Μετεγχειρητικός πυρετός: για όλα φταίει το εγχειρητικό πεδίο

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Surgical site infection definitions

	Time to event*	Extent of tissue involvement
Superficial incisional SSI[¶]	Within 30 days of NHSN procedure[Δ]	Skin and subcutaneous tissue
Deep incisional SSI[¶]	Within 30 or 90 days of NHSN procedure[Δ]	Deep soft tissues of the incision such as the fascia and muscle layers
Organ/space SSI	Within 30 or 90 days of NHSN procedure[Δ]	Any part of the body deeper than the fascia/muscle layers that was opened or manipulated during the procedure

Surgical Site Infections (SSI): infection related to a surgical procedure that occurs near the surgical site within 30 days following surgery or up to 90 days following surgery where an implant is involved

Incisional SSI

ASEPSIS (Additional treatment, the presence of Serous discharge, Erythema, Purulent exudate, and Separation of the deep tissues, the Isolation of bacteria, and the duration of inpatient Stay) scoring system

The **ASEPSIS** wound score.

Criterion	**Points**
Additional treatment	0
Antibiotics for wound infection	10
Drainage of pus under local anaesthesia	5
Debridement of wound under general anaesthesia	10
Serous dischargea	Daily 0–5
Erythemaa	Daily 0–5
Purulent exudatea	Daily 0–10
Separation of deep tissuesa	Daily 0–10
Isolation of bacteria from wound	10
Stay as inpatient prolonged over 14 days as result of wound infection	5

J Wound Care 2012; 21:124, 126.

Surgical wound classification

Class I/Clean	1.3 to 2.9
An uninfected operative wound in which no inflammation is encountered and the respiratory, alimentary, genital, or uninfected urinary tract is not entered. In addition, clean wounds are primarily closed and, if necessary, drained with closed drainage. Operative incisional wounds that follow nonpenetrating (blunt) trauma should be included in this category if they meet the criteria.	
Class II/Clean-Contaminated	2.4 to 7.7
An operative wound in which the respiratory, alimentary, genital, or urinary tracts are entered under controlled conditions and without unusual contamination. Specifically, operations involving the biliary tract, appendix, vagina, and oropharynx are included in this category, provided no evidence of infection or major break in technique is encountered.	
Class III/Contaminated	6.4 to 15.2
Open, fresh, accidental wounds. In addition, operations with major breaks in sterile technique (eg, open cardiac massage) or gross spillage from the gastrointestinal tract, and incisions in which acute, nonpurulent inflammation is encountered are included in this category.	
Class IV/Dirty-Infected	7.1 to 40.0
Old traumatic wounds with retained devitalized tissue and those that involve existing clinical infection or perforated viscera. This definition suggests that the organisms causing postoperative infection were present in the operative field before the operation.	

Poor predictor of overall risk of SSI

Nature and number of organisms contaminating the surgical site, antimicrobial prophylaxis, the health of the patient, and the technique of the surgeon

- **Low/Middle vs High Income Countries** (Falcon study)
- **Volume of Surgeries** (small 1.5 vs high 1.29)
- **Kind of procedure** (abdominal surgery e.g colon 10%, CABG 3.3-3.7%, vascular surgery 0.16-29%, CS 3.4-30%, joint arthroplasty with a prosthesis 0.7-1.7%, spinal fusion 1.3-3.1%, eye 0.14%)
- **Impaired wound healing** (eg, cigarette smoking, older age, vascular disease, obesity, malnutrition, diabetes, immunosuppressive therapy)
- **Recent or remote infection at the surgical site, recent surgery, and hospitalization**
- **Timing of surgery** (emergency vs elective)
- **Implant or not**

Epidemiology

- After clean procedures : skin flora (streptococcal sp, *S. aureus*, and CNS)
- In clean-contaminated procedures: gram-negative rods and enterococci + skin flora. When viscus involved : pathogens reflect the endogenous flora of the viscus or nearby mucosal surface; typically, polymicrobial

1986 – 2003 : gram-negative bacilli 56 ➔ 33 % , *S. aureus* most common pathogen:22%

2006 - 2007, *S. aureus* ➔30%, MRSA nearly half associated were higher mortality rates, longer hospital stays, and higher costs

past decade : MRSA declined

Fungi ↑ <widespread use of prophylactic and empiric antibiotics, increased severity of illness, and greater numbers of immunocompromised patients undergoing surgical procedures.

