Hôpitaux Universitaires
Paris Ile-de-France Ouest
RAYMOND POINCARÉ • BERCK
AMBROISE PARÉ • SAINTE PÉRINE

Session : Diminution des durées d'antibiothérapie : où en est-on ?

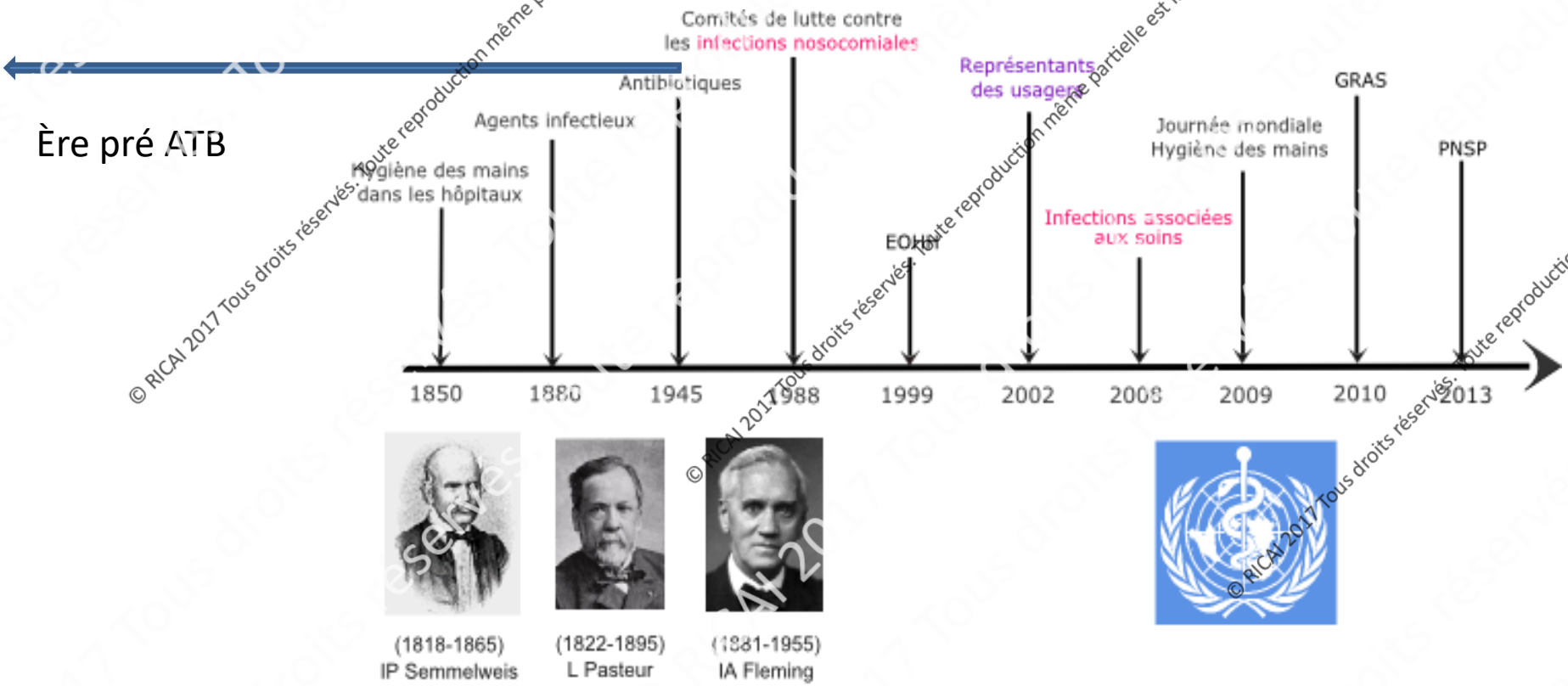
Raccourcissement des durées : Quand est-ce possible ?

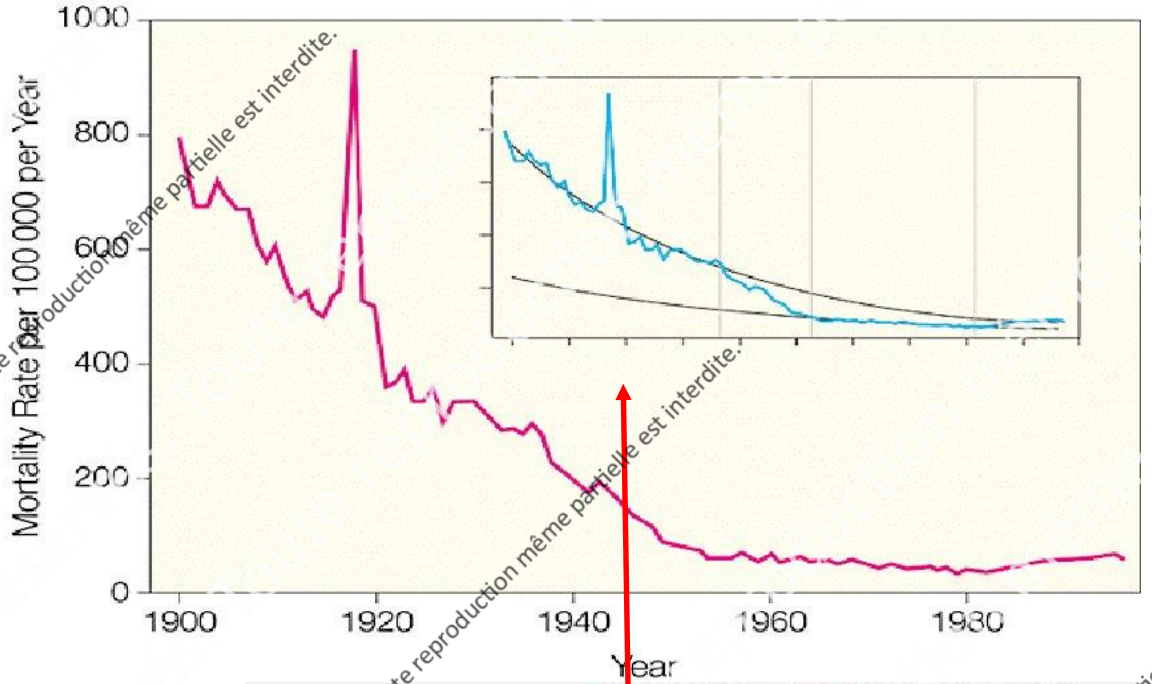
Aurélien DINH

Maladies infectieuses, Hôpital Raymond Poincaré, Garches, APHP

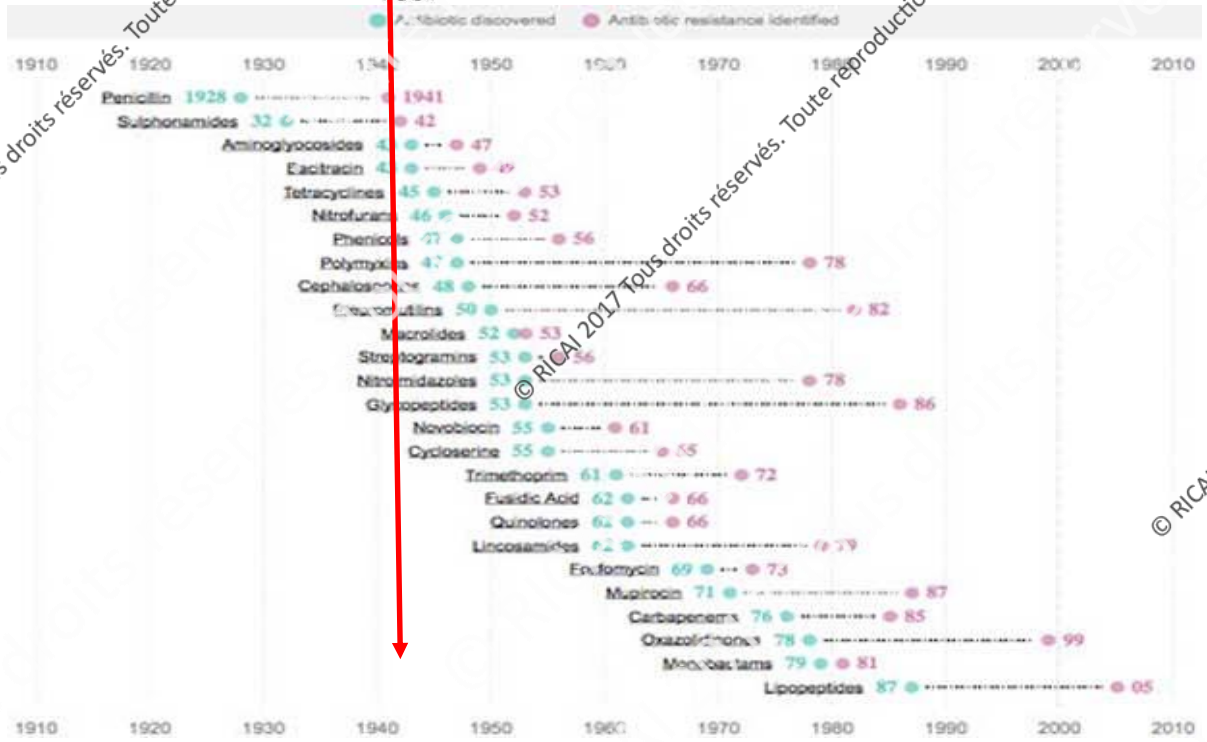
Il y a eu une vie avant les antibiotiques

- Pas d'ATB avant 1941 >> On arrête tout ?!





Taux de mortalité par maladies infectieuses aux EU



« Résistance aux antibiotiques : vers une catastrophe écologiques et sanitaire »

Vincent Jarlier

Tchernobyl ?

BFMTV ▸ Brèves et dépêches

En 30 ans, Tchernobyl est devenu une réserve d'animaux sauvages

25/04/2016 à 11h30

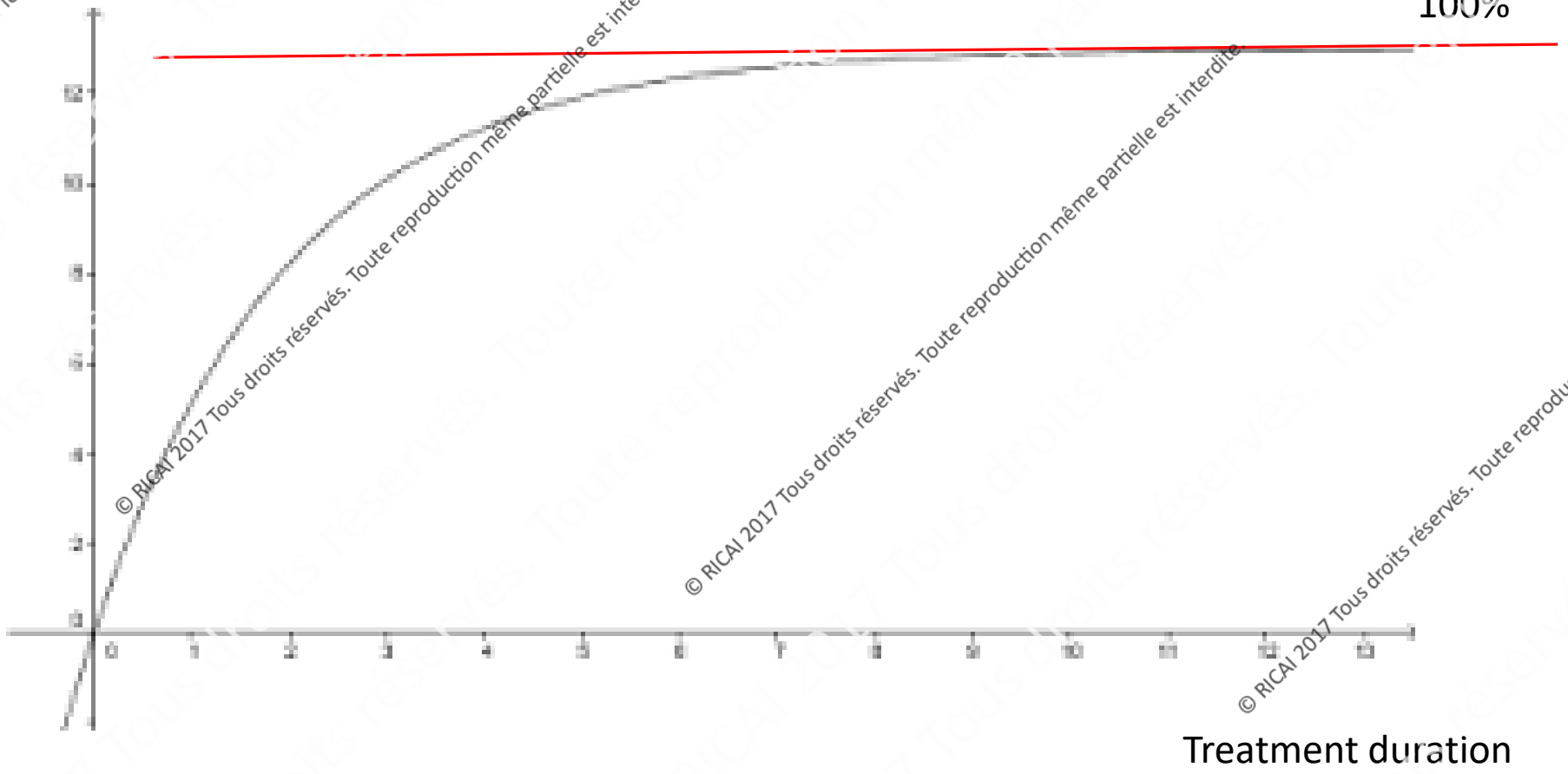
Des chevaux de Przewalski, dans la zone d'exclusion de Tchernobyl le 22 janvier 2016 en Ukraine - GENYA SAVILOV, AFP

la Zone semble devenue propice à l'épanouissement d'une partie de « la vie sauvage » : les chevaux de Przewalski, ainsi que les loups sont les exemples les plus notoires. La Zone se mue en niche écologique spécifique, où se reproduit une vie sous haut taux de radiation.

