS**

- Late Providers – Nursing
  - Preoperative RN not available
  - OR RN not available to complete interview
  - Outside contracted labor not available
- Late Providers – Ancillary Personnel
  - Interpreter late or not booked
  - Biomedical personnel not available
  - Transport delays

## First Case Start and Turnover Time Delay Factors

### **ENVIRONMENT**

- Room unavailable in preoperative area
- Room not cleaned
- Room not ready – (setup)
- Ancillary personnel (ie, environmental services not available)

## First Case Start and Turnover Time Delay Factors

### **MATERIALS**

- Instruments not available/not sterile
- Supplies for case not available; preference list inaccurate
- Case incorrectly booked
- Instruments improperly assembled
- Shared equipment not available
- Instruments broken and/or dirty
- Instruments missing from sets/trays
- Vendor support not available



# First Case Start and Turnover Time Delay Factors

## **PATIENT**

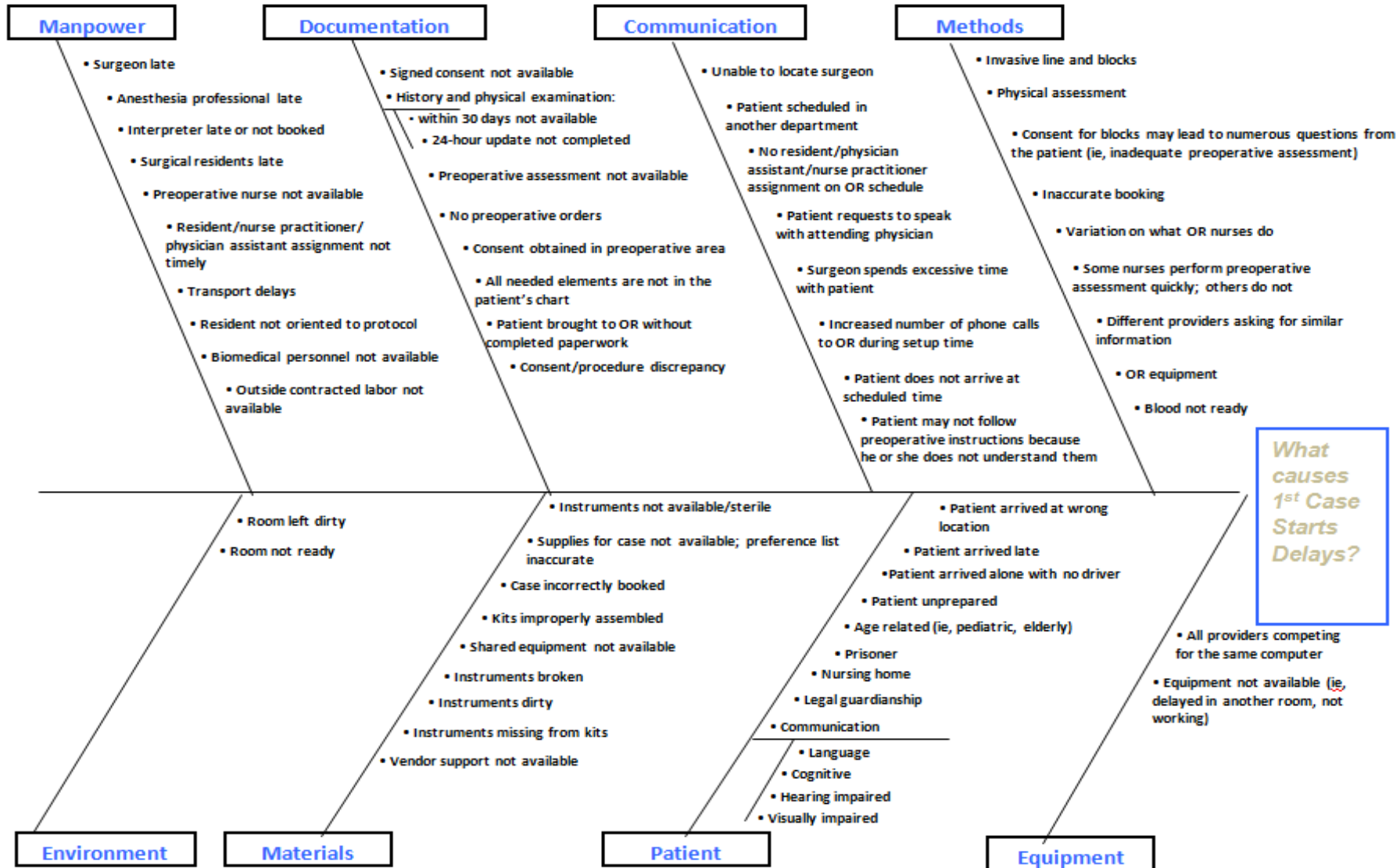
- Patient arrives at wrong location or arrives late
- Patient arrives unprepared due to a lack of understanding or a lack of preoperative patient education
- Patient Demographics and Transportation
  - Age
  - May take longer to prepare, may have unexpected delays
    - Elderly
    - Pediatric
    - Patients from Skilled Nursing Facilities
    - Patients who are incarcerated (system delays)
- Legal guardianship in question
- Communication Issues
  - Language - interpreter late or not booked
  - Cognitive impaired
  - Hearing impaired
  - Visually impaired

