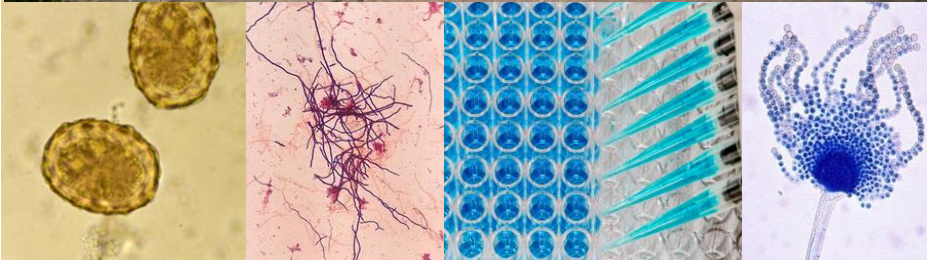




Microbiology Newsletter



Department of Microbiology

University College of Medical Sciences & GTB Hospital, Delhi-95

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Courtesy:

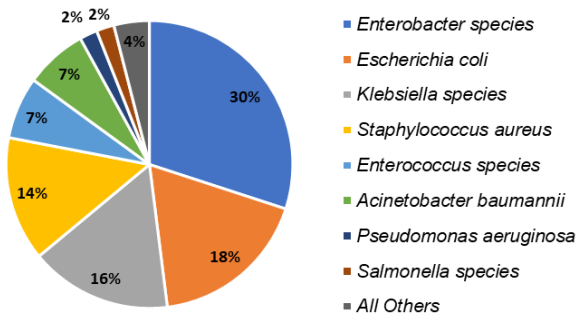
Dr. Dheeraj Shah (Principal, UCMS)

Dr. Vinod Kumar (Medical Director, GTBH)

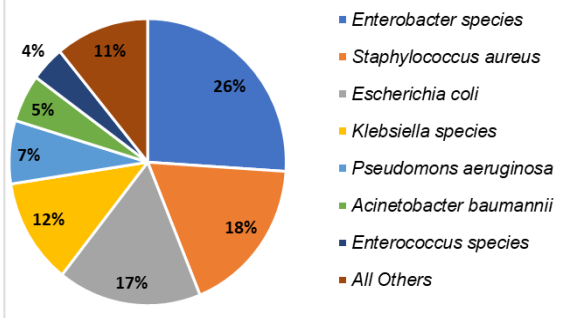
Contact: Dr . Shukla Das (sdas@ucms.ac.in) (shukladas_123@yahoo.com)

Percentage Distribution Of Bacterial Isolates From Samples Received from Different Clinical Sections (2025)

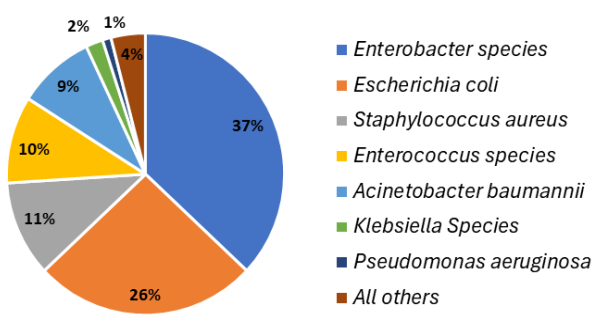
MEDICINE: OPD & IPD (n=1652)



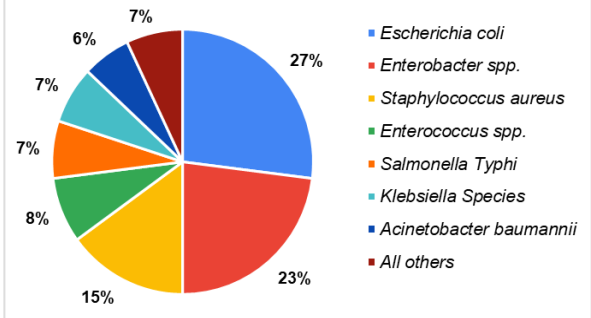
SURGERY: OPD & IPD (n=1855)



