

## Appendix 2: Evidence table

Author Year	Design, scope, participants (number)	Type of surgery	CDC wound classification	Intervention	Control	Follow-up	Primary outcome	Results	Adverse events/ remarks	Comparison
<b>Rajabi 2012<sup>17</sup></b>	RCT single centre  291	Appendectomy (open)  Uncomplicated  Included paediatric patients (age 15-70 years)	II-III	B) A+1 day ceftriaxone (1 g) IV every 12 hours, metronidazole 500 mg IV every 8 hours.  C) A+ 3 days ceftriaxone (1 g) every 12 hours, metronidazole 500 mg every 8 hours.	A) Ceftriaxone 1 g IV + metronidazole 500 mg IV at induction.	10 days after discharge	Discharge of pus that required surgical drainage before discharge.	According to groups (intervention vs. control): A) 8/97 B) 6/97 C) 5/97	No AE	Single vs. prolonged  <24 hours vs. >24 hours
<b>Hussain 2012<sup>14</sup></b>	RCT single centre  377	Appendectomy (open)  Uncomplicated	II-III	B) A+ single dose of cefuroxime and metronidazole 8 hours postoperatively.	A) Cefuroxime + metronidazole 1-2 hours before surgery.	30 days postoperatively	Pus discharge from the wound that necessitated wound	According to groups (intervention vs. control): A) 9/195 B) 8/182	NR	Single vs. prolonged

							opening and drainage.			
<b>Mui 2005<sup>16</sup></b>	RCT single centre  269	Appendectomy (open)  Uncomplicated  Including paediatric patients (age 15-70 years)	II-III	B) A+2 more IV antibiotic doses (A).  C) A+5-day course of antibiotics. IV (A) until orally was tolerated (cefuroxime 250 mg 2 times daily + metronidazole 400 mg 3 times daily).	A) Cefuroxime 1.5 g IV metronidazole 500 mg IV at introduction of general anaesthesia.	30 days postoperatively	Discharge of pus that required surgical drainage before discharge.	According to groups (intervention vs. control): A) 6/92 B) 6/94 C) 3/83	B) 1 <i>C. difficile</i> C) 4 <i>C. difficile</i>	Single vs. prolonged  <24 hours vs. >24 hours
<b>Liberman 1995<sup>15</sup></b>	RCT single centre  99	Appendectomy (open)  Uncomplicated  Including paediatric patients (children under 12 years excluded)	II-III	B) A + 3 additional doses every 6 hours.	A) 2 g ceftioxin 15 minutes preoperatively + postoperative placebo.	3 weeks postoperatively	If peri-incisional erythema and incisional drainage present, it was classified as a wound infection.	According to groups (intervention vs. control): A) 5/45 B) 1/54	NR	Single vs. prolonged
<b>Tsang 1992<sup>18</sup></b>	RCT single centre  103	Appendectomy (open)  Uncomplicated	II-III	B) A + 2 more postoperative doses (A) at 8 hour intervals.	A) 1.5 mg/kg gentamicin + 7.5 mg/kg metronidazole with the pre-	4 weeks	Evidence of purulent discharge from the wound with or	According to groups (intervention vs. control): A) 1/48	NR	Single vs. prolonged

		Paediatric patients			anaesthetic medication.		without a positive bacteriological culture.	A) 1/55		
<b>Ishibashi 2014<sup>60</sup></b>	RCT single centre  297	Elective re-sectional surgery for rectal cancer	II-III	B) A + 4 postoperative doses of flomoxef 1g over 2 consecutive postoperative days (total of 5).	A) 1 dose of flomoxef IV + 1 dose of flomoxef 1 hour after completion of surgery.	30 days	CDC	According to groups (intervention vs. control): A) 7/139 B) 10/140	NR	<24 hours vs. >24 hours
<b>Suzuki 2011<sup>21</sup></b>	RCT single centre  370	Elective laparotomy for colon cancer	II-III	B) A + 2 times a day 1g flomoxef (until postoperative day 3).	A) Single dose of flomoxef 1 g before surgery.	30 days	Macroscopic abscess or purulent discharge observed on the operative wound. Organ/space SSI was defined as infection in the organ subjected to surgery.	According to groups (intervention vs. control): A) 16/179 B) 15/181	No AE	Single vs. prolonged
<b>Ishibashi 2009<sup>59</sup></b>	RCT single centre  275	Elective surgery for colon cancer	II-III	B) A+ 4 additional doses (A) for 2 consecutive days.	A) 1 g of cefotiam or cefmetazole after induction of anaesthesia + 1 additional dose 1 hour postoperatively.	30 days	CDC	According to groups (intervention vs. control): A) 7/136 B) 9/139	NR	<24 hours vs. >24 hours

