Journée régionale des Etablissements de Santé

CPias Hauts-de-France

Best of littérature

Pr. Karine FAURE

Service de Maladies Infectieuses et Tropicales CHU Lille

CRATB – CPIAS Hauts de France

Recherche translationnelle Equipe OpInfIELD – U1019 – UMR9017

Vendredi 10 mars 2023

FACULTÉ DE MÉDECINE DE LILLE
PÔLE RECHERCHE
1 PLACE DE VERDUN
SALLE DES CONGRÈS

CHU LILLE · FACULTE DE MEDECINE · ufr3s Sciences de Santé et du Sport · Université de Lille · cnrs · Inserm La science pour la santé From science to health · Institut Pasteur de Lille Vivre mieux, plus longtemps · CIIL CENTER FOR INFECTION & IMMUNITY OF LILLE

Infection de site opératoire

The Effect of Beta-lactam Allergy Status on the Rate of Surgical Site Infections: A Retrospective Cohort Study

Nathaniel B. Wilhelm, PharmD,✉ Thomas J. Bonsall, PharmD, BCPS, and Clayton L. Miller, PharmD

Etude rétrospective monocentrique en CHU sur 1 an, adultes

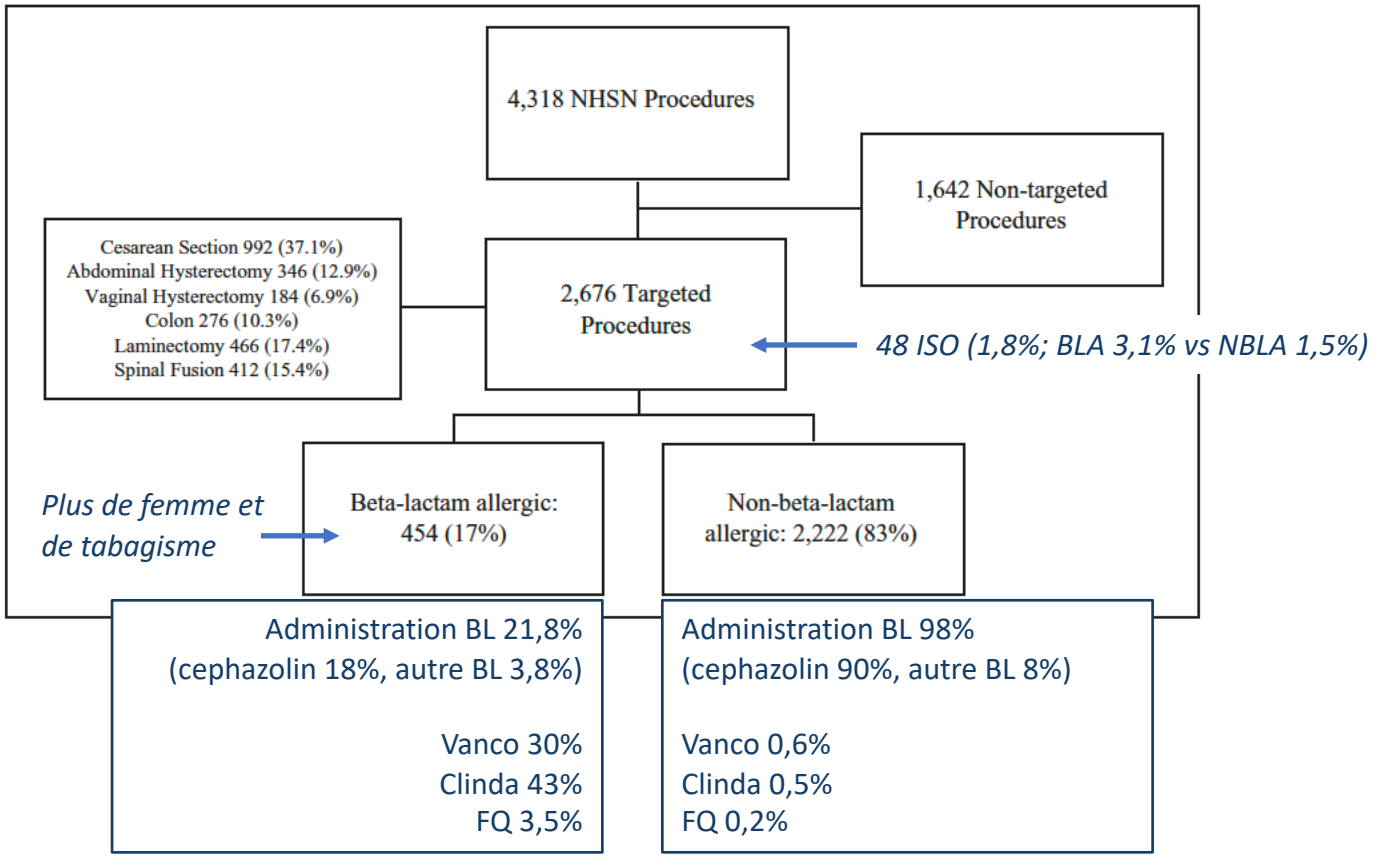


TABLE 3. Estimated Effects of Covariates on Surgical Site Infection in the Multivariate Binomial Logistic Regression

Characteristic	aOR	95% CI
Reported BL allergy*	2.107	1.113–3.986
Age	0.988	0.970–1.007
Sex (female)	0.621	0.302–1.278
BMI	1.000	0.998–1.002
Diabetes mellitus	0.472	0.216–1.034
Tobacco smoker	0.795	0.330–1.915
Preoperative antibiotic Duration	1.069	0.720–1.588
Preoperative length of stay	1.045	0.845–1.292

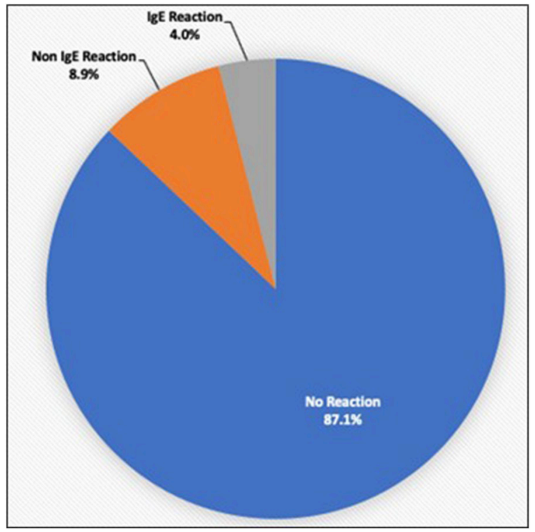
« réaction supposée non allergique »
+ 139 patients sans allergie documentée

= 298 patients qui auraient pu bénéficier d'une ATBP par cefazoline

Outcome of preoperative cefazolin use for infection prophylaxis in patients with self-reported penicillin allergy

Laura Michaud[1], Hope H. Yen[2], Dale A. Engen[3] and David Yen[1*]

Retrospective monocentrique en CHU durant 6 mois, 5433 patients



217 (4,0%) allergie pénicilline IgE médiée
50 reçoivent cefazoline
2 présentent des symptômes :

- Gonflement face 4,5h post-adm : cortico topique cut
- Rash thorax immédiat de résolution spontanée

Allergie croisée
4/265 (1,5%)

486 (8,9%) allergie pénicilline non-IgE médiée
215 reçoivent cefazoline
2 présentent des symptômes :

- Rash face + bras gauche 6,5h post-adm
- Hypotension transitoire dose test

Table 3 Study vs. literature rates for penicillin allergy, cross reactivity, and cephalosporin allergy

Group	Our rate	Literature	P-value	Reference source
Penicillin allergy	703/5433 = 12.9%	High 295/1893 = 15.6%	P = 0.07	20. Lee CE, Arch Intern Med 2000;160:2819–22
		Low 1821/3643 = 5.0%	P < 0.0001	8. Borch JE., Basic & Clinical pharmacology & Toxicology 2006; 98:357–362
Cross reaction of penicillin and cephalosporin	4/265 = 1.5% with cefazolin	Old high 2/11 = 18.2% with cephalothin	P = 0.02	7. Thoburn R, JAMA 1966;198:345
		Old low 3/74 = 4.1% with cefazolin	P = 0.18	4. Petz LD. J Infect Dis 1978;137(Suppl):S74-S9
		New high 1/41 = 2.4% with cephalosporin	P = 0.52	55. Novalbos A, Clin Exp Allergy 2001;31: 438–43
		New low 1/606 = 0.2% with cephalosporin	P = 0.03	49. Daulat S, J Allergy Clin Immunol 2004;113: 1220–2
Cephalosporin allergy	12/2873 = 0.4%	High 10/473 = 2.1%	P < 0.0001	Bigby M, JAMA. 1986; 256(24):3358–3363
		Low 7035/949323 = 0.7%	P < 0.05	Macy E, J Allergy Clin Immunol 2015;135: 745–752.e5

