



## INODAYA Hospitals - Kakinada

Documentation code:

INH/HIC.Doc.No:10

### SURGICAL ANTIBIOTIC POLICY

Prepared date: 05/09/2023

Reference: HIC .3 .e. NABH Standards – 5<sup>th</sup> Edition

Issue Date:05/09/2023

Issue no: 02

Review No: 1

Review date: 04/09/2024

### HIC 3.e. ANTIBIOTIC POLICY FOR SURGICAL PATIENTS

#### 1. PURPOSE:

1.1. Establishment of a rational antibiotic policy for implementation and better management of surgical patient.

#### 2. SCOPE:

2.1. This guideline is to reduce the risk and incidence of surgical site infection (SSI) and addresses the following key questions:

2.1.1. What are the risk factors for SSI?

2.1.2. What are the benefits and risks of preoperative antibiotic prophylaxis?

2.1.3. For which operations is there evidence that prophylaxis reduces the risk of SSI?

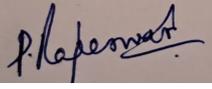
2.1.4. When and how should antibiotic prophylaxis be administered?

2.1.5. How many doses of prophylactic antibiotics should be administered?

2.2. To reduce the inappropriate use of antibiotics thus minimizing the consequences of misuse

2.3. To address the problems of inappropriate antibiotic prescribing and its impact on drug resistance in the hospitals.

2.4. It is useful in reducing cost of therapy and adverse drug reactions, thus maintaining the quality of care.

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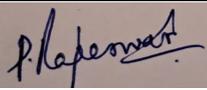
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### 3. POLICIES

- 3.1. Prophylactic antibiotics should be administered before one hour at the time of the surgery.
- 3.2. For the majority of procedures, prophylaxis should not exceed 24 hours
- 3.3. If surgery is prolonged more than 3hrs an extra dose has to be given intraoperatively. 2<sup>nd</sup>& 3<sup>rd</sup> dose are given with a 6 – 8 hr interval postoperatively.
- 3.4. Complicated, contaminated, or dirty procedures should receive additional postoperative coverage
- 3.5. Prolonged postoperative prophylaxis is strongly discouraged except in the scenario of a Bioprosthetic insertion in which case 2 or 3 additional prophylactic doses may be deemed sufficient (There are no standard rules on prophylaxis following prosthetic insertion and clinical experience strongly dictates practice).
- 3.6. Vancomycin may be used for patients with penicillin/Cephalosporin allergy or in MRSA positive case.

### 4. PROCEDURE:

- 4.1. Recommendations regarding surgical antibiotic prophylaxis:
  - 4.1.1. **Highly recommended:** Prophylaxis unequivocally reduces major morbidity, reduces hospital costs and is likely to decrease overall consumption of antibiotics
  - 4.1.2. **Recommended:** Prophylaxis reduces short-term morbidity but there are no Randomized Critical Trials (RCT) that prove that prophylaxis reduces the

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risk of mortality or long-term morbidity. However, prophylaxis is highly likely to reduce major morbidity, reduce hospital costs and may decrease overall consumption of antibiotics

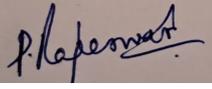
4.1.3. **Recommended with exceptions:** Prophylaxis is recommended for all patients with certain exceptions where Prophylaxis may not reduce hospital costs and could increase consumption of antibiotics, especially if given to patients at low risk of infection.

4.1.4. **Not recommended:** Prophylaxis has not been proven to be clinically effective or consequence of infection is minimal where prophylaxis is likely to increase hospital antibiotic consumption for little clinical benefit.

#### 4.2. Classification of Operation

Operations can be categorized into four classes with an increasing incidence of bacterial contamination and subsequent incidence of postoperative infection. (Table 1)

The guideline applies to all elective operations in the clean, clean-contaminated or contaminated categories. Recommendations for prophylaxis of emergency surgery are limited to clean operations (e.g. emergency repair of abdominal aortic aneurysm or open fixation of a closed fracture) and emergency caesarean section, which is a clean contaminated operation.

