

IHI Bundle

(Updated December 2011)

- 1. Prevent Ventilator-associated Pneumonia**
- 2. Prevent Central line associated Bloodstream Infections [CLABSI]**
- 3. Preventing Catheter-Associated Urinary Tract Infections**
- 4. Prevent surgical site infection**

Bundle

1. Small & Straightforward
2. A grouping of best practices with respect to a disease process that individually improve care, but when applied together result in substantially greater improvement
3. IHI(Institute for Healthcare Improvement)에서 VAP에 적용 시작
4. Component
3~5 evidence-based practice
Best care에 필수항목 (과학적 증명)
5. All or nothing

1. Prevent Ventilator-associated Pneumonia

- 1. Elevation of the head of the bed(HOB) to between 30 and 45 degrees**
- 2. Daily “sedation interruption” and daily assessment of readiness to extubate**
- 3. Peptic ulcer disease (PUD) prophylaxis**
- 4. Deep venous thrombosis (DVT) prophylaxis(unless contraindicated)**
- 5. Daily oral care with chlorhexidine.**

1. Prevent Ventilator-associated Pneumonia [예시]

등록번호	<input type="text"/>	<input type="text"/>	<input type="text"/>	주치의	<input type="text"/>	입원일	<input type="text"/>
병동/병실	<input type="text"/>			진단명	<input type="text"/>		

VAP bundle checklist	BSI bundle checklist	Weaning protocol checklist
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부서명 : SICU MICU CCU BICU 전입일 : 기록일 :

[Day]

기록일시 : 기록자 :

HUP 30° : 예 아니요 Shock 체위변경불가 기타 기관발관여부사정 : 예 아니요

PUD Prophylaxis : IV 약제사용 PO 약제사용 DVT : IPC Stocking 약제사용 수혈 수술 출혈

E-T tube cuff pressure : 구강간호 : 약제 저장 후 인증

미인증자료

[EVENING]

기록일시 : 기록자 :

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미인증자료

[NIGHT]

기록일시 : 기록자 :

HUP 30° : 예 아니요 Shock 체위변경불가 기타 기관발관여부사정 : 예 아니요

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미인증자료

2. Prevent Central line associated Bloodstream Infections [CLABSI]

- 1. Hand hygiene**
- 2. Maximal barrier precautions**
- 3. Chlorhexidine skin antisepsis**
- 4. Optimal catheter site selection with avoidance of using the femoral vein for central venous access in adult patients**
- 5. Daily review of the necessity with prompt removal of necessary lines.**

2. Prevent Central line associated Bloodstream Infections [CLABSI]

1. Hand hygiene

- Before and after palpating catheter insertion sites
(Note: Palpation of the insertion site should not be performed after the application of antiseptic, unless aseptic technique is maintained.)
- Before and after inserting, replacing, accessing, repairing, or dressing an intravascular catheter
- When hands are obviously soiled or if contamination is suspected
- Before and after invasive procedures
- Between patients
- Before donning and after removing gloves
- After using the bathroom

2. Prevent Central line associated Bloodstream Infections [CLABSI]

2. Maximal barrier precautions

- Empower nursing to enforce use of a central line checklist to be sure all processes related to central line placement are executed for each line placement.
- Include maximal barrier precautions as part of your checklist for central line placement.
- Keep equipment stocked in a cart for central line placement to avoid the difficulty of finding necessary equipment to institute maximal barrier precautions.
- If a full-size drape is not available, apply two drapes to cover the patient. Or consult with the operating room staff to determine how to procure full-size sterile drapes, since these are routinely used in surgical settings.

2. Prevent Central line associated Bloodstream Infections [CLABSI]

3. Chlorhexidine skin antisepsis

- Prepare skin with antiseptic/detergent chlorhexidine 2% in 70% isopropyl alcohol.
- Pinch wings on the chlorhexidine applicator to break open the ampule (when ampule is included).
Hold the applicator down to allow the solution to saturate the pad.
- Press sponge against skin, and apply chlorhexidine solution using a back-and-forth friction scrub for at least 30 seconds.
Do not wipe or blot.
- Allow antiseptic solution time to dry completely before puncturing the site (~ 2 minutes).

2. Prevent Central line associated Bloodstream Infections [CLABSI]

4. Optimal catheter site selection with avoidance of using the femoral vein for central venous access in adult patients

- Empower nursing to enforce use of a central line checklist to be sure all processes related to central line placement are executed for each line placement.
- Include optimal site selection as part of your checklist for central line placement with room to note appropriate contraindications, e.g., bleeding risks.

2. Prevent Central line associated Bloodstream Infections [CLABSI]

5. Daily review of the necessity with prompt removal of necessary lines.

- Include daily review of line necessity as part of your multidisciplinary rounds.
 - State the line day during rounds to remind all as to how long the line has been in, (e.g., Today is line day 6.)
 - Include assessment for removal of central lines as part of your daily goal sheets.
 - Record time and date of line placement for record-keeping purposes and evaluation by staff to aid in decision making.
 - Define an appropriate timeframe for regular review of necessity, such as weekly, when central lines are placed for long-term use
- Daily review was designed for the intensive care population and may not be appropriate when long-term use over weeks or months is planned.