Michaud *et al. BMC Surgery* (2023) 23:32
https://doi.org/10.1186/s12893-023-01931-w

Effect of oral antimicrobial prophylaxis on surgical site infection after elective colorectal surgery: multicentre, randomised, double blind, placebo controlled trial

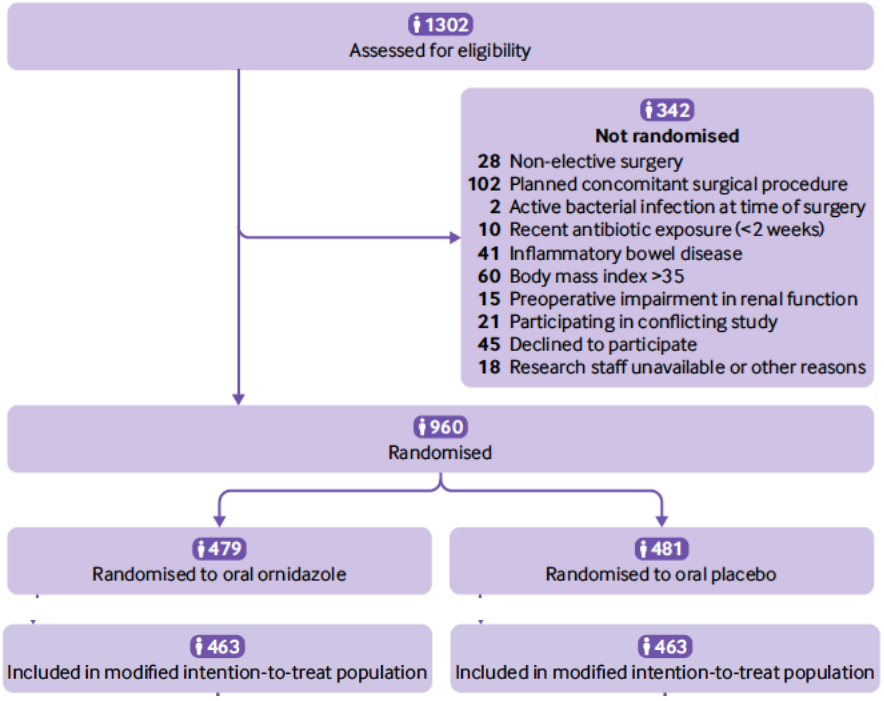
Emmanuel Futier,[1,2] Samir Jaber,[3,4] Matthias Garot,[5] Marie Vignaud,[1] Yves Panis,[6] Karem Slim,[7] Jean-Christophe Lucet,[8,9] Gilles Lebuffe,[5] Alexandre Ouattara,[10,11] Younes El Amine,[12] Philippe Couderc,[13] Aurélien Dupré,[14,15] Audrey De Jong,[3] Sigismond Lasocki,[16] Marc Leone,[17] Julien Pottecher,[18] Bruno Pereira,[19] Catherine Paugam-Burtz,[20] on behalf of the COMBINE study group

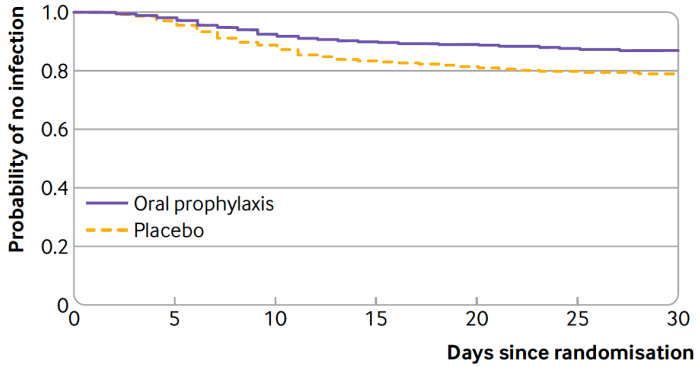
thebmj | *BMJ* 2022;379:e071476 | doi: 10.1136/bmj-2022-071476

Multicentrique randomisée 1:1 double aveugle France mai 2016 - aout 2019

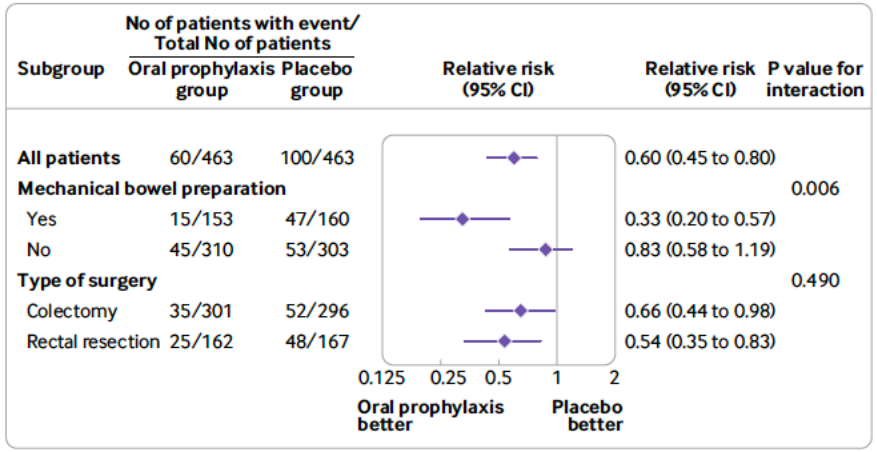
Protocole : Ornidazole 1g ou placebo 12h avant chirurgie
Cefoxitine 2g IV 30 min avant incision, réinjection > 2h et à partir de 2018 + metronidazole 1g IV

Majoritairement cœlioscopie (73%-74%)





ISO-J30
G-intervention : 60/463 (13%)
G-contrôle : 100/463 (22%)
-8,6%, IC95% -13,5% - -3,8%; RR 0,60, IC95% 0,45-0,80



Rectal Culture-based Versus Empirical Antibiotic Prophylaxis to Prevent Infectious Complications in Men Undergoing Transrectal Prostate Biopsy: A Randomized, Nonblinded Multicenter Trial

