GInGer
Groupe Infectio-Gériatrie
Société Française de Gériatrie Gérontologie
SPILF

HÔPITAL INTERCOMMUNAL VILLENEUVE-ST-GEORGES
LUCIE & RAYMOND AUBRAC

EMA
Equipe Multidisciplinaire en Antibiothérapie
Villeneuve Saint Georges (CHIV)

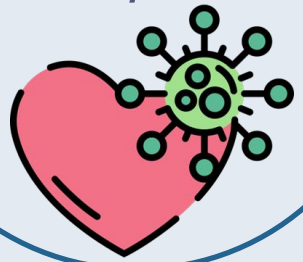
Best of en infectio gériatrie

Dr Pauline Caraux Paz
Infectiologue
CHIV

Plan du Best of

01
Prevention = Vaccin

02
Bactériémie / Endocardite



03
ATB SC

04
BUA en EHPAD

05
Pneumonie d'aspiration

01

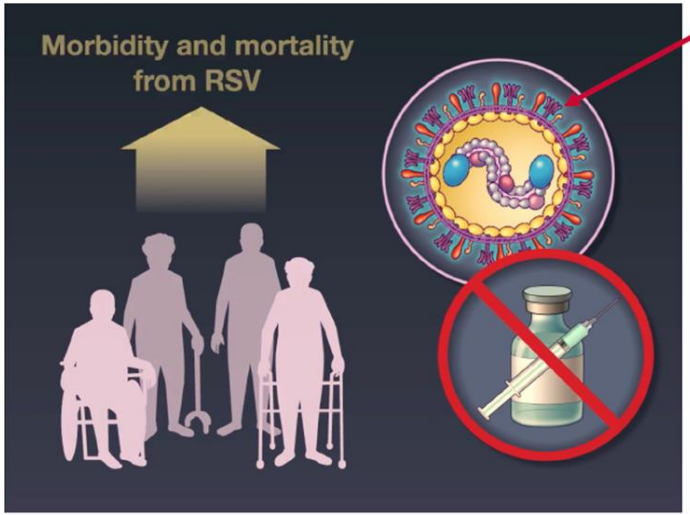
Prévention - Vaccination

VRS

Virus Respiratoire Syncytial et la population âgée

- Hospitalisation
- Perte d'indépendance
- Décompensation de comorbidités
- Décès

Âge
Comorbidités
IC, AVC, I rénale chronique
BPCO, immunodépression



VRS A et B
- Protection transitoire
- Glycoprotéine de Fusion (RSVpréF)
- Entrée dans la cellule respiratoire

Des vaccins pour demain

Vaccin inactivé	Vaccin protéique	Vaccin à vecteur viral	Vaccin à ARN viral
	AREXVY® GSK Pfizer ABRYSVO®	janssen moderna	

> 15 essais de phase 3

Diapo Pr C. Roubaud

The NEW ENGLAND JOURNAL of MEDICINE

N ENGL J MED 388;16 NEJM.ORG APRIL 20, 2023

ORIGINAL ARTICLE

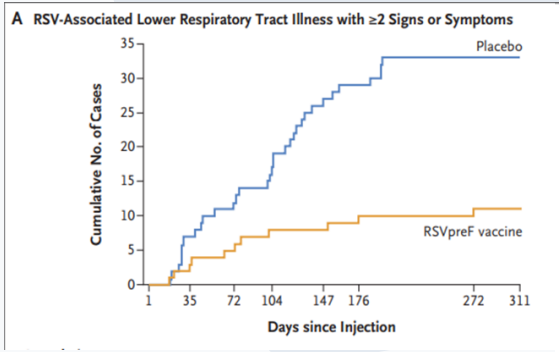
Efficacy and Safety of a Bivalent RSV Prefusion F Vaccine in Older Adults

E.E. Walsh,
for the RENOIR Clinical Trial Group*

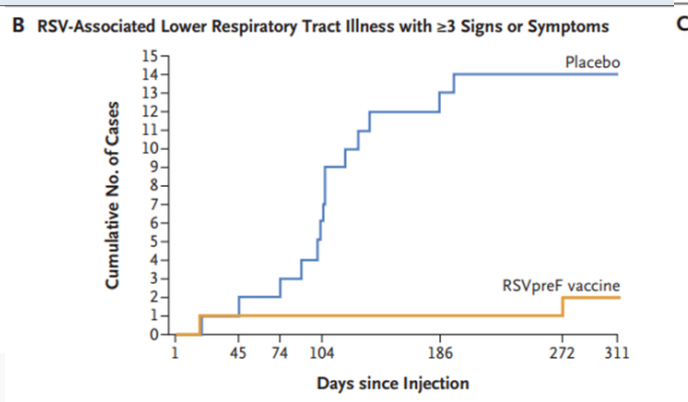
Pfizer ABRYSVO®

Vaccin recombinant VRS, bivalent, non adjuvanté
Essai clinique de phase III RENOIR, multicentrique, randomisé vs placebo, adultes > 60 ans
34284 participants, âge moyen 68,3 ans, durée médiane de surveillance 7 mois
Obj principal : EV vis à vis d'infection respiratoire liée au VRS avec > 2 ou > 3 symptômes

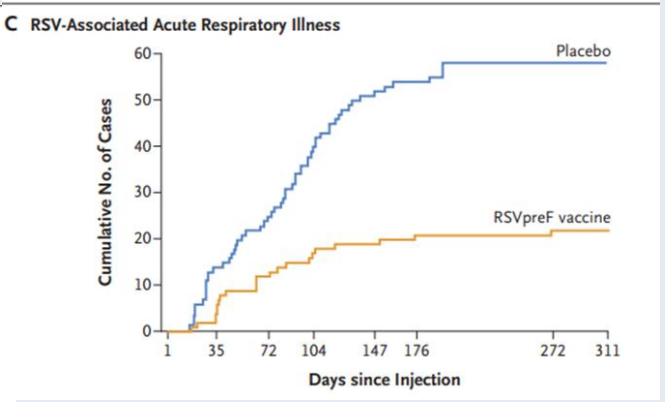
EV 66,7%



EV 85,7%



EV 62,1%



The NEW ENGLAND JOURNAL of MEDICINE

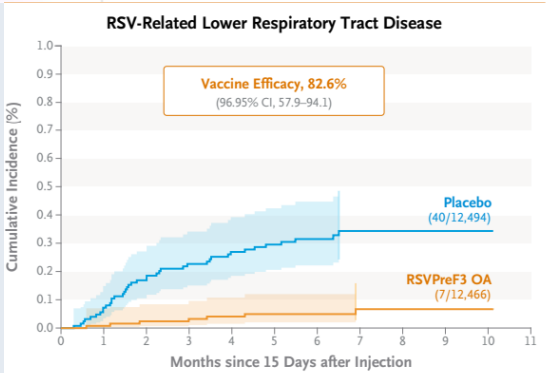
ORIGINAL ARTICLE

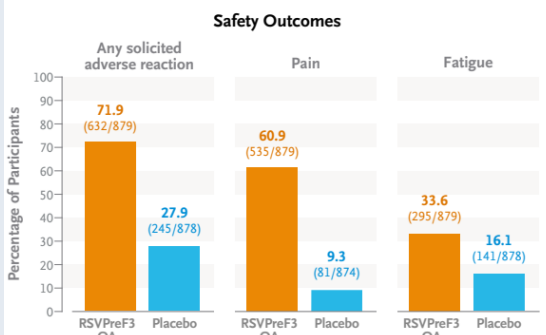
Respiratory Syncytial Virus Prefusion F Protein Vaccine in Older Adults

A. Papi, M.G. Ison, J.M. Langley, D.-G. Lee, I. Leroux-Roels, F. Martinon-Torres, T.F. Schwarz, R.N. van Zyl-Smit, L. Campora, N. Dezutter, N. de Schrevel, L. Fissette, M.-P. David, M. Van der Wielen, L. Kostanyan, and V. Hulstrøm, for the AReSVi-006 Study Group*

N ENGL J MED 388;7 NEJM.ORG FEBRUARY 16, 2023

Vaccin adjuvanté RSVpreF Oa
Essai clinique de phase III, multicentrique, randomisé vs placebo,
Adultes > 60 ans
24966 participants, âge moyen 69,5 ans, durée médiane de surveillance 6,7 mois
Obj principal : efficacité vaccinale vis-à-vis d'infection respiratoire basse liées au VRS





AREXVY® GSK

The NEW ENGLAND JOURNAL of MEDICINE

ORIGINAL ARTICLE

Efficacy and Safety of an mRNA-Based RSV PreF Vaccine in Older Adults

E. Wilson, J. Goswami, A.H. Baqui, P.A. Doreski, G. Perez-Marc, K. Zaman, J. Monroy, C.J.A. Duncan, M. Ujiie, M. Rämet, L. Pérez-Breva, A.R. Falsey, E.E. Walsh, R. Dhar, L. Wilson, J. Du, P. Ghaswalla, A. Kapoor, L. Lan, S. Mehta, R. Mithani, C.A. Panozzo, A.K. Simorellis, B.J. Kuter, F. Schödel, W. Huang, C. Reuter, K. Slobod, S.K. Stoszek, C.A. Shaw, J.M. Miller, R. Das, and G.L. Chen, for the ConquerRSV Study Group*

moderna™
messenger therapeutics

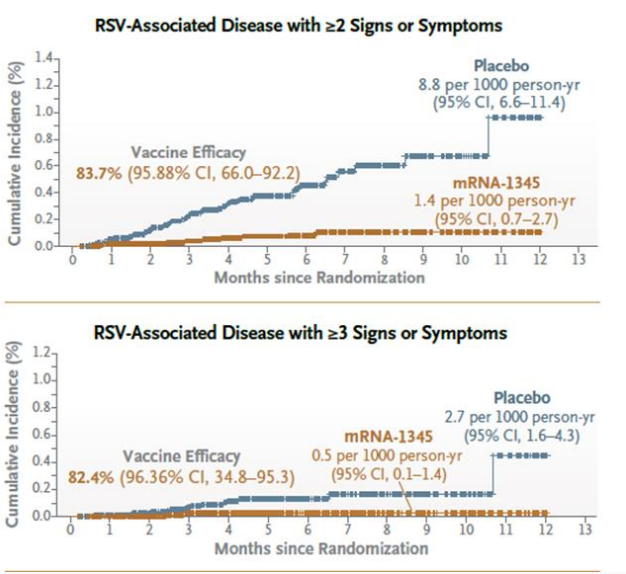


Table 1. Demographic and Clinical Characteristics of the Participants at Baseline (Safety Analysis Population).*

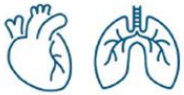
Characteristic	mRNA-1345 (N=17,734)	Placebo (N=17,679)	Total (N=35,413)
Age at enrollment			
Mean — yr	68.1±6.2	68.1±6.2	68.1±6.2
Median (range) — yr	67 (60–95)	67 (60–96)	67 (60–96)
Distribution — no. (%)			
60–69 yr	11,281 (63.6)	11,222 (63.5)	22,503 (63.5)
70–79 yr	5,474 (30.9)	5,460 (30.9)	10,934 (30.9)
≥80 yr	979 (5.5)	997 (5.6)	1,976 (5.6)

LIMITATIONS AND REMAINING QUESTIONS

- Participants with certain immunocompromising conditions were excluded from the trial.
- There were low case numbers in some subgroups, including participants ≥80 years of age and frail participants.

VRS

1 dose

- > 75 ans
- > 65 ans + 

Pas de rappel prévu à ce jour

HAS
HAUTE AUTORITÉ DE SANTÉ

« RCT n'ont pas montré de réduction d'hospitalisation ni de mortalité dans la population ciblée… »

ASMR 5 

« Si le vaccin prévient la maladie, il devrait prévenir les Hospitalisations ! »

Hospitalisation ?
Population > 75 ans ?

