Best of en Infectiologie
« Infections associées aux soins - Hygiène »

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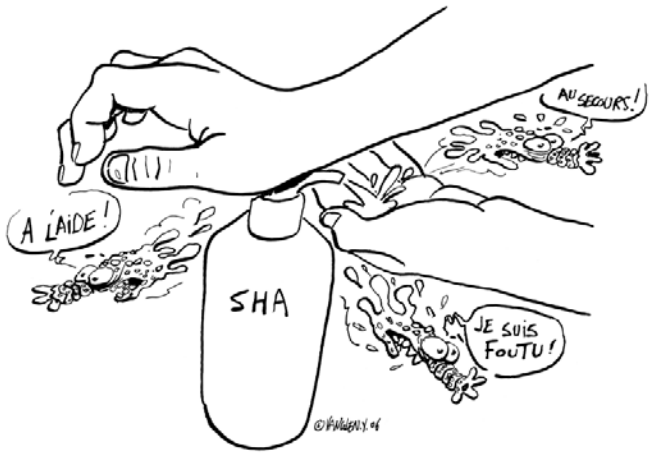

Hygiène des mains

Are we aware how contaminated our mobile phones with nosocomial pathogens?

Fatma Ulger*[1], Saban Esen[2], Ahmet Dilek[1], Keramettin Yanik[3], Murat Gunaydin[3] and Hakan Leblebicioglu[2]

Ann. Clin. Microbiol. Antimicrob. 2009

Rationnel:

- Source de transmission: surfaces contaminées
- Téléphones largement utilisés
- Pas de protocole de nettoyage

- ✓ Services: bloc opératoire (14 blocs) et réanimation (8 lits)
- ✓ 200 personnels et 200 téléphones
- ✓ Ecouvillonnage téléphone (2 faces) et face palmaire de la main dominante

Résultats

Contamination des téléphones: 94,7%

Table 1: The types of bacteria isolated from phones and hands of HCW.

Bacteria		Mobile phones (n = 200)	Hands of HCWs (n = 200)
Gram +	Staphylococcus aureus	50	53
	Streptococcus spp.	12	18
	CoNS	181	193
	Enterococcus spp.	7	9
Gram -	Non-fermentative gram negatives	19	26
	Coliforms	15	12
Other	Moulds	20	19
	Yeasts	3	3
	Total	307	333

Résultats

Microbiologie des téléphones:

1 espèce: 49%
2 espèces: 34%
3 ou + espèces: 11,5%
Cultures négatives: 5,5%

S. aureus: 50% SARM
BGN: > 30% ceftazidime résistants

Entretien des téléphones:

Nettoyage régulier: 10,5%
Aucun nettoyage: 89,5%

Bagues:

25,5% des personnels ont 1 ou + bagues
Nombre de colonies > personnels avec bague (non significatif)

Curbing Methicillin-Resistant *Staphylococcus aureus* in 38 French Hospitals Through a 15-Year Institutional Control Program

Jarlier V et coll. Arch Intern Med 2010

Rationnel:

- Nécessité d'un contrôle de la transmission de SARM dans les établissements de soins
- Proportion de SARM (au sein des S. aureus) 35% dans les années 80

- ✓ Etude observationnelle
- ✓ Objectif: impact d'une politique de contrôle du SARM sur 15 ans (93-07)
- ✓ Hôpitaux AP-HP
- ✓ Programme SARM: Précautions particulières (stéthoscope), promotion des SHA dans l'hygiène des mains (2001), identification des patients SARM, feedback de la surveillance
- ✓ Enquête de prévalence annuelle (sur 4 à 12 semaines)
- ✓ Consommation SHA (via la pharmacie) en l/1000 j d'hospitalisation

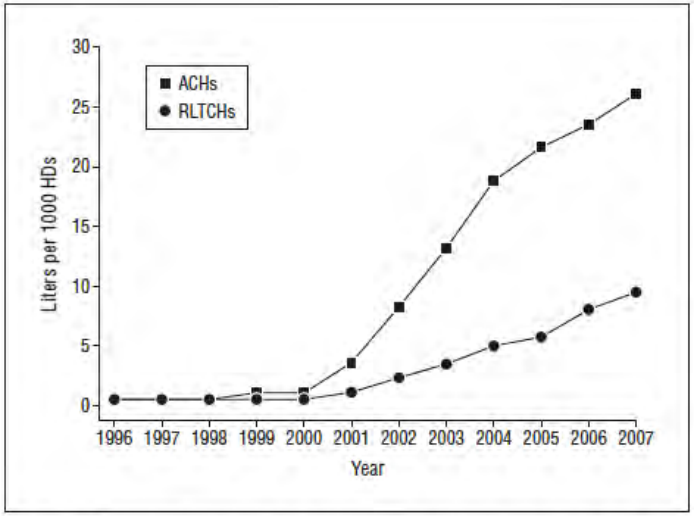

Figure 1. Changes in the use of alcohol-based hand-rub solutions (in liters per 1000 HDs) from 1993 to 2007. ACHs indicates acute care hospitals; RLTCHs, rehabilitation and long-term care hospitals; and HDs, hospital days.