Clinical Infectious Diseases

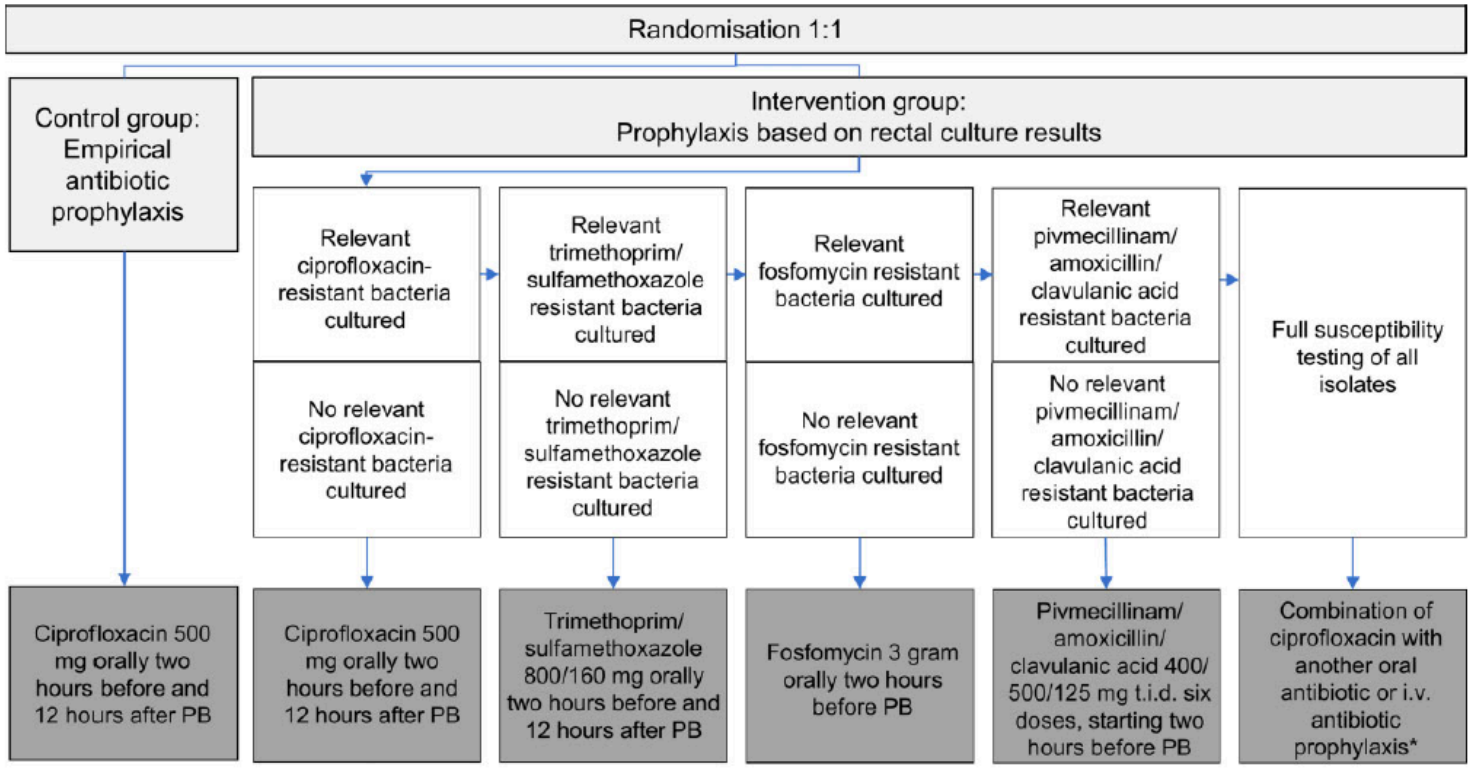
MAJOR ARTICLE

https://doi.org/10.1093/cid/ciac913

Sofie C. M. Tops,[1] Eva Kolwijck,[2] Evert L. Koldewijn,[3] Diederik M. Somford,[4] Filip J. M. Delaere,[5] Menno A. van Leeuwen,[6] Anthonius J. Breeuwsma,[7] Thijn F. de Vocht,[8] Hans J. H. P. Broos,[9] Rob A. Schipper,[10] Martijn G. Steffens,[11] Steven Teerenstra,[12] Marjolijn C. A. Wegdam-Blans,[13] Els de Brauwer,[14] Wouter van den Bijllaardt,[15] Alexander C. A. P. Leenders,[2] J. P. Michiel Sedelaar,[16] and Heiman F. L. Wertheim[1]

11 hôpitaux allemands, avril 2018 – juillet 2021

1379



Écouvillon 1 : J-7 à J60
Ecouvillon 2 : J0

653

Suivi J30 : 652

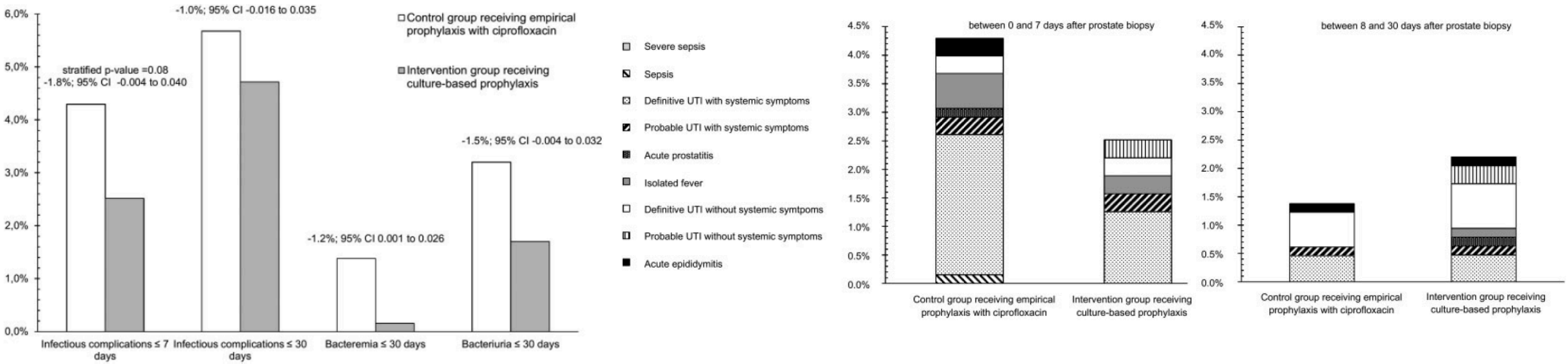
Infection : 28 (4,3%)

638

Suivi J30 : 636

Infection : 16 (2,5%)

Ciprofloxacin-resistant rectal flora, n (%)	196 (15.2)	102 (15.6)	94 (14.8)	.67
Antibiotic prophylaxis used, n (%)				
Ciprofloxacin	1199 (93.1)	652 (100)	548 (86.2)	NA
Trimethoprim/sulfamethoxazole	22 (1.7)	…	22 (3.5)	
Fosfomycin	13 (1.0)	…	13 (2.0)	
Pivmecillinam + amoxicillin/clavulanic acid	9 (0.7)	…	9 (1.4)	
Ciprofloxacin + trimethoprim/sulfamethoxazole	20 (1.6)	…	20 (3.1)	
Ciprofloxacin + fosfomycin	15 (1.2)	…	14 (2.2)	
Ciprofloxacin + pivmecillinam + amoxicillin/clavulanic acid	7 (0.5)	…	7 (1.1)	
Ciprofloxacin + ceftazidime	2 (0.2)	…	2 (0.3)	
Ceftazidime	1 (0.1)	…	1 (0.2)	



Réduction – 1,8% (-0,004 – 0,040)

Risque d'infection x 6,2 groupe cipro si R-FQ

ESCMID/EUCIC clinical practice guidelines on perioperative antibiotic prophylaxis in patients colonized by multidrug-resistant Gram-negative bacteria before surgery

Elda Righi [1, §], Nico T. Mutters [2, §], Xavier Guirao [3], Maria Dolores del Toro [4, 5, 6], Christian Eckmann [7], Alex W. Friedrich [8, 9], Maddalena Giannella [10, 11], Jan Kluytmans [12], Elisabeth Presterl [13, †], Eirini Christaki [14], Elizabeth L.A. Cross [15], Alessandro Visentin [1], Gabriele Sganga [16], Constantinos Tsioutis [17], Evelina Tacconelli [1, 18, *]

CMI CLINICAL MICROBIOLOGY AND INFECTION
ESCMID

- ✓ Littérature gaps +++ (études observationnelles)
- ✓ Screening (écouvillon rectal)
- ✓ Entérobactéries FQ-R → biopsie transrectale
- ✓ Entérobactérie BLSE → chir colorectale et transplantation (+/- Carba Res Enterobact(CRE) et Carba Res A Baumani (CRAB))
- ✓ Dans les 3 semaines avant geste
- ✓ Stewardship +++

Skin preparation for prevention of surgical site infection after obstetrics and gynecological abdominal surgery: A quality improvement project

Pratibha Singh[1], Meenakshi Gothwal[1], Hemanta Kumar Pradhan[2], Garima Yadav[1] and Manoj Kumar Gupta[3]

THE JOURNAL OF Obstetrics and Gynaecology Research
doi:10.1111/jog.15137
J. Obstet. Gynaecol. Res. Vol. 48, No. 3: 824–829, March 2022

Prospective randomisée 1:1 durant 1 an au Rajasthan, ISO-J30

Povidone iodée alcoolique 10%

Chlorhexidine alcoolique 2% isopropanol 70%

TABLE 2 Distribution of cases into the study groups

		Povidone iodine paint (Group A)	Chlorhexidine scrub + povidone-iodine paint (Group B)	Total	*p* value
SSI	Yes	15 (12.4%)	7 (5.4%)	22 (8.76%)	0.04
	No	106 (87.6%)	123 (94.6%)	229 (91.2%)	
Total		121	130	251	

Parmi les ISO, majorité de césarienne non programmée 10/22

Baseline characteristic	Group A ($n = 121$)	Group B ($n = 129$)	Total	*p* value
Diabetic	10 (8.3%)	12 (9.2%)	22 (8.8%)	0.787
Anemia	12 (9.9%)	19 (14.6%)	31 (12.4%)	0.258
Jaundice	1 (0.8%)	0 (0%)	1 (0.04%)	0.482[a]
Obese	1 (0.8%)	3 (1.6%)	4 (1.6%)	0.623[a]
Hypothyroidism	10 (8.3%)	5 (2.3%)	15 (6.0%)	0.140
Hypertension	6 (5.0%)	7 (5.4%)	13 (5.2%)	0.879
Previous surgery	37 (30.6%)	36 (27.7%)	73 (29.1%)	0.615
Pre op antibiotics	Ceftriaxone	Ceftriaxone	—	—
Post op antibiotics	Ceftriaxone + metrogyl	Ceftriaxone + metrogyl		
Average duration of surgery (in hours)	1.51 ± 1.36	1.80 ± 0.87	1.66	0.083
Incision				
Transverse	111 (91.7%)	94 (72.3%)	205 (81.7%)	0.00
Midline	10 (8.3%)	36 (27.7%)	46 (18.3%)	

The glitz and glamour randomized trial: the effect of fingernail polish on post-caesarean surgical site infection

JOURNAL OF OBSTETRICS AND GYNAECOLOGY
2022, VOL. 42, NO. 7, 2758–2763
https://doi.org/10.1080/01443615.2022.2109135

Bridget Nolan[a], Samantha Petrucci[b], Brittany Van Staalduinen[c], Michael Moretti[c], Michael Cabbad[c] and Nisha A. Lakhi[a,c]

Prospective monocentrique (NY, USA), aout 2017 – octobre 2018, ISO/réadmission à 6 sem post chir