Respiratory syncytial virus (RSV) vaccine effectiveness against RSV-associated hospitalisations and emergency department encounters among adults aged 60 years and older in the USA, October, 2023, to March, 2024: a test-negative design analysis

Payne *et al.* Lancet 2024

Amanda B Payne, Janet A Watts, Patrick K Mitchell, Kristin Dascomb, Stephanie A Irving, Nicola P Klein, Shaun J Grannis, Toan C Ong, Sarah W Ball, Malini B DeSilva, Karthik Natarajan, Tamara Sheffield, Daniel Bride, Julie Arndorfer, Allison L Naleway, Padma Koppolu, Bruce Fireman, Ousseny Zerbo, Julius Timbol, Kristin Goddard, Brian E Dixon, William F Fadel, Colin Rogerson, Katie S Allen, Suchitra Rao, David Mayer, Michelle Barron, Sarah E Reese, Elizabeth A K Rowley, Morgan Najdowski, Allison Avrich Ciesla, Josephine Mak, Emily L Reeves, Omobosola O Akinsete, Charlene E McEvoy, Inih J Essien, Mark W Tenforde, Katherine E Fleming-Dutra, Ruth Link-Gelles

AREXVY® GSK

Pfizer ABRYSVO®

Données de vie réelle

Vision : réseau collaboratif multisites CDC et 9 compagnies d'assurance santé
Statut vaccinal, délai de vaccination, âge, statut immunodépression, type de vaccins
230 hôpitaux et 245 urgences

Dean N, Amin AB. Test-Negative Study Designs for Evaluating Vaccine Effectiveness. *JAMA*.2024

Design

- Adulte > 60 ans
- Symptômes respiratoires
- PCR VRS réalisées
- Statut vaccinal (> 14 jours)
- Urgences ou H > 24 heures (dont USI)

- « test negative design » : Comparaison du taux de vaccinations parmi les cas positifs et les cas négatifs

- Oct 2023 → Mars 2024

	All emergency department encounters	Assay for respiratory syncytial virus*—negative	Assay for respiratory syncytial virus*—positive	Standardised mean difference†	Vaccination status‡—unvaccinated	Vaccination status‡—vaccinated	Standardised mean difference§
All emergency department encounters	37 842	35 082	2760	..	34 676	3166	..
Age, years	75 (67–82)	75 (67–82)	75 (68–83)	0·03	74 (67–82)	77 (71–83)	0·27
Age, years	..	..	..	0·03	..	..	0·35
60–64	6064 (16%)	5649 (16%)	415 (15%)	..	5848/6064 (96%)	216/6064 (4%)	..
65–74	12 819 (34%)	11 874 (34%)	945 (34%)	..	11 832/12 819 (92%)	987/12 819 (8%)	..
≥75	18 959 (50%)	17 559 (50%)	1400 (51%)	..	16 996/18 959 (90%)	1963/18 959 (10%)	..

7%

8%

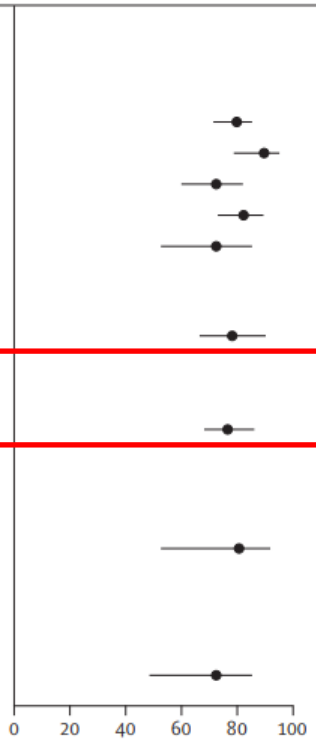
	All hospitalisations	Assay for respiratory syncytial virus*—negative	Assay for respiratory syncytial virus*—positive	Standardised mean difference†	Vaccination status‡—unvaccinated	Vaccination status‡—vaccinated	Standardised mean difference§
All hospitalisations	36 706	34 780	1926	..	33 431	3275	..
Age, years	76 (69–84)	76 (69–83)	76 (69–84)	0·02	76 (69–83)	78 (72–84)	0·17
Age, years	..	..	..	0·04	..	..	0·24
60–64	4380 (12%)	4134 (12%)	246 (13%)	..	4168/4380 (95%)	212/4380 (5%)	..
65–74	11 675 (32%)	11 091 (32%)	584 (30%)	..	10 737/11 675 (92%)	938/11 675 (8%)	..
≥75	20 651 (56%)	19 555 (56%)	1096 (57%)	..	18 526/20 651 (90%)	2125/20 651 (10%)	..

5%

9%

Efficacité vaccinale estimée (Hospitalisation)

	Total	Positive RSV test result (number [%])	Median interval since dose (days [IQR])	Unadjusted vaccine effectiveness (% [95% CI])	Adjusted* vaccine effectiveness (% [95% CI])
Immunocompetent—hospitalisation					
≥60 years					
Unvaccinated	25 816	1567 (6%)	NA	0 (ref)	0 (ref)
Vaccinated†	2455	35 (1%)	74 (44–109)	78 (69–84)	80 (71–85)
14–59 days earlier	934	7 (1%)	37 (26–48)	88 (75–94)	90 (79–95)
≥60 days earlier	1520	27 (2%)	100 (79–125)	72 (59–81)	73 (60–82)
GSK, Arexvy	1812	21 (1%)	73 (43–105)	82 (72–88)	83 (73–89)
Pfizer, Abrysvo	642	13 (2%)	81 (48–116)	68 (44–82)	73 (52–85)
60–74 years					
Unvaccinated	11 048	670 (6%)	NA	0 (ref)	0 (ref)
Vaccinated	836	11 (1%)	75 (46–110)	79 (62–89)	81 (66–90)
≥75 years					
Unvaccinated	14 768	897 (6%)	NA	0 (ref)	0 (ref)
Vaccinated	1619	24 (1%)	74 (43–108)	77 (65–85)	79 (68–86)
Critical illness					
≥60 years					
Unvaccinated	24 506	257 (1%)	NA	0 (ref)	0 (ref)
Vaccinated	2425	5 (<1%)	74 (44–109)	81 (53–92)	81 (52–92)
With immunocompromise–hospitilisation					
≥60 years					
Unvaccinated	7615	314 (4%)	NA	0 (ref)	0 (ref)
Vaccinated	820	10 (1%)	72 (43–108)	71 (46–85)	73 (48–85)



Efficacité vaccinale estimée (Passage aux urgences)

	Total*	Positive RSV test result (number [%])	Median interval since dose (days [IQR])	Unadjusted vaccine effectiveness (% [95% CI]	Adjusted† vaccine effectiveness, (% [95% CI])
≥60 years					
Unvaccinated	33 491	2645 (8%)	NA	0 (ref)	0 (ref)
Vaccinated‡	3030	57 (2%)	67 (40–101)	78 (71–83)	77 (70–83)
14–59 days earlier	1300	19 (1%)	36 (26–47)	83 (73–89)	85 (77–91)
≥60 days earlier	1728	37 (2%)	95 (76–119)	74 (65–82)	70 (58–78)
GSK, Arexvy	2522	47 (2%)	67 (40–99)	78 (70–83)	77 (70–83)
Pfizer, Abrysvo	506	9 (2%)	71 (40–108)	79 (59–89)	79 (59–89)
60–74 years					
Unvaccinated	16 985	1303 (8%)	NA	0 (ref)	0 (ref)
Vaccinated	1139	23 (2%)	66 (40–100)	75 (62–84)	75 (62–84)
≥75 years					
Unvaccinated	16 506	1342 (8%)	NA	0 (ref)	0 (ref)
Vaccinated	1891	34 (2%)	69 (40–101)	79 (71–85)	78 (69–85)

Vacciner contre le Zona

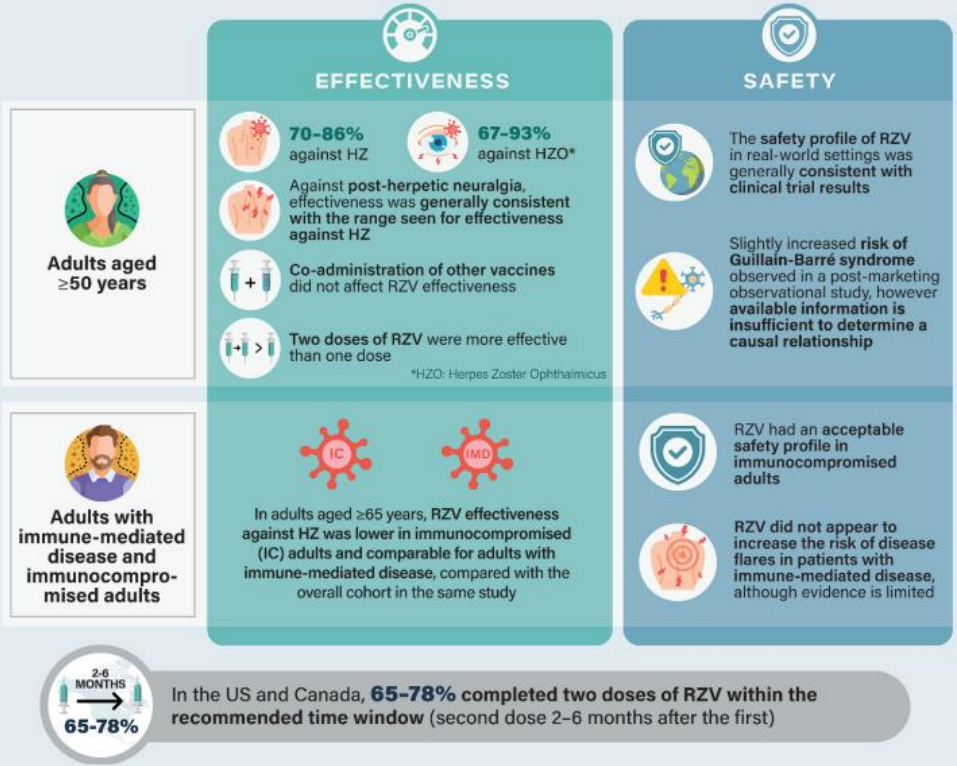
HUMAN VACCINES & IMMUNOTHERAPEUTICS
2023, VOL. 19, NO. 3, 2263979
https://doi.org/10.1080/21645515.2023.2263979

Effectiveness and safety of recombinant zoster vaccine: A review of real-world evidence

Raunak Parikh[a], David Singer[b], Elizabeth Chmielewski-Yee[c], and Christophe Dessart[d]

Données de vie réelle
Revue de littérature (2017-2023)
Obj : Données de vie réelle sur efficacité et tolerance.

Etudes qui réaffirment le profil bénéfice-risque favorable du vaccin dans une population plus hétérogène.



