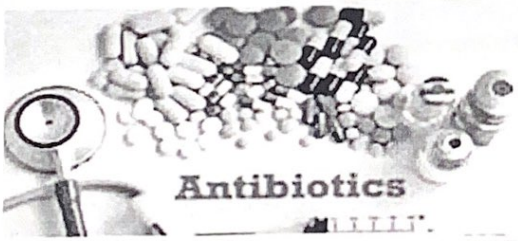
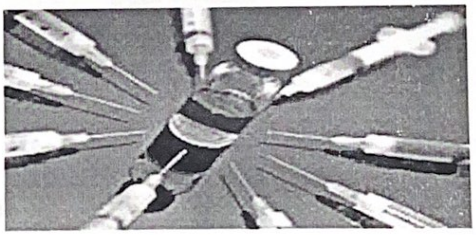
CRH SIKKIM MANIPAL UNIVERSITY
CENTRAL REFERRAL HOSPITAL - SMIMS

ANTIBIOTIC POLICY

VERSION-II

2020-2021





Antibiotic Policy Committee	Dechen	Jogesh
Prepared by:	**Reviewed by:**	**Approved by:**

Dr. Dechen C. Tsering
PROFESSOR
Dept. of Microbiology
SMIMS
5th Mile Tadong, Gangtok, Sikkim
Reg. No. SMC/0218

Dr. Jogesh Verma
Medical Superintendent
Central Referral Hospital
5th Mile Tadong, Gangtok
Sikkim - 737102

ANTIBIOTIC GUIDELINES
CENTRAL REFERRAL HOSPITAL

Prepared by Antibiotic Policy Committee

Dr. Dechen C. Tsering Member Secretary, HICC

Dr. Kumar Nishant, Professor, Department of Surgery

Dr. Jyotsna Kapil, Professor, Department of Microbiology

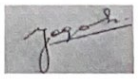
Dr. Ashish Sharma, Professor, Department of Paediatrics

Dr. Dheeraj Khatri, Associate Professor, Department of Medicine

Dr. Pesona Grace Lucksom, Associate Professor, Department of OBG

Dr. Chandrakala Sharma, Professor, Department of Pharmacology

Approved by



Dr Yogesh Verma
(Medical Superintendent, CRH)

Antibiotic Policy Committee	Dechen	
Prepared by:	**Reviewed by:** Dechen C. Tshering Member Secretary HICC & BMW, Central Referral Hospital Tadong, Gangtok	**Approved by:** Dr. Yogesh Verma Medical Superintendent Central Referral Hospital 5th Mile Tadong, Gangtok Sikkim - 737102

INTRODUCTION

Antimicrobial resistance (AMR) has been detected in all parts of the world and currently it is one of the greatest challenges to global public health (WHO 2014). The threat is compounded by the lack of development of new antibiotics. A safe and effective strategy for antibiotic use involves prescribing an antibiotic only when it is needed and selecting an appropriate and effective agent at the recommended dose, with the narrowest spectrum of antimicrobial activity, fewer adverse effects and low cost.

The following information is intended to serve as a guide, to aid in the selection of an appropriate antimicrobial for patients with infection commonly seen in clinical practice. The hospital antibiogram is reviewed every year and antibiotic recommendations are modified accordingly.

Guide to prudent antibiotic prescribing

- Prescribe antibiotic only if clinically indicated according to the patient's clinical signs and symptoms of infection and/ or sepsis.
- Always obtain culture before starting empiric antimicrobial treatment.
- Review the need of antimicrobials within 72 hours.
- Prescribe antimicrobials as per local up to date evidence based guidelines and local susceptibility pattern.
- If a patient is on IV therapy, review and consider switching to oral therapy, depending on the clinical condition of the patient and diagnosis of infection.
- Review microbiology results and susceptibility testing of microorganisms and change therapy accordingly. Switch to narrow spectrum agents and prescribe antibiotic for the recommended duration as per local guidelines.

Antibiotic Policy Committee	Dechen C. Tshering Member Secretary HICC & BMW, Central Referral Hospital Tadong, Gangtok	Dr. Yogesh Verma Medical Superintendent Central Referral Hospital 5th Mile Tadong, Gangtok
Prepared by:	**Reviewed by:**	**Approved by:**

A. GASTROINTESTINAL & INTRA-ABDOMINAL INFECTIONS

Condition	Likely Causative Organisms	Empiric (Presumptive) antibiotics/ First Line	Alternative antibitics / Second Line	Comments
Acute Gastroenteritis	Viral Entero-toxigenic & Entero-Pathogenic *E. coli*	None	None	Rehydration (oral / IV) essential
Acute watery diarrhoea (Cholera suspected)	*V. cholerae*	Doxcycline 300mg Oral Stat Azithromycin Oral in Children (20mg/Kg) and pregnant women (1g)	Azithromycin 1gm Oral stat or Ciprofloxacin 500mg BD for 3 days	Rehydration (oral / IV) essential Antibiotics are adjunctive therapy
Bacterial dysentery	*Shigella sp Campylobacter, Non- typhoidal Salmonellosis*	Ceftriaxone 2gm IV OD for 5 days or oral cefixime 10-15 mg/kg/day x 5days	Azithromycin 1g Ods x 3 days	
Amoebic dysentery	*E. histolytica*	Metronidazole 400mg oral TDS for 7-10 days	Tinidazole 2gm Oral OD for 3 days	Add diloxanide furoate 500 mg TDS for 10 d
Giardiasis	*Giardia lamblia*	Metronidazole 250-500mg oral TDS x 7-10 days	Tinidazole 2gm oral x 1 dose	