Tchernobyl c'est le paradis – des bêtes

Guérir toujours certainement tous nos patients

Efficacité ?

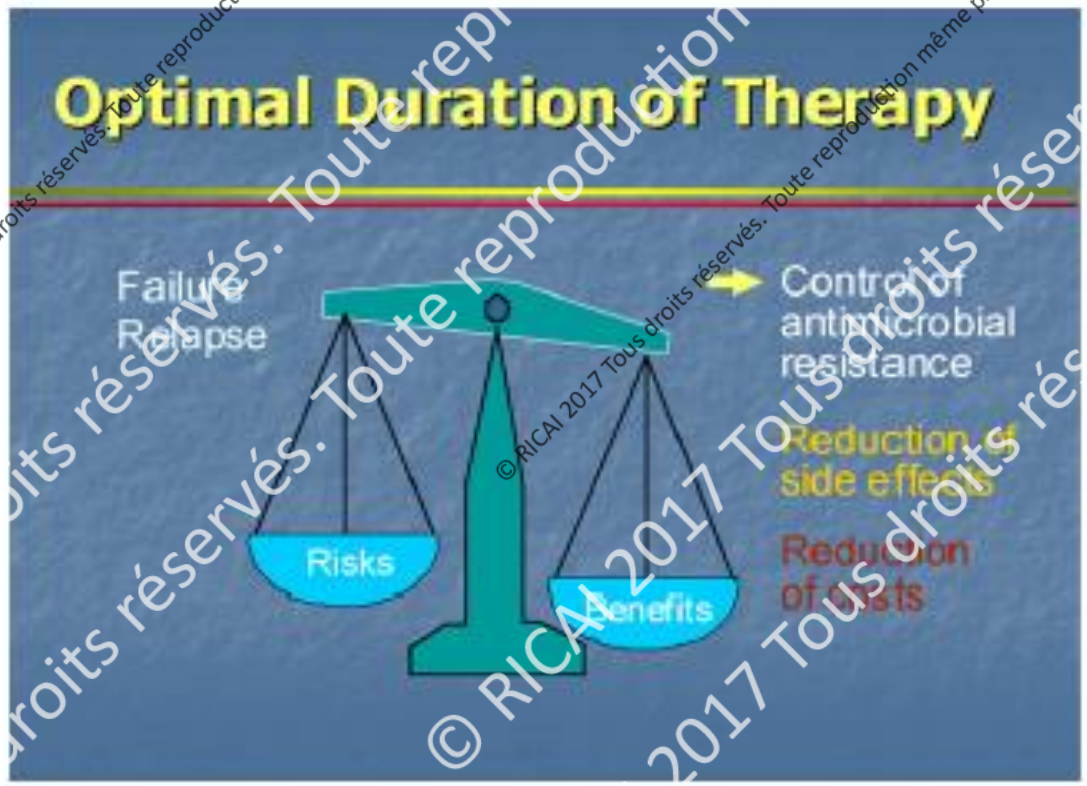


Questions

- Quelle proportion d'échecs s'autorise-t-on ?
- Dépend de la gravité potentielle de l'infection
- Diminution quasi automatique de l'efficacité (sauf si…) mais est ce perceptible ?
- Intérêt individuel vs collectif

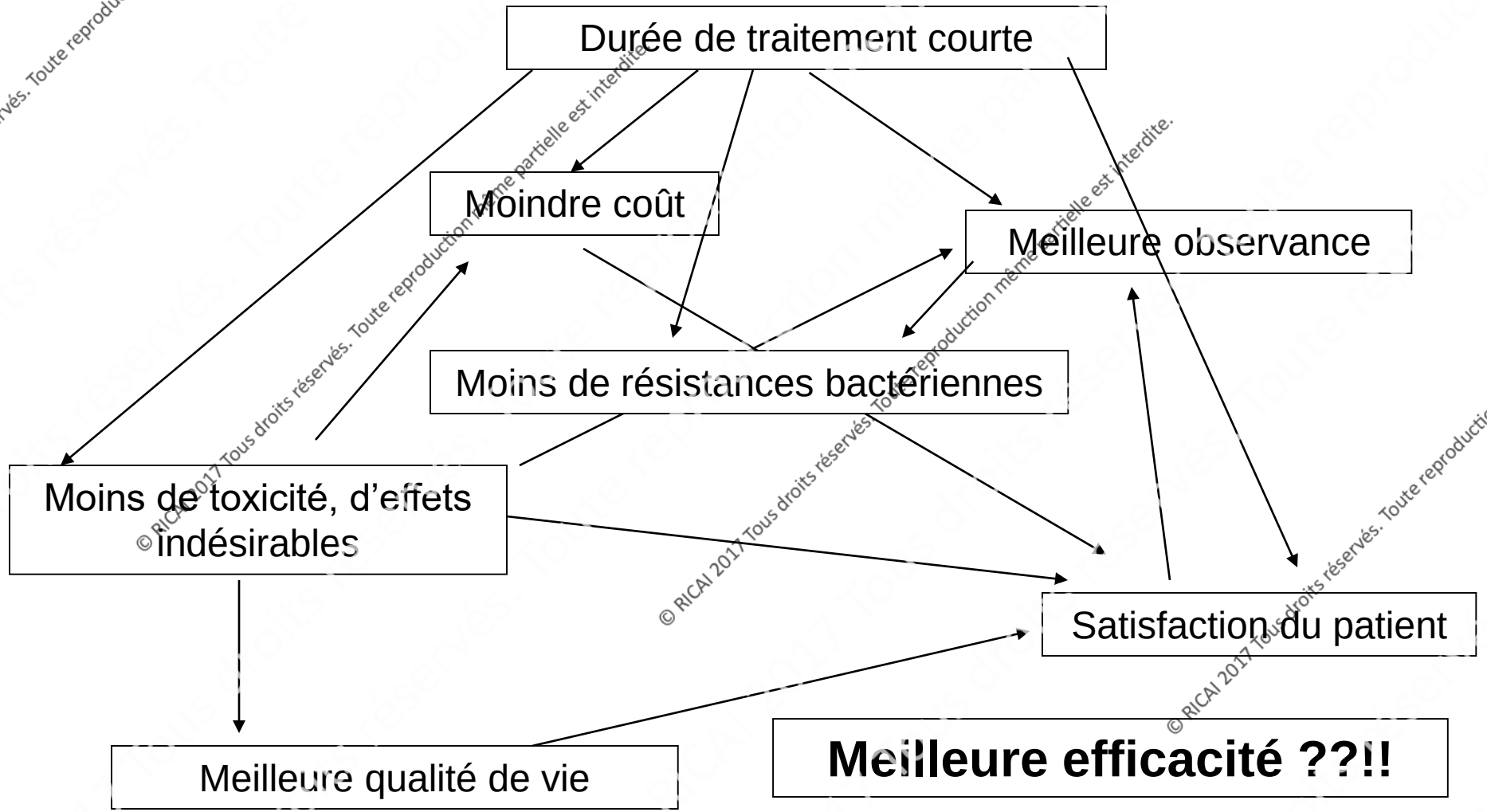
Sauf si

- Intolérance et EIG = échec et….émergence de résistances
- Balance bénéfice/risque



Rubinstein E. Int J Antimicrob Agents. 2007 Nov;30 Suppl 1:S76-9

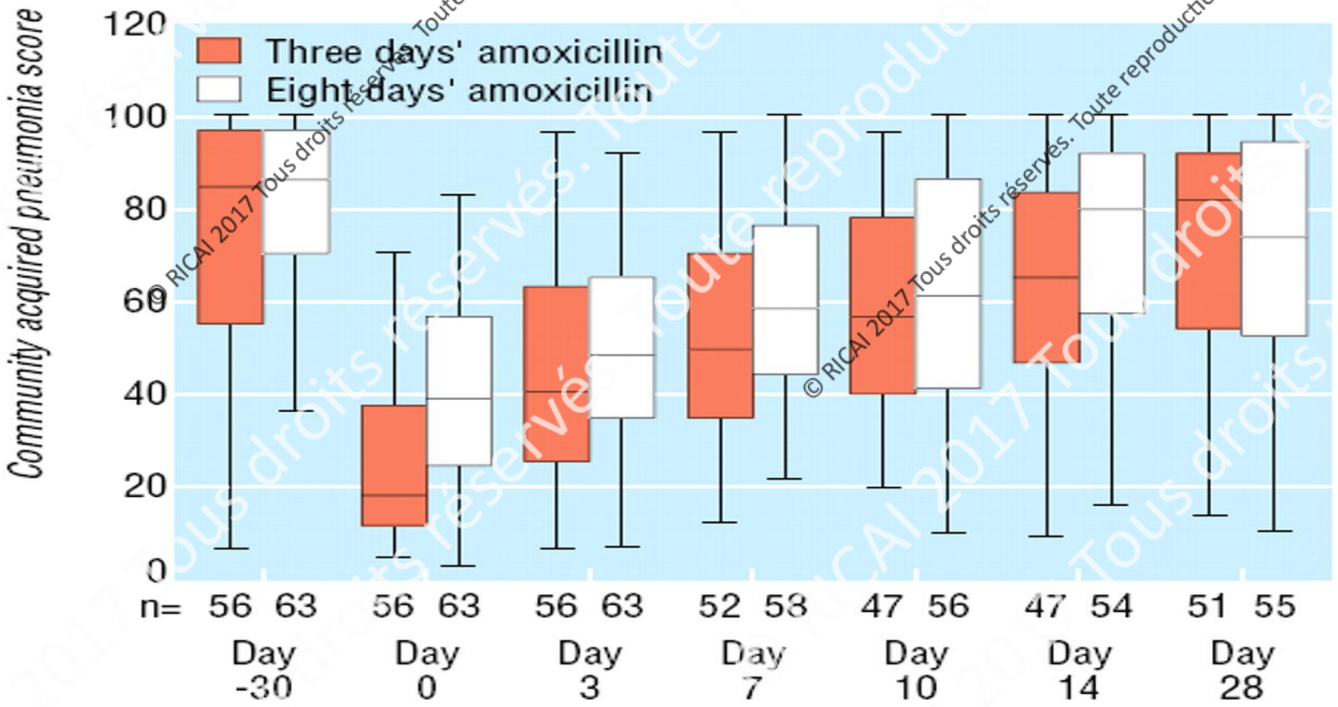
Intérêt d'une durée courte pour une même efficacité !!



D'après Li JZ. Am Med J 2007

Principe

- Diminuer l'inoculum jusqu'au niveau où l'immunité peut contrôler l'infection (Vs. « stériliser »)

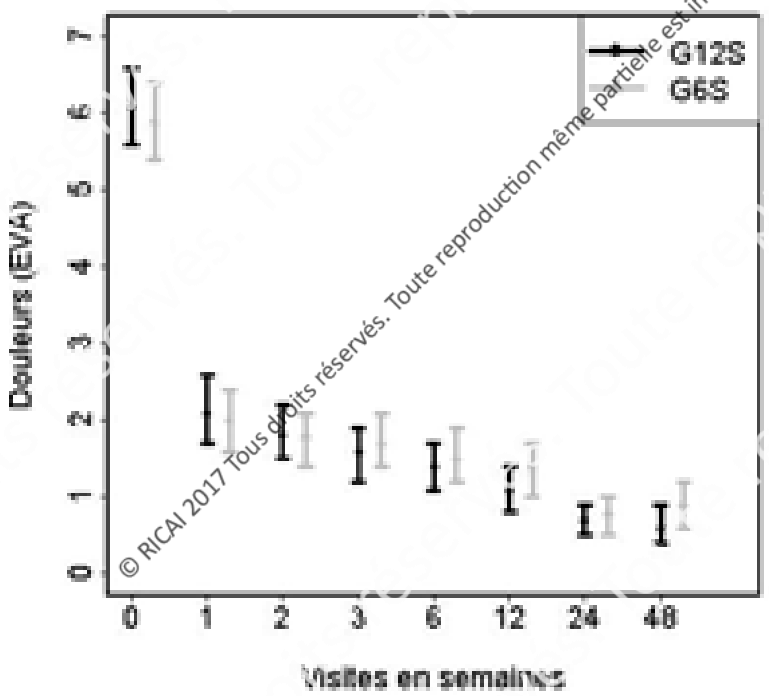


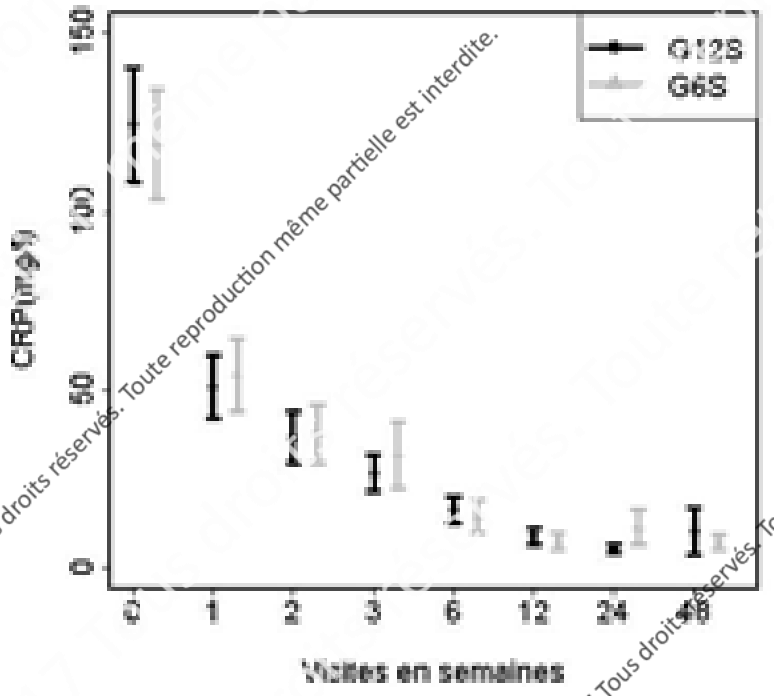
RCT
PAC non sévère
3 vs 8j de peni A

BMJ

R. El Moussaoui, BMJ 2006

Spondylodsicites





L. Bernard et al. Lancet 2015

Durées actuellement validées/recommandées ?