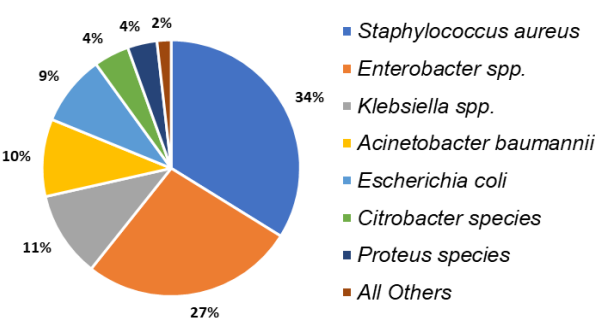
OB/GYN: OPD & IPD (n=1378)



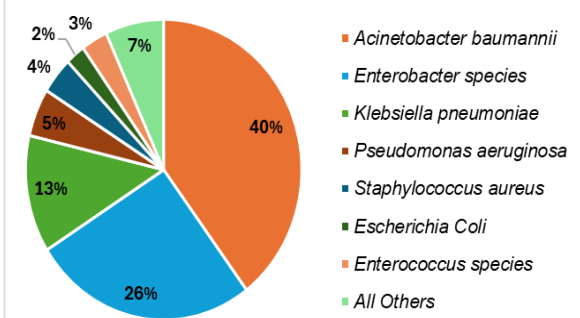
PEDIATRICS: OPD & IPD (n=858)



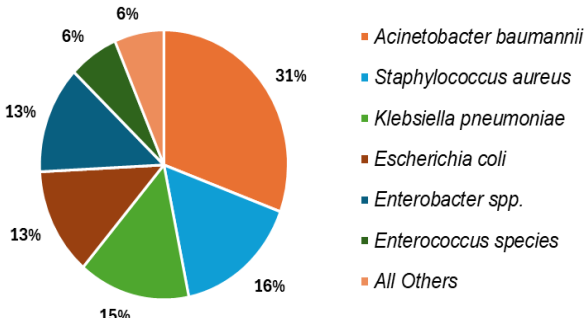
ORTHOPEDICS: OPD & IPD (n=676)



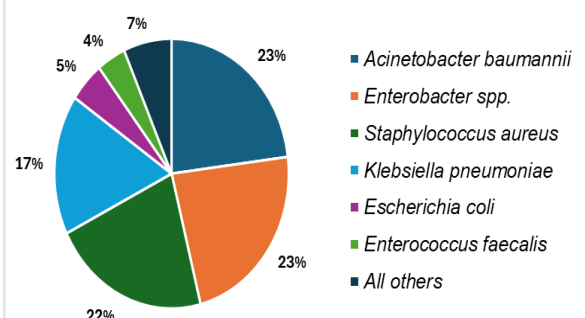
MAIN ICU (n=483)



PEDIATRIC ICU (n=62)



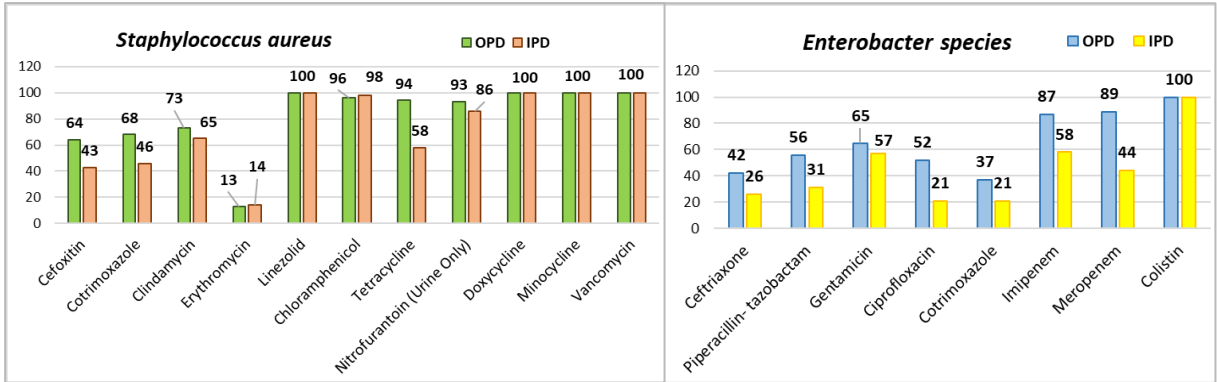
NEONATAL ICU (n= 226)