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Class	Definition
<b>Clean</b>	Operations in which no inflammation is encountered and the respiratory, alimentary or genitourinary tracts are not entered. There is no break in aseptic operating theatre technique.
<b>Clean-contaminated</b>	Operations in which the respiratory, alimentary or genitourinary tracts are entered but without significant spillage.
<b>Contaminated</b>	Operations where acute inflammation (without pus) is encountered, or where there is visible contamination of the wound. Examples include gross spillage from a hollow viscous during the operation or compound/open injuries operated on within four hours.
<b>Dirty</b>	Operations in the presence of pus, where there is a previously perforated hollow viscous, or compound/open injuries more than four hours old.

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#### 4.3. Insertion of Prosthetic Implants

Insertion of any prosthetic implant increases the risk of infection of the wound and surgical site. The implant has a detrimental effect on the patient's host defenses. As a result, a lower bacterial inoculum is needed to cause infection of a prosthetic implant than of viable tissue. Thus the chance of infection is increased.

#### 4.4. Duration of Surgery.

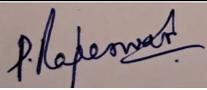
Duration of surgery is positively associated with risk of wound infection and this risk is additional to that of the classification of operation.

#### 4.5. Co-Morbidities

The American Society of Anesthesiologists (ASA) has devised a preoperative risk score based on the presence of co-morbidities at the time of surgery (see Table 2). An ASA score >2 is associated with increased risk of wound infection and this risk is additional to that of classification of operation and duration of surgery.

#### 4.6. ASA Classification of Physical Status (Table 2)

ASA score	Physical status
1	A normal healthy patient
2	A patient with a mild systemic disease

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3	A patient with a severe systemic disease that limits activity, but is not Incapacitating
4	A patient with an incapacitating systemic disease that is a constant threat to life
5	A moribund patient not expected to survive 24 hours with or without operation

**5. SURGICAL ANTIMICROBIAL PROPHYLAXIS**

1. To be administered with in 1 hr before the surgical incision
2. Single dose is recommended. Consider for second intra-operative dose in prolong surgery based on the choice of antibiotic used for prohylaxis.
3. Prophylaxis should not be given beyond surgery duration (except for cardiothoracic surgery, up to 48 hours permissible)

<b>SURGERY</b>	<b>MEDICATION</b>
IABP , Pacemaker placements	Cefotaxim
ENT: 1. Ear surgeries 2. Nose surgeries	Inj. Ciprofloxacin 100ml/iv Inj. Amoxicillin clavulanate 1.2gm/IV

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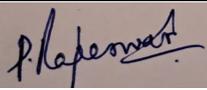
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3. Head & Neck surgeries	Inj. Ceftriaxone1gm/iv
Urology	Inj. Amikacin (or) Inj. Piperacillin-Tazobactum
Kidney Transplant Pre –OP antibiotic)	Inj. Ceftriaxone1gm (or)  Inj. Piperacillin-Tazobactum (or)  Inj.Clindamicine +
Cardiothoracic surgeries	Inj. Cefipime-Tazobactum 1.125grms Iv Stat
Gastro duodenal& Billary	Inj. Ceftriaxone1gm/iv Stat
Abdominal Surgeries	Inj. Amoxicillin clavulanate1.2gm/IV
Major GI procedures	Inj. Cefaperazone – salbactan 2grms/IV stat
Neuro Surgery	Inj.Amikacin 500mg IV Stat  Inj. Ceftazidime+Tazobactum1.25grm IV Stat
Obstetrics & Gynecology	Inj. Ceftriaxone 1 gm /IV start
Orthopedic	Inj. Cefuroxime 1.5grms/IV stat (or)  Inj. Piperacillin-Tazobactum 4.5grm/IV Stat(or)

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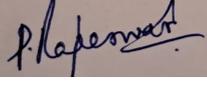
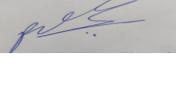
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	Inj. Ceftriaxone 1 gm /IV start
Spine Surgery	Inj. Cefuroxime 1.5grms/IV stat
Trauma	Inj. Cefuroxime 1.5grms/IV stat (or) Inj. Ceftriaxone 1 gm /IV start
TURP	Inj. Ceftriaxone 1 gm /IV start
Skin& Soft Tissue	Inj. Amoxicillin clavulanate 1.2 gm /IV
ERCP	Inj. Metrogyl & Inj Zostum 1.5gm