Antibiothérapie : des durées raccourcies pour les infections évoluant favorablement*

Infections		Durée AB (en jour)	Conditions
Infections respiratoires hautes	Sinusite maxillaire de l'adulte	5	
	Angine avec TDR** streptocoque positif	6	Amoxicilline
Infections respiratoires basses	Exacerbation de BPCO	5	Seulement si AB requis
	Pneumonie communautaire de l'enfant	5	
	Pneumonie communautaire de l'adulte	5***	Évolution favorable rapide
Bactériémies liées aux cathéters veineux centraux	Staphylocoque coagulase négative	5	Après retrait du cathéter
	Streptocoque, entérocoque, BGN	7	Après retrait du cathéter
	Staphylococcus aureus	14	Après retrait du cathéter
	Thrombophlébite suppurée	≥ 1	
Bactériémies primaires non compliquées	Streptocoques oraux	5	
	Entérobactéries, entérocoques	7	
	Staphylococcus aureus, Staphylococcus lugdunensis	14	
Infections urinaires	Cystite aigüe	1	Fosfomycine-trométamol
	Pyélonéphrite	7	Fluoroquinolones ou βlactamines injectables, sinon 10 jours
	Prostatite	14	Cotrimoxazole ou fluoroquinolones sinon 21 jours
Infections de la peau et des tissus mous	Dermo-hypodermite non nécrosante	7	
Infections intra abdominales	Perforation digestive opérée, appendicite opérée non perforée, cholécystite opérée	≤ 1	
	Péritonite localisée opérée	3	
	Péritonite généralisée opérée	4	
	Infection de liquide d'ascite	5	
	Diarrhées bactériennes nécessitant une antibiothérapie	3	
	Infection à *Clostridium difficile* toxinogène	10	

Plan APHP-Antibiotique CLIN
Groupe recommandation SPILF

Guidelines

IDSA/ATS guidelines (Mandell et al. CID 2007)

Patients with CAP should be treated for a minimum of **5 days**.
The recommended duration for patients with **good clinical response** within the first 2-3 d of therapy is 5 to 7 days total

NICE recommendations :
5 day course of antibiotic therapy for patients with low severity CAP;
Consider a **7-10** day course of antibiotic therapy for patients with moderate **and high severity** CAP.

Should Patients With VAP Receive 7 Days or 8–15 Days of Antibiotic Therapy? Recommendation

- For patients with VAP, we recommend a 7-day course of antimicrobial therapy rather than a longer duration (strong recommendation, moderate-quality evidence).

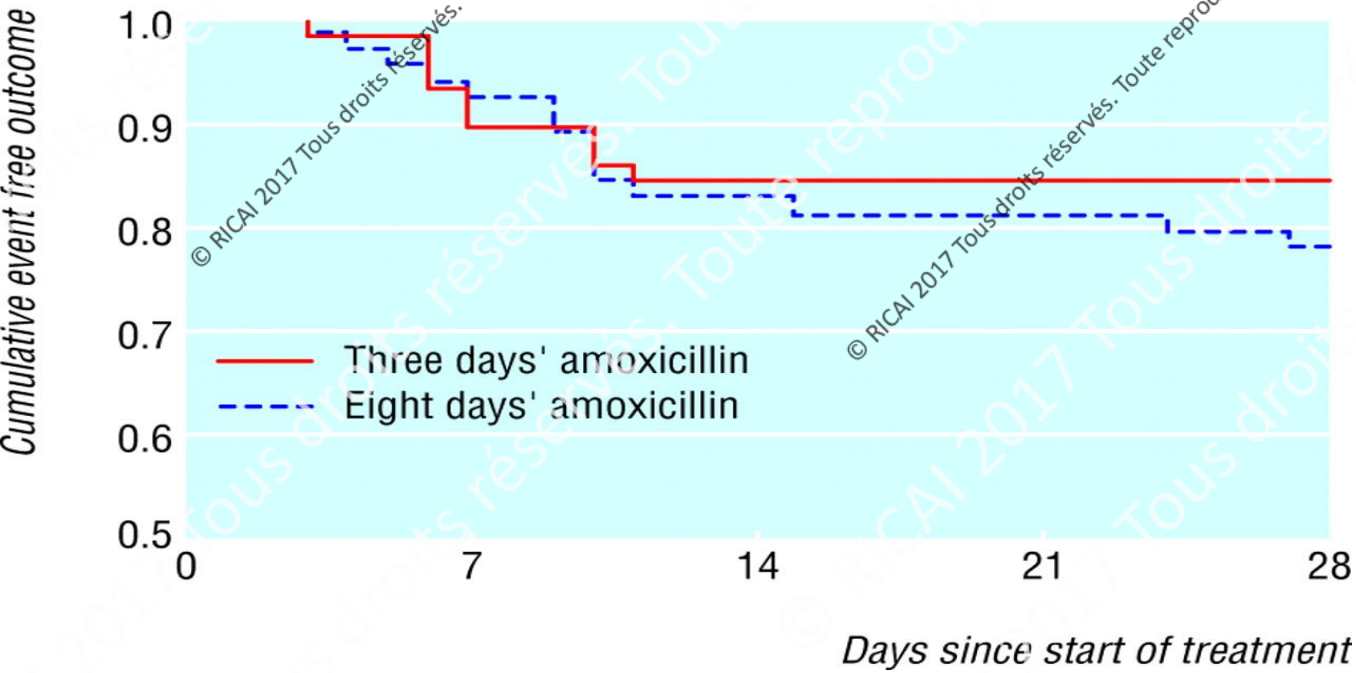
- Remarks: There exist situations in which a shorter or longer duration of antibiotics may be indicated, depending upon the rate of improvement of clinical, radiologic, and laboratory parameters.

Management of Adults With HAP/VAP • CID 2016

BMJ

Effectiveness of discontinuing antibiotic treatment after three days versus eight days in mild to moderate-severe community acquired pneumonia: randomised double blind study

Rachida el Moussaoui, Corianne A J M de Borgie, Peterhans van den Broek, Willem N Hustinx, Paul Bresser, Guido E L van den Berk, Jan-Werner Poley, Bob van den Berg, Frans H Krouwels, Marc J M Bonten, Carla Weenink, Patrick M M Bossuyt, Peter Speelman, Breud C Opmeer, Jan M Prins



El Moussaoui et al. BMJ 2006

« A new concept ? »

Un concept nouveau ?

The Journal of the
American Medical Association
Published Under the Auspices of the Board of Trustees
VOL. 122, No. 18 CHICAGO, ILLINOIS AUGUST 28, 1943

PENICILLIN IN THE TREATMENT OF INFECTIONS

A REPORT OF 500 CASES

STATEMENT BY THE COMMITTEE ON CHEMOTHERAPEUTIC AND OTHER AGENTS, DIVISION OF MEDICAL SCIENCES, NATIONAL RESEARCH COUNCIL

CHESTER S. KEEFER, M.D., BOSTON, CHAIRMAN; FRANCIS G. BLAKE, M.D., NEW HAVEN, CONN.; E. KENNERLY MARSHALL JR., M.D., BALTIMORE; JOHN S. LOCKWOOD, M.D., PHILADELPHIA, AND W. BARRY WOOD JR., M.D., ST. LOUIS.

patients with pneumococcal pneumonia, stated, "It is plain from the reported cases that…many patients have recovered on less than 100,000 units given over a period of two to three days." Dawson and Hobby [23], in their 1944 report on treating

The Journal of the
American Medical Association
Published Under the Auspices of the Board of Trustees
VOL. 124, No. 10 CHICAGO, ILLINOIS MARCH 4, 1944

THE CLINICAL USE OF PENICILLIN

OBSERVATIONS IN ONE HUNDRED CASES

MARTIN HENRY DAWSON, M.D.
AND
GLADYS L. HOBBY, PH.D.
NEW YORK

"In general, the results were satisfactory with doses of 10,000 units every four hours for one and a half to two days."

Keeter CS *et al.* JAMA 1943
Dawson MH & Hobby GL JAMA 1944

Thorax (1970), 25, 241.

One-day treatment for lobar pneumonia

D. R. SUTTON, A. C. B. WICKS, and LINDSAY DAVIDSON

Department of Medicine, University College of Rhodesia

An investigation was undertaken to discover whether a single intramuscular dose of long-acting (or mixed long-acting and crystalline) penicillin or a single day's therapy with oral penicillin was satisfactory treatment for lobar pneumonia. These treatments were compared with standard hospital oral and injection therapies. All the experimental treatment regimes were found to be satisfactory. They provide justification for treating lobar pneumonia on an out-patient basis in order to save hospital admissions.

TABLE III

RESULTS OF TREATMENT

	Treatment Group							
	A	B	C	D	E	F	G	Total
No. of patients	20	28	20	23	19	19	21	150
Radiological and clinical resolution	19	27	18	20	18	18	19	139
Failures (see text)	1	1	2	3	1	1	2	11
Complications								
Effusions	0	0	0	1	1	0	1	3
Pleural thickening	1	1	0	0	0	0	0	2
Deaths	0	0	1	0	0	0	0	1
Days for temperature to return to normal and remain normal (mean ±S.D.)	3·1 ± 1·6	2·6 ± 0·9	3·4 ± 1·7	3·2 ± 1·3	2·6 ± 1·6	2·9 ± 1·7	2·6 ± 1·6	

apart from residual sputum production. Three [illegible] penicillin as a mixture of [illegible]

Merci à Patrick Petitpretz

Peut-on traiter les pneumonies aiguës communautaires hospitalisées par 3 jours de β-lactamines ?

A. Dinh*[1], J. Dumoulin[2], C. Duran[1], B. Davido[1], A. Lagrange[1], D. Benhamou[3], M. C. Dombret[4], B. Renaud[5], Y. E. Claessens[6], J. Labarère[7], B. Philippe[8], J. F. Boitiaux[8], J. P. Bedos[9], J. Ropers[10], T. Chinet[2], A. C. Crémieux[1,11]

[1] Unité de Maladies Infectieuses, Hôpital Raymond Poincaré, HU PIFO, APHP, UVSQ, Garches, France ; [2] Service de Pneumologie, Hôpital Ambroise Paré, HU PIFO, APHP, UVSQ, Boulogne-Billancourt, France ; [3] Service de Pneumologie, CHU Bois-Guillaume, Rouen, France ; [4] Service de Pneumologie, Hôpital Bichât-Claude Bernard, HU PNVS, APHP, Paris, France ; [5] Service des Urgences, Hôpital Cochin, HUPC, APHP, Paris, France ; [6] Service des Urgences, Centre Hospitalier Princesse Grace, Monaco, Monaco ; [7] Unité Epidémiologie, CHU de Grenoble, Grenoble, France ; [8] Service de Pneumologie, Centre Hospitalier René Dubos, Pontoise, France ; [9] Service de Réanimation, Hôpital André Mignot, CH de Versailles, Le Chesnay, France ; [10] URC PO, GH HU PIFO, Boulogne-Billancourt, France ; [11] Service de Maladies Infectieuses, Hôpital Saint-Louis, HU SLLFW, APHP, Paris, France

Essai Pneumonie Traitement Court (PTC)

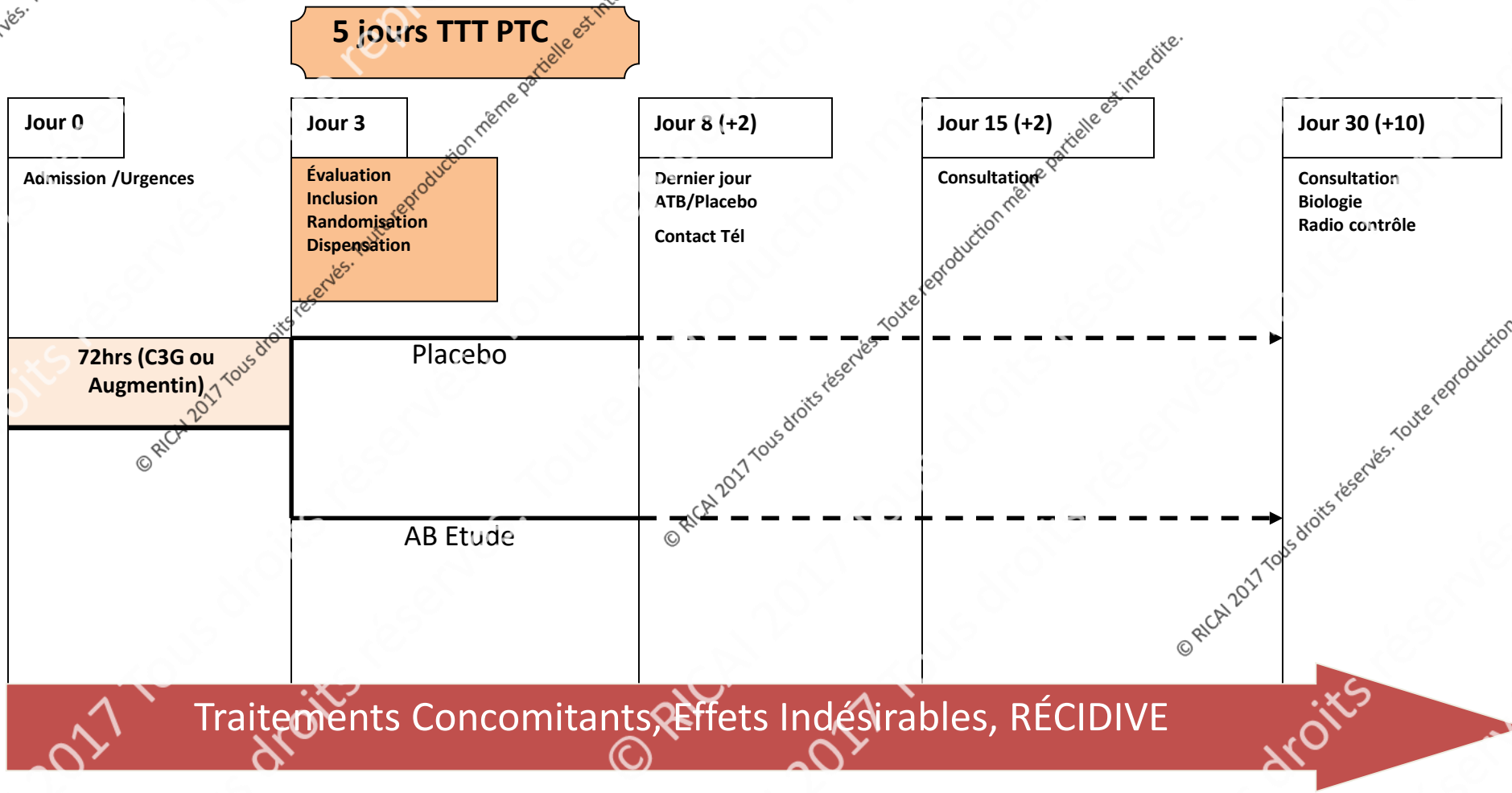
PHRC national 12-202.0496

- **Hypothèse** : antibiothérapie de 3 jours est suffisante chez les patients avec une PAC répondant à 3 jours de C3G ou amoxicilline-acide clavulanique
- **Méthode** :
  - Essai multicentrique (20 centres),
  - Contrôlé, randomisé vs placebo (double aveugle), non infériorité,

