

Stratégies de prévention des infections nosocomiales en réanimation

Mesures générales

Surveillance

Précautions standards

Contrôle des antibiotiques

Recommandations, règles,...

Décontamination digestive sélective

Mesures spécifiques

Contre les pneumonies

Contre les sepsis

Contre



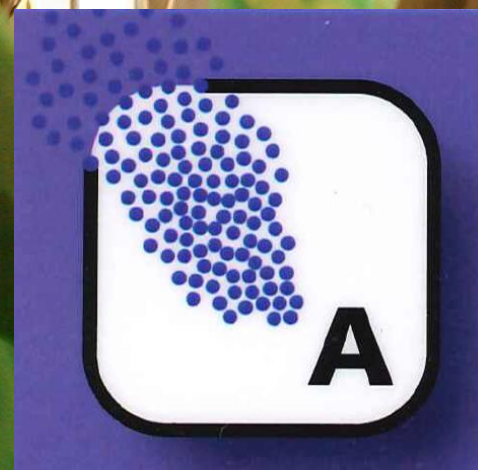
Transfer of multidrug-resistant bacteria to healthcare workers' gloves and gowns after patient contact increases with environmental contamination*

Daniel J. Morgan, MD; Elizabeth Rogawski, BS; Kerri A. Thom, MD, MS; J. Kristie Johnson, PhD;
Eli N. Perencevich, MD, MS; Michelle Shardell, PhD; Surbhi Leekha, MD, MPH; Anthony D. Harris, MD, MPH

Multidrug-Resistant Bacteria	Hands Contaminated Before Room Entry ^a	Gowns	Gloves	Hands After Removal	Gowns or Gloves (95% confidence intervals)
Methicillin-resistant <i>Staphylococcus aureus</i> (23 patients)	3.2% (5/157)	3.9% (6/152)	11.2% (17/152)	3.3% (5/152)	13.8% (8.3% to 19.2%)
Vancomycin-resistant <i>Enterococci</i> (27 patients)	0.6% (1/181)	5.0% (9/180)	10.0% (18/180)	1.7% (3/180)	13.9% (8.9% to 18.9%)
Multidrug-resistant <i>Pseudomonas aeruginosa</i> (13 patients)	3.4% (3/89)	2.3% (2/86)	17.4% (15/86)	3.5% (3/86)	17.4% (9.4% to 25.4%)
Multidrug-resistant <i>Acinetobacter baumannii</i> (26 patients)	5.1% (9/176)	12.6% (21/167)	29.3% (49/167)	4.2% (7/167)	32.9% (25.8% to 40.0%)

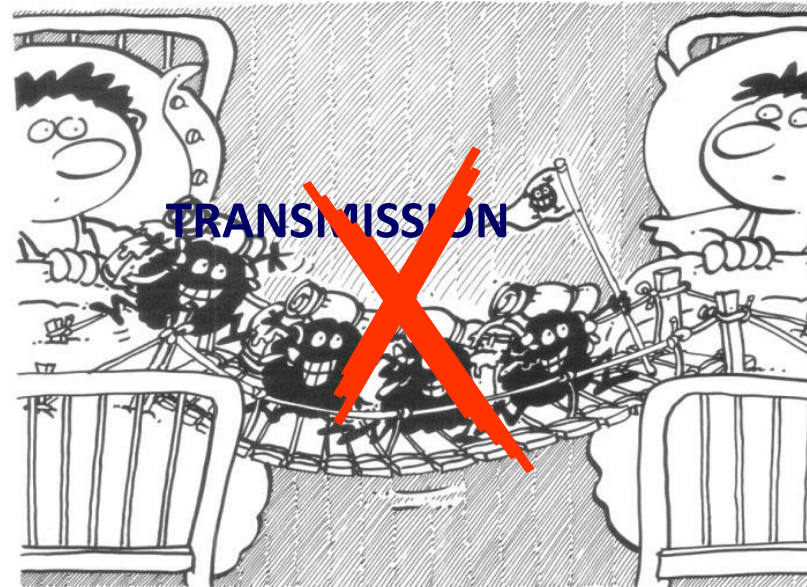
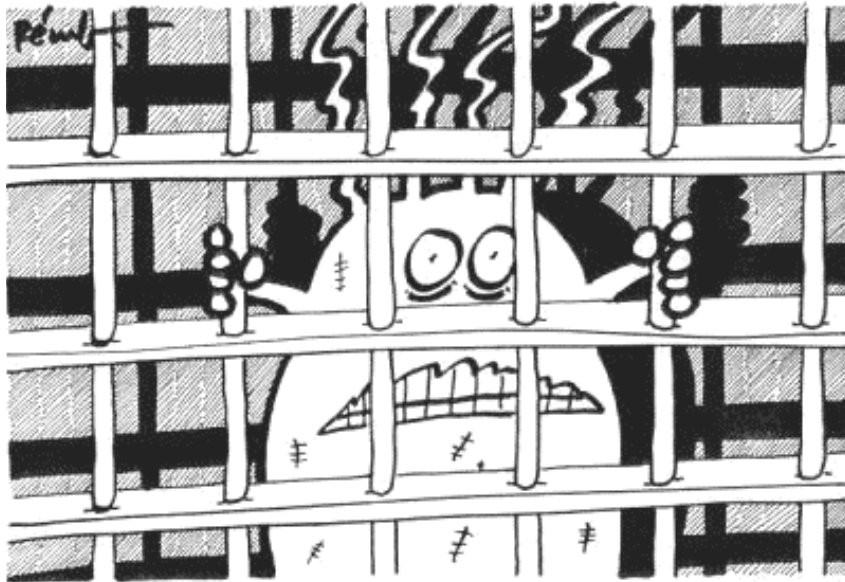
^aInteractions in which healthcare workers' hands were contaminated before room entry were excluded from further analysis.

healthcare worker contamination Independent Variable	Odds Ratio (95% Confidence Interval) ^a	<i>p</i> ^a
Positive multidrug-resistant bacteria environmental culture	4.15 (2.66–6.47)	<.001
Duration in room >5 mins	1.99 (1.15–3.43)	.014
Performing physical examination	1.74 (1.10–2.77)	.019
Contact with ventilator	1.78 (1.12–2.82)	.014



Hygiène en réanimation

L'objectif n'est pas d'isoler !



Mais de prévenir la transmission
des microorganismes



Ethanol-based cleanser versus isopropyl alcohol to decontaminate stethoscopes

Paul Lecat, MD,^{a,b} Elliott Cropp, BS,^b Gary McCord, MA,^b and Nairmeen Awad Haller, PhD^{a,b}

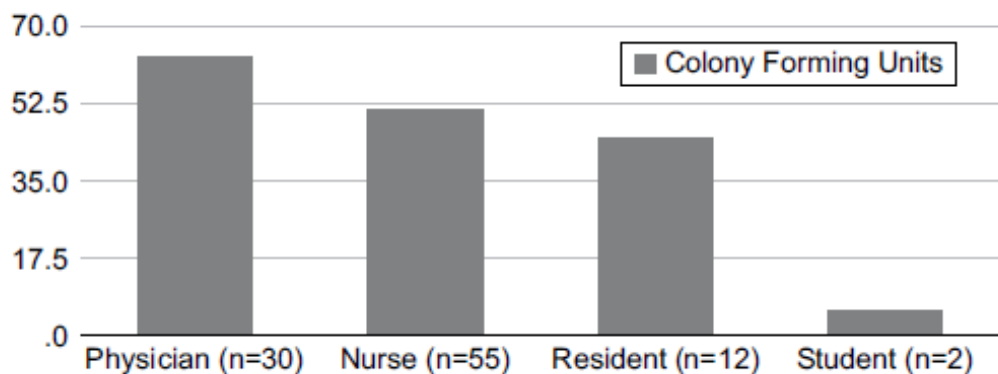


Fig 1. Average cfu counts on cultures before cleansing by level of training.



1 stéthoscope/patient

Hygiène en réanimation

Ethanol-based cleanser versus isopropyl alcohol to decontaminate stethoscopes

Paul Lecat, MD,^{a,b} Elliott Cropp, BS,^b Gary McCord, MA,^b and Nairmeen Awad Haller, PhD^{a,b}

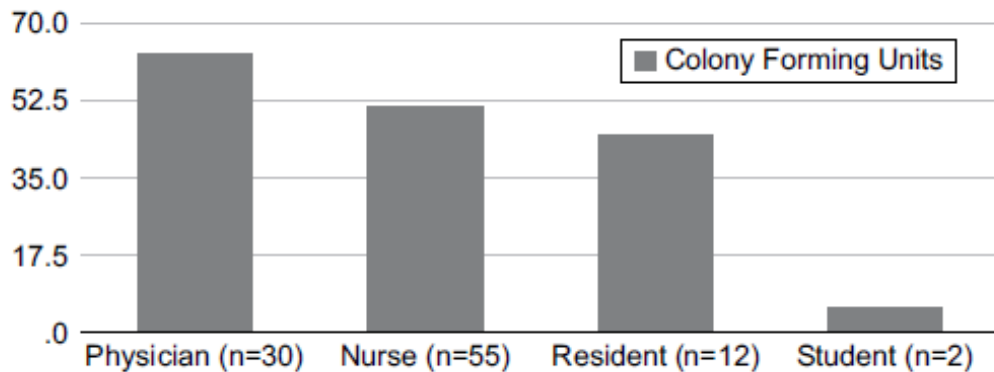


Fig 1. Average cfu counts on cultures before cleansing by level of training.

(Am J Infect Control 2009;37:241-3.)

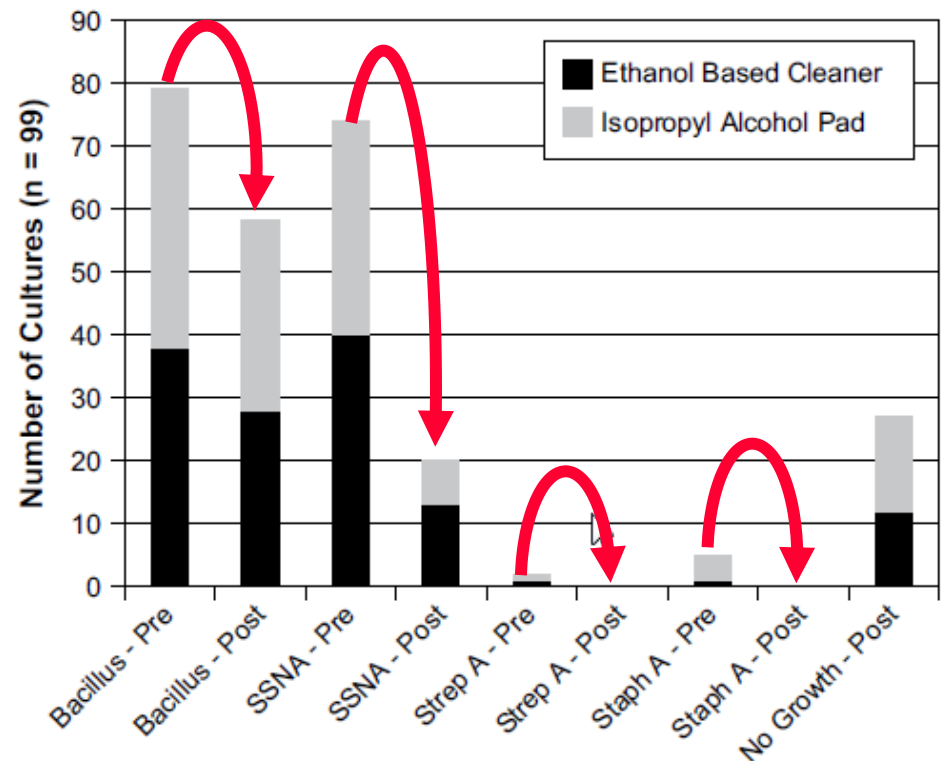


Fig 2. Species of bacteria detected on the stethoscopes both before and after cleaning.

Les stéthoscopes des médecins sont plus contaminés que leurs mains

28.02.2014 09:13



La densité de bactéries est plus élevée sur le stéthoscope des médecins que dans la paume de leur main, révèle une étude à laquelle ont participé les Hôpitaux universitaires genevois.

Une équipe de chercheurs dirigée par le Dr. Didier Pittet des Hôpitaux universitaires genevois s'est penchée sur la densité de bactéries qu'abritent les stéthoscopes des médecins par rapport à celle de leurs mains, principales sources de transmission bactérienne dans les hôpitaux.

Leurs résultats, publiés jeudi dans **la revue Mayo Clinic Proceedings**, montrent qu'il y a davantage de bactéries sur le stéthoscope que sur la paume de la main du

VIDÉOS ET AUDIOS





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A vous de
jouer



PATISSON

SI-345 mardi 3 novembre 2014, 13h45



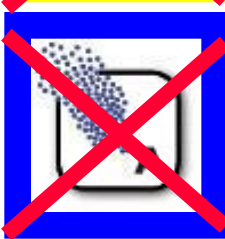
Transfert de chirurgie septique pour choc septique.
Mal perforant plantaire (*S. aureus* sensible à l'oxacilline et *E. coli* multi-sensible)

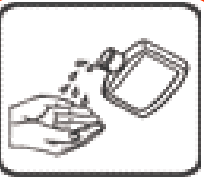


Quelles mesures d'hygiène hospitalière ?



- Pour lui poser des questions
- Pour l'ausculter
- Pour lui poser un cathéter artériel
- Pour l'intuber
- Pour le réanimer





Vous prenez en charge un patient de 40 ans, sans antécédants, admis aux urgences en insuffisance respiratoire aigue consécutive à une pneumonie communautaire pour lui appliquer de la ventilation non-invasive.

Quelles mesures d'hygiène hospitalière ?

- Pour lui poser des questions
- Pour l'ausculter
- Pour lui poser un cathéter artériel
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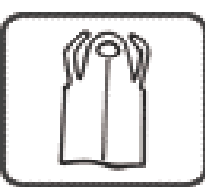


Vous prenez en charge un patient de 60 ans, transplanté rénal en rejet chronique, transféré des HUG en raison d'un manque de place aux SI, admis aux en insuffisance respiratoire aigue consécutive à une pneumonie nosocomiale à *Pseudomonas aeruginosa* pour lui appliquer de la ventilation non-invasive.

Quelles mesures d'hygiène hospitalière ?

- Pour lui poser des questions
- Pour l'ausculter
- Pour lui poser un cathéter artériel
- Pour l'intuber
- Pour le réanimer





Vous prenez en charge un requérant d'asile transféré de la salle de réveil après échec d'extubation suite à une lobectomie supérieure droite en urgence pour une hémoptysie massive. (Rx: abcès vs caverne).

Quelles mesures d'hygiène hospitalière ?

- Pour lui poser des questions
- Pour l'ausculter
- Pour lui poser un cathéter artériel
- Pour l'intuber
- Pour le réanimer





L'infirmière en charge d'un transplanté pulmonaire (MRSA positif) qui doit être transféré le lendemain aux soins continus vous demande si le plombier à qui l'on a demandé de venir réparer en urgence une fuite de l'écoulement du lavabo du box doit prendre des mesures particulières ?

- Pour entrer dans le box
- Pour réparer le lavabo
- Pour ses outils





Strategies for infection control

General measures

Surveillance

Isolation precautions

Antibiotic control

Restriction of use, guidelines, rotation

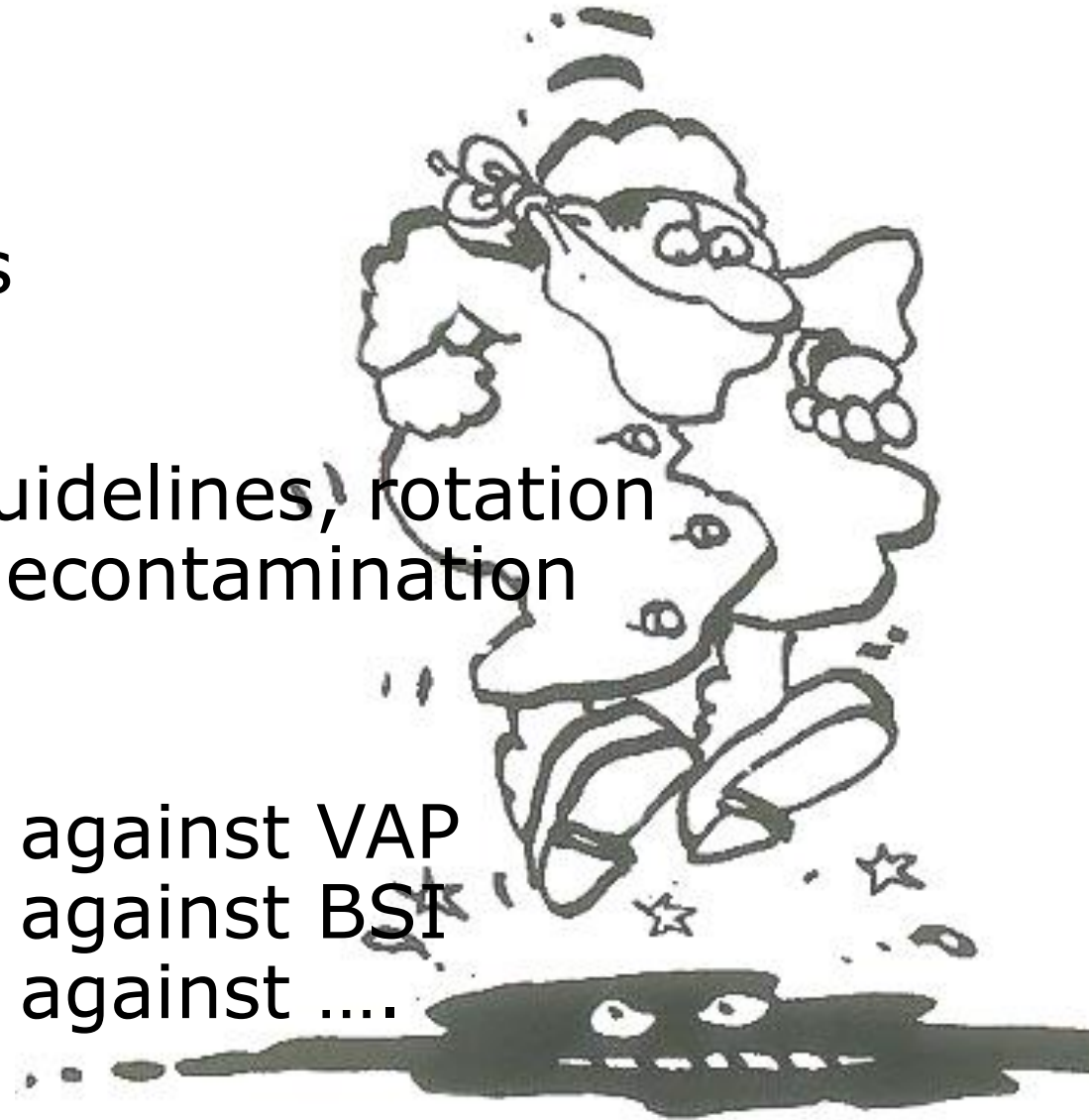
Selective digestive decontamination

Specific measures

Specifically targeted against VAP

Specifically targeted against BSI

Specifically targeted against

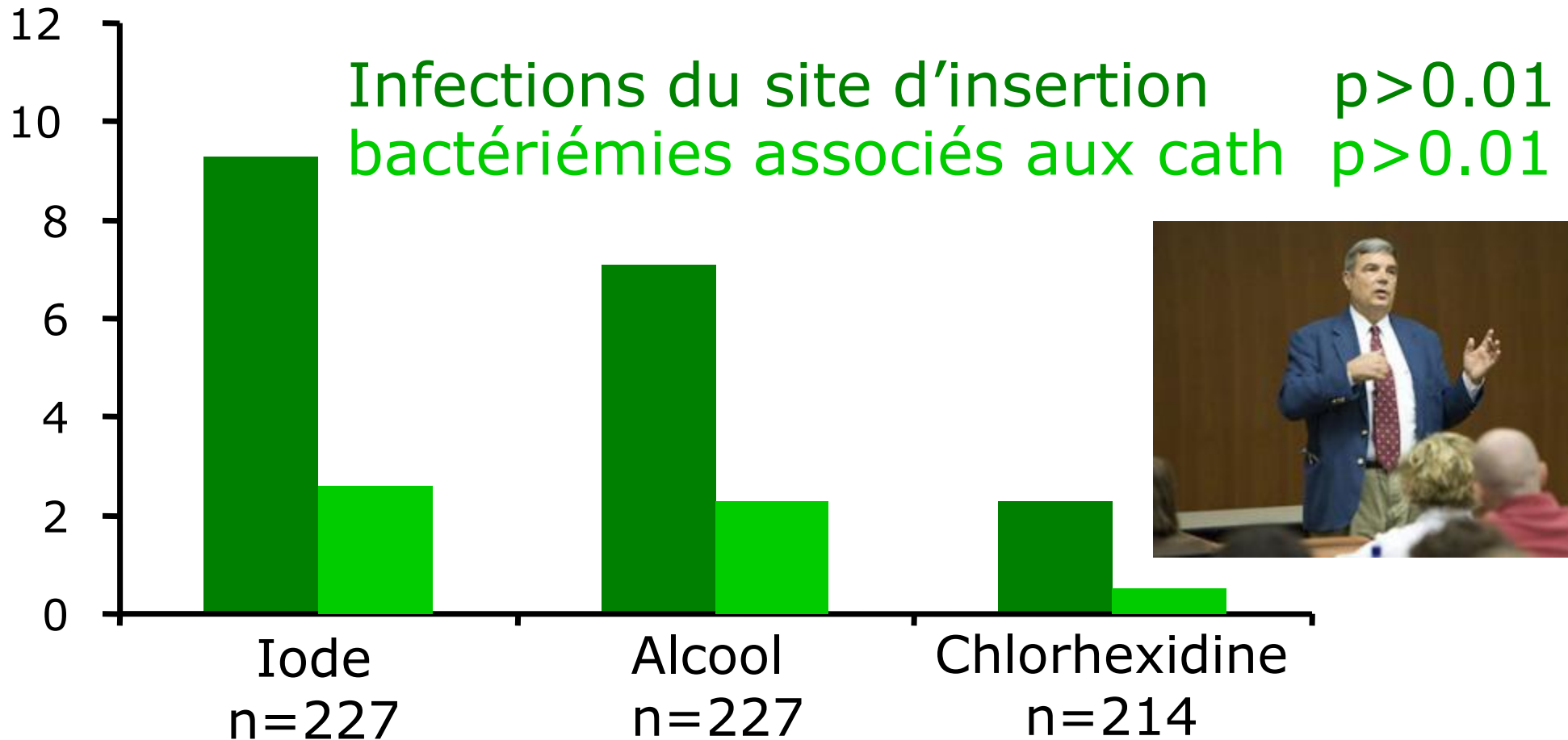


Prevention of catheter-related infections



Quel type de désinfectant?