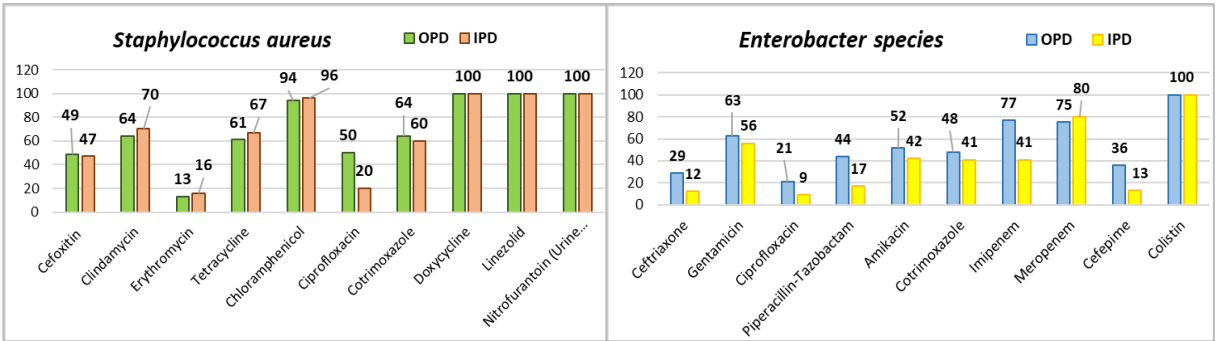
Antimicrobial Susceptibility Pattern Of Most Common Bacterial Isolates From Various Clinical Sections (2025)