Prepared by:	Reviewed by:	Approved by:
Antibiotic Policy Committee	Dr. Dechen C. Tshering, Member Secretary, HICC & BMW, Central Refferal Hospital, Tadong, Gangtok	Dr. Yogesh Verma, Medical Superintendent, Central Referral Hospital, 5th Mile Tadong, Gangtok, Sikkim

Enteric fever	*S. Typhi* *S.Paratyphi A*	**Outpatients:** Cefixime 20mg/Kg /day or 14 days or Azithromycin 500mg BD for 7 days. **Inpatients:** Ceftriaxone 2g IV BD for 2 weeks +/- Azithromycin 500 mg BD for 7 days	Cotrimoxazole 960 mg BD for 2 weeks	Majority of strains are nalidixic acid resistant Ceftriaxone to be changed to oral cefixime when patient is afebrile to finish total duration of 14 days
Cholangitis	Enterobacteriaceae Anaerobes	Piperacillin Tazobactam 4.5 g IV Q8H. Ertapenem 1g IV OD (for severely ill pts. -Sepsis or Septic Shock)	Cefoperazone sulbactam 3gm iv B.D.for 7 days	
Acute Cholecystitis	Enterobacteriaceae	Piperacillin Tazobactam 4.5 g IV Q8H	Cefoperazone sulbactam 3gm iv B.D.for 7 days	
Spontaneous bacterial peritonitis	E.coli	Piperacillin Tazobactam 4.5 g IV Q8H	Cefoperazone sulbactam 3gm iv B.D.for 7 days	
Secondary peritonitis (bowel perforation)	Enterobacteriaceae Anaerobes	Ertapenem 1gm iv od	Cefoperazone sulbactam 3gm iv B.D.for 7 days emergency surgery to eliminate source of contamination	
Intra abdominal abscess	Enterobactericeae anaerobes	Ertapenem 1gm iv od	Emergency drainage	

	Dr. Dechen C. Tsherin Member Secretary HIC & BMW, Central Refferal Hospital Tadong, Gangtok	Dr. Yogesh Verma Medical Superintendent Central Referral Hospital 9th Mile Tadong, Gangtok Sikkim - 737102
Prepared by:	**Reviewed by:**	**Approved by:**

Enteric fever	*S. Typhi* *S.Paratyphi A*	**Outpatients:** Cefixime 20mg/Kg /day or 14 days or Azithromycin 500mg BD for 7 days. **Inpatients:** Ceftriaxone 2g IV BD for 2 weeks +/- Azithromycin 500 mg BD for 7 days	Cotrimoxazole 960 mg BD for 2 weeks	Majority of strains are nalidixic acid resistant Ceftriaxone to be changed to oral cefixime when patient is afebrile to finish total duration of 14 days
Cholangitis	Enterobacteriaceae Anaerobes	Piperacillin Tazobactam 4.5 g IV Q8H. Ertapenem 1g IV OD (for severely ill pts. -Sepsis or Septic Shock)	Cefoperazone sulbactam 3gm iv B.D.for 7 days	
Acute Cholecystitis	Enterobacteriaceae	Piperacillin Tazobactam 4.5 g IV Q8H	Cefoperazone sulbactam 3gm iv B.D.for 7 days	
Spontaneous bacterial peritonitis	E.coli	Piperacillin Tazobactam 4.5 g IV Q8H	Cefoperazone sulbactam 3gm iv B.D.for 7 days	
Secondary peritonitis (bowel perforation)	Enterobacteriaceae Anaerobes	Ertapenem 1gm iv od	Cefoperazone sulbactam 3gm iv B.D.for 7 days emergency surgery to eliminate source of contamination	
Intra abdominal abscess	Enterobactericeae anaerobes	Ertapenem 1gm iv od	Emergency drainage	

	Dr. Dechen C. Tsering Member Secretary IEC & BMW, Central Refferal Hospital Tadong, Gangtok	Dr. Yogesh Verma Medical Superintendent Central Referral Hospital 5th Mile Tadong, Gangtok Sikkim - 737102
Prepared by:	**Reviewed by:**	**Approved by:**

Acute pancreatitis			routine use of prophylactic antibiotics not recommended	
Liver abscess	Polymicrobial	Amoxycillin-clavulanate/3rd generation Cephalosporin +Metronidazole 500mg IV TID for 2 weeks	Piperacillin – Tazobactam IV	