2. Prevent Central line associated Bloodstream Infections [CLABSI] Check list

Central Line Procedural Checklist

Indication: To document procedural practices in the CCU related to insertion technique for: CVP lines, dialysis access ports, and central lines (including PICC).

Type of catheter:	<input type="checkbox"/> Central Line	Location: _____
	<input type="checkbox"/> CVP	Location: _____
	<input type="checkbox"/> Dialysis Catheter	Location: _____
	<input type="checkbox"/> PICC Line	Location: _____
Is this a NEW line:	<input type="checkbox"/> YES	<input type="checkbox"/> NO
Is the procedure:	<input type="checkbox"/> Elective	<input type="checkbox"/> Emergent
	<input type="checkbox"/> Re-wire	<input type="checkbox"/> Re-position

Procedural Checklist		
Safety Practice	YES	YES (After Reminder)
Before procedure, did the provider:		
➤ PERFORM PROCEDURAL PAUSE		
Perform patient ID X 2	<input type="checkbox"/>	<input type="checkbox"/>
Announce the procedure to be performed	<input type="checkbox"/>	<input type="checkbox"/>
Mark / assess site	<input type="checkbox"/>	<input type="checkbox"/>
Position patient correctly for procedure	<input type="checkbox"/>	<input type="checkbox"/>
Assemble equipment / verify supplies	<input type="checkbox"/>	<input type="checkbox"/>
Utilize relevant documents (chart / forms)	<input type="checkbox"/>	<input type="checkbox"/>
Order follow-up Radiology images (PRN)	<input type="checkbox"/>	<input type="checkbox"/>
➤ Cleanse hands? (ASK, if unsure)	<input type="checkbox"/>	<input type="checkbox"/>
➤ Prep procedure site with ChloroPrep? *30 seconds for dry site **2 minutes for moist site (esp. femoral)	<input type="checkbox"/>	<input type="checkbox"/>
➤ Use large drape to cover patient in sterile fashion?	<input type="checkbox"/>	<input type="checkbox"/>
During procedure, did the provider:		
➤ Wear sterile gloves during catheter insertion?	<input type="checkbox"/>	<input type="checkbox"/>
➤ Wear hat, mask, and sterile gown?	<input type="checkbox"/>	<input type="checkbox"/>
➤ Maintain sterile field?	<input type="checkbox"/>	<input type="checkbox"/>
➤ Use ultrasound/Sonosite if appropriate?	<input type="checkbox"/>	<input type="checkbox"/>
➤ Did assisting physician follow the same precautions? (hand washing, mask, gloves, gown)	<input type="checkbox"/>	<input type="checkbox"/>
➤ Did all staff and patient in the room wear a mask?	<input type="checkbox"/>	<input type="checkbox"/>
After the procedure:		
➤ Was sterile technique maintained when applying dressing?		
➤ Was dressing dated?		

Name of Intensivist: _____

Name of Procedure MD _____

Name of Assisting MD _____

Name of RN (auditor): _____ Today's Date: ____-____-____

Room: CCU Bed # _____

2. Prevent Central line associated Bloodstream Infections [CLABSI] [예시]

등록번호		주치의		입원일	
병동/병실					
VAP bundle checklist		BSI bundle checklist		Weaning protocol checklist	

I. General Information 신규입력 과거이력 복사 작성일 :

1. 입원일 : 2013-02-03 2. 중환자실 입/퇴실일 : [] - [] 기간 :

3. 진료과 : 1) MP 2) MN 3) MC 4) MM 5) MO 6) MD 7) NS 8) BS 9) GS 10) NEU 11) CS 12) OS 13) EM

4. Underlying disease : 1) Infection 2) cardiovascular dz 3) Gastrointestinal dz 4) Neurologic dz
 5) Malignancy 6) respiratory dz 7) Others []

5. present diagnosis : 1) Infection 2) cardiovascular dz 3) Gastrointestinal dz 4) Neurologic dz
 5) Malignancy 6) respiratory dz 7) Others []

II. Infection control

1차 삽입 2차 삽입 3차 삽입 4차 삽입 5차 삽입

6. 삽입일 : [] - [] 기간 : 33 일

7.1 시술자

8. 삽입부위 : 1) Subclavian 2) Jugular 3) Femoral

9. 시술 전 손 위생 YES NO 10. 시술 후 손 위생 YES NO 11. 삽입시 모자착용 YES NO

12. 마스크 착용 YES NO 13. 멸균가운 착용 YES NO 14. 멸균장갑 착용 YES NO

15. 환자 멸균 대방포 적용 YES NO

16. 거즈 드레싱, 필름 드레싱

7.2 시술보조자

9. 시술 전 손 위생 YES NO 10. 시술 후 손 위생 YES NO 11. 삽입시 모자착용 YES NO

12. 마스크 착용 YES NO 13. 멸균가운 착용 YES NO 14. 멸균장갑 착용 YES NO

15. 환자 멸균 대방포 적용 YES NO

III. 카테터 관련 혈류감염

16. 뚜렷한 다른 원인 없이 적어도 다음 한 가지에 해당 : Yes No 1) fever(>38 °) 2) Chill 3) Hypotension