<b>Fujita 2007</b> <sup>20</sup>	RCT multicentre  377	Elective colorectal surgery	II-III	B) Single dose of 1 g IV cefmetazole just before skin incision + postoperatively at 8 hours and 16 hours after the first dose.	A) Single dose of 1 g cefmetazole just before skin incision.	NR	NR	According to groups (intervention vs. control): A) 32/190 B) 17/187	NR  No redosing  Longer procedure duration in single dose group	Single vs. prolonged
<b>McArdle 1995</b> <sup>61</sup>	RCT single centre  169	Colorectal surgery	II-III	B1) A1 + 80 mg gentamicin + 500 mg metronidazole IV 3 x 3 times daily.  B2) A2+750 mg ciprofloxacin 3 x 2 times daily postoperatively and 500 mg metronidazole IV 3 x3 times daily	500 mg metronidazole IV at induction of anaesthesia  A1) + gentamicin 120 mg IV at induction of anaesthesia + at 8 and 16 hours (80 mg gentamicin + 500 mg metronidazole). A2) + ciprofloxacin 1000 mg orally 1 hour prior to surgery + 500 g metronidazole at 8 hours &16 hours postoperatively.	4 weeks after discharge	Pus either discharging spontaneously or requiring drainage. Major wound sepsis was defined as the discharge of pus with constitutional disturbance.. Minor wound infections include patients with cellulitis and a positive wound culture.	A1) 13/45 A2) 4/40  B1) 7/42 B2) 4/42	NR	<24 hours vs. >24 hours  <24 hours vs. >24 hours

<b>Karran 1993</b> <sup>57</sup>	RCT single centre  227	Elective colorectal surgery	II-III	B) A + 500 mg imipenem IV 8 hours + 16 hours after surgery.	A) 1 g imipenem IV at induction + 1 g 3 hours after surgery.	6-8 weeks	Purulent discharge from the wound, positive bacteriological culture, deep abscess.	A) 44/113 B) 39/114	A) 2 phlebitis  B) 1 rash, 1 erythema, 1 phlebitis, 2 hypotension	Single postoperative vs. multiple postoperative < 24 hours
<b>Akgur 1992</b> <sup>58</sup>	RCT single centre  30	Colostomy closure  Paediatric patients	II-III	B) Both agents started orally 48 hours before the operation + A, continued until the end of postoperative day 5	A) cotrimoxazole 8 mg/kg IM 1 hour preoperatively + ornidazole 20 mg/kg IV at induction of anaesthesia + repeat at 12 hours after initial dose.	30 days	Drainage from the wound that yielded micro-organisms in at least one of the two cultures obtained.	A) 1/15 B) 1/15	NR	<24 hours vs. >24 hours
<b>Cuthbertson 1991</b> <sup>19</sup>	RCT multicentre  278	Elective abdominal surgery where the large bowel was opened	II-III	B) A + same dose (A) 2 hours after commencement of surgery	A) Timentin 3.1 g just before skin incision.	30 days	Purulent discharge from the suture line or if there was a non-purulent discharge that contained pathogenic bacteria.	A) 16/143 B) 17/128	NR	Single vs. prolonged
<b>Becker 1991</b> <sup>78</sup>	RCT single centre  40	Elective colorectal surgery	II-III	B) A+ cefoxitin 1 g IV 6 hourly for 5 days, beginning 6	A) Cefoxitin 2 g IV before operation and at 6 hours and 12	56 days	Purulent drainage, regardless of culture results,	A) 0/22 B) 0/18	NR	<24 hours vs. >24 hours

				hours after the fixed postoperative dose.	hours after the initial dose.		or if non-purulent material contained pathogenic bacteria.			
<b>Fujita 2015<sup>22</sup></b>	RCT single centre  257	Thoracoscopic oesophagectomy or transthoracic oesophagectomy	II	B) A+ 2 times daily until postoperative day 2	A) 4 x 1g cefmetazole every 3 hours starting from induction of anaesthesia	30d	CDC	A) 31/129 B) 34/128	No AE	Single vs. prolonged
<b>Imamura 2012<sup>24</sup></b>	RCT multicentre  355	Elective surgery for gastric cancer	II	B) A + 1 g of cefazolin on postoperative day 0 and every 12 hours until postoperative day 2	A) 1 g of cefazolin 30 minutes after anaesthesia and an additional dose every 3 hours during surgery	30 days	CDC	A) 8/176 B) 16/179	No AE	Single vs. prolonged