	Dr. Dechen C. Tshering Member Secretary IHC & BMW, Central Referral Hospital Tadong, Gangtok	Dr. Yogesh Verma Medical Superintendent Central Referral Hospital 5th Mile Tadong, Gangtok Sikkim - 737102
Prepared by:	**Reviewed by:**	**Approved by:**

B. CENTRAL NERVOUS SYSTEM INFECTIONS				
Condition	**Likely causative Organisms**	**Empiric antibiotics (Presumptive antibiotics)**	**Alternative antibiotics**	**Comments**
Acute bacterial Meningitis	*S.pneumoniae, H.influenzae, Neisseria meningitidis*	Ceftriaxone 2g IV 12hourly/ Cefotaxime 2g IV 4-6 hourly for 10-14 days	Meropenem 1gm IV 8 hourly	Antiobiotics should be started as soon as the possibility of bacterial meaningitis becomes evident. Ideally within 30 minutes. Do not wait for CT scan or LP results.
Brain abscess	*Streptococci, Bacteroides, Enterobacteriaceae, S.aureus*	Ceftriaxone 2g IV 12hourly or Cefotaxime 2g IV 4-6 hourly AND Metronidazole 1gm IV 12 hourly Duration of treatment to be decided by clinical and radiological response, minimum two moths required	Meropenem 2gm IV 8 hourly	

SEPSIS/SEPTIC SHOCK

Sepsis	*E.coli, Klebsiella,Enterobacter,Pseudomonas, Acinetobacter,S.aureus, Streptococcus spp*	Piperacillin-Tazobactam, Meropenem, Imipenem, or Colistin		To step down or modify according to c/s report

	Dr. Dechen C. Tshering Member Secretary HIC & BMW, Central Referral Hospital Tadong, Gangtok	Dr. Yogesh Verma Medical Superintendent Central Referral Hospital 5th Mile Tadong, Gangtok Sikkim - 737102
Prepared by:	**Reviewed by:**	**Approved by:**

C. CARDIOVASCULAR INFECTIONS				
Condition	**Likely causative Organism**	**Empiric antibiotics (Presumptive antibiotics)**	**Alternative antibiotics**	**Comments**
Infective Endocarditis: Native valve	*Viridans streptococci, other Streptococci, Enterococci*	Penicillin G 2-3 millions unit , iv 4 hourly X 4 weeks 2. Ceftraxone 2gm iv OD x 4 -6 wks.+ Inj. Gentamycin		Modify antibiotics based on culture result and complete 4-6 weeks of antibiotics
Infective Endocarditis: Prosthetic valve awaiting cultures	*MSSA, Streptococcus, Enterococcus*	Vancomycin 15mg/kg IV 12 hourly (maximum 1g 12 hourly)/ Teicoplanin 12mg/kg IV 12hourly X 3 doses followed by 6-12 mg once daily IV depending upon severity + Gentamicin 1mg/kg q12h IV	Daptomycin can be used in place of Vancomycin/ Teicoplanin for patient unresponsive to or intolerant of Vancomycin/ Tei coplanin or with Vanocomycin/Glycopeptide-resistant isolates	Antibiotic choice as per sensitivity. Guidance from infectious disease specialist or microbiologist is recommended.

	Dr. Dechen C. Tshering Member Secretary HIEC & BMW, Central Referral Hospital Tadong, Gangtok	Dr. Yogesh Verma Medical Superintendent Central Referral Hospital 5th Mile Tadong, Gangtok Sikkim - 737102
Prepared by:	**Reviewed by:**	**Approved by:**

D. URINARY TRACT INFECTION				
Conditions	**Likely causative Organism**	**Empiric antibiotics (Presumptive antibiotics)**	**Aternative antibiotics**	**Comments**
Acute uncomplicated cystitis & Urethritis ,	*E.coli,Staphylococcus saprophyticus(*in sexually active young women),*Klebsiella pneumoniae*	Nitrofurantoin 100 mg BD for 7 days or Cotrimoxazole 960mg BD for 3-5 days Fosfomycin 3gm OD single dose	Amoxyclav, Levofloxacin, Ciprofloxacin	
Asymptomatic Bacteriuria(positive urine culture from an individual without symptoms or signs of UTI)	*E.coli*	No antimicrobial treatment needed		Screening and treatment of Asymptomatic bacteriuria is indicated for a) Pregnant women b) Patients undergoing urologic procedure Nitrofurantoin 100mg BD for 7 days OR Cap Amoxicillin 500mg BD for 7 to 10 days OR Oral Cephalosporins

	Dr. Dechen C. Tshering Member Secretary HICC & BMW, Central Referral Hospital, Tadong, Gangtok	Dr. Yogesh Verma Medical Superintendent Central Referral Hospital Tadong, Gangtok Sikkim - 737102
Prepared by:	**Reviewed by:**	**Approved by:**