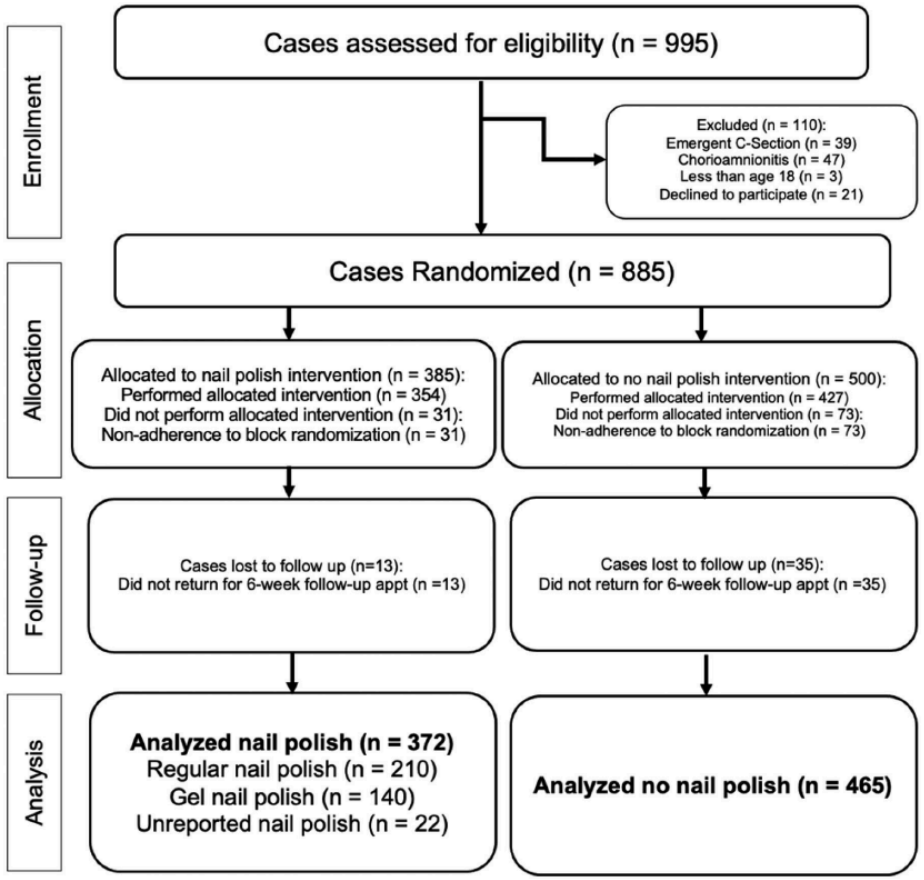


Table 1. Demographic and clinical characteristics of patients by group.

Characteristic	Nail polish ($n = 372$)	No nail polish ($n = 465$)
Patient demographics		
Age (years)*	32.17 ± 5.07	31.89 ± 5.02
Median BMI (kg/m^2)**	27.80 (16.1–64.1)	27.40 (16.5–49.4)
Gestation age, wks.*	38.66 ± 1.77	38.35 ± 2.29
Antenatal characteristics		
Gravidity**	2 (1–11)	2 (1–15)
Parity**	1 (0–8)	1 (0–11)
Gestational diabetes *n*, (%)	33 (8.9%)	42 (9.0%)
Gestational hypertension *n*, (%)	25 (6.7%)	29 (6.2%)
Intrapartum characteristics		
Duration of rupture (min)*	196.10 ± 572.93	221.65 ± 556.10
Indication for caesarean delivery		
Scheduled *n*, (%)	263 (70.6%)	326 (70.1%)
Failed trial of labour *n*, (%)	80 (21.5%)	98 (21.0%)
Repeat in labour *n*, (%)	10 (2.6%)	29 (6.2%)
Emergency *n*, (%)	7 (1.8%)	12 (2.5%)

exclusion

Table 2. Primary and secondary outcomes by group.

Outcome	Nail polish ($n = 372$)	No nail polish ($n = 465$)	*P* Value*
Primary outcome			
Surgical site infections (SSI), *n* (%)	5 (1.3%)	13 (2.8%)	.155
Secondary outcomes			
Endometritis, *n* (%)	0 (0.0%)	0 (0.0%)	—
Post-operative fever, *n* (%)	4 (1.1%)	1 (0.2%)	.178
Readmission**, *n* (%)	3 (0.8%)	3 (0.6%)	.783

Puissance calculée pour un taux d'ISO de 7%

LES PRÉCAUTIONS STANDARD

*C'est le **socle de pratiques de base** pour prévenir le risque de transmission croisée des agents infectieux à appliquer pour tout professionnel, pour tout soin, pour tout résident/patient, en tout lieu pour garantir la sécurité des soins.*

CPias Hauts-de-France
Centre d'appui pour la prévention des infections associées aux soins

PLOS ONE

Effectiveness of game-based virtual reality phone application and online education on knowledge, attitude and compliance of standard precautions among nursing students

Khaild AL-Mugheed[1]*, Nurhan Bayraktar[2], Mohammad Al-Bsheish[3], Adi AlSyouf[4], Badr K. Aldhmadi[5], Mu'taman Jarrar[6,7], Moath Alkhazali[8]

PLOS ONE | https://doi.org/10.1371/journal.pone.0275130 November 3, 2022

IFSI Chypre, 3ème et 4ème année, juillet-aout 2019

Evaluation pré et post :

PS 18 items « connaissances » + 16 items « attitude », good = la moyenne !

+ conformité checklist observation (HDM14 items, EPI 11, tranchants 10, PC 15)

Intervention :

5 leçons/quizz e-learning 10-15 min chacun

+ 4 jeux vidéos sur tel. (HDM 1min30, EPI 2min15, tranchants 1min43, PC 3min23)

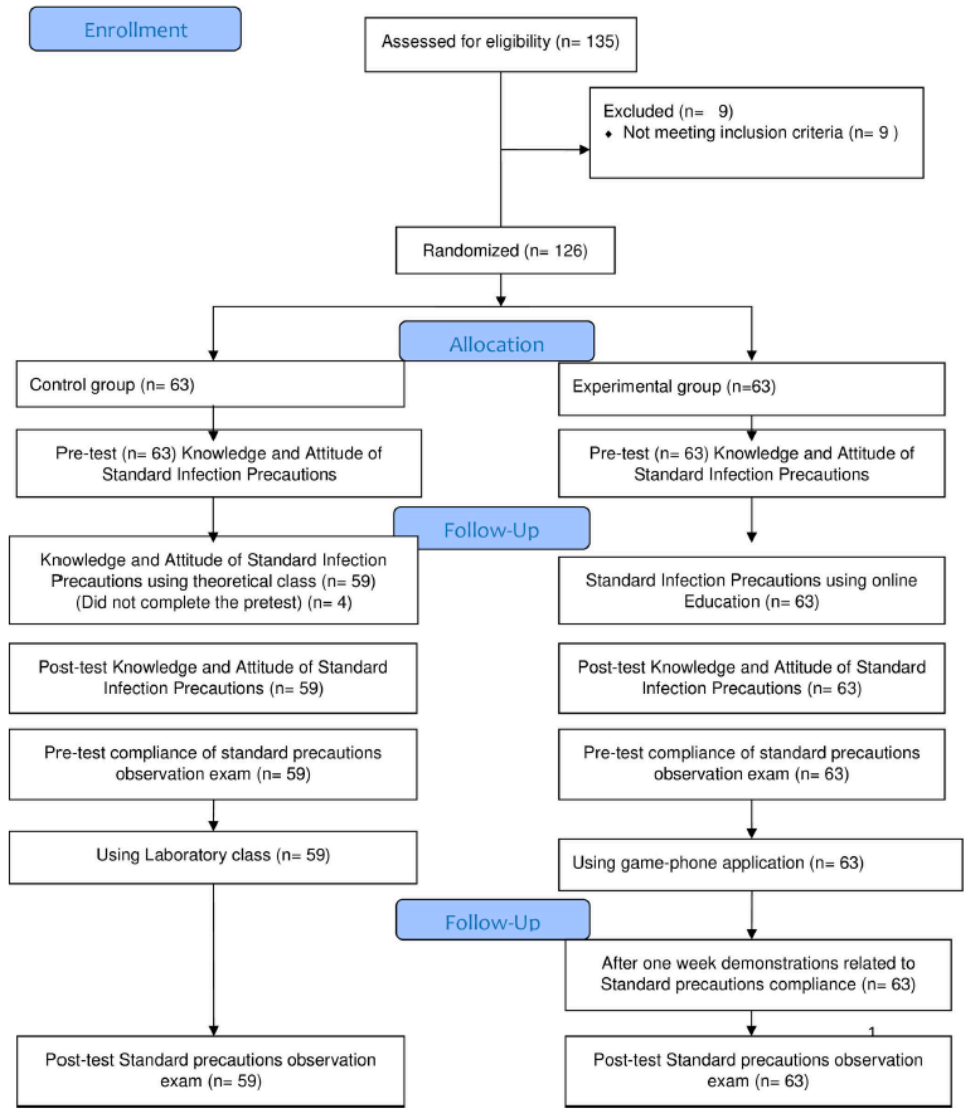


Table 2. Comparison of standard precautions knowledge and attitude means scores of the traditional lecture and the online education groups.