- **Critères inclusions**
  - **Admis pour PAC (J0)**
    - **1 SF**: dyspnée, toux, exp. muco-pur., foyer de crépitants
    - \+ T> **38**°C
    - \+ Nouvel **infiltrat** à la RX
  - **Ayant répondu à 3 jours de TT** par C3G ou amox-clav. (J3)
    - T ≤ 37,8°C
    - \+ Critères de stabilité IDSA

      FC < 100/min et FR < 24c/min)
      SaO2 ≥ 90% (mode oxygénation normale préalable PAC)
      Pa Systolique ≥ 90 mmHg
  - Apte à prendre un traitement oral

Schéma de l'étude



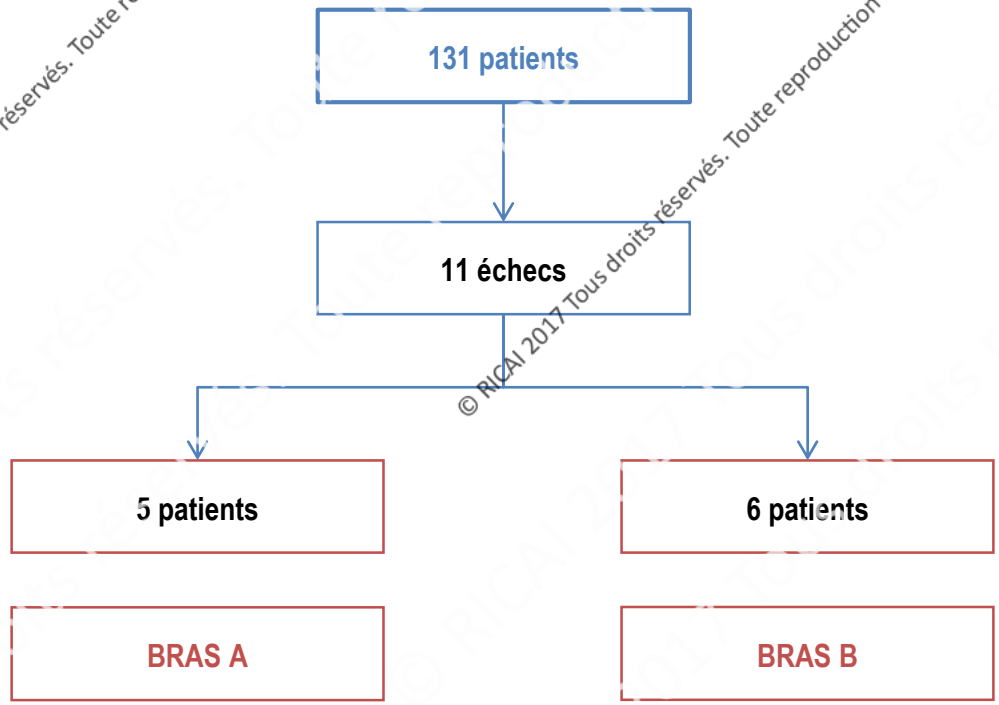
Résultats (1/2)

- Aujourd'hui (18/12) : **296 inclusions**
- Patients : âge moy 68.5 ±18.8 ans, sexe ratio 1.5 (M/F)
- Principaux antécédents :

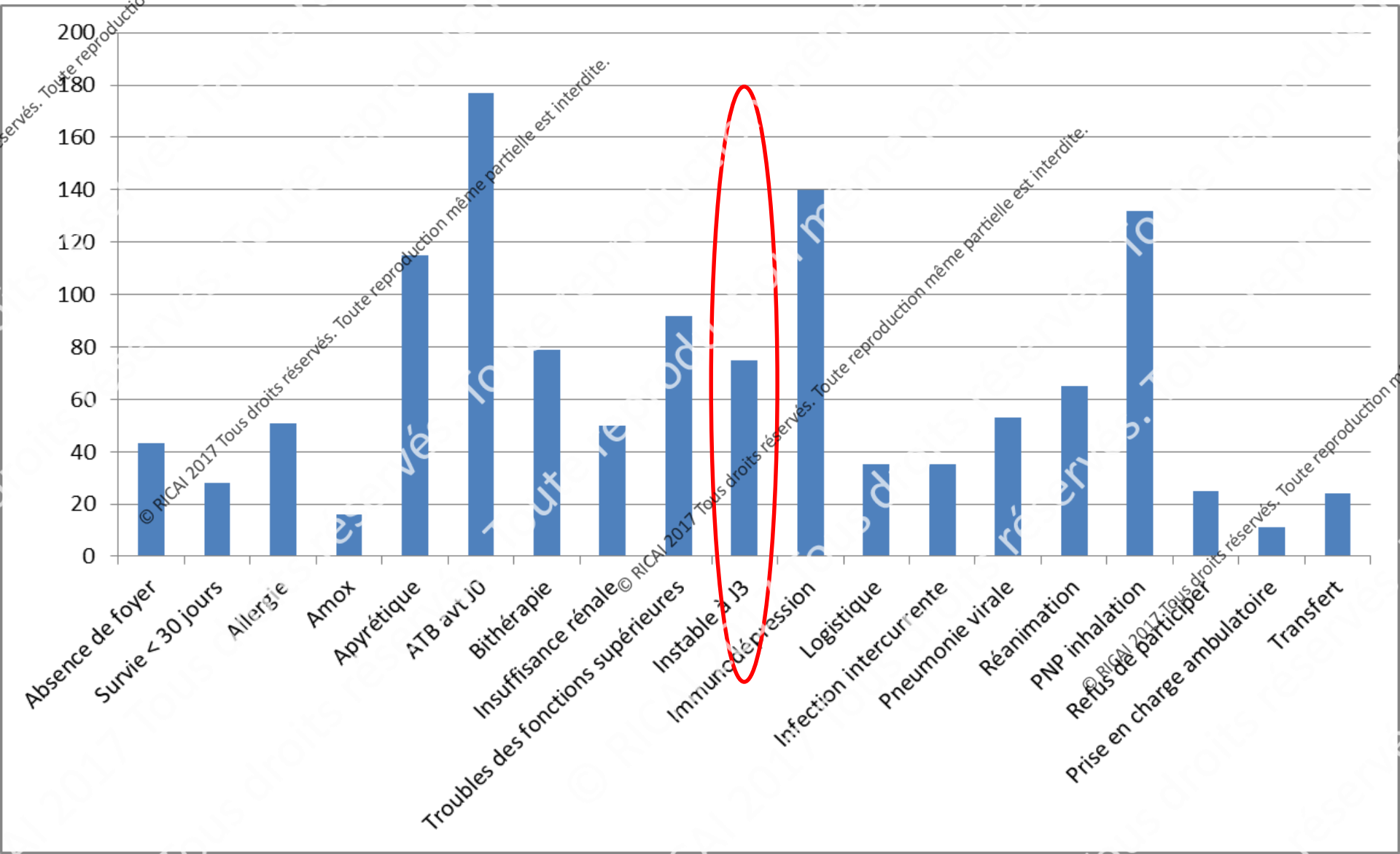
Principales comorbidités	**%**
BPCO	24
Insuffisance cardiaque	21
Diabète	20
Maladie vasculaire cérébrale	9
Pathologie rénale	6
Néoplasie	2
Pathologie hépatique	2

Comité Indépendant de Surveillance

- Révision des 131 premiers patients inclus : 19 ont présenté un EIG et 3 sont décédés.
- Taux de guérison global : 91,6%
  - avec 11 échecs dont 2 décès,
  - répartis entre les deux bras de l'étude (6/5).
- Le comité indépendant a conclu à la sécurité de l'essai et à sa poursuite.



MOTIFS NON INCLUSIONS



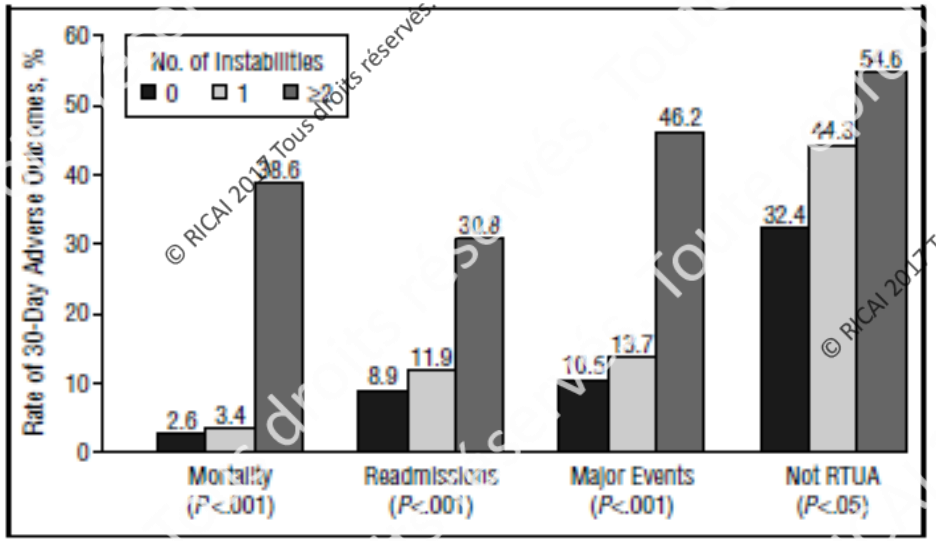
Historique des critères de Stabilité

- Associé à bon pronostic (Halm *et al.* 2002)
- Critère de sortie d'hospitalisation (Halm *et al.* 1998 ; 2002)
- Critère de relais per os (Rhew *et al.* 2001)
- Critère d'arrêt après 48h ? (Uranga *et al.* 2016)
- Critère d'arrêt « quasi immédiat » >> PTC, AIR

Bon pronostic

Instability on Hospital Discharge and the Risk of Adverse Outcomes in Patients With Pneumonia

Ethan A. Halm, MD, MPH; Michael J. Fine, MD, MSc; Wishwa N. Kapoor, MD, MPH; Daniel E. Singer, MD; Thomas J. Marrie, MD; Albert L. Siu, MD, MSPH



Number of instabilities on discharge and rates of 30-day adverse outcomes. Major events were defined as death or readmission within 30 days of discharge. Not RTUA indicates not returned to usual activities within 30 days of discharge.

- Cohorte prospective
- 680 patients
- Si stabilité à la sortie significativement moins de
  - ré hospitalisation
  - décès

Arch intern Med 2002

Time to Clinical Stability in Patients Hospitalized With Community-Acquired Pneumonia

Implications for Practice Guidelines

Ethan A. Halm, MD, MPH; Michael J. Fine, MD, MSc; Thomas J. Marrie, MD; Christopher M. Coley, MD; Wishwa N. Kapoor, MD, MPH; D. Scott Obrosky, MS; Daniel E. Singer, MD

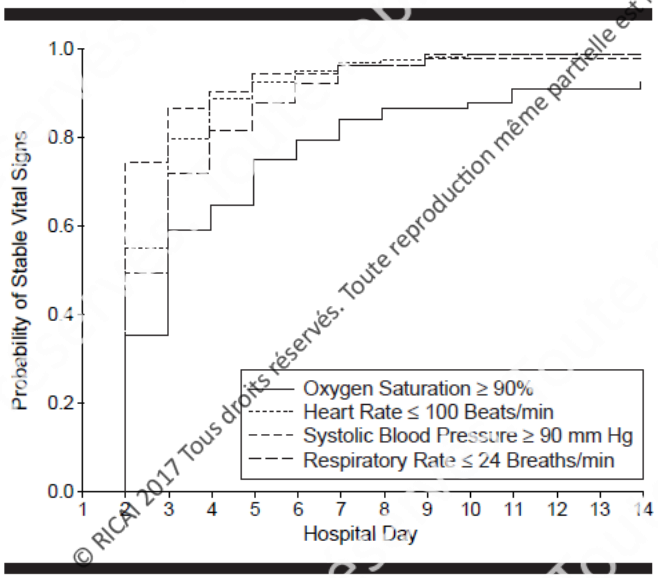


Figure 1.—Time needed to stabilize oxygen saturation, heart rate, respiratory rate, and systolic blood pressure in patients with abnormal vital signs on admission.

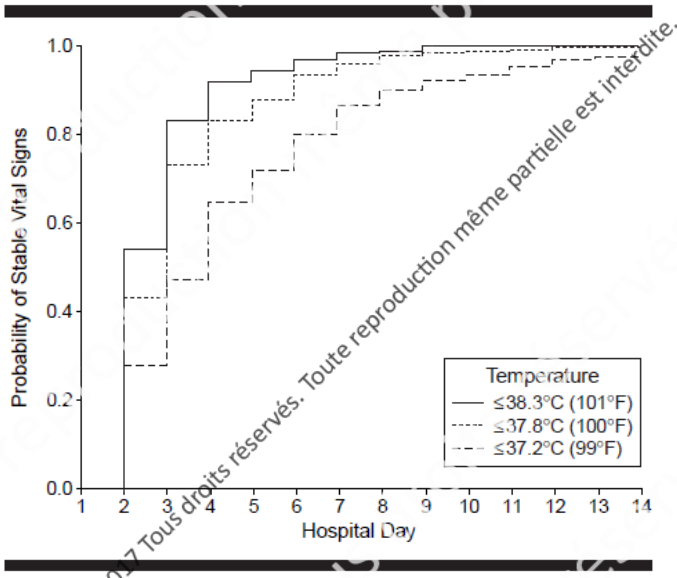


Figure 2.—Time needed to stabilize temperature in patients with fever on admission.