# First Case Start and Turnover Time Delay Factors

## **EQUIPMENT**

- Equipment not available
  - Used in another procedure, delayed
  - Not working – Biomed to check
- Computers being used by multiple providers
  - Physicians
  - Nurses
  - Anesthesia professionals

# First Case Start and Turnover Time Delay Factors



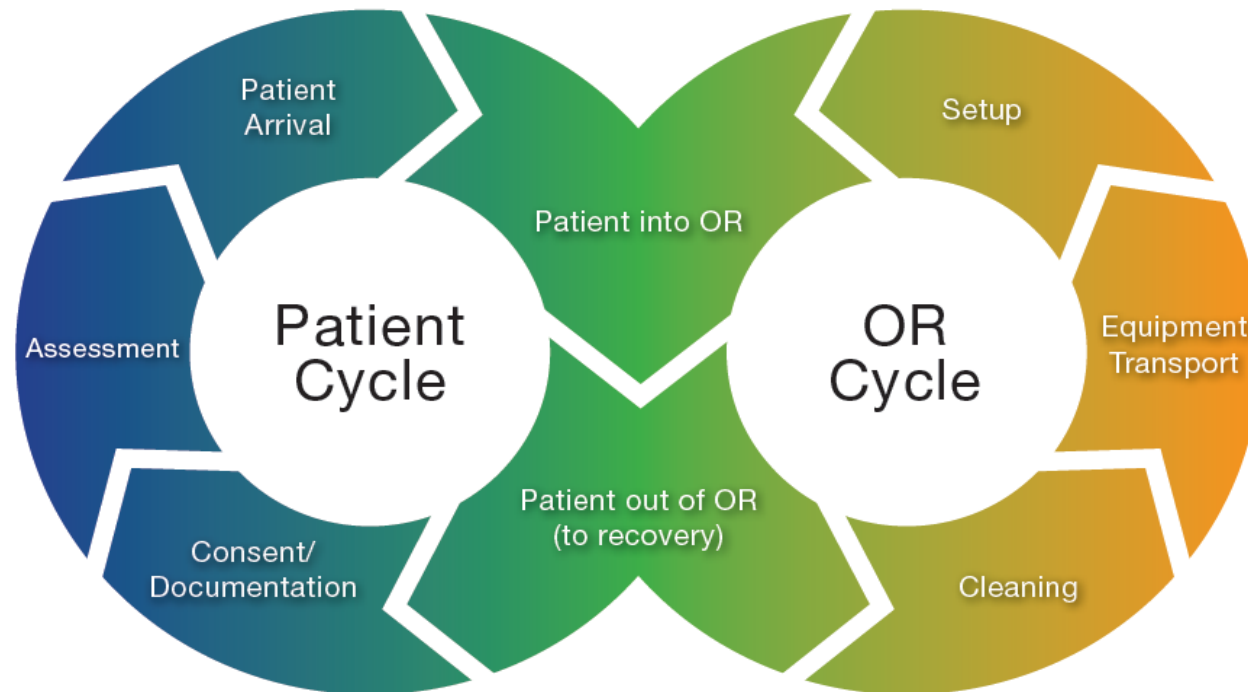
What causes 1st Case Starts Delays?

# Patient Out of OR Cycle

See Supporting Documents:

- Room Turnover and Cleaning (BIDMC)
- Turnover Team Roles and Responsibilities (Alpha consulting, Inc)
- End of Case Room Turnover
- First Case Start and Turnover Time Delay Factors

# Instruments Turnover Cycle



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# Instrument Turnover Time

## Turnover Time Considerations for Instrumentation

- Surgical schedules should take into account the instrument inventory and avoid the need to hurry the instrument reprocessing steps.
- The amount of time it takes the **Sterile Processing Department (SPD)** to properly clean, decontaminate, inspect, assemble, package, and sterilize instruments according to the manufacturers' instructions for use should be considered when scheduling cases.

# Communication Between the OR and SPD

Establish a new Position using an experienced SPD / OR Tech as an OR Liaison (ORL)

- Helps in communication with OR.
- Picks surgical cases for the day.
- Picks add-on surgical cases.
- Communicates turnovers with OR and SPD.
- Communicates issues with turnovers with OR.
- Problem solves for turnover issues/scheduling conflicts.