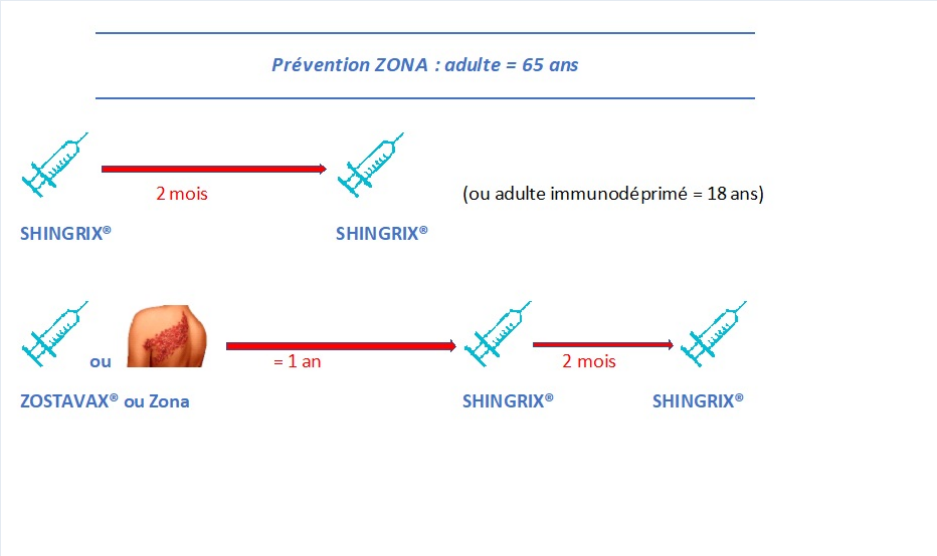
ZONA : LE VACCIN SHINGRIX MAINTENANT REMBOURSÉ POUR LES PERSONNES CIBLÉES

HAS
HAUTE AUTORITÉ DE SANTÉ

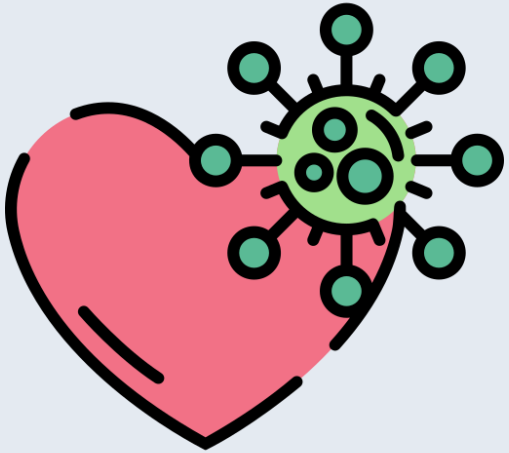
Arrêté du 5 décembre 2024, son taux de remb. est fixé à 65%, sur la base de 188,37€

RAPPORT HAS : RECOMMANDATION VACCINALE -
Mis en ligne le 07 mars 2024

EV Shingrix > EV Zostavax.
La protection contre le zona 79,3 % (IC et ID ou maladies chroniques), vs 46% pour le Zostavax
Données de sécurité et de tolérance rassurantes et une balance bénéfice/risque favorable
Coût-efficace
Co administration possible : grippe, pneumocoque, dTPca, vaccin ARN contre le COVID



Adultes de 65 ans et plus;
Adultes immunodéprimés de 18 ans et plus.



02
Endocardite - Bactériémie

2023 : les gériatres apparaissent (enfin) dans les Guidelines !!!

ESC European Society of Cardiology
European Heart Journal (2023) **44**, 3948–4042
https://doi.org/10.1093/eurheartj/ehad193

Table 7 **Members of the Endocarditis Team**

	Heart Valve Centre
Core members	• Cardiologists. • Cardiac imaging experts. • Cardiovascular surgeons. • Infectious disease specialist (or internal medicine specialist with expertise in infectious diseases). • Microbiologist. • Specialist in outpatient parenteral antibiotic treatment.
Adjunct specialities	• Radiologist and nuclear medicine specialist. • Pharmacologist. • Neurologist and neurosurgeon. • Nephrologist. • Anaesthesiologists. • Critical care. • Multidisciplinary addiction medicine teams. • Geriatricians. • Social worker. • Nurses. • Pathologist.

12.2. Endocarditis in the elderly

Characteristics of patients with IE have dramatically changed over recent decades, with an increasing prevalence and specific features of IE in the elderly population.[25,145,637,638] In this population, enterococci and *S. aureus* are reported to be the most frequent aetiological agents. In addition, the higher presence of intracardiac prosthetic devices (CIED and valvular prosthesis/repair including TAVI devices) and increased incidence of healthcare-associated IE episodes are observed.[25,637] Finally, a lower risk of embolic episodes has been observed in this subgroup.[462,639–641]

...

In elderly IE patients, functional and nutritional status are important predictors of outcomes.[400] When considering cardiac surgery in elderly patients, functional and nutritional status, and their associated risks, should be accurately explored through a comprehensive assessment by geriatricians. In addition, the earliest possible discharge home to facilitate the patient's functional recovery should be considered in this subgroup of patients.

Diapo Pr C. Roubaud

Clinical Infectious Diseases

MAJOR ARTICLE

IDSA Infectious Diseases Society of America | hivma hiv medicine association | OXFORD

CID 2023:77 (15 November) • Hémar et al

The Mortality of Infective endocarditis with and without Surgery in Elderly (MoISE) Study

Victor Hémar,[1] Fabrice Camou,[2] Claire Roubaud-Baudron,[3,4] Julien Ternacle,[5] Mathieu Pernot,[6] Carine Greib,[7] Marina Dijos,[5] Gaetane Wirth,[8] Hélène Chaussade,[1] Olivia Peuchant,[9] Fabrice Bonnet,[1] and Nahéma Issa[2]; the MoISE Study Group[a]

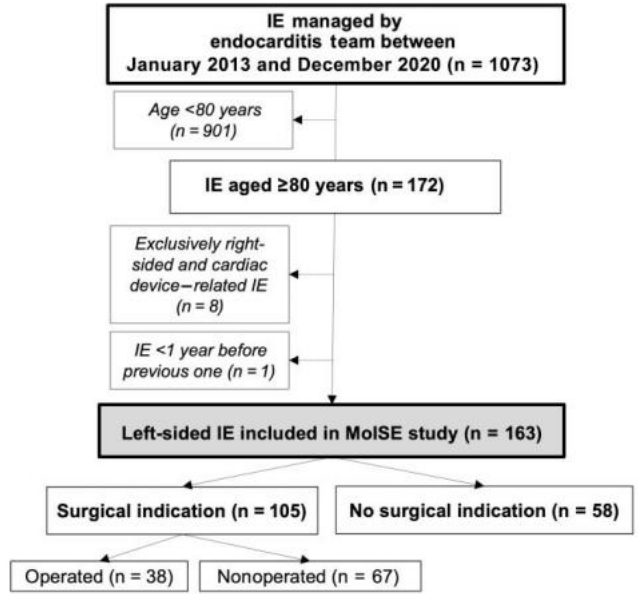


Figure 1. Flow chart of patients included in the MoISE study (2013–2020). Abbreviation: IE, infective endocarditis.

Clinical Infectious Diseases
MAJOR ARTICLE

The Mortality of Infective endocarditis with and without Surgery in Elderly (MoISE) Study

Victor Hémar,[1,©] Fabrice Camou,[2] Claire Roubaud-Baudron,[3,4] Julien Ternacle,[5] Mathieu Pernot,[6] Carine Greib,[7] Marina Dijos,[5] Gaetane Wirth,[8] Hélène Chaussade,[1] Olivia Peuchant,[8] Fabrice Bonnet,[1] and Nahéma Issa[2]; the MoISE Study Group[a]

EI > 80 ans (n=163)

- Plus jeunes
- Moins comorbides
- Plus autonomie
- ETO

Indication chirurgicale n=105

Absence d'indication chirurgicale, n=58

ADL<4
Confusion

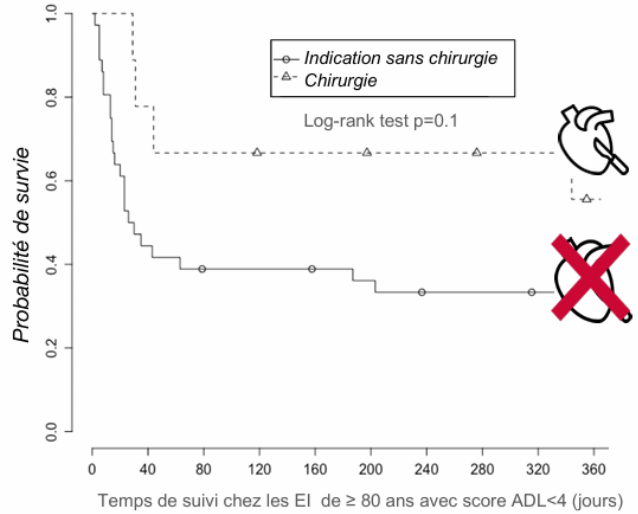
	n=38	n=67		
M1	1/38 (2,6%)	30/67 (45%)	8/58 (14%)	<0.001
M3	4/38 (11%)	37/67 (55%)	13/58 (22%)	<0.001
M6	4/38 (11%)	40/67 (60%)	13/58 (22%)	<0.001

Hémar *et al.* CID 2023

Le niveau de dépendance fonctionnelle est un facteur pronostic majeur

ADL < 4

A: EI chez les patients ≥ 80 ans avec score ADL < 4

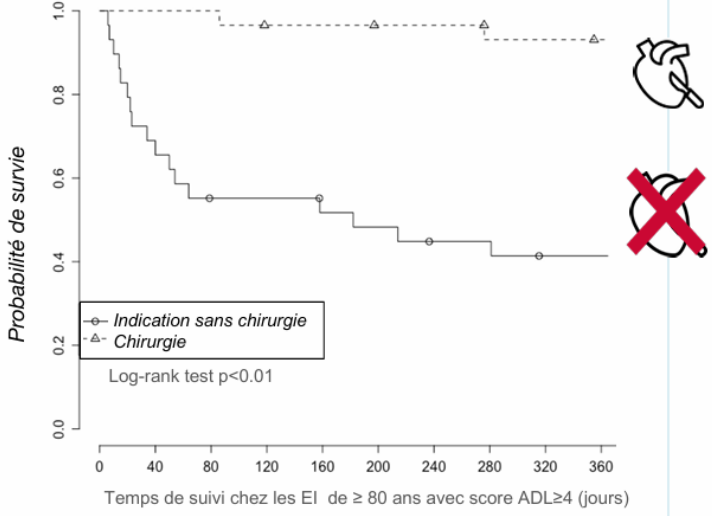


Effectif à risque

Indication sans chirurgie	36	16	14	14	14	13	12	12	12	11
Chirurgie	9	7	6	6	6	6	6	6	6	5

ADL ≥ 4

B: EI chez les patients ≥ 80 ans avec score ADL ≥ 4

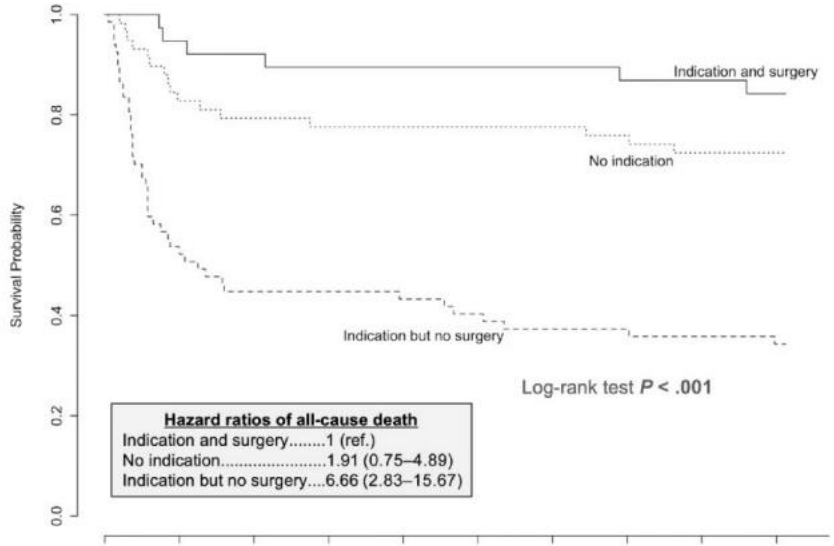


Effectif à risque

Indication sans chirurgie	29	20	16	16	15	14	13	13	12	12
Chirurgie	29	29	29	28	28	28	28	27	27	27

Hémar *et al.* CID 2023

A Survival probability according to surgical indication



Number at risk

Indication and surgery	38	36	35	34	34	34	34	33	33	32
Indication but no surgery	67	36	30	30	29	27	25	25	24	23
No indication	38	36	35	34	34	34	34	33	33	32

Antibiotic Treatment for 7 versus 14 Days in Patients with Bloodstream Infections

