

An Evidence Based Approach to Antibiotic Prophylaxis in Oral Surgery

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Reconstructive Surgery



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McGill University Health Centre



Canadian Association
of Hospital Dentists



Conflicts

- No funding conflicts

Learning Objectives

- 1. Describe principles of antibiotic prophylaxis
- 2. Evidence for use of prophylaxis in:
 - A. Extraction of Wisdom Teeth
 - B. Alveolar Bone Grafting
 - C. Dental Implant Placement

Prophylactic Antibiotics

- Benefit to preventing complications?
- How long?
- What to administer?



Principles Prophylactic Antibiotics

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5. The shortest exposure to antibiotic should be used.

The surgical site should have a significant risk for infection

- Patient Related Factors (SSI):
 - Existing Infection
 - Low Serum Albumin
 - Age
 - Obesity
 - Smoking
 - Diabetes
 - Vascular Compromise (Radiation etc.)
- Surgical Related Factors (SSI):
 - Prolonged Procedure
 - Inadequate “Scrub”
 - Poor Sterility of the surgical site

Site Sterility

Wound class	Definition ⁵⁰	Examples	Rate of SSI (%) ⁴⁴	Risk of SSI stratified by risk score ^{44,*}	
I: clean	An uninfected operative wound in which no inflammation is encountered and the respiratory, alimentary, and genitourinary tract is not entered.	Elective inguinal hernia, non-penetrating blunt trauma	2.1	0	1
				1	2.3
				2	5.4
				3	NA
II: clean-contaminated	An operative wound in which the respiratory, alimentary, or genitourinary tracts are entered under controlled conditions and without unusual contamination provided no evidence of infection or major break in technique is encountered.	Elective colon resection	3.3	0	2.1
				1	4
				2	9.5
				3	NA
III: contaminated	A wound in which gross contamination/spillage and a break in sterile technique occurs, and incisions in which acute, nonpurulent inflammation is encountered.	Penetrating trauma with gross intestinal spillage	6.4	0	NA
				1	3.4
				2	6.8
				3	13.2
IV: dirty	A wound that is already considered infected, such as old traumatic wounds with retained devitalized tissue or perforated viscera.	Intra-abdominal abscess, acute bacterial peritonitis	7.1	0	NA
				1	3.1
				2	8.1
				3	12.8

Postoperative abdominal wound infection – epidemiology, risk factors, identification, and management

Azoury et al, Chronic Wound Care and Research 2015:2 pg 137-148

Site Sterility

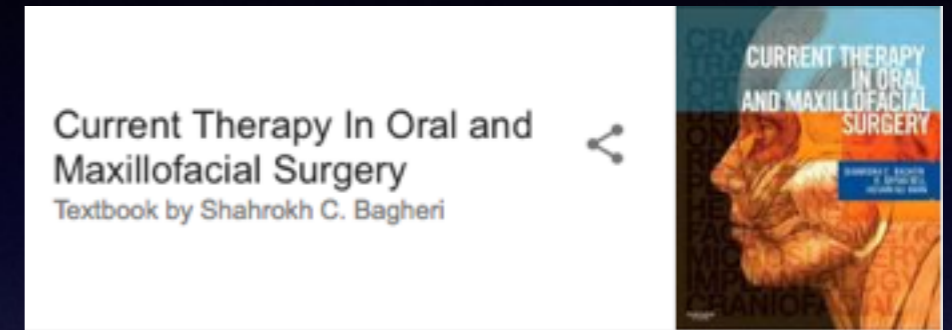
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Common Oral Surgical Procedures and Infection Rates

- 3rd Molar Extraction
 - Surgical Site Infection (SSI): 2-12%
- Bone Grafting (non-vascularized)
 - 2-7% SSI
- Implants
 - 2-12% (noted as failure of implants)



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3. The correct antibiotic should be chosen
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The Timing of the antibiotic administration must be correct

The New England Journal of Medicine

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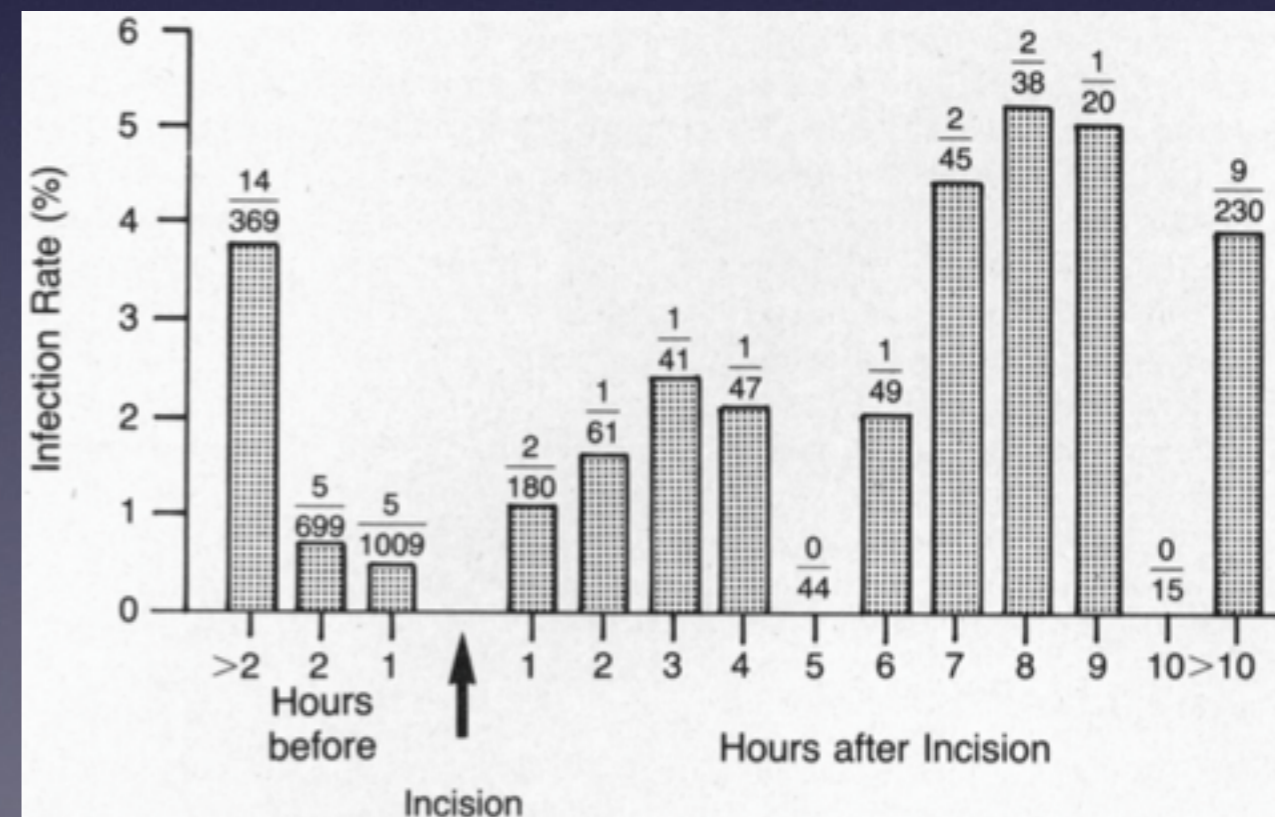
JANUARY 30, 1992

Number 5

THE TIMING OF PROPHYLACTIC ADMINISTRATION OF ANTIBIOTICS AND THE RISK OF SURGICAL-WOUND INFECTION

DAVID C. CLASSEN, M.D., R. SCOTT EVANS, PH.D., STANLEY L. PESTOTNIK, R.Ph., SUSAN D. HORN, PH.D., RONALD L. MENLOVE, PH.D., AND JOHN P. BURKE, M.D.

	# Pts	# Infx	% Infx
Early	369	14	3.8
Pre-OP	1708	10	0.6
Peri-OP	282	4	2.4
Post-OP	488	16	5.8



The Timing of the antibiotic administration must be correct

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The correct antibiotic should be chosen

- Oral Cavity:
 - streptococci, aerobic gram-positive cocci, aerobic gram-negative rods
- Skin:
 - *Staphylococcus aureus*,
Staphylococcus epidermidis
- Sinus:
 - *Haemophilus influenzae*,
diphtheroids and
peptostreptococci.

