rela Hospital

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INFECTION PREVENTION AND CONTROL NEWSLETTER

Prevention through Understanding, Leadership & Stewardship Excellence

Department of Infection Prevention and Control
Dr. Rela Institute and Medical Centre, Chennai

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MESSAGE FROM THE TABLE OF CORE IPC TEAM

HELLO EVERYONE,

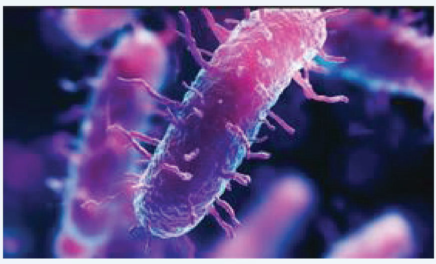
SEASON'S GREETINGS

It is our privilege to present this PULSE 2026, Infection Prevention and Control (IPC) Newsletter as a focused platform to highlight updates on existing practices and evolving evidence-based strategies essential for patient safety and quality healthcare. This newsletter aims to disseminate emerging IPC concepts that support sustained behavioural compliance among healthcare personnel.

By reinforcing adherence to standard precautions, transmission-based precautions and best practices aligned with current evidence, we seek to embed infection prevention into everyday clinical practice where safe care is not merely an action but a habit. Through this approach, IPC becomes a shared responsibility across all cadres of health care workers.

These collective efforts not only contribute to reduce healthcare associated infections but also strengthen patient trust, confidence and satisfaction, fostering a culture of safety, accountability and excellence in infection prevention throughout the hospital.

IPC Core Team,
Department of infection prevention and control,
Dr Rela institute and medical centre, Chennai.



CRE Screening at RIMC: A Key Infection Prevention Strategy

Screen early, Isolate promptly, Prevent spread

Definition: Carbapenem Resistant Enterobacterales (CRE) are Gram negative bacteria which show **resistance to carbapenem** due to the production of carbapenemase enzymes, leading to limited treatment options and high mortality.

Who should be screened using the Xpert Carba R test?

- ✓ ICU patients
- ✓ Transplant recipients
- ✓ Dialysis patients
- ✓ Immunocompromised patients
- ✓ CRE carriers
- ✓ Transfer from other hospitals/long term facilities

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Chromepet, Chennai

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STOP
நில்

ENHANCED CONTACT PRECAUTIONS
தொடுதலால் உண்டாகும் நோய்த்தொற்றிலிருந்து முன்னெச்சரிக்கை

VISITORS PLEASE CHECK WITH NURSE BEFORE ENTERING
பார்வையாளர்கள் செவிலியரின் அனுமதி பெற்று உள்ளே செல்லவும்

Clean hands with handrub when entering and leaving the room
அறையின் உள்ளே மற்றும் வெளியே செல்லும்பொழுது கைகளை அதற்குரிய திரவத்தைக் கொண்டு சுத்தம் செய்யவும்

Put on gloves and gown before entering and remove before leaving room
கையுறை மற்றும் மேலங்கியினை அணிந்து அறையினுள் செல்லவும் மற்றும் வெளியில் வரும்போது அதனை நீக்கி விடவும்

Use patient dedicated or disposable equipment
நோயாளிகளுக்கான பிரத்யேக அல்லது ஒரு முறை மட்டுமே பயன்படுத்தக் கூடிய உபகரணங்களை உபயோகிக்கவும்

Clean and disinfect shared equipment
பயன்படுத்தப்படும் உபகரணங்கள் தூய்மையாகவும், நோய்த்தொற்று நீக்கப்பட்டதாகவும் இருக்க வேண்டும்

Patient transport for essential purpose only
அத்தியாவசிய சூழ்நிலையில் மட்டுமே நோயாளியினை வெளியே அழைத்துச் செல்லவும்

- Patient must have clean hands and clean gown
  நோயாளிகளின் கைகள் மற்றும் மேலங்கி தூய்மையாக இருக்க வேண்டும்
- Notify receiving area priorly
  நோயாளியை வெளியே அழைத்துச் செல்வதற்கு முன்பு அவ்விடத்திற்கு தெரிவிக்கவும்

Reference: Centers for Disease Control and Prevention

Common organisms:

Klebsiella pneumoniae
Escherichia coli
Enterobacter sp
Acinetobacter baumannii
Pseudomonas aeurginosa

Screening methodology at RIMC

- ✓ Test used: Xpert Carba R
- ✓ Sample: **Rectal/ Perirectal swab**
- ✓ Method: Rela time PCR

How long patients with MDRO should be placed on contact isolation in the facility?