Standard Precautions Domains	Number of items	Groups	Pre-test	Post-test	P value **
			Mean Score ± SD	Mean Score ± SD	
Knowledge	18	Traditional group	9.5±2.4	12.3±1.1	0.10
		Online group	10.4±2.6	13.2±2.7	0.002
		P value *	0.11	0.002	
Attitude	16	Traditional group	6.1±1.4	9.3±2.5	0.15
		Online group	8.7±2.2	11.2±1.5	0.003
		P value *	0.013	0.001	
Overall	34	Traditional group	15.6±2.5	21.6±3.2	0.12
		Online group	19.1±1.7	24.4±2.5	0.001
		P value *	0.21	0.002	

Table 3. Comparison of standard precautions compliance domains means scores of the laboratory class and the game-based virtual reality phone application.

Standard Precautions Compliance Domains	Number of items	Groups	Pre-observation	Post-observation	P value **
			Mean Score ± SD	Mean Score ± SD	
Hand Hygiene	14	Laboratory Class	5.4±1.6	9.3±2.3	0.23
		Game-Based Virtual Reality Phone Application	6.3±6.3	12.5 ±1.5	0.01
		P value *	0.21	0.01	
Personal Protective Equipment	11	Laboratory Class	6.2±4.1	8.6±1.2	0.11
		Game-Based Virtual Reality Phone Application	6.7±1.3	9.5±4.6	0.01
		P value *	0.19	0.01	
Sharps Safety	10	Laboratory Class	2.4±5.5	5.8±3.9	0.22
		Game-Based Virtual Reality Phone Application	4.2±4.7	7.8±7.7	0.04
		P value *	0.11	0.02	
Transmission-Based Precautions	15	Laboratory Class	6.1±3.8	7.9±6.6	0.19
		Game-Based Virtual Reality Phone Application	6.3±7.0	12.3±5.1	0.01
		P value *	0.10	0.04	
Overall	50	Laboratory Class	20.1±5.8	31.6±6.3	0.15
		Game-Based Virtual Reality Phone Application	23.5±7.9	42.1±5.6	0.02
		P value *	0.17	0.02	

PLOS ONE

REGISTERED REPORT PROTOCOL

Protocol for educational programs on infection prevention/control for medical and healthcare student: A systematic review and meta-analysis

Akira Yoshikawa[1], Naonori Tashiro[2,3]*, Hiroyuki Ohtsuka[2], Keiichiro Aoki[4], Shusuke Togo[5,6], Kazuki Komaba[4,7], Satoshi Nogawa[1,8], Miwa Osawa[1,9], Megumi Enokida[1,5]

Tolerability and acceptability of three alcohol-based hand-rub gel formulations: a randomized crossover study

A. Peters [a], C. Cave [b], J. Carry [c], J. Sauser [a], D. Pittet [a,*]

Journal of Hospital Infection 123 (2022) 112–118

PENSER ACCEPTABILITE !

Differences in tolerability assessed by observers and through self-evaluation and in acceptability of the three alcohol-based hand-rub gel formulations ($N = 39$ participants)

Evaluation	Characteristic	H1–Hopigel		H1–WHO gel formulation		WHO gel formulation–Hopigel	
		Estimate (95% CI)	*P*-value	Estimate (95% CI)	*P*-value	Estimate (95% CI)	*P*-value
Observer evaluation	Redness	−0.13 (−0.4, 0.14)	0.775	−0.03 (−0.3, 0.24)	1	−0.1 (−0.36, 0.16)	1
	Scaliness	−0.25 (−0.75, 0.25)	0.742	0.03 (−0.47, 0.53)	1	−0.28 (−0.78, 0.22)	0.581
	Fissures	−0.05 (−0.15, 0.05)	0.695	0.01 (−0.09, 0.12)	1	−0.06 (−0.17, 0.04)	0.466
Self-evaluation	Appearance	0.25 (−0.26, 0.77)	0.748	0.23 (−0.29, 0.76)	0.889	0.02 (−0.50, 0.54)	1
	Integrity	0.25 (−0.32, 0.83)	0.902	0.11 (−0.47, 0.69)	1	0.14 (−0.43, 0.72)	1
	Hydration level	0.61 (−0.15, 1.37)	0.179	0.43 (−0.34, 1.21)	0.576	0.18 (−0.58, 0.94)	1
	Sensations	0.44 (−0.11, 0.98)	0.179	0.41 (−0.13, 0.96)	0.228	0.02 (−0.51, 0.56)	1
	Total score	1.72 (−0.17, 3.61)	0.098	1.53 (−0.39, 3.45)	0.186	0.19 (−1.7, 2.08)	1
Acceptability	Colour	−0.08 (−0.58, 0.41)	1	−0.16 (−0.66, 0.34)	1	0.08 (−0.42, 0.57)	1
	Smell	1.44 (0.42, 2.46)	0.003	0.36 (−0.66, 1.38)	1	1.08 (0.06, 2.09)	0.040
	Texture	0.97 (0.01, 1.93)	0.052	1.69 (0.73, 2.65)	0.0001	−0.71 (−1.67, 0.25)	0.244
	Irritation	0.67 (−0.15, 1.48)	0.169	0.24 (−0.57, 1.05)	1	0.43 (−0.39, 1.24)	0.659
	Drying effects	0.67 (−0.34, 1.69)	0.354	0.11 (−0.9, 1.12)	1	0.56 (−0.45, 1.58)	0.571
	Ease of use	0.8 (−0.05, 1.65)	0.081	0.87 (0.02, 1.72)	0.050	−0.07 (−0.92, 0.78)	1
	Speed of drying	−0.002 (−0.93, 0.94)	1	0.26 (−0.68, 1.20)	1	−0.26 (−1.20, 0.68)	1
	Application	0.46 (−0.43, 1.35)	0.686	0.55 (−0.34, 1.45)	0.435	−0.1 (−0.99, 0.8)	1
	Addition	5.08 (0.33, 9.83)	0.037	4 (−0.75, 8.75)	0.145	1.08 (−3.67, 5.83)	1

38 participants

3 PHA

3-5j espacés de 9 jours entre chaque PHA

Stopping Hospital Infections With Environmental Services A Cluster-randomized Trial of Intensive Monitoring Methods for Terminal Room Cleaning on Rates of Multidrug-resistant Organisms in the Intensive Care Unit

Matthew J. Ziegler,[1,2,3,4] Hilary H. Babcock,[5] Sharon F. Welbel,[6,7] David K. Warren,[5] William E. Trick,[6,7] Pam Tolomeo,[3] Jacqueline Omorogbe,[3] Diana Garcia,[6] Tracy Habrock-Bach,[5] Onofre Donceras,[6] Steven Gaynes,[8] Leigh Cressman,[3] Jason P. Burnham,[5] Warren Bilker,[2,3] Sujan C. Reddy,[9] David Pegues,[1,4] Ebbing Lautenbach,[1,2,3] Brendan J. Kelly,[1,2,3] Barry Fuchs,[10] Niels D. Martin,[11] and Jennifer H. Han[1,2,3,4,a]; for the CDC Prevention Epicenters Program