The correct antibiotic should be chosen

Maintain high levels in tissues

Long Half Life

Penicillin

Clindamycin

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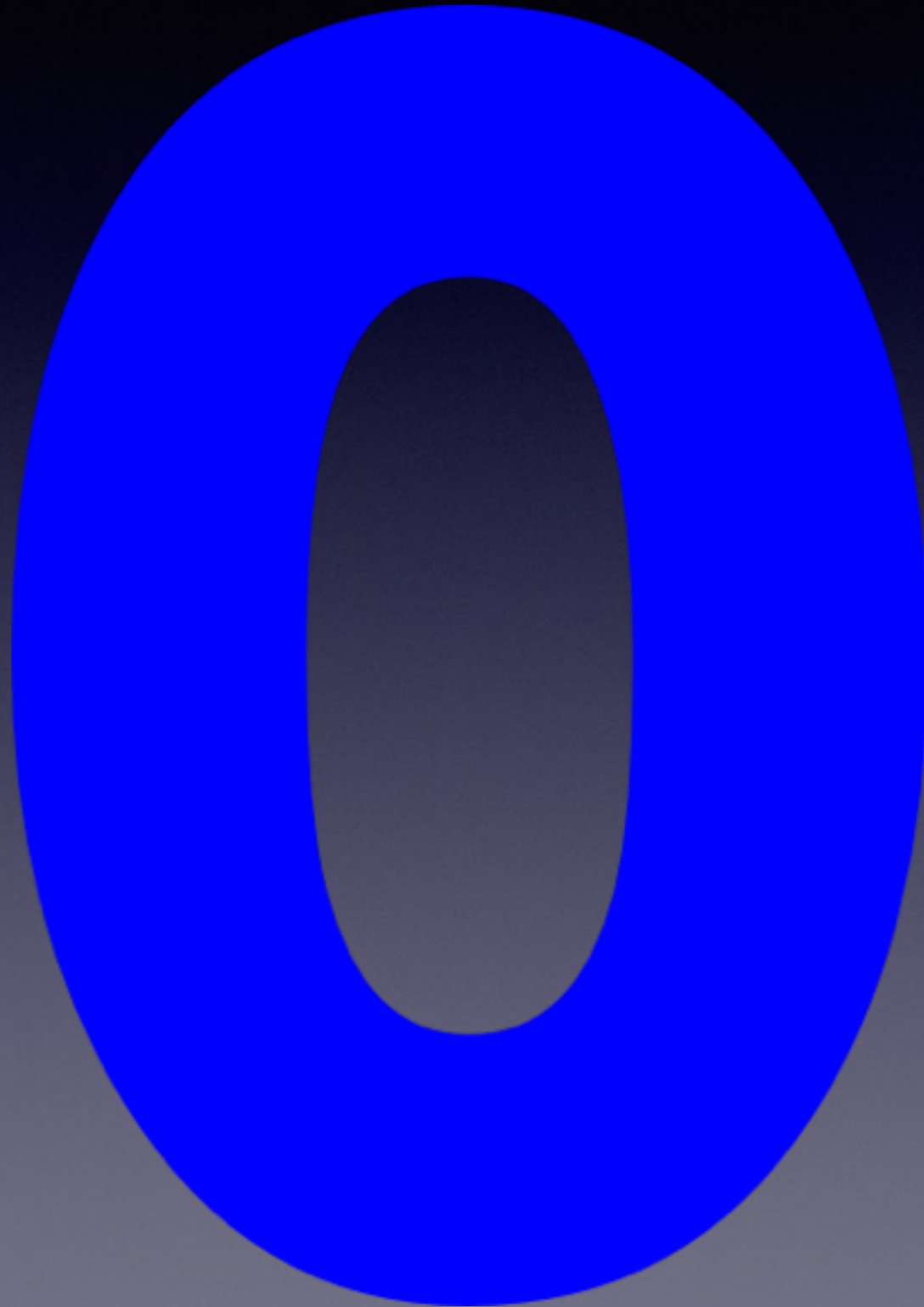
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YEAR	AUTHOR	NUMBER OF THIRD MOLARS OR PATIENTS	ANTIBIOTIC PROTOCOL	CONCLUSION
1995	Piecuch et al.	6713 3rd molars, 2134 patients	No antibiotics vs. several combinations of systemic antibiotics and topical antibiotics	Maxillary 3rd molars: very low infection rate—antibiotics not indicated; mandibular 3rd molars: antibiotics in some form may be useful—degree of impaction is influential in which prophylactic technique is most valuable
2001	Sekar et al.	125 patients, mandibular 3rd molars only	Placebo ($n = 34$) vs. single preoperative dose ($n = 44$) vs. 5 days of postoperative antibiotics ($n = 47$)	Antibiotic prophylaxis does not decrease morbidity after mandibular 3rd molar extraction
2004	Poeschl et al.	528 mandibular 3rd molars, 288 patients	No antibiotics vs. amoxicillin-clavulanate for 5 days postoperatively vs. clindamycin for 5 days postoperatively	No significant difference in healing, pain, MIO, or inflammation—postoperative prophylactic antibiotics not recommended
2005	Arteagoitia et al.	490 mandibular 3rd molars, 490 patients	Postoperative placebo vs. postoperative amoxicillin-clavulanate for 4 days, chlorhexidine rinse for 7 days	Statistically significant decrease in infection/inflammation in antibiotic (1.9%) vs. placebo group (12.9%)—antibiotics useful in reducing infection and inflammation but should not be used in all cases
2008	Ataoglu et al.	150 3rd molars, 150 patients	No antibiotics vs. amoxicillin-clavulanate for 5 days postoperatively vs. amoxicillin-clavulanate for 5 days preoperatively	No significant difference in pain, infection, swelling, AO, or MIO—authors did not recommend routine antibiotic prophylaxis
2007	Halpern and Dodson	118 patients	IV placebo vs. IV antibiotics preoperatively	8.5% infection rate in placebo group and no infections in antibiotic group—prophylactic IV antibiotics decreased frequency of surgical site infection
2007	Kaczmarzyk et al.	86 patients, mandibular 3rd molars requiring bone removal	Placebo ($n = 27$) vs. single preoperative dose ($n = 31$) vs. preoperative + 5 days of postoperative antibiotics ($n = 28$)	No significant difference in postoperative complications, did not support use of prophylactic antibiotics
2007	Ren et al.	2932 patients in 16 trials studying AO; 2396 patients in 12 trials studying surgical site infection	Meta-analysis of RCTs from 1974 to 2007 examining antibiotic prophylaxis to prevent AO and surgical site infections	Preoperative systemic antibiotics reduced incidence of AO and infection in mandibular 3rd molars; authors noted this should not provide rigid guideline
2009	Monaco et al.	59 patients aged 12-19, gummectomy of one mandibular 3rd	Preoperative antibiotics vs. no antibiotics; all rinsed with chlorhexidine preoperatively and for 7 days postoperatively	Antibiotics resulted in significant decrease in pain, analgesic use, and wound infection; no significant reduction in swelling or fever; authors concluded antibiotic prophylaxis is beneficial
2005	Caso et al.	7 randomized prospective clinical trials	Meta-analysis of RCTs from 1977 to 2002: 2 studies of preoperative chlorhexidine rinse, 5 studies of rinsing at least on the day of surgery and for several days afterward	No significant reduction in AO from a single preoperative rinse; 3 of 5 studies using multiple postoperative rinses showed significant reduction in AO—minimum number of days of postoperative rinsing is unknown

Prophylactic Antibiotics for Third Molar Surgery: A Supportive Opinion

JOSEPH F. PIECUCH, DMD, MD,* JOSEPH ARZADON, DMD, MD,†
AND STUART E. LIEBLICH, DMD‡

2134 patients, 6713 extractions
Six experimental groups
Maxillary SSI 0.27%
Mandible SSI 6.5%
Overall 3.5%

Table 5. Maxillary Infections by Classification and Antibiotic

Classification	Total	No. With No AB/ No Infection	No. With No AB/Infection	No. With AB/ No Infection	No. With AB/ Infection	Postoperative/ No Infection	Postoperative/ Infection	Total Infection
Erupted	1,352	860	0	483	0	9	0	0
Soft tissue	1,001	586	4	403	1	7	0	5
Partial bony	559	287	0	271	0	1	0	0
Fully bony	358	128	3	218	1	8	0	4
Total	3,270	1,861	7	1,375	2	25	0	9

Table 4. Mandibular Infections With and Without Antibiotics

Treatment	No. of Total Teeth	No. Without Infection	No. With Early Infection	No. With Late Infection	Overall Infection Incidence No. (%)
No antibiotic	332	283	45	4	49 (14.8%)
Systemic antibiotic	1242	1114	96	32	128 (10.3%)
Tetracycline	1597	1555	28	14	42 (2.6%)
Systemic and tetracycline	250	244	3	3	6 (2.4%)
Postoperative systemic	9	8	0	1	1 (11.1%)
Postoperative systemic and tetracycline	13	13	0	0	0 (0%)
Total	3443	3217	172	54	226 (6.6%)

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4. Significant benefit in partial impacted
5. Significant benefit in full bony impacted third molars

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Role of antimicrobials in third molar surgery: prospective, double blind, randomized, placebo-controlled clinical study

C. H. Sekhar,* V. Narayanan,† M. F. Baig†

125 Patients

Exclusion:

Active Infection

Medically Compromised

Placebo 1 hour PreOP Post OP
 34 44 47

Table 1 Comparability of groups who completed the study. Data are expressed as number (%) of patients unless otherwise stated

	Placebo (n = 34)	Metronidazole		<i>P</i> value
		1g (n = 44)	400 mg, 8-hourly for 5 days (n = 47)	
Male : Female	15 : 19	25 : 19	30 : 17	0.2
Mean (SD) age (years)	26 (7)	28 (6)	29 (7)	0.1
IMPACTION				
Vertical	8 (24)	13 (30)	11 (23)	0.5
Distoangular	3 (9)	2 (5)	4 (9)	
Mesioangular	12 (35)	21 (48)	20 (43)	
Horizontal	12 (35)	7 (16)	12 (26)	0.1
Mean (SD) mouth (mm) preoperatively	42 (8)	43 (7)	45 (7)	
Flap raised:				0.6
Yes	30 (88)	41 (93)	44 (94)	
No	4 (12)	3 (7)	3 (6)	0.9
Elevation only:	5 (15)	5 (11)	6 (13)	
Bur required:	29 (85)	39 (89)	41 (87)	0.7
Bone removed:				
Yes	28 (82)	38 (86)	3 (6)	0.6
No	6 (18)	6 (14)	5 (11)	
Mean (SD) time from incision to suture (min)	17 (12)	17 (7)	19 (15)	



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Table 4 Mean (SD) postoperative scores

	Placebo (n = 34)	Metronidazole		<i>P</i> value
		1 g (n = 44)	400 mg, 8-hourly for 5 days (n = 47)	
Mouth opening	3.3 (1.7)	3.0 (1.6)	3.6 (1.8)	0.19
Swelling	2.5 (0.6)	2.5 (0.5)	2.8 (0.4)	0.03
Pain second day	1.5 (0.8)	1.4 (0.8)	1.5 (1.0)	0.87
Pain sixth day	2.5 (0.6)	2.4 (0.7)	2.6 (0.5)	0.35
Wound	1.0	1.0 (0.2)	1.0	0.40
Total	10.9 (2.7)	10.3 (2.6)	11.5 (2.5)	0.09

No Significant Difference in all Categories

Does Prophylactic Administration of Systemic Antibiotics Prevent Postoperative Inflammatory Complications After Third Molar Surgery?