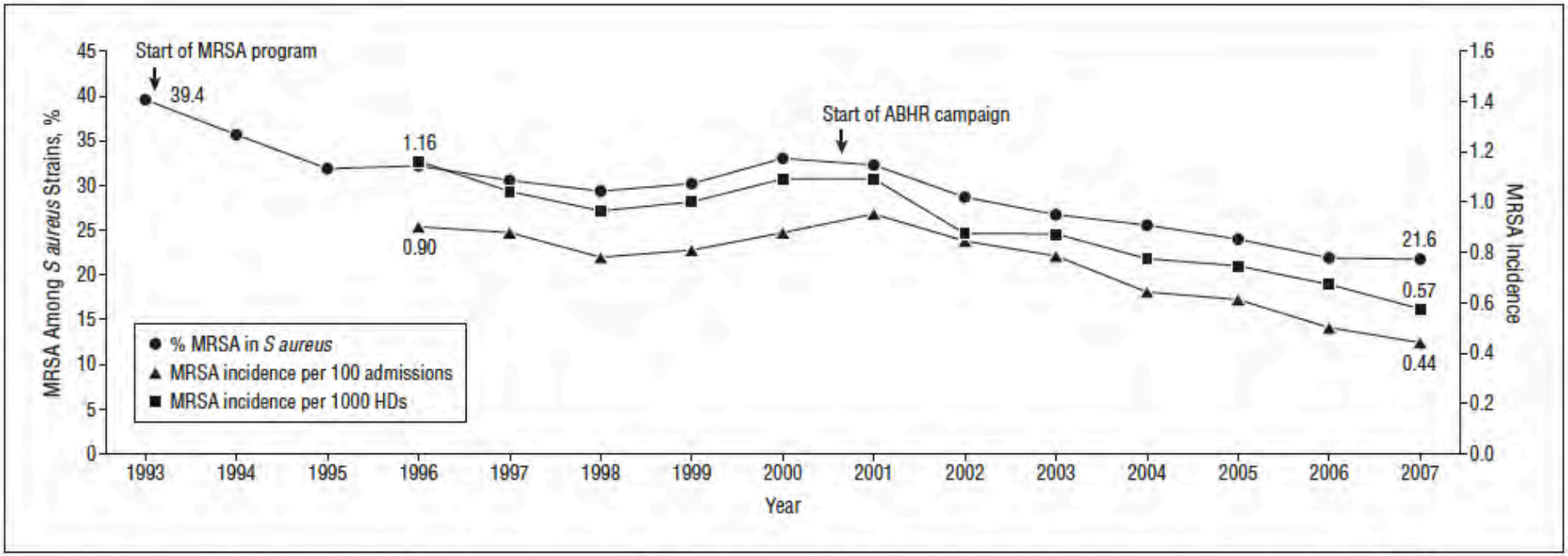

Figure 2. Change in methicillin-resistant *Staphylococcus aureus* (MRSA) rates from 1993 to 2007. Data are given as proportion (percentage) of MRSA in *S aureus*, MRSA incidence per 1000 hospital days, and MRSA rate per 100 admissions.

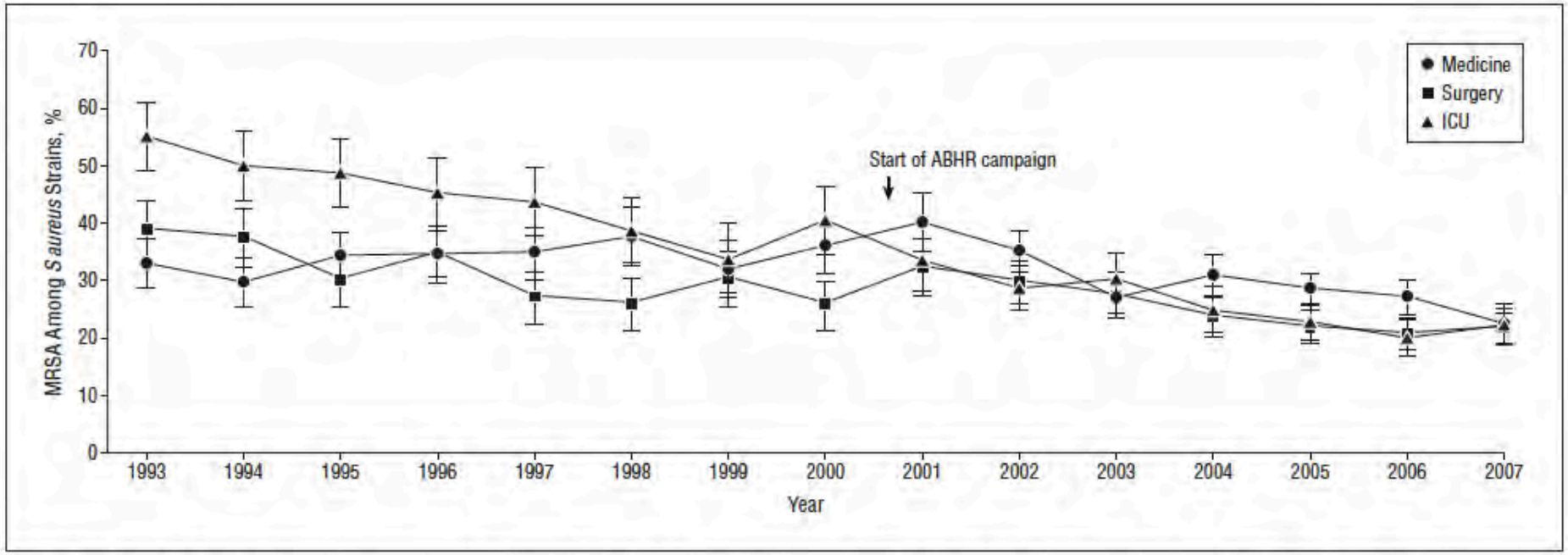

Figure 3. Change in the proportion (percentage) of MRSA strains in ICUs, surgery units, and medicine units from 1993 to 2007. ABHR indicates alcohol-based hand rub; ICUs intensive care units; and MRSA, methicillin-resistant *Staphylococcus aureus*. Error bars represent 95% confidence intervals.