Exogenous sources of infection include contamination of the surgical site by organisms from the operating room environment or personnel.

Surgical site infection definitions

	Time to event*	Extent of tissue involvement	Clinical features	Criteria for diagnosis
Superficial incisional SSI[¶]	Within 30 days of NHSN procedure[Δ]	Skin and subcutaneous tissue	▪ Peri-incisional pain or tenderness ▪ Localized peri-incisional swelling ▪ Peri-incisional erythema or heat	At least one clinical feature **AND** at least one of the following: ▪ Purulent drainage from the superficial incision ▪ Organisms are identified by culture (or non-culture-based microbiologic testing method) performed for clinical diagnosis or treatment (eg, not surveillance) ▪ Incision opened by the surgeon (or other designated clinician) because of concern for superficial SSI[◇]
Deep incisional SSI[¶]	Within 30 or 90 days of NHSN procedure[Δ]	Deep soft tissues of the incision such as the fascia and muscle layers	▪ Fever (>38°C) ▪ Localized pain or tenderness	▪ Purulent drainage from the deep incision ▪ Deep incision that spontaneously dehisces or is opened by the surgeon (or other designated clinician) because of concern for deep SSI **AND** organisms are identified by culture (or non-culture-based microbiologic testing method) performed for clinical diagnosis or treatment (eg, not surveillance). Presence of at least one clinical feature, in absence of microbiologic testing
Organ/space SSI	Within 30 or 90 days of NHSN procedure[Δ]	Any part of the body deeper than the fascia/muscle layers that was opened or manipulated during the procedure	Clinical features for specific organ/space can be found at the CDC website[§] As an example, for intra-abdominal infection, at least two of the following: ▪ Fever (>38°C) ▪ Hypotension ▪ Nausea, vomiting ▪ Abdominal pain or tenderness ▪ Elevated transaminases ▪ Jaundice	Appropriate clinical features specific to the organ/space **AND** at least one of the following: ▪ Purulent drainage from a drain placed into the organ/space[¥] ▪ Organisms identified from culture of fluid or tissue obtained from a superficial incision[‡] ▪ Abscess or other evidence of infection involving the organ/space detected on gross anatomical exam or histopathologic exam ▪ Radiographic imaging findings suggestive of infection

Clinical Manifestations and Diagnosis

- Low threshold for imaging to evaluate for an undrained abscess requiring source control ➔ U/S, CT, MRI
- Swab cultures directly from the specific site of infection in the open wound.
  (if systemic symptoms blood culture)

Management

Wound exploration and debridement & Antimicrobial Therapy

Not always necessary for superficial SSI – always required to treat deep organ/space SSI

Antibiotics when:

- Surrounding cellulitis.
- Implanted material (eg, mesh, vascular grafts, orthopedic hardware) is present within the infected area.
- Systemic signs of infection are present (eg, temperature ≥38°C, white blood cell count ≥12).
- Septic shock is persistent despite source control.

Most common organisms *: Staphylococcus aureus*, coagulase-negative, staphylococci, *Streptococcus* spp, and *Enterococcus* spp

Empiric selection of THERAPY depends upon

- the initial Gram stain
- wound class
- site of the wound
- prior exposure to antibiotics
- history of colonization with antibiotic-resistant organisms (eg, MRSA)
- Local antimicrobial resistance patterns.