The BALANCE Investigators, for the Canadian Critical Care Trials Group, the Association of Medical Microbiology and Infectious Disease Canada Clinical Research Network, the Australian and New Zealand Intensive Care Society Clinical Trials Group, and the Australasian Society for Infectious Diseases Clinical Research Network

N ENGL J MED

November 20, 2024

Critères inclusion : Adulte / Bactériémie / USI ou Médecine
Critères exclusion : Staph aureus / ATB prolongée / ID sévère

Etude de non infériorité
Multicentrique
Randomisé 1 : 1

Table 1. Characteristics of the Patients, Infections, and Pathogens at Baseline (Primary Intention-to-Treat Analysis).*

Characteristic	Overall (N=3608)	7-Day Group (N=1814)	14-Day Group (N=1794)
Male sex — no. (%)	1922 (53.3)	974 (53.7)	948 (52.8)
Median age (IQR) — yr	70 (59–80)	70 (58–80)	70 (59–80)
Median SOFA score on day 0 (IQR)†	4 (2–8)	4 (2–8)	5 (2–8)
Enrolled in ICU — no. (%)	1986 (55.0)	997 (55.0)	989 (55.1)
Enrolled in hospital ward — no. (%)	1622 (45.0)	817 (45.0)	805 (44.9)
Receiving mechanical ventilation — no. (%)	766 (21.2)	374 (20.6)	392 (21.9)
Source of acquisition of bacteremia — no. (%)			
Community	2722 (75.4)	1380 (76.1)	1342 (74.8)
Hospital ward	483 (13.4)	231 (12.7)	252 (14.0)
ICU	403 (11.2)	203 (11.2)	200 (11.1)
Source of bacteremia — no. (%)			
Urinary tract	1523 (42.2)	757 (41.7)	766 (42.7)
Intraabdominal or hepatobiliary	679 (18.8)	337 (18.6)	342 (19.1)
Lung	469 (13.0)	229 (12.6)	240 (13.4)
Vascular catheter	229 (6.3)	116 (6.4)	113 (6.3)
Skin, soft tissue, or both	187 (5.2)	104 (5.7)	83 (4.6)
Other	67 (1.9)	37 (2.0)	30 (1.7)
Undefined or unknown	454 (12.6)	234 (12.9)	220 (12.3)
Most commonly isolated pathogens in blood cultures — no. (%)‖			
Escherichia coli	1582 (43.8)	805 (44.4)	777 (43.3)
Klebsiella species	552 (15.3)	273 (15.0)	279 (15.6)
Enterococcus species	250 (6.9)	119 (6.6)	131 (7.3)
Coagulase-negative staphylococci	174 (4.8)	81 (4.5)	93 (5.2)
Pseudomonas species	170 (4.7)	80 (4.4)	90 (5.0)

Antibiotic Treatment for 7 versus 14 Days in Patients with Bloodstream Infections

The BALANCE Investigators, for the Canadian Critical Care Trials Group, the Association of Medical Microbiology and Infectious Disease Canada Clinical Research Network, the Australian and New Zealand Intensive Care Society Clinical Trials Group, and the Australasian Society for Infectious Diseases Clinical Research Network

N ENGL J MED

November 20, 2024

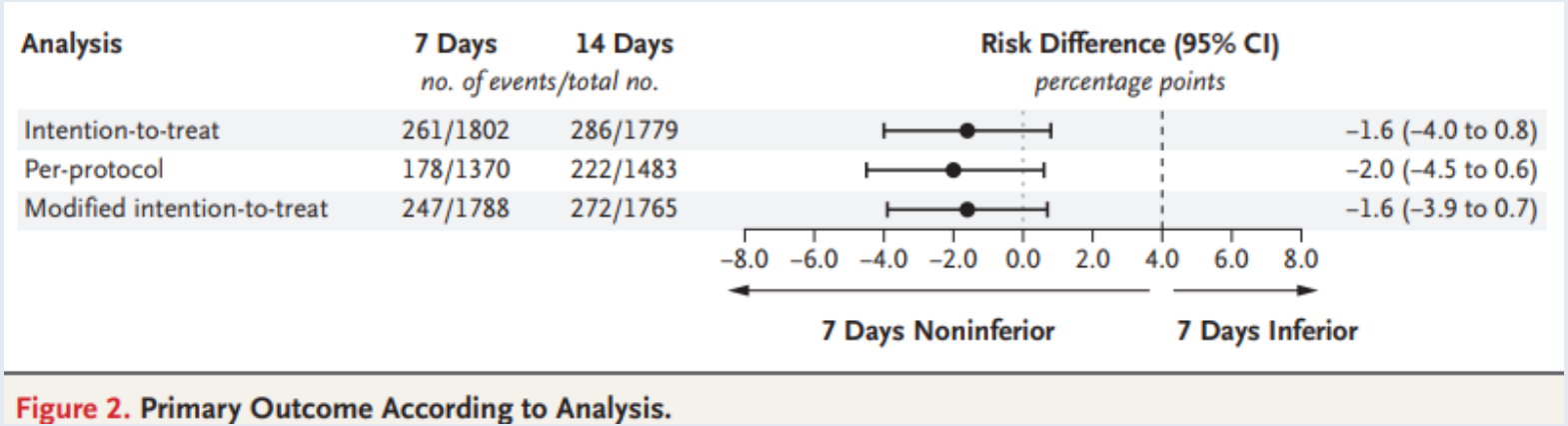


Figure 2. Primary Outcome According to Analysis.

Hypothèse confirmée

Infection
https://doi.org/10.1007/s15010-023-02073-0

RESEARCH

Empirical antibiotic therapy modalities for *Enterobacteriaceae* bloodstream infections in older patients and their impact on mortality: a multicentre retrospective study

Albane Roseau-Vincenti[1] · Emmanuel Forestier[2] · Jean-Philippe Lanoix[3] · Cécile Ricard[4] · Marie-Christine Carret[2] · Pauline Caraux-Paz[5] · Marc Paccalin[6] · Gaëtan Gavazzi[7] · Claire Roubaud-Baudron[1,8] · On behalf of the GInGer group (SPILF-SFGG)

Infection. 2024 Feb;52(1):155-163.

- Étude rétrospective
- 49 centres en France
- > 75 ans + bactériémie à EB

- N=487; Age 86 ans, médecine SSR et EHPAD
- 70% ont au moins 1 FDR BLSE – 78% ont reçu des C3G
- *E. coli* (70%) – urinaire (70%) - 14% R aux C3G
- 28% infections sévères
- 74% ont reçu une AB probabiliste adaptée
- 30% de bi-antibiothérapie
- 2,8% de carbapénème
- 11% AB SC !

	In-hospital mortality (D14)				In-hospital mortality (D30)			
	p-value	OR	CI 95% OR		*p*-value	OR	CI 95% OR	
			Inferior	Superior			Inferior	Superior
Empirical treatment								
No empirical AB (=ref)								
Inappropriate empirical AB	0.88	0.91	0.26	3.09	0.84	1.12	0.34	3.69
Appropriate empirical AB	0.78	0.87	0.36	2.37	0.53	1.33	0.57	3.52
Age	0.06	1.06	0.99	1.12	0.01	1.08	1.02	1.14
ADL before admission	0.81	1.09	0.55	2.28	0.56	0.83	0.45	1.56
Chronic heart disease	0.75	1.11	0.57	2.15	0.70	0.89	0.49	1.60
Diabetes mellitus	0.42	0.73	0.32	1.54	0.63	0.85	0.42	1.64
Immunosuppression	0.18	1.75	0.74	3.91	0.01	2.62	1.29	5.21
Chronic renal failure	0.03	2.10	1.06	4.23	0.01	2.14	1.16	3.97
Urinary portal of entry	0.000	0.33	0.17	0.64	0.000	0.34	0.19	0.60
Severity	0.000	3.36	1.74	6.55	0.000	3.17	1.75	5.75

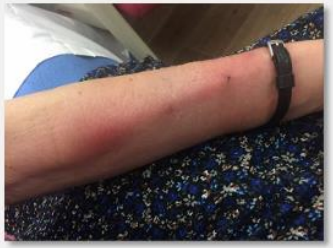
AB, antibiotics; ADL, activities of daily living; CI, confidence interval; and OR, odds ratio

Recevoir une ATB probabiliste inadaptée non associée à une mortalité intra hospitalière plus élevée

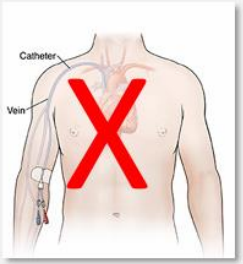
03
ATB SC en gériatrie

Les avantages de la voie SC

↘ veinite, infection



Évite des procédures invasives



Facile à réaliser
↗ Confort

Utile si troubles de la déglutition

Très utile en cas de confusion/agitation

Permet une mobilisation précoce

Ker *et al.* Cochrane Database Syst Rev 2015, **Covinsky** *et al.* JAMA 2011, **Stoner** *et al.* Patient 2014

Diapo Pr C. Roubaud

Safety and Pharmacokinetic Profiles of Subcutaneous Administration of Beta-Lactams: A Systematic Review

Chiara Moreal[1], Stefania Chiappinotto[1], George G. Zhanel[2], Simone Lanini[1,3], Luca Montanari[3], Alvisa Palese[1], Carlo Tascini[1,3]

[1]*Department of Medicine, University of Udine, Udine, Italy;*
[2]*National Microbiology Laboratory, Public Health Agency of Canada, Winnipeg, Manitoba, Canada;*
[3]*Infectious Diseases Unit, Azienda Sanitaria Universitaria Friuli Centrale, Udine, Italy*

New Microbiologica, 47, 3, 227-242, 2024, ISSN 1121-7138

- **16 études** ont été incluses.
- EI rapportés : légers, localisés et temporaires.
- Profils PK SC et IV similaires
- Mais : SC: concentrations maximales plus faibles et une absorption plus lente.
- Hétérogénéité des études

Evaluation of the tolerance of ceftriaxone by subcutaneous route in patients ≥75 years old in geriatric departments: a prospective observational study

Thomas Renoncourt [1]*, Justine Dossoubadjiokila[1], Lisa Mondet[2], Pauline-Eva Pecquet[3], Nysrine Bennouna[1], Valerie Gras-Champel[3], Youssef Bennis [2] and Frédéric Bloch[1]

J Antimicrob Chemother 2023; **78**: 1495–1498

- Etude descriptive prospective en gériatrie > 75 ans
- Evaluer la tolérance de la ceftriaxone SC
- 117 patients inclus, 57% Douleur
- 60% EI léger (œdème, induration, érythème transitoire
- Aucun EIG

J Antimicrob Chemother
https://doi.org/10.1093/jac/dkae398

Journal of Antimicrobial Chemotherapy

Safety, tolerability and pharmacokinetics of subcutaneous meropenem as an alternative to intravenous administration

Fionnuala Murray [1], Okhee Yoo[2,3,4], Samuel Brophy-Williams[1], Matthew Rawlins [5], Steven C. Wallis [6], Jason A. Roberts[6,7,8,9], Edward Raby [1,10], Sam Salman [2] and Laurens Manning [1,2,11]*

Design

- Étude prospective, en cross over
- > 18 ans, meropénème IV (au moins 1 dose)
- 1g IV puis 1g SC
- H0, H0,5, H2, H4 et H8

- Douleur (EN 0 – 10)
- Érythème (0 – 4)
- Œdème (0 – 4)

Population

- 11 hommes, âge médian 51 ans (39-64)
- Pied diabétique, plaies, arthrite septique, collection intra abdo
- BMI médian 29 (25 – 34)

Tolérance

- Douleur = 0 (6 patients) = 1-3 (5 patients)
- Œdème = 0 (7 patients) = 1 (4 patients) -> 2h
- Érythème = 0 (11 patients)