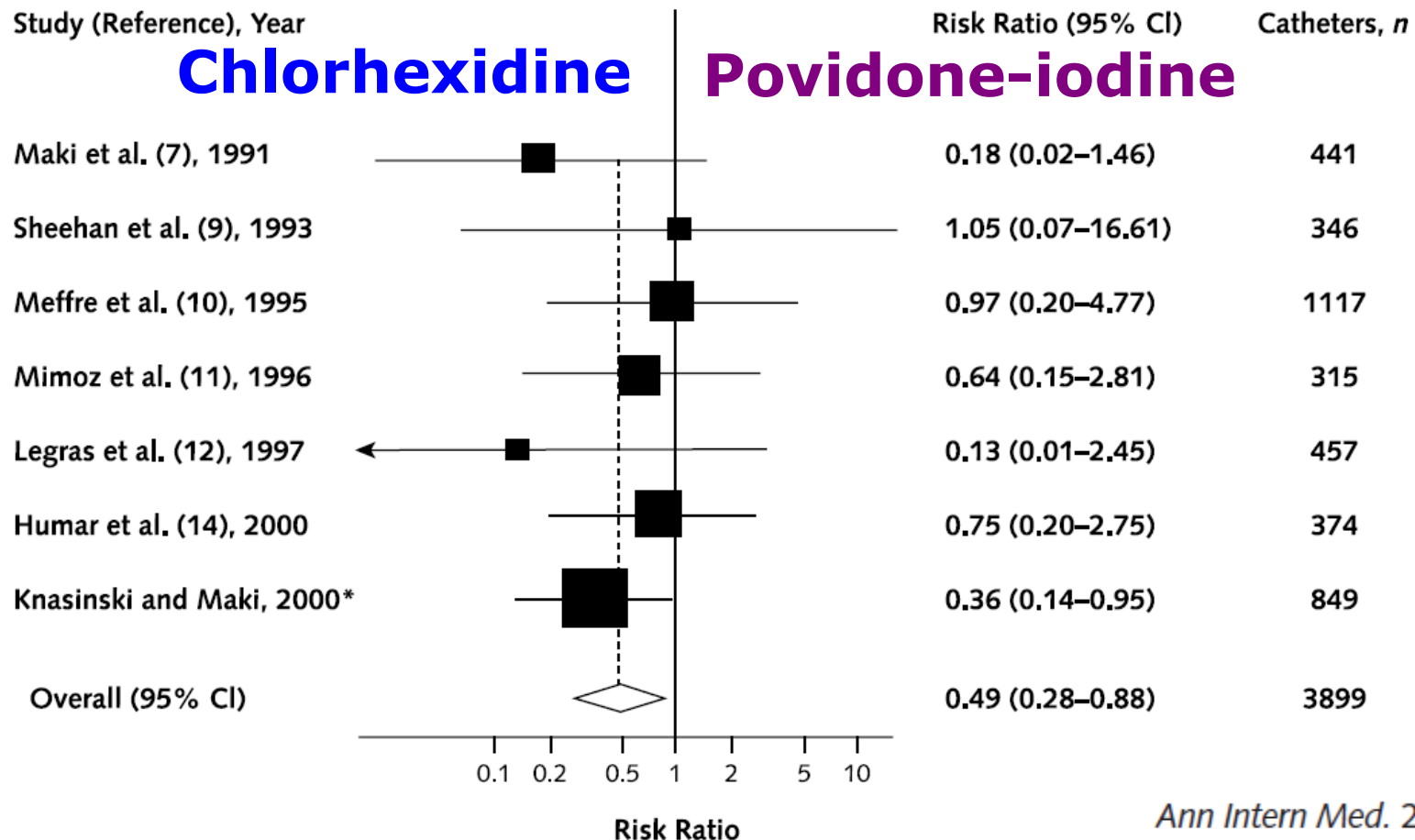
% hémocultures positives en fonction du type de désinfection



Quel type de désinfectant ?

Chlorhexidine Compared with Povidone-Iodine Solution for Vascular Catheter–Site Care: A Meta-Analysis

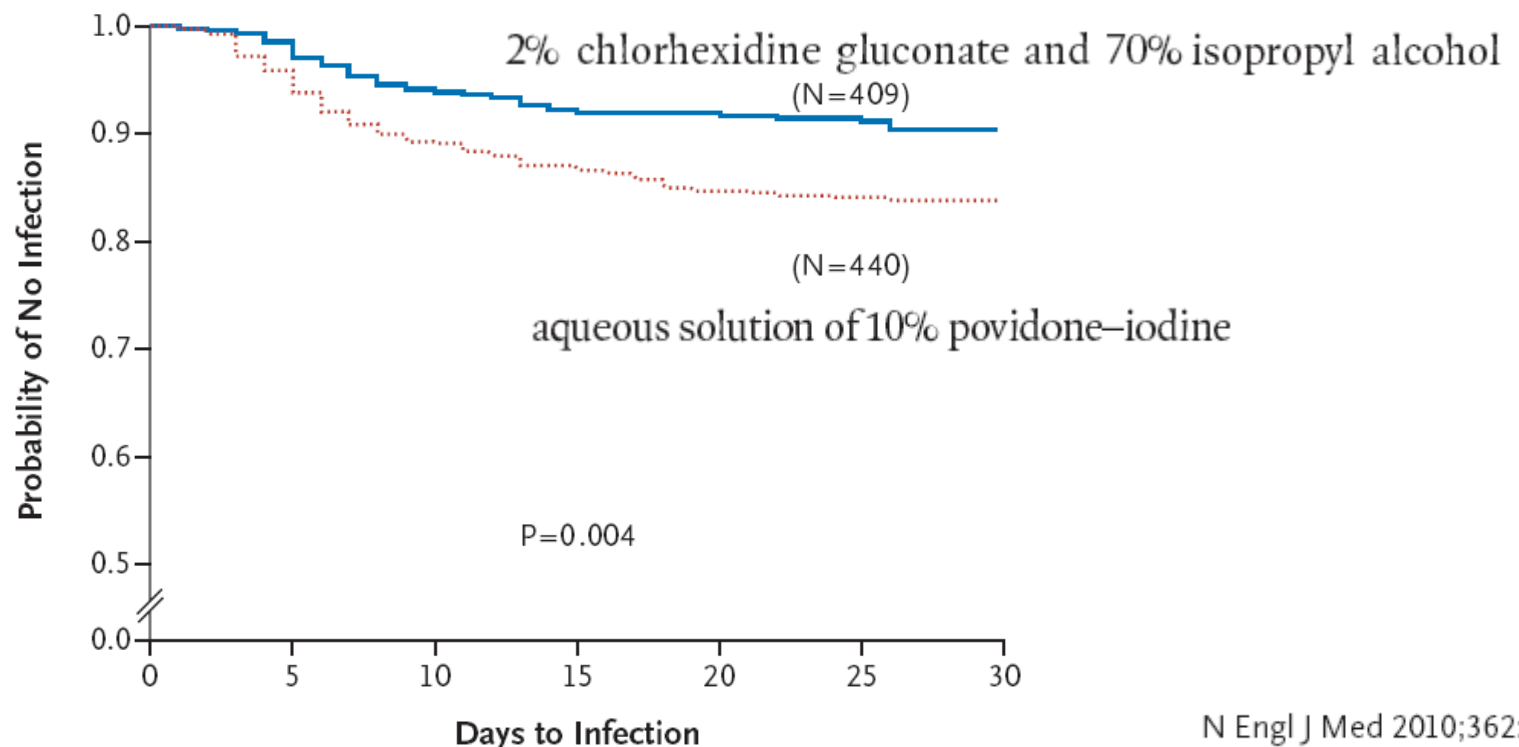
Nathorn Chaiyakunapruk, PharmD, PhD; David L. Veenstra, PharmD, PhD; Benjamin A. Lipsky, MD; and Sanjay Saint, MD, MPH



Quel type de désinfectant ?

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

Rabih O. Darouiche, M.D., Matthew J. Wall, Jr., M.D., Kamal M.F. Itani, M.D., Mary F. Otterson, M.D., Alexandra L. Webb, M.D., Matthew M. Carrick, M.D., Harold J. Miller, M.D., Samir S. Awad, M.D., Cynthia T. Crosby, B.S., Michael C. Mosier, Ph.D., Atef AlSharif, M.D., and David H. Berger, M.D.



Chlorhexidine alcoolique 2%

Solution alcoolique pour la
désinfection de la peau

Application: max. 50 ml/m².



EXP: 01/2014

Ch: 11072M05

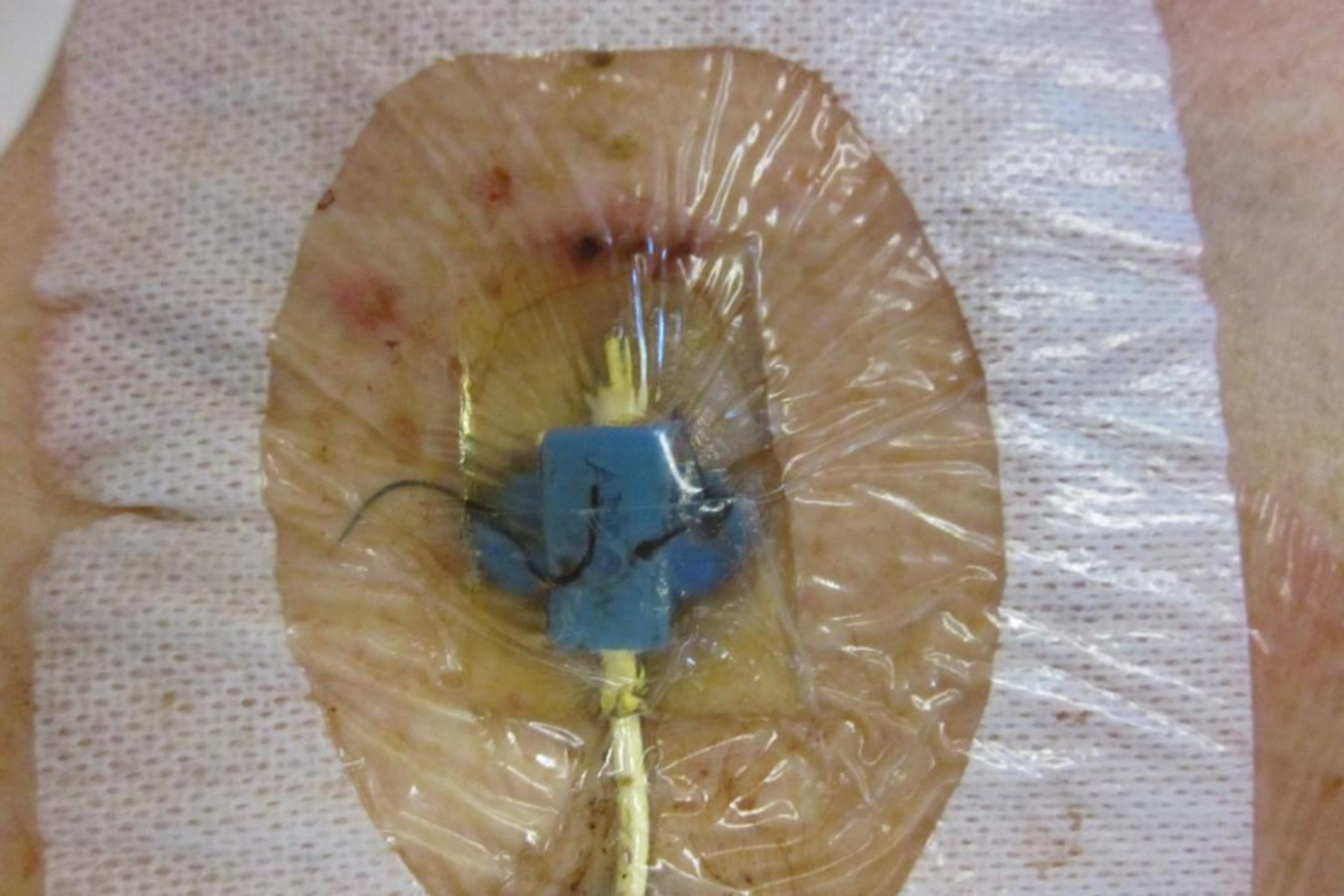
837453 - v1



coloré

prêt à l'emploi

B BRAUN



Préparation pré-opératoire

Chirurgie propre, influence du type de rasage

% infections		rasage		crème		rien
		rasage	tonte	électrique	épilatoire	
Howard	(1964)	6.4	-	-	0	0.6
Seropian	(1971)	5.0	-	-	0.6	0.6
Cruse	(1973)	2.3	1.7	-	-	0.9
Cruse	(1980)	2.5	1.7	1.4	-	0.9
Court	(1981)	10.4	-	-	3.9	2.9

Infection control



dd

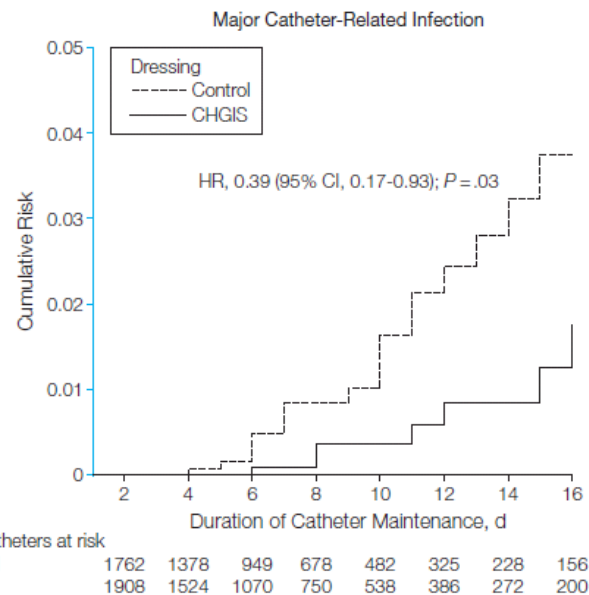


Antiseptic dressings

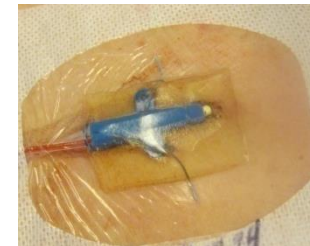


Chlorhexidine-Impregnated Sponges and Less Frequent Dressing Changes for Prevention of Catheter-Related Infections in Critically Ill Adults A Randomized Controlled Trial

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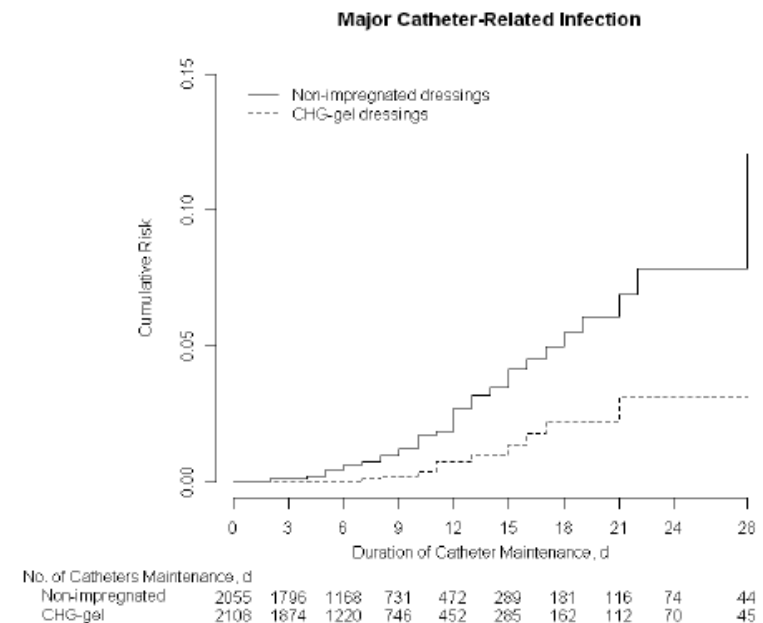