Cohorte prospective multicentrique

686 patients

Délais avant obtention des critères de stabilité : médiane J3

Après obtention aggravation secondaire <1% des cas en réanimation

JAMA 1998

Stability in community-acquired pneumonia: one step forward with markers?

R Menéndez,[1] R Martinez,[1] S Reyes,[1] J Mensa,[2] E Polverino,[3] X Filella,[4] C Esquinas,[3] A Martinez,[1] P Ramirez,[5] A Torres[3]

Cohorte prospective

Espagnole

220 patients

Intérêt CRP et PCT

pronostic associé aux critères de stabilité

Thorax 2009

Table 1 Characteristics, comorbidity and initial severity, and clinical stability

Characteristics	Stability ≤3 days n = 220 (55.8%)	Stability >3 days n = 174 (44.2%)	p Value
Mean (SD) age (years)	65 (17)	67 (18)	0.2
F/M (%)	76/144 (34.5/65.5)	72/102 (41.4/58.6)	0.1
Current smokers, n (%)	46 (20.9)	44 (25.3)	0.3
Excessive alcohol consumption, n (%)	25 (11.4)	21 (12.1)	0.8
Prior influenza vaccination, n (%)	98 (44.5)	66 (37.9)	0.2
Coexisting illnesses, n (%)			
Cardiac insufficiency	40 (18.2)	25 (14.4)	0.3
Renal insufficiency	12 (5.5)	8 (4.6)	0.7
Diabetes	49 (22.3)	29 (16.7)	0.1
Liver disease	5 (2.3)	6 (3.4)	0.4
COPD	39 (17.7)	31 (17.8)	0.9
Neurological disease	38 (17.3)	31 (17.8)	0.8
PSI, n (%)			
I	32 (14.5)	15 (8.6)	0.07
II	42 (19.1)	28 (16.1)	0.4
III	49 (22.3)	39 (22.4)	0.9
IV	79 (35.9)	63 (36.2)	0.9
V	18 (8.2)	29 (16.7)	0.01
CURB-65, n (%)			
0	41 (18.6)	22 (12.6)	0.1
1	84 (38.2)	48 (27.6)	0.1
2	55 (25.0)	54 (31.0)	0.1
3	32 (14.5)	34 (19.5)	0.1
4	8 (3.6)	14 (8.0)	0.06
5	0	2 (1.1)	0.1
Antibiotic therapy, n (%)			
β-lactam/macrolide combination	127 (57.7)	103 (59.2)	0.7
Fluoroquinolone	64 (29.1)	30 (17.2)	0.006
β-lactam/quinolone combination	8 (3.6)	18 (10.3)	0.008
β-lactam monotherapy	12 (5.5)	9 (5.2)	0.9
Other*	9 (4.1)	14 (8.0)	0.09

Vers une durée individualisée ?

JAMA Internal Medicine | Original Investigation | LESS IS MORE

Duration of Antibiotic Treatment in Community-Acquired Pneumonia
A Multicenter Randomized Clinical Trial

Ane Uranga, MD; Pedro P. España, MD; Amaia Bilbao, MSc, PhD; Jose María Quintana, MD, PhD; Ignacio Arriaga, MD; Maider Intxausti, MD; Jose Luis Lobo, MD, PhD; Laura Tomás, MD; Jesus Camino, MD; Juan Núñez, MD; Alberto Capelastegui, MD, PhD

Essai de non infériorité

Multicentrique (4 hôpitaux)
2012-2013

312 patients

Randomisation à J5
- Arrêt à 48h d'obtention des critères de stabilité
- Arrêt selon clinicien en charge

Objectif :
- Guérison clinique J10 et J30
- QdV CAP J5 et J10 (questionnaire 18 items : 0-90)

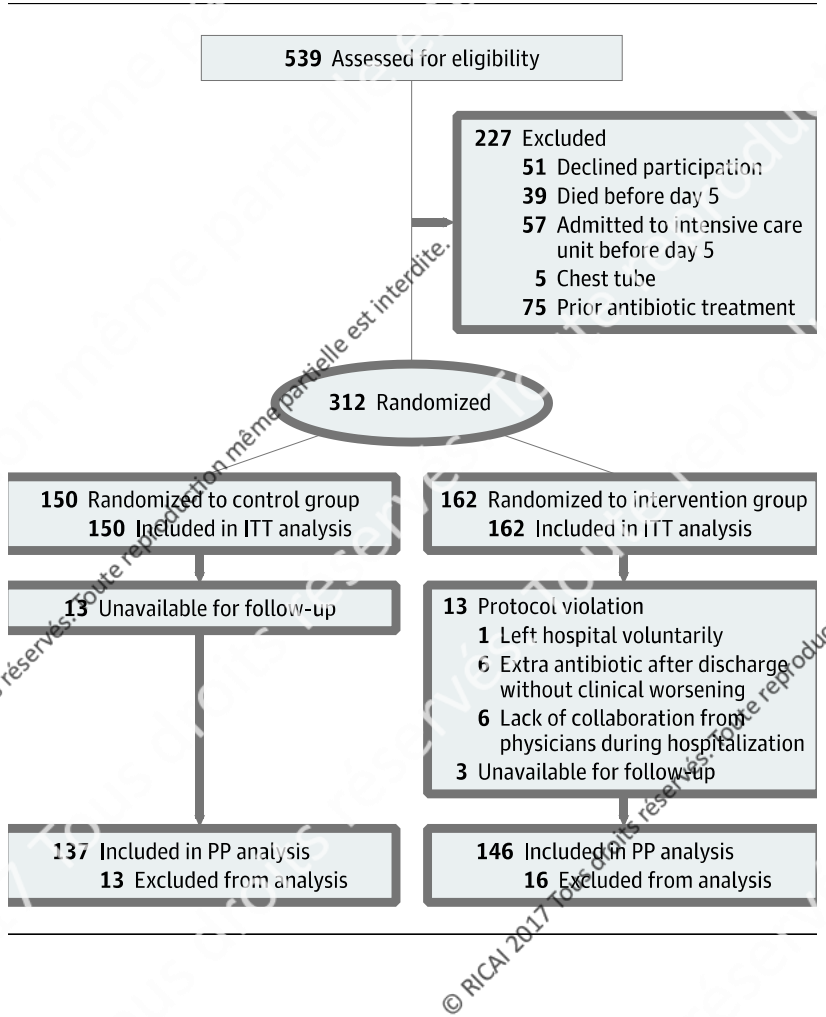


Table 1. Baseline Characteristics of Study Participants[a]

aracteristic	Control Group (n = 150)	Intervention Group (n = 162)
e, mean (SD), y	66.2 (17.9)	64.7 (18.7)
x		
Male	95 (63.3)	101 (62.3)
Female	55 (36.7)	61 (37.7)
bacco		
Current smoker	32 (21.3)	36 (22.6)
Never smoker	68 (45.3)	71 (44.7)
Former smoker	50 (33.3)	52 (32.7)
cohol consumption (yes)	24 (16.1)	17 (10.5)
morbidities		
Liver disease	4 (2.7)	4 (2.5)
Heart disease	38 (25.3)	39 (24.1)
Congestive heart failure	14 (9.3)	12 (7.4)
Cerebrovascular disease	16 (10.7)	9 (5.6)
Renal disease	12 (8.0)	12 (7.4)
COPD	21 (14)	27 (16.7)
Diabetes	25 (16.7)	21 (13.0)
arlson Comorbidity Index, median QR)	1 (0-2)	1 (0-2)
arlson Comorbidity Index, tegorized		
0	61 (40.7)	70 (43.2)
1	37 (24.7)	47 (29.0)
>1	52 (34.7)	45 (27.8)
tz Index, mean (SD)[b]	0.6 (1.6)	0.4 (1.3)
I class		
I-III	89 (59.3)	102 (63.0)
IV-V	61 (40.7)	60 (37.0)
PSI score, mean (SD)	83.7 (33.7)	81.8 (33.8)

Eligibility

Patients ≥ 18 years old, hospitalized with a diagnosis of CAP. Pneumonia is defined as pulmonary infiltrate on chest X-ray not seen previously plus at least one symptom compatible with pneumonia such as cough, fever, dyspnea, and/or chest pain.

ATB :

- 80% des patients traités par FQ
- 10% beta lactamines +ME

Durée de traitement

Table 4. Results for Secondary Study Outcomes in the Per-Protocol Analysis[a]

Outcome	Control Group (n = 137)	Intervention Group (n = 146)	*P* Value
Time, median (IQR), d			
Taking antibiotics	10 (10-11)	5 (5-6.5)	<.001
Not taking antibiotics	21 (10-27)	25 (5-32)	.001
Taking intravenous antibiotics	2 (1-4)	3 (2-4)	.22
Until clinical improvement	12 (8-18)	12 (7-15)	.41
Return to normal activity	18 (9-25)	15 (10-21)	.36
Radiographic resolution at day 30	93 (73.2)	112 (81.2)	.12
In-hospital mortality	2 (1.5)	3 (2.1)	>.99
30-d Mortality	3 (2.2)	3 (2.1)	>.99
Recurrence by day 30	6 (4.4)	4 (2.8)	.53
Readmission by day 30	9 (6.6)	2 (1.4)	.02
In-hospital complications			
Pleural effusion	10 (7.3)	5 (3.4)	.15
Treatment failure[b]	2 (1.5)	3 (2.1)	>.99
Respiratory failure[c]	26 (19.0)	31 (21.2)	.64
Severe sepsis[d]	7 (5.1)	8 (5.5)	.89
Renal failure[e]	5 (3.7)	6 (4.1)	.85
ICU admission	2 (1.5)	1 (0.7)	.61
Use of invasive mechanical ventilation	2 (1.5)	1 (0.7)	.61
Use of noninvasive mechanical ventilation	3 (2.2)	2 (1.4)	.67
Need for vasopressors	2 (1.5)	3 (2.1)	>.99
Antibiotic adverse effects by day 30	18 (13.1)	17 (11.7)	.72
Time with antibiotic adverse effects, mean (SD), d	3 (2.8)	1.7 (2.1)	.24
Length of hospital stay, mean (SD), d	5.5 (2.3)	5.7 (2.8)	.69

Abbreviations: ICU, intensive care unit; IQR, interquartile range. radiographic progression of pneumonia or the appearance of a new infectious

Outcome

Table 2. Results for the Primary Study Outcomes

Outcome	Control Group	Intervention Group	*P* Value
:ent-to-Treat Analysis			
tal No. of participants	150	162	
nical success, No. (%)[a]			
At day 10	71 (48.6)	90 (56.3)	.18
At day 30	132 (88.6)	147 (91.9)	.33
.P symptom questionnaire score, mean (SD)[b]			
At day 5	24.7 (11.4)	27.2 (12.5)	.10
At day 10	18.6 (9.0)	17.9 (7.6)	.69
r-Protocol Analysis			
tal No. of participants	137	146	
nical success, No. (%)[a]			
At day 10	67 (50.4)	86 (59.7)	.12
At day 30	126 (92.7)	136 (94.4)	.54
.P symptom questionnaire score, mean (SD)[b]			
At day 5	24.3 (11.4)	26.6 (12.1)	.16
At day 10	18.1 (8.5)	17.6 (7.4)	.81

The New Antibiotic Mantra—"Shorter Is Better"

Brad Spellberg, MD

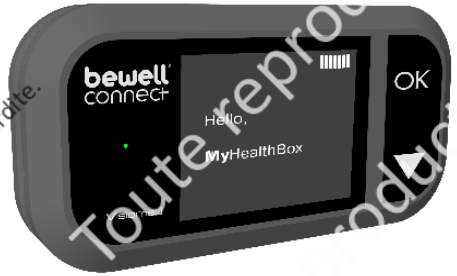
Of course, the ultimate goal is to customize duration of therapy to the patient's response. So what should we do when patients are given a prescription for a fixed duration of therapy and their symptoms resolve before they complete the course?

Here we need to change the dogma: patients should no longer be told to keep taking the antibiotic. Patients should be told that if their symptoms resolve before completing the antibiotic they should communicate with their physician to determine if they can stop therapy early. Health care professionals should be encouraged to allow patients to stop antibiotic treatment as early as possible on resolution of symptoms of infection. Ultimately, we should replace the old dogma of continuing therapy past resolution of symptoms with a new, evidence-based dogma of "shorter is better."

AIR

Antibiothérapie des Infections Respiratoires

PHRC 2016



Consultation
INCLUSION
Start of antibiotic treatment

Stability criteria
= RANDOMIZATION
Phone call

MAIN CRITERIA
Consultation (MD or Nurse)

SECONDARY CRITERIA
Phone Call

D0

DS

D15

D30

EXPERIMENTAL ARM

CONTROL ARM

END OF TREATMENT
Phone Call

END OF TREATMENT
Phone Call

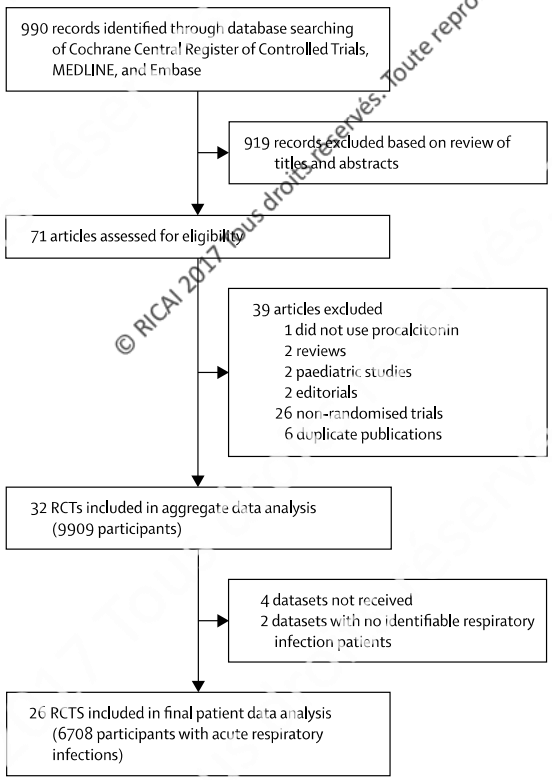
Antibiotic therapy - Experimental arm

Antibiotic therapy - Control arm

PCT ?

