



"Care Bundles: A Multidisciplinary Approach to Combat Healthcare-Associated Infections"

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16th & 17th April 2025



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Healthcare-associated infections (HAIs)

- Healthcare-associated infections (HAIs) are the infection acquired by patients in a hospital or health care facility that are not present at the time of admission. Infections acquired after 48 hours of admission.
- HAIs are the most important indicator of care quality in hospitals, threaten patient's safety, cause prolonged hospital stays, increase morbidity, mortality and treatment costs.
- The incidence of HAIs is 7 out of 100 in developed countries and 10 out of 100 in developing countries.
- According to WHO, HAI is common in resource limited settings (low- and middle-income countries) as compared to developed countries with prevalence rate between 5.7% and 19.1%.



CDC, One in 31
On any given day, about one in 31 hospital patients has at least one healthcare-associated infection.



Common Types of Healthcare-Associated Infections (HAIs)



Catheter

MDROs



Associated
Pneumonia
(VAP)

Bloodstream
Infections
(CLABSIs)



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Care Bundles

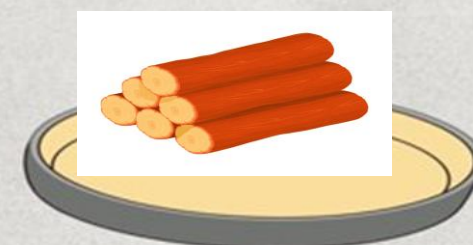


- **Up to 50% of HAIs are estimated to be preventable.** The application of infection prevention and control measures in healthcare settings is essential to prevent HAIs.
- **Care bundles** are evidence-based practices that improve patient outcomes and quality of care when implemented collectively especially in prevention of HAIs.
- **Care bundles** contribute to infection prevention, reduce unnecessary antibiotic prescribing and may limit the development of antibiotic resistance in healthcare facilities.
- The philosophy of the care bundle is to focus on how to provide the best care, not on what the care should be.
- The key principle in evaluating packages is the logic of “all or nothing”. Non-compliance with one of the parameters is accepted to be non-compliance with all the other parameters as well.

Checklist??



All or None?



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Who Can Use Care Bundles????

Infection Control Team should offer support with regard to implementation and advice on data collection, analysis and feedback.