Diapo Pr C. Roubaud

J Antimicrob Chemother
https://doi.org/10.1093/jac/dkae398

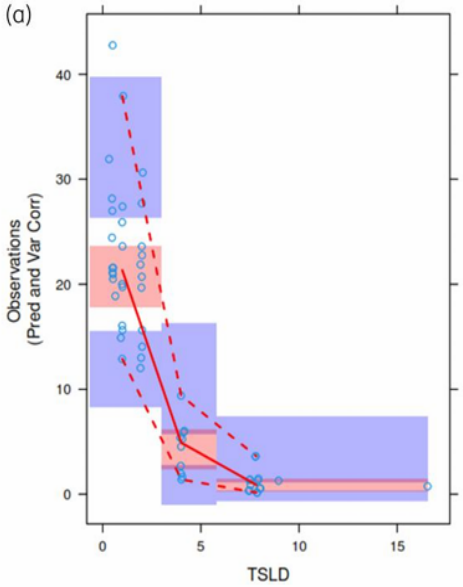
Journal of Antimicrobial Chemotherapy

Safety, tolerability and pharmacokinetics of subcutaneous meropenem as an alternative to intravenous administration

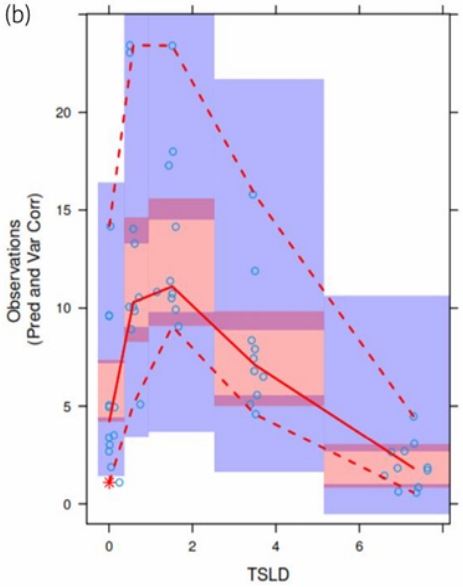
Fionnuala Murray [1], Okhee Yoo [2,3,4], Samuel Brophy-Williams [1], Matthew Rawlins [5], Steven C. Wallis [6], Jason A. Roberts [6,7,8,9], Edward Raby [1,10], Sam Salman [2] and Laurens Manning [1,2,11]*

N= 127 prélèvements

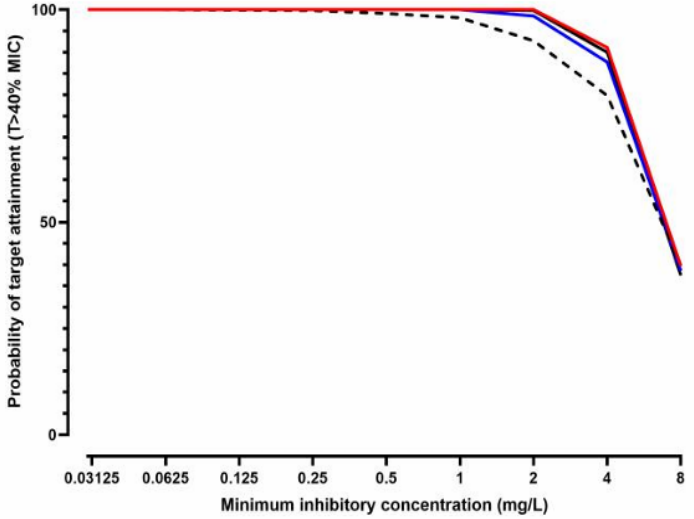
IV



SC



PTA (Probabilité [mero] > CMI 40% du temps



Diapo Pr C. Roubaud

J Antimicrob Chemother
https://doi.org/10.1093/jac/dkae398

Journal of Antimicrobial Chemotherapy

Safety, tolerability and pharmacokinetics of subcutaneous meropenem as an alternative to intravenous administration

Fionnuala Murray [1], Okhee Yoo [2,3,4], Samuel Brophy-Williams [1], Matthew Rawlins [5], Steven C. Wallis [6], Jason A. Roberts [6,7,8,9], Edward Raby [1,10], Sam Salman [2] and Laurens Manning [1,2,11]*

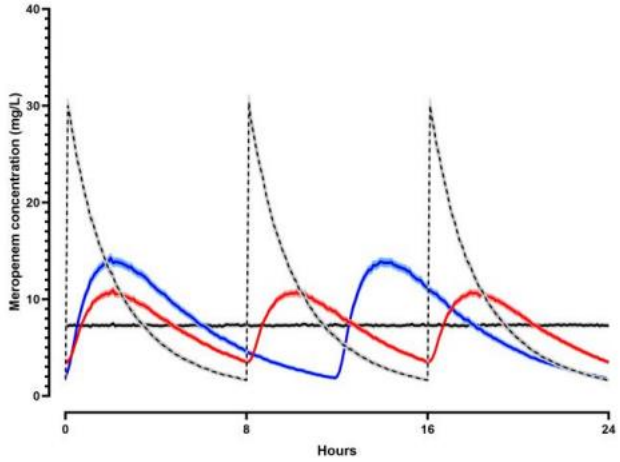


Figure 4. Simulated mean (with shaded simulated 95% CIs) steady state unbound concentrations of meropenem over 24 h. Standard IV dosing (1 g three times daily, black dashed line) is compared with the same dose given SC (red). Simulated regimens of 1.5 g twice daily (blue), and 3 g given SC as a continuous infusion (black) are also shown.This figure appears in colour in the online version of *JAC* and in black and white in the print version of *JAC*.

Posologie IV standard : 1 g administré trois fois par jour (ligne noire pointillée)

Posologie équivalente en SC : 1 g administré par voie sous-cutanée (rouge) x 3

Régimes simulés :

- 1,5 g administré deux fois par jour (bleu).
- 3 g administrés en SC sous forme de perfusion continue (noir).

Clinical Trial > J Antimicrob Chemother. 2024 Nov 4;79(11):3016-3022. doi: 10.1093/jac/dkae324.

Pharmacokinetics and safety of daptomycin administered subcutaneously in healthy volunteers: a single-blinded randomized crossover trial

Charles Maurille [1], Aurélie Baldolli [1], Christian Creveuil [2], Jean-Jacques Parienti [1 3], Jocelyn Michon [1], Laure Peyro-Saint-Paul [2], Sylvie Brucato [2], Sylvie Dargere [1 3], Emmanuelle Comets [4], Marie-Clémence Verdier [5], Renaud Verdon [1 3]

12 volontaires sains
Randomisation 1:1, 2 groupes: **SC-IV** et **IV-SC**

•Le groupe **SC-IV** :
- 10 mg/kg de daptomycine SC
- Puis washout d'au moins 15 jours,
- Puis 10 mg/kg de daptomycine IV

•Le groupe **IV-SC** : schéma inverse

• Pour chaque SC de daptomycine, une injection SC de placebo (**NaCl 0,9 %**) dans le flanc opposé

• Poches masqués avec tubulure et couverture opaque
⇒ Evaluer EI liés aux injections SC

Dissoute dans 50ml de NaCl 0,9%, administrée pdt 30 min.

Clinical Trial > J Antimicrob Chemother. 2024 Nov 4;79(11):3016-3022. doi: 10.1093/jac/dkae324.

Pharmacokinetics and safety of daptomycin administered subcutaneously in healthy volunteers: a single-blinded randomized crossover trial

Charles Maurille [1], Aurélie Baldolli [1], Christian Creveuil [2], Jean-Jacques Parienti [1 3], Jocelyn Michon [1], Laure Peyro-Saint-Paul [2], Sylvie Brucato [2], Sylvie Dargere [1 3], Emmanuelle Comets [4], Marie-Clémence Verdier [5], Renaud Verdon [1 3]

AUC_{0-24} pour la voie SC (937,3 ± 102,5 µg·h/mL) < (p = 0,005) IV (1056,3 ± 123,5 µg·h/mL) mais jugée bioéquivalente

La probabilité d'atteindre la cible : objectif AUC_{0-24} pour 100 % des individus simulés atteint, pour des régimes SC de 8 mg/kg/24 h et 10 mg/kg/24 h.

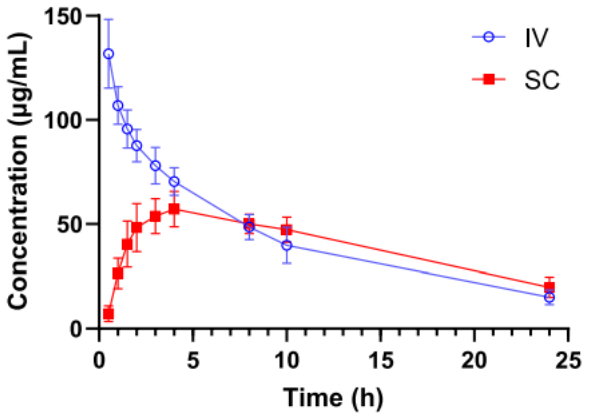


Figure 1. Mean plasma concentration–time profiles of daptomycin infused by IV (blue) and SC (red) routes in healthy subjects. Data are expressed as the mean and SD of 12 subjects. This figure appears in colour in the online version of *JAC* and in black and white in the print version of *JAC*.

Clinical Trial > J Antimicrob Chemother. 2024 Nov 4;79(11):3016-3022. doi: 10.1093/jac/dkae324.

Pharmacokinetics and safety of daptomycin administered subcutaneously in healthy volunteers: a single-blinded randomized crossover trial

Charles Maurille [1], Aurélie Baldolli [1], Christian Creveuil [2], Jean-Jacques Parienti [1 3], Jocelyn Michon [1], Laure Peyro-Saint-Paul [2], Sylvie Brucato [2], Sylvie Dargere [1 3], Emmanuelle Comets [4], Marie-Clémence Verdier [5], Renaud Verdon [1 3]

Table 4. Overview of AEs

	Placebo SC ($n=12$)	Daptomycin SC ($n=12$)	P value[a]
AEs, *n*			
Possibly related to drug	13	25	0.016
Grade 1	13	20	0.17
Grade 2	0	5	0.13
Grade 3 or 4	0	0	—
AEs leading to discontinuation	0	0	—
Death	0	0	—
Most frequent (≥10%) related AEs in any one group, *n* (%)			
Localized erythema	4 (33.3)	10 (83.3)	0.031
Localized oedema	9 (75.0)	9 (75.0)	1

[a]Wilcoxon signed-rank test for the summed AEs; binomial test for the individual AEs.

Daptomycine SC, alternative potentielle et efficace si voie IV impossible

04
BUA en EHPAD

Pourquoi le BUA en EHPAD est important ?

- Vieillissement de la population, population polypathologique et à risque d'infection
- Importante consommation d'ATB, 5% résidents un jour donné
- 2/3 des prescriptions inadaptées ou non nécessaires
- Iatrogénie et émergence de résistance

Quelle efficacité de l'antimicrobial stewardship en EHPAD ?

