

# Surgical Care Improvement Project Change Package



ILLINOIS FOUNDATION FOR  
QUALITY HEALTH CARE

The Medicare Quality Improvement Organization for Illinois

# SCIP Surgical Pathway Change Package

## Surgical Pathway: Global Change Strategies Applicable to All Process Measures

Figure 4

### Patient

Focus is individual patient-centered and equitable:

- Assess patient-specific risk factors: age, smoking status, BMI, comorbid conditions
- Assess procedure-specific risk factors: prosthesis, complicated or long duration, volume depletion planned hypothermia.

### Organization

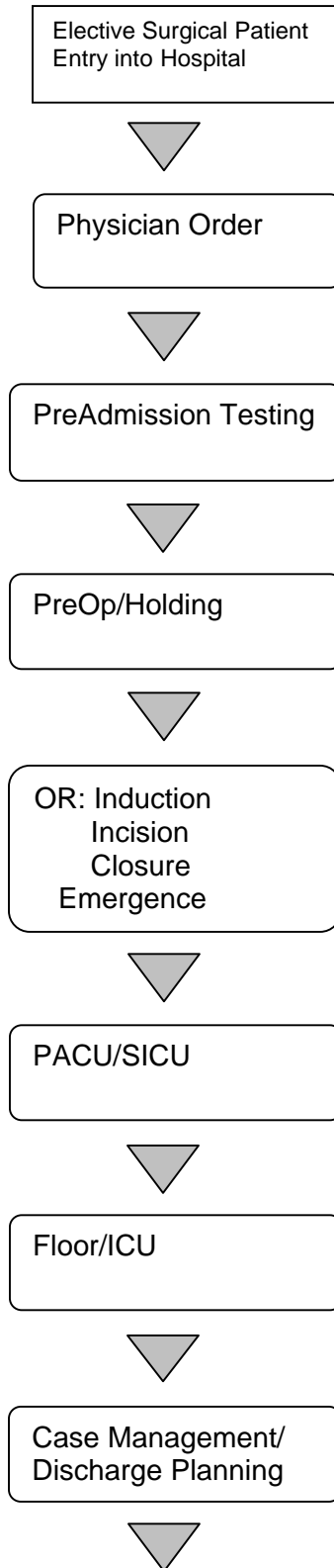
Focus is on a patient safety culture:

- Assure physician compliance with selected, hospital-endorsed guidelines
- Use Human Factors Science
- Ensure the QI/QA/Risk Management team monitors measure rates, re-evaluate periodically to determine if improvement detected;
- Ensure timely performance feedback to all stakeholders
- Ensure Senior leader support and engagement
- Ensure continuous monitoring to sustain and spread changes over time.

### Clinical Team

Focus is on timeliness, effectiveness and efficiency:

- Come to agreement among physicians and other key clinical staff to adhere to hospital approved best practice evidence (20,21,24,25)
- Ensure comprehensive standing order sets reflect best-practice evidence.
- Involving physician champions and clinical opinion leaders.



## SCIP Surgical Pathway Change Package

<b>Surgical Pathway: Global Change Strategies Applicable to All Process Measures</b>	
<b>Change Concept</b>	<b>Key Changes</b>
Standardize	<ul style="list-style-type: none"> <li>• Adopt the chronological elective surgical pathway typical of most hospital systems as depicted in figure 4. The surgical pathway model shows the optimal intervention region. This pathway will act as template for each process measure's change strategies.</li> <li>• Adopt reliable best practice protocols consistent with current evidence.</li> </ul>
Design systems to avoid mistakes	<ul style="list-style-type: none"> <li>• Adopt best practices through re-evaluation or initiation of protocols and/or standing orders (20,22,24)</li> <li>• Establish charting protocol for orders counter to recommended practice; consider incentive program (19,21,25)</li> <li>• Establish in-house measures to assess quality (32-39)</li> <li>• Evaluate patient and procedure risk factors regularly; consider establishing teams by specialty to update perioperative risk stratification (29-31-35,39,40,42,43)</li> <li>• Create intentional redundancy</li> </ul>
Use Reminders	<ul style="list-style-type: none"> <li>• Create checklist</li> <li>• Develop chart reminders</li> <li>• Pursue computer-based reminder systems</li> <li>• Pursue computer-based decision support</li> <li>• Schedule key tasks</li> </ul>
Give People access to information	<ul style="list-style-type: none"> <li>• Cite relevant literature to facilitate clinicians and health care management use of current findings and recommendations to guide patient safety strategies.</li> <li>• Implement educational platforms to maximize understanding and compliance with process changes and the evidence-base driving them (197-198)</li> <li>• Implement or revise in-house database to include current, relevant <i>Index Medicus</i> literature, updated monthly (20,23)</li> <li>• Provide feedback regarding compliance with care standards</li> </ul>
Consider people as in the same system	<ul style="list-style-type: none"> <li>• Establish multidisciplinary team to initiate or revise the patient safety effort within the organization (1-19)</li> <li>• Establish clinical teams to select, review, and update evidence-based best practice guidelines by specialty (20-31)</li> <li>• Establish teams by specialty to update perioperative risk stratification (29-31, 35,39,40,42,43)</li> </ul>

**Note:**

- Other process change strategies may occur outside of the surgical pathway but within the Process Change Model.
- These strategies are directed toward the Clinical Team and the Organization and are aimed at increasing awareness, guiding implementation efforts, and providing evidence-based rationales to promote adherence to recommended perioperative processes.
- Both types of process change strategies are key to the development and integration of patient safety improvement efforts.

# SCIP Surgical Infection Module Change Package

## SCIP-Inf-1: Prophylactic Antibiotic Received Within One Hour Prior to Surgical Incision

### Process Change Strategies

#### Patient

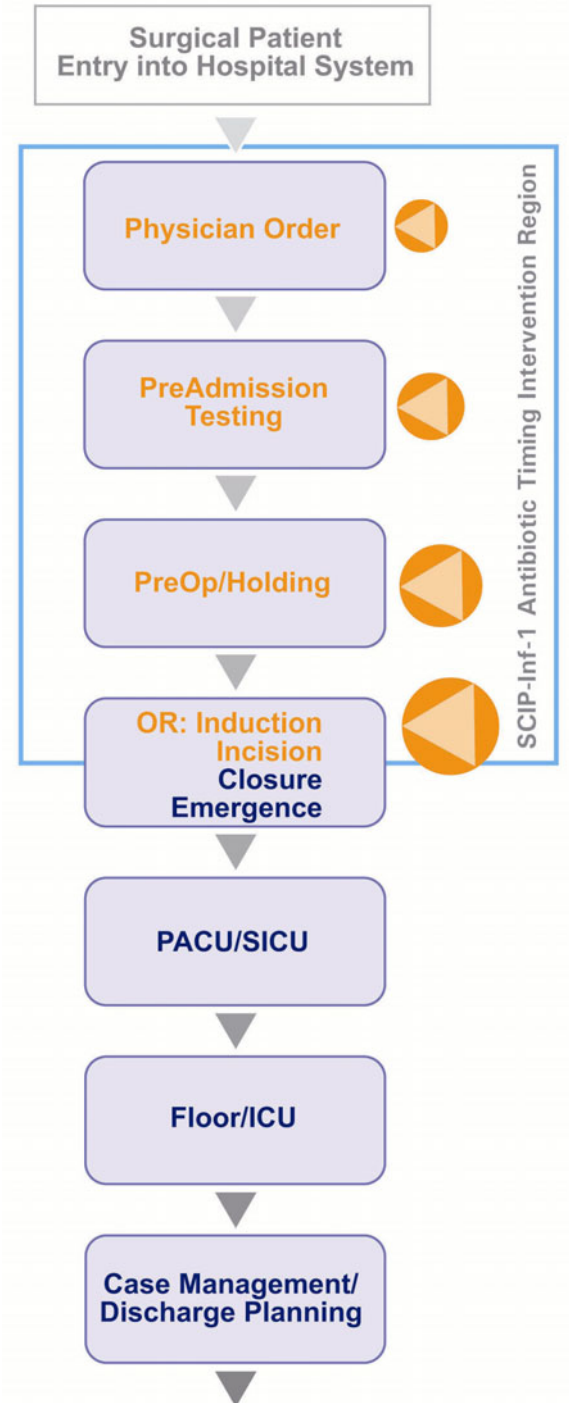
- Assess risk factors for increased likelihood of surgical site infection
- Patient-specific (49,55): Diabetes, preoperative infection, malnutrition/low BMI, low serum albumin, anemia, malignancy, contaminated wound class, beta lactum allergy, immunocompromised
- Procedure-specific (44-46,52,56,58-60) Prosthesis, chest tubes/drains/pacing wires/central lines, complicated or long duration, planned hypothermia, preoperative bowel prep, volume depletion