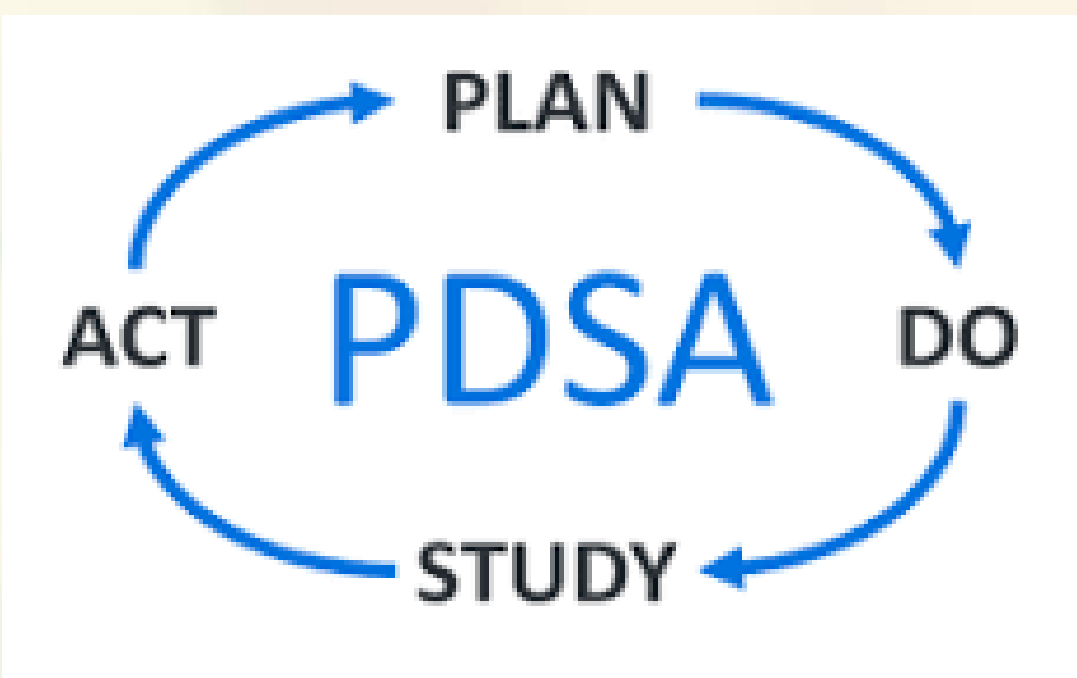
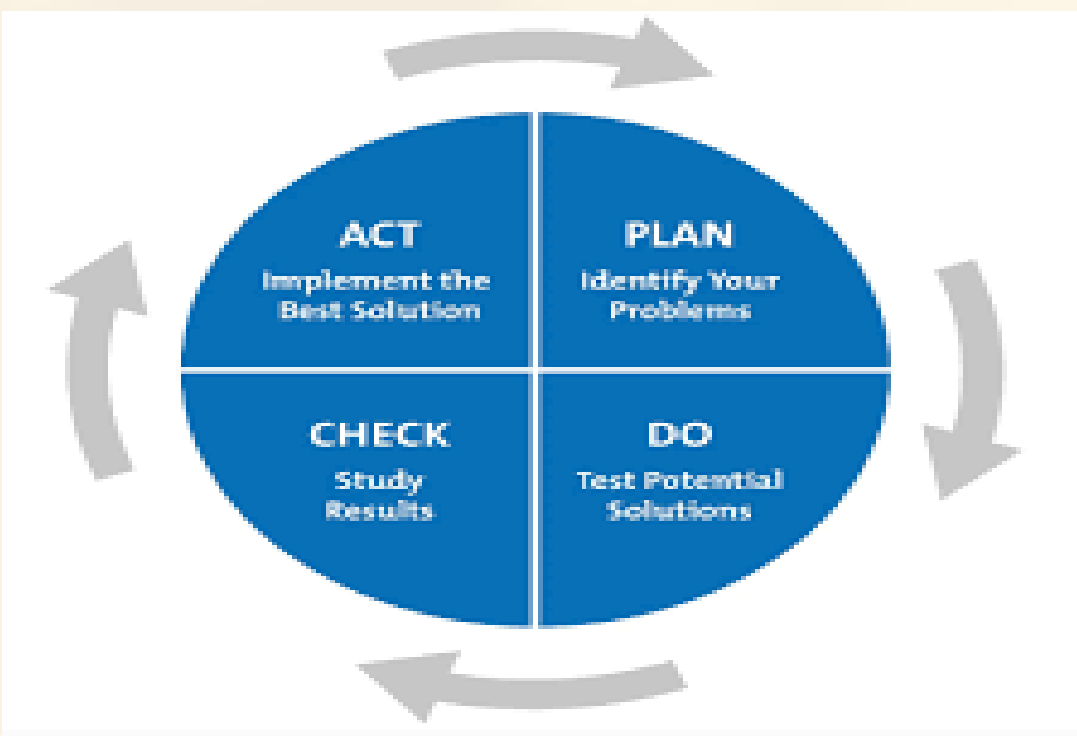