Pyelonephritis (Uncomplicated)	*E.coli* & Pseudomonas	Piperacillian+ Tazobactam 4.5gm IV 6 hourly OR Amikacin 1g OD IV OR Cefoperazone Sulbactam 3gm Iv 12hourly	Levofloxacin 750mg od	In pregnancy Inj.Ceftriaxone
Complicated UTI	*E.coli ,Proteus &Pseudomonas*	Meropenem 1gm IV tid	Levofloxacin, Amikacin. (based on culture)	
Foleys Catheter associated UTI	*E.coli* & *Pseudomonas*			No empiric treatment

	Dr. Dechen C. Tshering Member Secretary HIEC & BMW Central Referral Hospital Tadong, Gangtok	Dr. Yogesh Verma Medical Superintendent Central Referral Hospital 6th Mile, Tadong, Gangtok Sikkim - 737102
Prepared by:	**Reviewed by:**	**Approved by:**

E . RESPIRATORY TRACT INFECTIONS				
Condition	**Likely causative Organism**	**Empiric antibiotics (Presumptive antibiotics)**	**Alternative antibiotics**	**Comments**
Community acquired Pneumonia	*S. pneumoniae H. influenzae, E.coli, Legionella spp, Klebsiella spp*	Cefexime 200 mg oral BD for 7 to 10 days Azithromycin 500 mg oral Moxifloxacin 400mg oral/ IV OD for 7-10 days OR Levofloxacin 750mg oral or IV OD for 5 days		As Tuberculosis is endemic, in our country , use of Fluroquinolones has to be avoided. They have been kept reserved for MDR tuberculosis
Acute Bacterial Exacerbation of COPD	*S. pneumoniae H. influenzae, Moraxella*	Amoxyclav 625 mg oral TDS for 7 days OR Azithromycin 500 mg oral OD for 3 days	Cefpodoxime 200mg bid	
Acute Pharyngitis	*Group A Beta haemolytic Streptococci*	Amoxycillin 500 mg TDS for 10 days OR Azithromycin 500 mg OD for 5 days	Roxithromycin	

F . SKIN AND SOFT TISSUE INFECTIONS				
Conditions	**Likely causative Organism**	**Empiric antibiotics (Presumptive antibiotics)**	**Alternative antibiotics**	**Comments**
Cellulitis	*Staphylococcus aureus*	Amoxyclav 1.2 IV TDS OR 625 mg oral TDS for 5-7 days Ceftriaxone 2gm IV OD for 5-7 days Clindamycin 600-900 mg IV TDS for 5-7 days		
Furuncles , Carbuncles , Cutaneous abscesses	*Staphylococcus aureus*	Tab Cloxacillin 500mg 6 hourly for 7 to 10 days		
Burn Wound Infections	*Pseudomonas spp, Staphylococcus aureus*	Piperacillin + Tazobactam 4.5 gm IV 6 hourly Cefazoline 1gm IV 8 hourly		
Necrotizing fascitis	*Strept. pyogenes , Staphylococcus aureus*	Piperacillin + Tazobactam 4.5 gm IV 6 hourly Cefoperazone Sulbactam 3gm IV 12 hourly		

	Dr. Dechen C. Tshering Member Secretary HIC & BMW Central Referral Hospital Tadong, Gangtok	Dr. Yogesh Verma Medical Superintendent Central Referral Hospital 5th Mile Tadong, Gangtok Sikkim - 737102
Prepared by:	**Reviewed by:**	**Approved by:**

G . BONE AND JOINTS INFECTIONS				
Conditions	**Likely causative Organism**	**Empiric antibiotics (Presumptive antibiotics)**	**Alternative antibiotics**	**Comments**
Acute Osteomyelitis	*Staph. aureus, Strept. pyogenes*	Ceftriaxone 2gm IV OD followed by oral therapy Cloxacillin 500mg 8 hourly Cephalexin 500 mg 6 hourly for 4-6 weeks		
Chronic Osteomyelitis	*Staph. aureus,aerobic GNB , Streptococci & Anaerobes*	No Empiric therapy		Definitive treatment guided by bone/synovial biopsy and culture.
Septic Arthritis	*Staph. aureus,*	Cefazolin 1gm IV 8 hourly for 3 weeks or Cloxacillin 500mg 8 hourly for 3 weeks OR Cefuroxime 250-500 mg oral for 3 weeks		

Prepared by:	Reviewed by:	Approved by:
	Dr. Dechen C. Tshering Member Secretary HICC & BMW, Central Referral Hospital Tadong, Gangtok	Dr. Yogesh Verma Medical Superintendent Central Referral Hospital 5th Mile Tadong, Gangtok Sikkim - 737102