<b>Haga 2012</b> <sup>23</sup>	RCT single centre  325	Elective surgery for gastric cancer	II	B) A + 5 additional doses every 12 hours postoperatively	A) After induction of anaesthesia 1 g of cefazolin was administered IV + additional dose when surgery exceeded 3 hours	30 days	CDC	A) 15/164 B) 10/161	NR	Single vs. prolonged
<b>Mohri 2007</b> <sup>25</sup>	RCT multicentre  486	Elective gastric cancer surgery	II	B) A + 7 additional doses at 12-hour intervals.	A) 1 g cefazolin IV or 1.5 g ampicillin sulbactam IV 30 minutes preoperatively + repeat if duration >3 hours.	6 weeks	CDC	A) 23/243 B) 21/243	No AE	Single vs. prolonged
<b>Regimbeau 2014</b> <sup>26</sup>	RCT multicentre  414	Cholecystectomy for acute mild or moderate calculous cholecystitis  Open or laparoscopic	II-III	B) A + the same regimen for 5 days IV or oral if tolerated.	A) 2 g amoxiclav 3 times daily before surgery and at injection of general anaesthesia.	30 days	CDC	A) 22/207 B) 21/207	No AE	Single vs. prolonged
<b>Lau 1990</b> <sup>62</sup>	RCT single centre  203	Early open cholecystectomy for acute cholecystitis	II-III	B) A+ continuation of 500 mg doses at 6- hour intervals for 7 days	A) Cefamandole 2 g IV just before surgery + 500 mg 6 hours and 12 hours later.	1 year	Purulent discharge, serous discharge + positive	A) 7/100 B) 6/103	NR	<24 hours vs. >24 hours

							bacteriological cultures, serous discharge after the patient had returned home. Intraperitoneal abscess was diagnosed by ultrasonic evidence of an abscess and by laparotomy.			
<b>Meijer 1993</b> <sup>27</sup>	RCT multicentre  1004	Biliary surgery	II	B) A + instead of placebo 0.75 g cefuroxime.	A) 1.5g cefuroxime IV at time of induction + placebo at 8 hours and 16 hours postoperatively.	4-6 weeks	0: No sign of infection.  1: Minor infection (erythema, stitch abscess or skin edge necrosis).  2: Major infection (purulent discharge or wound dehiscence). Pus could be detected within a few days of operation (in-hospital	A) 64/501 B) 64/503	NR	Single vs. prolonged



							wound infection) or its appearance could be delayed for as long as 3 weeks (delayed wound infection).			
<b>Togo 2007<sup>79</sup></b>	RCT single centre  180	Hepatectomy without reconstruction of biliary/intestinal tract	II	B) A for 5 days.	A) 1 g of flomoxef 30 minutes before surgery + redose every 3 hours during surgery, 1 g 2 hours after the completion of surgery and then 2 g a day after the operation day (1 g every 12 hours) for 2 days.	30 days	CDC	A) 4/89 B) 4/91	NR	<48 hours vs. >48 hours
<b>Abro 2014<sup>29</sup></b>	RCT single centre  208	Clean-contaminated elective surgery	I-III	B) A+ 1 g at 8 and 16 hours postoperatively.	A) 2 g ceftriaxone at induction of anaesthesia (gastrointestinal and urinary tract: + 250 mg gentamicin and	35 days	Pain at the operative site, persistent fever >38°C wound erythema, tenderness, wound discharge	A) 10/104 B) 7/104	NR	Single vs. prolonged

					500 mg metronidazole).		and dehiscence.			
<b>Becker 2008<sup>31</sup></b>	RCT single centre  44	Elective repair of abdominal incisional hernia >6 cm with onlay polypropylene mesh	I	B) A + 3 times daily until drain tubes removed.	A) 1 g cefazoline IV 30 minutes prior to surgery.	30 days	CDC	A) 4/21 B) 7/21	No AE	Single vs. prolonged
<b>Scher 1997<sup>82</sup></b>	RCT single centre  768	Elective clean-contaminated operations on the gastrointestinal or biliary tracts	II	B) A + 3 additional 1 g doses of cefazolin every 8 hours.	A) 1 g of cefazolin 15-30 minutes preoperatively + repeat if procedure duration > 3 hours.	NR	NR  “Wound surveillance by infection control nurses.”	A) 15/382 B) 14/386	NR	Single vs. prolonged
<b>Kow 1995<sup>32</sup></b>	RCT single centre  1010	All types of surgery involving the viscera (elective and emergency) Including paediatric patients (age 16 years and over)	II-III	C) A + repeat at 6 hours and 12 hours.  D) B + repeat of cefotaxime at 6 hours and 12 hours.	A) Cefoxitin 2 g on induction of anaesthesia.  B) Cefotaxime 1 g + metronidazole 500 mg on induction of anaesthesia.	4-6 weeks	Presence of purulent discharge from the wound or a serous discharge with a positive culture of pathogenic organism(s).	A) 17/252 B) 14/264  C) 17/254 D) 10/240	NR	Single vs. prolonged