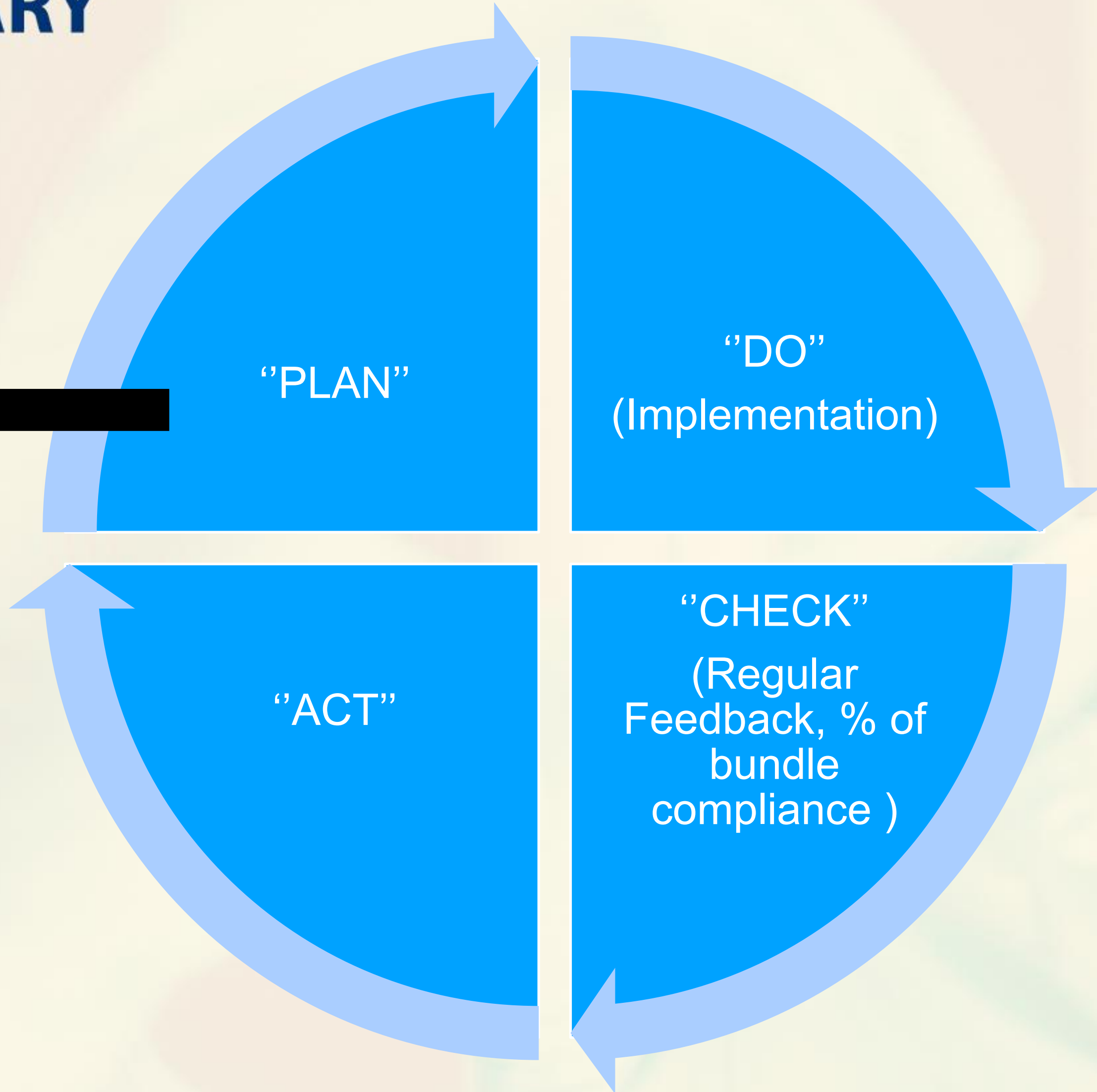