Note: Numbers in Graph indicate Susceptibility Percentage

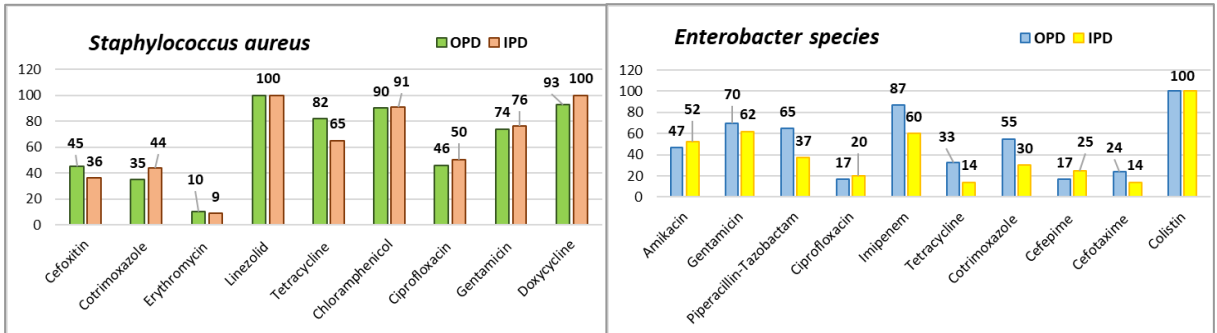
MEDICINE



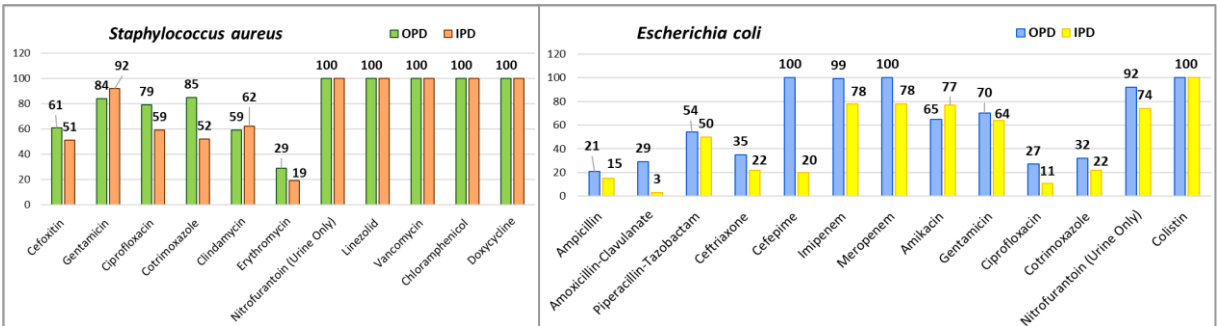
SURGERY



OBSTETRICS AND GYNAECOLOGY