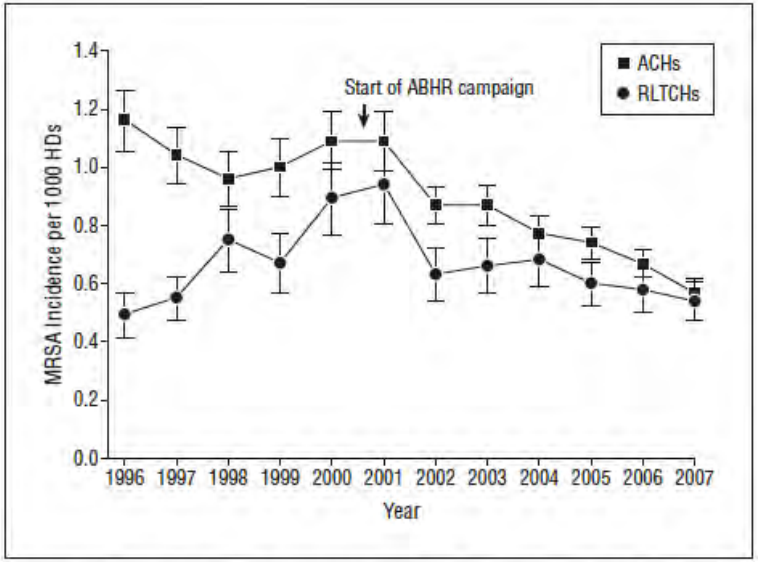

Figure 4. Change in MRSA incidence per 1000 HDs in ACHs and RLTCHs from 1996 to 2006

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SOUNDING BOARD

Balancing "No Blame" with Accountability in Patient Safety

Robert M. Wachter, M.D., and Peter J. Pronovost, M.D., Ph.D.

2009

Préambule:

Les erreurs sont commises par des personnes sérieuses et appliquées

Ne plus chercher « qui » mais « quand »

Actions:

Mettre en place des dispositifs de prévention

Politique du « no blame » (ex: programmes qui traquent les erreurs de prescription)

Place pour une autre politique (« just culture »)

Applications: hygiène des mains

- Il y a plus de 10 ans: 20%
- Introduction des SHA, campagnes de promotion et de formation: 30 à 70%
- Problème institutionnel, ignorance? Plus d'actualité
- Problème de responsabilité, de conviction!
- Conséquence d'une transgression à une mesure administrative (financière): sanction, pénalités
- Conséquence d'une transgression à une « mesure clinique »? Pour les IAS, décès
- Exemples dans d'autres entreprises

Table 1. Prerequisites for Making the Choice to Punish Providers for Not Adhering to a Patient-Safety Practice, Using the Example of Hand Hygiene.

Prerequisite	Example of Hand Hygiene
The patient-safety problem that is being addressed is important.	Rates of health care–associated infections are unacceptably high, resulting in serious morbidity and mortality.[19]
The penalties for infractions are understood and applied fairly.	Chronic failure to clean hands will result in a 1-wk suspension from clinical practice, accompanied by completion of a 2-hr online educational module on infection prevention.

Antiseptiques

Chlorhexidine maternal-vaginal and neonate body wipes in sepsis and vertical transmission of pathogenic bacteria in South Africa: a randomised, controlled trial

*Clare L Cutland, Shabir A Madhi, Elizabeth R Zell, Locadiah Kuwanda, Martin Laque, Michelle Groome, Rachel Gorwitz, Michael C Thigpen, Roopal Patel, Sithembiso C Velaphi, Peter Adrian, Keith Klugman, Anne Schuchat, Stephanie J Schrag, and the PoPS Trial Team**

Lancet 2009; 374: 1909–16

Rationnel:

- 2 études non randomisées: morbi-mortalité néonatale et maternelle ↘
- Métaanalyse Cochrane: ↘ de la transmission mais pas des infections

✓ Etude randomisée (pas d'aveugle pour les sages-femmes)

✓ Lingettes imbibées de chlorhexidine 0,5% en application vaginale et vulvaire versus lingettes imbibées d'eau stérile en application vulvaire

✓ Ecouvillons vaginal maternel et ombilic – narines – oreilles bébé

- Transmission verticale si même bactérie retrouvée
- Sepsis néonatal précoce: J0-J3
- Sepsis néonatal tardif: J3-J28
- Endométrite: J0-J14

	Overall		Maternal HIV-negative status		Maternal HIV-positive status	
	Chlorhexidine	Control	Chlorhexidine	Control	Chlorhexidine	Control
Neonates						
n	4072	4057	2939	2947	1072	1058
Bacteria cultured						
Group B streptococcus	10	6	..	..	..	..
Escherichia coli	0	1	..	..	..	..
Klebsiella pneumoniae	1	0	..	..	..	..
Staphylococcus aureus	0	1	..	..	..	..
Streptococcus viridans	1	1	..	..	..	..
Acinetobacter baumannii and *lwoffii*	1	2	..	..	..	..
Enterococcus faecalis and *faecium*	1	2	..	..	..	..
Enterobacter	0	1	..	..	..	..
Early-onset sepsis						
Culture-confirmed cases* meeting definition for clinical sepsis	11	7	6†	5	4†	2
Culture-confirmed cases not meeting definition for clinical sepsis definition‡	3	7	2	4	1	3
Cases with clinical sepsis only	126	132	98	105	28	27
Early deaths (<3 days) not meeting culture-confirmed* or clinical definitions, but included as early-onset sepsis after panel review	1	2	1	2	0	0
Total	141 (3%)	148 (4%)	107 (4%)	116 (4%)	33 (3%)	32 (3%)
Overall efficacy (95% CI)	5% (–19 to 24); p=0·6518	..	8% (–20 to 29); p=0·5527	..	–2% (–64 to 37); p=0·9425	..