JAMA. 2009;301(12):1231-1241



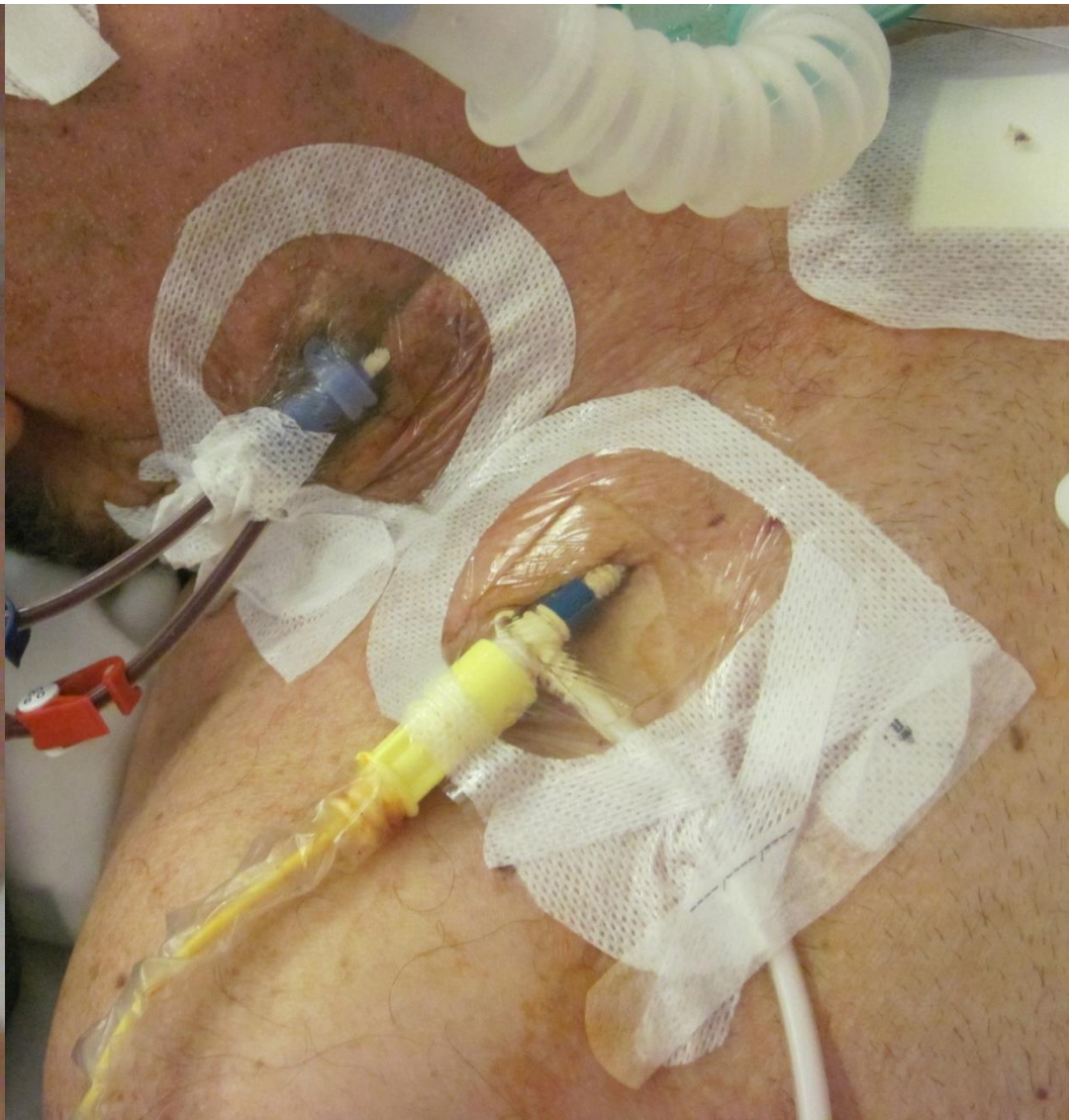
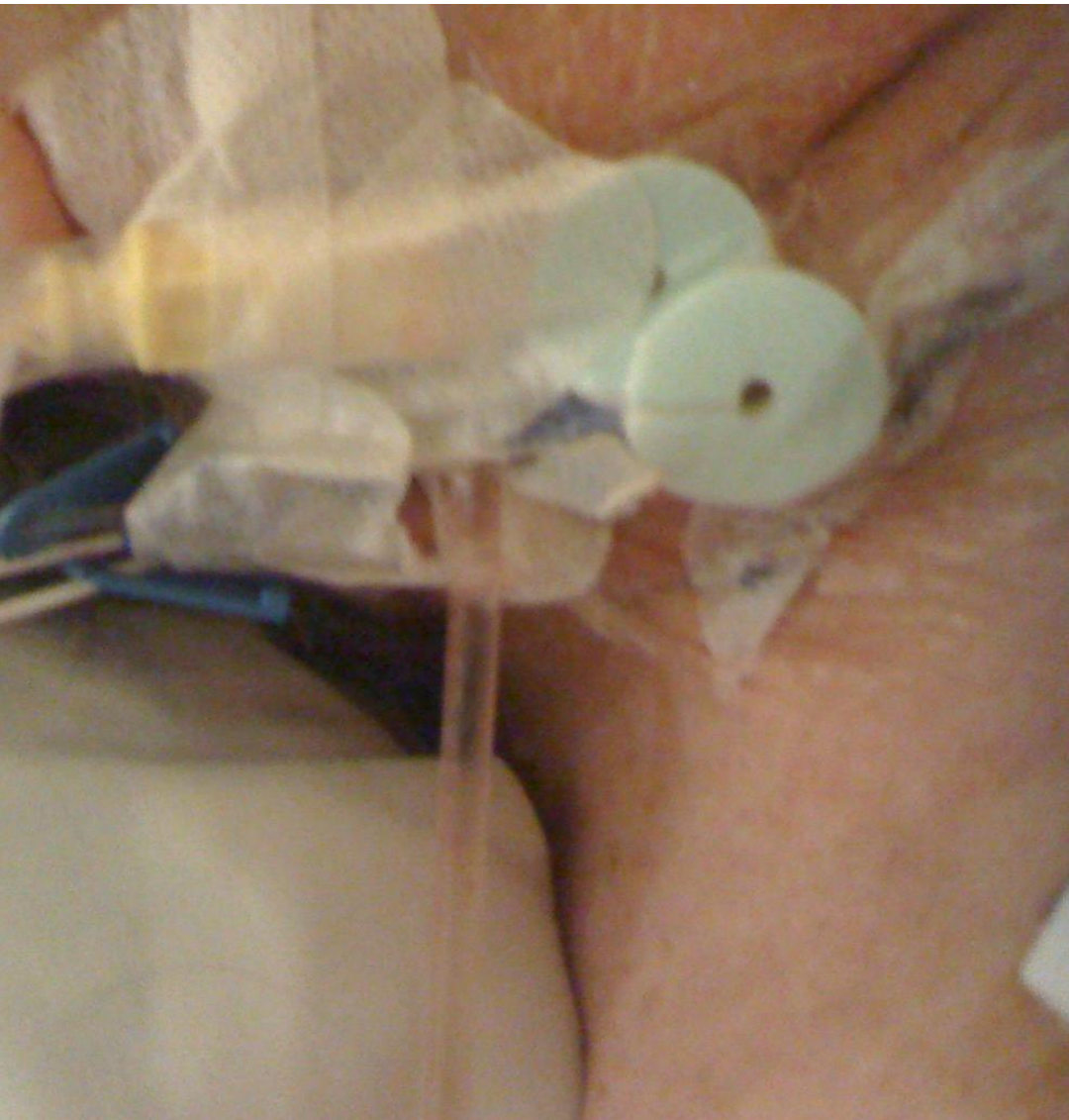
Randomized Controlled Trial of Chlorhexidine Dressing and Highly Adhesive Dressing for Preventing Catheter-related Infections in Critically Ill Adults

Jean-François Timsit^{1,2}, Olivier Mimoz³, Bruno Mourvillier⁴, Bertrand Souweine⁵, Maité Garrouste-Orgeas⁶, Serge Alfandari⁷, Gaëtan Plantefeve⁸, Régis Bronchard⁹, Gilles Troche¹⁰, Remy Gauzit¹¹, Marion Antona¹², Emmanuel Canet¹³, Julien Bohe¹⁴, Alain Lepape¹⁴, Aurélien Vesin¹, Xavier Arrault¹⁵, Carole Schwebel², Christophe Adrie¹⁶, Jean-Ralph Zahar¹⁷, Stéphane Ruckly¹, Caroline Tournegros², and Jean-Christophe Lucet¹⁸



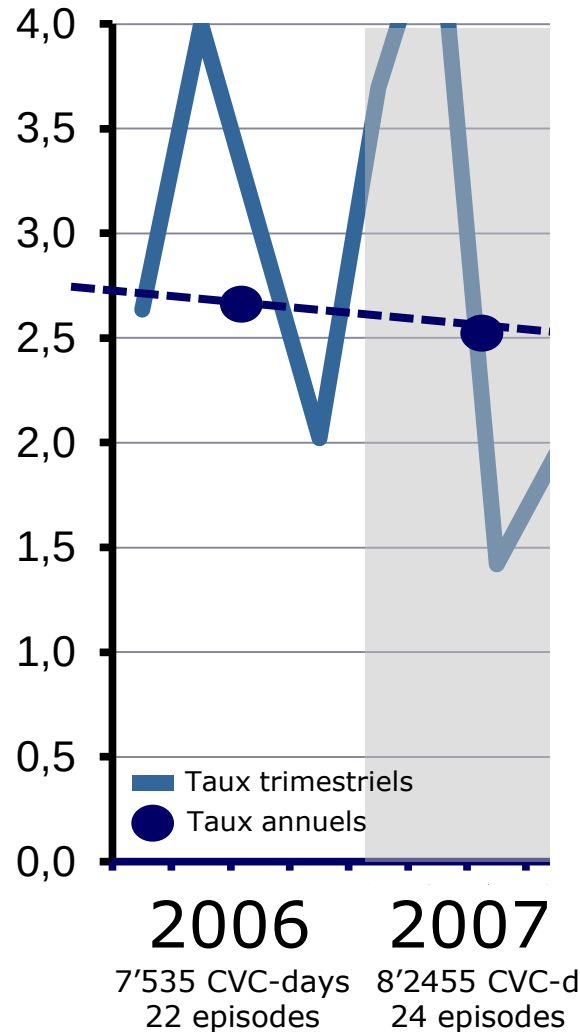
Am J Respir Crit Care Med Vol 186, Iss. 12, pp 1272-1278, Dec 15, 2012

Antiseptic dressings



Enhanced catheter bundle

CRBSI + primary bacteremia (episodes/1000 CVC-days) [burns /ECMO/transplant excluded]



Enhanced catheter bundle

SERVICE PATIENTS

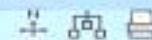
ENSEIGNEMENT

RECHERCHE

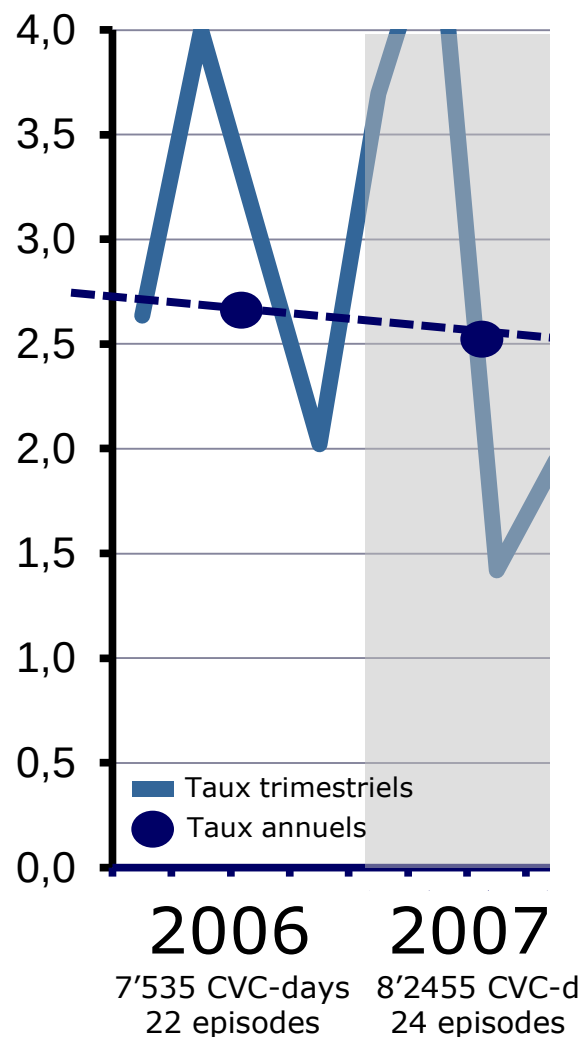
EMPLOI

SOUTENIR LA RECHERCHE

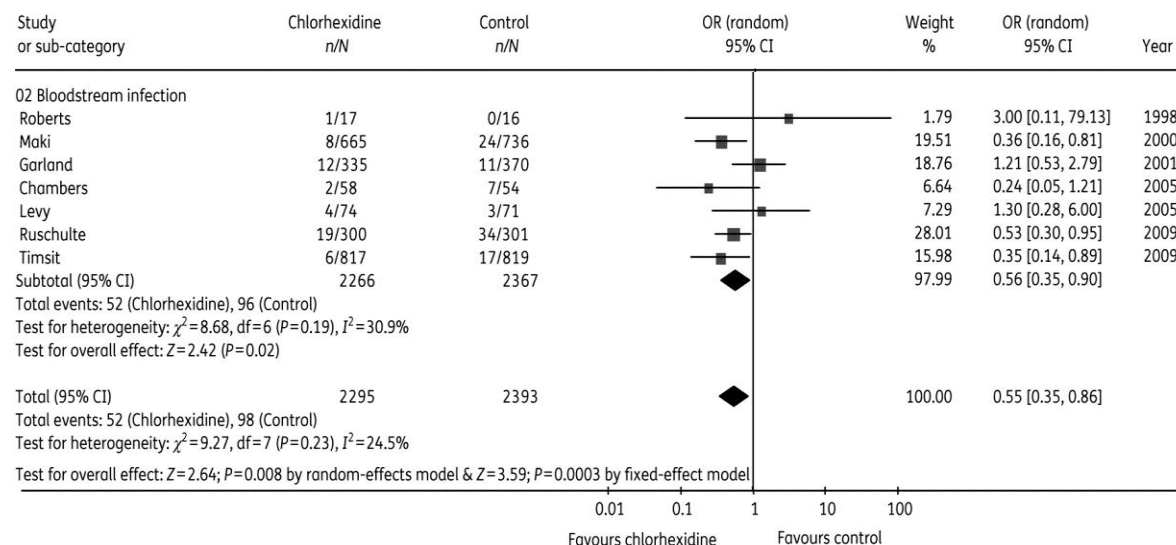
Menu de renseignements



CRBSI + primary bacteremia (episodes/1000 CVC-days) [burns /ECMO/transplant excluded]



Use of chlorhexidine-impregnated dressing to prevent vascular and epidural catheter colonization and infection: a meta-analysis

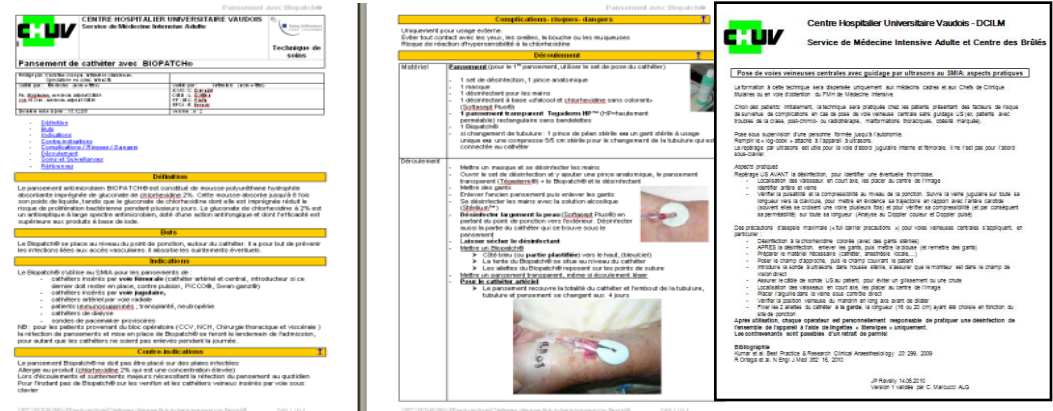


Ho K M J. *Antimicrob. Chemother.* 2006;58:281-7

- Intense teaching
workshops/seminar/feedback
nursing personal + doctors

Pansements

INFORMATION : Etude Biopatch®-Tegaderm™CHG



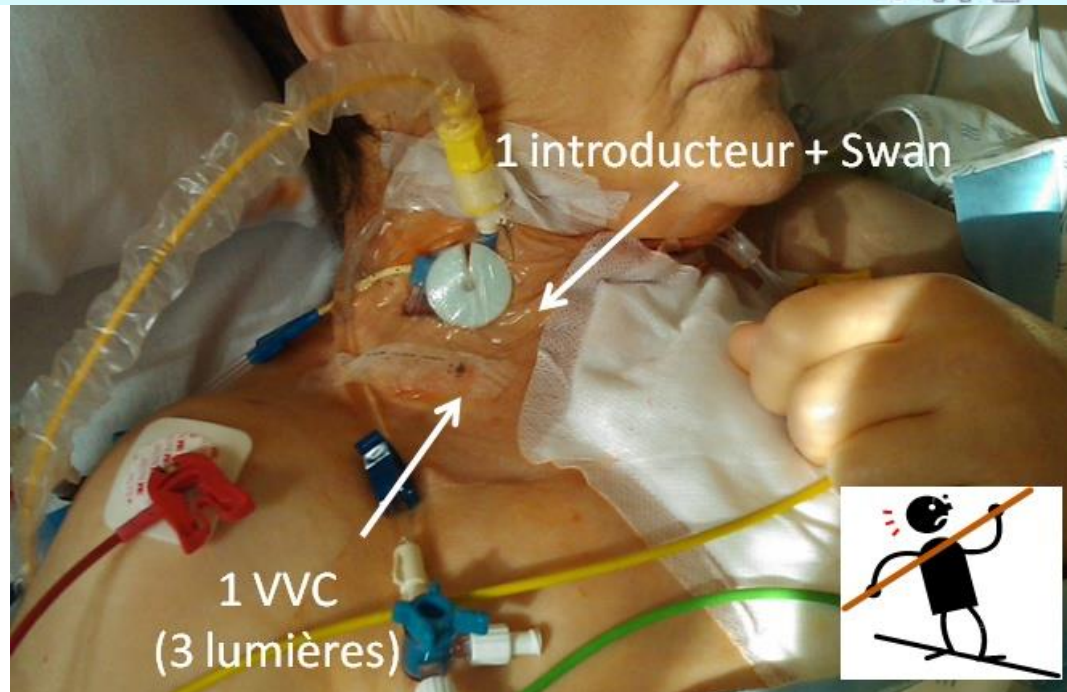
Cathéters au SMIA



Enhanced catheter bundle

Dressings

- New bedside teaching dressing building methodology planned changes cases discussions