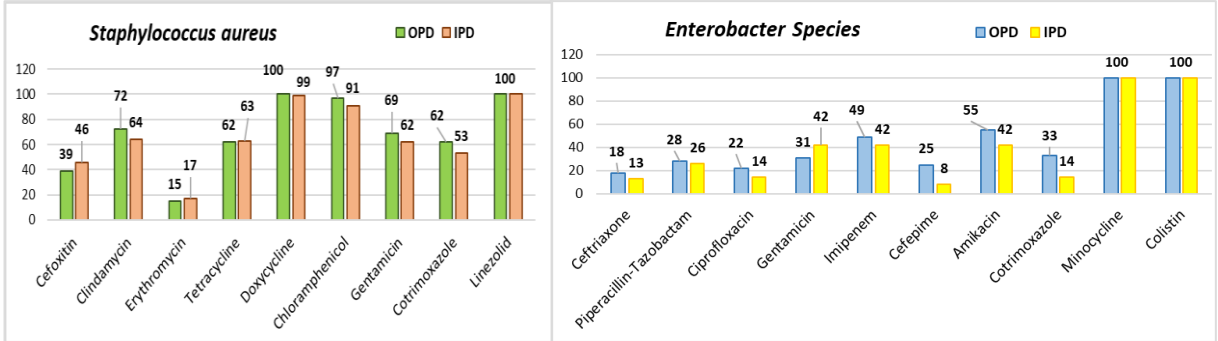
PEDIATRICS



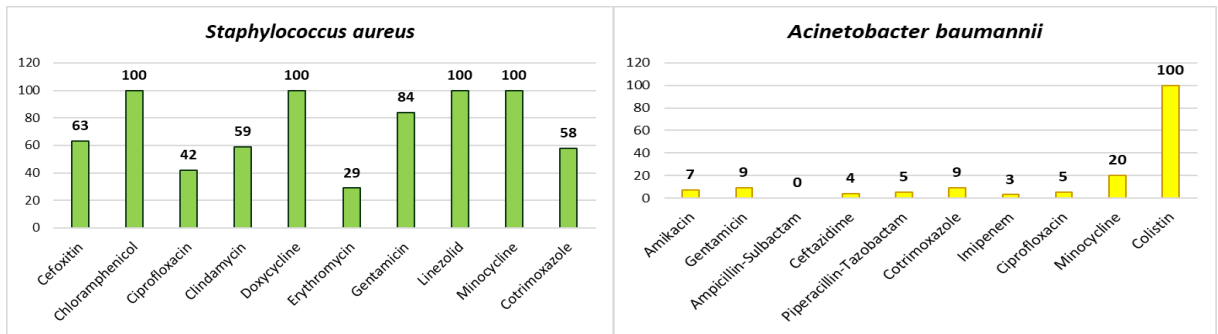
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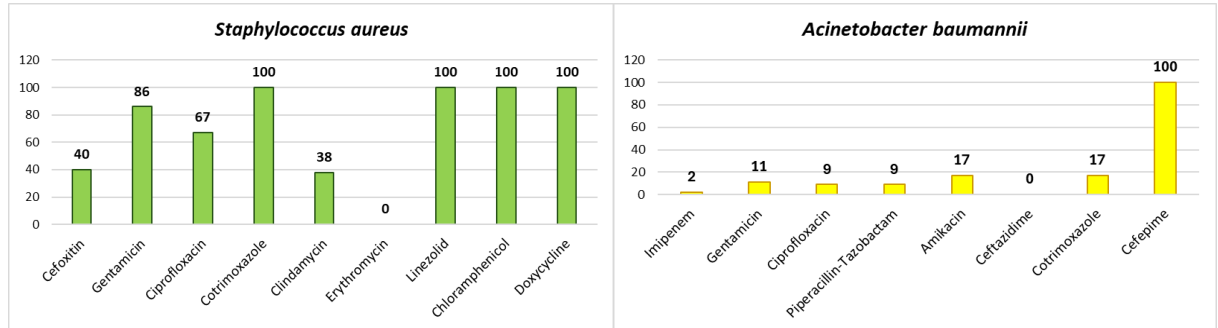
ORTHOPEDECS