17. Blood culture : Yes No 시술자 []

18. 미생물 결과 (17번에서 예인 경우만 해당)

1) No growth

2) 해당미생물 []

3. Preventing Catheter-Associated Urinary Tract Infections

- 1. Avoid unnecessary urinary catheters**
- 2. Insert using catheters aseptic technique**
- 3. Maintain urinary catheters based on recommended guidelines**
- 4. Review urinary catheters necessity daily and remove promptly**

3. Preventing Catheter-Associated Urinary Tract Infections

1. Avoid unnecessary urinary catheters

- Perioperative use for selected surgical procedures;
- Urine output monitoring in critically ill patients;
- Management of acute urinary retention and urinary obstruction;
- Assistance in pressure ulcer healing for incontinent patients; and
- As an exception, at patient request to improve comfort (SHEA-IDSA) or for comfort during end-of-life care (CDC).

3. Preventing Catheter-Associated Urinary Tract Infections

2. Insert using catheters aseptic technique

- Utilize appropriate hand hygiene practice (in accordance with Centers for Disease Control and Prevention or World Health Organization guidelines) immediately before insertion of the catheter.
- Insert catheters using aseptic technique and sterile equipment, specifically using:
 - gloves, a drape, and sponges;
 - sterile or antiseptic solution for cleaning the urethral meatus; and
 - single-use packet of sterile lubricant jelly for insertion.
- Use as small a catheter as possible that is consistent with proper drainage, to minimize urethral trauma.

3. Preventing Catheter-Associated Urinary Tract Infections

3. Maintain urinary catheters based on recommended guidelines

- Maintain a sterile, continuously closed drainage system.
- Keep catheter properly secured to prevent movement and urethral traction.
- Keep collection bag below the level of the bladder at all times.
- Maintain unobstructed urine flow.
- Empty collection bag regularly, using a separate collecting container for each patient, and avoid allowing the draining spigot to touch the collecting container.

3. Preventing Catheter-Associated Urinary Tract Infections

4. Review urinary catheters necessity daily and remove promptly

- Include catheter necessity in the daily nursing assessments at the start of every shift, with the requirement to contact physician if criteria are not met.
- Develop nursing protocols that allow for removal of urinary catheters if criteria for necessity are not met and there are no contraindications for
- Implement automatic stop orders for 48 to 72 hours after insertion, with continuation only when indication is documented in renewal order.
- Place reminders in paper patient records requiring physicians to document indication for continuation of catheter
- Use alerts in computerized ordering systems to indicate to physicians the presence of a catheter, and require documentation for continued need.

4. Prevent surgical site infection

- 1. Appropriate use of antibiotics**
- 2. Appropriate Hair Removal**
- 3. Controlled postoperative serum Glucose in cardiac surgery**
- 4. Immediate postoperative normothermia in colorectal surgery**

4. Prevent surgical site infection

1. Appropriate use of antibiotics

- Prophylactic antibiotic received within 1 hour prior to surgical incision*
- Prophylactic antibiotic selection for surgical patients consistent with national guidelines
(as defined in JC/CMS Specification Manual and SCIP for Measure SCIP-Inf-2)
- Prophylactic antibiotics discontinued within 24 hours after surgery end time (48 hours for cardiac patients)

4. Prevent surgical site infection

2. Appropriate Hair Removal

- Ensure adequate supply of clippers and train staff in proper use.
- Use reminders (signs, posters).
- Educate patients not to self-shave preoperatively.
- Remove all razors from the entire hospital.
- Work with the purchasing department so that razors are no longer purchased by the hospital.

4. Prevent surgical site infection

3. Controlled postoperative serum Glucose in cardiac surgery

- Implement one standard glucose control protocol for cardiac surgery.
- Regularly check preoperative blood glucose levels on all patients to identify hyperglycemia; this is best done early enough that assessment of risk can be completed and treatment initiated if appropriate.
- Assign responsibility and accountability for blood glucose monitoring and control.

4. Prevent surgical site infection

4. Immediate postoperative normothermia in colorectal surgery

- Prevent hypothermia at all phases of the surgical process.
- Use warmed forced-air blankets preoperatively, during surgery, and in PACU.
- Use warmed fluids for IVs and flushes in surgical sites and openings.
- Use warming blankets under patients on the operating table.
- Use hats and booties on patients perioperatively.
- Adjust engineering controls so that operating rooms and patient areas are not permitted to become excessively cold overnight, when many rooms are closed.
- Measure temperature with a standard type of thermometer.