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- Elements of bundle.
- Supplies availability.
- How compliance is measured.





Care Bundles for HAIs



Catheter Associated Urinary tract Infections

Surgical Site Infections

Central Line Associated Blood Stream Infections

Ventilator Associated Pneumonia

Multi Drug Resistant Organisms



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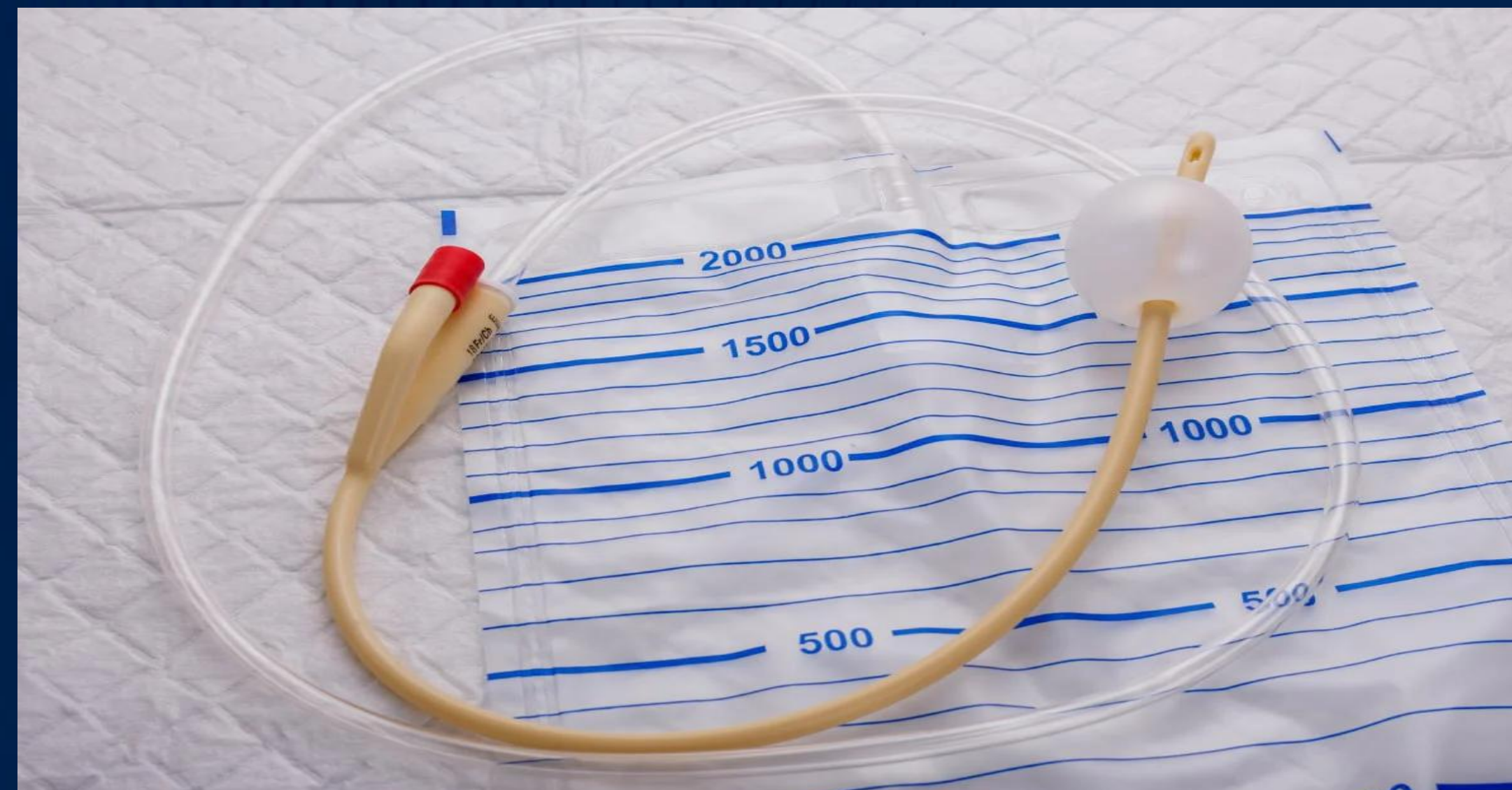




Care Bundles for HAIs



Catheter Associated Urinary tract Infections (CAUTI)