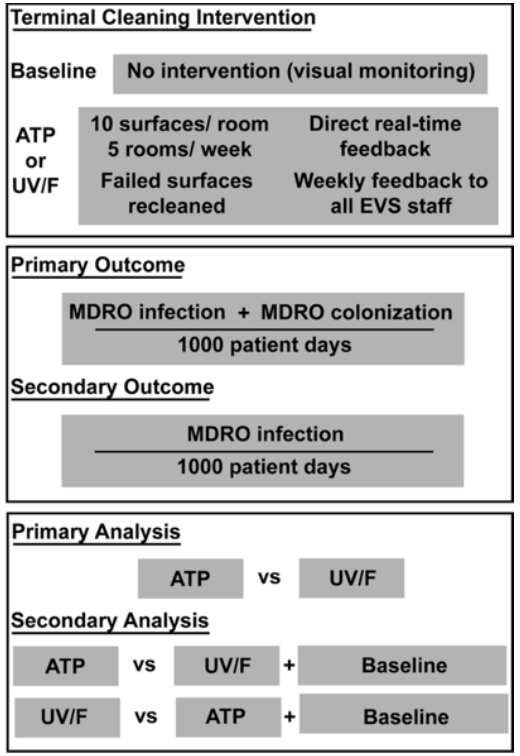
Clinical Infectious Diseases

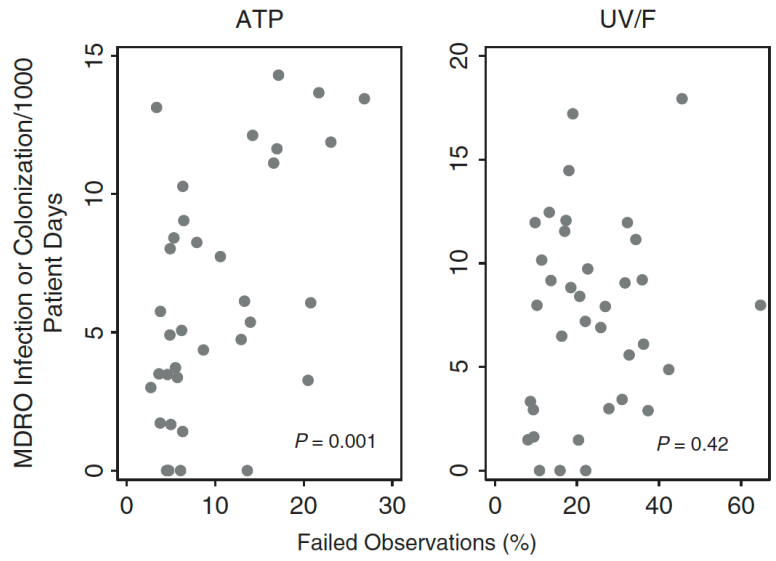
MAJOR ARTICLE

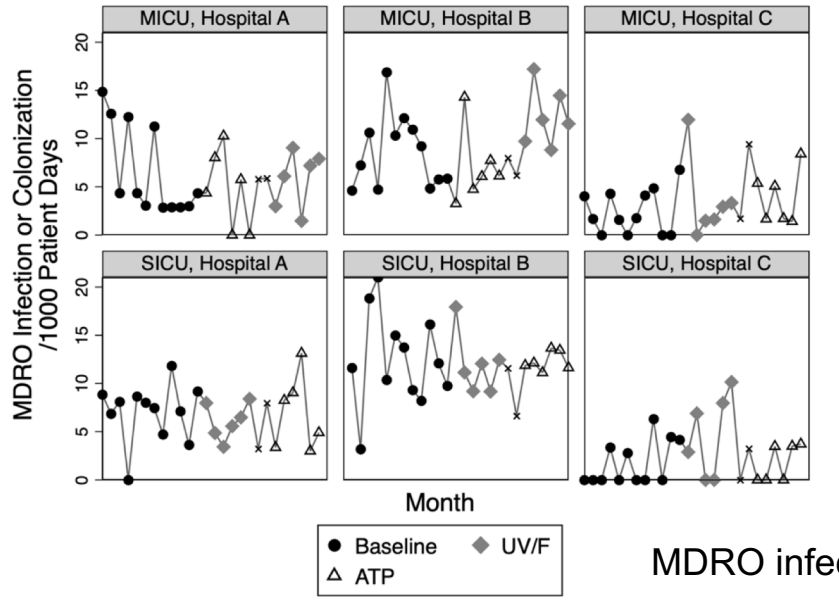
CID 2022:75 (1 October) • 1217

Table 1. Baseline Characteristics and Cleaning Practices on Study Units

Characteristic	Hospital A		Hospital B		Hospital C	
	MICU	SICU	MICU	SICU	MICU	SICU
Beds	24	24	24	36	22	14
Shared bathrooms	20	0	24	34	0	0
EVS managers	1	3	2	2	1–2	1–2
EVS staff						
Weekdays	3	3	3	3	3	3
Weekends	3	3	3	3	3	3
Daily disinfectant	QA		QA		QA	
CDIFF disinfectant	Bleach		QA[a]		Bleach	
Terminal disinfectant	Bleach	QA	QA		QA	
Adjunctive disinfectant used	UVGI[b]		No		No	
Daily cleaning responsibility[c]	Nurse		EVS		Nurse	
Daily CHG bathing	Yes		Yes		Yes	
Visual monitoring procedure	10% of rooms		10% of rooms		30% of rooms	
Active surveillance[d]	MRSA		MRSA VRE[e]		MRSA	
Surveillance frequency	Admission		Weekly[f]		Admission	







Supplemental Table 3. Secondary analysis including non-randomized baseline period: mixed-effects Poisson regression analysis for combined **MDRO infection or colonization**.

Variable	Bivariable IRR (95% CI)	P-Value	Multivariable IRR (95% CI)	P-Value
UV/F	1.103 (0.955 - 1.274)	0.18		
ATP	0.923 (0.863 -0.988)	0.02	0.887 (0.811 -0.969)	0.008
SICU[b]	1.229 (1.033 -1.463)	0.02	1.228 (1.031 -1.463)	0.02
Time from study start	1.001 (0.989 -1.013)	0.88		
Time from intervention start	0.983 (0.967 -1.000)	0.047	0.979 (0.961 -0.997)	0.03
Contact precautions[c]	0.869 (0.412 -1.830)	0.71		

[a] *Combined intervention periods including ATP and UV/F compared to baseline alone*

IRR, incidence rate ratio

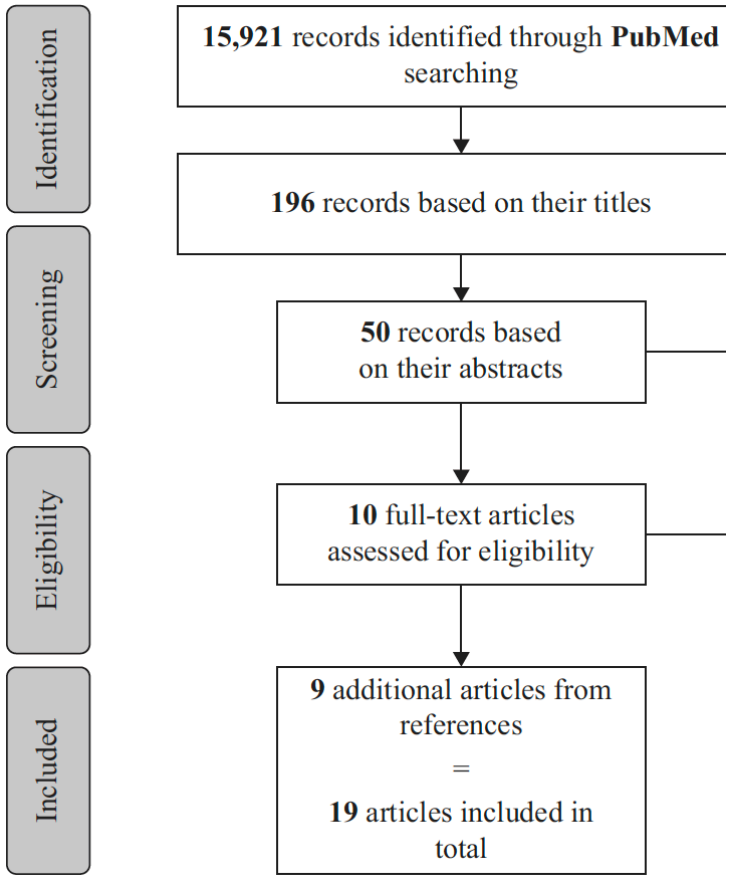
Infection seule : ATP IRR 0,923 (0,854 – 0,998) p=0,04

MDRO infection or colonization per 1000 patient days by study month

Adverse events associated with patient isolation: a systematic literature review and meta-analysis

R. Saliba [a, b, c], D. Karam-Sarkis [c], J-R. Zahar [a, b, *], L.S.A. Glélé [d]

Journal of Hospital Infection 119 (2022) 54–63



Description of papers included in the meta-analysis

Study	Year of publication	Country	Total CPs	Total NCPs	Total AEs related to CPs' clinical care	Total AEs related to NCPs' clinical care	Total AEs related to CPs' experience	Total AEs related to NCPs' experience
Martin *et al.* [34]	2018	Los Angeles, CA, USA	835	765	817	755	816	750
Searcy *et al.* [35]	2017	Florida, USA	114	112	126	88	0	0
Tran *et al.* [37]	2016	Canada	737	737	417	298	8	7
Livorsi *et al.* [36]	2015	Indianapolis, USA	70	139	398	662	0	0
Zahar *et al.* [4]	2013	Paris, France	170	980	481	1750	0	0
Karki *et al.* [38]	2013	Australia	214	186	148	132	280	240
Mehrotra *et al.* [39]	2013	Baltimore, MA, USA	238	290	9	13	151	101

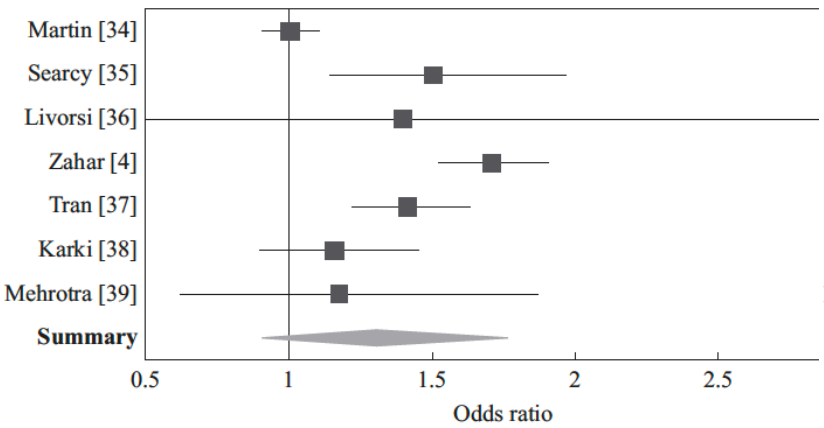


Figure 2. Forest plot for adverse events related to clinical care.