Leslie R. Halpern, DDS, MD, PhD, MPH,* and
Thomas B. Dodson, DMD, MPH†

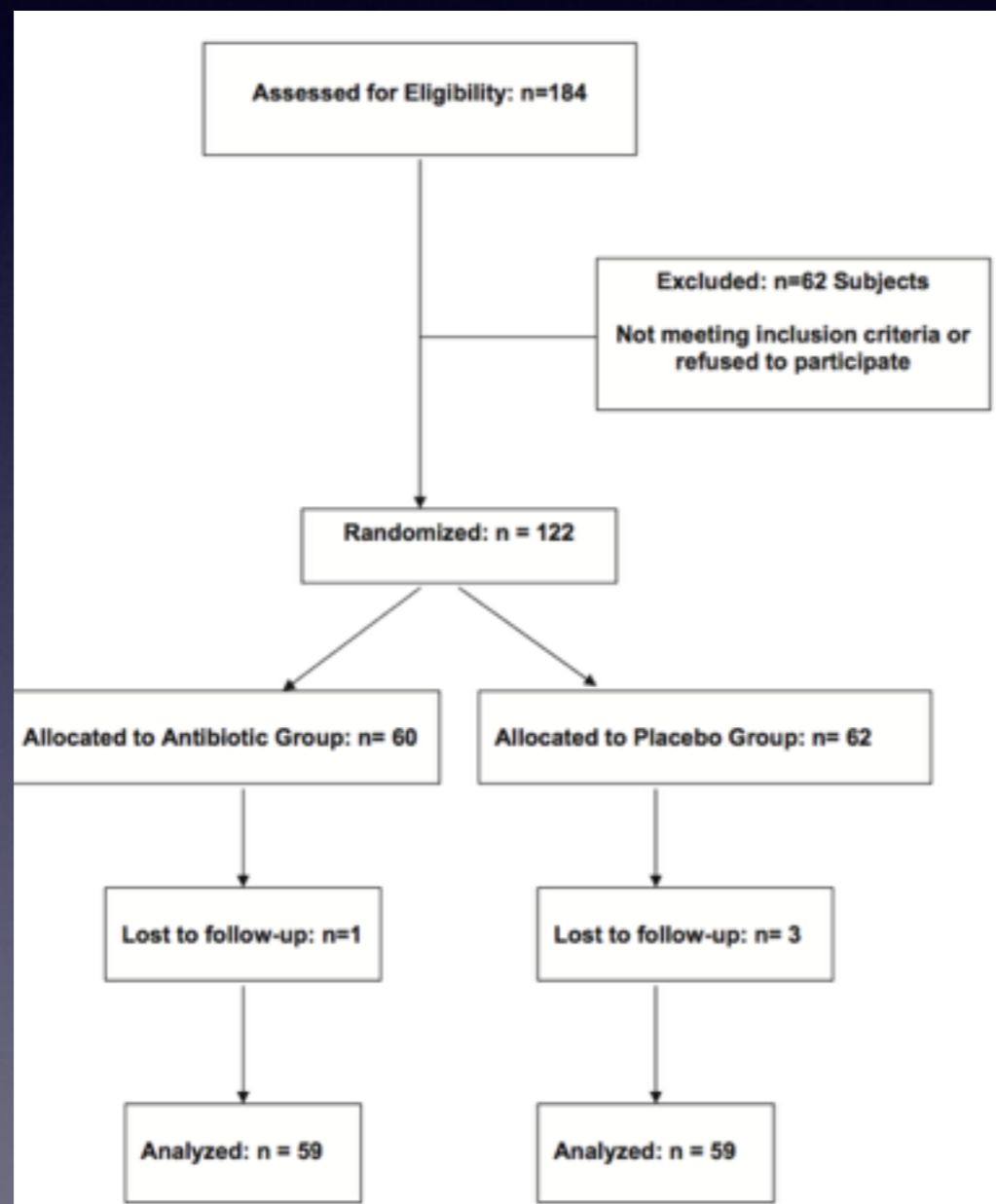


Table 3. TREATMENT GROUP VERSUS INFLAMMATORY OUTCOMES – ALL SUBJECTS

Treatment	Postoperative Inflammatory Complication		Totals
	Yes	No	
Active	0 (0)*	59 (100)	59
Placebo	5 (8.5)†	54 (91.5)	59
Totals	5	113	118

P value = .029 (Fisher exact test, 1-sided).

*n (%).

†All 5 postoperative inflammatory complications were surgical site infections. No subjects had symptoms or findings meeting the case definition of alveolar osteitis.

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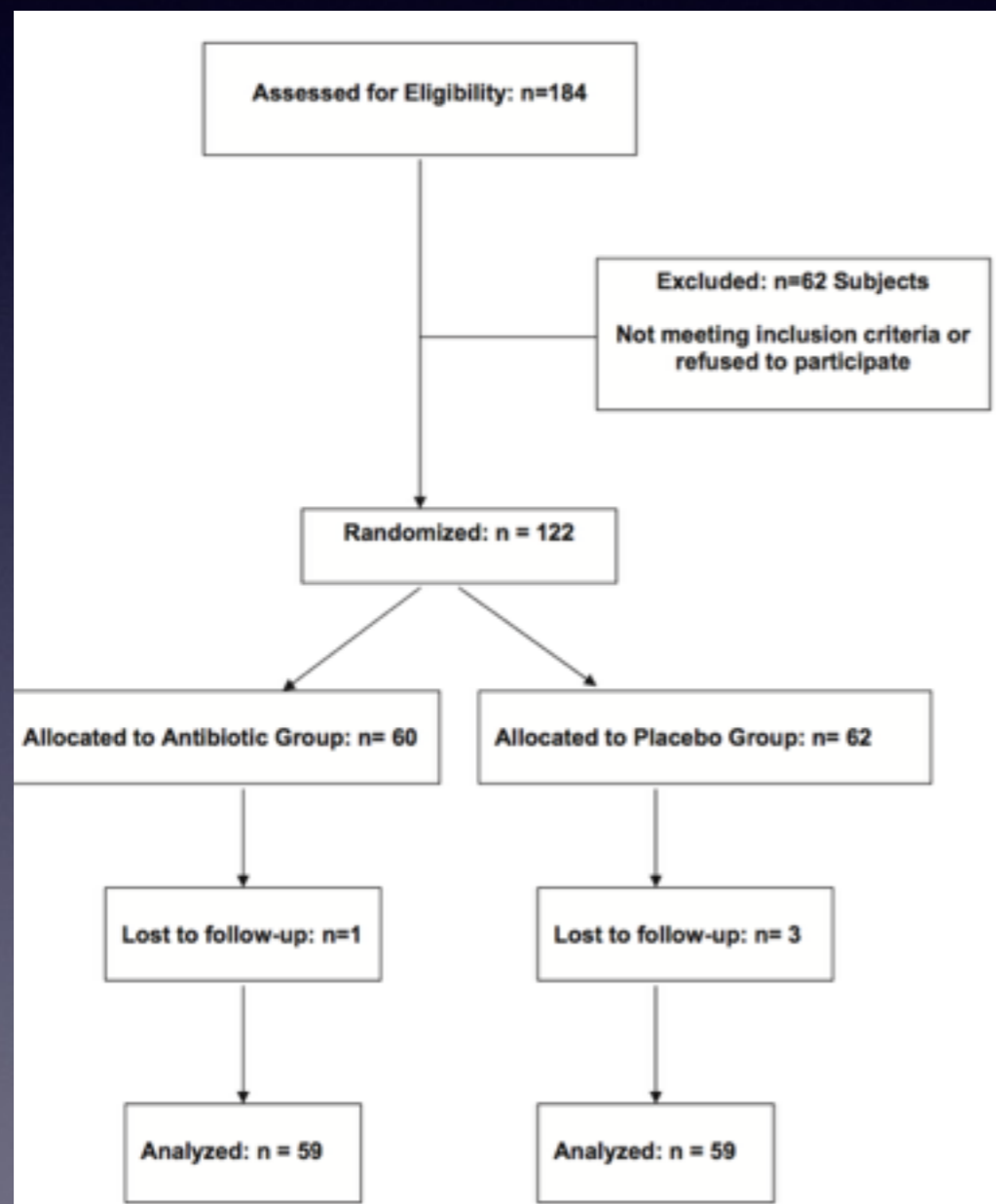


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Group ABx: 0%

Placebo: 8.5%

NNT: 12

All infections occurred either
Partial Bony or Full Bony

Effectiveness of Antibiotic Prophylaxis in Third Molar Surgery: A Meta-Analysis of Randomized Controlled Clinical Trials

Yan-Fang Ren, DDS, PhD, MPH and
Hans S. Malmstrom, DDS†*

Journal of
**ORAL AND
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Journal of
**ORAL AND
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- Meta-Analysis RCT (1974-2007)

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Journal of
**ORAL AND
MAXILLOFACIAL SURGERY**

- Meta-Analysis RCT (1974-2007)
- Two 1 primary outcomes: AO and SSI

Effectiveness of Antibiotic Prophylaxis in Third Molar Surgery: A Meta-Analysis of Randomized Controlled Clinical Trials

Yan-Fang Ren, DDS, PhD, MPH and
Hans S. Malmstrom, DDS†*

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(+) ABx:
2.2 x less likely AO

(+) ABx:
1.8 x less likely SSI

Results

- Most effective dosing strategies are:
 - Antibiotics started only after surgery ARE NOT effective at reducing AO or SSI
 - Most effective dosing strategy: 30-90 min before surgery
 - Single pre-operative dose is as effective as pre-operative with multi-day dosing (3-5 days)

A Clearer Picture?

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- Clinical Judgement is paramount:

A Clearer Picture?

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- Clinical Judgement is paramount:
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 - Older patients

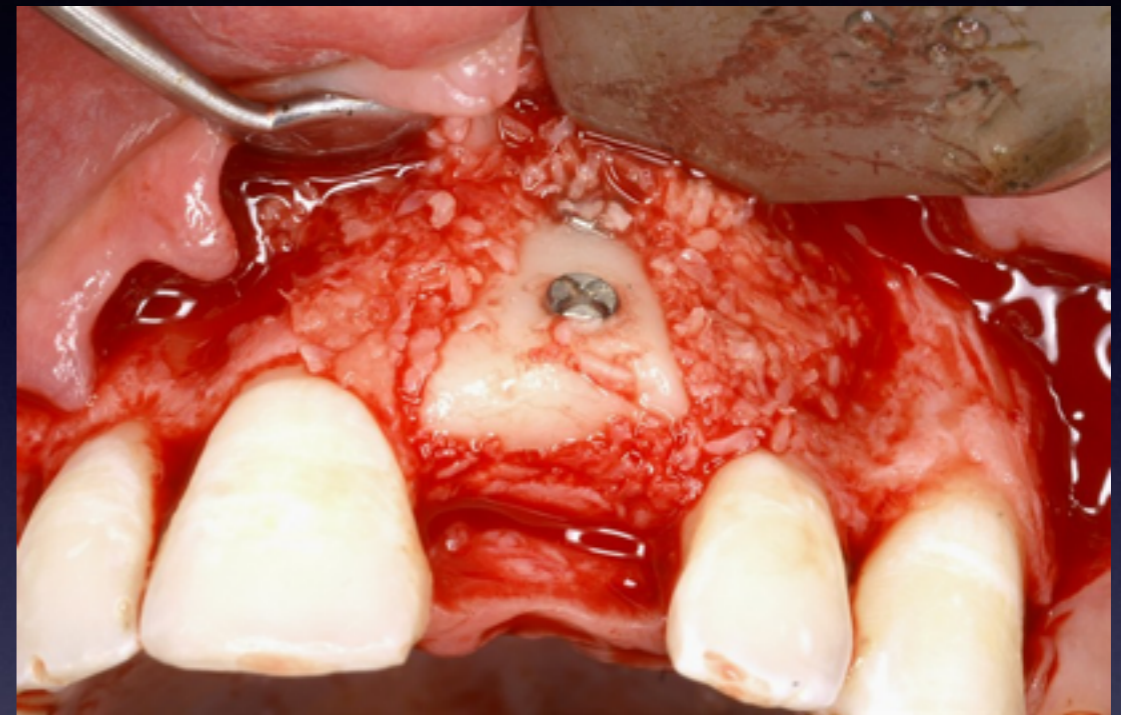
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A Clearer Picture?