	Overall		Maternal HIV-negative status		Maternal HIV-positive status	
	Chlorhexidine	Control	Chlorhexidine	Control	Chlorhexidine	Control
Neonates						
Late-onset sepsis						
Culture-confirmed sepsis meeting criteria for clinical sepsis	4	8	1	3	3	4
Culture-confirmed cases not meeting definition for clinical sepsis	9	3	6	2	3	1
Cases with clinical sepsis only	9	6	7	1	2	5
Total	22 (<1%)	17 (<1%)	14 (<1%)	6 (<1%)	8 (<1%)	10(<1%)
Overall efficacy (95% CI)	−29% (−142 to 31); p=0·4289	..	−134% (−508 to 10); p=0·0722	..	21% (−99 to 69); p=0·6161	..
Mothers with post-partum sepsis						
n	4005	4006	2896	2916	1050	1040
Bacteria cultured						
Citrobacter freundii	0	1	..	..	..	..
Escherichia coli	1	0	..	..	..	..
Culture-confirmed cases meeting clinical criteria	0	0	0	0	0	0
Culture-confirmed only	1	1	1	1	0	0
Endometritis only	14	11	8†	6	5	5
Total	15 (<1%)	12 (<1%)	9 (<1%)	7 (<1%)	5 (<1%)	5(<1%)
Overall efficacy (95% CI)	−25% (−167 to 41); p=0·5626	..	−29% (−247 to 52); p=0·6069	..	1% (−240 to 71); p=0·9879	

Colonisation

5146 parturientes
3964 accouchement par voie basse

↓

825 (21%) parturientes colonisées à Streptocoque B

↓

830 nouveau-nés → 450 (54%) culture + Streptocoque B
Pas de différence entre les 2 bras

Limites de l'étude

10% de rupture des membranes de plus de 18h
15% de liquide méconial (antibiothérapie)
1 seule application de lingettes en moyenne (mais délai application – accouchement < 6h

Chlorhexidine-Impregnated Sponges and Less Frequent Dressing Changes for Prevention of Catheter-Related Infections in Critically Ill Adults

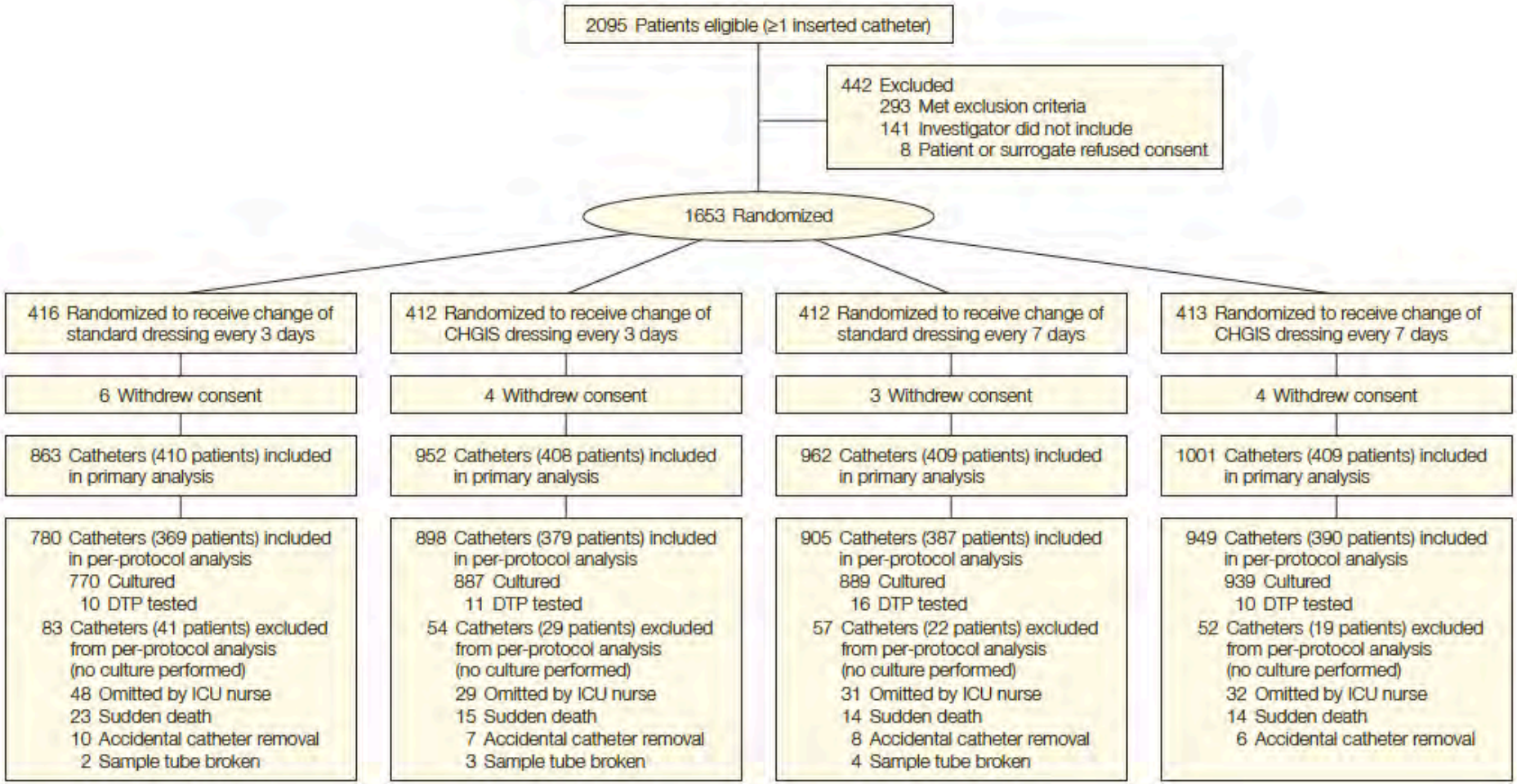
A Randomized Controlled Trial

Timsit et coll., JAMA 2009

Rationnel:

- Si on applique toutes les mesures: CVC related bloodstream infection < 2/1000 CVC-jour
- Place pour de nouvelles mesures?
- Fréquence de changement du pansement?

- ✓ Etude randomisée, 20/12/06 – 20/05/08
- ✓ 7 services de réanimation (70% patients de réa med)
- ✓ KT artériel ou veineux central (sauf artère pulm, dialyse), durée > 48h
- ✓ Insertion: protocole povidone aqueuse puis alcoolique, pansement transparent
- ✓ NB: colonisation: application d'une gélose sur la zone d'insertion du KT



CHGIS indicates chlorhexidine gluconate–impregnated sponge; DTP, differential time to positivity; ICU, intensive care unit.