#### Organization

- Review current practices and system flow of surgical antibiotic prophylaxis from physician order to pharmacy to patient (6,7,50,51,53,60)

#### Clinical Team

- Review current antibiotic guidelines and compare to actual practice



## SCIP Surgical Infection Module Change Package

<b>SCIP-Inf-1: Prophylactic Antibiotic Received Within One Hour Prior to Surgical Incision</b>	
<b>Change Concept</b>	<b>Key Changes</b>
<b>Standardize</b>	<p><b>Responsibility:</b></p> <ul style="list-style-type: none"> <li>• Designate responsibility and accountability for preoperative prophylactic antibiotic administration (e.g., preoperative nurse, circulating nurse, anesthesiologist) connected to key point in process</li> <li>• Include pharmacy in antibiotic process changes (47,48,53,56-60)</li> </ul> <p><b>Process:</b></p> <ul style="list-style-type: none"> <li>• Standardize administration process to occur with commonly performed activity within one hour prior to incision</li> <li>• Standardize administration process to start vancomycin when transport arrives to pick up patient</li> <li>• Standardize delivery process to ensure timely delivery of preoperative antibiotics to the holding area</li> </ul> <p><b>Timing:</b></p> <ul style="list-style-type: none"> <li>• Use wall clock to document all times. Have maintenance set all clocks the same</li> </ul> <p><b>Documentation:</b></p> <ul style="list-style-type: none"> <li>• Design and implement systematic documentation of antibiotic administration on every patient chart (paper or electronic)</li> <li>• Revise charting to include required fields for time of prophylactic antibiotic administration and incision time (27)</li> </ul> <p><b>Protocols:</b></p> <ul style="list-style-type: none"> <li>• Design protocols to deliver antibiotic to OR with patient</li> </ul>
<b>Design systems to avoid mistakes</b>	<p><b>Orders:</b></p> <ul style="list-style-type: none"> <li>• Use antibiotic standing orders specific to surgical site, administer prophylactic antibiotics according to guidelines based on local consensus</li> <li>• Include in preoperative evaluation (40,55): antibiotic field choice on physician order and pre-admission paperwork</li> <li>• Include in perioperative evaluation (40-55): beta lactam allergy evaluation</li> </ul> <p><b>Process:</b></p> <ul style="list-style-type: none"> <li>• Design process to make agreed upon antibiotics available in the operating room (OR)</li> <li>• Develop process where antibiotic is hanging at head of patient's bed ready for administration</li> </ul>
<b>Use Reminders</b>	<p><b>Checklist</b></p> <ul style="list-style-type: none"> <li>• Provide visible reminder or checklist to give antibiotics on each case (e.g. brightly colored sticker)</li> </ul>

## SCIP Surgical Infection Module Change Package

### SCIP-Inf-1: Prophylactic Antibiotic Received Within One Hour Prior to Surgical Incision

Change Concept	Key Changes
<b>Give People access to information</b>	<b>Feedback</b> <ul style="list-style-type: none"> <li>• Provide feedback on prophylaxis compliance and infection data monthly</li> <li>• Provide physician specific data to Director of Anesthesia on documentation of antibiotic administration.</li> </ul>
<b>Consider people as in the same system</b>	<b>Pharmacy</b> <ul style="list-style-type: none"> <li>• Involve pharmacy staff to ensure that timing is maintained</li> </ul>
<b>Use Automation</b>	<b>Order Entry:</b> <ul style="list-style-type: none"> <li>• Institute a computerized physician order entry system with procedure-specific fields for antibiotic selection, timing, and duration</li> </ul>

# SCIP Surgical Infection Module Change Package

## SCIP-Inf-2 Prophylactic Antibiotic Selection for Surgical Patients

### Process Change Strategies

#### Patient

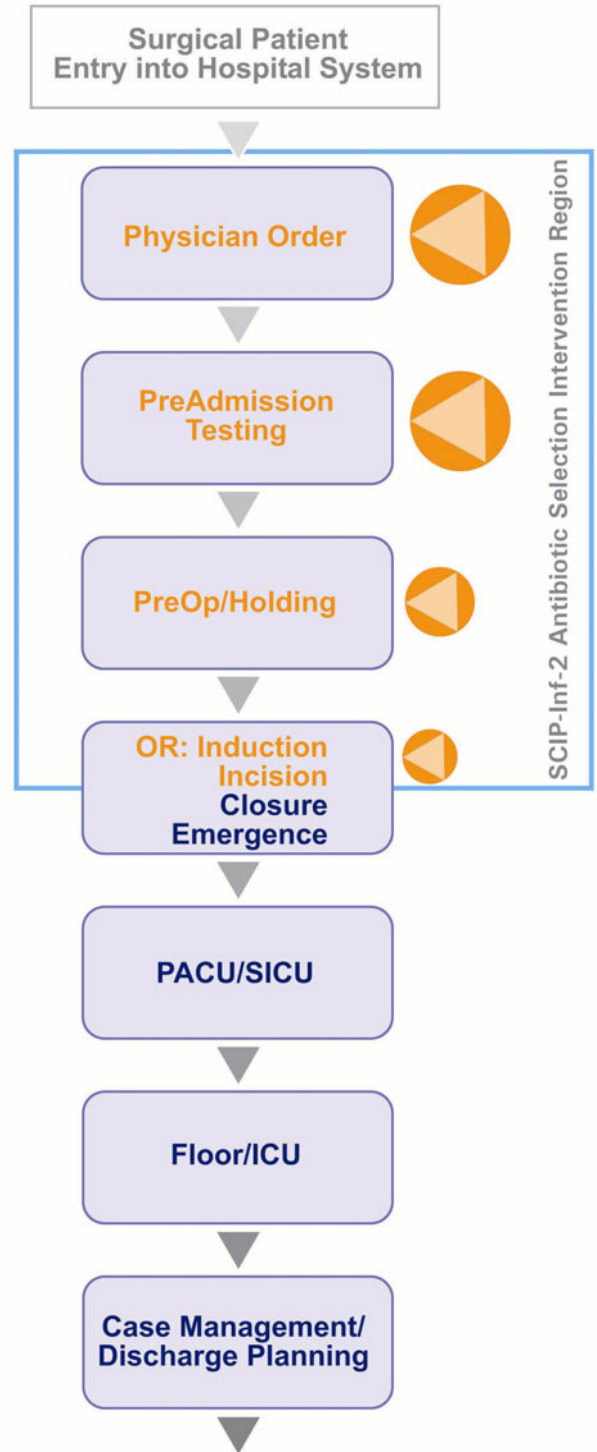
- Assess risk factors for increased likelihood of surgical site infection
- Patient-specific (49,55):  
Diabetes, preoperative infection, malnutrition/low BMI, low serum albumin, anemia, malignancy, contaminated wound class, beta lactam allergy, immunocompromised
- Procedure-specific (44-46,52,56,58-60):  
Prosthesis, chest tubes/drains/pacing wires/central lines, complicated or long duration, planned hypothermia, preoperative bowel prep, volume depletion

#### Organization

- Review current practices/protocols and utilization of prophylactic antibiotic types by surgical service (6,7,50,53, 57-60)
- Evaluate pharmacy role in correct antibiotic selection