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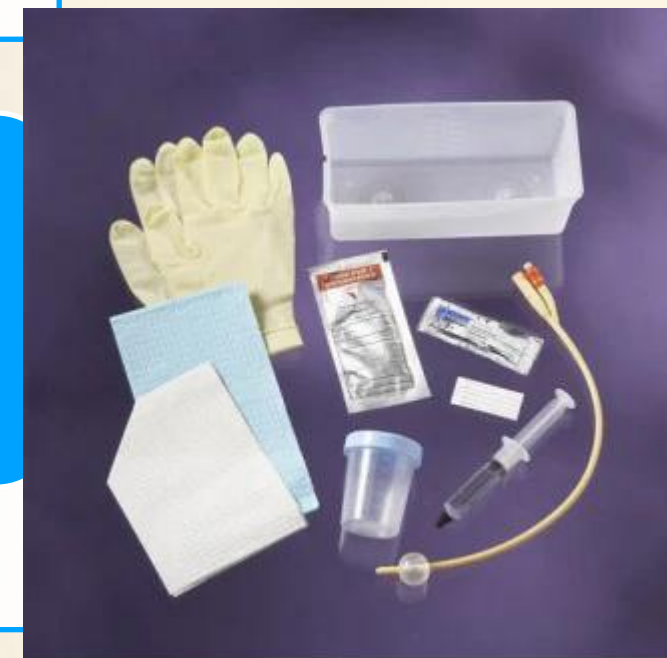
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(CAUTI) Bundle

Avoid unnecessary urinary catheter.

Insert using aseptic technique insertion & Proper maintenance after insertion.

Daily assessment of the presence and need for catheters.





Care Bundles for HAIs



Surgical Site Infections



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(SSIs) Bundle



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Pre-operative

- Administration of parenteral antibiotic prophylaxis:
 - Should be administered within 60 minutes prior to incision.
- Treat remote infections before elective operations if present.
- Use Chlorohexidine body wash on the day of surgery.
- Hair removal at the incisional site: Using clipper not razors.

Intra-operative

- Use appropriate antiseptic agent and technique for skin preparation in the operating room.
- Maintain glycemic control(diabetic patients) with target blood glucose levels < 200 mg/dL.
- Maintain perioperative normothermia (36.1-37.1°C).
- Keep operation theater doors closed during surgery.

Post-operative

- Discontinuation of prophylactic antibiotics within 24hours after surgery.
- Wound care.



Hand hygiene, sterilization of surgical equipment, use of appropriate surgical attire, and staff education and feedback

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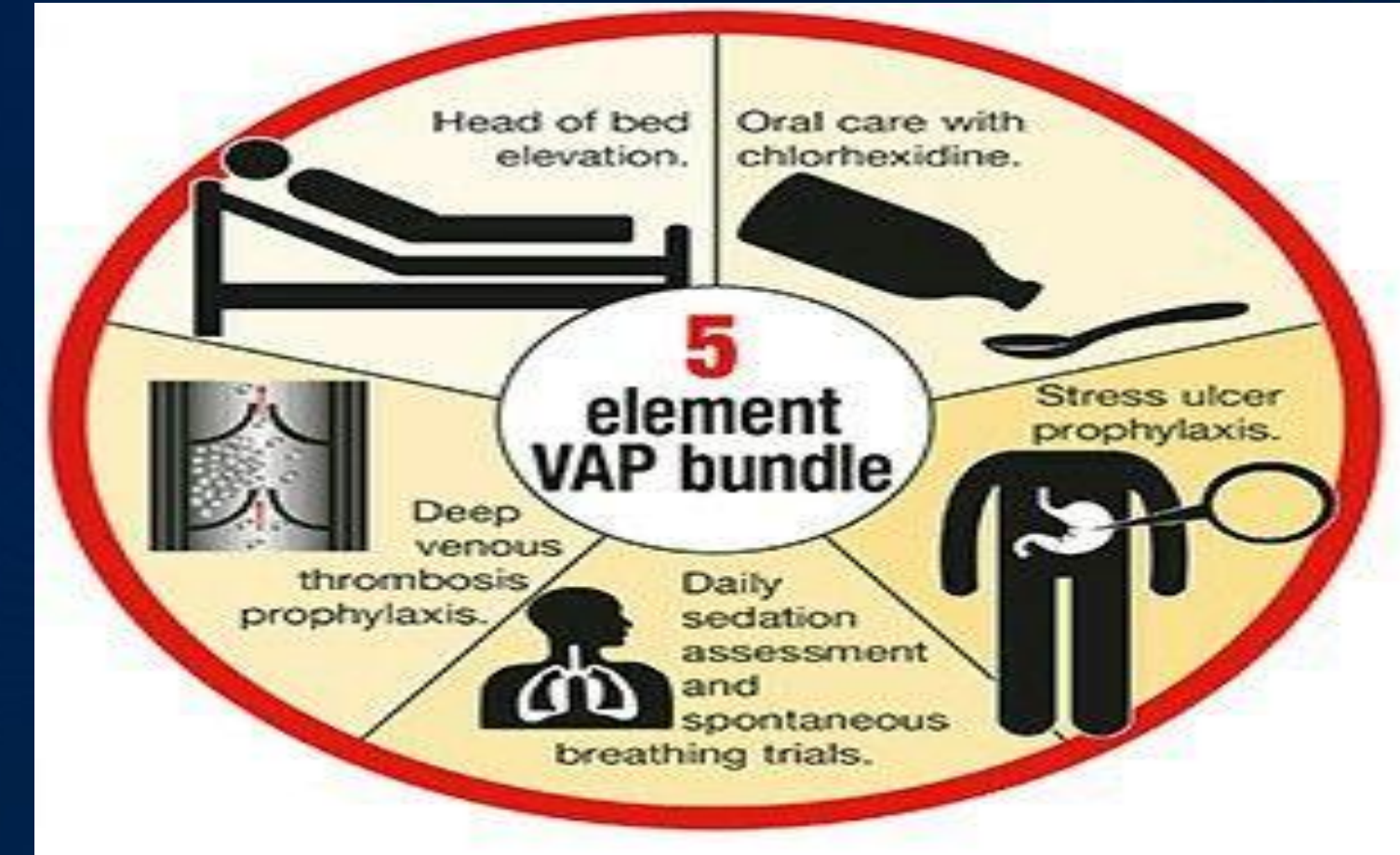