<b>Turano 1992<sup>33</sup></b>	RCT single centre  3567	Abdominal, gynaecological and urology  Including paediatric patients (age 2-97 years)	II-III	C) A + 2 1 g doses IV at 6- hour intervals after the first dose.	A) 1 g of cefotaxime IV 30 minutes prior to incision (repeat in 6 hours if procedure >3 hours).	7 days/discharge	Discharge of serous or seropurulent material from the wound within 7 days of operation	A) 28/1802 B) 39/1765	Unspecified systemic side-effects: A) 20 B) 20  Unspecified local side-effects: A) 10 B) 40	Single vs. prolonged
<b>Bates 1992<sup>30</sup></b>	RCT multicentre  900	At-risk abdominal sssswwithpotsurgery with with surgery with potential opening of a viscus  Including paediatric patients (age 16 years and over)	II-IV	B) A+ additional dose a at 8 hours and 16 hours at 8 and 16 hours.	A) 250 mg amoxicillin/ clavulanic acid 125 mg on clavulanic acid 125 mg on induction of anaesthesia (IV bolus 1.2 g).	30 days	A clear collection of pus which empties itself spontaneously or after incision.	A) 48/449 B) 49/451	NR	Single vs. prolonged
<b>Aberg 1991<sup>28</sup></b>	RCT single centre  428	Elective abdominal surgery  Including paediatric patients (16 years and over)	II-III	B) Triple dose (A).	A) Single dose of cefuroxime with addition of metronidazole if needed.	30 days	Discharge of pus.	A) 8/207 B) 15/221	NR	Single vs. prolonged
<b>Westen 2015<sup>36</sup></b>	RCT multicentre	Elective and emergency	II	B) A + 500 mg amoxicillin and 500 mg	A) 1 g ampicillin	30 days	All clinical signs of infection	A) 6/89 B) 9/87	NR	Single vs. prolonged

	176	caesarean section		metronidazole IV at 8 and 16 hours followed by 500 mg moxicillin and 400 mg metronidazole postoperatively 3 times daily on days 3-5.	and 500 mg metronidazole IV 20 minutes before caesarean section.		starting from presence of erythema (not exclusively serous discharge or gaping).			
<b>Shaheen 2014</b> <sup>35</sup>	RCT single centre  100	Elective caesarean section	II	B) A + 2 doses of 1 g cefotaxime IV every 12 hours followed by cefuroxime 400 mg postoperatively for 5 days.	A) 1 g of cefotaxime IV 30 minutes before the operation.	6 weeks	Superficial or deep infection, pus discharge, abscess formation, wound dehiscence, and haematoma formation.	A) 5/50 B) 6/50	NR	Single vs. prolonged
<b>Lyimo 2013</b> <sup>34</sup>	RCT single centre  500	Emergency caesarean section	II	B) A+ metronidazole 500 mg every 8 hours for 24 hours postoperatively.	A) Gentamicin (3 mg/kg) plus metronidazole (500 mg) IV 30 to 60 minutes before the operation.	30 days	CDC	A) 12/250 B) 16/250	NR	Single vs. prolonged
<b>Su 2005</b> <sup>38</sup>	RCT single centre  532	Gynaecological surgery  Hysterectomy, abdominal laparoscopic and vaginal,	II	B) A + another 3 doses (A) every 6 hours postoperatively.	A) Cefazolin 1 g at induction of anaesthesia + redose if duration >4 hours.	90 days	1) Abdominal wound infection or trocar wound infection (including	A) 1/267 B) 1//264	NR	Single vs. prolonged

		ovarian cystectomy					wound discharge or abscess). 2) Pelvic abscess or tubo-ovarian abscess. 3) Vaginal cuff abscess.  4) Post-operative septicemia.			
<b>Chang 2005<sup>77</sup></b>	RCT single centre  156	Laparoscopically-assisted vaginal hysterectomy	II	B) A up to 30-60 hours.	A) 2 g cephalothin (+1 g every 6 hours) <u>and</u> 80 mg gentamicin (+60-80 mg every 8 hours) <u>for &lt;24 hours</u>	7 days after discharge	Pelvic cellulitis, vaginal cuff abscess, pelvic abscess, wound infection	A) 2/74 B) 3/82	NR	<24 hours vs. >24 hours
<b>Cartaña 1994<sup>37</sup></b>	RCT single centre  58	Wertheim meigs	II	B) A + repeat 6 hours and 12 hours postoperatively.	A) 4 g piperacillin 30 minutes before surgery.	4 days	Surgical wound exudate cultures, if present, or culture of the liquid obtained by puncturing the wound's edges to isolate aerobic and anaerobic organisms.	A) 5/28 B) 1/30	No AE	Single vs. prolonged