#### Clinical Team

- Consider electronic check between antibiotic and procedure type



## SCIP Surgical Infection Module Change Package

<b>SCIP-Inf-2: Prophylactic Antibiotic Selection for Surgical Patients</b>	
<b>Change Concept</b>	<b>Key Changes</b>
<b>Standardize</b>	<p><b>Review:</b></p> <ul style="list-style-type: none"> <li>• Observe current practices /protocols and utilization of prophylactic antibiotic types by surgical service (6,7,50,53,57-60)</li> <li>• Review current prophylactic antibiotic guidelines and compare to actual practice by service (57-60)</li> </ul> <p><b>Responsibility:</b></p> <ul style="list-style-type: none"> <li>• Evaluate pharmacy role in correct selection and delivery of antibiotics</li> </ul> <p><b>Process:</b></p> <ul style="list-style-type: none"> <li>• Include pharmacy in antibiotic process changes (45-46,57-60)</li> <li>• Adopt best practices through re-evaluation or initiation of protocols and/or standing orders for appropriate prophylactic antibiotic selection. (45-46,57-60)</li> </ul> <p><b>Documentation:</b></p> <ul style="list-style-type: none"> <li>• Ensure systematic documentation of antibiotic administration on every patient chart (paper or electronic)</li> </ul> <p><b>Protocols:</b></p> <ul style="list-style-type: none"> <li>• Develop antibiotic order sheet that is completed during pre-op visit and is sent to the OR with patient's other paperwork prior to surgery</li> </ul>
<b>Design systems to avoid mistakes</b>	<p><b>Orders:</b></p> <ul style="list-style-type: none"> <li>• Through the use of antibiotic standing orders specific to surgical type, administer prophylactic antibiotics according to guidelines based on local consensus</li> <li>• Include in preoperative evaluation (40,55): antibiotic field choice on physician order and pre-admission paperwork</li> <li>• Include in perioperative evaluation (40-55): beta lactam allergy evaluation</li> </ul> <p><b>Process:</b></p> <ul style="list-style-type: none"> <li>• Design process to make agreed upon antibiotics available in the operating room (OR)</li> </ul>
<b>Use Reminders</b>	<p><b>Checklist:</b></p> <ul style="list-style-type: none"> <li>• Provide visible reminder or checklist to give antibiotics on each case (e.g., brightly colored sticker)</li> </ul>
<b>Give People access to information</b>	<p><b>Feedback</b></p> <ul style="list-style-type: none"> <li>• Provide feedback on prophylaxis selection compliance and infection data monthly</li> <li>• Provide physician specific data to Director of Anesthesia on documentation of antibiotic administration.</li> <li>• Provide most current information to pharmacists, who then provide education to physicians</li> <li>• Provide recommended literature to physicians</li> </ul>

## SCIP Surgical Infection Module Change Package

### SCIP-Inf-2: Prophylactic Antibiotic Selection for Surgical Patients

Change Concept	Key Changes
<b>Consider people as in the same system</b>	<p><b>Pharmacy:</b></p> <ul style="list-style-type: none"> <li>Add responsibility for an antibiotic check to pharmacy staff to ensure that selection is appropriate</li> </ul>
<b>Use Automation</b>	<p><b>Order Entry:</b></p> <ul style="list-style-type: none"> <li>Institute a computerized physician order entry system with procedure-specific fields for antibiotic selection, timing, and duration</li> </ul>
<b>Optimize Inspection</b>	<p><b>Weight-based:</b></p> <ul style="list-style-type: none"> <li>Use weight-based antibiotic dosing Higher dose for larger patients. As this may be cumbersome, may want to increase cephalosporins from 1 to 2 grams for all patients since minor issues around toxicity</li> </ul> <p><b>Re-dose:</b></p> <ul style="list-style-type: none"> <li>Re-dose for longer surgeries (e.g. after 3 hours for short half-life cephalosporin)</li> </ul>

# SCIP Surgical Infection Module Change Package

## SCIP-Inf-3: Prophylactic Antibiotics Discontinued Within 24 Hours After Surgery End Time

### Process Change Strategies

#### Patient

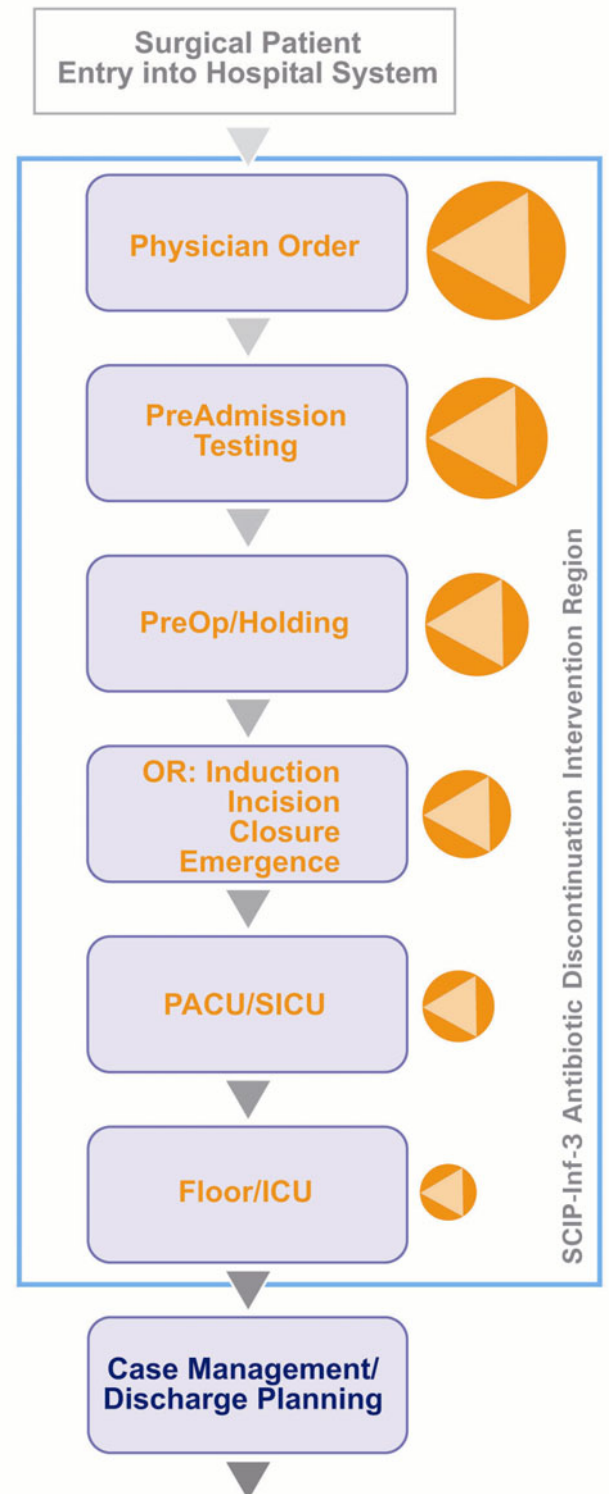
- Assess risk factors for increased likelihood of surgical site infection
- Patient-specific (49,55): Diabetes, preoperative infection, malnutrition/low BMI, low serum albumin, anemia, malignancy, contaminated wound class, beta lactum allergy, immunocompromised
- Procedure-specific (44-46,52,56,58-60): Prosthesis, chest tubes/drains/pacing wires/central lines, complicated or long duration, planned hypothermia, preoperative bowel prep, volume depletion

#### Organization

- Review current practices and system flow of surgical antibiotic prophylaxis from physician order to pharmacy to patient (6,7,50,51,53,60)

#### Clinical Team

- Review current antibiotic guidelines and compare to actual practice (46,48,52, 56-60)