- ✓ Until clinical improvement
- ✓ Until negative culture
- ✓ For fourteen days since start of therapy
- ✓ As long as patient remains in the facility

Available in house methodology:

Can detect **91 resistance genes** within five gene families **(KPC, NDM, VIM, IMP-1 and OXA-48)**

Why CRE screening is important?

- ✓ High morbidity and mortality
- ✓ Limited antibiotic options
- ✓ **Rapid hospital transmission**
- ✓ **Increased outbreak** in health care settings
- ✓ Major concern in India due to **high antibiotic pressure**

Why detection of CRE colonisation is important?

- ✓ It enables **targeted preemptive therapy**
- ✓ Allows judicious and guideline based antibiotic use
- ✓ Helps in **early sepsis management**
- ✓ **Improves outcomes in LDLT recipients**

PLABSI Prevention in Action

Strengthening Peripheral Line Safety through Bundle Care

Why it Matters?

- Peripheral venous catheters are widely used and can contribute to preventable bloodstream infections.
- PLABSI **increases patient morbidity**, length of stay and healthcare costs.
- Nearly 65–70% of PLABSI cases are preventable with appropriate insertion and maintenance practices.

Quality Improvement programme (QIP)

- **Multidisciplinary team** was constituted
- Peripheral line **insertion** & **maintenance bundle** implemented
- Regular **staff training** was given to all the staffs as a part of QIP

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Patient Details *(Affix Label here)*
Name:
UHID:
DOB: Sex:
Ward / Area:
Consultant:

RIMC/HIC/ PBC - 022

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PLABSI PREVENTIVE BUNDLE CHECKIST

Please Tick Appropriate Insertion Site: Brachial ☐ Cephalic ☐ Metacarpal ☐ Basilic ☐ Others ____________

		Date:			Date:			Date:		
IV Line Insertion And Removal	**Maintenance Bundle**	M	E	N	M	E	N	M	E	N
IV line insertion	Hand Hygiene While Accessing									
Date and time of insertion	PPE Adherence									
Site preparation with 70% isopropyl alcohol ☐Yes ☐No	Scrub the hub technique followed with 70% isoprophyl alcohol									
Venflon Size ☐14 G ☐16G ☐18G 20G ☐22G ☐24G ☐ 26G	0.9% Normal saline used for flushing with appropriate volume									
Inserted by Name and Emp No: ____________	Appropriate syringe used for flushing ☐Adult- 10ml ☐Pediatric-5ml									
IV Line Removal	Push pause technique followed									
Date and time of removal ____________	Minimal residual volume (1ml) retained in syringe while flushing									
VIP score at the time of Removal ____________	Type of dressing Transparent (T) or padded (P)									
Total IV line days ________	Moments of flushing followed									
Any other / Remarks :	Adapters stored appropriately									
	VIP Score									
	Signature of the assigned nurse									
	Employee ID									

Key Interventions Implemented

- **PLABSI bundle care workshops** conducted for staff nurses with hands on mannequin training.
- Active involvement of IPC team with ICN, link nurses and nursing supervisors.
- Standardized **flushing protocol posters** displayed post education.
- Optimized **storage containers** introduced for adapters.
- **Stand-alone adapters** implemented to prevent hub contamination.
- Weekly PLABSI rate review in core administrative meetings.
- Area-wise PLABSI data reviewed in nurse manager meetings.

Standardization for Sustainability

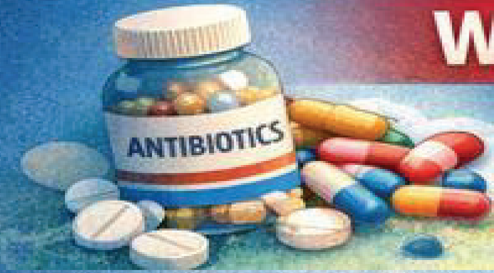
- Introduction of a **PLABSI Preventive Bundle Checklist** covering insertion, maintenance and timely removal of peripheral lines.

Peripheral lines are "not low risk lines". Consistent Bundle adherence, Staff education and Surveillance turn PLABSI from inevitability into a preventable event

Outcome Focus

- Improved **staff awareness** and **adherence to bundle practices.**
- Strengthened culture of safe peripheral vascular access and **patient safety.**

Clean line
Safe care
Better outcome



WHEN TO STOP BL-BLI THERAPY?