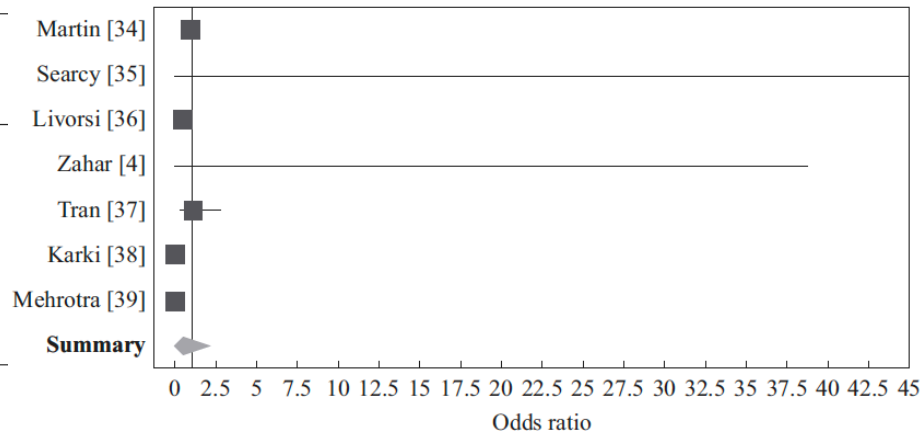
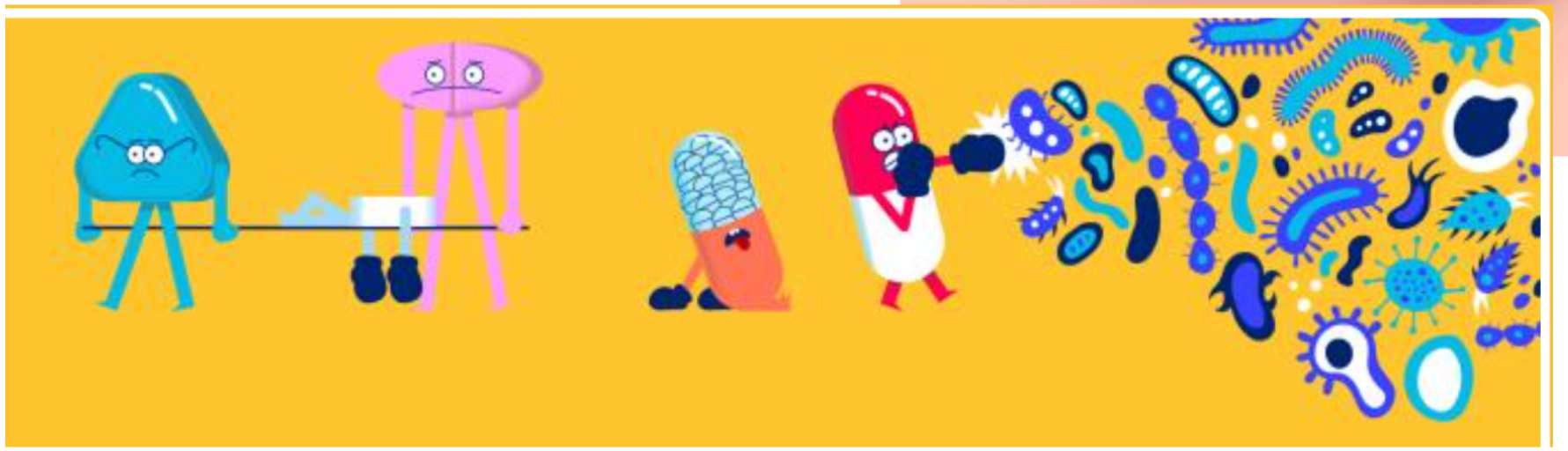


Figure 3. Forest plot for adverse events related to patient's experience.

Focus



nature

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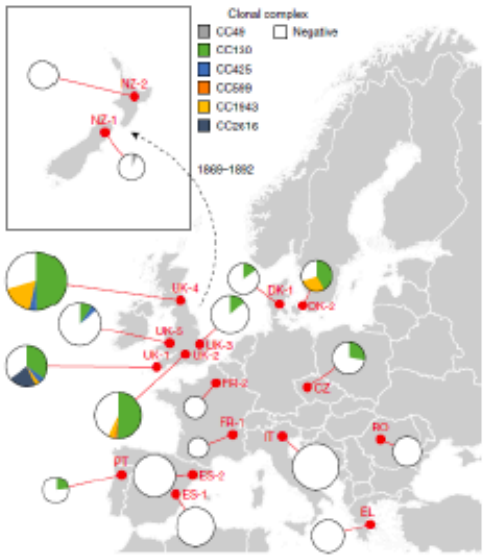
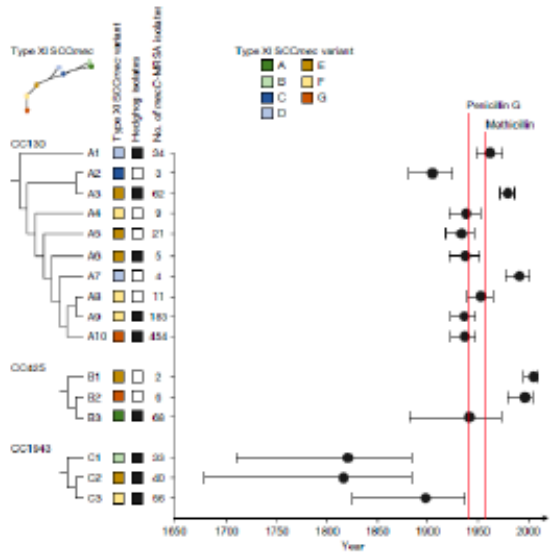
Emergence of methicillin resistance predates the clinical use of antibiotics

- Particular lineages of methicillin-resistant *Staphylococcus aureus* appeared in European hedgehogs in the pre-antibiotic era.
  - These lineages spread within the local hedgehog populations and between hedgehogs and secondary hosts, including livestock and humans
  - hedgehog dermatophyte Trichophyton erinacei produces two β-lactam antibiotics that provide a natural selective environment in which methicillin-resistant S. aureus isolates have an advantage over susceptible isolates

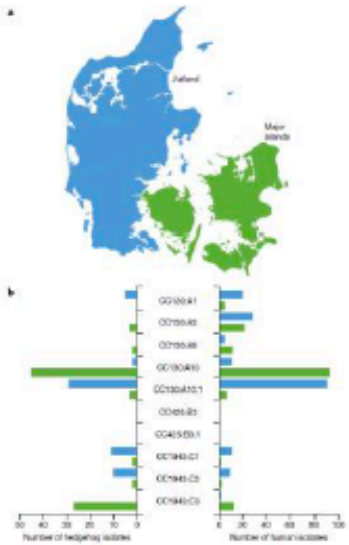
Distribution of *mecC*-MRSA clones in European and New Zealand hedgehog samples



Timeline of *mecC*-MRSA CC130, CC425 and CC1943 evolution in Europe.



Population structures of Danish *mecC*-MRSA isolates from hedgehogs and humans



Methicillin resistance emerged in the pre-antibiotic era as a co-evolutionary adaptation of *S. aureus* to the colonization of dermatophyte-infected hedgehogs

Jesper Larsen Nature
https://doi.org/10.1038/s41586-021-04265-w

Journal of Antimicrobial Chemotherapy

The impact of non-antimicrobial drug agents on the acquisition of ESBL-producing Enterobacterales in non-critical care wards in a German university hospital

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- **Matched case–control** study based on rectal surveillance screening between 2014 and 2016 in eight non-ICU wards.
- 232 Patients with ward-acquired ESBL-E (cases) matched to 232 non-ESBL-E carriers (controls) on ward, number of screening samples, days at risk and Charlson comorbidity index

Drug (ATC code)	Drug name	Number of patients with drug prescription (%)	OR	95% CI	*P* value
Model with drug therapy days (chemical subgroups ATC code 5 digits)					
Model with all drug prescriptions					
H02AB	glucocorticoids	170 (36.6)	1.07	1.001–1.13	0.047
N02AA	opium alkaloids	102 (22)	1.06	1.007–1.12	0.0275
R03AC	selective β-2-adrenoreceptor agonists	29 (6.3)	1.31	1.105–1.55	0.0018
A04AB	antihistamines	38 (8.2)	0.61	0.39–0.97	0.0348
Model with drug prescriptions to $N \geq 50$ patients (sensitivity analysis)					
A02BC	PPIs	361 (77.8)	1.05	1.001–1.100	0.0476

Drugs other than antimicrobials associated with the colonization of ESBL-E in a non-ICU setting. Specifically, opioids, glucocorticoids and b-2-adrenoreceptor agonists, for which prescription rates were low, were risk factors for an ESBL-E acquisition.