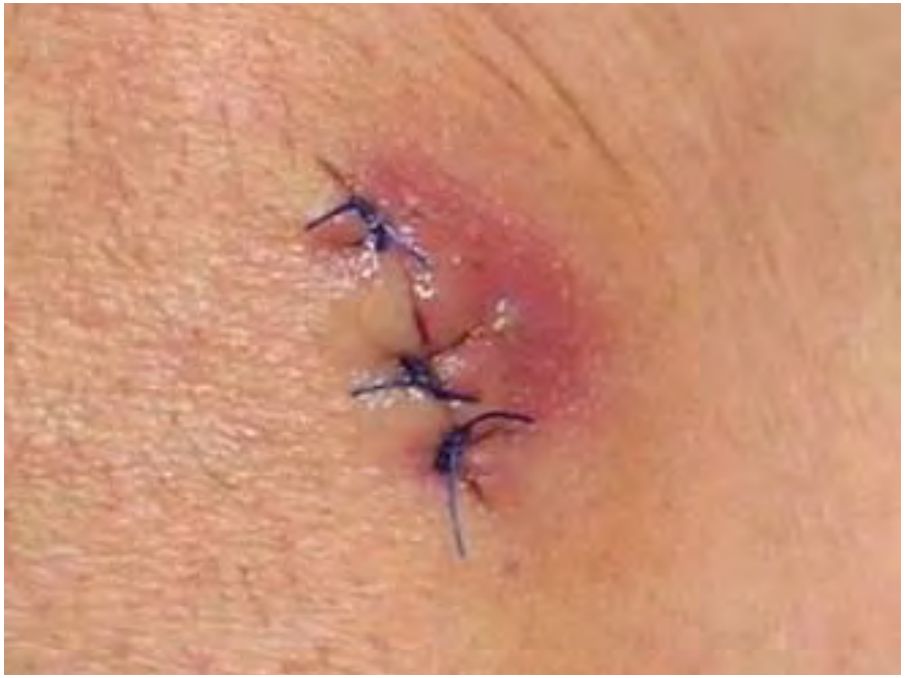
Variable	No. (%)				
	All Catheters, ITT Analysis (N = 3778)	Dressing		Dressing Change Interval	
		Control (n = 1825)	CHGIS (n = 1953)	3 d (n = 1815)	7 d (n = 1963)
Time in place, median (IQR), d	6 (4-10)	6 (4-10)	6 (4-10)	6 (4-10)	6 (4-10)
Experience of the operator					
<50 procedures	2586 (68.4)	1221 (66.9)	1365 (69.9)	1248 (68.7)	1338 (68.2)
≥50 procedures	1135 (30.1)	578 (31.7)	557 (28.5)	544 (30)	591 (30.1)
Junior operator with help from a senior	57 (1.5)	26 (1.4)	31 (1.6)	23 (1.3)	34 (1.7)
Arterial catheter	1727 (45.7)	830 (45.5)	897 (45.9)	821 (45.2)	906 (46.2)
Femoral	708 (41)	355 (42.8)	353 (39.4)	345 (42)	363 (40)
Radial	1019 (59)	475 (57.2)	544 (60.6)	476 (58)	543 (60)
Venous Catheters Only					
Venous catheter	2051 (54.3)	995 (54.5)	1056 (54.1)	994 (54.8)	1057 (53.8)
Jugular	560 (27.3)	248 (24.9)	312 (29.6)	272 (27.4)	288 (27.3)
Subclavian	819 (39.9)	407 (40.9)	412 (39.0)	390 (39.2)	429 (40.6)
Femoral	672 (32.8)	340 (34.2)	332 (31.4)	332 (33.4)	340 (32.2)
Guidewire exchange	85 (4.1)	28 (2.8)	57 (5.4)	47 (4.7)	38 (3.6)
No. of lumens in venous catheters					
0	37 (1.8)	21 (2.1)	16 (1.5)	17 (1.7)	20 (1.9)
2	209 (10.2)	110 (11.1)	99 (9.4)	109 (11)	100 (9.5)
3	1805 (88)	864 (86.8)	941 (89.1)	868 (87.3)	937 (88.6)
Use of lipids	777 (37.9)	379 (38.1)	398 (37.7)	389 (39.2)	388 (36.7)
Use of heparin	708 (34.5)	336 (33.8)	372 (35.3)	341 (34.3)	367 (34.7)
Packed red blood cells transfused	602 (29.4)	266 (26.7)	336 (31.8)	283 (28.5)	319 (30.2)
Tunneled catheters	6 (0.3)	5 (0.5)	1 (0.1)	2 (0.2)	4 (0.4)

Table 3. Hazard Ratios in the Intention-To-Treat and Per-Protocol Analyses

Variable	Dressing: Incidence, No./1000 Catheter-Days		Dressing: ITT Analysis		Dressing: Per-Protocol Analysis[a]		Dressing Change Interval: Incidence, No./1000 Catheter-Days		Dressing Change Interval: ITT Analysis		Dressing Change Interval: Per-Protocol Analysis[a]	
	Control (n = 1825)	CHGIS (n = 1953)	HR (95% CI)	*P* Value	HR (95% CI)	*P* Value	3 d (n = 1815)	7 d (n = 1963)	HR (95% CI)	*P* Value	HR (95% CI)	*P* Value
Catheter colonization >10 CFUs/plate	15.8	6.3	0.36 (0.28-0.46)	<.001	0.35 (0.27-0.45)	<.001	10.4	11.0	0.99 (0.77-1.28)	.95	0.99 (0.77-1.28)	.95
Catheter-related bloodstream infection	1.3	0.4	0.24 (0.09-0.65)	.005	0.24 (0.09-0.63)	.004	0.7	0.9	1.26 (0.47-3.34)	.65	1.28 (0.48-3.40)	.62
Major catheter-related infection	1.4	0.6	0.39 (0.16-0.93)	.03	0.38 (0.16-0.92)	.03	0.9	1.1	1.16 (0.50-2.69)	.74	1.18 (0.51-2.73)	.70