## SCIP Surgical Infection Module Change Package

<b>SCIP-Inf-3: Prophylactic Antibiotics Discontinued Within 24 Hours After Surgery End Time</b>	
<b>Change Concept</b>	<b>Key Changes</b>
<b>Standardize</b>	<p><b>Responsibility:</b></p> <ul style="list-style-type: none"> <li>• Include pharmacist in antibiotic discontinuation process changes (46-48,52,56-60)</li> </ul> <p><b>Process:</b></p> <ul style="list-style-type: none"> <li>• Include in postoperative evaluation: lab values, temperature</li> <li>• Have PACU fax postop orders to pharmacy so next dose of antibiotic will be on time</li> </ul> <p><b>Documentation:</b></p> <ul style="list-style-type: none"> <li>• Ensure systematic documentation of antibiotic administration on every patient chart (paper or electronic)</li> <li>• Revise charting to include required fields for time of prophylactic antibiotic administration, discontinuation, and incision close time.</li> <li>• Have nursing write time of last antibiotic directly on order sheet to aid in understanding of when next dose is due.</li> </ul> <p><b>Protocols:</b></p> <ul style="list-style-type: none"> <li>• Develop protocols for each surgical service that include discontinuation of prophylactic antibiotics within 24 hours of surgery end time.</li> <li>• Develop policy that automatically discontinues antibiotics 24 hours after surgery. Pharmacy is gatekeeper and will not provide antibiotic after 24 hours unless physician writes reason for continuation</li> </ul>
<b>Design systems to avoid mistakes</b>	<p><b>Orders:</b></p> <ul style="list-style-type: none"> <li>• Through the use of antibiotic standing orders specific to surgical site, administer prophylactic antibiotics according to guidelines based on local consensus</li> <li>• Use preprinted order forms and MAR containing only two doses of antibiotics from time of incision to end of 24 hours postop</li> <li>• Revise medication order sheet to restrict antibiotic orders to 24 hours postop or limit postoperative doses</li> </ul>
<b>Use Reminders</b>	<p><b>Checklist:</b></p> <ul style="list-style-type: none"> <li>• Provide visible reminder or checklist to give antibiotics on each case</li> </ul> <p><b>Stickers:</b></p> <ul style="list-style-type: none"> <li>• Provide stickers with name of antibiotic and administration times to place on OR record so next dose may be timed from first dose.</li> </ul>
<b>Give People access to information</b>	<p><b>Feedback:</b></p> <ul style="list-style-type: none"> <li>• Provide feedback on prophylaxis selection compliance and infection data monthly</li> <li>• Provide physician specific data to Director of Anesthesia on documentation of antibiotic administration.</li> <li>• Provide most current information to pharmacists, who then provide education to physicians</li> <li>• Provide recommended literature to physicians</li> </ul>
<b>Consider people as in the same system</b>	<p><b>Pharmacy:</b></p> <ul style="list-style-type: none"> <li>• Involve pharmacy staff to ensure timing, selection, and duration are maintained</li> </ul>

## SCIP Surgical Infection Module Change Package

### SCIP-Inf-3: Prophylactic Antibiotics Discontinued Within 24 Hours After Surgery End Time

#### Use Automation

#### Order Entry:

- Institute a computerized physician order entry system with procedure-specific fields for antibiotic selection, timing, and duration

# SCIP Surgical Infection Module Change Package

## SCIP-Inf-4: Cardiac Surgery Patients With Controlled 6 A.M. Serum Glucose Postoperatively

### Process Change Strategies

#### Patient

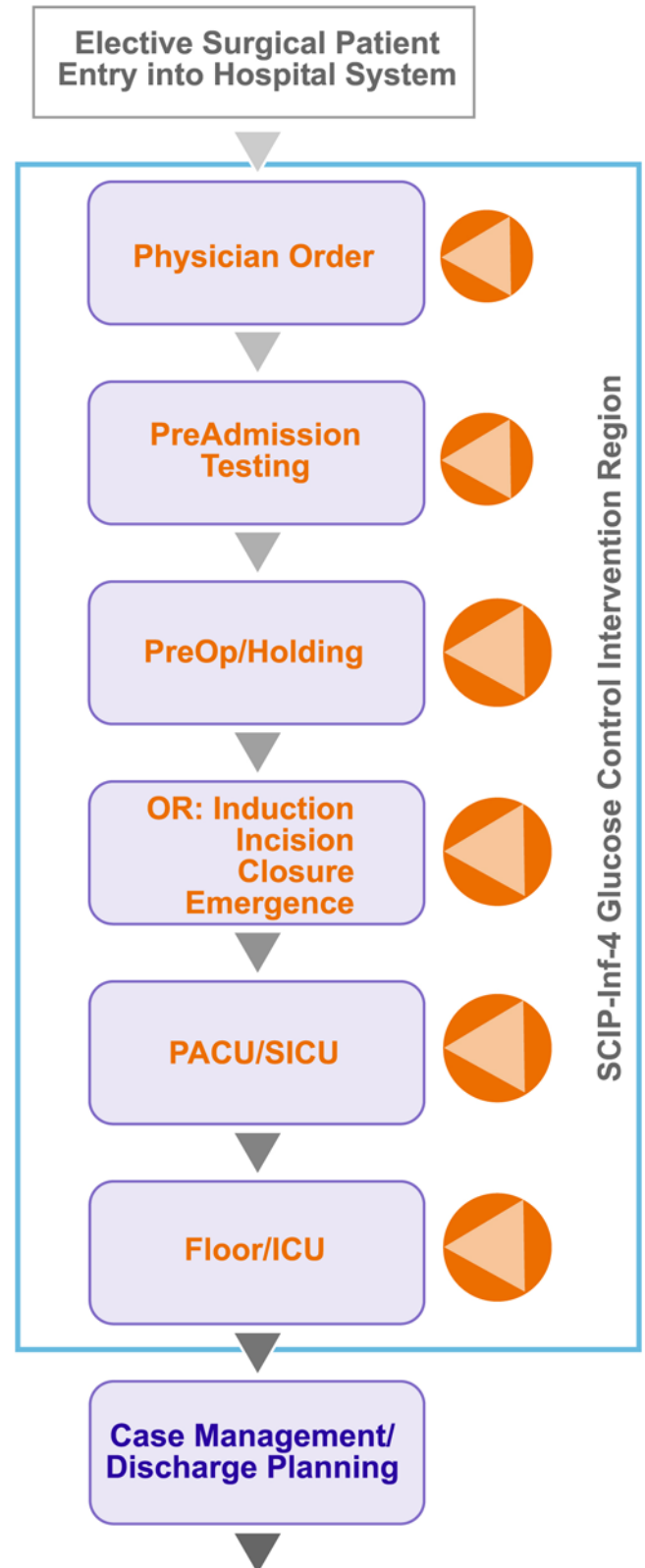
- Assess risk factors for increased likelihood of elevated glucose levels (39, 40, 42, 43)
- Patient-specific: Diabetes, and or family history, elevated BMI, abnormal cholesterol profile, steroid use, and adrenal insufficiency
- Procedure-specific: CABG complicated or long duration, volume depletion

#### Organization

- Review evidence-based practice guidelines regarding glucose control and cardiac surgery (61, 63, 65,72,79)
- Review current in-house practices and glucose protocols for cardiac patients, diabetic and non-diabetic, in the pre-, intra-, and postoperative periods (61-83)

#### Clinical Team

- Review insulin protocol guidelines and compare to actual practice
- Consider adopting insulin infusion protocol for anesthesia to maintain glucose of diabetic patients during surgery



## SCIP Surgical Infection Module Change Package

<b>SCIP-Inf-4: Cardiac Surgery Patients With Controlled 6 A.M. Serum Glucose Postoperatively</b>	
<b>Change Concept</b>	<b>Key Changes</b>
<b>Standardize</b>	<p><b>Responsibility:</b></p> <ul style="list-style-type: none"> <li>• Assign to and gain acceptance of responsibility by Anesthesia Department for intraoperative glucose control in cardiac surgical patients (63-65, 72).</li> <li>• Assign to and gain acceptance of responsibility by surgical service or its designee for postoperative glucose management</li> </ul> <p><b>Process:</b></p> <ul style="list-style-type: none"> <li>• Revise charting to include required fields for perioperative glucose checks, lab work, continuous insulin infusion pumps</li> <li>• Include glucose testing, HbA1c in preoperative evaluation (64-65)</li> </ul> <p><b>Documentation:</b></p> <ul style="list-style-type: none"> <li>• Add check box to nursing assessment form to indicate patient on diabetic therapy and last dose of medication given.</li> </ul> <p><b>Protocols:</b></p> <ul style="list-style-type: none"> <li>• Adopt best practices through re-evaluation or initiation of protocols for glucose control in cardiac surgical patients.</li> <li>• Develop insulin infusion protocol for cardiac surgical patients and pilot in critical care areas</li> </ul>