Effect of procalcitonin-guided antibiotic treatment on mortality in acute respiratory infections: a patient level meta-analysis

Philipp Schuetz, Yannick Wirz*, Ramon Sager*, Mirjam Christ-Crain, Daiana Stolz, Michael Tamm, Lila Bouadma, Charles E Luyt, Michel Wolff, Jean Chastre, Florence Tubach, Kristina B Kristoffersen, Olaf Burkhardt, Tobias Welte, Stefan Schroeder, Vandack Nobre, Long Wei, Heiner C Bucher, Djillali Annane, Konrad Reinhart, Ann R Falsey, Angela Branche, Pierre Damas, Maarten Nijsten, Dylan W de Lange, Rodrigo O Deliberato, Carolina F Oliveira, Vera Maravić-Stojković, Alessia Verduri, Bianca Beghé, Bin Cao, Yahya Shehabi, Jens-Ulrik S Jensen, Caspar Corti, Jos A H van Oers, Albertus Beishuizen, Armand R J Girbes, Evelien de Jong, Matthias Briel*, Beat Mueller*



Schuetz *et al.* Lancet 2017

	Control (n=3372)	Procalcitonin group (n=3336)
Age, years	61·2 (18·4)	60·7 (18·8)
Sex		
Men	1910 (57%)	1898 (57%)
Women	1462 (43%)	1438 (43%)
Clinical setting		
Primary care	501 (15%)	507 (15%)
Emergency department	1638 (49%)	1615 (48%)
ICU	1233 (37%)	1214 (36%)
Primary diagnosis		
Total upper acute respiratory infection	280 (8%)	292 (9%)
Common cold	156 (5%)	149 (4%)
Rhino-sinusitis, otitis	67 (2%)	73 (2%)
Pharyngitis, tonsillitis	46 (1%)	61 (2%)
Total lower acute respiratory infection	3092 (92%)	3044 (91%)
Community-acquired pneumonia	1468 (44%)	1442 (43%)
Hospital-acquired pneumonia	262 (8%)	243 (7%)
Ventilator-associated pneumonia	186 (6%)	194 (6%)
Acute bronchitis	287 (9%)	257 (8%)
Exacerbation of COPD	631 (19%)	621 (19%)
Exacerbation of asthma	127 (4%)	143 (4%)
Other lower acute respiratory infection	131 (4%)	144 (4%)
Procalcitonin dose on enrolment		
Data available	2590 (77%)	3171 (95%)
<0·1 µg/L	921 (36%)	981 (31%)
0·1–0·25 µg/L	521 (20%)	608 (19%)
>0·25–0·5 µg/L	308 (12%)	383 (12%)
>0·5–2·0 µg/L	358 (14%)	520 (16%)
>2·0 µg/L	482 (19%)	679 (21%)

Data are mean (SD) or n (%). ICU=intensive care unit. COPD=chronic obstructive pulmonary disease.

Résultats

	Control (n=3372)	Procalcitonin group (n=3336)	Adjusted OR (95% CI)*, p value	$p_{interaction}$
Overall				
30-day mortality	336 (10%)	286 (9%)	0·83 (0·7 to 0·99), p=0·037	..
Treatment failure	841 (25%)	768 (23%)	0·90 (0·80 to 1·01), p=0·068	..
Length of ICU stay, days	13·3 (16·0)	13·7 (17·2)	0·39 (–0·81 to 1·58), p=0·524	..
Length of hospital stay, days	13·7 (20·6)	13·4 (18·4)	–0·19 (–0·96 to 0·58), p=0·626	..
Antibiotic-related side-effects	336/1521 (22%)	247/1513 (16%)	0·68 (0·57 to 0·82), p<0·0001	..

	Control (n=3372)	Procalcitonin group (n=3336)	Adjusted OR or difference (95% CI), p value*	$p_{interaction}$
Overall				
Initiation of antibiotics	2894 (86%)	2351 (70%)	0·27 (0·24 to 0·32), p<0·0001	..
Duration of antibiotics, days†	9·4 (6·2)	8·0 (6·5)	–1·83 (–2·15 to –1·5), p<0·0001	..
Total exposure of antibiotics, days‡	8·1 (6·6)	5·7 (6·6)	–2·43 (–2·71 to –2·15), p<0·0001	..

Schuetz *et al.* Lancet 2017

Allez jusqu'au bout du traitement ?

thebmj

BMJ 2017;358:j3418 doi: 10.1136/bmj.j3418 (Published 2017 July 26) Page 1 of 5

ANALYSIS

The antibiotic course has had its day

With little evidence that failing to complete a prescribed antibiotic course contributes to antibiotic resistance, it's time for policy makers, educators and doctors to drop this message, argue **Martin Llewelyn and colleagues**

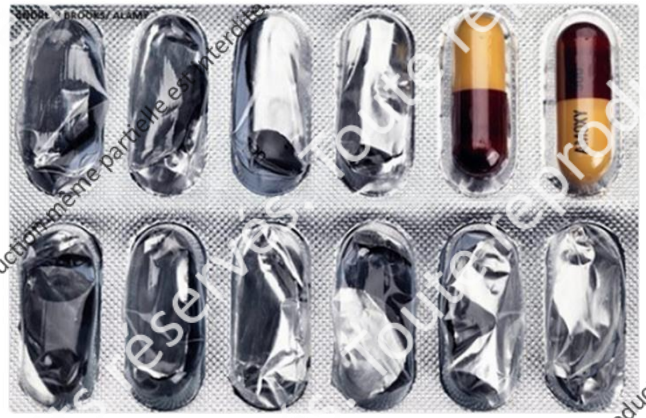
Martin J Llewelyn *professor of infectious diseases*[1 2], Jennifer M Fitzpatrick *specialist registrar in infection*[2], Elizabeth Darwin *project manager*[3], SarahTonkin-Crine *health psychologist*[4], Cliff Gorton *retired building surveyor*[5], John Paul *consultant in microbiology*[6], Tim E A Peto *professor of infectious diseases*[7], Lucy Yardley *professor of health psychology*[8], Susan Hopkins *consultant in infectious diseases and microbiology*[9], Ann Sarah Walker *professor of medical statistics and epidemiology*[3]

Vous avez retweeté

The BMJ @bmj_latest · 31 juil.

Response to our analysis article on completing #antibiotics courses from @BSACandIAC bmj.com/content/358/bm...

À l'origine en anglais



EDITION FR

HUFFPOST EN ASSOCIATION AVEC LE GROUPE Le Monde

POLITIQUE ÉCONOMIE INTERNATIONAL CULTURE LE BON LIEN C'EST LA VIE LE HUFFPLAY PLUS

C'EST LA VIE

Antibiotiques: Non, vous n'êtes pas obligés de finir la boîte si vous vous sentez mieux

Selon une étude, aller systématiquement jusqu'au bout du traitement antibiotique augmenterait le risque de résistance aux médicaments

27/07/2017 11:16 CEST | **Actualisé** 27/07/2017 11:16 CEST

AFP

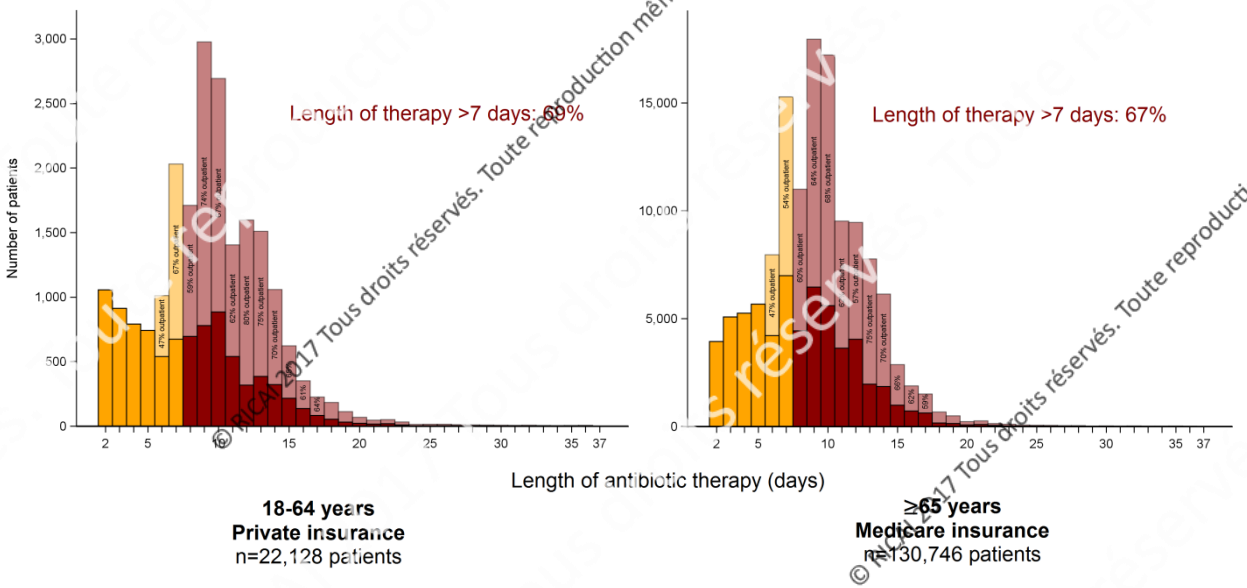
resistance. For example, in materials supporting Antibiotic Awareness Week 2016 WHO advised patients to "always complete the full prescription, even if you feel better, because stopping treatment early promotes the growth of drug-resistant bacteria."[**] Similar advice appears in national campaigns in

Changement de paradigme !!

On a encore du travail

Title: Duration of Antibiotic Use among Adults with Uncomplicated Community-Acquired Pneumonia Requiring Hospitalization in the United States

- **Etude rétrospective**
- **Base de donnée informatique hospitalière (2012-2013)**
- **PAC simple**
- **22 128 patients**
- **Durée moyenne 9,5j**
- **70%>7j**



Yi *et al*. CID 2017

Journal of Antimicrobial Chemotherapy Advance Access published September 10, 2013

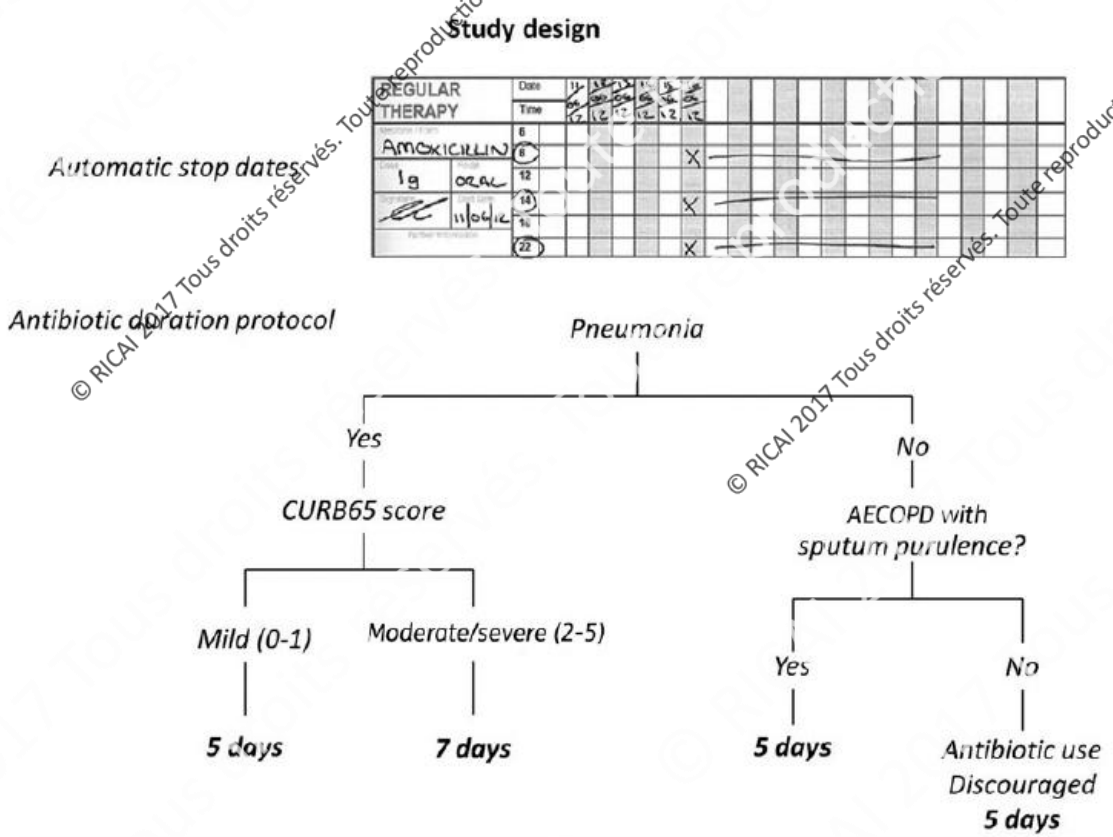
J Antimicrob Chemother
doi:10.1093/jac/dkt362

Journal of Antimicrobial Chemotherapy

A multidisciplinary intervention to reduce antibiotic duration in lower respiratory tract infections

Colin Murray†, Arlene Shaw†, Matthew Lloyd, Robin P. Smith, Thomas C. Fardon, Stuart Schembri and James D. Chalmers*