Table 5. Relationship Between Semiquantitative Skin Culture and Study Groups[a]

Culture	All Catheters (n = 2903)	Dressing: Control (n = 1358)	Dressing: CHGIS (n = 1545)	Dressing Change Interval: 3 d (n = 1386)	Dressing Change Interval: 7 d (n = 1517)
Sterile	1887 (65.0)	786 (57.8)	1101 (71.3)	935 (67.5)	952 (62.7)
1-9 CFUs/plate	326 (11.2)	148 (10.9)	178 (11.5)	168 (12.1)	158 (10.4)
10-99 CFUs/plate	462 (15.9)	261 (19.2)	201 (13)	183 (13.2)	279 (18.4)
≥100 CFUs/plate	228 (7.90)	163 (12)	65 (4.2)	100 (7.2)	128 (8.4)



Infection de Site Opératoire

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Chlorhexidine–Alcohol versus Povidone–Iodine for Surgical-Site Antisepsis

Darouiche RO et coll., 2010

Rationnel: Recommandations du CDC pour CVC: chlorhexidine 2%

- Randomisée, USA, 6 hôpitaux, avr. 04 – mai 08
- Adultes, chirurgie propre contaminée
- Objectif principal: ISO dans les 30j postop.
- Objectif secondaire: type d'ISO

897 patients randomisés → 849 patients → 409 patients: groupe Chlorhex

849 patients → 440 patients: groupe Povidone

✓ Chlorhexidine gluconate 2% + isopropyl alcohol 70%
✓ Povidone-iodine 10% aqueuse

Table 1. Baseline Characteristics of the Patients (Intention-to-Treat Population).*

Characteristic	Chlorhexidine–Alcohol (N=409)	Povidone–Iodine (N=440)	P Value
Male sex (%)	58.9	55.9	0.40
Age (yr)	53.3±14.6	52.9±14.2	0.87
Systemic antibiotics			
Initiated preoperatively (%)	100	100	>0.99
Duration of preoperative administration (days)			
Mean	1.1±1.2	1.1±0.8	>0.99
Range	1–20	1–11	
Received postoperatively (%)	51.7	48.9	0.41
Duration of surgery (hr)	3.0±1.5	3.0±1.5	>0.99
Abdominal surgery (%)	72.6	70.0	0.41
Colorectal	45.5	43.4	0.58
Biliary	10.8	12.3	0.52
Small intestinal	10.0	7.7	0.28
Gastroesophageal	6.4	6.6	0.89
Nonabdominal surgery (%)	27.4	30.0	0.41
Thoracic	10.8	13.0	0.34
Gynecologic	10.3	9.1	0.56
Urologic	6.4	8.0	0.42
Preoperative shower (%)	26.7	27.0	0.94
With 4% chlorhexidine gluconate (%)	16.1	18.9	0.32
With 10% povidone–iodine (%)	7.3	5.2	0.26
With 0.6% triclocarban soap bar (%)	3.2	3.0	>0.99

ATBP

Chirurgie

Table 2. Proportion of Patients with Surgical-Site Infection, According to Type of Infection (Intention-to-Treat Population).

Type of Infection	Chlorhexidine–Alcohol (N=409)	Povidone–Iodine (N=440)	Relative Risk (95% CI)*	P Value†
	no. (%)			
Any surgical-site infection	39 (9.5)	71 (16.1)	0.59 (0.41–0.85)	0.004
Superficial incisional infection	17 (4.2)	38 (8.6)	0.48 (0.28–0.84)	0.008
Deep incisional infection	4 (1.0)	13 (3.0)	0.33 (0.11–1.01)	0.05
Organ-space infection	18 (4.4)	20 (4.5)	0.97 (0.52–1.80)	>0.99
Sepsis from surgical-site infection	11 (2.7)	19 (4.3)	0.62 (0.30–1.29)	0.26

Critères diagnostiques ISO: CDC
Aveugle pour le médecin qui pose le diagnostic

Effets secondaires: idem

Facteurs de risque d'ISO: analyse multivariée

Chir abdo	Cancer	Malnutrition
Alcoolisme	Diabète	Maladie gastro-intestinale
Cirrhose	Chirurgie longue	Povidone-iodine

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Preventing Surgical-Site Infections in Nasal Carriers of *Staphylococcus aureus*

Bode et coll., 2010

Rationnel: 80% des IAS à *S. aureus* sont d'origine endogène
Décolonisation efficace pour les patients en dialyse
Décolonisation inefficace pour les patients de médecine
Manque de données « fiables » en chirurgie

- Randomisée, double aveugle, contre placebo, multicentrique, oct 05 – juin 07
- Dépistage *S. aureus* par PCR à l'admission ou dans les 7 j précédents
- Traitement: mupirocine (2x/j) + chlorhexidine savon (1x/j) pendant 5j (puis toutes les 3 sem)

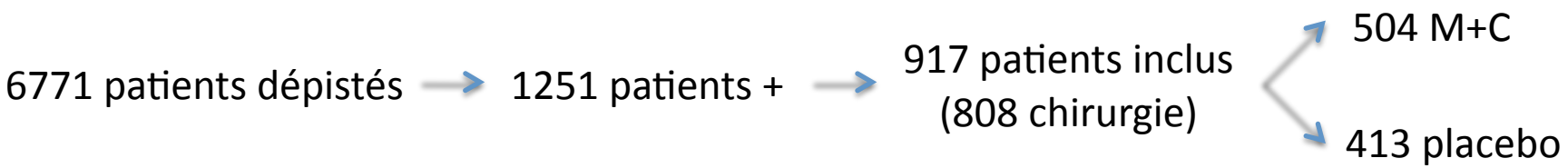


Table 1. Baseline Characteristics of the 917 Study Patients.