Ricchizzi E et al, Euro Surveill. 2018 Nov
Raban MZ et al, Plos One. 2021 Aug
Daneman Net al, JAMA Intern Med. 2015
Aliyu S et al, J Appl Gerontol. 2022 Mar

RESEARCH Open Access

Antimicrobial prescribing in French nursing homes and interventions for antimicrobial stewardship: a qualitative study

Marie Hamard[1,2,3*], Claire Durand[3], Laurène Deconinck[2], Claire Amaris Hobson[2], François-Xavier Lescure[2,3], Yazdan Yazdanpanah[2,3], Nathan Peiffer-Smadja[2,3,4*] and Agathe Raynaud-Simon[1]

Hamard *et al. Antimicrobial Resistance & Infection Control* (2024) 13:142
https://doi.org/10.1186/s13756-024-01487-1

« Just in case » prescriptions
Médecins « à l'aise » avec la prescription ATB, non vue comme une priorité

⇒ Développement de guidelines adaptés aux EHPAD
⇒ Améliorer les relations ville hôpital
⇒ IDE et Med Co qui devraient avoir un rôle central

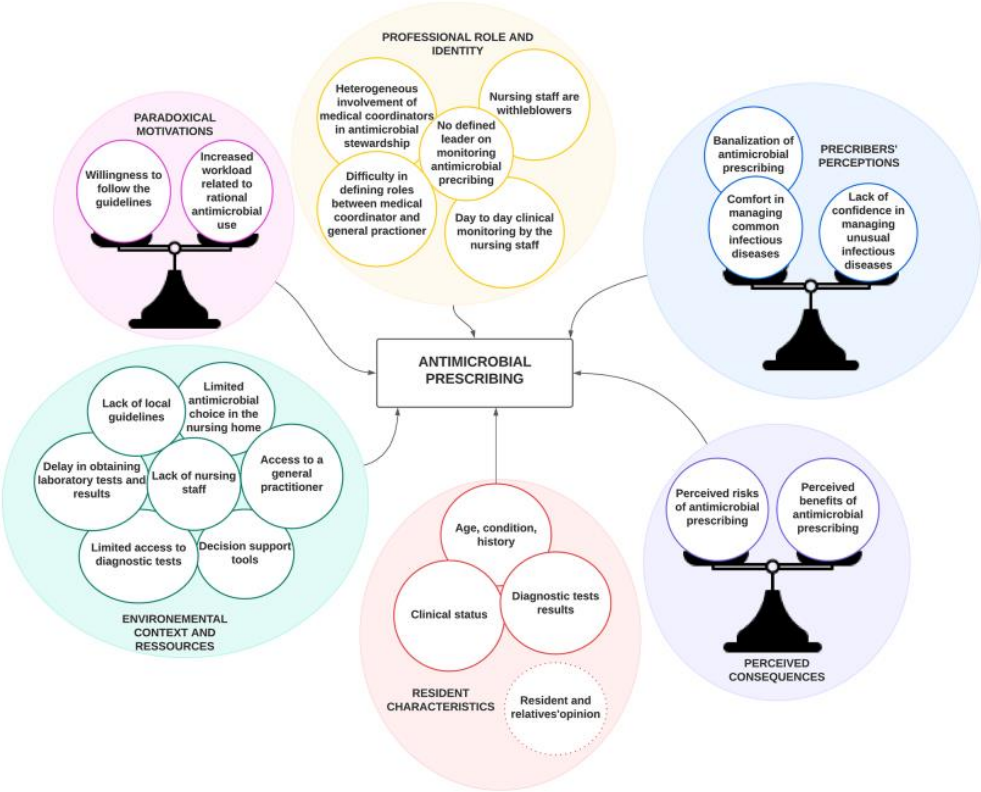
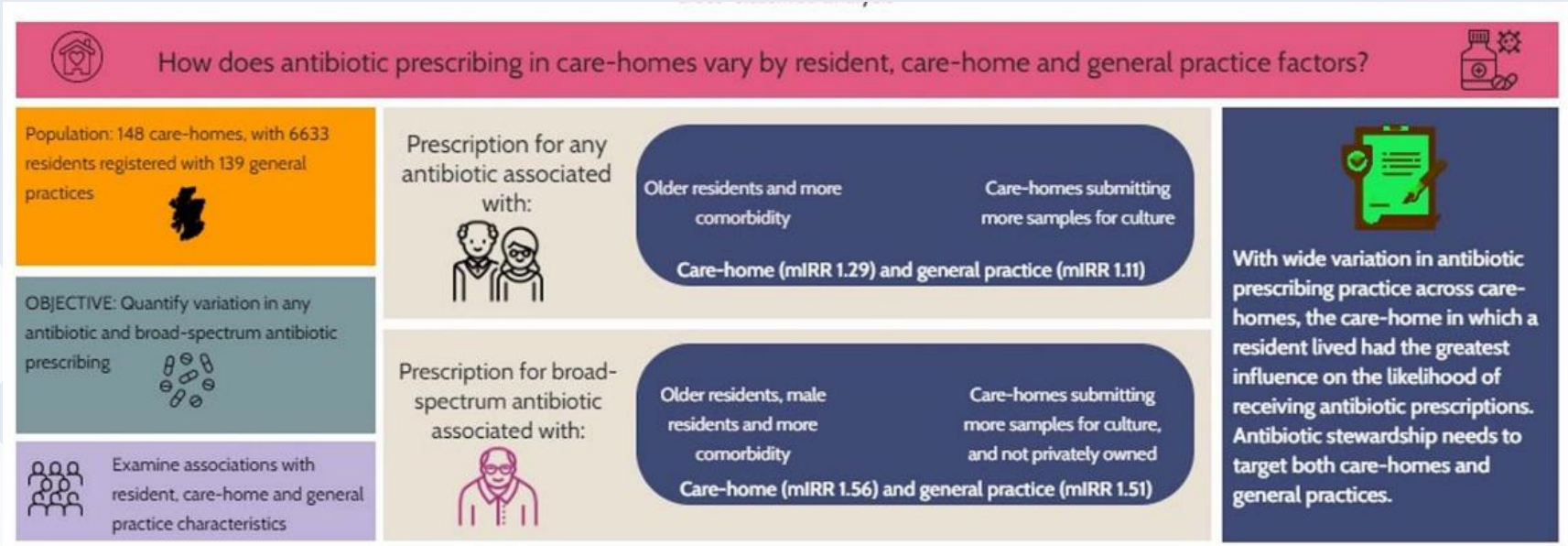


Fig. 1 Determinants of antimicrobial prescribing in nursing homes

Antibiotic prescribing for care-home residents: a population-based, cross-classified multilevel analysis in Scotland, UK

Nicosha De Souza[1], Bruce Guthrie[2], Suzanne Grant[1], Fabiana Lorencatto[3,4], Jane Dickson[1], Aleksandra Herbec[3,4], Carmel Hughes[5], Jacqueline Sneddon[6], Peter T. Donnan[1], Charis A. Marwick[1]

Age and Ageing 2025; **54:** afae288
https://doi.org/10.1093/ageing/afae288



Effect of a multifaceted antibiotic stewardship intervention to improve antibiotic prescribing for suspected urinary tract infections in frail older adults (ImpresU): pragmatic cluster randomised controlled trial in four European countries

Hartman *et al.* BMJ 2023

- Complexité du diagnostic
- Prescription AB inappropriée
- Antibiorésistance
- Evènements indésirables

Peut-on faire mieux?

Study design
Cluster randomised controlled trial | 38 clusters consisting of general practices and older adult care organisations | Located in Poland, the Netherlands, Norway, and Sweden

Population
1041 frail older adults aged 70 years or older | Mean age: 86 years | Sex: 71% women | Dementia: 44% incidence

Antibiotic stewardship intervention

Decision tool
Antibiotic prescribing or active monitoring based on symptoms

Toolbox with educational materials
Such as pocket cards, posters, or e-learning

Implementation using participatory action research

Educational sessions
For general practitioners
For nursing staff

Reflection → Planning → Action

Evaluation sessions
Multidisciplinary with key people

February 2020 — Pause due to covid-19 — **September to November 2020**

Subgroup	Antibiotic prescription rate per person year: Intervention Baseline	Intervention Follow-up	Usual care Baseline	Usual care Follow-up	Adjusted rate ratio (95% CI)	Adjusted rate ratio (95% CI)
All patients	0.50	0.27	0.44	0.58		0.42 (0.26 to 0.68)
Poland	0.30	0.14	0.43	0.68		0.28 (0.11 to 0.73)
The Netherlands	0.87	0.24	0.68	0.58		0.32 (0.12 to 0.82)
Norway	0.48	0.35	0.31	0.68		0.40 (0.16 to 1.03)
Sweden	0.37	0.42	0.39	0.23		2.25 (0.57 to 8.88)
Women	0.57	0.30	0.43	0.58		0.43 (0.25 to 0.73)
Men	0.36	0.18	0.47	0.58		0.40 (0.15 to 1.06)
Patients with dementia	0.70	0.37	0.38	0.64		0.33 (0.17 to 0.64)
Patients without dementia	0.39	0.22	0.53	0.53		0.56 (0.28 to 1.12)
Patients with urinary incontinence	0.51	0.38	0.43	0.60		0.53 (0.29 to 0.96)
Patients without urinary incontinence	0.48	0.15	0.47	0.56		0.24 (0.11 to 0.54)
Patients with catheter	1.31	0.60	1.07	1.22		0.37 (0.11 to 1.21)
Patients without catheter	0.44	0.25	0.38	0.54		0.43 (0.26 to 0.74)
Patients aged <80	0.37	0.24	0.41	0.64		0.38 (0.14 to 1.08)
Patients aged ≥80	0.54	0.28	0.45	0.56		0.44 (0.26 to 0.75)

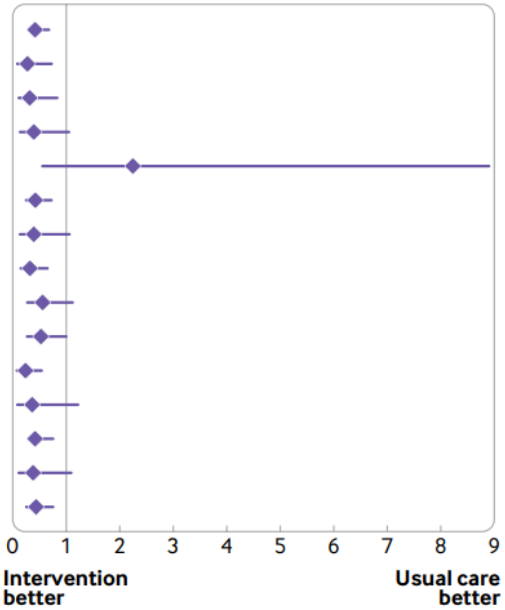


Fig 3 | Effect of the antibiotic stewardship intervention on the primary outcome (number of antibiotic prescriptions for suspected urinary tract infections per person year) across subgroups per country, in men, women, patients with and without dementia, with and without urinary incontinence, with and without an indwelling catheter, and younger and older than 80 years. CI=confidence interval

Pas de différences en termes de mortalité à 21 jours – suivi de 7 mois, effets à long terme?

Implementation of an antimicrobial stewardship program for urinary tract infections in long-term care facilities: a cluster-controlled intervention study

Elisabeth König[1†], Lisa Kriegl[1†], Christian Pux[2], Michael Uhlmann[2], Walter Schippinger[2], Alexander Avian[3], Robert Krause[1] and Ines Zollner-Schwetz[1*]

König *et al. Antimicrobial Resistance & Infection Control* (2024) 13:43
https://doi.org/10.1186/s13756-024-01397-2

Table 2 Characteristics of residents with UTIs in long-term care facilities in the control and intervention group

	Control	Intervention	p-value
Age (median, range; years)	85 (49–99)	87 (38–102)	0.064
Female residents (%)	71.7	78.9	0.243
Weight (median, range; kg)	66 (38–135)	59 (38–143)	**0.014**
History of allergy to antiinfectives (%)	5.1	9.5	0.234
Renal impairment (%)	22.2	22.1	0.984
Urologic disease (%)	21.2	22.1	0.880

Bold writing indicates statistically significant results

Table 3 Summary of results (risk ratios)

	Before intervention RR (95%CI)	During intervention RR (95%CI)	After intervention RR (95%CI)
Inadequate choice of antimicrobial	0.91 (0.63–1.32) $p=0.621$	0.82 (0.62–1.09) $p=0.178$	0.76 (0.50–1.14) $p=0.182$
Inadequate decision to treat	1.13 (0.48–2.67) $p=0.784$	**0.41 (0.19–0.90)** $p=0.025$	1.04 (0.27–4.10) $p=0.951$
Quinolone use for UTI without catheter	**0.17 (0.04–0.72)** $p=0.017$	0.67 (0.22–2.07) $p=0.484$	**0.18 (0.04–0.89)** $p=0.035$
Urinary culture performed	6.18 (0.80–47.92) $p=0.081$	**6.89 (1.59–29.83)** $p=0.010$	n.d.§
Clinical failure	1.77 (0.56–5.55) $p=0.329$	1.09 (0.45–2.61) $p=0.855$	n.d.#
Hospital admission due to UTI	0.86 (0.19–3.88) $p=0.847$	1.21 (0.32–4.61) $p=0.777$	6.35 (0.82–49.37) $p=0.077$

n.d. = not done, RR=risk ration

§ In the CG, no urinary cultures were performed in the post-intervention period

In the CG, no clinical failure was reported in the post-intervention period

Bold writing indicates statistically significant results

Groupe intervention : conseils de pratique clinique, éducation locale et en ligne pour IDE et médecins