<b>Buckley 1990</b> <sup>39</sup>	RCT single centre  204	Hip pinning or Austin Moore hemiarthroplasty. Intertrochanteric/subcapital hip fracture	I	B) A+ 1 g every 6 hours IV for 3 doses (total 4).	A) Cefazolin 2 g IV at induction of anaesthesia.	6 weeks	Clinical criteria/purulent discharge with or without + culture.	A) 2/83 B) 2/121	NR	Single vs. prolonged
<b>Garotta 1991</b> <sup>40</sup>	RCT multicentre  614	All fractures	I	B) A + 2 g at 12 hours postoperatively.	A) Ceftizoxime 2 g preoperatively.	1 year	Wound infection (purulent exudation with positive microbiologic culture).	A) 2/301 B) 3/313	NR	Single vs. prolonged
<b>Takemoto 2015</b> <sup>63</sup>	RCT single centre  314	Thoracic/lumbar spine surgery + drain for degenerative/idiopathic spine deformity	I	B) A for drain duration (average of 3.2 days).  Dose and regimen not specified beyond duration.	A) 24 hours of cefazolin (methicillin-resistant <i>Staphylococcus aureus</i> , allergy, or recent surgery: vancomycin or clindamycin).  Dose and regimen not specified beyond duration.	1 year	CDC	A) 21/170 B) 19/144	NR	<24 hours vs. >24 hours

<b>Hellbusch 2008<sup>41</sup></b>	RCT multicentre  233	Clean instrumented lumbar spinal fusion for degenerative disease	I	B) A + 1 g of cefazolin IV every 8 hours for 3 days followed by 7 days of oral cephalexin 500 mg every 6 hours.	A) Cefazolin IV 30 minutes before incision (1 g <100 kg <2 g) + redose if procedure duration exceeded 3 hours.	21 days at least	If the wound appeared red or oedematous or if there was drainage.	A) 5/117 B) 2/116	NR	Single vs. prolonged
<b>Gupta 2010<sup>80</sup></b>	RCT single centre  227	CABG/ valve replacement under cardiopulmonary bypass	I	B) A + 24 hours (without placebo) (73 hours).	A) IV ceftazidime pentahydrate + amikacin at anaesthesia induction and a second dose if surgery exceeded 5 hours. Antibiotics were continued for (48 hours) + 24 hours placebo.	Definition 30 days	CDC	A) 5/119 B) 8/108	NR	48 hours vs. >48 hours
<b>Lin 2011<sup>64</sup></b>	RCT single centre  231	Non-emergency CABG surgery	I	B) A+ 2 days (72 hours)	A) 1 g cefazolin within 1 hour prior to incision + additional dose when surgery was prolonged (every 3-4 hours)  + 3 doses every 8 hours after	30 days	CDC	A) 13/120 B) 9/111	NR	<24 hours vs. >24 hours

					surgery (24 hours)					
<b>Niederhauser 1997<sup>65</sup></b>	RCT single centre 53	Patients with severe heart failure who could not be weaned from cardiopulmonary bypass without IABP(IABP)	I	B) A+ thereafter: ticarcillin/ clavulanate 5.2 g every 8 hours for 2 days + vancomycin 500 mg every 12 hours until removal of IABP.  (NB: Different postoperative agent.)	A)1 g of cefazolin at induction of anaesthesia, 1 g after 8 hours, 1 g after 16 hours.	3-540 days	CDC	A) 1/25 B) 1/28	NR	<24 hours vs. >24 hours
<b>Nooyen 1994<sup>42</sup></b>	RCT single centre 844	CABG	I	B) A+ 750 mg cefuroxime 3 times daily for 3 consecutive days.	A) 20 mg/kg cefuroxime IV at induction of anaesthesia.	NR	Redness, purulent discharge and a positive culture.	A) 12/419 B) 6/425	NR	Single vs. prolonged
<b>Tamayo 2007<sup>43</sup></b>	RCT single centre 838	CABG, valve or both	I	B) A + 2 x 1g every 8 hours (24 hours).	A) 2 g cefazolin IV 20-30 minutes after induction of anaesthesia  + redose when procedure exceeded >3 hours	12 months	CDC	A) 35/419 B) 15/419	NR	Single vs. prolonged
<b>Olak 1991<sup>44</sup></b>	RCT single centre	Thoracotomy/ lung resection	II	B) A+ 5 doses of cefazolin 1 g every 8 hours	A) 1 dose of 2 g cefazolin IV at induction of	6 weeks	Any wound that discharged,	A) 0/99 B) 2/100	NR	Single vs. prolonged