Characteristic	Mupirocin–Chlorhexidine (N=504)	Placebo (N=413)	P Value
Mean (±SD) age — yr	61.8±13.9	62.8±13.3	0.25
Male sex — no. (%)	331 (65.7)	251 (60.8)	0.13
Hospital service — no. (%)			
Surgery	441 (87.5)	367 (88.9)	0.53
Internal medicine	63 (12.5)	46 (11.1)	0.53
Admission during month before current admission — no./total no. (%)	86/503 (17.1)	67/411 (16.3)	0.76
McCabe score at admission*			
Median	1	1	
Interquartile range	1–2	1–2	
Underlying disorder — no./total no. (%)			
Diabetes mellitus type 1 or 2	112/503 (22.3)	71/412 (17.2)	0.06
Disorder requiring continuous ambulatory peritoneal dialysis	7/504 (1.4)	4/413 (1.0)	0.57
Renal insufficiency	24/504 (4.8)	23/413 (5.6)	0.57
Immunodeficiency†	19/504 (3.8)	31/413 (7.5)	0.01
Liver-function disorder	25/504 (5.0)	22/413 (5.3)	0.80
Malignant condition	63/504 (12.5)	46/413 (11.2)	0.54
Skin disease	52/501 (10.4)	58/408 (14.2)	0.08
Antibiotic therapy — no./total no. (%)			
At time of admission	17/504 (3.4)	16/413 (3.9)	0.69
During month before admission	41/500 (8.2)	28/408 (6.9)	0.46

Table 2. Relative Risk of Hospital-Acquired *Staphylococcus aureus* Infection and Characteristics of Infections (Intention-to-Treat Analysis).

Variable	Mupirocin–Chlorhexidine (N=504)	Placebo (N=413)	Relative Risk (95% CI)*
	no. (%)		
S. aureus infection	17 (3.4)	32 (7.7)	0.42 (0.23–0.75)
Source of infection†			
Endogenous	12 (2.4)	25 (6.1)	0.39 (0.20–0.77)
Exogenous	4 (0.8)	6 (1.5)	0.55 (0.16–1.92)
Unknown	1 (0.2)	1 (0.2)	
Localization of infection			
Deep surgical site‡	4 (0.9)	16 (4.4)	0.21 (0.07–0.62)
Superficial surgical site‡	7 (1.6)	13 (3.5)	0.45 (0.18–1.11)
Lower respiratory tract	2 (0.4)	2 (0.5)	0.82 (0.12–5.78)
Urinary tract	1 (0.2)	0	
Bacteremia	1 (0.2)	1 (0.2)	
Soft tissue	2 (0.4)	0	

✓ Délai de survenu + court dans le bras placebo
✓ Pas de différence quantitative ni qualitative sur les autres microorganismes
✓ Pas de différence en mortalité

Timing of Antimicrobial Prophylaxis and the Risk of Surgical Site Infections

Steinberg JP et coll., Ann Surg 2009

Objectif
Déterminer le moment optimal pour administrer l'antibioprophylaxie

- 29 hôpitaux du programme TRAPE
- 100 interventions sélectionnées au hasard sur 2 périodes
- Surveillance ISO: critères NNIS
- Adéquation des molécules (SCIP): 90%
- 113 ISO

TABLE 1. Characteristics of Hospitals and Surgical Cases in the TRAPE Surgical Site Infection Study

Characteristics	Percentage of Hospitals (N)	Percentage of Surgical Cases (N)
Teaching hospital		
No	20.7 (6)	23.0 (1029)
Yes	79.3 (23)	77.0 (3443)
Hospital bed size		
<250	55.2 (16)	52.6 (2351)
>250	44.8. (13)	47.4 (2121)
Treatment group		
Feedback only	48.3 (14)	52.7 (2355)
Intervention group	51.7 (15)	47.3 (2117)
Collection period		
Baseline	89.6 (26)	47.4 (2121)
Follow-up	96.6 (28)	52.6 (2351)
Procedures selected for surveillance		
Cardiac	82.7 (24)	43.6 (1949)
Hip/knee arthroplasty	72.4 (21)	38.8 (1735)
Hysterectomy	44.8. (13)	17.6 (788)

TABLE 3. Association Between Timing of Prophylaxis and Infection Risk

Timing Interval Relative to Incision	Infection/N-at-Risk	Infection Risk*	Unadjusted Relative Risk of Infection (95% CI)	Adjusted Risk Odds Ratio for Infection From Conditional Logistic Regression (95% CI)†
Group 1: Vancomycin/fluoroquinolones within 60 min or cephalosporins‡ within 30 min before incision	38/1844	2.1%	Referent Group	Referent Group
Group 2: Vancomycin/fluoroquinolones 61–120 min or cephalosporins‡ 31–60 min before incision	43/1796	2.4%	1.16 (0.75, 1.79), $P = 0.50$	1.48 (0.92, 2.38), $P = 0.06$
Group 3: Any other preincision administration regimen	18/644	2.8%	1.36 (0.78, 2.36), $P = 0.28$	1.30 (0.70, 2.41), $P = 0.39$
Group 4: Post-incision	10/188	5.3%	2.58 (1.31, 5.10), $P = 0.005$	2.20 (1.03, 4.66), $P = 0.02$

TABLE 4. The Association Between Timing Interval and Infection for Antimicrobial Prophylaxis, Using Cephalosporins or Other Antibiotics Designated to be Given Within 60 Minutes of Incision*

Timing Interval Relative to Incision	Infection/ N-at-Risk	Infection Risk	Unadjusted Relative Risk of Infection (95% CI)	Adjusted Risk Odds Ratio for Infection From Conditional Logistic Regression (95% CI)†
>120 min before incision or prophylaxis not given	4/96	4.7%	2.54 (0.89, 7.21), $P = 0.07$	2.11 (0.68, 6.59)
61–120 min before incision	12/489	2.4%	1.49 (0.74, 3.00), $P = 0.26$	1.25 (0.57, 2.76)
31–60 min before incision	38/1558	2.4%	1.48 (0.88, 2.50), $P = 0.13$	1.74 (0.98, 3.08)
0–30 min before incision	22/1339	1.6%	Reference group	Reference group
1–30 min after incision	4/100	4.0%	2.44 (0.86, 6.93), $P = 0.09$	1.96 (0.65, 5.95)
>31 min after incision	5/74	6.8%	4.12 (1.60, 10.53), $P = 0.002$	4.18 (1.37, 12.75)