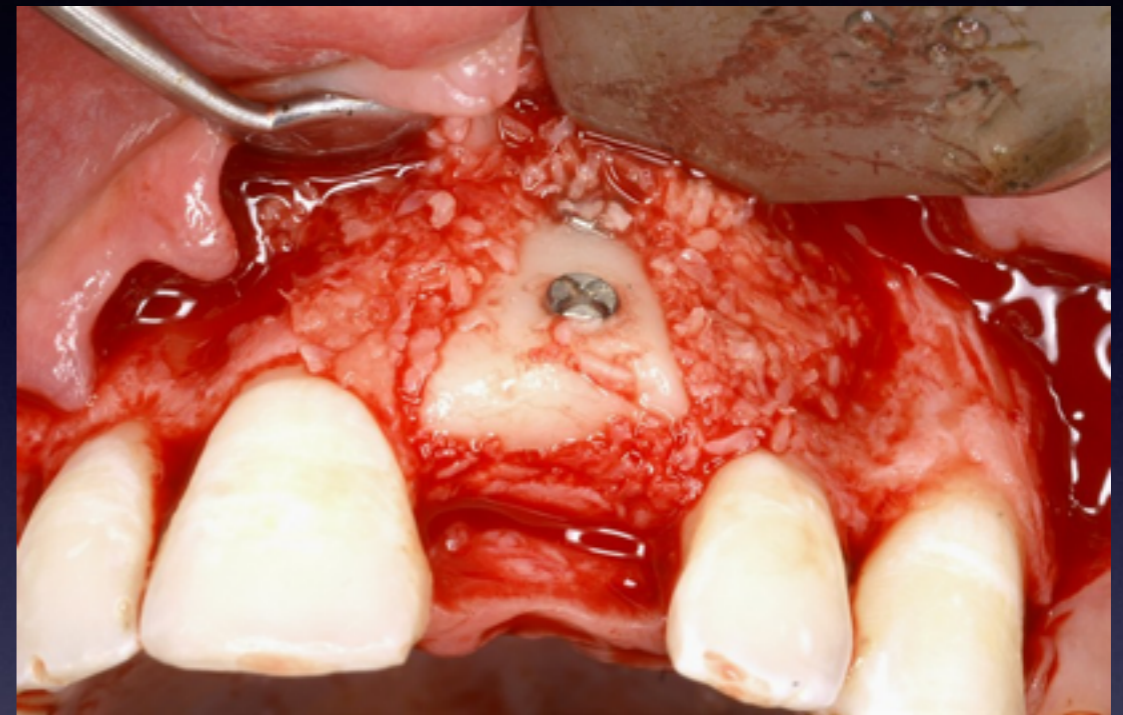
- Clinical Judgement is paramount:
 - Existing infection
 - Older patients
 - Co-morbid states
- Full or partial bony impactions, complicated procedure

Bone Grafting



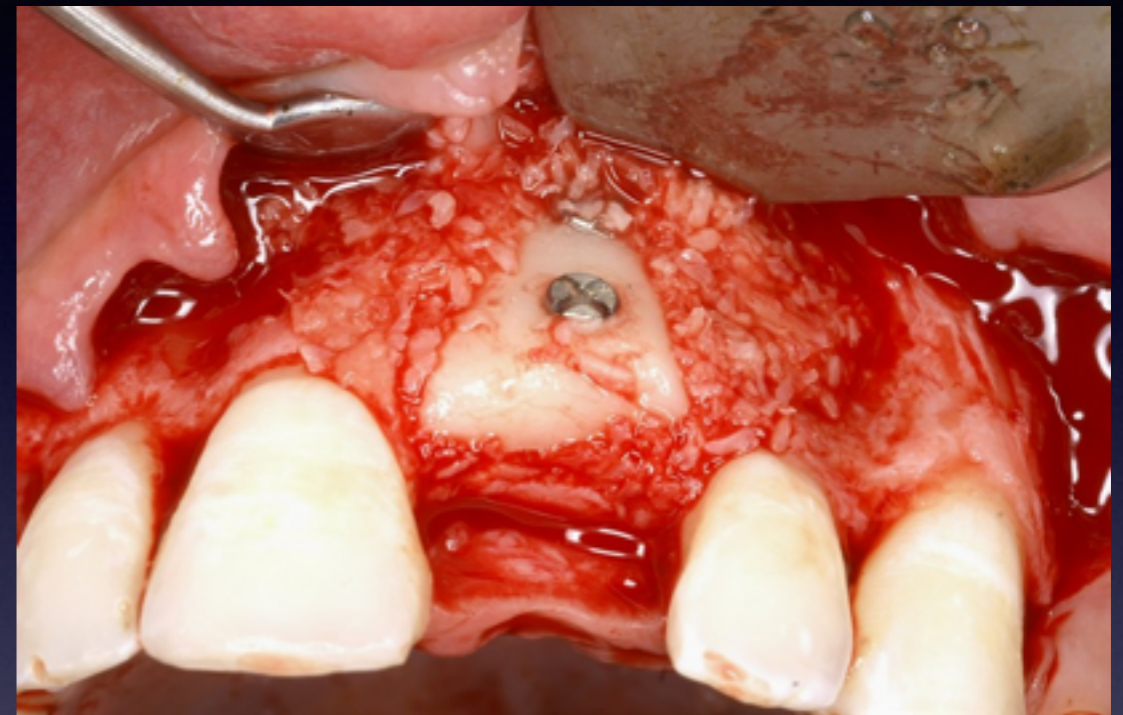
Bone Grafting

- Problems
 - Avascular Grafts
 - Intra-Oral Flora
 - Dehiscence over graft



Bone Grafting

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A prospective placebo-controlled double-blind trial of antibiotic prophylaxis in intraoral bone grafting procedures: A pilot study

Jerome A. H. Lindeboom, MD, DDS,^a and Hans P. van den Akker, DDS, PhD,^b Amsterdam, the Netherlands
ACADEMIC MEDICAL CENTER, UNIVERSITY OF AMSTERDAM



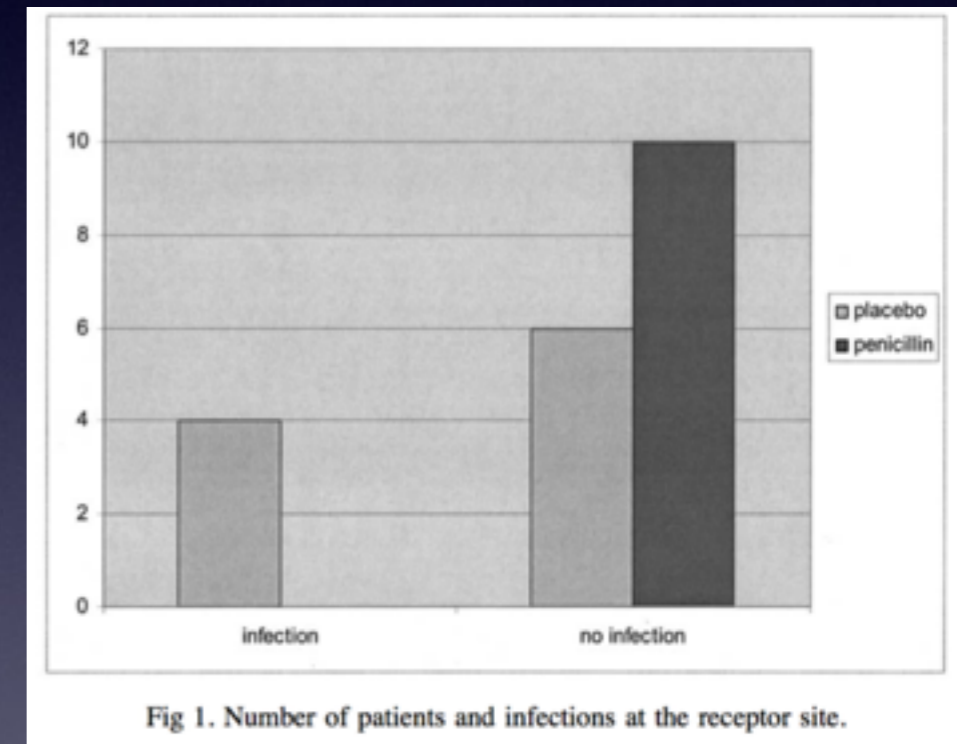
- 20 Patients randomization
- Pre-OP 2g PCN vs. Placebo
- All had Ramus Bone Grafts
- Monitored donor site and recipient site for infection
- 3 month follow up

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- 3 month follow up



Study ended early due to 20% infection rate in Placebo Group

A randomized prospective controlled trial of antibiotic prophylaxis in intraoral bone-grafting procedures: preoperative single-dose penicillin versus preoperative single-dose clindamycin

J. A. Lindeboom, J. W. Frenken,
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Department of Oral and Maxillofacial Surgery,
Academic Medical Center and Academic
Center for Dentistry (ACTA), University of
Amsterdam, Amsterdam, The Netherlands

International Journal of
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- Randomized Clinical Trial
 - 150 pts
 - 2g PCN 1 hour pre OP
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- Randomized Clinical Trial
 - 150 pts
 - 2g PCN 1 hour pre OP
 - 600mg Clinda 1 hour pre OP
- Infection rates: 2.7-5.3%
- No difference in rate with:
 - Location of Graft
 - Combination with other procedures
 - No difference between ABx given

Table 2. Number of infections at receptor and donor sites and occurrence of wound dehiscence