H. ENT INFECTIONS

Conditions	Likely causative Organism	Empiric antibiotics (Presumptive antibiotics)	Alternative antibiotics	Comments
Otiits externa	*Staph. aureus*	Cefuroxime Cefadroxil		
Malignant Otitis externa	*Pseudomonas aeruginosa*	Piperacillin + Tazobactam 4.5 gm IV 6 hourly OR Imipenem , Meropenem, ciprofloxacin		
Acute otitis media	*Strept pneumoniae H. influenzae , Moraxella*	Amoxyclav 90/6.4 mg /kg/day BID OR Cefpodoxime/ Cefuroxime 250mg BD		
Chronic otitis media	*Proteus spp, Staph. aureus , Pseudomonas Spp, coliforns*	Gentamycin / Neomycin drops with hydrocortisone		
Acute Bacterial Rhinosinusitis	*Strept pneumoniae H. influenzae , Moraxella*	Amoxycillin 500mg / Oral TID for 10-14 days		

Prepared by:	Reviewed by:	Approved by:
	Dr. Dechen C. Tshering Member Secretary HICC & BMW, Central Referral Hospital	Lt. Yogesh Verma Medical Superintendent Central Referral Hospital 5th Mile Tadong, Gangtok Sikkim - 737102

I. FEBRILE ILLNESS				
Conditions	**Likely causative Organism**	**Empiric antibiotics (Presumptive antibiotics)**	**Alternative antibiotics**	**Comments**
Scrub Typhus	*Orientia tsutsugamushi*	Doxycycline 100mg BD for 7 days		
Enteric Fever	*Salmonella Typhi,Salmonella paratyphi*	**Outpatients** Cefexime 20 mg/kg/day for 14 days OR Azithromycin 500mg BD for 7 days OR **Inpatients** Ceftriaxone 2 gmIV bd for 2 weeks +/- Azithromycin 500mg bd for 7 days		Avoid use of Fluoroquinolones

J. Eye infections				
Conditions	**Likely causative Organism**	**Empiric antibiotics (Presumptive antibiotics)**	**Alternative antibiotics**	**Comments**
Blepharitis	*S. aureus, S.epidermidis*	oral Cloxacillin 250 to 500 mg qid or oral Ceplhalexin 500mg qid	warm compress 24 hourly, artificial tears if associated with dry eye	
viral conjunctivitis		no antibiotic treatment required		

Prepared by:	Reviewed by:	Approved by:
	Dr. Dechen C. Tshering Member Secretary HTAC & BMW,	Dr. Yogesh Verma Medical Superintendent Central Referral Hospital 5th Mile Tadong, Gangtok Sikkim - 737102

Bacterial conjuctivitis	*S.aureus, S.pneumoniae, H. influenzae*	Ophthalmologic solutions Gatifloxacin 0.3%, Levofloxacin 0.5%, Moxifloxacin 0.5% 1-2 drops q2h while awake during first 2 days then q4-8 hourly upto 7 days		
corneal infections				
Herpes simplex keratitis	Herpes simplex type 1 and 2	Trifluridine ophthalmic solution 1 drop 2 houly upto 9 times per day until reepithilised then 1 drop 4 hourly upto 5 times per day for 21 daystotal	gancyclovir 0.15% ophthalmic gel	
Varicella zoster ophthalmicus	Varicella zoster virus	Famcyclovir 500mg bd or valacyclovir 1 gram oral tid for 10 days	acyclovir 800mg 5 times per day for 10 days	
Acute bacterial keratitis	S. aureus, S. pneumoniae,S. pyogenes, Haemophilus spp.	Moxifloxacin 0.5% 1 drop 1 hourly for first 48 hours then reduce as per response	gatifloxacin 0.3%ophthalmic solution 1 drp 1 hourly for first 48 hours then reduce as per response	

Prepared by:	**Reviewed by:** Dr. Dechen C. Tshering, Member Secretary, HICC & BMW, Central Referral Hospital, Gangtok	**Approved by:** Dr Yogesh Verma, Medical Superintendent, Central Referral Hospital, Gangtok, Sikkim - 737102

K. Paediatric Infections				
Conditions	**Likely causative Organism**	**Empiric antibiotics (Presumptive antibiotics)**	**Alternative antibiotics**	**Comments**
Urinary Tract Infection	*E.coli, Klebsiella,Proteus*			
Pyelonephritis		Amikacin 10-15mg/kg/dayIV OD or Ciprofloxacin 15-20mg/kg /day		Avoid use of Fluoroquinolones
Cystitis /uncomplicated UTI		Oral drugs Coamoxyclav40-50mg/kg/day BD Cotrimoxazole 8-10mg/kg/day PO		
Respiratory Tract Infection				
Community acquired Pneumonia	*Streptococcus pneumoniae ,Haemophilus influenzae*	Amoxycillin/Clavulanic acid for 5-10 days Injection Ampicillin + injection Gentamicin for 5-10 days		
Upper respiratory tract infections				
Bacterial Pharyngo tonsillitis	*Group A Streptococcus*	Oral Amoxycillin for 10 days orAzithromycin for 5 days		
Faucial diptheria	*Corynebacterium diptheriae*	Erythromycin for 14 days or Azithromycin for 5 days		
Acute Otitis media		Oral Amoxyclav for 7-10 days		
Acute sinusitis with URI		Oral Amoxyclav for 7-10 days		
Febrile illness				