Empiric gram-negative therapy : not necessary unless wound known to be grossly contaminated in the case of traumatic injury or gastrointestinal tract perforation, (gram-negative coliforms and anaerobic organisms+typical gram-positive skin organisms)

ALWAYS DE-ESCALATE UPON MICROORGANISM IDENTIFICATION

World Health Organization surgical safety checklist

Sign in	
Before induction of anesthesia	
__	Patient has confirmed: ▪ Identity ▪ Site ▪ Procedure ▪ Consent
__	Site marked/not applicable
__	Anesthesia safety check completed
__	Pulse oximeter on patient and functioning
Does patient have a:	
Known allergy?	
__	No
__	Yes
Difficult airway/aspiration risk?	
__	No
__	Yes, and equipment/assistance available
Risk of >500 mL blood loss (7 mL/kg in children)?	
__	No
__	Yes, and adequate intravenous access and fluids planned

Time out	
Before skin incision	
__	Confirm all team members have introduced themselves by name and role
__	Surgeon, anesthesia professional, and nurse verbally confirm ▪ Patient ▪ Site ▪ Procedure
Anticipated critical events	
__	Surgeon reviews: What are the critical or unexpected steps, operative duration, anticipated blood loss?
__	Anesthesia team reviews: Are there any patient-specific concerns?
__	Nursing team reviews: Has sterility (including indicator results) been confirmed? Are there equipment issues or any concerns?
Has antibiotic prophylaxis been given within the last 60 minutes?	
__	Yes
__	Not applicable
Is essential imaging displayed?	
__	Yes
__	Not applicable

Sign out	
Before patient leaves operating room	
Nurse verbally confirms with the team:	
__	The name of the procedure recorded
__	That instrument, sponge, and needle counts are correct (or not applicable)
__	How the specimen is labeled (including patient name)
__	Whether there are any equipment problems to be addressed
__	Surgeon, anesthesia professional, and nurse review the key concerns for recovery and management of this patient

INFECTION CONTROL

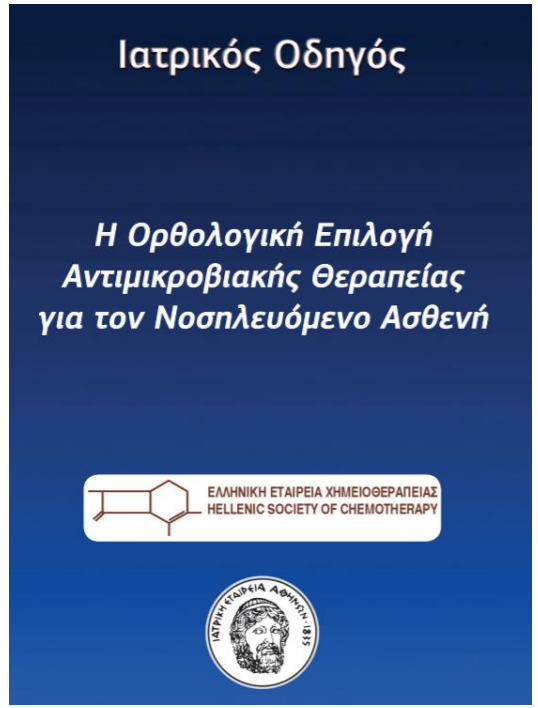
- Antimicrobial prophylaxis
- Hand hygiene
- Surgical attire and barrier devices
- S. aureus decolonization
- Skin antisepsis
- Hair removal
- Good surgical technique and sterile practice

Antimicrobial prophylaxis – General Principles

- **Cefazolin** : desirable duration of action, safety profile and low cost – active against streptococci, MSSA, gram-negative organism
- **Second-generation cephalosporins** : broader that cefazolin but rising resistance. Cefoxitin and cefotetan also anaerobes
- **Penicillin allergy**: cephalosporins, clindamycin

Vancomycin reasonable if (+coverage for gram(-))

- cluster of SSIs due to MRSA or MRCNS
- colonized with MRSA.
- patient at high risk for MRSA colonization in the absence of surveillance data



Antimicrobial prophylaxis

Antimicrobial therapy should be initiated within the 60 minutes prior to surgical incision to optimize adequate drug tissue levels at the time of initial incision. Vancomycin 120min prior

Timing of prophylactic antibiotic administration and subsequent rates of SSIs

Time of administration*	Percent with SSI	Odds ratio¶	95% CI
Early	3.8	4.3	1.8-10.4
Preoperative	0.6	1	-
Perioperative	1.4	2.1	0.6-7.4
Postoperative	3.3	5.8	2.4-13.8

SSI: surgical site infection.