Enhanced catheter bundle

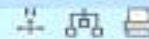
SERVICE PATIENTS

ENSEIGNEMENT

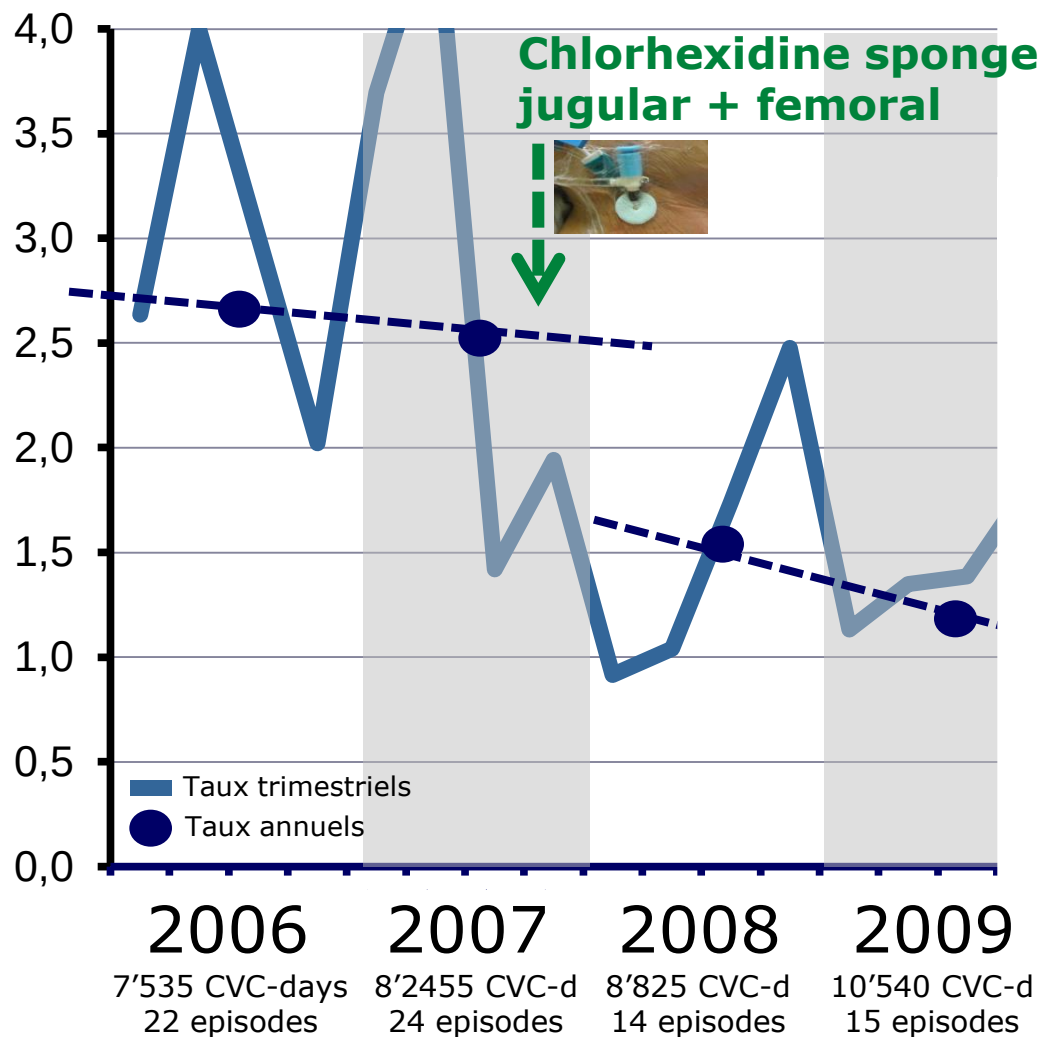
RECHERCHE

EMPLOI

SOUTENIR LA RECHERCHE



CRBSI + primary bacteremia (episodes/1000 CVC-days) [burns /ECMO/transplant excluded]



CHUV Diminution des infections liées aux cathéters suite à l'introduction d'un pansement combinant une éponge imprégnée de chlorhexidine avec un pansement transparent semi perméable
 C. Joseph¹, M.J. Thüermer¹, L. Gattler¹, N. Zahedi², Ph. Maravic¹, P. Voisin¹, C. Belin³, J.P. Revelly⁴, Ph. Eggmann⁵
¹Service de Médecine Intensive Adulte, ²Service Médecine Préventive Hospitalière, ³Pharmacie, ⁴CHUV, Lausanne, Suisse, ⁵Service de Médecine Préventive Hospitalière

INTRODUCTION
 Notre stratégie globale multimodale de prévention des infections liées aux cathéters comprend l'éducation aux mesures générales d'hygiène combinées à des mesures spécifiques de techniques de pose et de réfection des pansements. Dans le but de diminuer le taux d'infections liés au cathéter, nous avons testé un nouveau produit: le Biopatch®.

METHODS
 Surveillance prospective des bactériémies primaires selon des définitions standardisées. Nouvelles recommandations combinant une éponge imprégnée de chlorhexidine (Biopatch®) avec un pansement transparent (Tegaderm®) et une réfection planifiée au 7^{ème} jour. Les autres éléments de la stratégie préventive n'ont pas été modifiés (cathéters non imprégnés, friction hydro-alcoolique, des mains, aseptie stricte pour l'insertion des cathéters centraux et artériels, désinfection des sites d'insertion avec une solution alcoolique (70%) de chlorhexidine à 0.5%).

Patients de la stratégie préventive
 Efficacité de la prévention

Nouvelle technologie
 Education →
 Création d'un protocole
 Présence sur le terrain de l'infirmière clinicienne

RESULTATS
 Les nouvelles recommandations ont été progressivement introduites dès le quatrième trimestre 2007. Ce déploiement n'a pas perturbé l'organisation du travail. Des audits réguliers au lit du patient ont permis d'identifier qu'en fonction du site d'insertion et du type de fixation du cathéter, des changements ont été nécessaires tous les 3 à 4 jours au lieu des 7 jours planifiés. Le résultat est significatif et le but de diminuer les bactériémies liées aux cathéters est atteint.

CONCLUSION
 L'introduction d'éponges imprégnées de chlorhexidine combinée aux pansements transparents semi-perméables a permis de diminuer les infections liées aux accès vasculaires. Les recommandations pratiques sont faciles à intégrer dans celles liées à une stratégie globale multimodale de prévention des infections liées aux cathéters. Ces résultats nous permettront de justifier l'extension de ce type de pansement à tous les accès vasculaires centraux et artériels, quelque soit leur site d'insertion. Notre observation confirme l'efficacité de l'introduction du Biopatch® dans un grand service de réanimation adulte mixte.

Chlorhexidine-impregnated Sponges and Low Adherent Dressing Changes for Prevention of Catheter-Related Infections in Critically Ill Adults: A Controlled Trial
 JAMA. 26 mars 2009; 301(12):1231-1237

C. Joseph et coll. SRLF 2010

Eggimann et al. SRLF 2013

Enhanced catheter bundle

SERVICE PATIENTS

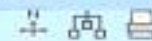
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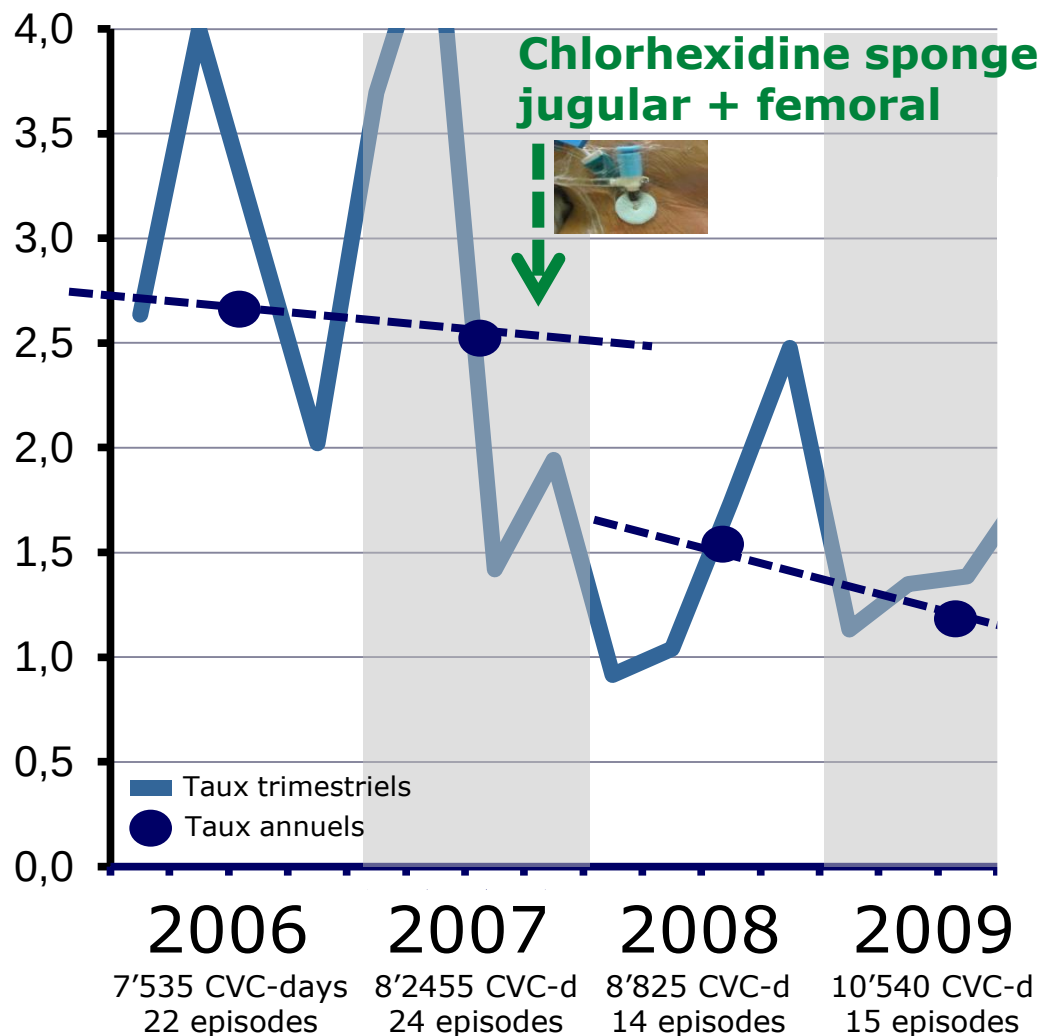
EMPLOI

SOUTENIR LA RECHERCHE

Menu de l'enseignement



CRBSI + primary bacteremia (episodes/1000 CVC-days) [burns /ECMO/transplant excluded]



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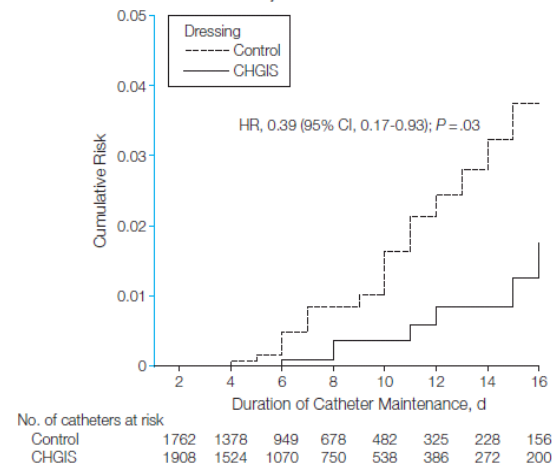
Jacques Croize, PharmD

Jean-Christophe Lucet, MD, PhD

for the Dressing Study Group

Context Use of a chlorhexidine gluconate-impregnated sponge (CHGIS) in intravascular catheter dressings may reduce catheter-related infections (CRIs). Changing catheter dressings every 3 days may be more frequent than necessary.

Major Catheter-Related Infection



JAMA. 2009;301(12):1231-1241

Enhanced catheter bundle

SERVICE

PATIENTS

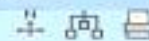
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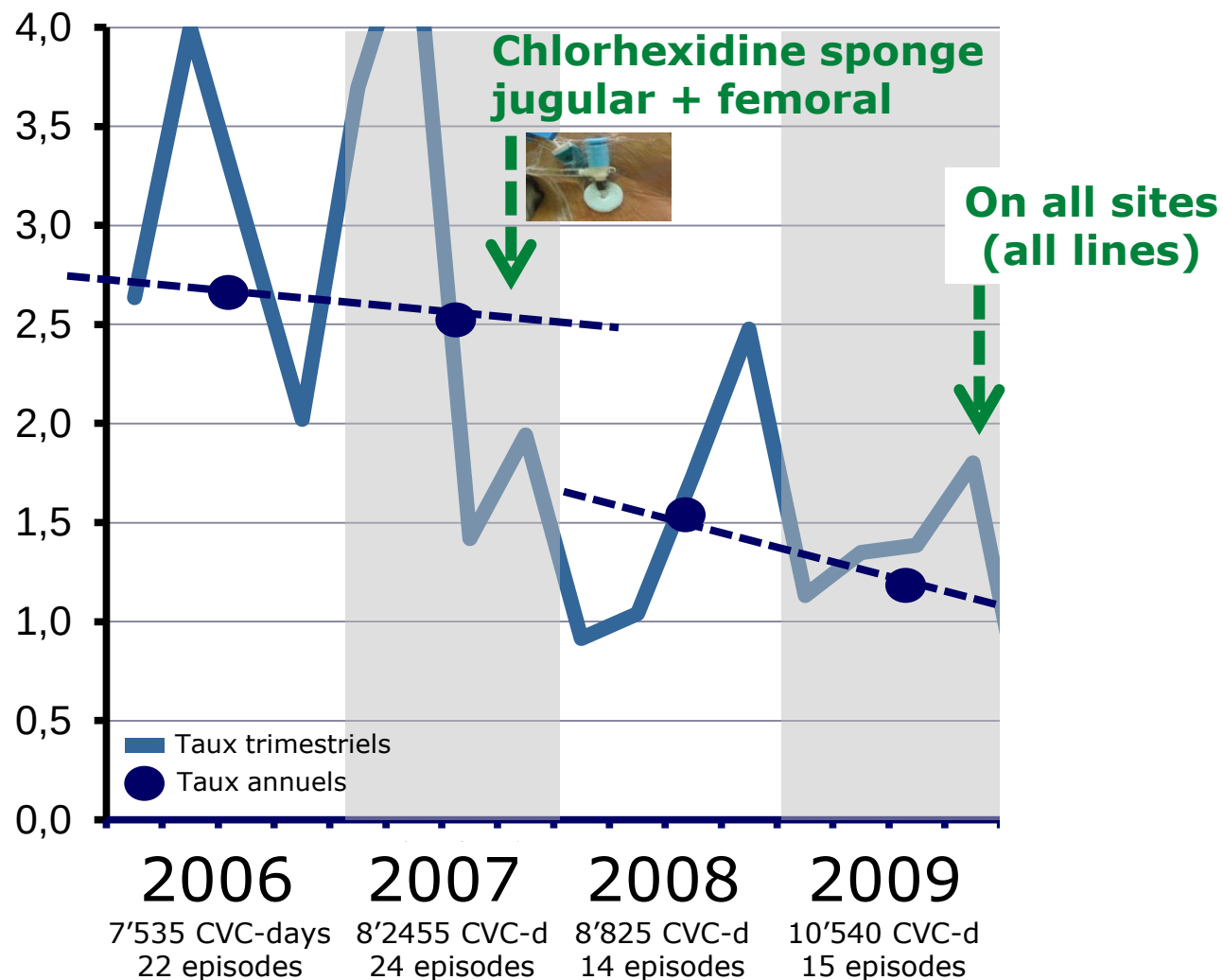
EMPLOI

SOUTENIR LA RECHERCHE

Menu d'enseignement



CRBSI + primary bacteremia (episodes/1000 CVC-days) [burns /ECMO/transplant excluded]



Enhanced catheter bundle

SERVICE

PATIENTS

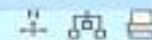
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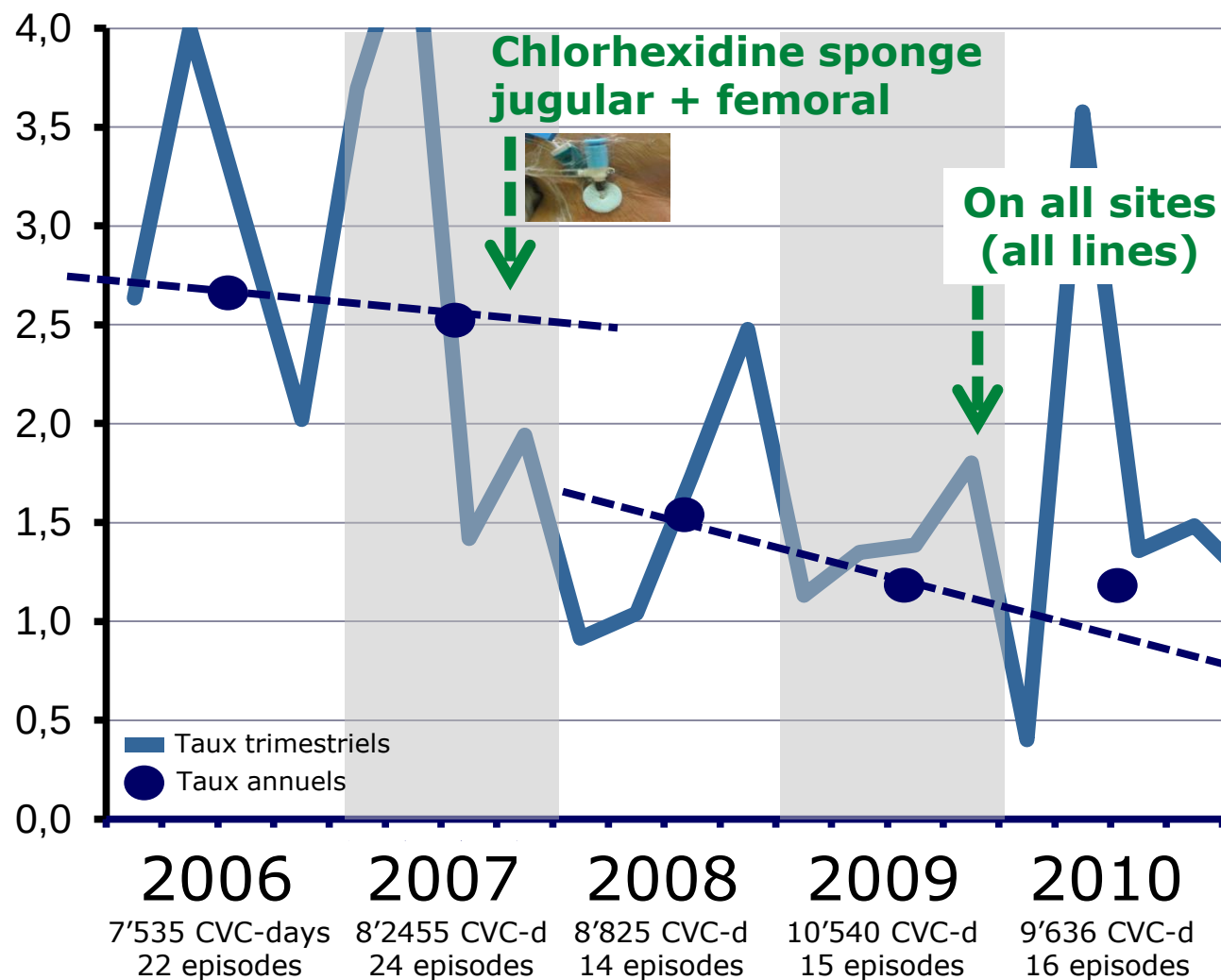
EMPLOI

SOUTENIR LA RECHERCHE

Menu d'enseignement



CRBSI + primary bacteremia (episodes/1000 CVC-days) [burns /ECMO/transplant excluded]



Economic evaluation of chlorhexidine-impregnated sponges for preventing catheter-related infections in critically ill adults in the Dressing Study*

Carole Schwebel, MD, PhD; Jean-Christophe Lucet, MD, PhD; Aurélien Vesin, MSc; Xavier Arrault, PD; Silvia Calvino-Gunther, RN; Lila Bouadma, MD, PhD; Jean-François Timsit, MD, PhD

Background: The randomized two-way factorial Dressing Study (1,636 patients, 28,931 catheter days) showed that a chlorhexidine-impregnated sponge decreased the incidence of major catheter-related infections from 1.4‰ to 0.6‰ catheter days, and that scheduled dressing changes every 7 days was not inferior to scheduled changes every 3 days. Here, we assessed the cost benefits of chlorhexidine-impregnated sponge use.

Methods: Costs directly related to major catheter-related infections and the costs of chlorhexidine-impregnated sponge and contact dermatitis were calculated prospectively using micro-costing methods during the original study. The added length of stay in the intensive care unit due to major catheter-related infection was estimated using the disability model and assuming a cost of \$2,118/intensive care unit day. The cost of each strategy was estimated based on all costs and on the probability of major catheter-related infection according to the Dressing Study results.

Interventions: None.

Results: Median direct cost of major catheter-related infection was \$792. Estimated added length of stay due to major catheter-related infection was 11 days (95% confidence interval [−2 days;

26 days]). Overall cost of major catheter-related infection was \$24,090/episode. Each dressing cost \$9.08 (146 observations) and each chlorhexidine-impregnated sponge cost \$9.73. Assuming a baseline major catheter-related infection incidence of 1.4‰ catheter days, chlorhexidine-impregnated sponge use saved \$197 per patient with the 3-day chlorhexidine-impregnated sponge dressing change strategy, and \$83 with the 7-day standard dressing change strategy. Chlorhexidine-impregnated sponge use remained cost saving assuming a baseline major catheter-related infection incidence as low as 0.35‰ catheter days, or an overall cost per major catheter-related infections of up to \$4,400.