Prepared by:	**Reviewed by:** Dr. Dechen C. Tshering, Member Secretary, EC, CRH, SMIMS, Tadong	**Approved by:** Dr. Yogesh Verma, Medical Superintendent, Central Referral Hospital, Tadong, Gangtok, Sikkim - 737102

Enteric fever	*Salmonella Typhi and S. Paratyphi A*	**Outpatient** Oral Cefixine20mg/kg/day for 14 days or Azithromycin10-15mg/kg/day for 7 days **Inpaptient** Inj Ceftriaxone		
Scrub Typhus	*Orientia tsutsugamushi*	Azithromycin or Doxycycline		
Early onset neonatal sepsis		Inj.Ampicillin+Gentamicin		
Late onset neonatal sepsis		Inj.Ampiclox+Amikacin		

	Dr. Dechen C. Tai... Member Secret...	Dr. Yogesh Verma Medical Superintendent Central Referral Hospital Tadong, Gangtok Sikkim - 737102
Prepared by:	**Reviewed by:**	**Approved by:**

L. Obstetric and gynaecological infections				
Conditions	**Likely causative Organism**	**Empiric antibiotics (Presumptive antibiotics)**	**Alternative antibiotics**	**Comments**
asymptomatic bacteriuria		Nitrofurantoin 100mg oral Bd for 7 days or Amoxycillin 500 mg oral bd for 7-10 days or Fosfomycin single dose	oral cephalosporins	screen in first trimester of pregnancy
Group B streptococcal diseases	*Group B Streptococci*	iv Penicillin G 5 million units (loading dose) then 2.5-3 million units iv qid until delivery or Ampicillin 2 gram iv (loading dose) then 1 gram qid until delivery	cefazolin 2 grams iv (loading dose) then 1 gram tid clindamycin 900 mg iv tid	associated with high risk of preterm labour, still birth, neonatal sepsis
chorioamnionitis	*Group B Streptococcus, gram negative bacilli, Chlamydiae, Ureaplasma and anaerobes*	Clindamycin, Vancomycin, Teicoplanin and cefoperazone sulbactam, if patient is not in sepsis then iv Ampicillin/Amoxyclav		
septic abortion		Amoxyclav or ampicillin 500mg qid + metronidazole 500 mg iv tds	Ceftriaxone 2grams iv od	
obstetric sepsis during pregnancy	*Group A beta haemolytic Streptococcus, E. coli, Anaerobes*	Amoxyclav or Ceftriaxone 2 gram iv od + metronidazole 500 mg iv tds +/- gentamycin 7mg per kg per day		

Prepared by:	**Reviewed by:** Dr. Dechen C. Tshering, Member Secretary	**Approved by:** Dr. Yogesh Verma, Medical Superintendent, Central Referral Hospital, 5th Mile Tadong, Gangtok

acute toxoplasmosis in pregnancy		<18 weeks of gestation at diagnosis spiramycin 1 gram oral qid until 16-18 weeks / pyrimethamine + sulfadiazine alternate every 2 weeks >18 weeks gestation: pyremethamine 50 mg oral bd for 2 days then 50 mg od + sulfadiazine 75 mg/kg oral x 1 dose then 50 mg per kg bd +folinic acid 10-20mg oral daily for minimum of 4 weeks		
candidiasis	Candida species	fluconazole oral 150 mg single dose for milder cases intra vaginal agents as creams or suppositories clotrimazole, miconazole, nystatin single dose to 7-14 days		
bacterial vaginosis	polymicrobial	metronidazole 500mg oral bd for 7 days or tinidazole 2 grams oral od for 3 days		treat the partner
trichomoniasis	Trichomonas vaginalis	metronidazole 2 gram single dose or 500mg oral bd for 7 days or tinidazole 2 gram oral single dose		treat the partner

cervicitis, urethritis	polymicrobial	ceftrixone 250mg im single dose + azithromycin 1 gram single dose or doxyycline 100mg bd for 7 days		
pelvic inflammatory diseases (salphingitis and tuboovarian abscess)	S.aureus, Enterobacteriaceae, Gonococci, Gardenella	ceftrixone 250mg im/iv single dose + metronidazole 500mg bd for 14 days + doxycycline 100mg bd for 14 days		

Antimicrobial susceptibility profile of Blood Stream Infections (BSI) – Year 2020-2021

TABLE 1: AST Profile of organisms causing BSI – Susceptible percentage (%)				
	Escherichia coli (n= 38)	*Klebsiella spp.* (n= 26)	*Staphylococcus aureus* (n= 20)	
Ampicillin	18%	8%		
Nalidixic acid	18%	27%		
Ciprofloxacin	21%	27%	20%	
Cefuroxime	26%	15%		
Cefuroxime Axetil	29%	15%		
Ceftriaxone	29%	19%		
Trimethoprim Sulfamethoxazole	50%	35%	25%	
Cefepime	55%	38%		
Gentamycin	61%	38%	75%	
Amoxicillin Clavulinic acid	63%	23%		
Piperacillin-Tazobactam	68%	27%		
Cefoperazone Sulbactum	76%	27%		
Imipenem	79%	46%		
Meropenem	79%	35%		
Amikacin	84%	35%		
Ertapenem	87%	62%		
Tegecycline	87%	69%		
Azteronam	89%	100%	97%	
Levofloxacin	89%	100%	15%	
Colistin	95%	27%		
Ceftazidime	95%	100%		
Ticarcillin-Clavulinic acid	97%			