Paula Klauke JAC
https://doi.org/10.1093/jac/dkab373

Effectiveness of Infection Control Teams in Reducing Healthcare-Associated Infections: A Systematic Review and Meta-Analysis

Moe Moe Thandar [1], Md. Obaidur Rahman [2,3], Rei Haruyama [1], Sadatoshi Matsuoka [1,*], Sumiyo Okawa [1], Jun Moriyama [1], Yuta Yokobori [1], Chieko Matsubara [1], Mari Nagai [1], Erika Ota [4,5] and Toshiaki Baba [1]

International Journal of *Environmental Research and Public Health*

Essais randomisés ICT +/- ICLN vs pas ou autre intervention, GRADE

11 719 études → 9 études

Tous âges, hospitalisation, ambulatoire, SLD, EHPAD

Objectifs :

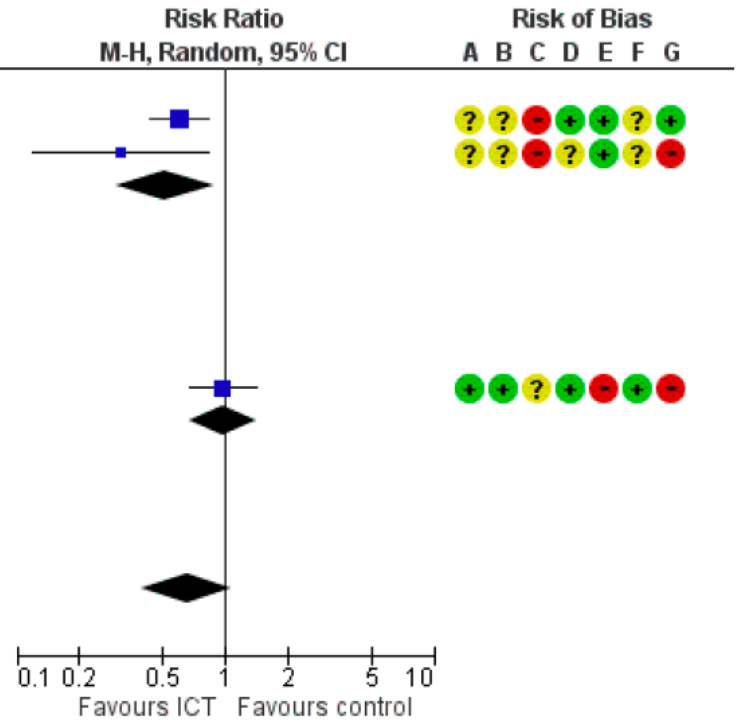
- incidence IAS
- décès associés aux IAS
- durée de séjour
- respect/conformité soignants – recommandations
- coûts des IAS

Characteristics		No	%
Publication year	1990–2000	2	22.22
	2001–2010	3	33.33
	2011–2020	4	44.44
Location	USA	3	33.33
	Europe	3	33.33
	Asia	3	33.33
Setting	Inpatient hospitals	5	55.56
	Outpatient haemodialysis units	1	11.11
	Nursing homes	3	33.33
Type of intervention	ICT	4	44.44
	ICT + ICLN system	5	55.56
Outcome assessed	Patient-based		
	HCAIs	5	55.56
	Deaths	2	22.22
	Length of hospital stay	2	22.22
	Staff-based		
	Compliance	7	77.78
	Cost	1	11.11

Int. J. Environ. Res. Public Health **2022**, *19*, 17075. https://doi.org/10.3390/ijerph192417075

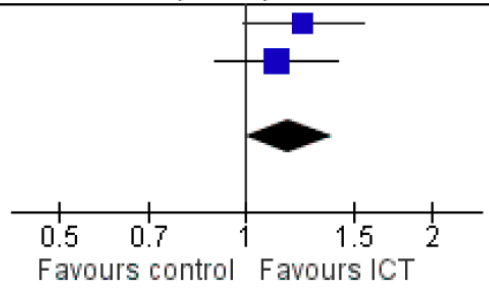
Incidence IAS

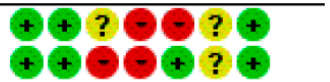
Study or Subgroup	Infection control team Events	Total	Control Events	Total	Weight	Risk Ratio M-H, Random, 95% CI
1.1.1 Surveillance of HCAIs						
Korbkitjaroen 2011	53	954	85	920	42.4%	0.60 [0.43, 0.84]
Mokrzycki 2006	6	108	9	51	17.2%	0.31 [0.12, 0.84]
Subtotal (95% CI)		**1062**		**971**	**59.5%**	**0.52 [0.30, 0.88]**
Total events	59		94			
Heterogeneity: Tau² = 0.07; Chi² = 1.51, df = 1 (P = 0.22); I² = 34%						
Test for overall effect: Z = 2.40 (P = 0.02)						
1.1.2 Education and monitoring of practices						
Baldwin 2010	44	234	47	244	40.5%	0.98 [0.67, 1.41]
Subtotal (95% CI)		**234**		**244**	**40.5%**	**0.98 [0.67, 1.41]**
Total events	44		47			
Heterogeneity: Not applicable						
Test for overall effect: Z = 0.13 (P = 0.90)						
Total (95% CI)		**1296**		**1215**	**100.0%**	**0.65 [0.40, 1.07]**
Total events	103		141			
Heterogeneity: Tau² = 0.12; Chi² = 6.49, df = 2 (P = 0.04); I² = 69%						
Test for overall effect: Z = 1.68 (P = 0.09)						
Test for subgroup differences: Chi² = 3.65, df = 1 (P = 0.06), I² = 72.6%						

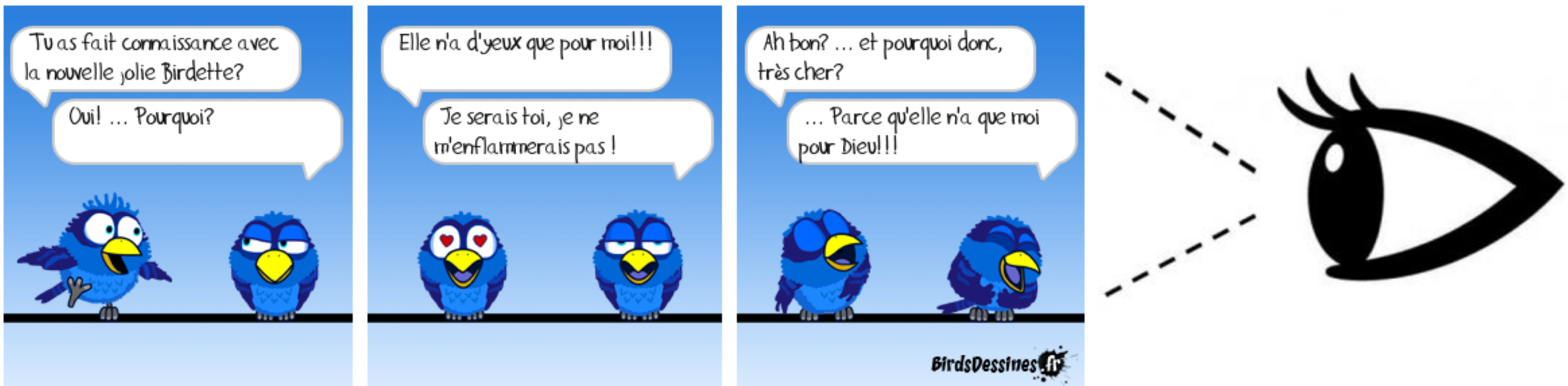


Conformité recommandations *

Study or Subgroup	Infection control team Events	Total	Control Events	Total	Weight	Risk Ratio M-H, Fixed, 95% CI
Ching 1990	248	387	42	81	45.1%	1.24 [0.99, 1.54]
Seto 1991	101	236	80	210	54.9%	1.12 [0.90, 1.41]
Total (95% CI)		**623**		**291**	**100.0%**	**1.17 [1.00, 1.38]**
Total events	349		122			
Heterogeneity: Chi² = 0.35, df = 1 (P = 0.55); I² = 0%						
Test for overall effect: Z = 1.97 (P = 0.05)						






Tu as fait connaissance avec la nouvelle jolie Birdette?
Oui! ... Pourquoi?
Elle n'a d'yeux que pour moi!!!
Je serais toi, je ne m'enflammerais pas !
Ah bon? ... et pourquoi donc, très cher?
... Parce qu'elle n'a que moi pour Dieu!!!
BirdsDessines.fr