Conclusion: Chlorhexidine-impregnated sponge for arterial and central venous catheters saves money by preventing major catheter-related infections, even in intensive care units with low baseline major catheter-related infection levels.

Trial Registration: Clinicaltrials.gov number, NCT00417235. (Crit Care Med 2012; 40:11–17)

KEY WORDS: antiseptic dressings; catheter-related infections; economic evaluation; intensive care unit

Impact of a prevention strategy targeted at vascular-access care on incidence of infections acquired in intensive care

Philippe Eggimann, Stephan Harbarth, Marie-Noëlle Constantin, Sylvie Touveneau, Jean-Claude Chevrolet, Didier Pittet

Nosocomial infections	Control period		Intervention period		Relative risk (95% CI)
	Number	Incidence density	Number	Incidence density	
Respiratory tract	121	13.5	54	12.7	0.93 (0.68–1.29)
Bloodstream	101	11.3	16	3.8	0.33 (0.20–0.56)
Microbiologically documented	28	3.1	5	1.2	0.37 (0.14–0.97)
Clinical sepsis	73	8.2	11	2.6	0.32 (0.17–0.59)
Exit-site catheter	82	9.2	14	3.3	0.36 (0.20–0.63)
Urinary tract	47	5.3	22	5.2	0.98 (0.59–1.63)
Skin or mucous membranes	102	11.4	30	7.0	0.62 (0.41–0.93)
Miscellaneous*	15	1.7	9	2.1	1.26 (0.55–2.87)
Total	468	52.4	145	34.0	0.65 (0.54–0.78)

Lancet 2000; **355**: 1864–68

Table 3. Exposure to invasive devices among patients with and without primary bloodstream infection

	No BSI, n = 977	Microbiologically confirmed BSI, n = 28	Clinical sepsis, n = 63
Central line			
Exposed patients (%)	627 (64.2) ^d	27 (96.4)	61 (96.8)
Catheter-days [days, median (range)]	4 (1–117) ^d	8 (2–39)	8 (1–33)
Arterial line			
Exposed patients (%)	791 (81.0) ^d	28 (100)	62 (98.4)
Catheter-days [days, median (range)]	3 (1–47) ^d	7 (2–23)	8 (1–21)
Mechanical ventilation			
Exposed patients (%)	380 (38.9) ^d	19 (67.9)	53 (84.1) ^a
MV-days [days, median (range)]	3 (1–123) ^d	12 (2–61)	11 (1–35)
Urinary catheter			
Exposed patients (%)	665 (68.1) ^d	27 (96.4)	58 (92.1)
Catheter-days [days, median (range)]	3 (1–77) ^d	12 (1–63)	14 (1–45)

Impact

Median ICU length of stay	4 (2–134)	15.5 (4–67)	14 (2–134)
Hospital mortality	22.7%	32.1%	39.7%

→ Same epidemiology !

→ Same impact !!

Enhanced catheter bundle

SERVICE

PATIENTS

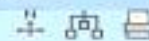
ENSEIGNEMENT

RECHERCHE

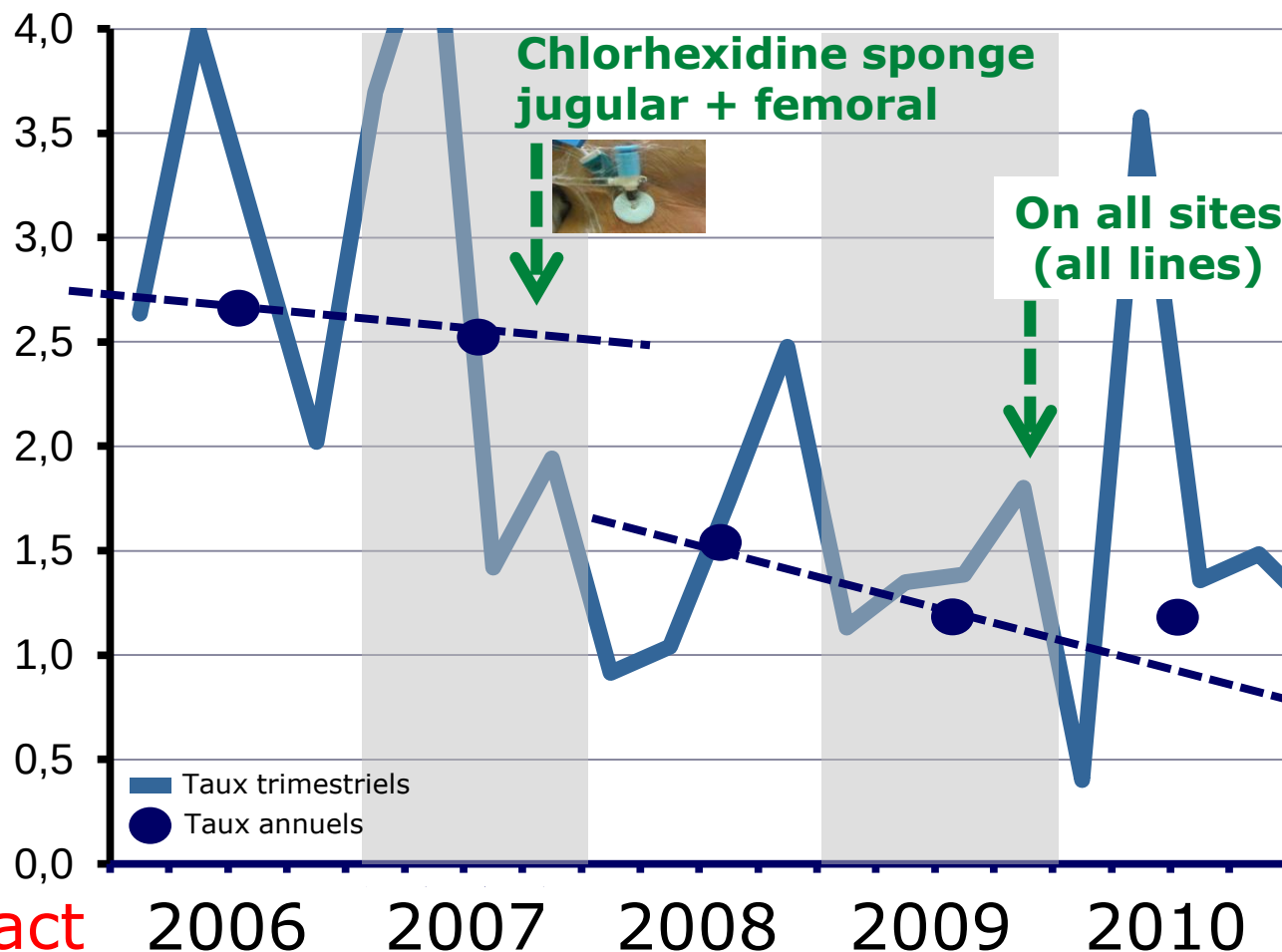
EMPLOI

SOUTENIR LA RECHERCHE

Menu d'enseignement



CRBSI + primary bacteremia (episodes/1000 CVC-days) [burns /ECMO/transplant excluded]



Avoided
from 2008 to 2010

28 BSI
56 clinical sepsis

1254 ICU-days
(place for 280 extra patients)

2'736'000 \$
(minus costs:236'000)

Impact

Infections avoided (CRBSI + BSI+ clinical sepsis)
ICU days avoided
Costs avoided

11+22
363 days
792'000\$

15+30
495 days
1'080'000\$

12+24
396 days
864'000\$

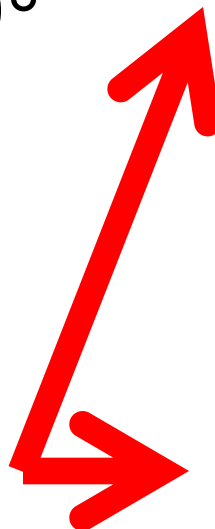
Enhanced catheter bundle

Catheter insertion

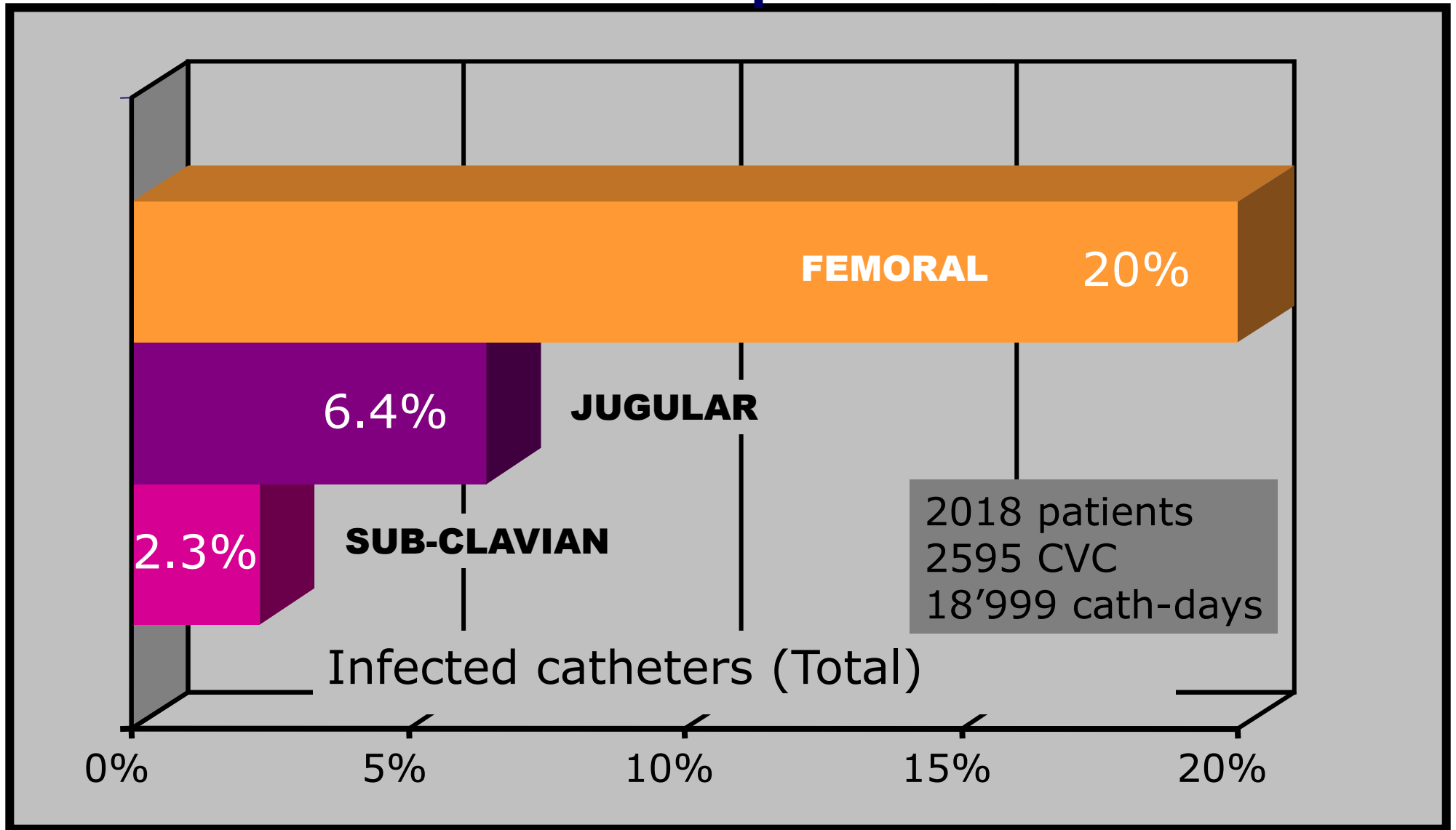
Guidelines/bedside teaching

+

- Chlorhexidine 2% + OH 70°
- US guided CVC + arteries



CVC: complications



Enhanced catheter bundle

Tracheostomized patients



Jugular

21.6 per 1,000 catheter-days

Subclavian

5.1 per 1,000 catheter-days

OR = 4.23; 95% CI=1.44–infinite; P=0.0097

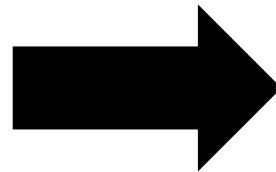
Enhanced catheter bundle

A new insertion paradigm !

In emergency
Life threatening situation



1. Femoral
2. Jugular
3. Sub-clavian
4. PIC-line



Patient stabilized
Planned change



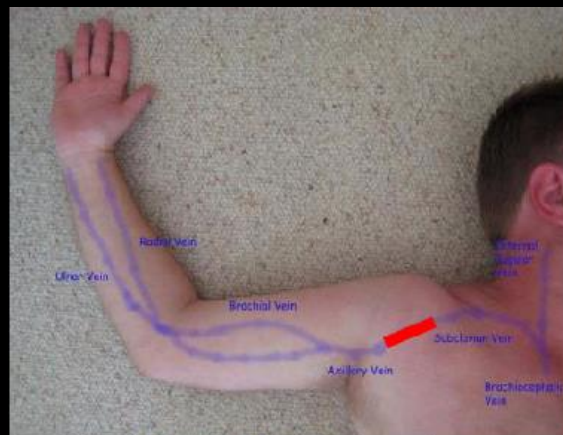
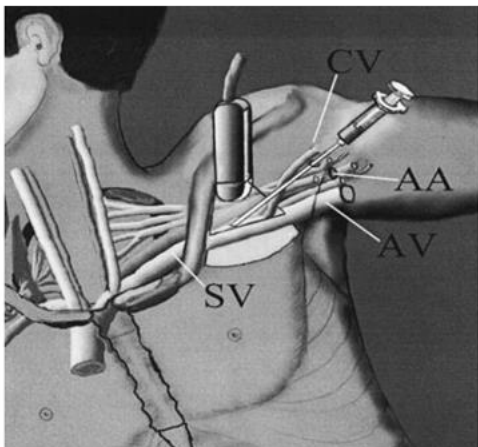
1. Sub-clavier
2. PIC-line
- ~~3. Jugular~~
- ~~4. Femoral~~

Enhanced catheter bundle

Transpectoral Ultrasound-Guided Catheterization of the Axillary Vein: An Alternative to Standard Catheterization of the Subclavian Vein

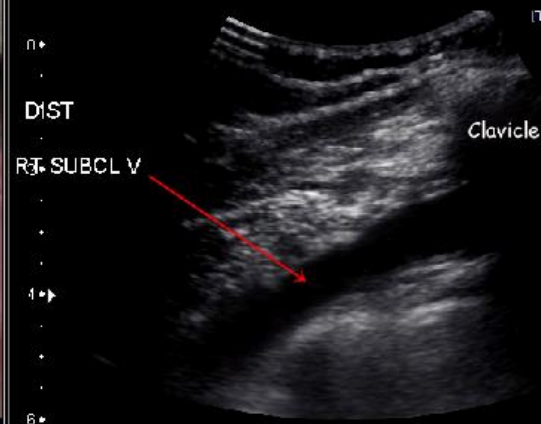
NavParkash S. Sandhu, MD
Department of Anesthesiology,
New York University School of Medicine

(Anesth Analg 2004;99:183-7)



The Distal Subclavian vein:

The vein is easily compressed so light transducer pressure is important.



The vein is easily compressed so light transducer pressure is important.