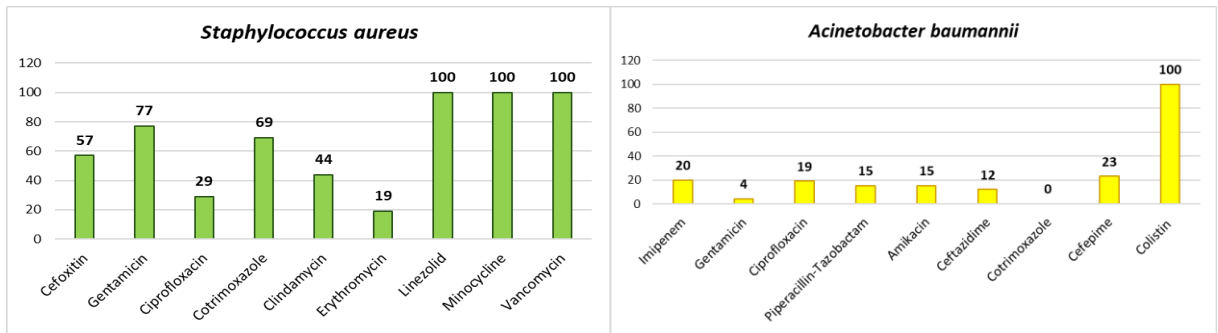
MAIN INTENSIVE CARE UNIT (MICU)



PEDIATRIC INTENSIVE CARE UNIT (PICU)

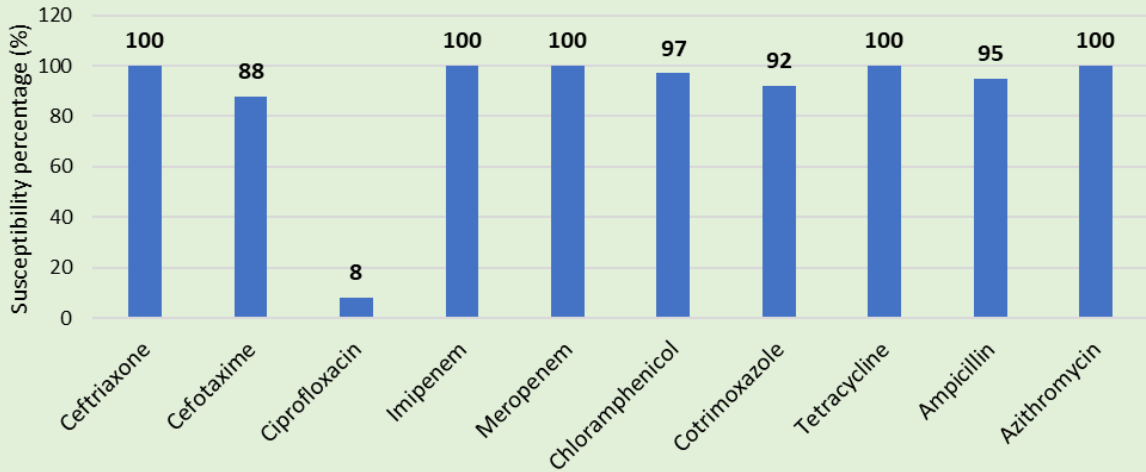


NEONATAL INTENSIVE CARE UNIT (NICU)