	199			(without placebo)	anaesthesia + 5 x placebo every 8 hours.		spontaneously or otherwise, purulent material with or without culture of a pathogen.			
<b>Hall 1998</b> <sup>45</sup>	RCT single centre 302	Vascular surgery (open arterial)	I	B) A + 6-hourly interval repeat until lines were removed <5 days.	A) Ticarcillin 3.0 g clavulanate 0.1 g IV immediately after induction of anaesthesia.	42 days after surgery	Discharge of pus or a serous discharge containing pathogenic organisms.	A) 28/153 B) 15/149	NR	Single vs. prolonged
<b>Orlando 2015</b> <sup>46</sup>	RCT multicentre 205	Renal transplant surgery	I	B) A+ cefazolin 1 g or cefotaxim 1 g every 12 hours until removal of Foley catheter (postoperative days 3-5).	A) 1 Shot of broad-spectrum antibiotic (cephalosporin cefazolin 2 g, cefotaxim 1 g).	30 days	CDC	A) 2/103 B) 1/102	NR	Single vs. prolonged
<b>Liu 2008</b> <sup>67</sup>	RCT single centre 53	Head and neck surgery that would enter the upper aero digestive tract (including free flap)	II	B) A extended to 72 hours.	A) Clindamycin 300 mg IV 1 hour before incision and then at 6-hour intervals over a period of 24 hours.	30 days	CDC	A) 8/26 B) 5/27	No AE	<24 hours vs. >24 hours
<b>Carroll 2003</b> <sup>66</sup>	RCT single centre 74	Surgical ablation of head and neck malignancies with free flap	II	B) A extended to 15 doses (5 days).	A) Clindamycin 900 mg IV initiated immediately preoperatively	7 days/discharge	Clinical signs of infection in wound colour and drainage.	A) 4/35 B) 4/39	No AE	<24 hours vs. >24 hours

		reconstruction involving the upper aero digestive tract			and repeated every 8 hours for a total of 3 doses.  24 hours					
<b>Righi 1996<sup>68</sup></b>	RCT single centre  162	Oncologic surgery in the head and neck involving the upper aero digestive tract (excluding free flap)	II	B) A, extended to 9 doses and 3 doses respectively.  72 hours	A) Clindamycin 600 mg IV at induction followed by 3 doses one every 8 hours + cefonicid 1 g IV at induction. followed by 1g after 12 hours.  24 hours	20 days	Purulent drainage (either spontaneously or by incision) or mucocutaneous fistula interpreted as wound infection.	A) 2/81 B) 3/81	No AE	<24 hours vs. >24 hours
<b>Sawyer 1990<sup>81</sup></b>	RCT multicentre  50	Major head and neck procedures involving the upper aerodigestive tract	II	B) Preoperative dose plus at least 7 days of antibiotics.  Metronidazole 500 mg every 6 hours, cefazolin 1 g every 8 hours IV	A) Preoperative dose plus 2 days of antibiotics.  Metronidazole 500 mg every 6 hours, cefazolin 1 g every 8 hours IV	NR	Major wound infection was defined as wound breakdown and undermining of tissues sufficient to allow packing of the wound.  Lesser complications, such as cellulitis or a	A) 8/25 B) 5/25	No AE	<48 hours vs. >48 hours

							tiny fistula, allowing only entry of a cotton-tipped applicator were considered as minor.			
<b>Maier 1992<sup>47</sup></b>	RCT single centre 106	Parotidectomy, sinus surgery, neck dissection with no transcutaneous exploration of the aerodigestive tract	I-II	B) A + 8 hours and 16 hours postoperatively. Three shot 24-hour regimen of 1.5 g cefuroxime.	A) 1.5 g cefuroxime directly preoperative	NR	Wound infection	A) 0/53 B) 0/53	No AR	Single vs. prolonged
<b>Mann 1990<sup>48</sup></b>	RCT single centre 113	Procedures for benign and malignant processes in the head and neck region	II	B) A + repeat at night and the next morning (24 hours).	A) Preoperative 2 g cefotiam + 500 mg metronidazole  + redose cefotiam when duration >3 hours.	NR	Purulent discharge.	A) 8/55 B) 10/58	NR	Single vs. prolonged
<b>Bidkar 2014<sup>69</sup></b>	RCT single centre 78	Tympanoplasty with cortical mastoidectomy for active and inactive mild chronic otitis media	I-III	B) A+ oral cefixime 200 mg 12-hourly for 8 days or more.	A) IV cefuroxime 1.5 g 30 minutes before incision, followed by 750 mg 12-hourly until 24 hours postoperatively.	3 weeks	Wound infection.	A) 1/39 B) 2/39	A) 19 B) 1  (gastro-intestinal disturbance)	<24 hours vs. >24 hours