	Receptor site	Donor site	Dehiscence
Phenethicillin	4 (5.3%)	3 (4%)	5 (6%)
Clindamycin	2 (2.7%)	3 (4%)	5 (6%)
<i>P</i>	0.681	1.0	1.0

Prophylactic antibiotics in intra-oral bone grafting procedures: a prospective, randomized, double-blind clinical trial

Jung-Woo Lee, Jin-Yong Lee, Soung-Min Kim, Myung-Jin Kim, Jong-Ho Lee

Department of Oral and Maxillofacial Surgery, School of Dentistry, Seoul National University, Seoul, Korea

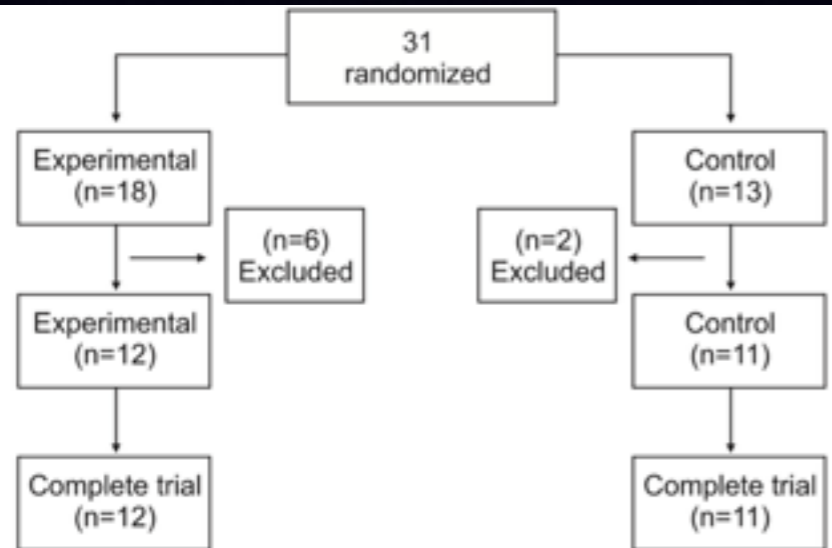


Fig. 1. Structure of the study population.

Jung-Woo Lee et al: Prophylactic antibiotics in intra-oral bone grafting procedures: a prospective, randomized, double-blind clinical trial. *J Korean Assoc Oral Maxillofac Surg* 2012

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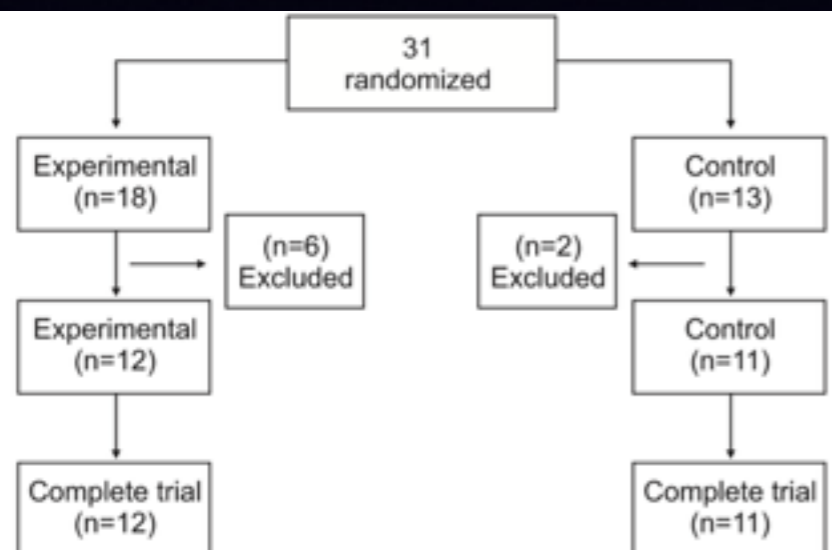
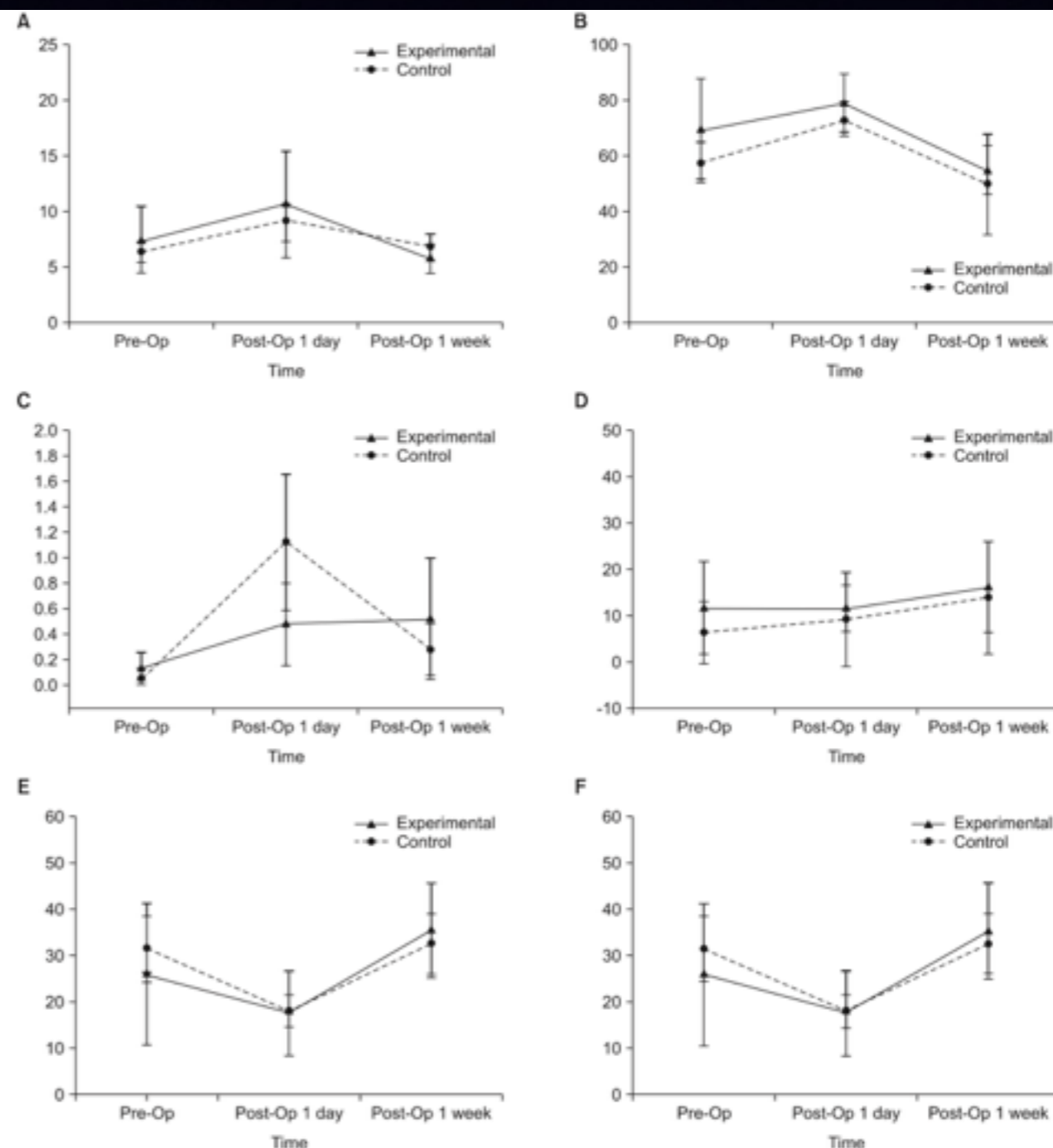