# SCIP Surgical Infection Module Change Package

## SCIP-Inf-6: Surgical Patients With Appropriate Hair Removal

### Process Change Strategies

#### Patient

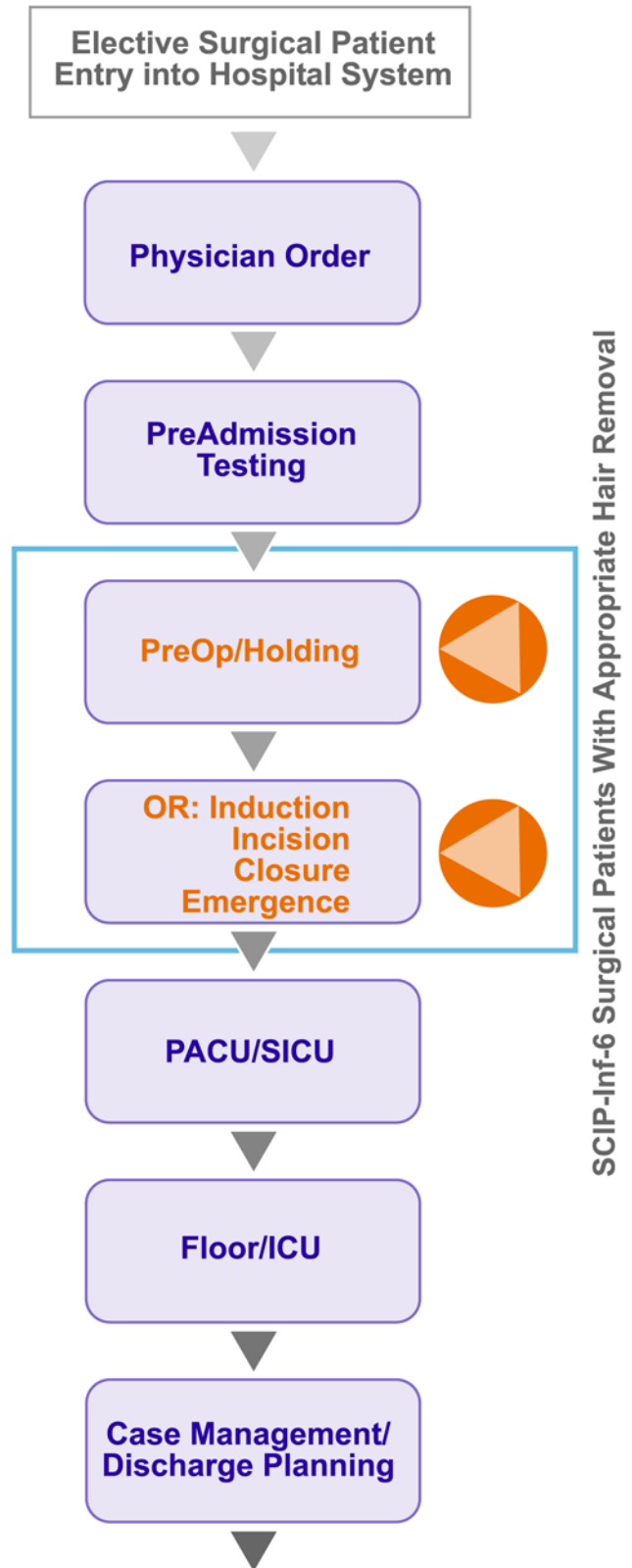
- Assess risk factors for increased likelihood of preoperative shaving
- Patient specific: Contaminated wound class
- Procedure specific: Preoperative testing

#### Organization

- Review evidence-based best practice guidelines regarding surgical site preparation (84-89)

#### Clinical Team

- Consider removal of razors from the preop/holding and OR.
- Consider other reasons why and where preoperative shaving of surgical site might occur prior to PreOp/holding (e.g. PreOp EKG)



## SCIP Surgical Infection Module Change Package

<b>SCIP-Inf-6: Surgical Patients With Appropriate Hair Removal</b>	
<b>Change Concept</b>	<b>Key Changes</b>
<b>Standardize</b>	<p><b>Protocols:</b></p> <ul style="list-style-type: none"> <li>• Establish protocol for when and how to remove hair in affected areas</li> <li>• Assign and gain acceptance of responsibility by surgery department for surgical site preparation</li> </ul> <p><b>Process:</b></p> <ul style="list-style-type: none"> <li>• Develop process to perform hair removal when necessary with clippers right before surgery</li> <li>• Avoid shaving heart surgery patients for EKG conducted shortly before surgery</li> <li>• Revise charting to include required fields for surgical site preparation including “no hair removal, clippers, depilatory”, eliminate razor option</li> </ul>
<b>Design systems to avoid mistakes</b>	<p><b>Razors:</b></p> <ul style="list-style-type: none"> <li>• Remove all razors from operating room, supply area and preop/holding area</li> <li>• Substitute readily available clippers/disposable heads</li> <li>• If physicians insist on razor, have them sign out and follow up with counseling</li> </ul>
<b>Partner with Patient</b>	<p><b>Education</b></p> <ul style="list-style-type: none"> <li>• Provide patient education and materials on appropriate hair removal techniques to prevent shaving at home</li> </ul>
<b>Use Reminders</b>	<ul style="list-style-type: none"> <li>• Post signs in applicable areas to remind staff</li> </ul>

# SCIP Surgical Infection Module Change Package

## SCIP-Inf-7: Colorectal Surgical Patients With Immediate Postoperative Normothermia

### Process Change Strategies

#### Patient

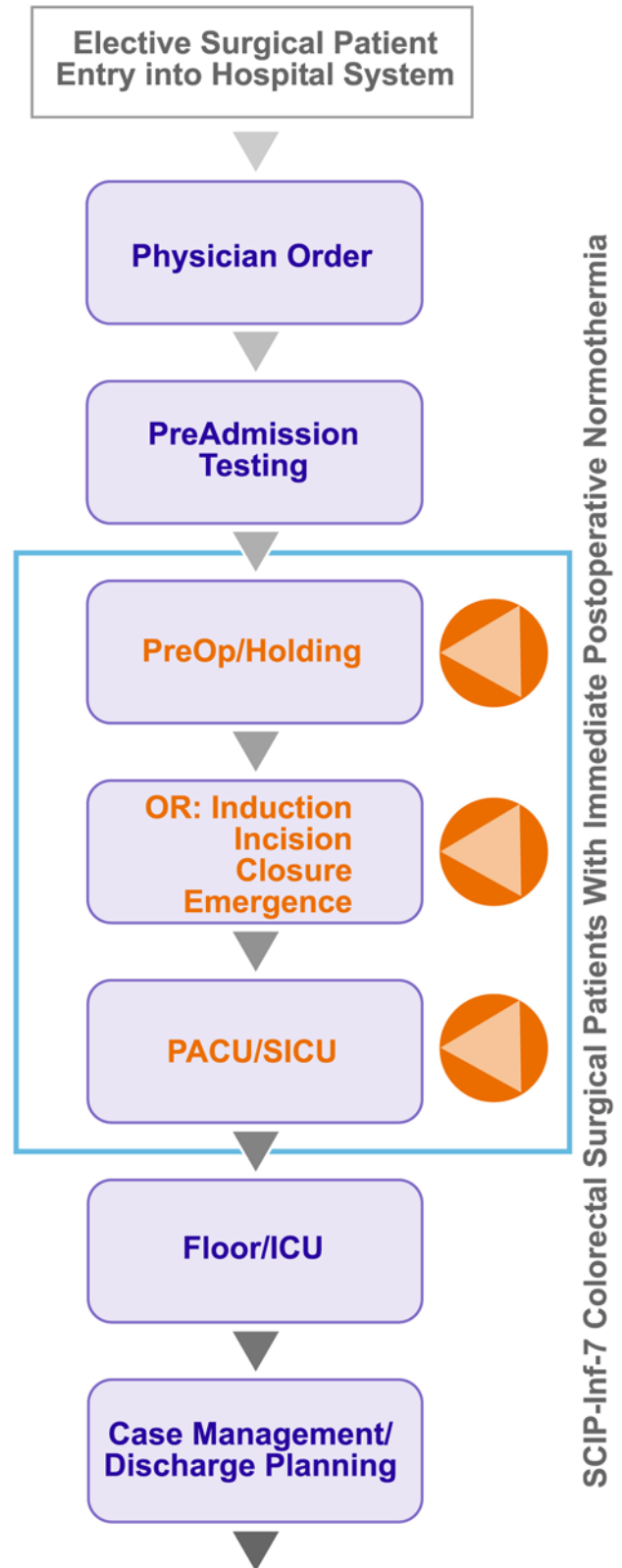
- Assess risk factors for increased likelihood of surgical site infection
- Patient-specific (49,55):  
Diabetes, preoperative infection, malnutrition/low BMI, low serum albumin, anemia, malignancy, contaminated wound class, beta lactam allergy, immunocompromised
- Procedure-specific (44-46,52,56,58-60)  
Prosthesis, chest tubes/drains/pacing wires/central lines, complicated or long duration, planned hypothermia, preoperative bowel prep, volume depletion