* "Early" denotes 2 to 24 hours before incision, "preoperative" 0 to 2 hours before incision, "perioperative" within 3 hours after incision, and "postoperative" more than 3 hours after incision.

¶ Odds ratio determined by logistic-regression analysis.

Data from: Classen DC, Evans RS, Pestotnik SL, et al. The timing of prophylactic administration of antibiotics and the risk of surgical-wound infection. N Engl J Med 1992; 326:281.

Repeat intraoperative dosing is warranted for procedures that exceed two half-lives of the drug and for procedures in which there is excessive blood loss (>1500 mL) - duration not exceeding 24hours

Antimicrobial prophylaxis for cardiac surgery in adults

Nature of operation	Common pathogens	Recommended antimicrobials	Usual adult dose*	Redose interval¶
Cardiac procedures: coronary artery bypass, cardiac device insertion procedures (eg, pacemaker implantation), placement of ventricular assist devices	*Staphylococcus aureus*, *Staphylococcus epidermidis*	Cefazolin[Δ]	<120 kg: 2 g IV ≥120 kg: 3 g IV	4 hours
		OR cefuroxime	1.5 g IV	4 hours[◇]
		OR vancomycin[§]	15 mg/kg IV (max 2 g)	N/A
		OR clindamycin	900 mg IV	6 hours

Antimicrobial prophylaxis for genitourinary surgery in adults

Nature of operation	Common pathogens	Recommended antimicrobials	Usual adult dose*[1]	Redose interval¶ [2]
Cystoscopy alone	Enteric gram-negative bacilli, enterococci	High-risk[Δ] only: ciprofloxacin[◇]	500 mg orally or 400 mg IV	N/A
		OR trimethoprim-sulfamethoxazole	One 160/800 mg (double strength, DS) tablet orally	N/A
Cystoscopy with manipulation (eg, transrectal prostate biopsy) or upper tract instrumentation (eg, ureteroscopy, shock wave lithotripsy)	Enteric gram-negative bacilli, enterococci	Ciprofloxacin[◇]	500 mg orally or 400 mg IV	N/A
		OR trimethoprim-sulfamethoxazole	One 160/800 mg (double strength, DS) tablet orally	N/A
Open or laparoscopic surgery[§]	Enteric gram-negative bacilli, enterococci	Cefazolin[¥]	<120 kg: 2 g IV ≥120 kg: 3 g IV	4 hours

Bratzler DW, et al. Clinical guidelines for antimicrobial prophylaxis in surgery. Surg Infect (Larchmt) 2013; 14:73

Antimicrobial prophylaxis for head and neck surgery in adults

Nature of operation	Common pathogens	Recommended antimicrobials	Usual adult dose*	Redose interval¶
Clean	–	None	–	–
Clean with placement of prosthesis (excludes tympanostomy tube placement)	*Staphylococcus aureus*, *S. epidermidis*, streptococci	Cefazolin*Δ	<120 kg: 2 g IV ≥120 kg: 3 g IV	4 hours
		OR cefuroxime	1.5 g IV	4 hours
		OR vancomycin◇	15 mg/kg (max 2 g)	N/A
		OR clindamycin	900 mg IV	N/A
Clean-contaminated	Anaerobes, enteric gram-negative bacilli, *S. aureus*	Cefazolin Δ	<120 kg: 2 g IV ≥120 kg: 3 g IV	4 hours
		PLUS metronidazole	500 mg IV	N/A
		OR cefuroxime	1.5 g IV	4 hours
		PLUS metronidazole	500 mg IV	N/A
		OR ampicillin-sulbactam§	3 g IV	2 hours
		OR clindamycin	900 mg IV	6 hours

Bratzler DW, et al. Clinical guidelines for antimicrobial prophylaxis in surgery. Surg Infect (Larchmt) 2013; 14:73