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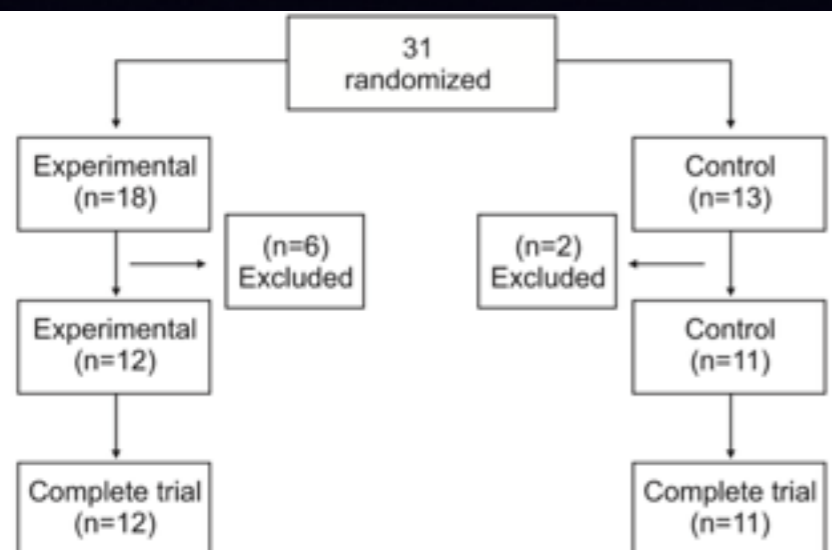
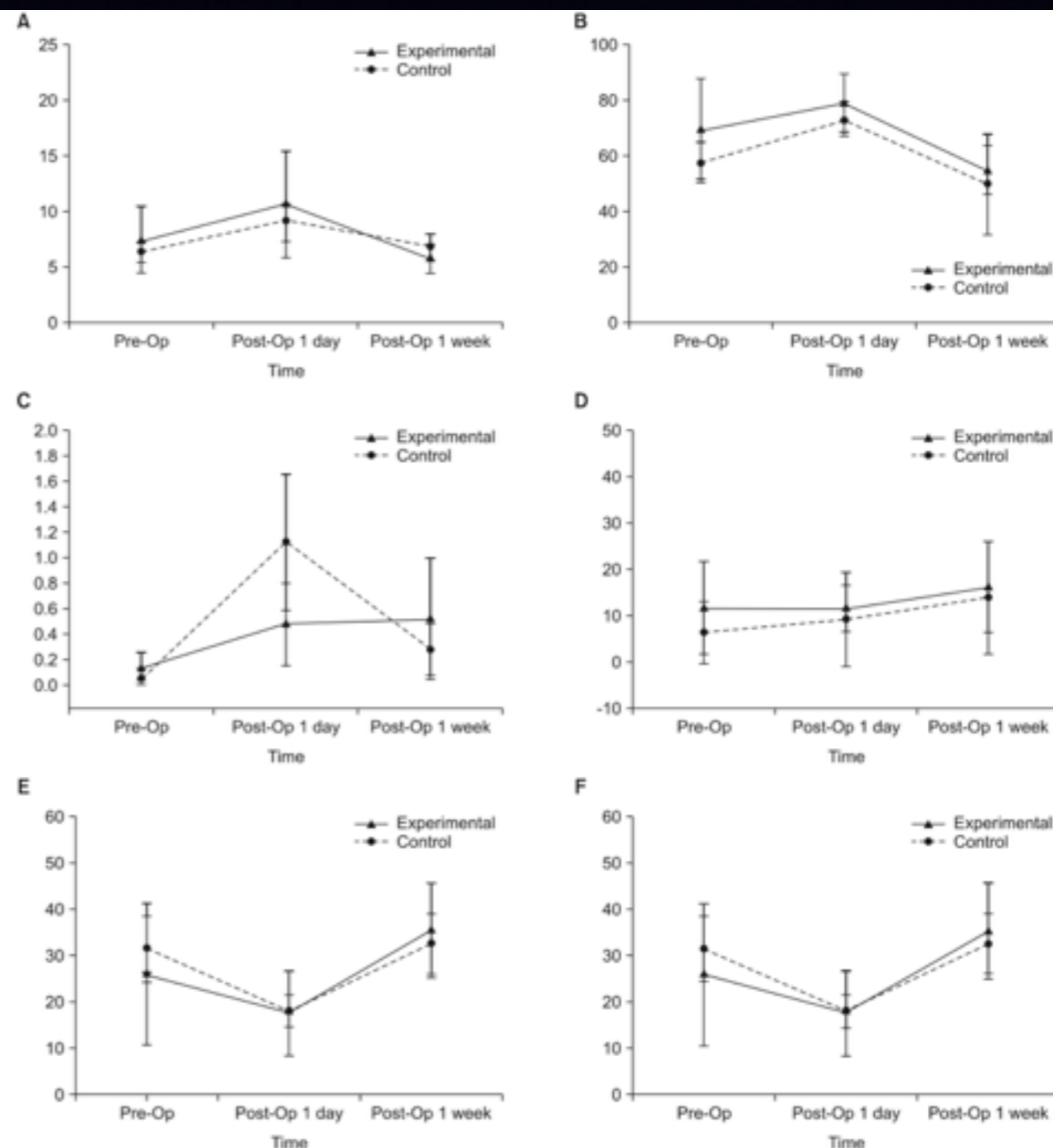
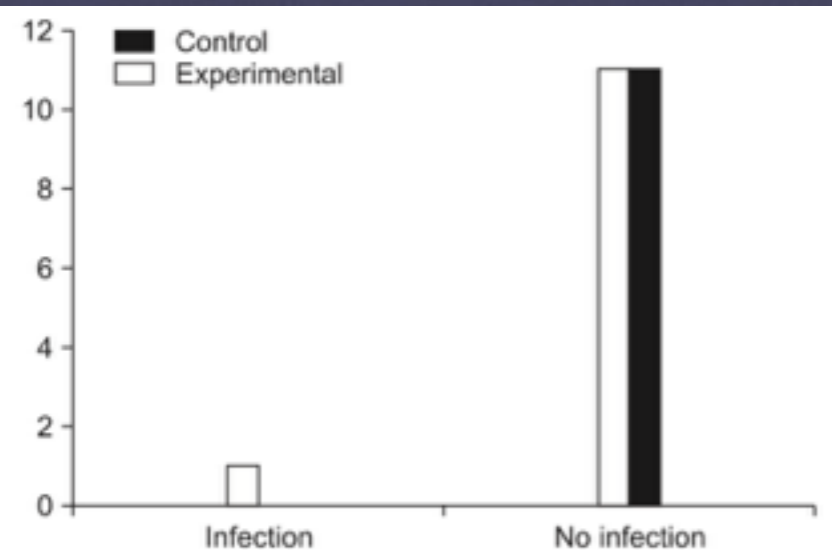


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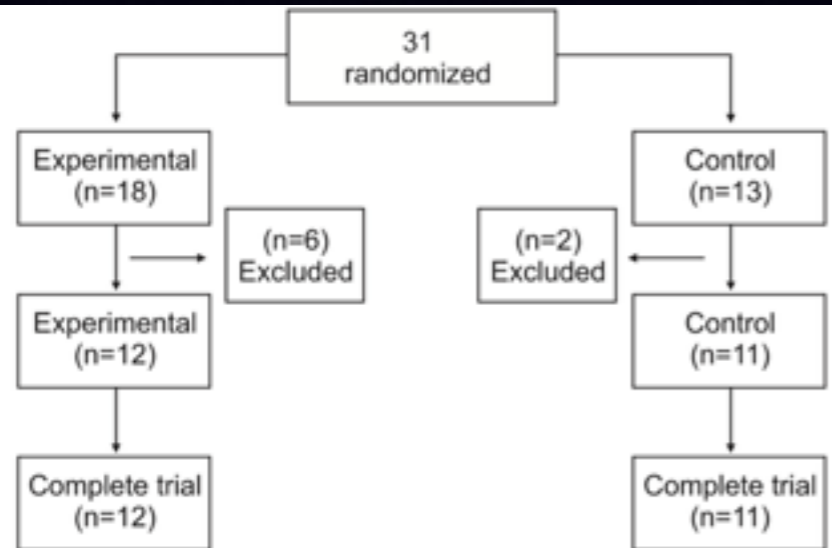
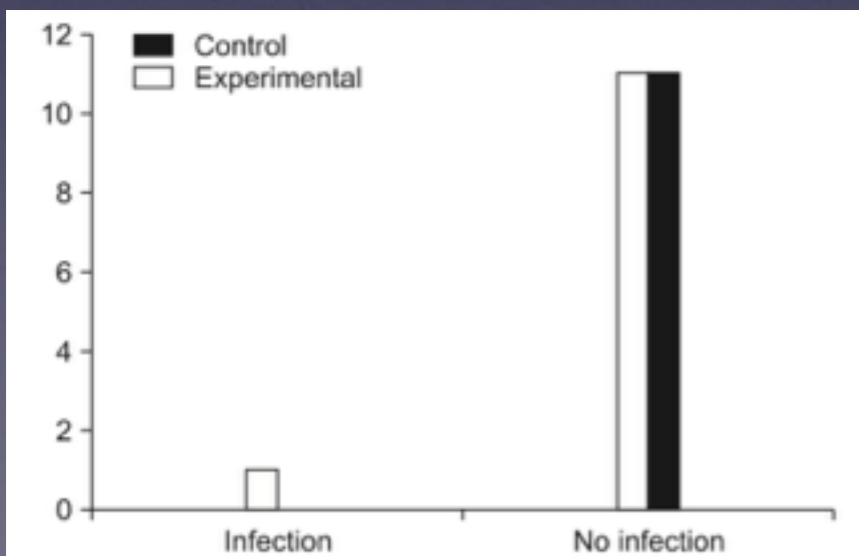