Care Bundles for HAIs



VAP



VAP Bundle

- ❑ Elevate the head of the bed to between 30 and 45 degrees.
- ❑ Daily “sedation interruption” and daily assessment of readiness to extubate.
- ❑ Prophylaxis for peptic ulcer disease.
- ❑ Prophylaxis for deep venous thrombosis.
- ❑ Daily oral care with Chlorohexidine.
- ❑ Adequate disinfection and maintenance of equipment and devices
- ❑ Hand hygiene before and after contact with ventilator circuits.





Care Bundles for HAIs



Central Line Associated Bloodstream Infections (CLABSI)



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CLABSI Bundle



INSERTION BUNDLE

- Avoid unnecessary Catheters
- Hand Hygiene.
- Maximal sterile barrier precautions (surgical mask, sterile gloves, cap, sterile gown, sterile drape).
- Skin Antisepsis with chlorhexidine.
- Avoidance of the femoral vein for central venous access in adult patients; use of subclavian rather than jugular veins.

MAINTENANCE BUNDLE

- Daily review of line (necessity, signs of inflammation).
- Disinfect catheter hubs, ports, connectors, etc., before using the catheter
- Ensure dressing is intact
Change dressings and disinfect site every 5-7 days (change earlier if soiled).

CLABSI Bundle



HAND HYGIENE



MAXIMAL BARRIER
PRECAUTION



FULL BODY DRAPE



SCRUB THE HUB



OPTIMAL CATHETER SITE
SELECTION- AVOID FEMORAL
IN ADULTS



DAILY REVIEW OF
LINE NECESSITY



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Care Bundles for HAIs

MDROs Bundle



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MDROs Bundle



Hand Hygiene.

Contact precautions.

Environmental Cleaning.

Antimicrobial Stewardship.

Surveillance and screening.

Education and training.



Care Bundle Implementation Plan

1. Create Awareness & Provide Resources

- Goal:** Ensure all team members understand the care bundle's purpose and components.

2. Consistent Implementation

- Goal:** Ensure **every bundle element** is applied **every time** for **every eligible patient**.

3. Track Compliance ("All or Nothing" Measure)

- Goal:** Evaluate bundle adherence—**full compliance is the standard**.

4. Adjust the Delivery System

- Goal:** Solve process or logistical issues that hinder implementation.

5. PDSA (Plan-Do-Study-Act) Cycles

- Goal:** Continuously improve the implementation process.

Take Home Practice



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THANK YOU