An Antimicrobial Stewardship Perspective

An AMS guide. Not a dictum

WHY DOES IT MATTER?

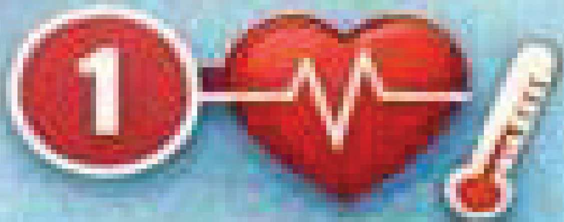
❖ BL-BLIs are commonly used **broad-spectrum antibiotics.** Prolonged continuation leads to:

- **Antimicrobial resistance**
- **Nephrotoxicity**
- ***C. difficile* infection**
- Increased cost & length of stay

PATIENT SAFETY ALERT

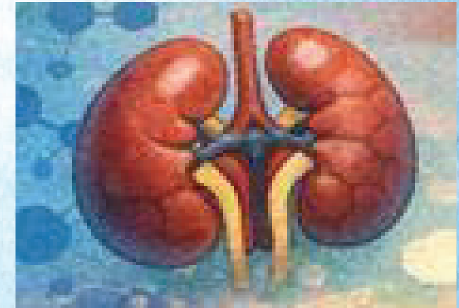
Prolonged BL-BLI use increases:

- **Acute kidney injury**
- **GI intolerance**
- ***C. difficile* infection**



KEY CRITERIA TO STOP / DE-ESCALATE BL-BLI

1. Clinical Improvement

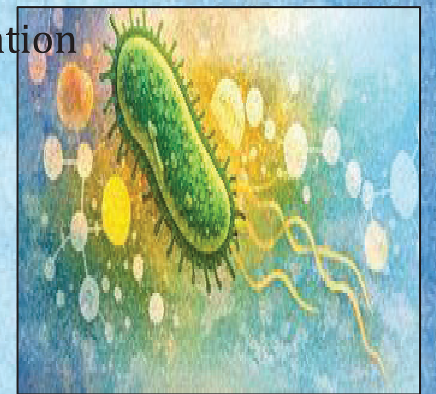


- Afebrile for 48–72 hours
- Hemodynamically stable
- Resolution of infection signs
- Improving organ function

2. Microbiological Guidance

- Culture identifies organism sensitive to narrower agent
- Negative cultures warrants antibiotic descalation
- Non-bacterial / viral etiology confirmed

→ Shift to targeted therapy or stop antibiotics



3. Biomarkers Support Resolution

- Declining or low Procalcitonin (PCT)
- PCT-guided therapy supports shorter antibiotic duration

4. Evidence-Based Duration

- Intra-abdominal infections (with source control): 4–7 days
- Hospital-acquired pneumonia: 5–7 days
- Uncomplicated Gram-negative bacteremia: 7 days

5. Avoid Redundant Coverage

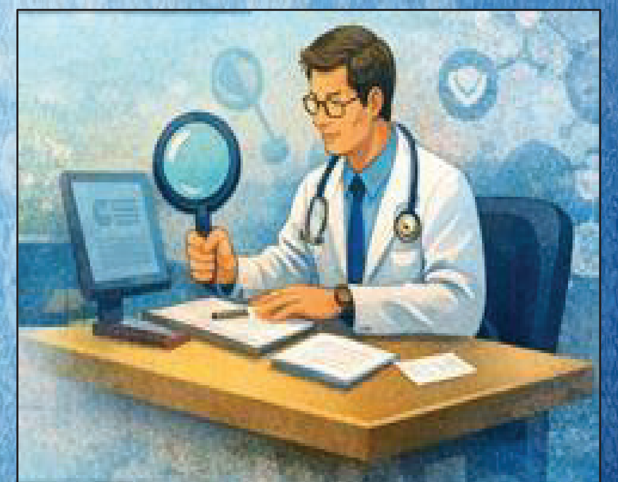
- Do NOT add metronidazole with BL-BLIs
- Avoid overlapping anaerobic or Gram-negative agents

TAKE HOME MESSAGE

Right Drug • Right Dose • Right Duration • Right Patient

- **Review** antibiotics at **48–72 hours**
- **De-escalate early** when criteria met
- Document indication & planned duration

STOP WHEN THE INFECTION STOPS; NOT WHEN THE VIAL ENDS



Presepsin: The Early Sepsis Signal

Presepsin listens to the immune system-early, dynamic and prognostic

What is Presepsin?