#### 6. REFERENCE:

- 6.1. Nichols RL. Postoperative wound infection. N Engl J Med 307:1701, 1982.
- 6.2. Ulualp, K., and Condon, R.E.: Antibiotic prophylaxis for scheduled operative procedures. In Dellinger E (ed): Surgical Infections. Infectious Disease Clinics of North America, Philadelphia, PA, W.B. Saunders Company, 1992.
- 6.3. Wittman DH, Condon RE. Prophylaxis of postoperative infections. Infection 19:S337-S344, 1991.
- 6.4. Leaper DJ, Melling AG. Antibiotic prophylaxis in clean surgery: clean non-implant wounds. J Chemother. 2001 Nov;13 Spec No 1(1):96-101

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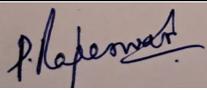
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- 6.5. D'Amico DF, Parimbelli P, Ruffolo C. Antibiotic prophylaxis in clean surgery: breast surgery and hernia repair. J Chemother. 2001 Nov;13 Spec No 1(1):108-11.
- 6.6. Aufenacker TJ, van Geldere D, van Mesdag T, Bossers AN, Dekker B, Scheijde E, van Nieuwenhuizen R, Hiemstra E, Maduro JH, Juttman JW, Hofstede D, van Der Linden CT, Gouma DJ, Simons MP. The role of antibiotic prophylaxis in prevention of wound infection after Lichtenstein open mesh repair of primary inguinal hernia: a multicenter double-blind randomized controlled trial. Ann Surg. 2004 Dec;240(6):955-60; discussion 960-1.
- 6.7. Rodrigo JP, Alvarez JC, Gomez JR, Suarez C, Fernandez JA, Martinez JA. Comparison of three prophylactic antibiotic regimens in clean-contaminated head and neck surgery Head Neck. 1997 May;19(3):188-93.
- 6.8. Johnson JT, Schuller DE, Silver F, Gluckman JL, Newman RK, Shagets FW, Snyderman NL, Leipzig B, Wagner RL Antibiotic prophylaxis in high-risk head and neck surgery: one-day vs. five-day therapy. Otolaryngol Head Neck Surg. 1986 Dec;95(5):554-7.
- 6.9. Grandis JR, Vickers RM, Rihs JD, Yu VL, Johnson JT. Efficacy of topical amoxicillin plus clavulanate/ticarcillin plus clavulinate and clindamycin in contaminated head and neck surgery: effect of antibiotic spectra and duration of therapy. J Infect Dis. 1994 Sep;170(3):729-32.

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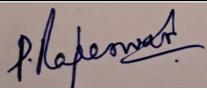
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- 6.10. Garcia-Rodriguez JA, Puig-LaCalle J, Arnau C, Porta M, Vallve C. Antibiotic prophylaxis with cefotaxime in gastroduodenal and biliary surgery. Am J Surg. 1989 Nov;158(5):428-33; discussion 433-4.
- 6.11. Tonelli F, Mazzei T, Novelli A, Mazzoni P, Ficari F; Italian Cooperative Group. Amoxicillin/clavulanic acid versus cefotaxime for antimicrobial prophylaxis in abdominal surgery: a randomized trial. J Chemother. 2002 Aug;14(4):366-72.
- 6.12. Todorov AT, Manchev ID, Atanassov CB. Comparative analysis of two regimens of antibiotic prophylaxis in elective colorectal surgery. Folia Med (Plovdiv). 2002;44(1-2):32-5.
- 6.13. Woodfield JC, Van Rij AM, Pettigrew RA, van der Linden AJ, Solomon C, Bolt D. A comparison of the prophylactic efficacy of ceftriaxone and cefotaxime in abdominal surgery. Am J Surg. 2003 Jan;185(1):45-9.

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