		Included paediatric patients (12-60 years)								
<b>Rajan 2005<sup>49</sup></b>	RCT single centre  200	Septorhinoplasty	II	B) A + postoperative oral course of amoxicillin-clavunate 1000 mg 2 times daily.	A) Preoperative IV amoxicillin-clavulanate 2.2 g 30 minutes before incision.	30 days	Wound infection.	A) 0/100 B) 3/100	B) 29 A) 2  (nausea, diarrhoea, skin rash, pruritus)	Single vs. prolonged
<b>Campos 2015<sup>50</sup></b>	RCT single centre  74	Surgery for facial fracture reduction and fixation  Intra and extra oral. When required, titanium plates and screws were used.	I-II	B) A+ 4 x 1 g cefazolin in 24 hours.	A) 2 g cefazolin IV preoperative  Redose when duration >4 hours.	6 weeks	a) Pus drainage at the fracture site or in the vicinity of the surgical intervention site; b) increased swelling 7 days after the operation; c) presence of a fistula in the area of the surgical intervention or at the site of the fracture, with active drainage; d) other clinical features observed by the evaluator,	A) 6/42 B) 1/32	NR	Single vs. prolonged

							including typical signs of infection such as fever, oedema and localized redness.			
<b>Lindeboom 2005</b> <sup>52</sup>	RCT single centre 124	Intraoral bone grafting for endosseous implantation	II	B) A + 300 mg clindamycin instead of placebo.	A) 600 mg clindamycin orally 60 minutes preoperatively + 4 x placebo every 6 hours.	8 weeks postoperatively	CDC	A) 6/62 B) 5/62	NR	Single vs. prolonged
<b>Lindeboom 2003</b> <sup>53</sup>	RCT single centre 70	Bilateral sagittal ramus osteotomy of the mandi	II	B) A+ clindamycin IV instead of placebo.	A) 400 mg clindamycin IV 15 minutes before incision + placebo every 6 hours for 24 hours.	3 months	Presence of purulent drainage (either spontaneously or by incision), accompanied by pain or tenderness, localized swelling, redness, and heat or fever (>38.5° C) or an increase in localized swelling after an initial postoperative	A) 2/35 B) 1/35	No AE	Single vs. prolonged

							decrease of oedema, together with pain, discomfort, induration, and an increase in body temperature (>38.5° C).			
<b>Cioaca 2002</b> <sup>51</sup>	RCT single centre 140	Aseptic oral and maxillofacial surgery that does not involve the implantation of foreign material  Included paediatric patients (17-70 years)	II	C) A + 5-day redose every 8 hours instead of placebo.  D) B + 5-day redose every 8 hours instead of placebo.	A) 2.4 mg amoxicillin-clavulanate IV at induction + 5-day placebo.  B) 2 g cefazolin at induction + 5-day placebo.	14 days	Purulent discharge.	A) 1/35 B) 2/34  D) 2/35 C) 0/33  A+B 3/69 C+D 2/68	NR	Single vs. prolonged  Single vs. prolonged
<b>Abubaker 2001</b> <sup>70</sup>	RCT single centre 30	Uncomplicated fractures of the mandible. requiring closed reduction and mandibulo-maxillar fixation or with open reduction and internal fixation	II	B) A + 500 mg penicillin postoperatively every 6 hours for 5 days.	A) 2 million units aqueous penicillin IV every 4 hours from admission through to the preoperative and intraoperative phase and for 12 hours postoperatively	6 weeks	1. Purulent drainage from the surgical or fracture site. 2. Increased facial swelling beyond postoperative day 7.	A) 2/16 B) 2/14	NR	<24 hours vs. >24 hours

					+ oral placebo every 6 hours for 5 days.		3. Fistula formation at the surgical or fracture site, with evidence of drainage. 4. Fever associated with local evidence of infection (swelling, erythema, or tenderness).			
<b>Eshghpour 2014</b> <sup>73</sup>	RCT single centre  50	Bi-maxillary orthognathic surgery  Included paediatric patients (17-35 years)	II	B) A + 500 mg amoxicillin syrup postoperatively every 8 hours for a total of 1 week.	A) 1 g cefazolin 30 minutes prior to surgery + same dose 4 hours after 1st injection + placebo.	6 weeks	Facial swelling, purulent discharge from the incision site, drainage, wound dehiscence, pain, or erythema.	A) 0/25 B) 0/25	No AE	<24 hours vs. >24 hours
<b>Wahab 2013</b> <sup>56</sup>	RCT single centre  60	Bilateral sagittal split osteotomy  Orthognathic surgery  Included paediatric patients (age 17-37 years)	II	B) A + 2 doses of 500 mg amoxicillin IV every 4 hours	A) 1 g amoxicillin at induction + 2 saline solution doses IV every 4 hours	2 months	CDC	A) 6/30 B) 1/30	NR	Single vs. prolonged