Enhanced catheter bundle

SERVICE

PATIENTS

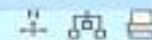
ENSEIGNEMENT

RECHERCHE

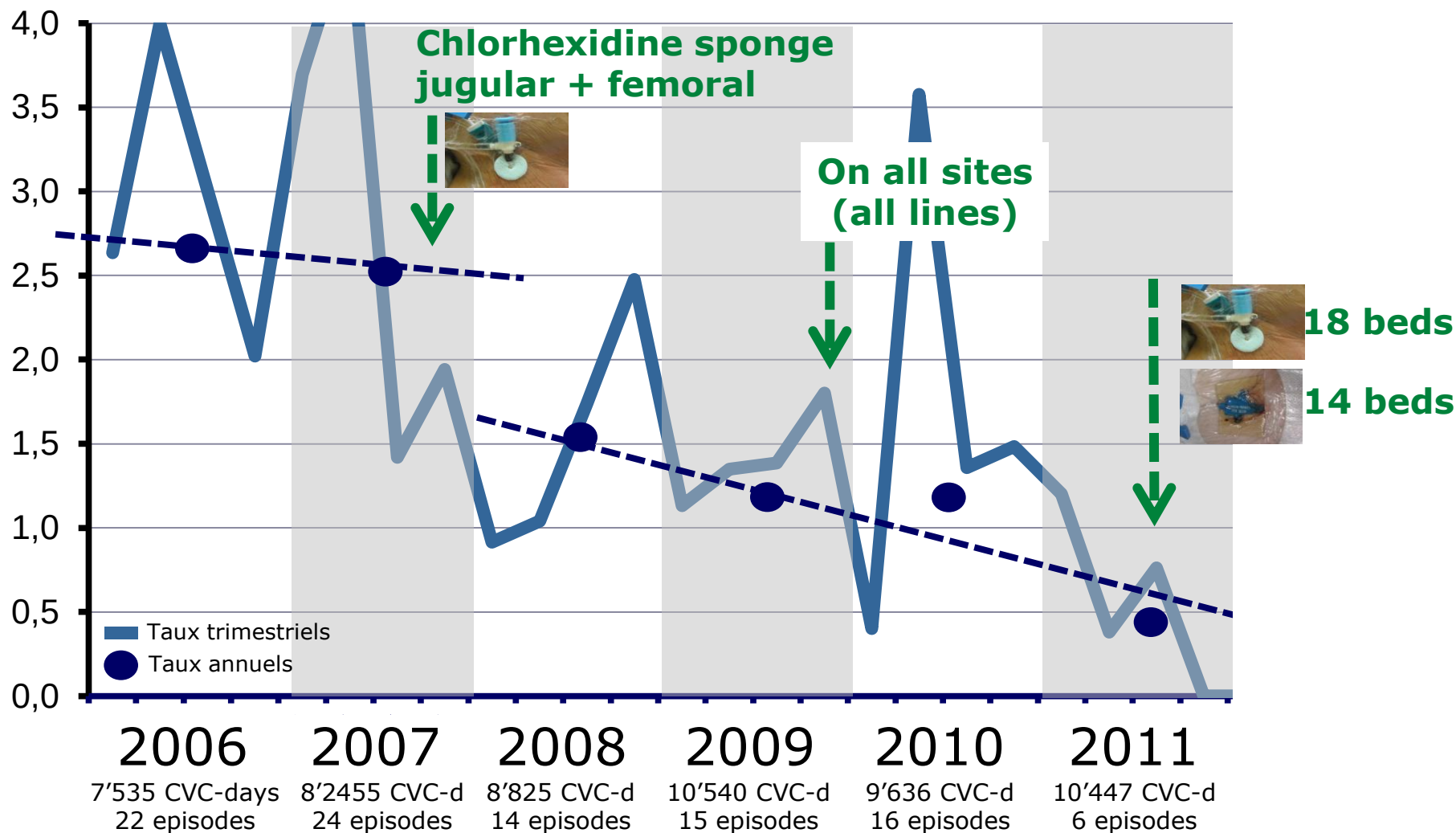
EMPLOI

SOUTENIR LA RECHERCHE

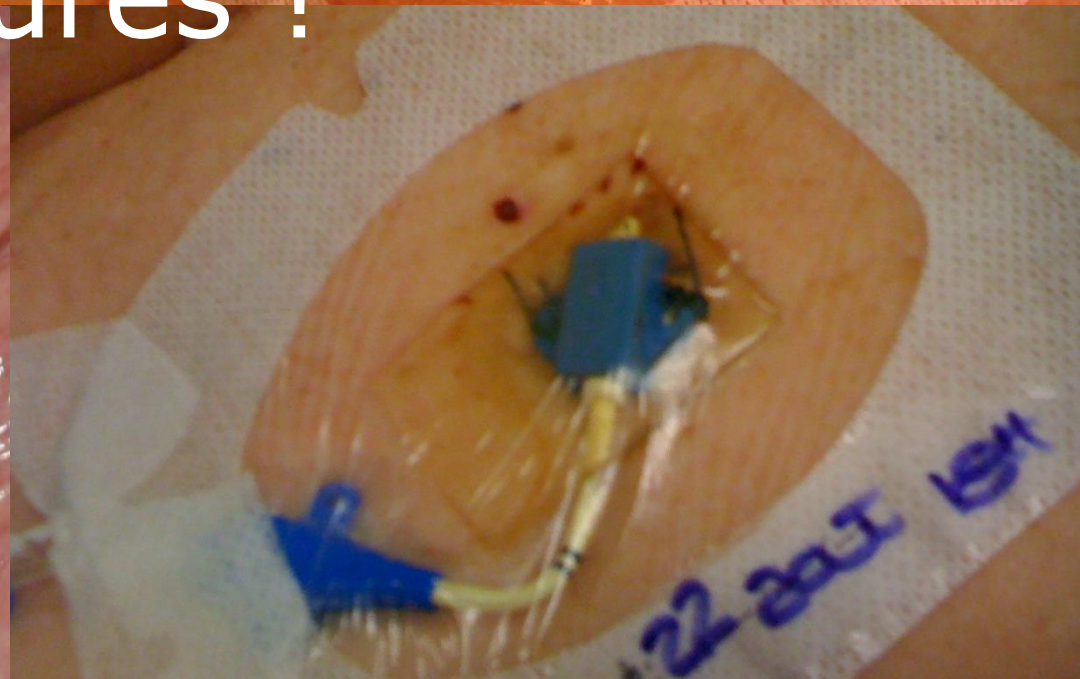
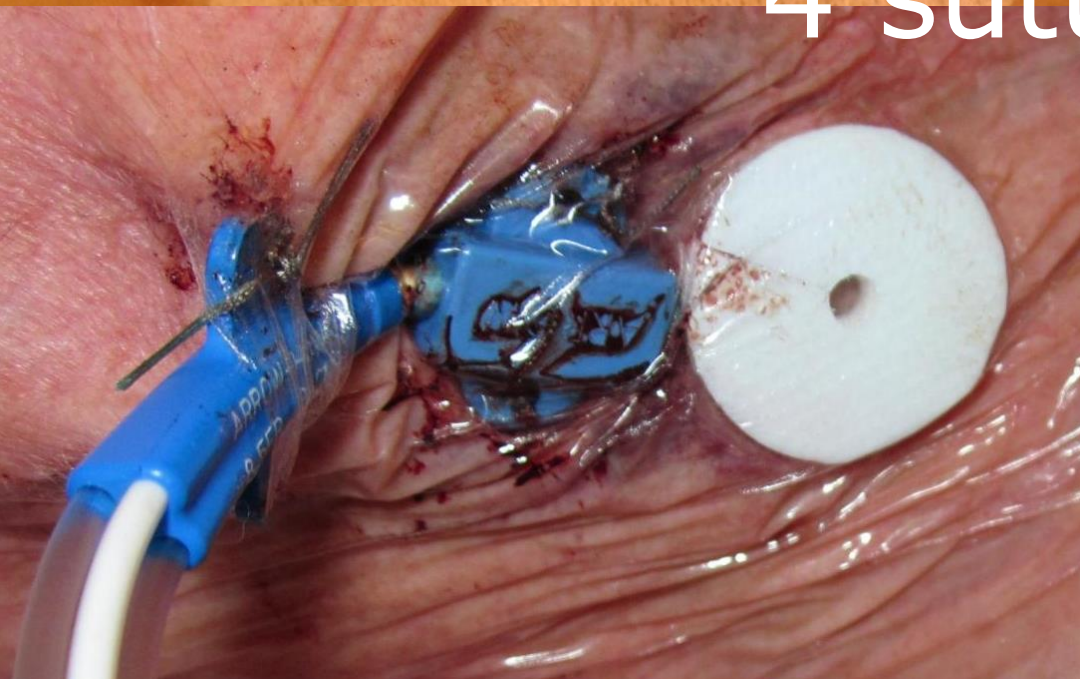
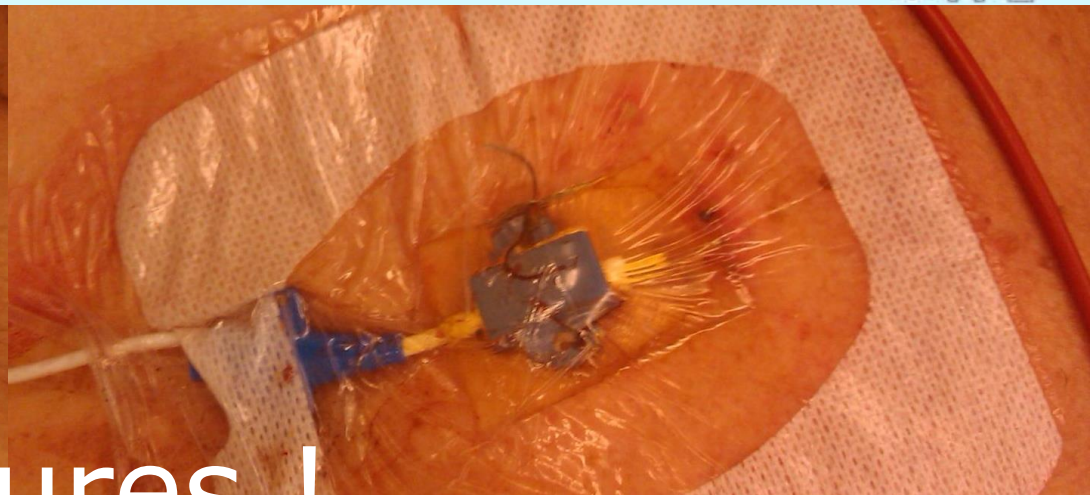
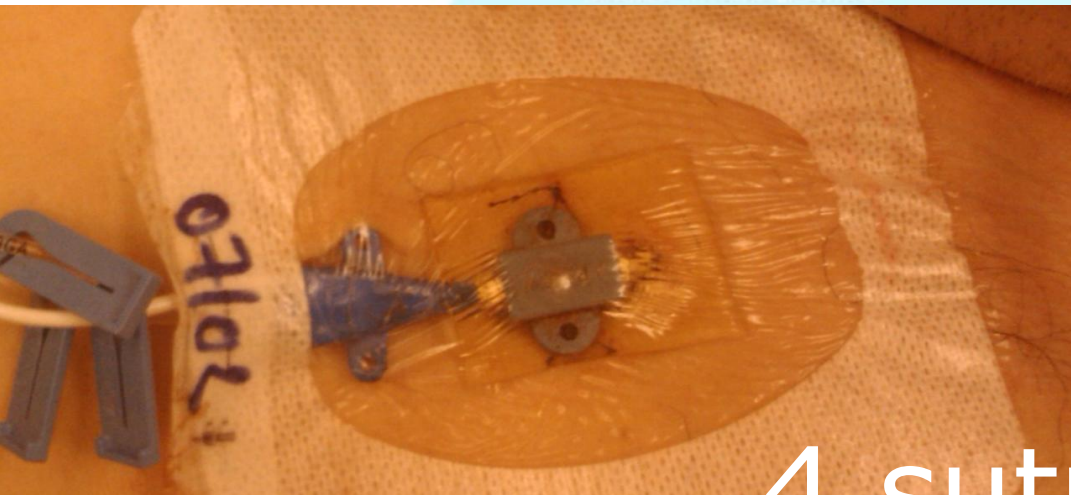
Menu d'enseignement



CRBSI + primary bacteremia (episodes/1000 CVC-days) [burns /ECMO/transplant excluded]



Enhanced catheter bundle



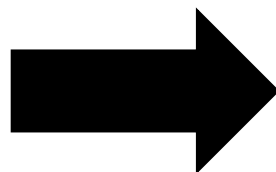
Enhanced catheter bundle

A new insertion paradigm !

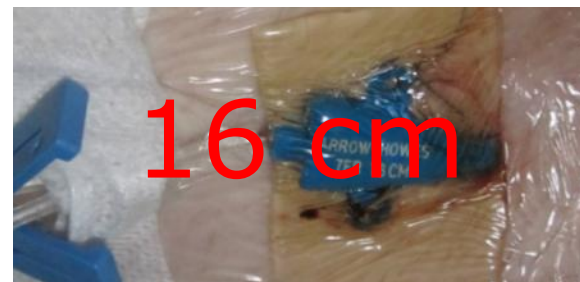
In emergency
Life threatening situation



1. Femoral
2. Jugular
3. Sub-clavian
4. PIC-line



Patient stabilized
Planned change



1. Sub-clavier
2. PIC-line
- ~~3. Jugular~~
- ~~4. Femoral~~

Enhanced catheter bundle

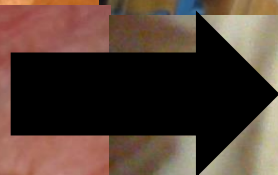


4 sutures !



16 cm

2 sutures !



16 cm

Enhanced catheter bundle

SERVICE

PATIENTS

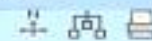
ENSEIGNEMENT

RECHERCHE

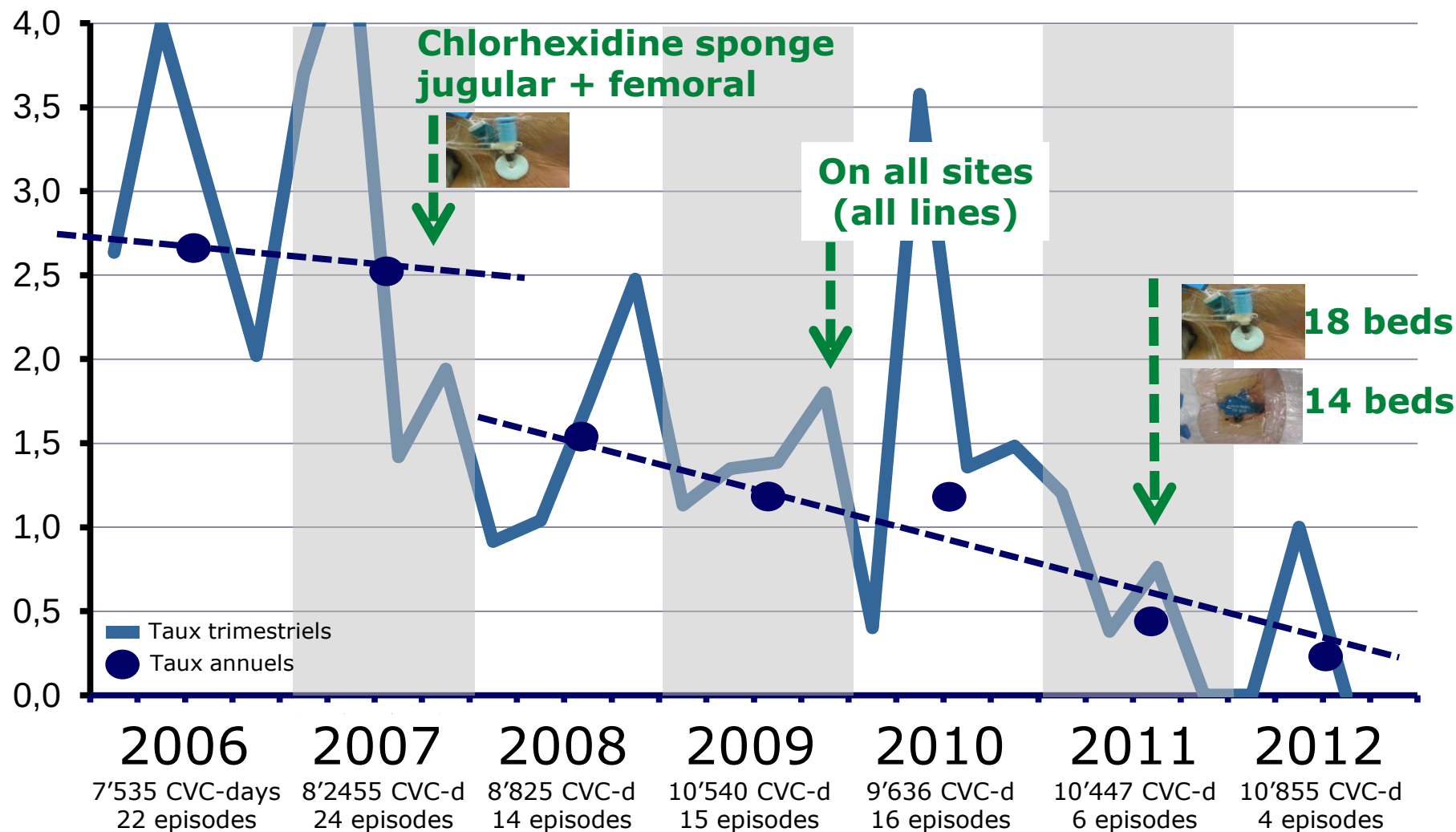
EMPLOI

SOUTENIR LA RECHERCHE

Menu d'enseignement



CRBSI + primary bacteremia (episodes/1000 CVC-days) [burns /ECMO/transplant excluded]



Enhanced catheter bundle

SERVICE

PATIENTS

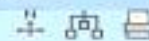
ENSEIGNEMENT

RECHERCHE

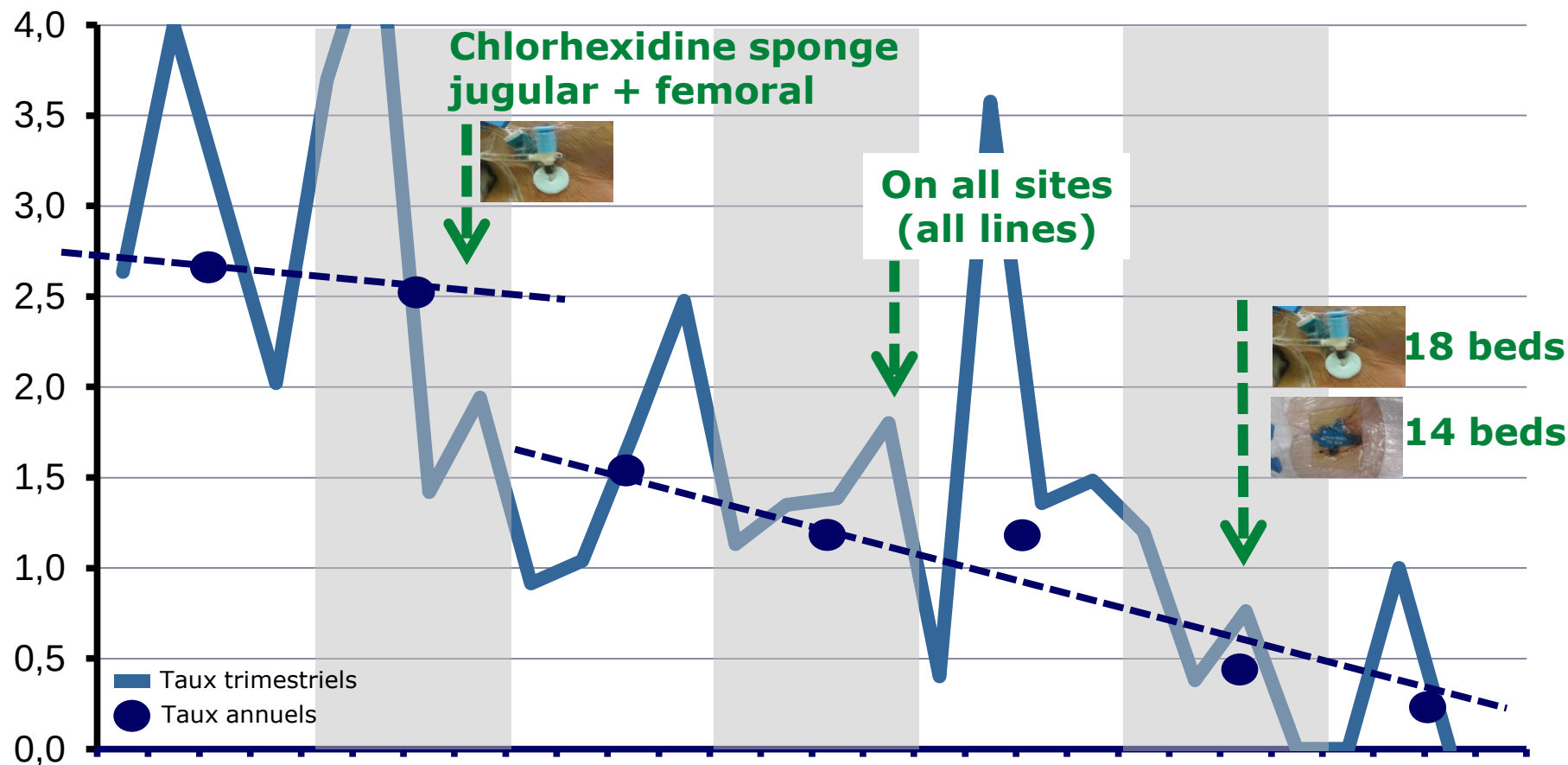
EMPLOI

SOUTENIR LA RECHERCHE

Menu de l'enseignement



CRBSI + primary bacteremia (episodes/1000 CVC-days) [burns /ECMO/transplant excluded]