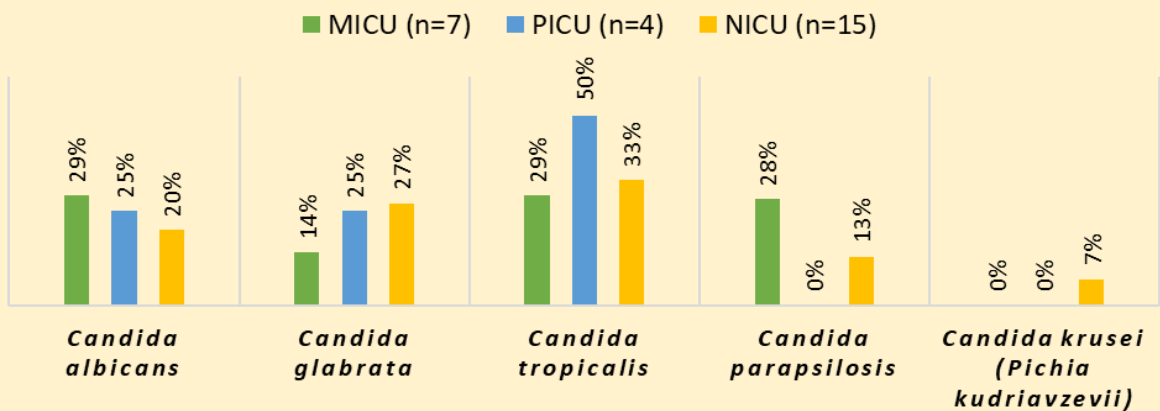


Highlight on Alert Organisms (2025)

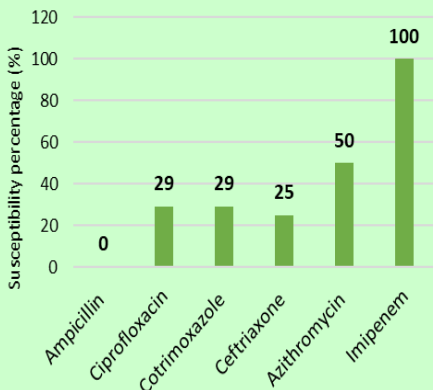
Antimicrobial Susceptibility Pattern of *Salmonella Typhi* isolated from Blood Samples in 2025 (n=94)



Distribution of *Candida* species isolated from Blood in ICU (2025)



Antimicrobial Susceptibility Pattern of *Shigella* species isolated from Stool Samples in 2025 (n=8)



Invasive Candidiasis in ICU: Key Update

- A significant proportion of yeast isolates from blood cultures are now non-albicans *Candida* (NAC) species, reflecting a shift in candidemia epidemiology. Emerging species such as *Candida viswanathii* have also been reported in India.
- Most isolates in our setting remain susceptible to fluconazole (77%) and voriconazole (83%). However, reduced susceptibility to azoles, particularly among NAC species, is an increasing concern. *Candida krusei* is intrinsically resistant to fluconazole but remains susceptible to voriconazole.
- Echinocandins (caspofungin, micafungin, anidulafungin) are highly effective against azole-resistant strains. Amphotericin B should be reserved for severe or resistant cases.

Diagnostic Tests Available In Department of Microbiology

INVESTIGATIONS	TOTAL TESTS PERFORMED (2025)
BACTERIOLOGY LABORATORY (CULTURE & ANTIMICROBIAL SUSCEPTIBILITY TEST)	(Room No. 325)
Blood Culture & Antimicrobial Susceptibility Test	12918
Cerebrospinal Fluid (CSF) Culture & Antimicrobial Susceptibility Test	2084
Urine Culture & Antimicrobial Susceptibility Test	23036
Pus, Sputum & Fluids Culture & Antimicrobial Susceptibility Test	9870
MYCOBACTERIOLOGY LABORATORY	(Room No. 532)
Pulmonary & Extrapulmonary Samples for AFB Staining	4703
Pulmonary & Extrapulmonary Samples for TB culture	1613
Pulmonary & Extrapulmonary Samples for Molecular Testing (NAAT)	-
MYCOLOGY LABORATORY	(Room No. 314-B)
Cryptococcal Antigen Test/India Ink Staining	732
Glactomanan Test	47
KOH/Calcofluor Microscopy & Culture (Biopsy Tissues & Nasal Crust)	564
KOH Microscopy, Culture & Antifungal Susceptibility Testing (Other Samples)	3009
Fungal PCR (Biopsy Tissues & Nasal Crust)	25
PARASITOLOGY, ENTERIC PATHOGENS & STI LABORATORY	(Room No. 322)
Stool Culture & Sensitivity for Enteric Pathogens	628
Stool Routine Microscopy (Parasites)	3174
Antigen Detection & Peripheral Smear for Malarial Parasite	3306
Microscopy for Coccidian Parasites/ Free Living Amoeba	-
Microscopy, Culture & Antimicrobial Susceptibility for Gonococcus (Gc)	-
Toxoplasma Antibody Test	-
SEROLOGY LABORATORY	(Room No. 314-A)
Widal Test	27052
ASO (Antistreptolysin O) Test	446
CRP (C-reactive protein) Test	10688
RF (Rheumatoid Factor) Test	5540
VDRL Test for Syphilis	13237
TPHA Test for Syphilis	250
ANA Test (Antinuclear Antibody)	944
Scrub Typhus Antibody Test	245
Leptospira Antibody Test	239
Procalcitonin Test	37
Anti-CCP (Cyclic Citrullinated Peptide) Antibody Test	1570
Anti-tissue Transglutaminase (tTG) Antibody Test	556
Brucella Antigen Test	8
Immunoglobulin (IgE, IgM, IgA, IgG) Test	94
VIROLOGY LABORATORY	(Room No. 311)
Rubella Virus Antibody Test	264
Cytomegalovirus (CMV) Antibody Test	264
Herpes Simplex Viruses 1 & 2 (HSV-1/HASV-2) Antibody Test	264
Hepatitis B Antigen (HbsAg) Test	39601
Hepatitis C Antigen & Antibody Test	23827
Hepatitis A IgM Antibody Test	1266
Hepatitis E IgM Antibody Test	1990
Dengue Serology (NS-1 Antigen & IgM Antibody) Test	1140