Study design



- 280 patients avant interventions
- 221 après
- Réduction durée de traitement : 8,3 vs 6,8j ($P < 0.001$, 18.1% réduction relative).
  - EI liés aux atb réduit : 31% vs 19% ($P = 0.03$, 39.3% reduction relative).
  - -Pas d'augmentation mortalité ni de LOS

Eur J Clin Microbiol Infect Dis
DOI 10.1007/s10096-017-2951-6

ORIGINAL ARTICLE

Is 5 days of oral fluoroquinolone enough for acute uncomplicated pyelonephritis? The DTP randomized trial

A. Dinh[1] · B. Davido[1] · M. Etienne[2] · F. Bouchand[3] · A. Raynaud-Lambinet[4] · E. Aslangul-Castier[5] · T. A. Szwebel[6] · C. Duran[1] · G. Der Sahakian[6] · C. Jordy[7] · X. Ragueh oux[7] · N. Sembach[8] · E. Mathieu[9] · A. Davido[8] · J. Salomon[1,10] · L. Bernard[1]

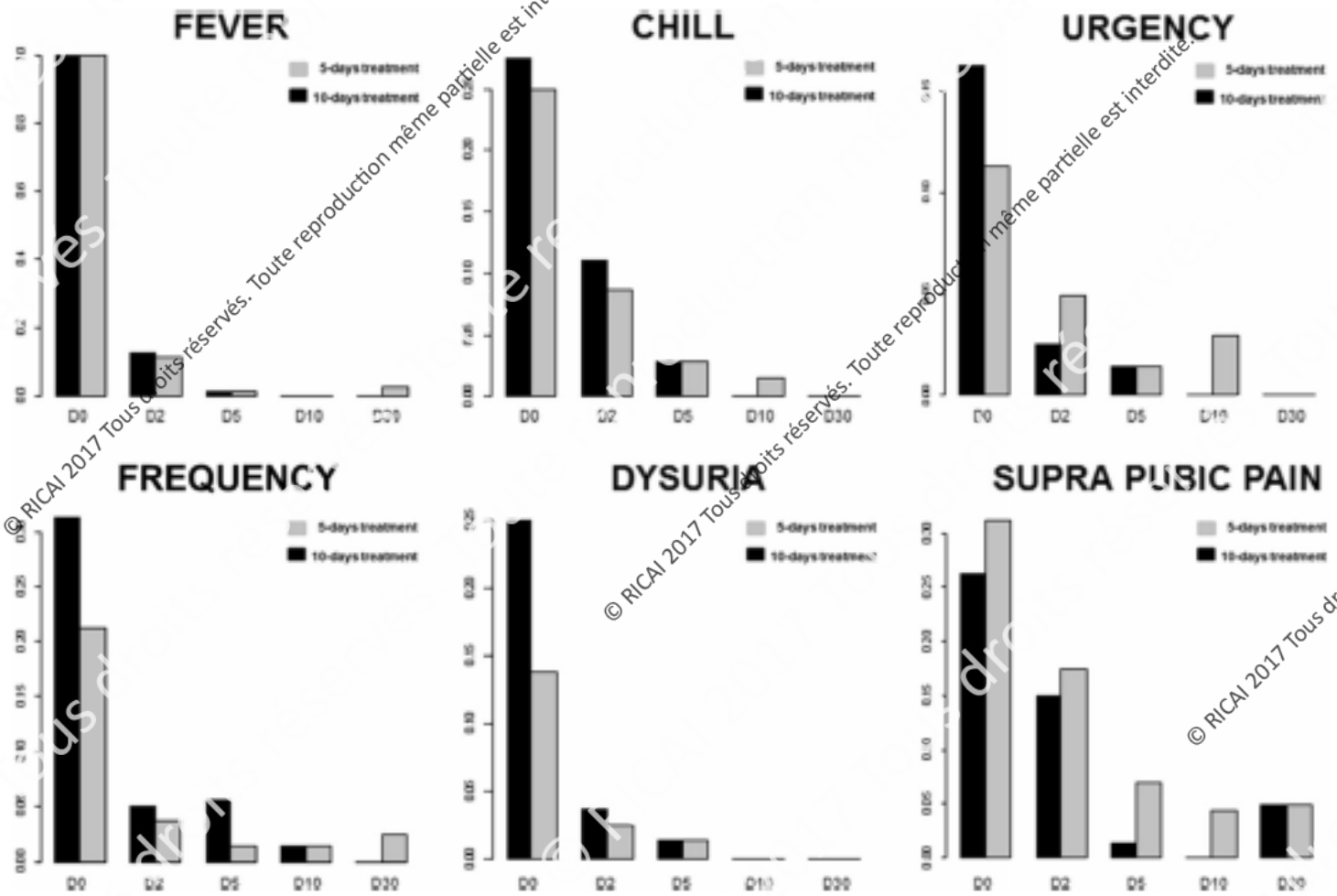


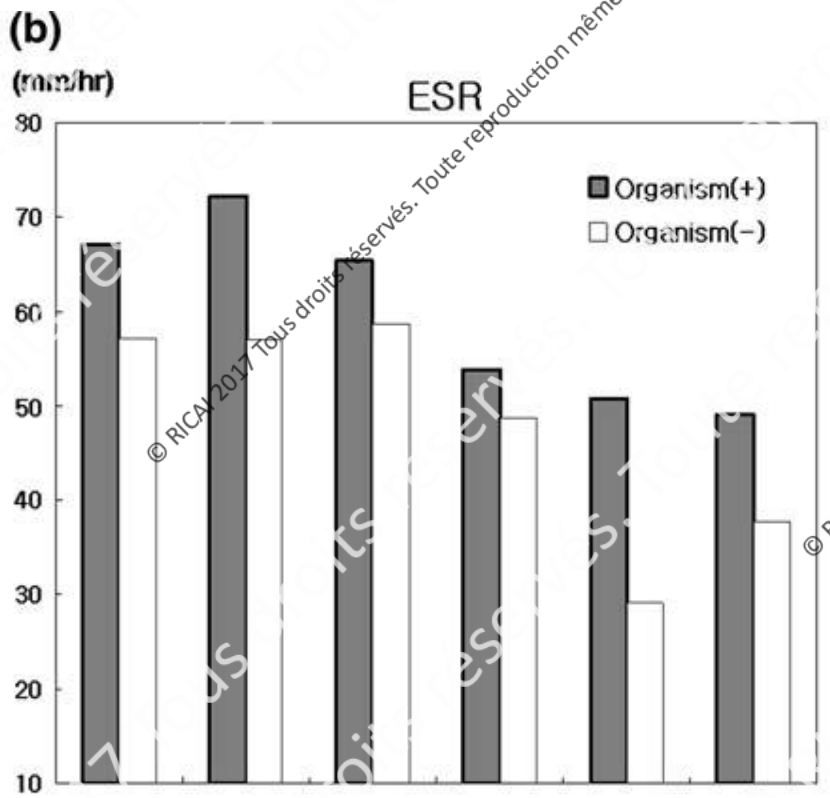
Fig. 2 Evolution of symptoms in 88 patients with acute pyelonephritis treated by fluoroquinolone (5 vs. 10 days of treatment)

Eur Spine J (2010) 19:575–582
DOI 10.1007/s00586-009-1216-1

ORIGINAL ARTICLE

Pyogenic vertebral osteomyelitis: identification of microorganism and laboratory markers used to predict clinical outcome

Sang Hoon Yoon · Sang Ki Chung · Ki-Jeong Kim · Hyun-Jib Kim · Yong Jun Jin · Hong Bin Kim



Cohorte prospective de 45 cas de SDI
34 microbiologiquement documentées (SA +++)
39 opérés
Durée de traitement ≈ 8 semaines
Valeur prédictive de CRP et VS à 4 semaines sur échec
CRP > 27,5 mg/L
VS > 50
Risque d'échec X5

Factors associated with time to clinical stability in complicated skin and skin structure infections

Iiro H Jääskeläinen[1], Lars Hagberg[2], Erik Forsblom[1], Asko Järvinen[1]

402 patients hospitalisés, 2 villes, sur 4 ans
DHD
Réponse rapide <4j, réponse tardive>3j >> obtention stabilité clinique
Stabilité clinique : amélioration locale et systémique de l'infection

Variable	Clinical stability 0–3 days	Clinical stability 4–5 days	Clinical stability ≥ 6 days	Clinical stability ≥ 4 vs. 0-3 days		Clinical stability 4-5 vs. 0-3 days		Clinical stability ≥ 6 vs. 4-5 days	
Full analysis population (N=402)	239	111	52	OR (95% CI)	p	OR (95% CI)	p	OR (95% CI)	p
Hospitalized again due to cSSSI (n=66, data available for 391 patient)	39 / 233 (17 %)	19 / 109 (17 %)	8 / 49 (16 %)	1.03 (0.60-1.76)	0.93[a]	1.05 (0.58-1.92)	0.87[a]	0.92 (0.37-2.28)	0.87[a]
Initial treatment modification[c] (n=116, data available for 397 patient)	37 / 236 (16 %)	54 / 110 (49 %)	25 / 51 (49 %)	5.18 (3.25-8.27)	<0.001[a]	5.19 (3.11-8.66)	<0.001[a]	1.00 (0.51-1.94)	0.99[a]
Length of hospital stay, days [n=378, median (IQR25, 75)]	7 (4,13) (n=232)	16 (10, 31) (n=103)	33 (20, 59) (n=43)	---	<0.001[b]	---	<0.001[b]	---	<0.001[b]
Duration of antimicrobials, days [n=395, median (IQR25, 75)]	12 (7, 23) (n=234)	27 (16, 43) (n=110)	29 (16, 48) (n=51)	---	<0.001[b]	---	<0.001[b]	---	0.61[b]
No. of antibiotic courses [n=401, mean (SD)]	2.8 (1.4) (n=239)	4.1 (2.1) (n=110)	5.5 (2.7) (n=52)	---	<0.001[b]	---	<0.001[b]	---	0.001[b]
No. of clinics during hospital stay [n=402, mean (SD)]	1.3 (0.7) (n=239)	2.0 (1.4) (n=111)	2.4 (1.4) (n=52)	---	<0.001[b]	---	<0.001[b]	---	0.048[b]

CMI 2017

Conclusions

- Quand peut on arrêter un traitement antibiotique ?
  - Infection respiratoire : quand/dés que « ça va mieux »
  - Infection urinaire : apyrexie ? Depuis ?
  - IOA, « Endocardite », septicémie à staphylocoque aureus : évaluer des critères de réponses
  - **Toujours** si infection virale ou colonisation

MERCI DE VOTRE ATTENTION

VOUS AVEZ AIMÉ LA PCT ?

Vous adorerez PTC !

ETUDE PTC

NEWSLETTER JANVIER 2016

Dans une galaxie proche, très proche, l'étude PTC a réussi à inclure 160 patients, soit plus de 50% de l'effectif total.

Pour pouvoir atteindre nos objectifs, nous devons inclure 13 patients par mois.

Donc, ne passez pas du côté obscur de la Force : raccourcissez la durée de traitement antibiotique !!!

QUE LA FORCE D'INCLURE SOIT AVEC VOUS !!!

« Dans PTC tu incluras et 3 jours d'antibiotiques tu prescriras ! »
Yoda

PNEUMONIE TRAITEMENT COURT

ETUDE PTC SAISON 2

WINTER IS LEAVING BUT...

FLU SEASON IS COMING

Étude PTC GO

Devenez Chasseurs de PTC !!

Comment ? C'est très simple !

1) Trouvez votre potentiel PTC

2) Capturez-le !!

Vous avez jusqu'à Octobre 2017 !!!

PTC = 198 patients !!

Remerciements

Ambroise Paré, Boulogne-Billancourt : ATTAL-BEHAR Julie, BEAUNE Sebastien, BLIVET Sandra, CHINET Thierry, CUDENNEC Tristan, DUMOULIN Jennifer, DUPONT Caroline, GIRAUT Violaine, GREFFE Ségolène, GRENET Julie, GUYOT Caroline, LABRUNE Sylvie, MOULIAS Sophie, NALINE Charlotte, ROUVEIX Elisabeth, SAHUT-D'IZARN Marine, SEFSSAFI Abel, TEILLET Laurent, TRAD Salim

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CH Saint-Denis : COMPAIN Caroline, CORDEL Hugues, DOUMENC Benoit, FOIS Elena, GAMBIER Nicolas, KHUONG Marie-Aude, PASQUALONI Elisa, POUPARD Marie

Difficile de « descendre »

- Endocardite (quoique ?)

Quels critères de stabilité pour les autres pathologies ?

- Qu'est ce « qu'aller mieux » ?
- IU >> fièvre
- SSTI >> CF CMI (Factors associated with time to clinical stability in commplicated skin and skin structure infections (CMI 2017 Jääskeläinen et al)
- IOA ?
- Infections subintrantes/chroniques >> difficile d'évaluer ex bronchite
- Gravité initiale probablement pas critère de prolongation >> seule compte la réponse au traitement

« One size does not fits all »

- Individualisation de la durée de traitement
- Car
  - Présentation (forme compliquée)
  - Bactérie (plus ou moins sensible) importance de l'inoculum
  - Molécule Atb activité diffusion
  - Immunité naturelle de l'hôte

PTC

- X non inclus pour non stabilité à J3
- Stabilité 50% selon les études à J3 (USA) ou J4 (Hernandez ?)

Comment évaluer tous ces paramètres ?

Historique des critères de Halm

- Associé à bon pronostic
- Critère de sortie d'hospitalisation
- Critère d'arrêt après 48h ? Uranga
- Critère d'arrêt « quasi immédiat » >> A. Dinh et AC Crémieux (AIR, PTC)

Instability on Hospital Discharge and the Risk of Adverse Outcomes in Patients With Pneumonia

Ethan A. Halm, MD, MPH; Michael J. Fine, MD, MSc; Wishwa N. Kapoor, MD, MPH; Daniel E. Singer, MD; Thomas J. Marrie, MD; Albert L. Siu, MD, MSPH

Background: Investigating claims that patients are being sent home from the hospital "quicker and sicker" requires a way of objectively measuring appropriateness of hospital discharge.