Doripenem	97%	100%	94%	
Nitrofurantoin	97%	65%	100%	
Minocycline	100%	100%	97%	
Oxacillin			20%	
Erythromycin			35%	
Clindamycin			40%	
Linezolid			80%	
Vancomycin			85%	
Tetracycline			85%	
Ticoplanin			90%	
Rifampicin			90%	
Benzylpenicillin			100%	
Daptomyin			100%	
Tigecycline			100%	

>80% Susceptible

70-79% Susceptible

<69% Susceptible

obial susceptibility profile of UTI – Year 2020-2021

TABLE 2: AST Profile of organisms causing UTI – Susceptible percentage (%)

	Escherichia coli (n= 354)	*Klebsiella spp.* (n= 93)	*Enterococcus faecalis* (n= 70)
Ampicillin	22%	5%	
Nalidixic acid	25%	35%	
Ciprofloxacin	32%	37%	79%
Cefuroxime		30%	
Cefuroxime Axetil	40%	32%	
Ceftriaxone	39%	33%	
Trimethoprim Sulfamethoxazole	51%	46%	100%
Cefepime	69%	51%	
Gentamycin	79%	68%	80%
Amoxicillin Clavulinic acid	66%	42%	

Prepared by:	Reviewed by:	Approved by:
	Dr. Dechen C. Tshering, Member Secretary, HCC & BMW, Central Referral Hospital, Tadong, Gangtok	Dr. Yogesh Verma, Medical Superintendent, Central Referral Hospital, 5th Mile Tadong, Gangtok, Sikkim 737102

Piperacillin-Tazobactam	74%	49%	
Cefoperazone Sulbactum	81%	53%	
Imipenem	88%	68%	
Meropenem	88%	63%	
Amikacin	92%	70%	
Ertapenem	94%	89%	
Tegecycline		86%	
Azteronam			
Levofloxacin		100%	79%
Colistin	88%	82%	
Ceftazidime	93%	95%	
Ticarcillin-Clavulinic acid	89%	93%	
Doripenem		98%	
Nitrofurantoin	73%	37%	93%
Minocycline	99%	98%	
Oxacillin			100%
Erythromycin			80%
Clindamycin			99%
Linezolid			99%
Vancomycin			93%
Tetracycline			80%
Ticoplanin			93%
Rifampicin			100%
Benzylpenicillin			77%
Daptomyin			81%
Tigecycline	98%		100%
Cefalotin	90%	96%	
Cefixine	90%	100%	
Cefoxitin	97%	98%	
Aztreonam	99%	96%	

	Dr. Dechen C. Tshering Member Secretary HICC & BMW, Central Referral Hospital Tadong, Gangtok	Dr. Yogesh Verma Medical Superintendent Central Referral Hospital 5th Mile Tadong, Gangtok Sikkim - 737102
Prepared by:	**Reviewed by:**	**Approved by:**

>80% Susceptible

70-79% Susceptible

<69% Susceptible

Antimicrobial susceptibility profile of CATHETER TIP – Year 2020-2021

TABLE 3: AST Profile of organisms isolated from catheter tip– Susceptible percentage (%)

	Escherichia coli (n= 11)	*Klebsiella spp.* (n= 05)	*Acenetobacter* spp. (n= 03)
Ampicillin	18.2%	0	
Ciprofloxacin	36.4%	40%	
Cefuroxime	18.2%	60%	
Cefuroxime Axetil	18.2%	20%	
Ceftriaxone	27.3%	40%	
Trimethoprim Sulfamethoxazole			
Cefepime	63.7%	40%	
Gentamycin	63.7%	60%	
Amoxicillin Clavulinic acid	27.3%	0	
Piperacillin-Tazobactam	36.4%	20%	
Cefoperazone Sulbactum	63.7%	40%	
Imipenem	72.8%	40%	
Meropenem	72.8%	40%	
Amikacin		60%	
Colistin		60%	
Nitrofurantoin	45.5%	60%	

>80% Susceptible

70-79% Susceptible

<69% Susceptible

Antimicrobial susceptibility profile of Skin and Soft Tissue Infections- Year 2020-2021

TABLE 4: AST Profile of organisms isolated from Skin and Soft Tissue Infections – Susceptible percentage (%)