## **Management of Loaner sets**

# Communication Between the OR and SPD

## **SPD should be oriented in OR**

- Watch cases to understand the why sets need to be in the correct order and the occasional need to turn over sets quickly

## **OR Nurse orientation through SPD**

- Understand Flow of instrumentation
- Turn overs are not automatic

## **Scrub Tech orientation through SPD**

- Understand Flow of instrumentation
- Turn overs are not automatic
- Proper separation of instrumentation at the surgical field and in the case cart
  - Grossly contaminated sets (Tissue and Bone)
  - No Sharps, No disposables, No fluid
  - Sets completely missed up



# Instruments Turnover Cycle

## See Supporting Documents:

- Surgical Instrument Turnover
- SPD/OR Liaison Job Description
- SPD Annual Competency (Memorial Hermann Healthcare System)
- Decontamination Audit
- Loaner Instrumentation Policy & Loaner Sign in Sheet (Memorial Hermann Healthcare System)

# Perioperative Efficiency Program Development

## **Where do I begin?**

- Engage your Managers, Department Service Line Leaders and Staff in creating efficiency and process improvement goals.
- Pick one area to focus on and create a multidisciplinary team to come up with a pilot / trial process.
- Start with one surgeon or one specialty and work through all the barriers.
  - Transfer the knowledge and skills gained to other surgeons and/or specialties.
- Barriers may differ among each surgeon or specialty, so one solution may not work for all.

# Perioperative Efficiency Program Development

**Establish multiple groups throughout the Department to look at the following areas:**

## **Patient Cycle:**

- Preop Assessment
- Consent/Documentation
- Patient Education and Arrival

## **OR Cycle:**

- Room Preparation
- Patient in the room
- Patient out of the room
- Room turnover

## **Instrument Turnover Cycle:**

- Zero trays down (zeroing out)
- Immediate Use Sterilization reduction
- CQI – Quality check (reduction in tray errors)
- Elimination of Dirty instruments (expectation is zero)
- CQI - Quality check on the OR (decontamination/zero sharps)

## Perioperative Efficiency Program Meeting/Activity Tracking

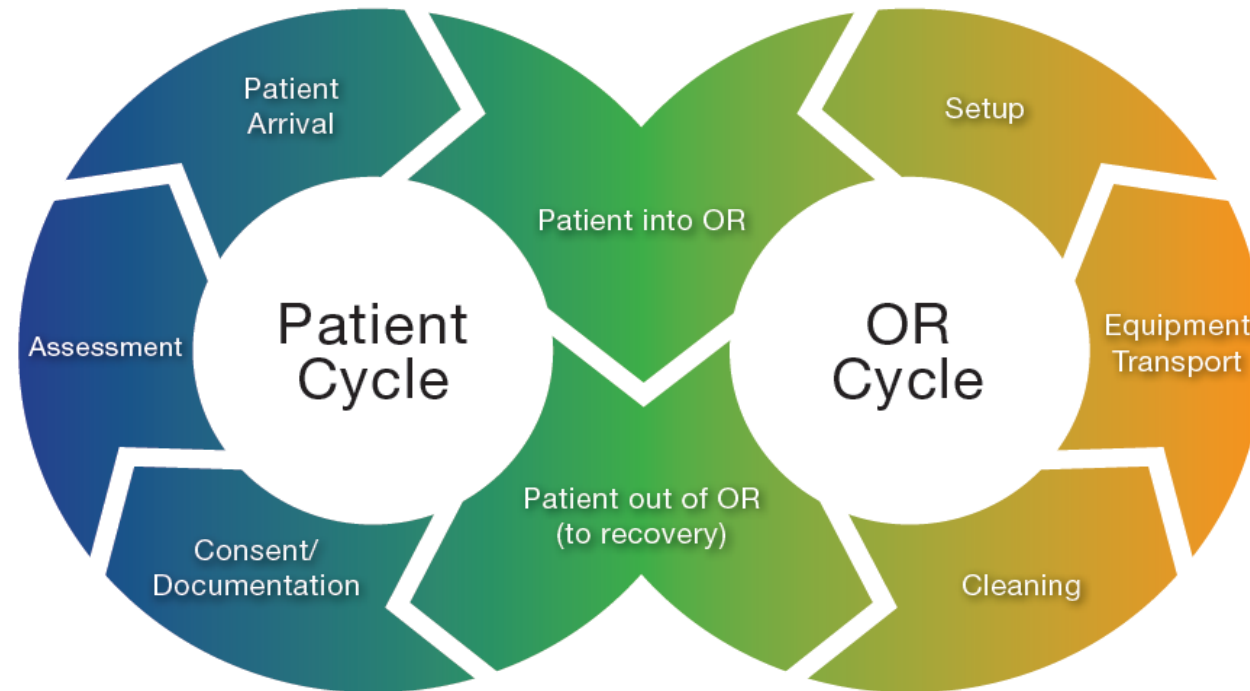
- Title
- Issue
- Next activity
- Priority
- Person assigned
- Target completion date
- Status/communication



# Summary

- Teamwork and Communication
- Many opportunities exist to improve:
  - Preoperative patient preparation.
  - Perioperative processes and workflow.
  - SPD and Instrument process improvements
  - Quality and safety processes.

# Perioperative Efficiency



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The end