#### Organization

- Review evidence-based best practice guidelines regarding normothermia, warming devices, and temperature monitoring (91-116)
- Review patient flow from Preop to OR to PACU and evaluate appropriate assignment of temperature regulation responsibility
- Consider use of additional or new warming devices and temperature monitoring devices/methods (92- 101)

#### Clinical Team

- Review current antibiotic guidelines and compare to actual practice
- Consider increasing temperature when the OR is not in use (i.e., after last patient of the day and before first patient of the day) to assure that the equipment is warm even if you decrease the temperature during OR use.



## SCIP Surgical Infection Module Change Package

<b>SCIP-Inf-7: Colorectal Surgical Patients With Immediate Postoperative Normothermia</b>	
<b>Change Concept</b>	<b>Key Changes</b>
<b>Standardize</b>	<p><b>Standardize:</b></p> <ul style="list-style-type: none"> <li>• Limit heat loss in patients prior to operative procedure; keep at &gt;36° C</li> </ul> <p><b>Process:</b></p> <ul style="list-style-type: none"> <li>• Standardize process to use warming devices (warming blankets, hot air blankets, IV fluid heaters, filter heater hydrator for laparoscopic procedures, warming caps) to ensure patient temperature &gt;36° C perioperatively</li> <li>• Warm patient preoperatively, intraoperatively and postoperatively</li> <li>• Standardize temperature monitoring method and process (perioperatively).</li> <li>• Adopt Thermal Management Flow Chart to evaluate, monitor and regulate patient temperature throughout perioperative period</li> </ul> <p><b>Responsibility:</b></p> <ul style="list-style-type: none"> <li>• Assign responsibility for preoperative temperature monitoring and regulation to preop/holding area (91-93,99,102,108,114,116)</li> <li>• Assign responsibility for intraoperative temperature monitoring and regulation to anesthesia department (95-101,103-105,107-113,115-116)</li> <li>• Assign responsibility for postoperative temperature monitoring and regulation to PACU/SICU (115-116)</li> </ul>
<b>Affordance: Design systems to avoid mistakes</b>	<p><b>Protocol:</b></p> <ul style="list-style-type: none"> <li>• Provide devices and protocol for consistent measurement of patient temperature</li> <li>• Revise charting to include required fields for interval temperature monitoring</li> </ul>
<b>Focus on Outcome to Patient</b>	<p><b>Environment:</b></p> <ul style="list-style-type: none"> <li>• Assure engineering controls allow surgical staff to control room temperature</li> <li>• Increase ambient room temperature in the OR. (Note: increase humidity if you increase ambient room temperature to prevent dry eyes/skin among staff.)</li> <li>• Provide surgical staff with cooling gear/devices</li> </ul>

## SCIP Surgical Infection Module Change Package

### Change TIPS

Change Concept	Change TIPS	
<b>Standardize</b>	<b>Responsibility</b>	Specify primary and back-up responsibility, i.e. name person and position/job title for prophylactic antibiotic administration (e.g. Anesthesia Dept)
	<b>Process</b>	Move preop antibiotic to OR Instead of presurgical area
	<b>Timing</b>	PACU nurse notify pharmacy time of first dose for correct timing of next dose.
	<b>Documentation</b>	Add space for anesthesiologist and CRNA to document their names.
<b>Design Systems to avoid mistakes</b>	<b>Orders</b>	Add information re: allergies on the reverse side of order sheet to facilitate the patient or legal designee reading and signing form concerning beta lactam allergy.

# SCIP Venous Thromboembolic (VTE) Module Change Package

**SCIP-VTE-1: Surgical Patients with Recommended Thromboembolism Prophylaxis ordered.**

## Process Change Strategies

### Patient

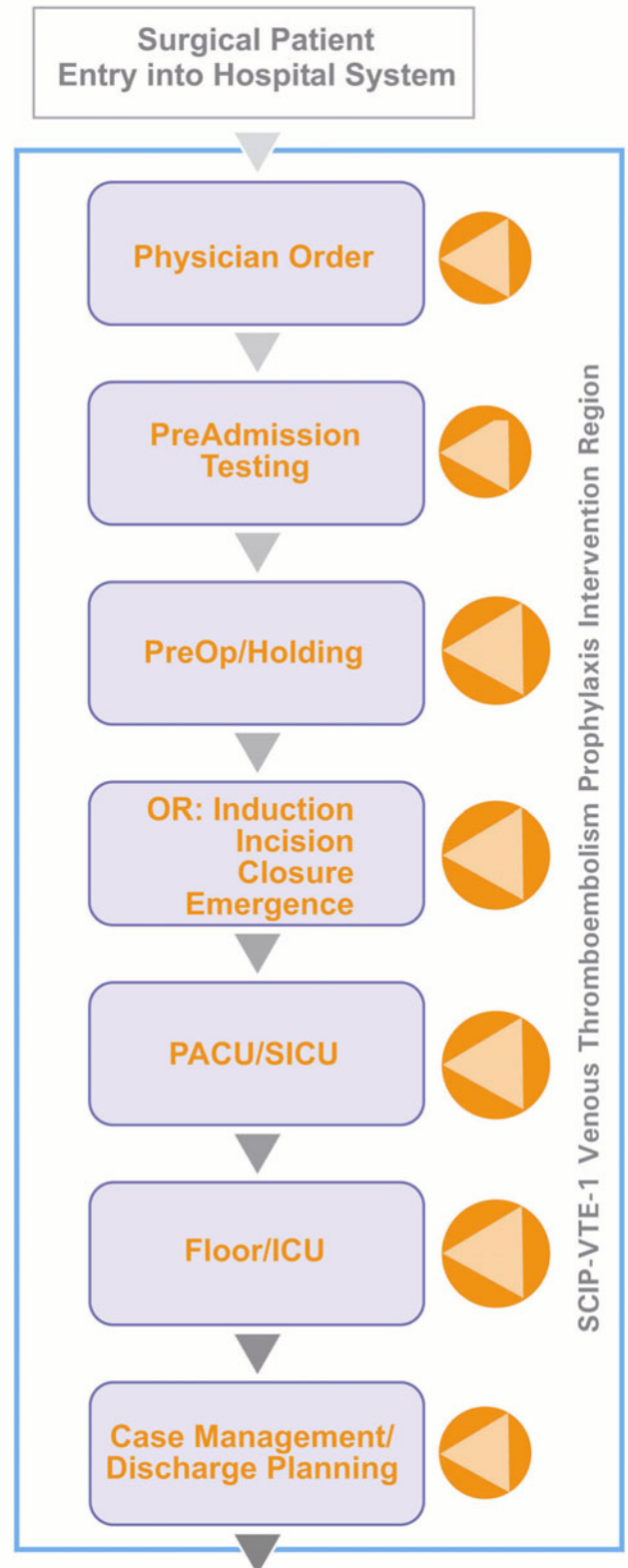
- Assess risk factors for increased likelihood of postoperative venous thromboembolism
- Patient specific (181,183,190-191): History of previous Deep vein thrombosis or pulmonary embolism, limited mobility or bedridden, age, acute heart failure, chronic edema of lower extremities, paresis /paralysis of lower extremities, pregnancy/post partum period, estrogen replacement therapy, inflammatory bowel disease, obesity, smoker, varicose veins, central venous catheterization, thrombophilia, nephrotic syndrome, myeloproliferative disorders, malignancy cancer, therapy, trauma, cardiac or respiratory failure, paroxysmal nocturnal hemoglobinuria, stroke, spinal cord injury.
- Procedure-specific (182,184-185,188, 193-196): Complicated or long duration, hip/knee arthroplasty, hip fracture, major gynecologic surgery, major urologic surgery