Impact

Infections avoided (CRBSI + BSI+ clinical sepsis)
ICU days avoided
Costs avoided

11+22
363 days
792'000\$

15+30
495 days
1'080'000\$

12+24
396 days
864'000\$

24+48
792 days
1'728'00\$

26+52
858 days
1'872'000\$

89+178
2904 days
6'336'000\$

Enhanced catheter bundle

SERVICE

PATIENTS

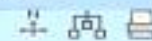
ENSEIGNEMENT

RECHERCHE

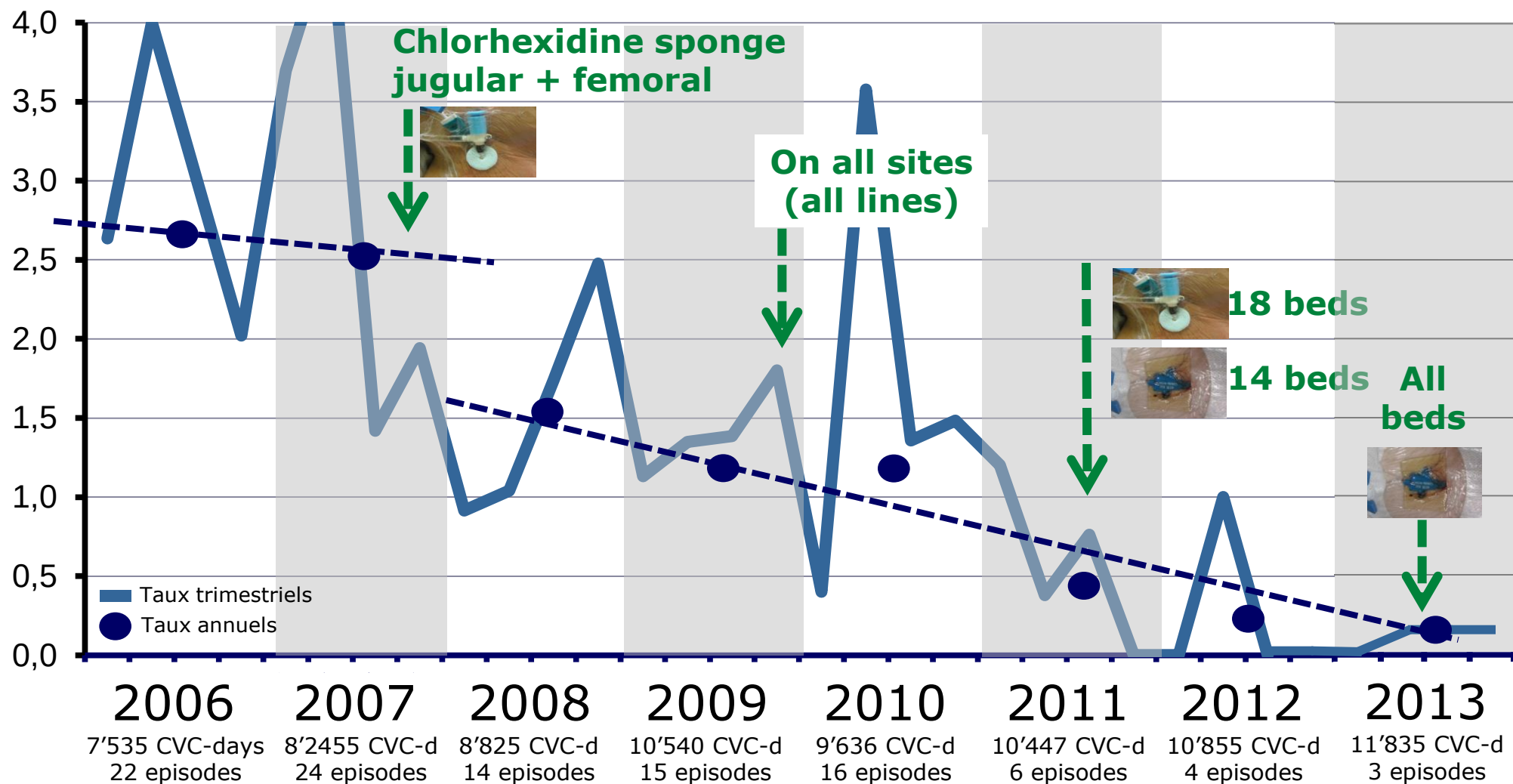
EMPLOI

SOUTENIR LA RECHERCHE

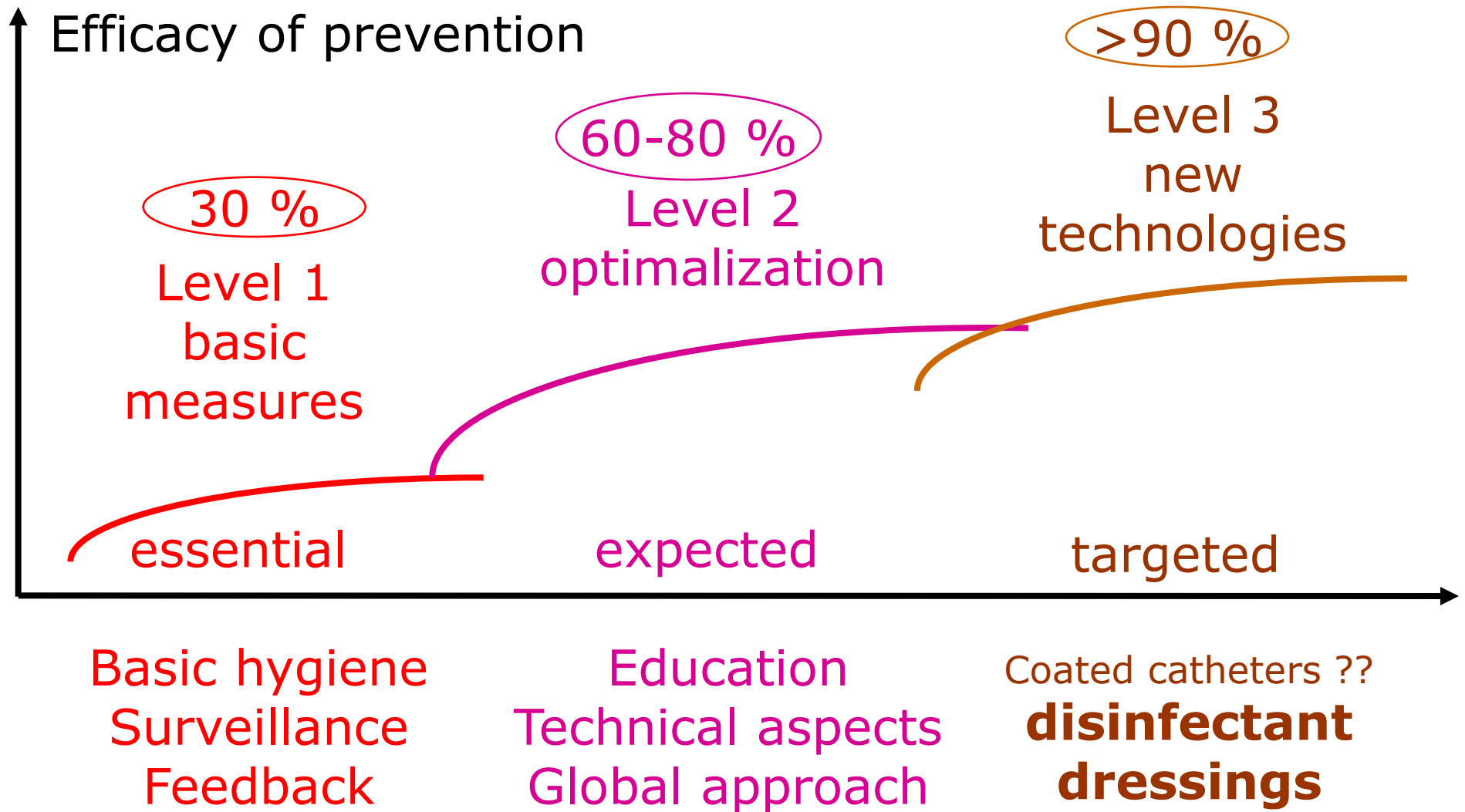
Menu d'enseignement



CRBSI + primary bacteremia (episodes/1000 CVC-days) [burns /ECMO/transplant excluded]

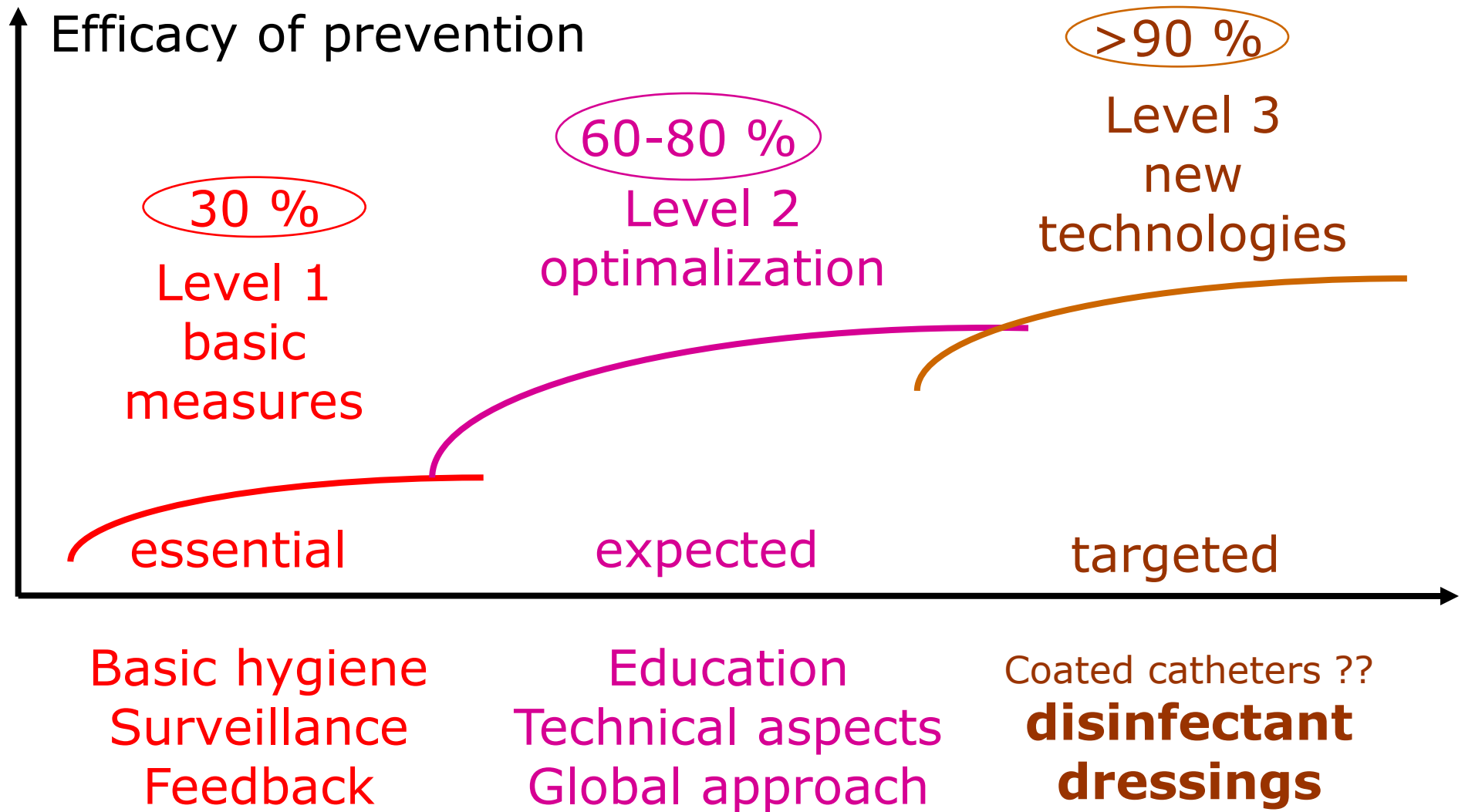


Prevention of catheter-related infections





Prevention of catheter-related infections







RESERVE for
Coated catheters

Prevention of catheter-related infections

General measures

Surveillance

Hand hygiene

Technical aspects

Maximal sterile barriers

Prophylaxis at insertion site

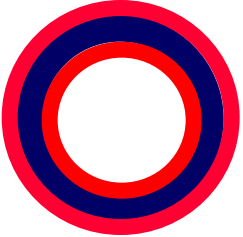
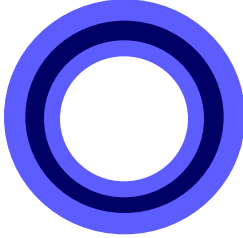
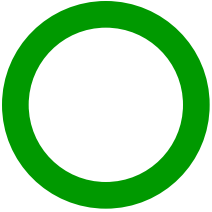
Recent developments

Coated catheters

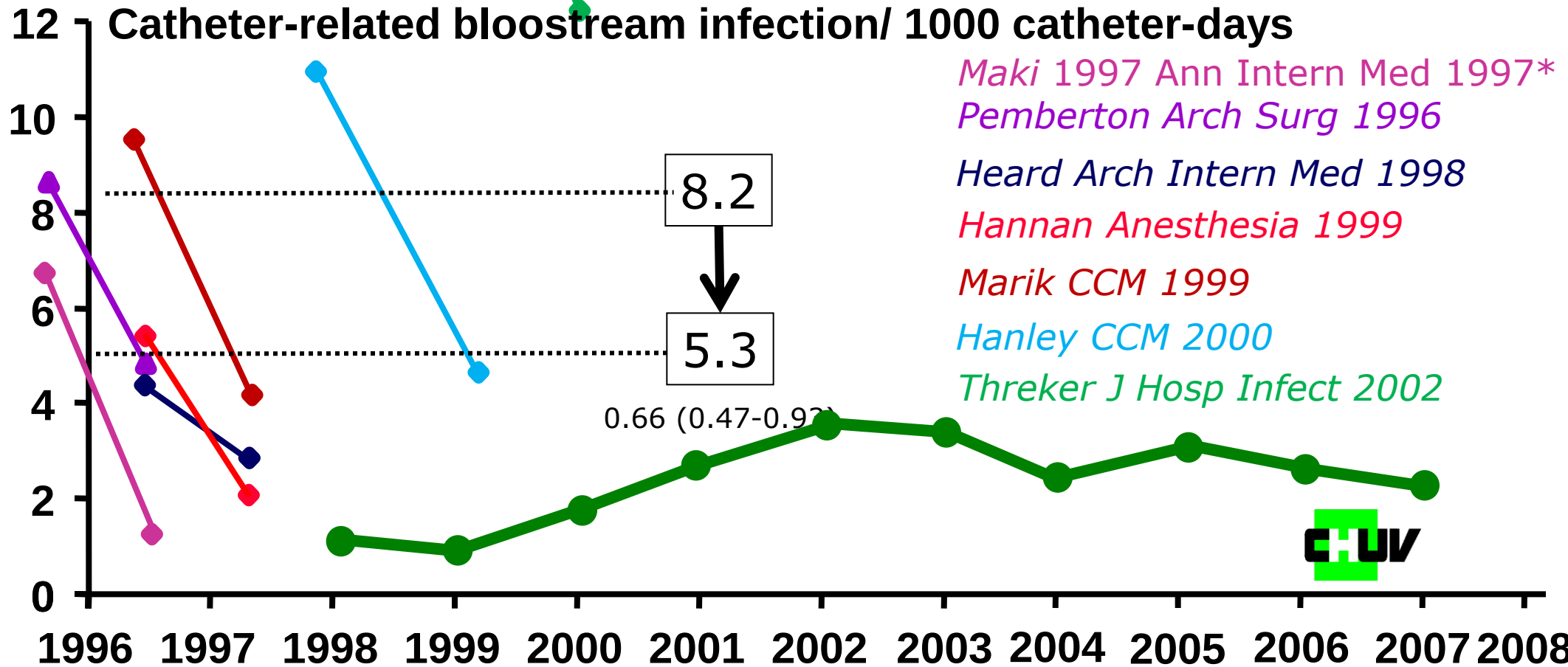
Global approach / education



Prévention: cathéters imprégnés

	type d'imprégnation	études in vitro	études cliniques
	chlorhexidine- Ag-sulfadiazine	positives	positives
	minocycline- rifampine	positives	positives
	libération de ions Ag ⁺	positives	positives

Chlorhexidine-Coated catheters

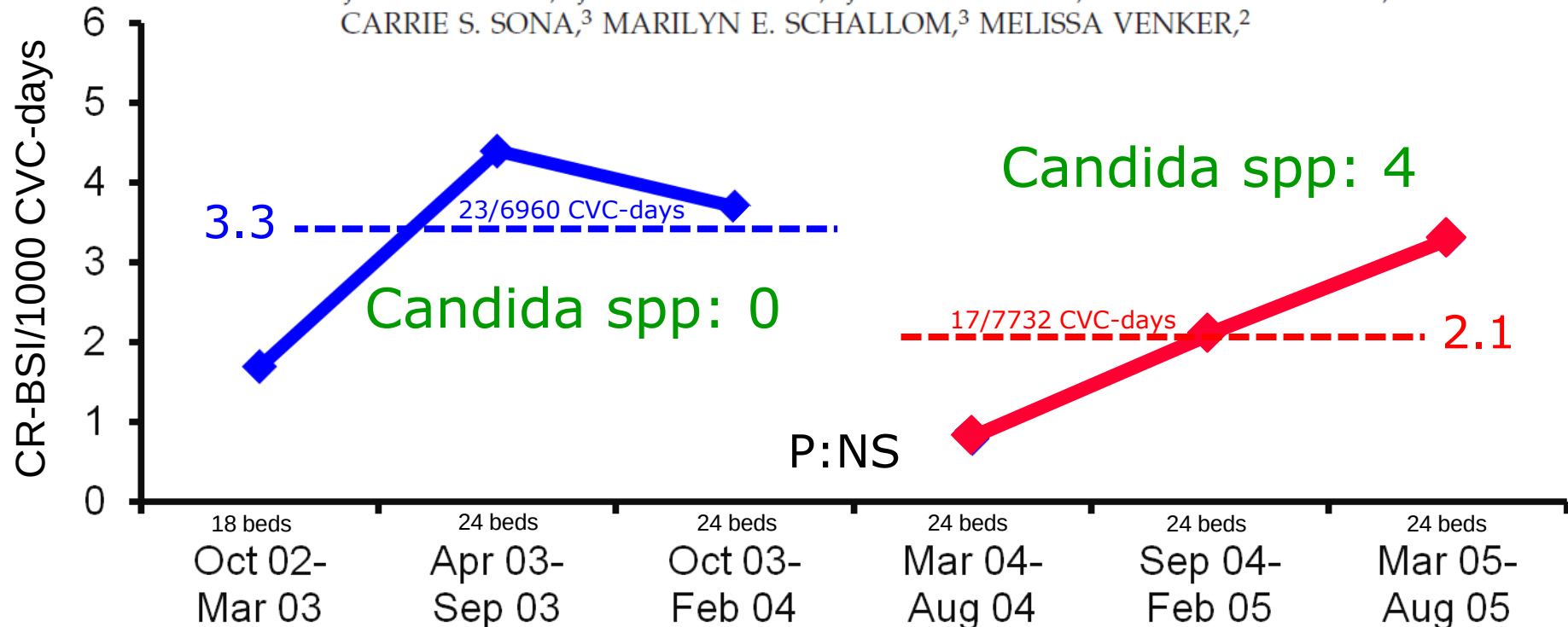


* Reduction significant (1 study)

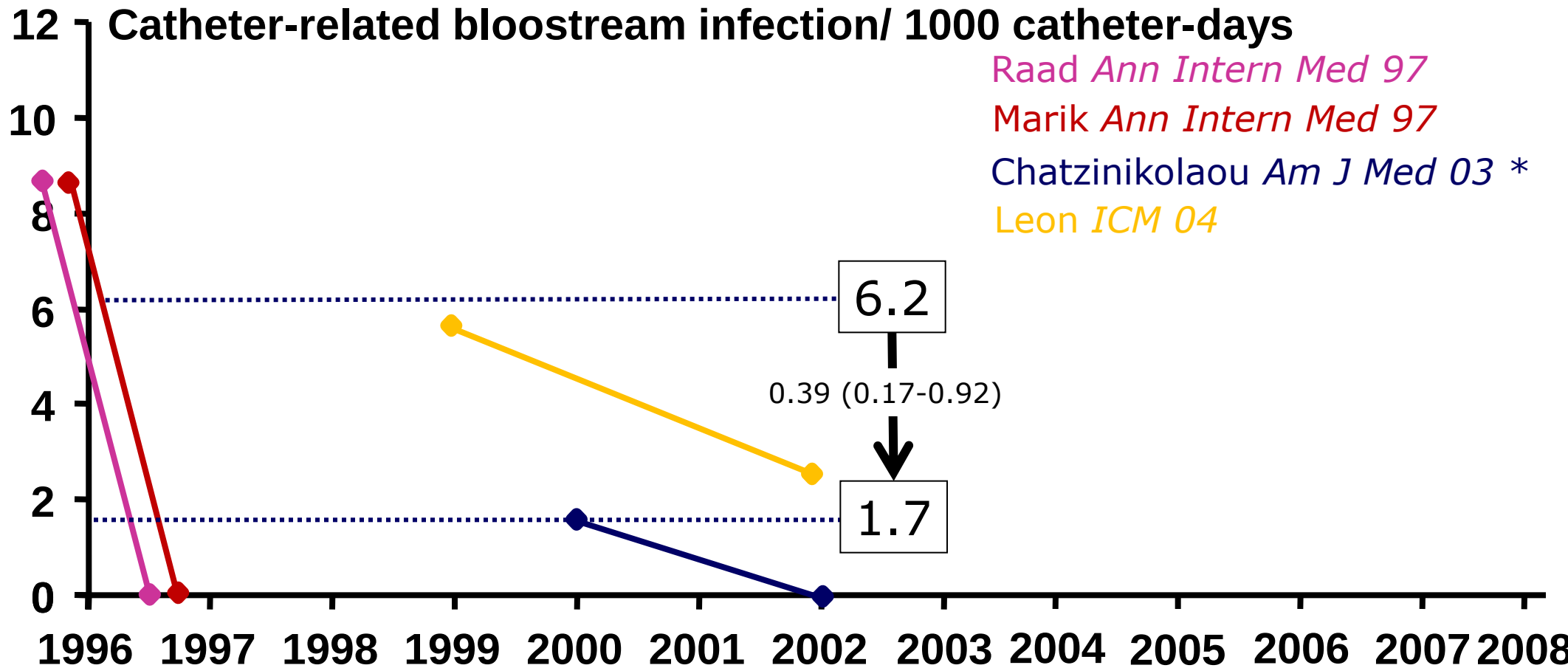
Chlorhexidine-Coated catheters

Effect of Chlorhexidine/Silver Sulfadiazine-Impregnated Central Venous Catheters in an Intensive Care Unit with a Low Blood Stream Infection Rate after Implementation of an Educational Program: A Before-After Trial*

DOUGLAS J.E. SCHUERER,¹ JEANNE E. ZACK,² JAMES THOMAS,³ INGRID B. BORECKI,⁴
CARRIE S. SONA,³ MARILYN E. SCHALLOM,³ MELISSA VENKER,²



Minocyclin/rifampin-Coated catheters



* Reduction significant (1 study)

Minocyclin/rifampin-Coated catheters

Vol. 24 No. 12

INFECTION CONTROL AND HOSPITAL EPIDEMIOLOGY

2003

961

Concise Communications

Clinical Experience With Minocycline
and Rifampin-Impregnated Central
Venous Catheters in Bone Marrow
Transplantation Recipients: Efficacy and
Low Risk of Developing Staphylococcal
Resistance

Ioannis Chatzinikolaou, MD; Hend Hanna, MD;
Linda Graviss, MT; Gassan Chaiban, BS;
Cheryl Perego, MPH; Rebecca Arbuckle, RPh;
Richard Champlin, MD; Rabih Darouiche, MD;
George Samonis, MD; Issam Raad, MD

STAPHYLOCOCCAL SUSCEPTIBILITY PATTERNS (MIC₉₀ MG/L)*

	Baseline Data (1990 to 1992) ⁷		Study Susceptibilities (July to December 2001)			
	<i>Staphylococcus</i>		Leukemia		BMT	
	<i>aureus</i> (n = 60)	CNS (n = 30)	<i>S. aureus</i> (n = 4)	CNS (n = 49)	<i>S. aureus</i> (n = 3)	CNS (n = 11)
Minocycline	0.25	0.2	≤ 0.06	≤ 0.06	≤ 0.06	≤ 0.06
Rifampin	0.5	0.03	≤ 0.06	128	≤ 0.06	≤ 0.06

BMT = bone marrow transplantation; CNS = coagulase-negative staphylococci.