- The department is also equipped with a **NABL Accredited- Integrated Counselling and Testing Centre (ICTC) for HIV testing**, providing comprehensive diagnostic and counselling services.
- A well-established **Viral Research and Diagnostic Laboratory (VRDL-DHR, ICMR)** is also functional at **UCMS**, offering advanced **molecular diagnostic facilities**. The VRDL performs a range of tests including real-time PCR (RT-PCR) for COVID-19, PCR for chikungunya, dengue serotyping, viral load estimation for hepatitis B virus (HBV) and hepatitis C virus (HCV), H1N1, Influenza A/ B viruses, EBV, VZV, HPV, RSV, Enteroviruses, etc.
- **Serology laboratory** of the department is sanctioned as **Northern Zone spoke for National Rickettsial Surveillance** by **National Reference Centre for Rickettsial Diseases (NRCRD)**.

Academic Events Organized By Department Of Microbiology in 2025



“Approach towards Microbiology PG examination”
Workshop under the aegis of IAMM Delhi Chapter, for the 3rd Years MD students of various medical colleges of Delhi NCR in September 2025



“Exploring Cell Culture and Embryonated Egg Inoculation Techniques in Clinical Microbiology” Workshop under the aegis of IAMM, in October 2025 as part of MICROCON 2025.



Various activities for Antimicrobial & Antifungal Awareness Weeks 2025



AWaRe Classification of Antibiotics by WHO

ACCESS		WATCH			RESERVE	
Aminocyclitols Spectinomycin	Nitrofurans derivatives Nitrofurantoin	Aminoglycosides Kanamycin Neomycin Netilmicin Streptomycin Tobramycin	Glycopeptides Teicoplanin Vancomycin IV	Second-generation cephalosporins Cefactor Cefmetazole Cefotetan Cefoxitin Cefuroxime	Aminoglycosides Plazomicin	Phosphonics Fosfomycin IV
Aminoglycosides Amikacin Gentamicin	Sulfonamide-trimethoprim combinations Sulfamethoxazole/trimethoprim	Beta-lactam/beta-lactamase inhibitor (anti-pseudomonal) Piperacillin/tazobactam	Macrolides Azithromycin Clarithromycin Erythromycin Roxithromycin Spiramycin	Steroid antibacterials Fusidic acid	Glycopeptides Dalbavancin Oritavancin Telavancin	Pleuromutilin Lefamulin
Amphenicols Chloramphenicol	Penicillins Amoxicillin Ampicillin Benzathine benzylpenicillin Benzylpenicillin Cloxacillin Dicloxacillin Nafcillin Oxacillin	Beta-lactamase inhibitors Tazobactam	Penicillins Azlocillin Carbencillin Mezlocillin Piperacillin Ticarcillin	Tetracyclines Chlortetracycline Demeclocycline Minocycline oral	Glycylcyclines Tigecycline	Polymyxins Colistin Polymyxin B IV
Beta-lactam/ beta-lactamase inhibitor Amoxicillin/clavulanic acid Ampicillin sulbactam	Sulfonamides Sulfadiazine Sulfamethoxazole	Carbapenems Doripenem Ertapenem Imipenem/cilastatin Meropenem	Phosphonics Fosfomycin oral	Third-generation cephalosporins Cefixime Cefoperazone Cefotaxime Cefpodoxime proxetil Ceftazidime Ceftriaxone	Lipopeptides Daptomycin	Streptogramins Dalfopristin/quinupristin
Beta-lactamase inhibitor Sulbactam	Tetracyclines Doxycycline Tetracycline	Fluoroquinolones Ciprofloxacin Gatifloxacin Gemifloxacin Grepafloxacin Levofloxacin Moxifloxacin Norfloxacin Ofloxacin Pefloxacin	Quinolones Cinoxacin Flumequine	Fourth-generation cephalosporins Cefepime Cefpirome	Monobactams Aztreonam	Tetracyclines Minocycline IV
First-generation cephalosporins Cefadroxil Cefalexin Cefalotin Cefazolin	Trimethoprim derivatives Trimethoprim		Rifamycins Rifabutin Rifampicin Rifamycin Rifaximin		Oxazolidinones Linezolid Tedizolid	Other cephalosporins Cefiderocol
Imidazoles Metronidazole Ornidazole Secnidazole Tinidazole	Lincosamides Clindamycin				Third-generation cephalosporins Ceftazidime/avibactam	Carbapenems Imipenem/cilastatin/relebactam Meropenem/vaborbactam
					Fifth-generation cephalosporins Ceftolozane/tazobactam	

BACTERIA	INTRINSIC RESISTANCE TO ANTIMICROBIAL AGENTS- CLSI M-100- 36 TH EDITION
<i>Enterobacteriales</i>	Clindamycin, Glycopeptides (vancomycin), Lipoglycopeptides (teicoplanin), Linezolid, Macrolides (Erythromycin, Clarithromycin, and Azithromycin)
<i>Klebsiella species</i> <i>Citrobacter koseri</i>	Ampicillin, Ticarcillin
<i>Klebsiella aerogenes</i> (formerly <i>Enterobacter</i>)	Ampicillin, Amoxicillin-clavulanate, Ampicillin-sulbactam, 1 st Generation Cephalosporins (Cefazolin, Cephalothin), Cephamycins (Cefoxitin, cefotetan)
<i>Citrobacter freundii</i> <i>Serratia marcescens</i>	Ampicillin, Amoxicillin-clavulanate, Ampicillin-sulbactam, 1 st & 2 nd Generation Cephalosporins (Cefuroxime), Cephamycins (Cefoxitin, cefotetan)
<i>Proteus mirabilis</i>	Tetracycline, Tigecycline, Nitrofurantoin, Polymyxin B, Colistin, Imipenem
<i>Proteus vulgaris</i>	Tetracycline, Tigecycline, Nitrofurantoin, Polymyxin B, Colistin, Ampicillin, 1 st & 2 nd Generation Cephalosporins
<i>Salmonella & Shigella species</i>	Aminoglycosides, 1 st & 2 nd Generation Cephalosporins, and Cephamycins
<i>Pseudomonas aeruginosa</i>	Ampicillin, Amoxicillin, Amoxicillin-clavulanate, Ampicillin-sulbactam, Ertapenem, Chloramphenicol, Cotrimoxazole, Cefotaxime, Ceftriaxone, Tetracycline, Tigecycline
<i>Acinetobacter species</i>	Ampicillin, Amoxicillin, Amoxicillin-clavulanate, Ertapenem, Chloramphenicol, Fosfomycin, Aztreonam
<i>Gram Positive Cocci</i>	Aztreonam, Polymyxin B/Colistin, Nalidixic acid
<i>Enterococcus species</i>	Cephalosporins, Aminoglycosides (Except High Level), Clindamycin, Cotrimoxazole

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