Réinjection

TABLE 5. Infection Risk and Intraoperative Dosing in Surgeries Lasting at Least 4 Hours*

Intraoperative Redosing in Surgeries Lasting >4 h	Infection/N-at-Risk	Infection Risk	Risk Odds Ratio for Infection From Conditional Logistic Regression (95% CI)
Recommended preoperative timing†			
Redosing	2/112	1.8%	Referent Group
No redosing	22/400	5.5%	3.08 (0.74, 12.90), $P = 0.06$
Suboptimal preoperative timing			
Redosing	2/35	5.6%	Referent Group
No redosing	8/143	5.7%	0.98 (0.22, 4.41), $P = 0.98$

n= 690; 2ème dose dans 21% des cas
NB: Nombre des cas faible

Durée de l'ATBP

- Arrêt fin de chirurgie: 12,7%
- Durée de 24h post-chir: 47,6%
- Durée de 48h post-chir: 25,6%

Pas de différence sur le risque d'infection après ajustement (hôpital, type d'intervention)

Perioperative Supplemental Oxygen Therapy and Surgical Site Infection

A Meta-analysis of Randomized Controlled Trials

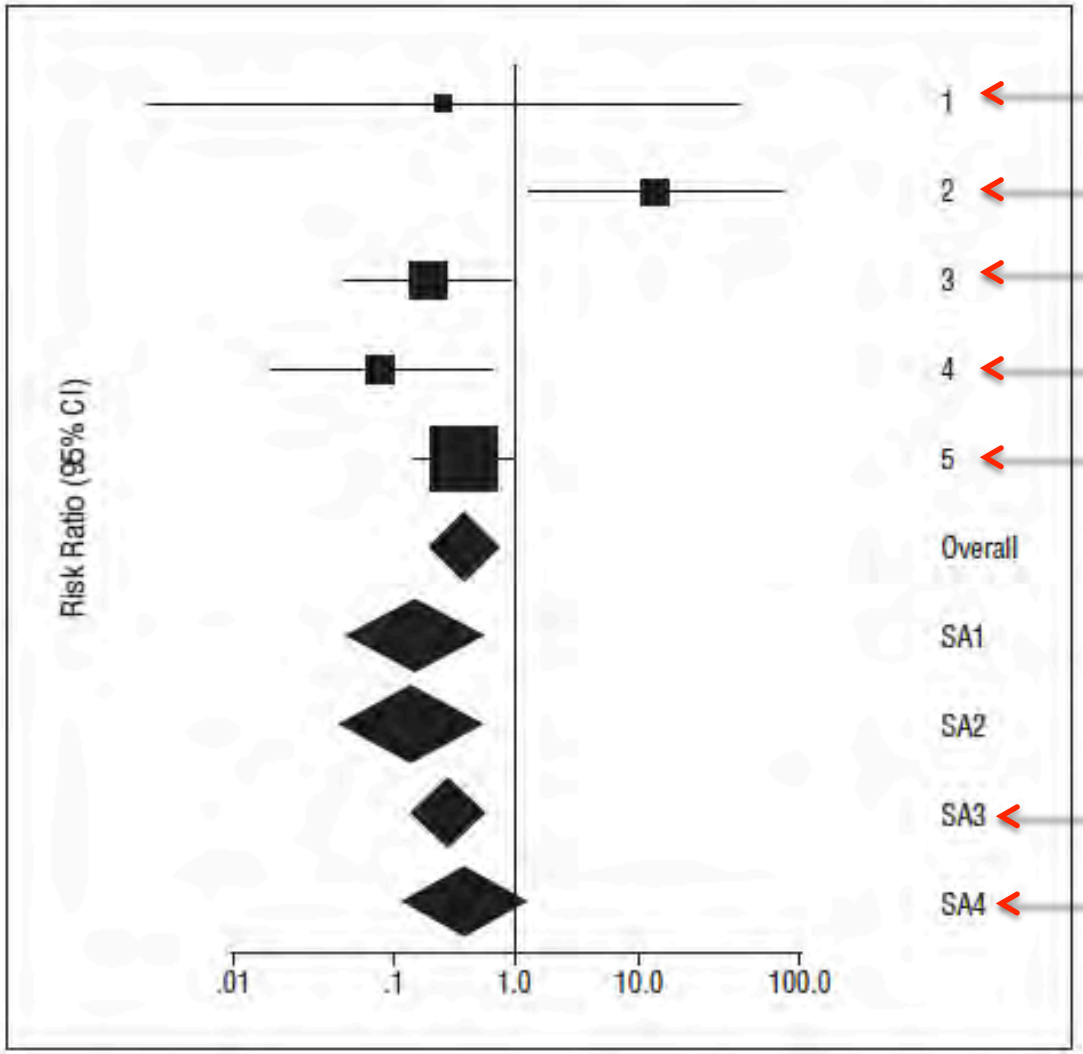
Qadan et coll.; Arch Surg 2009

5 essais randomisés, double-aveugle

		n	ISO	Chir
Mayzler	Co	19	3	Cancéro colorectal
	TrT	19	2	
Pryor	Co	80	9	Abdo
	TrT	80	20	
Belder	Co	143	35	Colorectal Amput. abdopelv
	TrT	148	22	
Greif	Co	250	28	Colorectal Amput. abdopelv
	TrT	250	13	
Myles	Co	1015	106	Toute chir sauf cardiothorax
	TrT	997	77	

<u>Durée chir:</u>
2h-4h

<u>T°C la + basse:</u>
35,5°C


Risk Ratio (95% CI)
1
2
3
4
5
Overall
SA1
SA2
SA3
SA4
.01
.1
1.0
10.0
100.0
Mayzler
PryOr
Belder
Greif
Myles
Pryor exclu
Myles exclu