König *et al. Antimicrobial Resistance & Infection Control* (2024) 13:43
https://doi.org/10.1186/s13756-024-01397-2

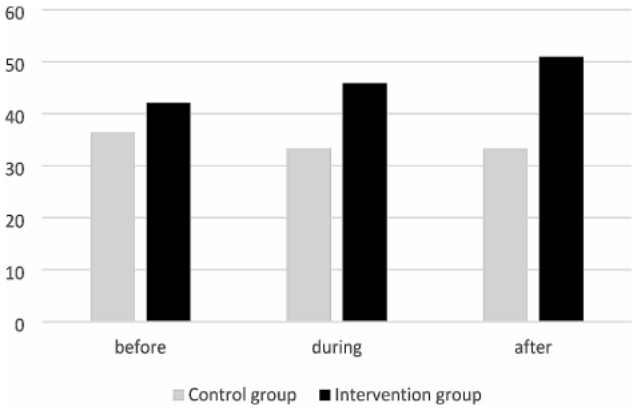


Fig. 1 Proportion of adequate antimicrobial treatments (adequate in terms of choice) before, during and after interventions

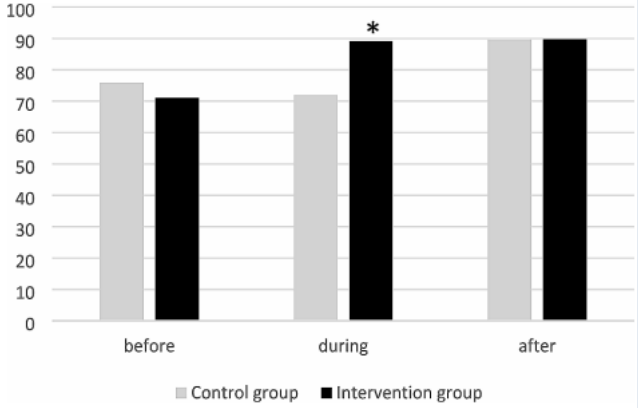


Fig. 2 Proportion of adequate antimicrobial treatments (adequate decision to treat) before, during and after the interventions. *$p < 0.05$ comparing intervention and control group during the intervention period

Choix de l'antibiotique approprié ↑↑

Décision de traitement appropriée, ↑↑ pdt intervention, non maintenue après

Dans le groupe intervention : pas d'augmentation des échecs cliniques, d'hospitalisations pour IU ou EI liés au traitement antimicrobien

Des efforts continus sont nécessaires pour améliorer davantage la qualité des prescriptions

05 Pneumonie d’aspiration

Prévention des pneumopathie d'aspiration

Efficacy of an Aspiration Prevention Program That Utilizes the Gugging Swallowing Screen in Older Patients

Ji Eun Song[1], Eunjeong Ji[2], Nak-Hyun Kim[1,3], Jung Hun Ohn[1,3], Yejee Lim[1,3], Jongchan Lee[1,3], Hye Won Kim[1,3], Sun-Wook Kim[1,3], Jiwon Ryu[1,3], Hee-Sun Park[1,3], Eun Sun Kim[1,3]

Clinical Interventions in Aging 2024:19

> 65 ans, hospitalisé
Patient à risque mais pas de dysphagie préalablement identifiée

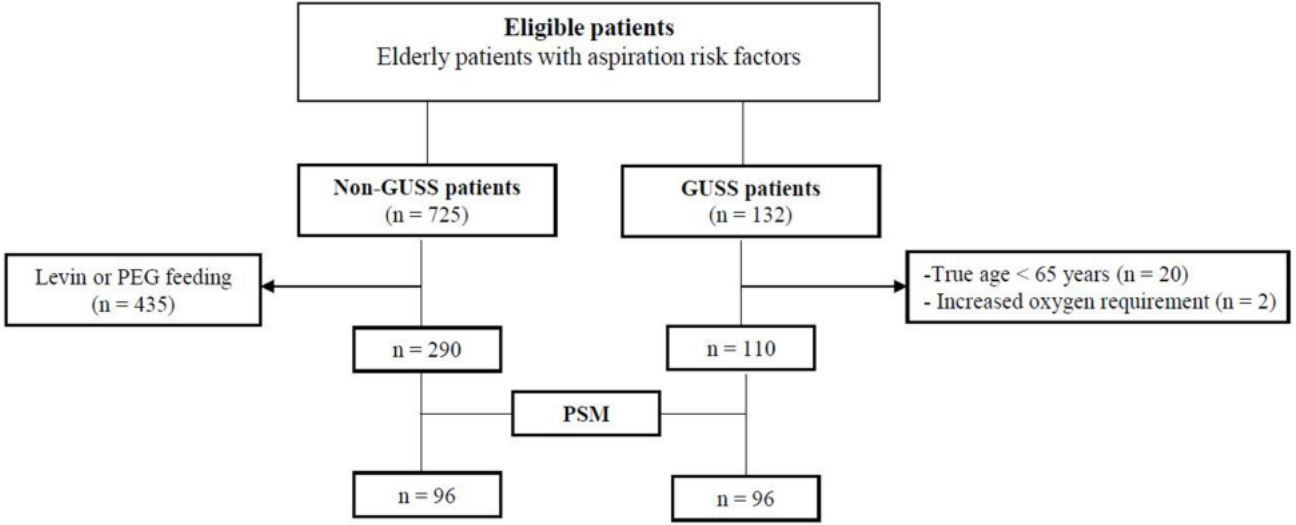


Figure 1 Patient enrolment.

Obj Primaire : Evaluation difference avant – après l'hospitalisation : durée de séjour, poids, albumine

Obj secondaire : Réadmission dans les 90 jours pour pneumonie et mortalité intra hospitalière.

GUSS

(*Gugging Swallowing Screen*)

Nom : _____

Date : _____

Heure : _____

1. Recherche préliminaire / Test de déglutition indirecte

	oui	non
Vigilance *(le patient doit être vigilant pour au moins 15 minutes)*	1 ❑	0 ❑
Toux et / ou éclaircissement de la gorge *(toux volontaire)* *(le patient doit tousser ou s'éclaircir la gorge deux fois)*	1 ❑	0 ❑
Déglutition de la salive • Déglutition réussie	1 ❑	0 ❑
• Bavage	0 ❑	1 ❑
• Changement de la voix (rauque, gargouillements, voilée, faible)	0 ❑	1 ❑
RESUME	(5)	
	1 – 4 = exploration complémentaire[1] 5 = continuer avec la partie 2	

2. Test de déglutition directe (Matériel : eau, cuillère, gobelet, compote, pain)

Dans l'ordre suivant	**1 →**	**2 →**	**3 →**
	SEMISOLIDE*	**LIQUIDE****	**SOLIDE*****
DEGLUTITION			
• Déglutition impossible	0 ❑	0 ❑	0 ❑
• Déglutition retardée (>2 sec.) (Textures solides > 10 sec.)	1 ❑	1 ❑	1 ❑
• Déglutition réussie	2 ❑	2 ❑	2 ❑
TOUX (Involontaire) *(Avant, pendant, ou après la déglutition – jusqu'à 3 minutes après)*			
• Oui	0 ❑	0 ❑	0 ❑
• Non	1 ❑	1 ❑	1 ❑
BAVAGE			
• Oui	0 ❑	0 ❑	0 ❑
• Non	1 ❑	1 ❑	1 ❑
CHANGEMENT DE LA VOIX (Ecoutez la voix avant et après la déglutition – le patient devra dire « O »)			
• Oui	0 ❑	0 ❑	0 ❑
• Non	1 ❑	1 ❑	1 ❑
RESUME	(5)	(5)	(5)
	1 – 4 = exploration complémentaire[1] 5 = Continuer avec Liquide	1 – 4 = exploration complémentaire[1] 5 = Continuer avec Solide	1 – 4 = exploration complémentaire[1] 5 = Normal

RESUME : (Test de déglutition directe ET indirecte) _____**(20)**

GUSS

(Gugging Swallowing Screen)

GUSS – EVALUATION

RESULTATS		CODE DE SEVERITE	RECOMMANDATIONS
20	Texture semi-solide, liquide et solide réussie	Léger / Pas de dysphagie, risque minimal d'aspiration	• Régime normal • Liquides autorisés (la 1ère fois sous la supervision d'un(e) orthophoniste ou d'une infirmière formée aux AVC)
15-19	Texture semi-solide et liquide réussie et texture solide non réussie	Légère dysphagie avec un petit risque d'aspiration	• Régime pour dysphagie (nourriture molle et en purée) • Liquides très lentement, une gorgée à la fois. • Evaluation de la déglutition fonctionnelle tels que Nasofibroscopie (NFS) ou Vidéoradioscopie(VRS) • Se référer à un(e) orthophoniste
10-14	Déglutition de texture semi-solide réussie et liquide non réussie	Dysphagie modérée avec risque d'aspiration	• Textures semi-solides telles que la nourriture pour bébé et des compléments alimentaires parentérales. • Tous les liquides doivent être épaissis ! • Les pilules doivent être broyées et mélangé avec du liquide épaissi. • Pas de médicament sous forme de liquide ! • Evaluations de la déglutition fonctionnelle complémentaires (NFS, VRS). • Se référer à un(e) orthophoniste
0-9	Test préliminaire non réussi ou déglutition de texture semi-solide non réussie	Dysphagie sévère avec un haut risque d'aspiration	• NPO (non per os = rien par la bouche) • Evaluations de la déglutition fonctionnelle complémentaires (NFS, VRS). • Se référer à un(e) orthophoniste *Supplément avec tube naso-gastrique ou parentérale*

Table 4 Mean Difference in Primary Clinical Outcomes Between the GUSS and Non-GUSS Groups Based on VFSS

	Outcomes	Mean difference	95% CI	p-value
Full data	LOS	−0.625	−3.201 to 1.951	0.631*
	Body weight changes	−0.089	−0.874 to 0.696	0.822*
	Albumin changes	−0.005	−0.150 to 0.139	0.941*
	NPO days	0.000	−0.725 to 0.725	1.000*
Without VFSS (n = 132)	LOS	−0.010	−3.506 to 3.486	0.416†
	Body weight changes	−0.124	−1.083 to 0.835	0.901†
	Albumin changes	−0.026	−0.193 to 0.141	0.432†
	NPO days	−0.458	−1.380 to 0.464	0.295†
With VFSS (n = 60)	LOS	−2.330	−6.648 to 1.988	0.073†
	Body weight changes	0.354	−1.110 to 1.819	0.629*
	Albumin changes	0.015	−0.237 to 0.267	0.906*
	NPO days	0.910	−0.630 to 2.449	0.492†
	Time to VFSS	−1.585	−6.262 to 3.091	0.082†

Notes: *Paired *t*-test. †Wilcoxon signed-rank test.
Abbreviations: CI, confidence interval; GUSS, Gugging Swallowing Screen; LOS, length of stay; NPO, nil per os; VFSS, videofluoroscopic swallowing study.

Table 5 Readmission Rate Due to Pneumonia Within 90 Days Between the GUSS and Non-GUSS Groups

	HR	95% CI	p-value
Full data	11.749	3.450–40.008	0.0001
Without VFSS (n = 132)	20.297	2.597–158.640	0.0041
With VFSS (n = 60)	7.989	1.697–37.606	0.0086

Abbreviations: CI, confidence interval; GUSS, Gugging Swallowing Screen; HR, hazard ratio; VFSS, videofluoroscopic swallow study.