Antimicrobial prophylaxis for thoracic (noncardiac) surgery in adults

Nature of operation	Common pathogens	Recommended antimicrobials	Usual adult dose*	Redose interval¶
Thoracic (noncardiac) procedures: lobectomy, pneumonectomy, lung resection, thoracotomy	*Staphylococcus aureus*, *Staphylococcus epidermidis*, streptococci, enteric gram-negative bacilli	Cefazolin	<120 kg: 2 g IV ≥120 kg: 3 g IV	4 hours
		OR ampicillin-sulbactam[Δ]	3 g IV	2 hours
		OR vancomycin[◇]	15 mg/kg IV (max 2 g)	N/A
		OR clindamycin	900 mg IV	6 hours

Antimicrobial prophylaxis for vascular surgery in adults

Nature of operation	Common pathogens	Recommended antimicrobials	Usual adult dose*	Redose interval¶
Arterial surgery involving a prosthesis, the abdominal aorta, or a groin incision	*Staphylococcus aureus*, *S. epidermidis*, enteric gram-negative bacilli	Cefazolin	<120 kg: 2 g IV ≥120 kg: 3 g IV	4 hours
		OR vancomycin[Δ]	15 mg/kg IV (max 2 g)	N/A
		OR clindamycin	900 mg IV	6 hours
Lower extremity amputation for ischemia	*S. aureus*, *S. epidermidis*, enteric gram-negative bacilli, clostridia	Cefazolin	<120 kg: 2 g IV ≥120 kg: 3 g IV	4 hours
		OR vancomycin[Δ]	15 mg/kg IV (max 2 g)	N/A
		OR clindamycin	900 mg IV	6 hours

Bratzler DW, et al. Clinical guidelines for antimicrobial prophylaxis in surgery. Surg Infect (Larchmt) 2013; 14:73
Antimicrobial prophylaxis for surgery. Med Lett Drugs Ther 2016; 58:63.

Antimicrobial prophylaxis for neurosurgery in adults

Nature of operation	Common pathogens	Recommended antimicrobials	Usual adult dose*	Redose interval¶
Elective craniotomy Cerebrospinal fluid shunting procedures Implantation of intrathecal pumps	*Staphylococcus aureus*, *S. epidermidis*	Cefazolin	<120 kg: 2 g ≥120 kg: 3 g	4 hours
		OR vancomycin[Δ]	15 mg/kg IV (max 2 g)	12 hours
		OR clindamycin	900 mg IV	6 hours

Antimicrobial prophylaxis for orthopedic surgery in adults

Nature of operation	Common pathogens	Recommended antimicrobials	Usual adult dose*	Redose interval¶
Clean operation involving hand, knee, or foot with no implantation of foreign material	–	None	–	–
Spinal procedures Hip fracture Internal fixation Total joint replacement Removal of orthopedic hardware used for treatment of lower extremity fractures[§]	*Staphylococcus aureus*, *Staphylococcus epidermidis*	Cefazolin[Δ]	<120 kg: 2 g IV ≥120 kg: 3 g IV	4 hours
		OR vancomycin[Δ ◇]	15 mg/kg IV (max 2 g)	N/A
		OR clindamycin	900 mg IV	6 hours

Bratzler DW, et al. Clinical guidelines for antimicrobial prophylaxis in surgery. Surg Infect (Larchmt) 2013; 14:73

Antimicrobial prophylaxis for percutaneous procedures in adults

Procedure	Potential organisms encountered	Routine prophylaxis recommended	First-choice antibiotic	Common antibiotic choices	Comments
Angiography, angioplasty, thrombolysis, arterial closure device placement, stent placement	*Staphylococcus aureus*, *S. epidermidis*	No	None	Cefazolin (2 g IV if <120 kg, 3 g IV if ≥120 kg IV) (if high-risk stent infection). If penicillin-allergic, can use vancomycin (15 mg/kg IV; max 2 g) or clindamycin (900 mg IV).	Procedure classification: clean
Endograft placement	*S. aureus*, *S. epidermidis*	Yes	Cefazolin (2 g IV if <120 kg, 3 g IV if ≥120 kg IV)	If penicillin-allergic, can use vancomycin or clindamycin	Procedure classification: clean
Superficial venous insufficiency treatment	*S. aureus*, *S. epidermidis*	No	None	None	Procedure classification: clean
IVC filter placement	*S. aureus*, *S. epidermidis*	No	None	None	Procedure classification: clean
Tunneled central venous access	*S. aureus*, *S. epidermidis*	No consensus	None	Cefazolin (2 g IV if <120 kg, 3 g IV if ≥120 kg IV) (eg, immunocompromised patients before chemotherapy; history of catheter infection). If penicillin-allergic, can use vancomycin (15 mg/kg IV; max 2 g) or clindamycin (900 mg IV).	Procedure classification: clean (nontunneled catheter: no prophylaxis)

J Vasc Interv Radiol 2010; 21:1611.