	Staphylococcus aureus (n= 138)	*Escherichia coli* (n= 77)	*Klebsiella spp.* (n= 32)
Benzylpenicillin	5%		
Ampicillin		32%	16%
Nalidixic acid		34%	44%
Ciprofloxacin	14%	35%	47%
Levofloxacin	16%	87%	
Linezolid	28%		
Cefuroxime		40%	41%
Cefuroxime Axetil		40%	41%
Ceftriaxone		52%	50%
Trimethoprim Sulfamethoxazole	37%	49%	44%
Erythromycin	40%		
Oxacillin	49%		
Clindamycin	60%		
Cefepime		68%	50%
Gentamycin	91%	77%	66%
Vancomycin	96%		
Tetracycline	96%		
Rifampicin	96%		
Ticoplanin	99%		

Amoxicillin Clavulinic acid		70%	47%
Piperacillin-Tazobactam		73%	47%
Cefoperazone Sulbactum		91%	47%
Imipenem		87%	53%
Meropenem		88%	56%
Colistin		91%	66%
Nitrofurantoin	99%	87%	66%
Daptomycin	100%		
Tigecycline	100%	97%	69%
Aztrenonam		90%	
Ceftazidime		92%	94%
Amikacin		92%	62%
Ticarcillin-Clavulinic acid		94%	94%
Ertapenem		94%	75%
Doripenem		96%	
Minocycline		99%	

>80% Susceptible

70-79% Susceptible

<69% Susceptible

Antimicrobial susceptibility profile of Respiratory Tract Infections – Year 2020-2021

TABLE 5: AST Profile of organisms causing Respiratory Tract Infections – Susceptible percentage (%)			
	Klebsiella spp. (n= 29)	*Acenetobacter* spp. (n = 21)	*Escherichia coli* (n= 19)
Ampicillin	7%	100%	11%

Nalidixic acid	45%	100%	21%
Ciprofloxacin	31%	62%	26%
Cefuroxime	38%	100%	26%
Cefuroxime Axetil	38%	100%	26%
Ceftriaxone	34%	95%	32%
Trimethoprim Sulfamethoxazole	62%	81%	47%
Cefepime	66%	62%	47%
Gentamycin	86%	67%	63%
Amoxicillin Clavulinic acid	69%	100%	32%
Piperacillin-Tazobactam	79%	52%	47%
Cefoperazone Sulbactum	79%	67%	53%
Imipenem	90%		58%
Meropenem	90%	48%	79%
Amikacin	86%	62%	95%
Ertapenem	93%	57%	84%
Tegecycline	69%	100%	89%
Azteronam		100%	95%
Levofloxacin	97%	71%	95%
Colistin	83%	90%	84%
Ceftazidime	97%	71%	95%
Ticarcillin-Clavulinic acid	93%	67%	89%
Doripenem	100%	57%	95%
Nitrofurantoin	66%	100%	79%
Minocycline		86%	95%
Oxacillin	97%		
Cefalotin	97%	100%	95%
Cefixine	97%	100%	95%
Cefoxitin	100%	100%	95%

	Dr. Dechen C. Tshering Member Secretary IHEC & BMW Central Referral Hospital Tadong	Dr. Yogesh Verma Medical Superintendent Central Referral Hospital Tadong, Gangtok Sikkim - 737102
Prepared by:	**Reviewed by:**	**Approved by:**

>80% Susceptible

70-79% Susceptible

<69% Susceptible

Antimicrobial susceptibility profile of ET Tube- Year 2020-2021

TABLE 6: AST Profile of organisms isolated from ET Tube – Susceptible percentage (%)

	Acenetobacter spp. (n =69)	*Klebsiella* spp. (n= 22)	*Escherichia coli* (n= 10)
Imipenem	19%	55%	70%
Meropenem	23%	46%	80%
Ciprofloxacin	23%	32%	30%
Piperacillin-Tazobactam	25%	32%	60%
Cefoperazone Sulbactum	34%	41%	60%
Amikacin	28%	64%	
Doripenem	32%		
Gentamicin	32%	64%	70%
Levofloxacin	65%		
Cefuroxime	70%	14%	70%

>80% Susceptible

70-79% Susceptible

<69% Susceptible

Antimicrobial susceptibility profile of Body Fluids- Year 2020-2021

TABLE 9: AST Profile of organisms isolated from Body Fluids – Susceptible percentage (%)

	Escherichia coli (n= 07)	*Acinetobacter baumanii* (n = 05)	*Klebsiella* spp. (n= 05)
Ampicillin	20%		
Nalidixic acid	10%		65%
Ciprofloxacin	16%	25%	55%
Cefuroxime	20%		
Trimethoprim Sulfamethoxazole	95%	60%	50%
Cefepime		50%	
Gentamycin	95%	32%	95%
Amoxycillin			50%
Piperacillin-Tazobactam		20%	25%
Cefoperazone Sulbactum	25%		
Cefotaxime Sulbactum		62%	
Imipenem	90%	30%	50%
Meropenem	80%	30%	25%
Amikacin	93%	32%	90%
Ertapenem	70%		40%
Tigecycline	80%	90%	80%
Levofloxacin	16%	55%	
Colistin		95%	90%
Ceftazidime		55%	
Doripenem		50%	
Cefixime	30%		
Piperacillin	50%		