- Presepsin **(sCD14-ST)** is a biomarker released during **monocyte/macrophage activation** in response to infection
- It rises early in sepsis, often within **1–2 hours**

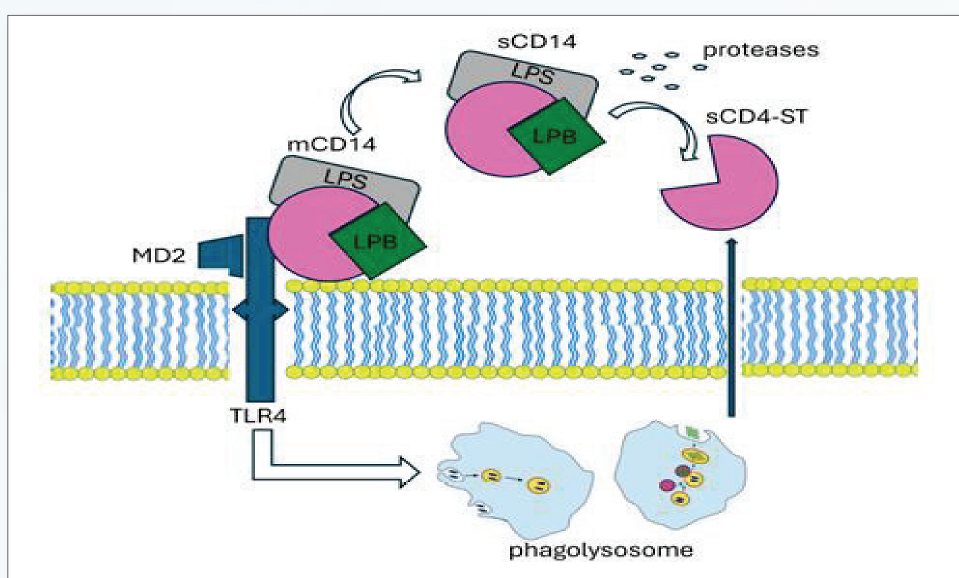
Fate of Presepsin

- Levels are **elevated in chronic kidney disease, Cirrhosis and hemodialysis patients**; different cut-offs are required.
- Levels increase with age.
- Excreted via kidneys and the **hepatobiliary system.**

Diagnostic Utility of PSP

- Differentiates septic from non-septic inflammatory conditions.
- Useful in **early sepsis diagnosis.**
- Persistently elevated levels support continuation of antibiotic therapy.

The Mechanism of Presepsin production



Prognostic Value

- The circulating PSP concentrations at admission will be used to **stratify the risk of mortality**.
- PSP concentrations on day 2 and day 7 post admissions are found to be independently correlated with ICU mortality.
- Higher levels are associated with increased number and **severity of organ dysfunction.**

Interpretation of Presepsin levels in relation to Sepsis diagnosis

Presepsin (pg/ml)	Diagnosis
<200 pg/ml	Exclusion of sepsis
200-300 pg/ml	Systemic infection not probable
300-500 pg/ml	Systemic infection (Sepsis) probable
500-1000 pg/ml	Significant risk of the systemic infection progression (Sepsis) q SOFA score is 1
>1000pg/ml	High risk of systemic infection progression (Severe sepsis/ Septic shock) Q SOFA score is >2

Therapeutic Implications

- PSP-guided therapy helps **optimize antibiotic** use.
- Associated with **reduced antibiotic duration, ICU stay, and hospital costs.**

PSP in Neonates and Pediatrics

- **Early marker of sepsis-** Rises within 2-4 hrs than CRP
- Diagnosis of **EOS, LOS, Paediatric sepsis** and **septic shock**
- Physiologically higher in neonates and preterm infants during first 48-72hrs –Age specific cutoffs are mandatory

PSP in Non-bacterial Infections

- Useful **in diagnosis and prognostication in COVID-19**.
- An **increase in PSP** levels has also observed in patients with **fungemia** with significant correlations to disease severity.

Presepsin: Detect Sepsis Before it Escalates

Preventing Surgical Wound Infections

Department of Infection Prevention Control

Surgical wound infections can often be prevented if care is taken before, during and after surgery. An estimated 40 - 60% of Surgical Site Infection are actually preventable.