<b>Danda 2010</b> <sup>54</sup>	RCT single centre  150	Orthognathic surgery  Included paediatric patients (15-37 years)	II	B) A + 500 g ampicillin IV instead of placebo.	A) 1 g ampicillin IV at induction + placebo saline every 6 hours for 24 hours.	4 weeks	1. Purulent discharge from an incision. 2. Sero-sanguineous drainage and a wound culture positive for a known pathogen. 3. Clinician diagnosis of infection.	A) 7/75 B) 2/75	No AE	Single vs. prolonged
<b>Kang 2009</b> <sup>55</sup>	RCT single centre  56	Orthognathic surgery	II	B) A + 1g cefpiramide two times daily until 3 days after surgery.	A) 1 g of a third-generation cephalosporin (cefpiramide) IV 30 minutes before surgery.	2 weeks	CDC	A) 3 /28 B) 2 /28	No AE	Single vs. prolonged
<b>Jansisyanont 2008</b> <sup>75</sup>	RCT multicentre  122	Orthognathic surgery  Included paediatric patients (17-47 years)	II	C) A (without postoperative dose) + 625 mg amoxicillin/ clavulanic acid postoperatively every 8 hours for 5 days.  D) B (without postoperative dose) + 500 mg amoxicillin postoperatively	A) 1.2 g amoxicillin/ clavulanic acid 30 minutes preoperatively + every 8 hours during the procedure + 1 single dose 8 hours postoperatively.  B) 2 million units of aqueous penicillin IV 30	6 weeks	CDC	A) 1/33 C) 0/28 B) 0/29 D) 1/32  A+B 1/62 C+D 1/60	NR	<24 hours vs. >24 hours



				every 8 hours for 5 days.	minutes preoperatively + every 4 hours during the procedure + 1 single dose 4 hours postoperatively.					
<b>Baqain 2004</b> <sup>71</sup>	RCT single centre 34	Orthognathic surgery	II	B) A+ 500 g amoxicillin postoperatively every 8 hours for 5 days instead of placebo	A) 1 g amoxicillin IV at induction of anaesthesia + 500 mg IV 3 hours postoperatively + placebo every 8 hours for 5 days.	6 weeks	A score system based on facial swelling and/or pain; presence or absence of extraoral erythema; wound exudate; isolation of pathogens; pyrexia; and wound dehiscence.	A) 4/17 B) 2/17	NR	<24 hours vs. >24 hours
<b>Bentley 1999</b> <sup>72</sup>	RCT single centre 30	Orthognathic surgical procedures	II	B) A + penicillin G, one million units IV every 6 hours for 8 doses, followed by penicillin V suspension 300 mg postoperatively every 6 hours	A) Penicillin G, two million units IV immediately preoperatively, and one million units IV every 3 hours intraoperatively and once postoperatively	30 days	CDC	A) 9/15 B) 1/15	NR	<24 hours vs. >24 hours

				for 8 doses instead of placebo.	3 hours after the last intraoperative dose.  + Placebo					
<b>Fridrich 1994</b> <sup>74</sup>	RCT single centre  30	Orthognathic surgical procedures  Including paediatric patients (15-55 years)	II	B) Penicillin G 2 million units IV preoperatively + every 4 hours until the IV was discontinued on postoperative day 1. 500 mg penicillin VK was continued 4 times daily for 1 week.  (NB: intra-operative redose differs in frequency.)	A) Penicillin G 2 million units IV, preoperatively and + every 2 hours until participants reached the recovery room where the final dose was given	8 weeks	Infection.	A) 1/16 B) 1/14	NR	<24 hours vs. >24 hours
<b>Bozorgzadeh 1999</b> <sup>76</sup>	RCT single centre  300	Surgery for penetrating abdominal trauma  Included paediatric patients (12-69 years)	II-III	B) 5 days of IV cefoxitin, with the first 1 g dose given in the emergency department immediately after the determination of	A) 24 hours of IV cefoxitin with the first 1 g dose given in the emergency department immediately after the	30 days	CDC	A) 24 /148 B) 26 /152	NR	<24 hours vs. >24 hours

				the requirement for laparotomy followed by administration every 6 hours for a total of 20 doses.	determination of a requirement for laparotomy, followed by administration every 6 hours for a total of 4 doses.					
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RCT: randomized controlled trial; CDC: Centers for Disease Control and Prevention; IV: intravenous; AE: adverse event/s; AB: antibiotic; NR: not recorded; SSI: surgical site infection; IM: intramuscular; CABG: coronary artery bypass grafting; IABP: intra-aortic balloon pumping.