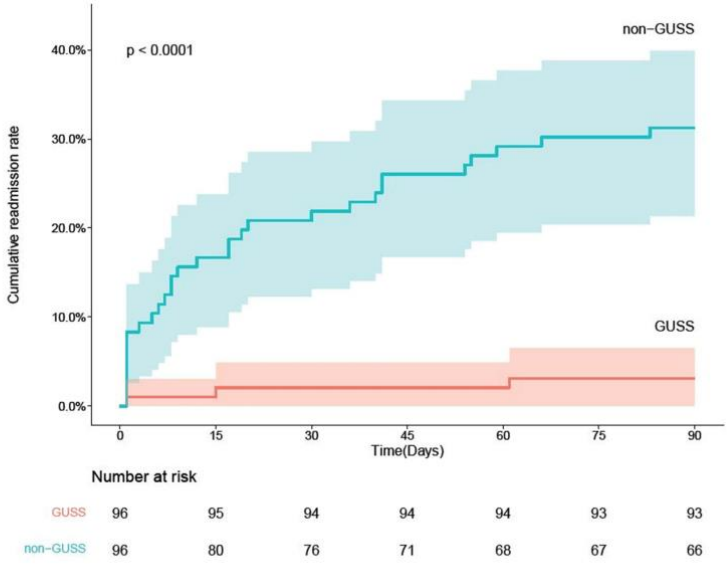


Figure 2 Kaplan–Meier curve of readmission rate within 90 days due to pneumonia.

Impact positif d'un programme de dépistage des troubles de la déglutition avec le GUSS
Pas de différence du bilan nutritionnel, ni mortalité.
Mais durée moyenne d'hospitalisation : 15J

Réduction de 12 fois du risque d'hospitalisation pour pneumonie dans les 90 jours suivant la mise en œuvre

Intérêt +++ d'un dépistage rapide des troubles de la déglutition

Et mesures préventives ++

The predictive value of anticholinergic drug exposure and the outcome of pneumonia: a Danish database study

Age and Ageing 2024; **53:** 1–8
https://doi.org/10.1093/ageing/afae012

Yuki Yoshimatsu[1,2], Kristian Kragholm[3,4], Silas Zacharias Clemmensen[5], Dorte Melgaard[6,7], Christian Torp-Pedersen[8], David G. Smithard[1,2], Johannes Riis[9]

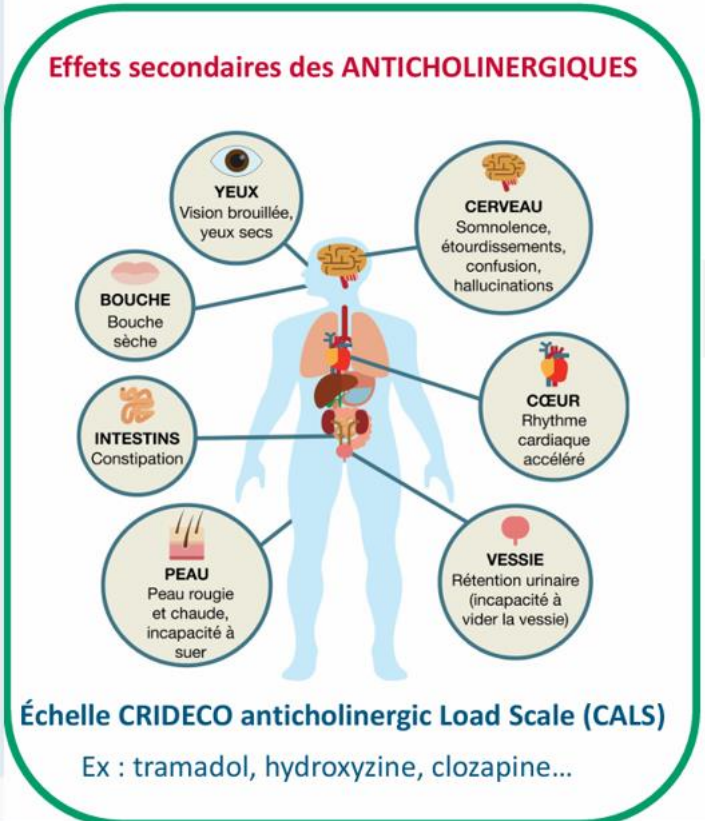


Table 4. CRIDECO Anticholinergic Load Scale.

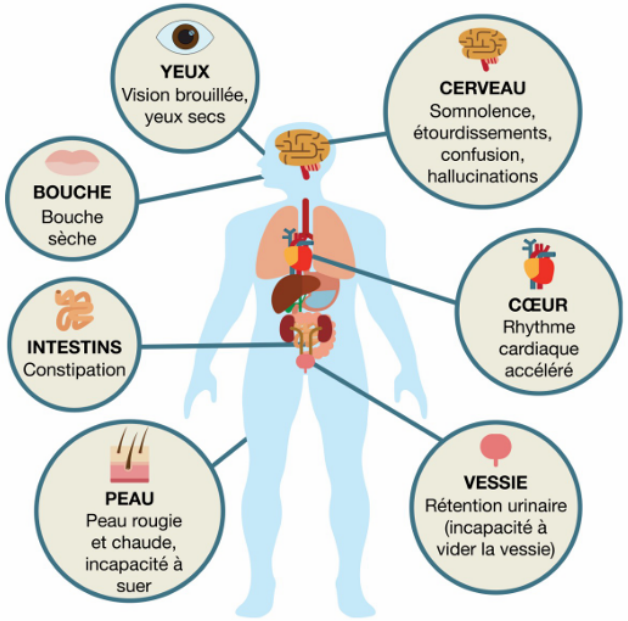
Low Potency (Score 1)				Medium Potency (Score 2)	High Potency (Score 3)	
Aclidinium [inh]	Cyclosporine	*Iloperidone*	Phenobarbital	Amantadine	*Acepromazine*	*Hyoscyamine*
Alimemazine *	Desloratadine	Ipratropium [inh]	Piperacillin	Baclofen	Amitriptyline	Imipramine
Alprazolam	Desvelanfaxine	Isosorbide [mononitrate]	Pramipexole	Carbamazepine	*Amoxapine*	Levomepromazine *
Alverine	Dexamethasone	Isosorbide [dinitrate]	Prednisolone	Cloperastine	Atropine	Meclozine *
Amisulpride	Dextromethorphan	Ketorolac	Prednisone	*Cimetidine*	*Belladonna*	*Mequitazine*
Ampicillin	Diazepam	Ketotifen	*Pridinol*	Cyclobenzaprin	*Benzatropine**	Nortriptyline
Aripiprazole	*Digitoxin*	Levocetirizine	Pseudoephedrine	*Dosulepin*	Biperiden	*Opipramol*
Asenapine	Digoxin	Levodopa-carbidopa	*Quinidine*	*Fluphenazine*	Brompheniramine	*Orphenadrine*
Atenolol	Diltiazem	Lithium	Risperidone	Loxapine	*Carbinoxamine*	Otilonium bromide
Azathioprine	Dipyridamole	Loperamide	Rotigotine [patch]	Maprotiline	*Carisoprodol*	Oxybutynin
Benazepril	Disopyramide	Loratadine	Selegiline	Meperidine *	Chlorphenamine *	*Pheniramine*
Betaxolol	Domperidone	Lorazepam	Sertraline	Methadone	Chlorpromazine	Procyclidine
Bisacodyl	Entacapone	*Lumiracoxib*	Sumatriptan	*Molindone*	*Chlorprothixene*	Promethazine
Bromocriptine	Escitalopram	Mebeverine	Tapentadol	*Nefopam*	*Cimetropium bromide*	*Propantheline*
Bromperidol	*Estazolam*	Metformin	*Temazepam*	Olanzapine	*Clemastine*	Propiverine
Bupropion	Famotidine	Methocarbamol	Theophylline	Oxcarbazepine	Clomipramine	*Protriptyline*
Captopril	Fentanyl	Methotrexate	*Tiotixene*	Paroxetine	Clozapine	Pyrilamine *
Cefamandole	Fexofenadine	Methylprednisolone	Tiotropium [inh]	Perphenazine	Cyproheptadine	Scopolamine *
Cefoxitin	*Flunitrazepam*	Metoclopramide	Trandolapril	Pimozide	*Darifenacin*	Solifenacin
Celecoxib	Flupentixol	Metoprolol	Trazodone	*Prochlorperazine*	*Desipramine*	*Thioridazine*
Cephalothin	Fluoxetine	Midazolam	Triamcinolone	*Promazine*	Dexbrompheniramine	*Tiemonium iodide*
Cetirizine	Flurazepam	Mirtazapine	Triamterene	*Propoxyphene*	Dexchlorpheniramine	*Timepidium bromide*
Cinnarizine	Fluvoxamine	Morphine	Trimebutine	Quetiapine	Dicyclomine *	Tizanidine
Chlordiazepoxide	Furosemide	Naratriptan	Triazolam	Ranitidine	*Difemerine*	Tolterodine
Chlortalidone	Gentamicin	*Nefazodone*	Umeclidinium [inh]	Tramadol	Diphenhydramine *	*Trifluoperazine*
Citalopram	Glycopyrronium [inh]	Nifedipine	Valproic acid	Triprolidine	Doxepin	Trihexyphenidyl
Clindamycin	Guaifenesin	*Nizatidine*	Vancomycin	*Zotepine*	Doxylamine	Trimipramine
Clonazepam	Haloperidol	*Oxazepam*	Venlafaxine	Zuclopenthixol	*Emeproniun*	*Tropatepine*
Clorazepate	Hydralazine	Oxycodone	Warfarin		Fesoterodine	Trospium
Codeine	*Hydrocodone*	Paliperidone	Ziprasidone		Flavoxate	*Valethamate*
Cortisone	Hydrocortisone	*Pancuronium*	Zolmitriptan		*Homatropine*	
Cycloserine	Hydromorphone	*Phenelzine*			Hydroxyzine	

J. Pers. Med. **2022**, *12*, 207. https://doi.org/10.3390/jpm12020207

Traitements anticholinergiques et pneumonies

Diapo Pr C. Roubaud

Effets secondaires des ANTICHOLINERGIQUES



Échelle CRIDECO anticholinergic Load Scale (CALS)

Ex : tramadol, hydroxyzine, clozapine…

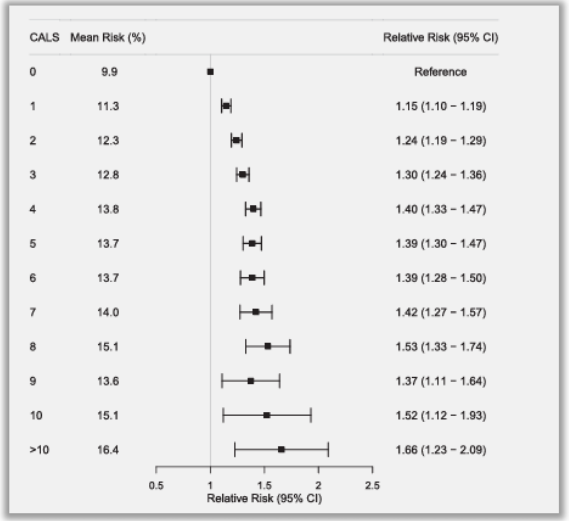
Quel est l'impact de la « **charge anticholinergique** » sur le **pronostic** des **pneumonies** ?

- N= 186735 H pneumonie
- Moy age **80 ans**

Charge AntiCHOL ↗
- **Mortalité**
- **Réadmissions**
- **Dépendance**

Chute

Confusion



Mortalité intra-hospitalière

Yoshimatsu *et al.* Age Ageing 2024

Développer et consolider la collaboration entre gériatres et infectiologues

Merci de votre attention

GInGer
Groupe Infectio-Gériatrie
SOCIÉTÉ FRANÇAISE DE GÉRIATRIE GÉRONTOLOGIE
SPILF