Antimicrobial prophylaxis for breast surgery in adults[1]

Nature of operation	Common pathogens	Recommended antimicrobials	Usual adult dose	Redose interval
Reduction mammoplasty Mammoplasty Lumpectomy Prophylactic mastectomy	–	None	–	–
Breast cancer procedures (eg, axillary node dissection, mastectomy for known breast cancer)	*Staphylococcus aureus*, *Staphylococcus epidermidis*, streptococci*	Cefazolin	<120 kg: 2 g IV ≥120 kg: 3 g IV	4 hours
		OR vancomycin	15 mg/kg (max 2 g)	N/A
		OR clindamycin	900 mg IV	6 hours

IV: intravenous.

* A higher rate of infection due to gram-negative organisms occurs in the setting of procedures involving macerated, moist environments (such as under the axilla of an obese individual) and among patients with diabetes. In the setting of risk for surgical site infections due to gram-negative pathogens, an additional agent may be warranted (such as gentamicin 5 mg/kg IV, aztreonam 2 g IV, ciprofloxacin 400 mg IV, or levofloxacin 500 mg IV).

Bratzler DW, Dellinger EP, Olsen KM, et al. Clinical practice guidelines for antimicrobial prophylaxis in surgery. Surg Infect (Larchmt) 2013; 14:73

Antimicrobial prophylaxis for gastrointestinal surgery in adults

Nature of operation	Common pathogens	Recommended antimicrobials	Usual adult dose*	Redose interval¶
Gastroduodenal surgery				
Procedures involving entry into lumen of gastrointestinal tract	Enteric gram-negative bacilli, gram-positive cocci	Cefazolin$^{\Delta}$	<120 kg: 2 g IV ≥120 kg: 3 g IV	4 hours
Procedures not involving entry into lumen of gastrointestinal tract (selective vagotomy, antireflux)	Enteric gram-negative bacilli, gram-positive cocci	High risk$^{\diamond}$ only: cefazolin$^{\Delta}$	<120 kg: 2 g IV ≥120 kg: 3 g IV	4 hours
Biliary tract surgery (including pancreatic procedures)				
Open procedure or laparoscopic procedure (high risk)§	Enteric gram-negative bacilli, enterococci, clostridia	Cefazolin$^{\Delta ¥}$ (preferred)	<120 kg: 2 g IV ≥120 kg: 3 g IV	4 hours
		OR cefotetan	2 g IV	6 hours
		OR cefoxitin	2 g IV	2 hours
		OR ampicillin-sulbactam	3 g IV	2 hours
Laparoscopic procedure (low risk)	N/A	None	None	None
Appendectomy‡				
	Enteric gram-negative bacilli, anaerobes, enterococci	Cefazolin$^{\Delta}$ PLUS metronidazole (preferred)	*For cefazolin:* <120 kg: 2 g IV ≥120 kg: 3 g IV *For metronidazole:* 500 mg IV	*For cefazolin:* 4 hours *For metronidazole:* N/A
		OR cefoxitin$^{\Delta}$	2 g IV	2 hours
		OR cefotetan$^{\Delta}$	2 g IV	6 hours
Small intestine surgery				
Nonobstructed	Enteric gram-negative bacilli, gram-positive cocci	Cefazolin$^{\Delta}$	<120 kg: 2 g IV ≥120 kg: 3 g IV	4 hours
Obstructed	Enteric gram-negative bacilli, anaerobes, enterococci	Cefazolin$^{\Delta}$ PLUS metronidazole (preferred)	*For cefazolin:* <120 kg: 2 g IV ≥120 kg: 3 g IV *For metronidazole:* 500 mg IV	*For cefazolin:* 4 hours *For metronidazole:* N/A
		OR cefoxitin$^{\Delta}$	2 g IV	2 hours
		OR cefotetan$^{\Delta}$	2 g IV	6 hours
Hernia repair				
	Aerobic gram-positive organisms	Cefazolin$^{\Delta}$	<120 kg: 2 g IV ≥120 kg: 3 g IV	4 hours
Colorectal surgery†				
	Enteric gram-negative bacilli, anaerobes, enterococci	Parenteral:		
		Cefazolin$^{\Delta}$ PLUS metronidazole (preferred)	*For cefazolin:* <120 kg: 2 g IV ≥120 kg: 3 g IV *For metronidazole:* 500 mg IV	*For cefazolin:* 4 hours *For metronidazole:* N/A
		OR cefoxitin$^{\Delta}$	2 g IV	2 hours
		OR cefotetan$^{\Delta}$	2 g IV	6 hours
		OR ampicillin-sulbactam$^{\Delta,**}$	3 g IV (based on combination)	2 hours
		Oral (used in conjunction with mechanical bowel preparation):		
		Neomycin PLUS erythromycin base or metronidazole	¶¶	¶¶