*MIC₉₀ = the lowest concentration of antibiotic that inhibits the growth of 90% of the isolates.

But this is not LOW !!!

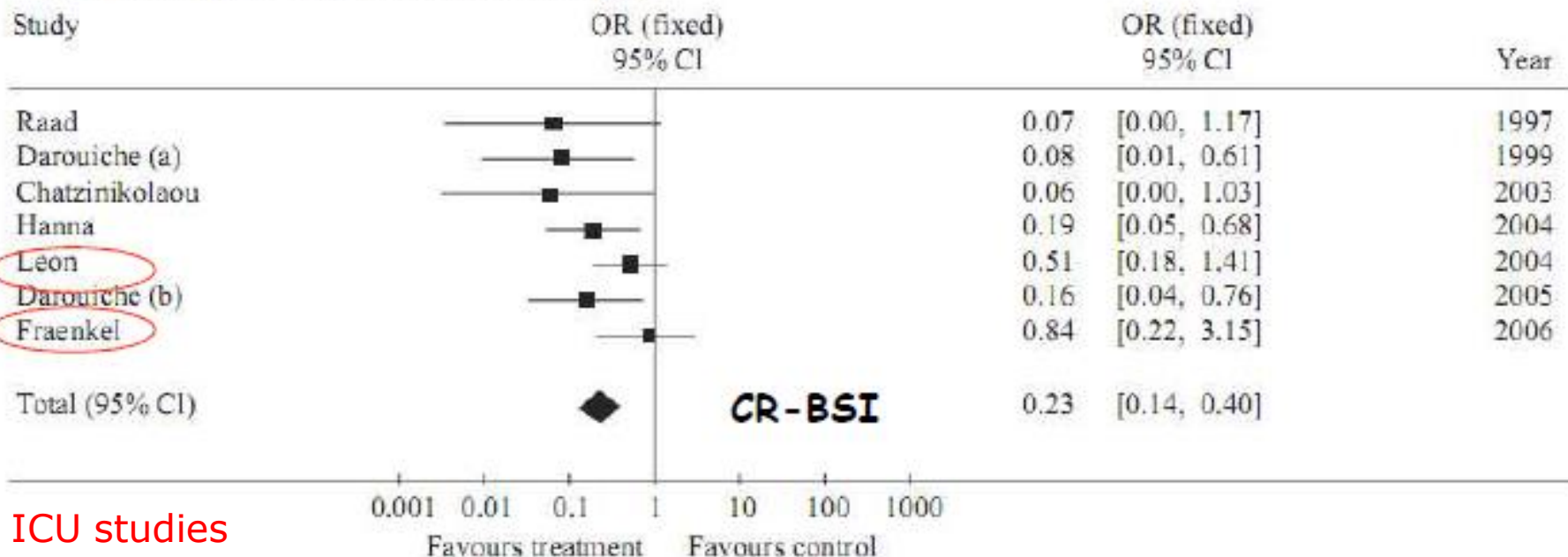
Minocyclin/rifampin-Coated catheters



Rifampicin-impregnated central venous catheters: a meta-analysis of randomized controlled trials

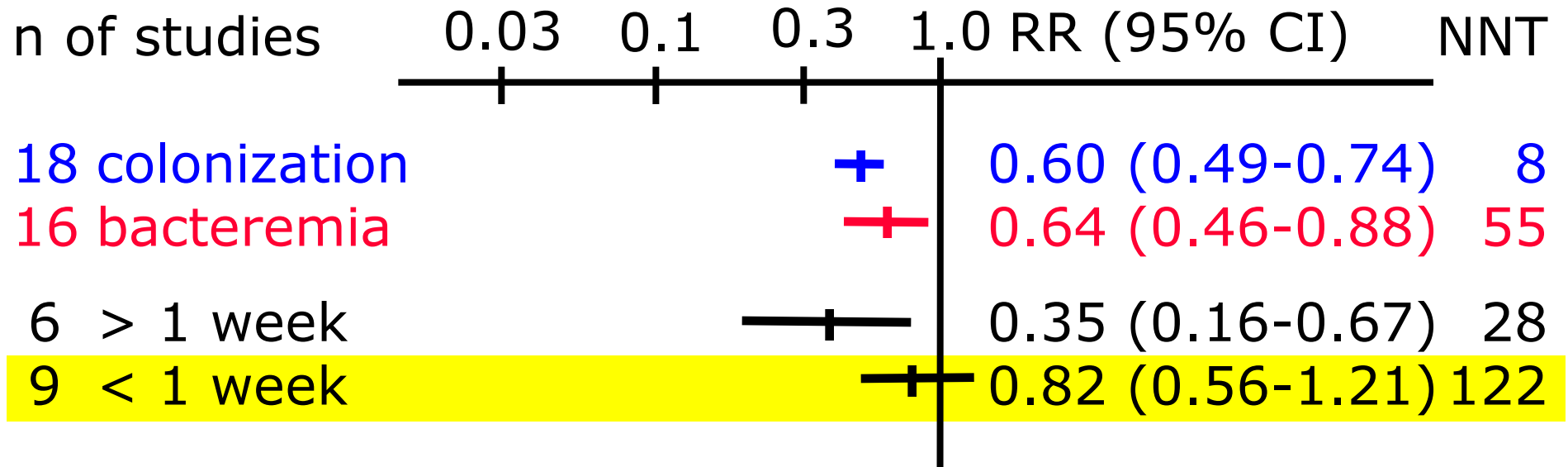
Matthew E. Falagas

Journal of Antimicrobial Chemotherapy (2007)

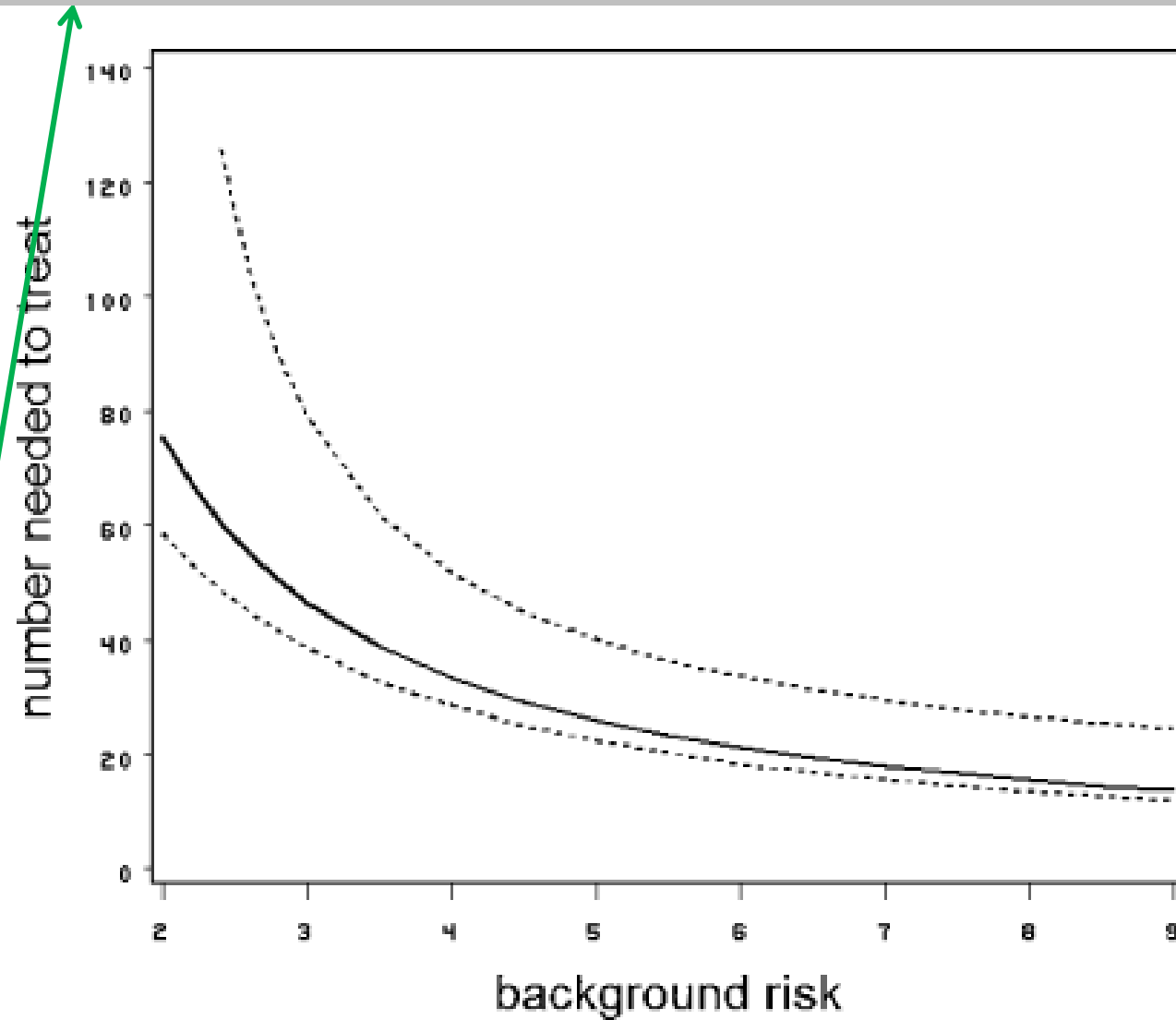


Prevention: impact of coated catheters

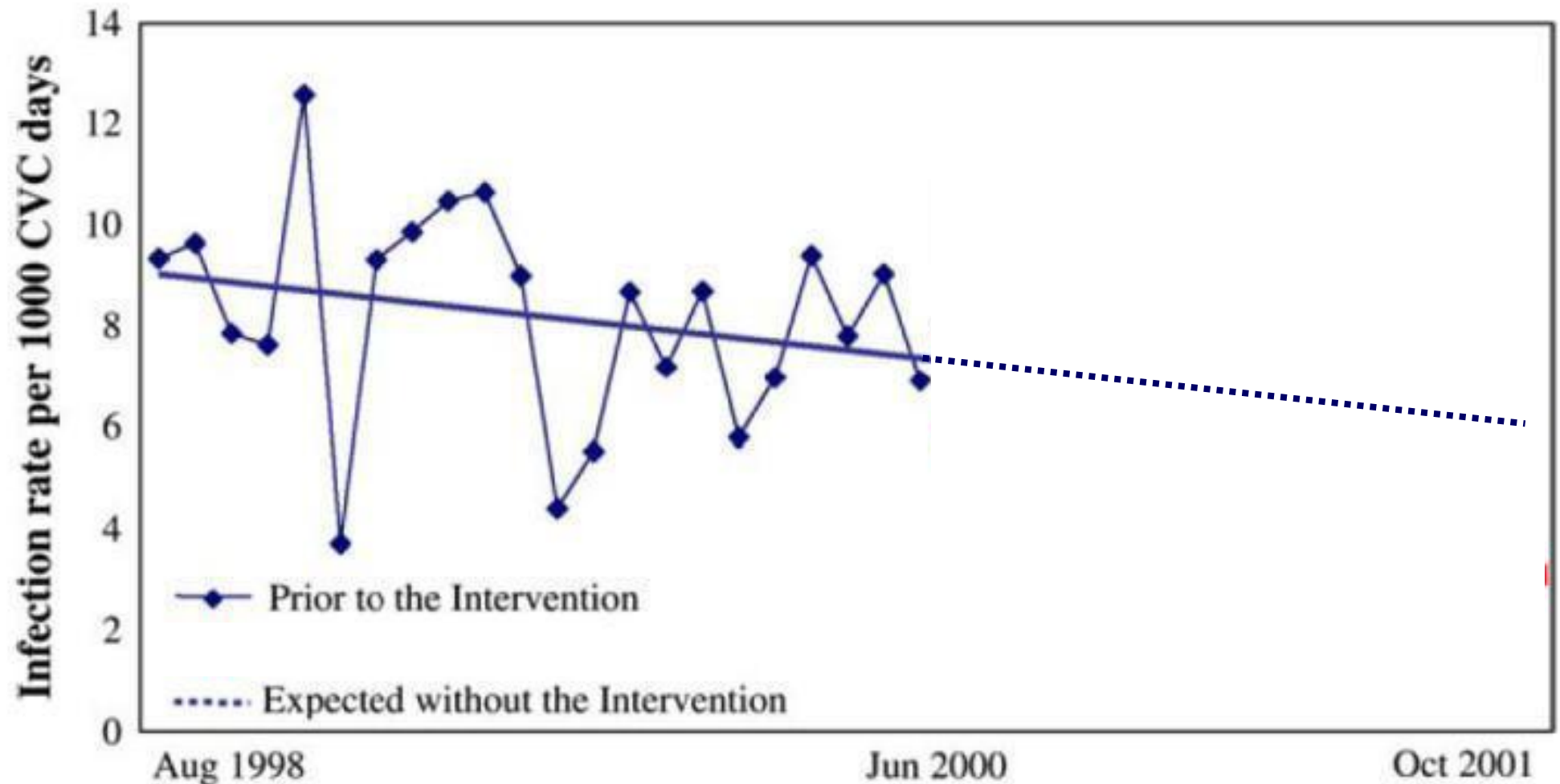
Meta-analysis



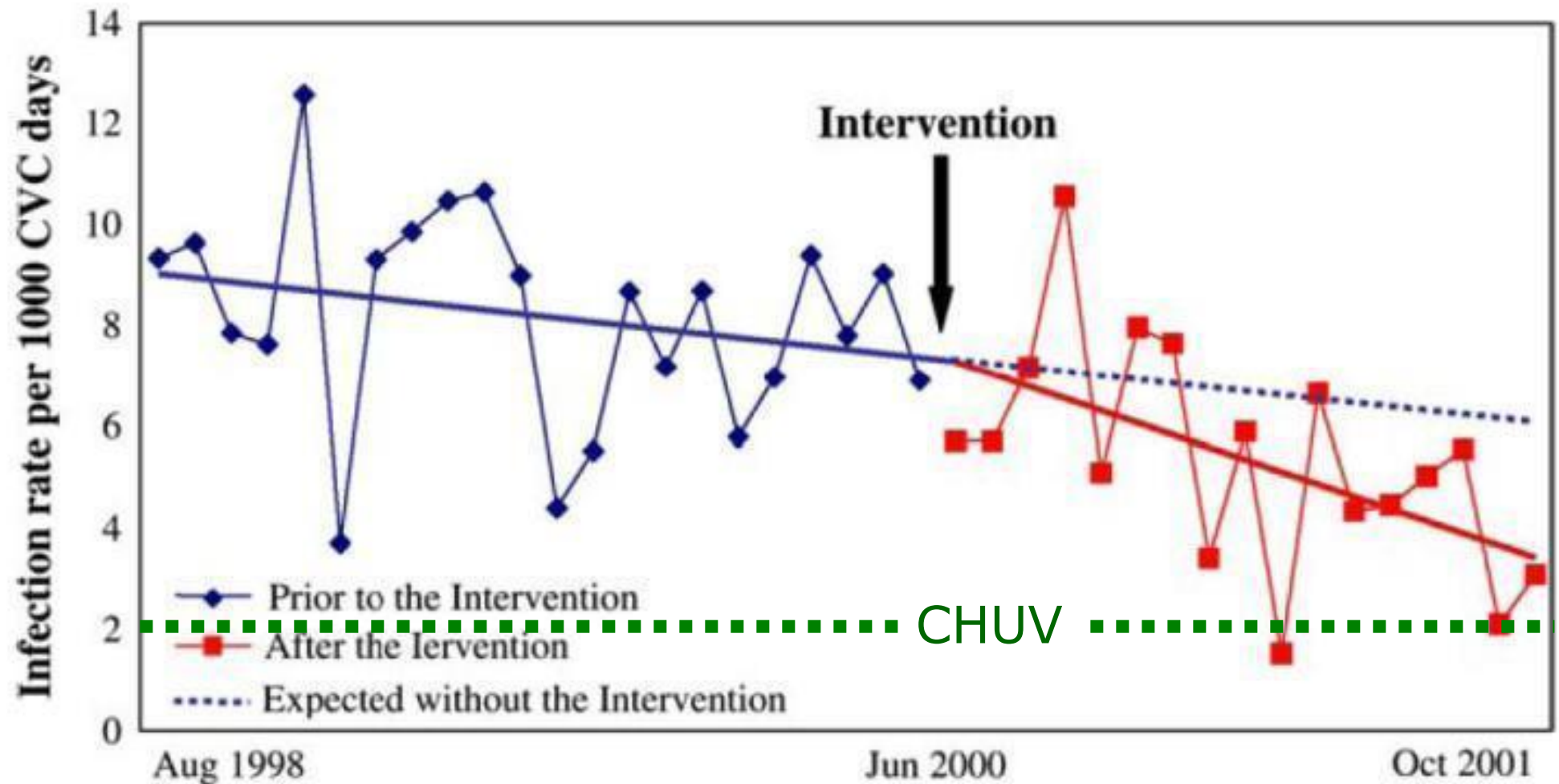
Impregnated catheter Number Needed to Treat



Are antiseptic-coated central venous catheters effective in a real-world setting?



Are antiseptic-coated central venous catheters effective in a real-world setting?



Coated-catheters ?

Évaluation des pratiques de gestion des cathéters veineux centraux dans les réanimations chirurgicales universitaires françaises

Practice assessment of central venous lines care in surgical ICU of French university hospitals

O. Mimoz*, R. Moreira, D. Frasca, M. Boisson, C. Dahyot-Fizelier

EA3809, Inserm, ERI 23, service d'anesthésie réanimation, CHU de Poitiers, université de Poitiers

France

41 (75 %) university hospitals and 1 surgical ICU took part to the study.

only 1/3 physicians,
10% sometimes use coated catheters

Coated-catheters ?