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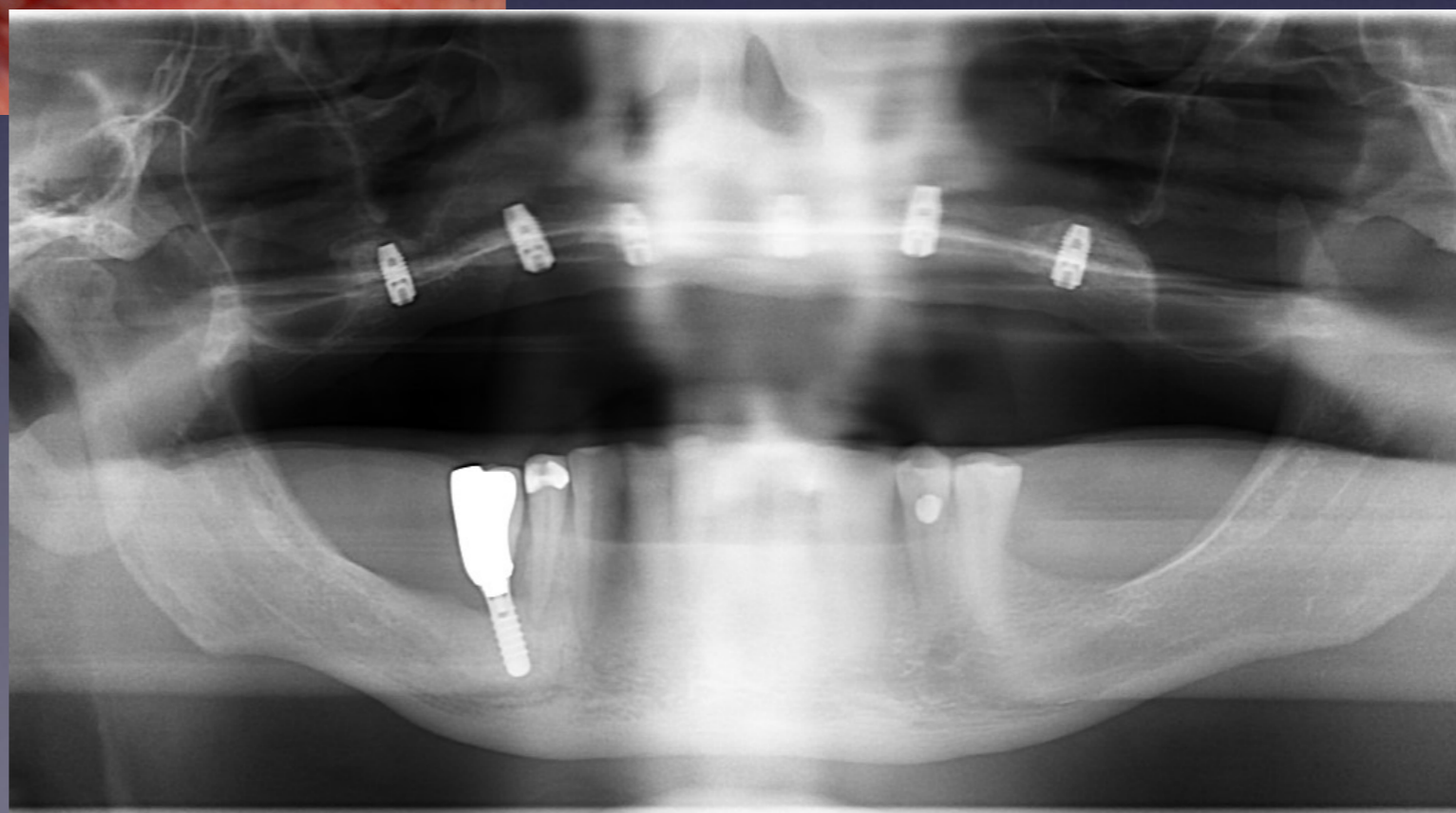
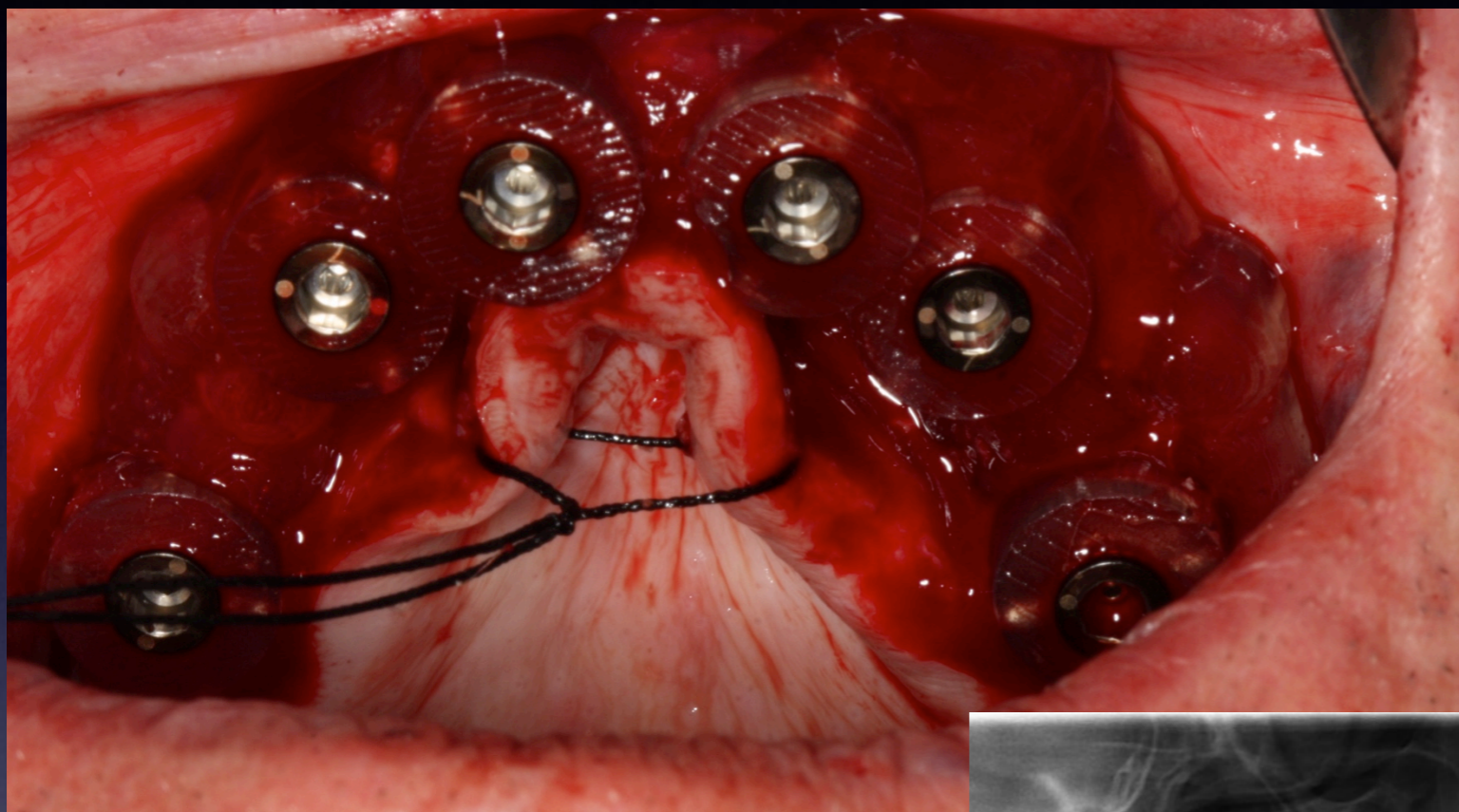
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No difference in
patients given only
pre-op vs. pre and
post op



Poor Studies But....

- Overall rate of infection in oral bone grafting procedures can be high (up to 20% for ramus bone grafting)
- Single dose pre-operative ABx (1 hour prior to procedure) is just as effective as pre-op and post-operative course.
- Both PCN and CLD are effective prophylactic agents for bone grafts.



YEAR	AUTHOR	NUMBER OF IMPLANTS	ANTIBIOTIC PROTOCOL	CONCLUSION
1997	Dent et al.	2641	Practitioner's discretion	Preoperative antibiotics had a 1.4% failure rate, no preoperative antibiotics had a 4% failure rate—significant difference favoring preoperative antibiotics
2000	Laskin et al.	2973	Practitioner's discretion	Preoperative antibiotics had a 4.6% failure rate, no preoperative antibiotics had a 10% failure rate—significant difference favoring preoperative antibiotics
1998	Gynther et al.	790 implants had antibiotics preoperatively + 10 days postoperatively; 664 implants had no antibiotics preoperatively or postoperatively	Preoperative and postoperative antibiotics vs. no antibiotics	No significant difference for early and late infections or implant survival—favored no antibiotic use
2005	Hosseini et al.	2236 implants had 1 preoperative dose + 1 week of postoperative antibiotics; 775 implants had 1 preoperative dose + 1 same-day postoperative dose	1-week postoperative dosing vs. 1-day dosing	No significant difference in complications or implant survival, favored 1-day dosing over 1-week postoperative dosing
2005	Binahmed et al.	302 implants had 1 preoperative dose + 1-week postoperative dosing; 445 implants had 1 preoperative dose	Preoperative and postoperative vs. preoperative only	No significant difference in infection or failure rates—favored single dose preoperatively
2007	Mazzochi et al.	736 implants had no preoperative or postoperative antibiotics	No antibiotics, 3 days of anti-inflammatories	96.2% survival rate with no antibiotic use—similar to success rate in studies using antibiotics
2008	Abu-Ta'a et al.	128 implants had preoperative + 2 days postoperative antibiotics; 119 implants had no antibiotics; strict asepsis protocol for both groups	Preoperative and short-term postoperative antibiotics vs. no antibiotics	No significant difference in infections—antibiotics offer no advantage when aseptic techniques are used
2007	Schwartz and Larson	Review of the literature included 4 studies	Review of various protocols	Studies were of poor quality, with small sample size, and underpowered—conclusion difficult to ascertain
2003	Esposito et al.	Cochrane review of 2 studies	Review of various protocols	Not sufficient evidence to support or discourage use of preoperative antibiotics to prevent complications or failures
2008	Esposito et al.	Cochrane review of 2 studies	Meta-analysis of 2 studies examining antibiotic use vs. no antibiotics	Some evidence to support use of antibiotics 1 hour before surgery to reduce risk for implant failure

Implants

- Infection of an inert Ti surface -> Biofilm
- Failure of implant + Bone Loss



- Prospective RCT of 2641 implants
 - 54.8% had Pre-OP ABx (+ or - Post OP ABx)
 - 96% had (Only) Post-OP ABx
- Followed until second stage surgery
- Failure rate of 1.4% (Pre-OP ABx)
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“the risk of failure is 2-3 fold higher if no pre-operative antibiotics were administered”

Dental implant installation without antibiotic prophylaxis

Göran W. Gynther, DDS, PhD,^a Per Åke Köndell, DDS, PhD,^b Lars-Erik Moberg, DDS, PhD,^c
and Anders Heimdahl, DDS, PhD,^d Huddinge, Sweden
HUDDINGE UNIVERSITY HOSPITAL AND KAROLINSKA INSTITUTE

- Retrospective 279 patients (1454 Implants)
- Group 1: 170 Pts (790 implants) 1 g PCN pre-op and 10 days post-op
- Group 2: 132 Pts (664 implants) no pre-op or post-op ABx

Table I. Infection rate after dental implant treatment with or without prophylactic antibiotics

	<i>No. cases of infection (%)</i>	
	<i>Early</i>	<i>Late</i>
With prophylaxis (<i>n</i> = 147)	1 (0.7)	8 (5.4)
Without prophylaxis (<i>n</i> = 132)	1 (0.8)	6 (4.5)

Table II. Survival rate of dental implants with and without prophylactic antibiotics

	<i>No. surviving implants/n (%)</i>	
	<i>Maxillary</i>	<i>Mandibular</i>
With prophylaxis	307/350 (88)	434/440 (99)
Without prophylaxis	299/316 (95)	331/348 (95)

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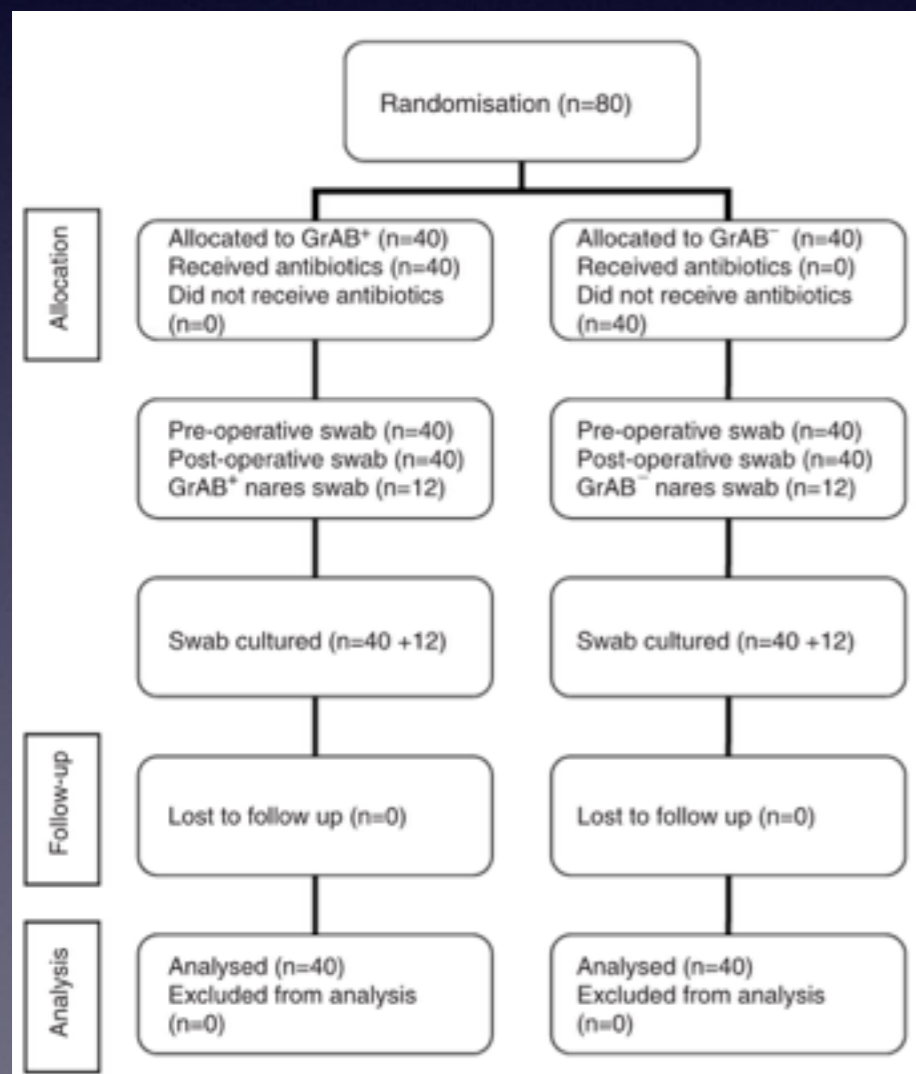
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No Advantage to ABx Prophylaxis