### Organization

- Review current practices and system flow of surgical patients from physician order to discharge. (2,5,6-8,186,196)

### Clinical Team

- Review current venous thromboembolism prophylaxis guidelines in surgical services and compare to actual practice (188-189,194,196)
- Review available literature and current recommendations for venous thromboembolism prophylaxis; incorporate into guidelines for surgical services (181-196)



## SCIP Venous Thromboembolic (VTE) Module Change Package

<b>SCIP-VTE-1: Surgical Patients with Recommended Thromboembolism Prophylaxis ordered.</b>	
<b>Change Concept</b>	<b>Key Changes</b>
<b>Standardize</b>	<p><b>Responsibility:</b></p> <ul style="list-style-type: none"> <li>• Assign to and gain acceptance of responsibility by surgeon for venous thromboembolism prophylaxis</li> </ul> <p><b>Documentation:</b></p> <ul style="list-style-type: none"> <li>• Revise charting to include required fields for venous thromboembolism prophylaxis; detailed documentation for physician if contraindicated or not warranted. (9-10,19-22)</li> </ul> <p><b>Protocols:</b></p> <ul style="list-style-type: none"> <li>• Implement or revise clinical guidelines for pre- and postoperative venous thromboembolism risk assessment and prophylaxis (181,183,186,188,193-196)</li> <li>• Include venous thromboembolism risk assessment during preoperative evaluation in the physician order for surgery (186-188, 190-196)</li> </ul>
<b>Design systems to avoid mistakes</b>	<p><b>Process:</b></p> <ul style="list-style-type: none"> <li>• Include venous thromboembolism risk assessment with physicians preoperative order set during preoperative assessment (181,183,186-188,190-196)</li> <li>• Include venous thromboembolism risk assessment in ICU/SICU documentation during postoperative evaluation.</li> </ul>
<b>Use Reminders</b>	<p><b>Checklist:</b></p> <ul style="list-style-type: none"> <li>• Provide list of recommended venous thromboembolism prophylaxis by surgery type for surgeons or add list to reverse side of surgery order sheet.</li> </ul>
<b>Give People access to information</b>	<p><b>Feedback:</b></p> <ul style="list-style-type: none"> <li>• Provide feedback on appropriate venous thromboembolism prophylaxis compliance and perioperative thromboembolic events data monthly</li> <li>• Conduct training Enlist physician champion to provide venous thromboembolism prophylaxis information to surgeons</li> <li>• Initiate DVT awareness training for staff</li> </ul>
<b>Consider people as in the same system</b>	<p><b>Pharmacy:</b></p> <ul style="list-style-type: none"> <li>• Include Pharmacy in venous thromboembolism prophylaxis process change</li> </ul>

## SCIP Venous Thromboembolic (VTE) Module Change Package

**SCIP-VTE-2: Surgical Patients who received appropriate venous thromboembolism prophylaxis within 24 hours prior to surgery to 24 hours after surgery.**

### Process Change Strategies

#### Patient

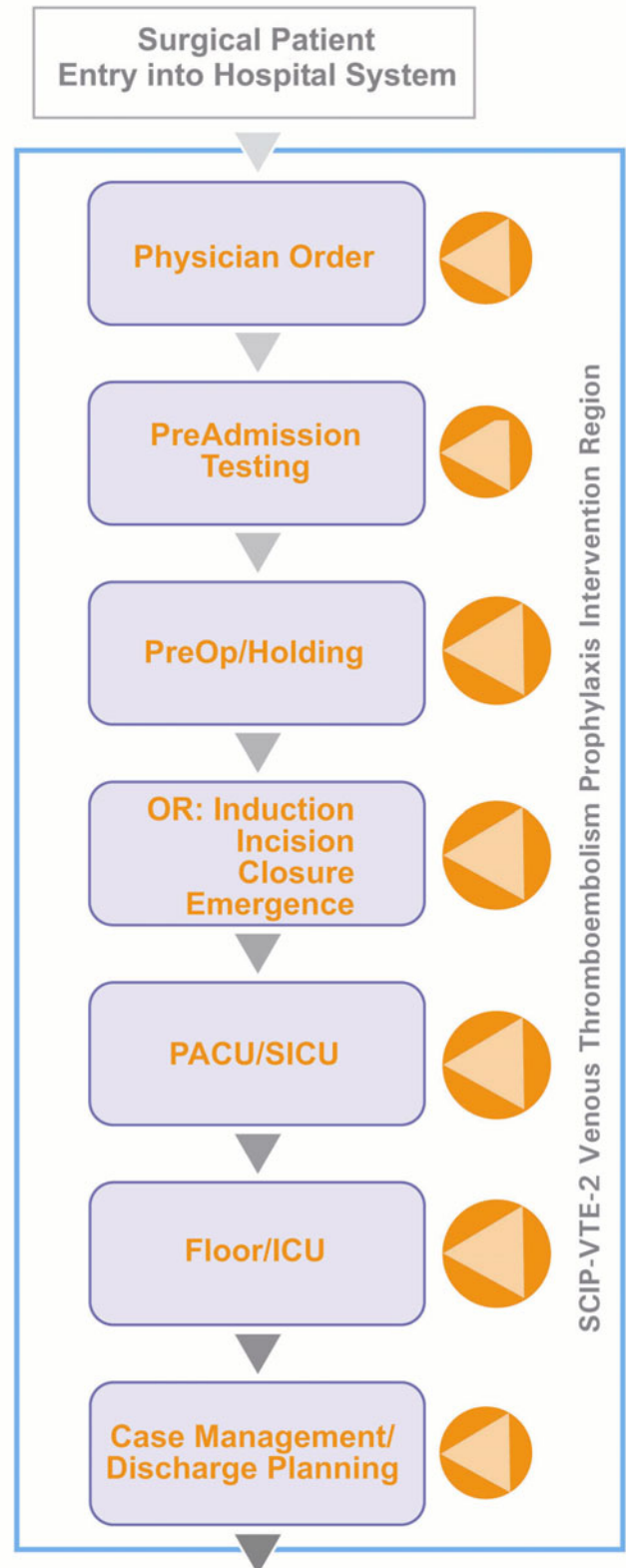
- Assess risk factors for increased likelihood of postoperative venous thromboembolism:
- Patient specific: History of prior DVT or PE, limited mobility or bedridden, age, acute heart failure, chronic edema of lower limbs, paresis/paralysis of lower limbs, pregnancy/post partum period, estrogen replacement therapy, inflammatory bowel disease, obesity, smoker, varicose veins, central venous catheterization, thrombophilia, nephrotic syndrome, myeloproliferative disorders, malignancy, cancer therapy, trauma, cardiac or respiratory failure, paroxysmal nocturnal hemoglobinuria, stroke, spinal cord injury. (181,183,190-191)
- Procedure specific: Complicated or long duration, hip/knee arthroplasty, hip fracture, major gynecologic surgery, major urologic surgery (182,184-185,188,193-196)

#### Organization

- Review current practices and system flow of surgical patients from physician order to discharge. (2,5,6-8,186,196)

#### Clinical Team

- Review current venous thromboembolism prophylaxis guidelines in surgical services and compare to actual practice (188-189,194,196)
- Review available literature and current recommendations for venous thromboembolism prophylaxis; incorporate into guidelines for surgical services (181-196)