Antimicrobial prophylaxis for gynecologic and obstetric surgery in adults*

Procedure	ACOG preferred regimen[1,2]¶	Dose	Alternative regimens$^{\Delta}$[3,4]	Dose
Hysterectomy (abdominal, including supracervical, vaginal, laparoscopic, or robotic) Pelvic reconstruction procedures, including colporrhaphy or those involving mesh or vaginal sling placement	Cefazolin, cefoxitin or cefotetan	Cefazolin: <120 kg: 2 g IV ≥120 kg: 3 g IV Cefoxitin or cefotetan: 2 g IV	**Regimen:**	
			Ampicillin-sulbactam	3 g IV
			Regimen:	
			Clindamycin **OR**	900 mg IV$^{\diamond}$
			Vancomycin¶	15 mg/kg IV (not to exceed 2 g per dose)
			PLUS one of the following:	
			Gentamicin **OR**	5 mg/kg IV (if overweight or obese, based on adjusted body weight)§
			Aztreonam **OR**	2 g IV
			Fluoroquinolone¶¥	
			Regimen:	
			Metronidazole	500 mg IV
			PLUS one of the following:	
			Gentamicin **OR**	5 mg/kg IV (if overweight or obese, based on adjusted body weight)§
			Fluoroquinolone¶¥	
Cesarean delivery (intact membranes, not in labor)	Cefazolin	<120 kg: 2 g IV ≥120 kg: 3 g IV	Clindamycin	900 mg IV$^{\diamond}$
			PLUS	
			Gentamicin	5 mg/kg IV (if overweight or obese, based on adjusted body weight)§
Cesarean delivery (in labor, ruptured membrane)	Cefazolin	<120 kg: 2 g IV >120 kg: 3 g IV	Clindamycin	900 mg IV
	PLUS		**PLUS**	
	Azithromycin	500 mg IV	Gentamicin	5 mg/kg IV (if overweight, or obese, based on adjusted body weight)
			PLUS	
			Azithromycin	500 mg IV
Uterine evacuation (including surgical abortion, suction D&C, and D&E)	Doxycycline	200 mg orally		
Hysterosalpingogram, including chromotubation or saline infusion sonography	Not recommended‡			
Laparotomy without entry into bowel or vagina	Consider cefazolin	<120 kg: 2 g IV ≥120 kg: 3 g IV		
Laparoscopy (diagnostic, tubal sterilization, operative except for hysterectomy) Other transcervical procedures: ▪ Cystoscopy† ▪ Hysteroscopy (diagnostic or operative) ▪ Intrauterine device insertion ▪ Endometrial biopsy ▪ Oocyte retrieval ▪ D&C for non-pregnancy indication ▪ Cervical tissue biopsy, including LEEP or endocervical curettage	Not recommended			

Bratzler DW, et al. Clinical guidelines for antimicrobial prophylaxis in surgery. Surg Infect (Larchmt) 2013; 14:73

Ευχαριστώ για την προσοχή σας