Asepsis during periodontal surgery involving oral implants and the usefulness of peri-operative antibiotics: a prospective, randomized, controlled clinical trial



Asepsis during periodontal surgery involving oral implants and the usefulness of peri-operative antibiotics: a prospective, randomized, controlled clinical trial

Table 3. Results from microbiological tests of peri-oral samples

	GrAB ⁺		<i>n</i>	GrAB ⁻		<i>n</i>	<i>p</i> -value
	mean CFU/ml	SD CFU/ml		mean CFU/ml	SD CFU/ml		
An Pr	2.3×10^4	3.5×10^4	40	1.6×10^4	2.1×10^4	40	0.3
An Po	6.2×10^4	1.1×10^5	40	3.6×10^4	5.2×10^4	40	0.2
Ae Pr	5.0×10^3	6.5×10^3	40	4.6×10^3	4.5×10^3	40	0.7
Ae Po	8.5×10^3	9.7×10^3	40	1.1×10^4	1.3×10^4	40	0.6

Level of significance $p < 0.05$.

n, number of patients; CFU/ml, colony forming units/ml; An, anaerobic bacteria; Ae, aerobic bacteria; Pr, pre-operative peri-oral sample; Po, postoperative peri-oral sample; GrAB⁺, group with antibiotic; GrAB⁻, group without antibiotic; SD, standard deviation.

Table 5. Infection and failure rates after fixture installation with (GrAB⁺) or without (GrAB⁻) peri-operative antibiotics

	No. patients with post-operative infection	Survival rate of implants (%)	Position of failed implant(s)	Confounding factors
GrAB ⁺ (<i>n</i> = 40)	1/40	128/128 (100)	None	Blood-clotting problems
GrAB ⁻ (<i>n</i> = 40)	4/40	114/119 (96)	Four in posterior mandible, one in anterior mandible	Parafunctions or heavy smoking

GrAB⁺, group with antibiotic; GrAB⁻, group without antibiotic.

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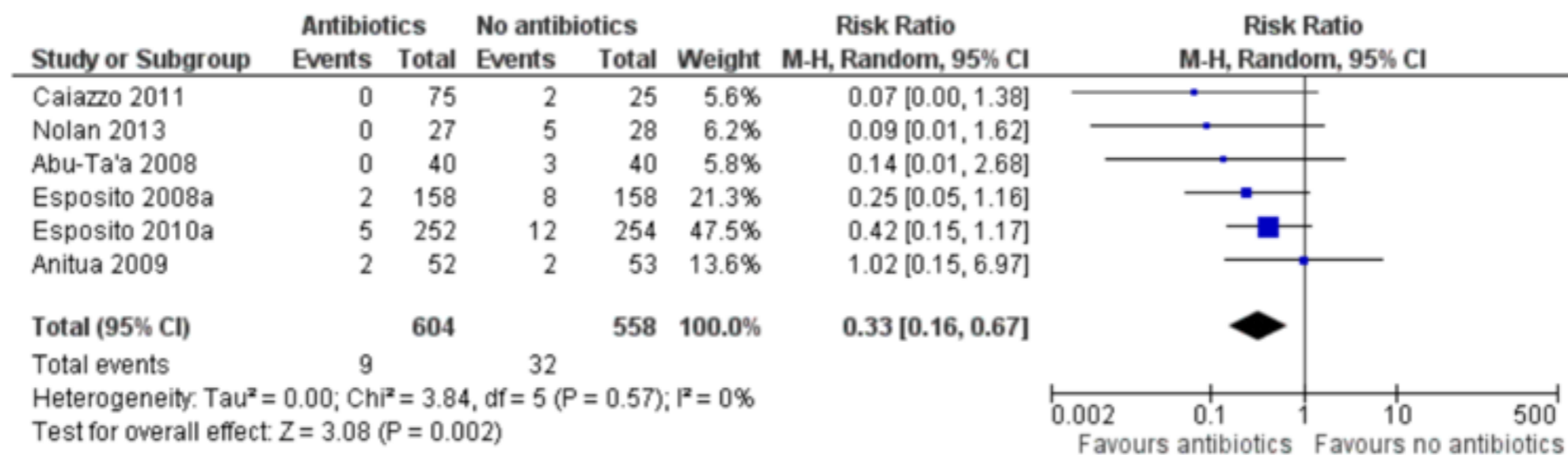
GrAB⁺, group with antibiotic; GrAB⁻, group without antibiotic.

*No significant difference in microbiota, or SSI.
There was a significant difference in patient perceived pain after surgery
(GrAB+ having less Pain)*

Interventions for replacing missing teeth: antibiotics at dental implant placement to prevent complications (Review)

- 6 RCTs, 1162 Patients
- Pre-OP only, vs. Pre-OP and Post-OP, vs. No Abx
- RCT's with a follow up of at least 3 months
- Outcomes included prosthetic failure, implant failure or SSI

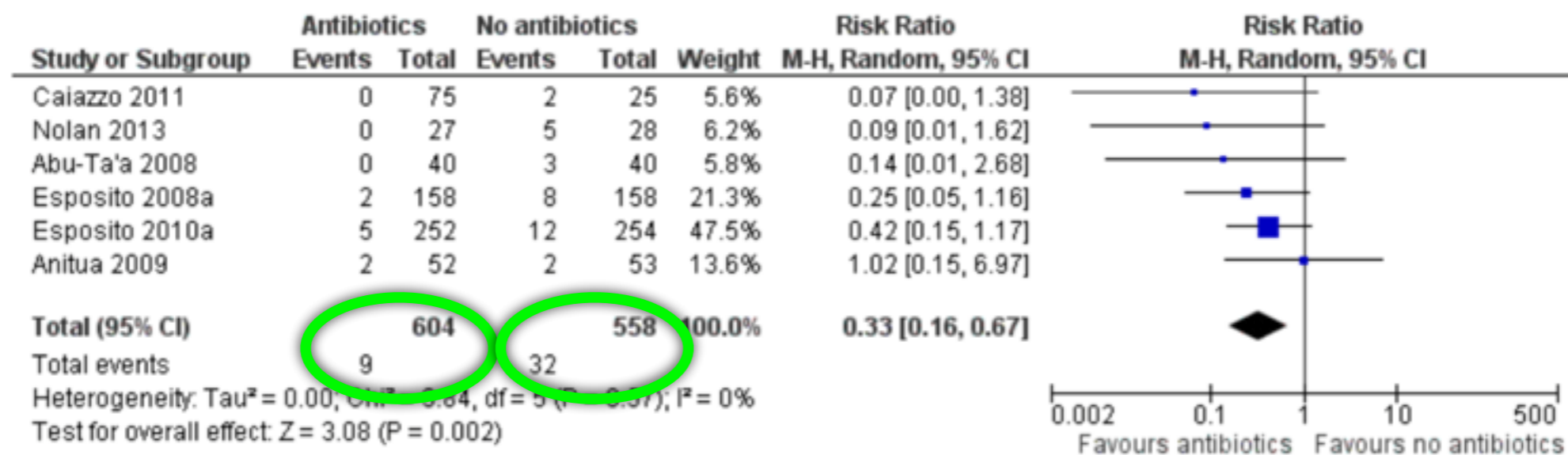
Figure 3. Forest plot of comparison: 1 Antibiotics versus placebo/no antibiotics, outcome: 1.1 Implant failures



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Figure 3. Forest plot of comparison: 1 Antibiotics versus placebo/no antibiotics, outcome: 1.1 Implant failures



1% Failure Rate with ABx (Pre-OP +/- Post OP) vs.
6% No ABx

Recommendations

Authors' conclusions

Scientific evidence suggests that, in general, antibiotics are beneficial for reducing failure of dental implants placed in ordinary conditions. Specifically 2 g or 3 g of amoxicillin given orally, as a single administration, one hour preoperatively significantly reduces failure of dental implants. No significant adverse events were reported. It might be sensible to suggest the use of a single dose of 2 g prophylactic amoxicillin prior to dental implant placement. It is still unknown whether postoperative antibiotics are beneficial, and which antibiotic is the most effective.

- Single dose of pre-operative antibiotics one hour prior
- 2 grams amoxicillin or 600mg clindamycin
- No evidence of advantage using course of post-operative antibiotics

Conclusions

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- A lack of large blinded multi-centred randomized clinical trials.

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Conclusions

- A lack of large blinded multi-centred randomized clinical trials.
- Over prescription of antibiotics in common oral surgery procedures.
- No convincing evidence for post-operative course of antibiotics in reducing risk of SSI.
- A single dose (2g amoxicillin or 600mg clindamycin) most effective for reducing SSI and failure of implants, bone grafts and bony or partially bony impacted wisdom teeth.

Thank you



McGill
Maxillofacial Oncology and
Reconstructive Surgery



Centre universitaire de santé McGill
McGill University Health Centre



Canadian Association
of Hospital Dentists