POST-OPERATIVE PERIOD

After Surgery

1. Take special care to mobilise and get out of bed as early as possible after your surgery as per your doctor's recommendations. Early mobilisation prevents postoperative complications.
2. The wound dressing should not be removed during the first 48 hours after your surgery unless indicated otherwise (soiled or the edges of the wound dressing are open).This decision will be done only by the medical team.
3. During the first 48 hours after surgery, the wound should stay dry.
4. Your doctor or nurse will take special care while changing your wound dressing. They will perform appropriate hand hygiene before any contact with you or before assessing your wound.
5. Ask your near and dear ones not to visit you if they are unwell with cough, sneezing, fever, diarrhoea, or vomiting.
6. Family and friends who visit you should not touch the surgical wound or dressings.
7. Visitors should clean their hands with hand rub before and after visiting you.
8. Keep your dressing clean, dry, and intact. Do not remove the dressing to show your wound to others.

Before being discharged / at home

1. Obtain all the necessary information on how to take care of your wound at home.
2. Please check with your doctors about the shower instructions and or specific wound dressings
3. Always clean your hands before and after touching your wound or changing the wound dressing.
4. If family members help with wound care they should clean their hands before touching your wound.
5. Before you go home, your doctor or nurse should explain everything you need to know about taking care of your wound. Make sure you understand how to care for your wound before you leave the hospital.
6. Before and after surgery it is important to keep you and your environment as clean as possible. Please use clean bed linens, wear clean clothing, and use disinfectants to clean surfaces such as bathroom fixtures.
7. Please avoid contact with pets in your bed while you are recovering from surgery.
8. Ask your doctor or nurse for the necessary contact details in case you start feeling sick after you are discharged.

Report immediately to your doctor or nurse if you notice any symptoms of wound infection, such as:

- **Fever**
- **Redness**
- **Pain**
- **Swelling**
- **Discharge at the surgery site**

You will receive post-discharge calls (after discharge) from the Infection Prevention and Control team (IPC Team) in phases within 30 days of surgery.

PATIENT AND FAMILY EDUCATION

POST CORONARY ARTERY BYPASS GRAFTING TO DO LIST:

Do's

1. Should take bath regularly. Wash the chest wound and leg wound with soap and water
2. Should do spirometry exercise for the next 2 weeks from the date of discharge
3. Should not skip medicines. Take prescribed medicines properly. Do not take any medicines on your own
4. If you find oozing or any form of discharge kindly reach the hospital outpatient department
5. Eat proper and healthy food with adequate protein intake
6. If you are diabetic, should take medicines / insulin on time as prescribed
7. Should do exercises as advised by our physiotherapist
8. Steam inhalation twice a day for 1 week

Dont's

1. Do not lift weights for the next three months
2. Should not drive car / bike for the next three months
3. Should not wear any tight / uncomfortable clothes

IPC IN ACTION: ACTIVITIES AND ACHIEVEMENTS

1. **First place** in the **Large HCO category** for the Southern Region in the CSSD **ACE Excellence Awards** on 13th April 2025 at CAHOCON

2. IPC fellow presented in **ASPICON 2025,7th annual conference of SASPI on Clinical and Antimicrobial stewardship impact of Matrix assisted laser desorption ionisation time of flight mass spectrometry (MALDI TOF-MS) in blood stream infection diagnostics: A Retrospective analysis from a quaternary care center in Chennai, India** at AIIMS Mangalagiri on 6th September 2025. Highlighted how early organism identification enables timely de-escalation, targeted therapy and improved clinical outcomes.

3. ICNs and CSSD team attended State level nursing conference on **Enhanced patient safety through CSSD excellence** on June 29th 2025. Learnt about disinfection process, packing and digital scanning of forceps and instrument for appropriate recall process and patient indent.

4. IPC fellow attended 3rd **Advanced National Workshop on Antimicrobial Stewardship** at JIPMER between 24-28th June 2025. Gained insights of antimicrobial stewardship through diagnostic stewardship and antibiogram guided therapy.

5. IPC Core team was involved in online teaching courses like **I care in two batches.**

IPClinMic 2026

IPClinMic 2026, a one-day on-site workshop at Dr. Rela Institute and Medical Centre, was conducted on 30th January 2026 with a focus on case-based audits and practical infection prevention strategies. The program featured expert-led sessions on IPC across critical areas including CSSD, Dialysis, Cathlab, Endoscopy, Bronchoscopy, and Antimicrobial Stewardship, followed by hands-on on-site audits across six areas . Active participation, team-based audits and post-audit discussions made the workshop highly interactive and practice oriented, reinforcing the importance of audit driven quality improvement in infection control.

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