## SCIP Venous Thromboembolic (VTE) Module Change Package

<b>SCIP-VTE- 2: Surgical Patients who received appropriate venous thromboembolism prophylaxis within 24 hours prior to surgery to 24 hours after surgery.</b>	
<b>Change Concept</b>	<b>Key Changes</b>
<b>Standardize</b>	<p><b>Responsibility:</b></p> <ul style="list-style-type: none"> <li>• Assign to and gain acceptance of responsibility by surgeon for venous thromboembolism prophylaxis</li> </ul> <p><b>Documentation:</b></p> <ul style="list-style-type: none"> <li>• Revise charting to include required fields for venous thromboembolism prophylaxis; detailed documentation for physician if contraindicated or not warranted (9-10,19-22)</li> </ul> <p><b>Protocols:</b></p> <ul style="list-style-type: none"> <li>• Implement or revise clinical guidelines for pre- and postoperative venous thromboembolism risk assessment and prophylaxis (181,183,186,188,193-196)</li> </ul>
<b>Design systems to avoid mistakes</b>	<p><b>Process:</b></p> <ul style="list-style-type: none"> <li>• Include venous thromboembolism risk assessment in ICU/SICU documentation during postoperative evaluation</li> </ul>
<b>Use Reminders</b>	<p><b>Checklist:</b></p> <ul style="list-style-type: none"> <li>• Provide list of recommended venous thromboembolism prophylaxis by surgery type for surgeons or add list to reverse side of surgery order sheet</li> </ul>
<b>Give People access to information</b>	<p><b>Feedback:</b></p> <ul style="list-style-type: none"> <li>• Provide feedback on recommended venous thromboembolism prophylaxis compliance and perioperative thromboembolic events data monthly</li> </ul> <p><b>Conduct training:</b></p> <ul style="list-style-type: none"> <li>• Request physician champion to provide venous thromboembolism prophylaxis to surgeons</li> <li>• Initiate DVT awareness training for staff</li> </ul>
<b>Consider people as in the same system</b>	<p><b>Pharmacy:</b></p> <ul style="list-style-type: none"> <li>• Include Pharmacy in venous thromboembolism prophylaxis process change</li> </ul>

# SCIP Cardiovascular Module Change Package

## SCIP- Card 2: Surgery Patients on a Beta Blockers Prior to Surgery that Received Beta Blockers During Perioperative Period.

### Patient

- Assess risk factors for contraindication or caution in beta-blocker use:
- Patient-specific: decompensated CHF, bradyarrhythmia, sick sinus syndrome, 2<sup>nd</sup> or 3<sup>rd</sup> degree heart block (Without pacemaker), poorly controlled reactive airway disease, systolic BP < 100 mm Hg, Carotid hypersensitivity

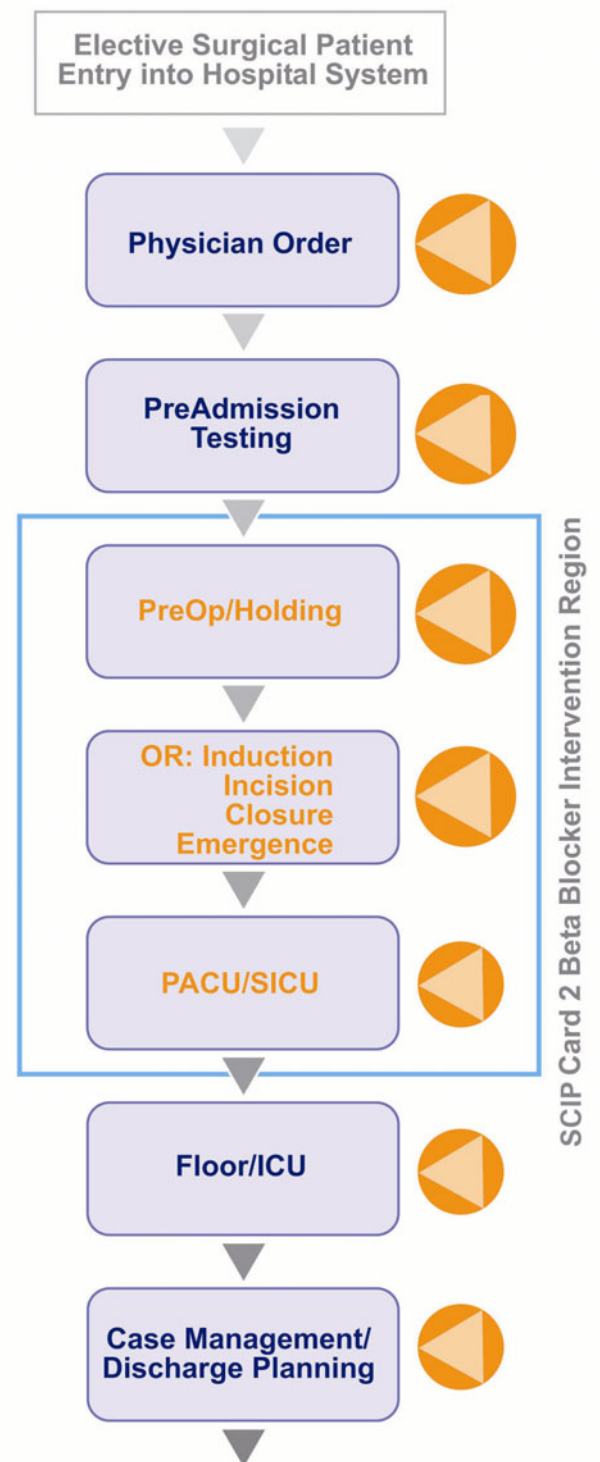
### Organization

- Review current practices and system flow of surgical patients from physician order to discharge. (2,4,6,7, 117-119,133,135,138-142)

### Clinical Team

- Review current beta-blocker guidelines for surgery patients with cardiovascular disease and compare to actual practice. (117-119, 133-142, 170)
- Review available beta-blockers, contraindications, and administrative recommendations; incorporate into guidelines for surgery services. (117-119)

### Process Change Strategies



## SCIP Cardiovascular Module Change Package

<b>SCIP- Card 2: Surgery Patients on a Beta Blockers Prior to Surgery that Received Beta Blockers During Perioperative Period.</b>	
<b>Change Concept</b>	<b>Key Changes</b>
<b>Standardize</b>	<p><b>Responsibility:</b></p> <ul style="list-style-type: none"> <li>Assign to and gain acceptance of responsibility by physician ordering procedure for pre- and postoperative beta-blocker administration.</li> </ul> <p><b>Documentation:</b></p> <ul style="list-style-type: none"> <li>Revise charting to include required fields for time of beta-blocker administration and discontinuation; detailed documentation for physician if beta-blocker is contraindicated or not warranted. (9-10,19-22)</li> </ul> <p><b>Protocols:</b></p> <ul style="list-style-type: none"> <li>Implement or revise clinical guidelines for pre- and postoperative cardiac risk assessment, beta blocker patient profile, beta blocker selection and duration (117-119,168-170)</li> </ul>
<b>Design systems to avoid mistakes</b>	<p><b>Orders:</b></p> <ul style="list-style-type: none"> <li>Consider postoperative EKG standing order for moderate to high-risk patients (136)</li> </ul> <p><b>Process:</b></p> <ul style="list-style-type: none"> <li>Include cardiac risk assessment with physicians preoperative order set during preoperative assessment (158, 160, 162, 166-169)</li> <li>Include cardiac risk assessment in ICU/SICU documentation during postoperative evaluation (136-138)</li> </ul>
<b>Use Reminders</b>	<p><b>Checklist:</b></p> <ul style="list-style-type: none"> <li>Provide laminated list of common beta-blockers for surgeons or add list to reverse side of surgery order sheet</li> <li>Add check box for documentation of beta-blocker use on preoperative assessment form, including date and time of last dose</li> </ul>
<b>Give People access to information</b>	<p><b>Feedback:</b></p> <ul style="list-style-type: none"> <li>Provide feedback on appropriate beta-blocker use compliance and perioperative cardiac events data monthly</li> </ul> <p><b>Conduct training:</b></p> <ul style="list-style-type: none"> <li>Enlist physician champion to provide beta-blocker information to surgeons and anesthesiologists</li> </ul>
<b>Consider people as in the same system</b>	<p><b>Pharmacy:</b></p> <ul style="list-style-type: none"> <li>Include Pharmacy in beta-blocker administration process change</li> </ul>