Objective: To define and validate a simple, usable measure of clinical stability on discharge for patients with community-acquired pneumonia.

Methods: Information on daily vital signs and clinical status was collected in a prospective, multicenter, observational cohort study. Unstable factors in the 24 hours prior to discharge were temperature greater than 37.8°C, heart rate greater than 100/min, respiratory rate greater than 24/min, systolic blood pressure lower than 90 mm Hg, oxygen saturation lower than 90%, inability to maintain oral intake, and abnormal mental status. Outcomes were deaths, readmissions, and failure to return to usual activities within 30 days of discharge.

Results: Of the 680 patients, 19.1% left the hospital with 1 or more instabilities. Overall, 10.5% of patients with no instabilities on discharge died or were readmitted compared with 13.7% of those with 1 instability and 46.2% of those with 2 or more instabilities ($P<.003$). Instability on discharge (≥1 unstable factor) was associated with higher risk-adjusted rates of death or readmission (odds ratio [OR], 1.6; 95% confidence interval [CI], 1.0-2.8) and failure to return to usual activities (OR, 1.5; 95% CI, 1.0-2.4). Patients with 2 or more instabilities had a 5-fold greater risk-adjusted odds of death or readmission (OR, 5.4; 95% CI, 1.6-18.4).

Conclusions: Instability on discharge is associated with adverse clinical outcomes. Pneumonia guidelines and pathways should include objective criteria for judging stability on discharge to ensure that efforts to shorten length of stay do not jeopardize patient safety.

Arch Intern Med. 2002;162:1278-1284

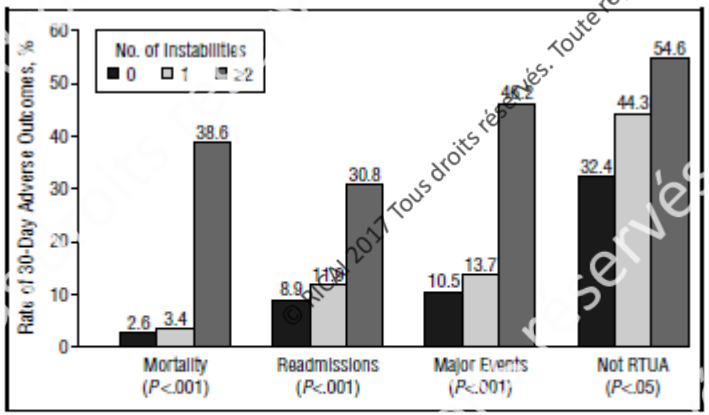
Table 1. Characteristics of 680 Patients Hospitalized With Community-Acquired Pneumonia*

Sociodemographic Characteristics	
Age, y	
18-44	202 (30)
45-64	179 (26)
≥65	299 (44)
Female sex	349 (51)
White race	564 (83)
Type of insurance	
Medicare/private	412 (61)
Medicaid	75 (11)
Canadian medical insurance	155 (23)
Uninsured	35 (5)
Married	292 (43)
Education (>high school)	256 (38)
Admitted from nursing home	60 (9)
Clinical Characteristics	
Comorbidities on presentation	
Chronic obstructive pulmonary disease	143 (21)
Coronary artery disease	133 (20)
Diabetes mellitus	90 (13)
Congestive heart failure	78 (11)
Asthma	64 (9)
Cerebrovascular disease	61 (9)
Renal insufficiency	54 (8)
Active cancer	36 (5)
Liver disease	12 (2)
Severity of illness on admission†	
Risk class I	148 (22)
Risk class II	187 (28)
Risk class III	151 (22)
Risk class IV	136 (20)
Risk class V	56 (8)

Table 2. Frequency of Unstable Vital Sign and Clinical Status Factors on Discharge*

Temperature >37.8°C	23 (3%)
Respiratory rate >24/min	26 (4%)
Heart rate >100/min	24 (4%)
Systolic blood pressure ≤90 mm Hg	7 (1%)
Oxygen saturation <90%†	40 (6%)
Altered mental status	11 (2%)
Inability to maintain oral intake	13 (2%)
No. of unstable factors per patient	
0	550 (81%)
1	117 (17%)
≥2	13 (2%)

*Data are number (percentage) of patients (N = 680).
†Hypoxemia defined as an oxygen saturation rate lower than 90% or a Pao_2 lower than 60 mm Hg.



Number of instabilities on discharge and rates of 30-day adverse outcomes. Major events were defined as death or readmission within 30 days of discharge. Not RTUA indicates not returned to usual activities within 30 days of discharge.

Table 3. Effects of Instability on Discharge on Unadjusted and Risk-Adjusted 30-Day Outcomes*

Outcome	Definition of Disability on Discharge (N = 680)				*P* Value‡
	Any†	0	1	≥2	
Death					
Unadjusted	2.8 (1.2-6.7)	1.0	1.4 (0.4-4.2)	23.9 (6.9-82.4)	<.001
Adjusted	2.1 (0.8-5.4)	1.0	1.1 (0.3-3.5)	14.1 (3.1-69.0)	
Readmission					
Unadjusted	1.6 (0.9-2.9)	1.0	1.4 (0.7-2.6)	4.5 (1.4-15.3)	.02
Adjusted	1.5 (0.8-2.7)	1.0	1.3 (0.7-2.5)	3.5 (1.0-12.4)	
Major event					
Unadjusted	1.8 (1.0-3.0)	1.0	1.4 (0.8-2.5)	7.4 (2.4-22.8)	.003
Adjusted	1.6 (1.0-2.8)	1.0	1.3 (0.7-2.4)	5.4 (1.6-18.4)	
Failure to return to usual activities					
Unadjusted	1.7 (1.1-2.6)	1.0	1.6 (1.1-2.5)	2.5 (0.8-8.3)	.007
Adjusted	1.5 (1.0-2.4)	1.0	1.5 (1.0-2.4)	1.6 (0.4-6.1)	

Time to Clinical Stability in Patients Hospitalized With Community-Acquired Pneumonia

Implications for Practice Guidelines

Ethan A. Halm, MD, MPH; Michael J. Fine, MD, MSc; Thomas J. Marrie, MD; Christopher M. Coley, MD; Wishwa N. Kapoor, MD, MPH; D. Scott Obrosky, MS; Daniel E. Singer, MD

Context.—Many groups have developed guidelines to shorten hospital length of stay in pneumonia in order to decrease costs, but the length of time until a patient hospitalized with pneumonia becomes clinically stable has not been established.

Objective.—To describe the time to resolution of abnormalities in vital signs, ability to eat, and mental status in patients with community-acquired pneumonia and assess clinical outcomes after achieving stability.

Design.—Prospective, multicenter, observational cohort study.

Setting.—Three university and 1 community teaching hospital in Boston, Mass, Pittsburgh, Pa, and Halifax, Nova Scotia.

Patients.—Six hundred eighty-six adults hospitalized with community-acquired pneumonia.

Main Outcome Measures.—Time to resolution of vital signs, ability to eat, mental status, hospital length of stay, and admission to an intensive care, coronary care, or telemetry unit.

Results.—The median time to stability was 2 days for heart rate (≤100 beats/min) and systolic blood pressure (≥90 mm Hg), and 3 days for respiratory rate (≤24 breaths/min), oxygen saturation (≥90%), and temperature (≤37.2°C [99°F]). The median time to overall clinical stability was 3 days for the most lenient definition of stability and 7 days for the most conservative definition. Patients with more severe cases of pneumonia at presentation took longer to reach stability. Once stability was achieved, clinical deterioration requiring intensive care, coronary care, or telemetry monitoring occurred in 1% of cases or fewer. Between 65% to 86% of patients stayed in the hospital more than 1 day after reaching stability, and fewer than 29% to 46% were converted to oral antibiotics within 1 day of stability, depending on the definition of stability.

Conclusions.—Our estimates of time to stability in pneumonia and explicit criteria for defining stability can provide an evidence-based estimate of optimal length of stay, and outline a clinically sensible approach to improving the efficiency of inpatient management.

JAMA. 1998;279:1452-1457

Individualizing duration of antibiotic therapy in community-acquired pneumonia

Stefano Aliberti [a, *], Julio Ramirez [b], Fabio Giuliani [a], Timothy Wiemken [b], Giovanni Sotgiu [c], Sara Tedeschi [d], Manuela Carugati [e], Vincenzo Valenti [f], Marco Marchioni [g], Marco Camera [h], Roberto Piro [i], Manuela Del Forno [j], Giuseppe Milani [k], Paola Faverio [l], Luca Richeldi [m], Martina Deotto [n], Massimiliano Villani [o], Antonio Voza [p], Eleonora Tobaldini [q, r], Mauro Bernardi [s], Andrea Bellone [t], Matteo Bassetti [u], Francesco Blasi [a]

RCT Italie

Patients randomisés à partir de J5 si stabilité ≧ 48h

Interruption prématurée 260/892 (marge de non-infériorité de 5%)

	Standard group n = 135	Individualized group n = 125	P
Early failure, n (%)	10 (7.4)	14 (11.2)	0.200
Single components of early failure			
Pneumonia-related complications, n (%)	1 (0.7)	2 (1.6)	0.471
Clinical failure during hospitalization, n (%)	1 (0.7)	5 (4.0)	0.090
A new course of antibiotics given for the pneumonia, n (%)	5 (3.7)	8 (6.4)	0.238
Re-hospitalization, n (%)	7 (5.2)	6 (4.8)	0.558
Mortality, n (%)	1 (0.7)	4 (3.2)	0.162

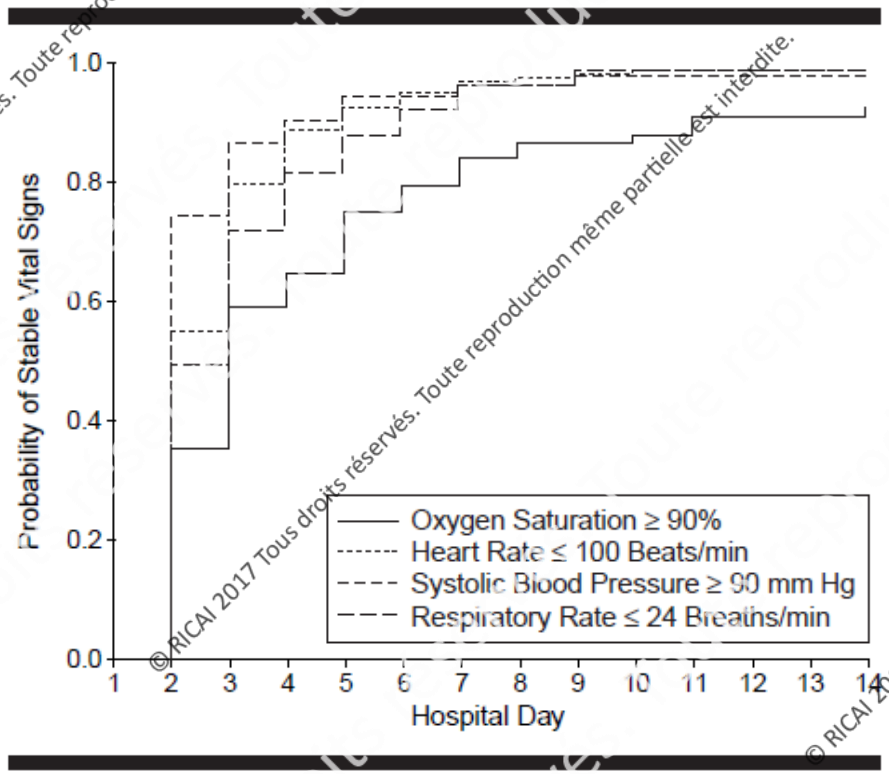


Figure 1.—Time needed to stabilize oxygen saturation, heart rate, respiratory rate, and systolic blood pressure in patients with abnormal vital signs on admission.

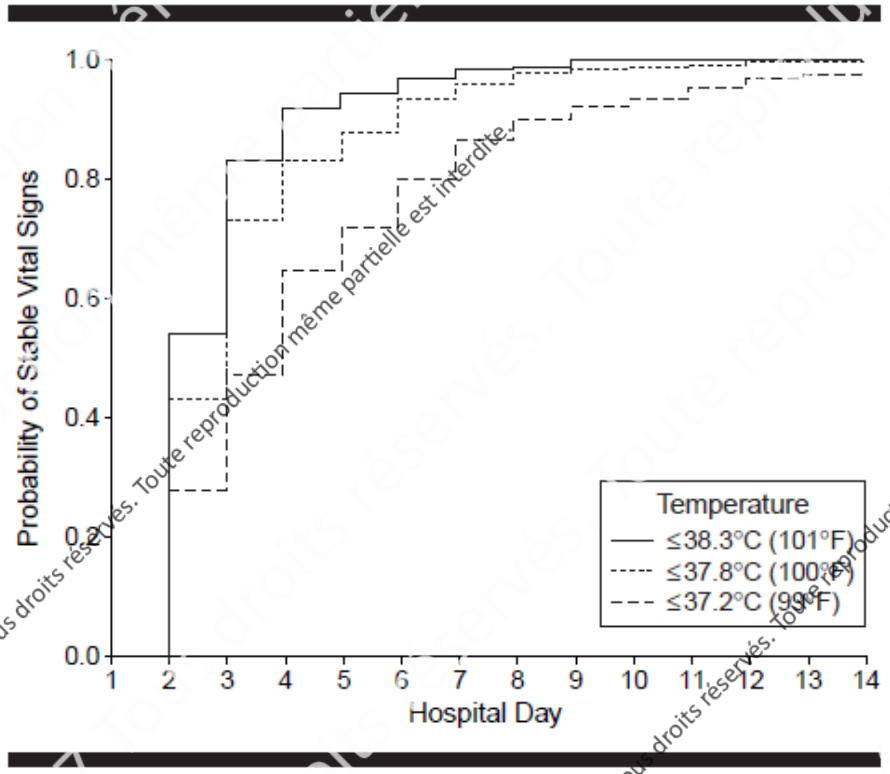


Figure 2.—Time needed to stabilize temperature in patients with fever on admission.

Stability in community-acquired pneumonia: on forward with markers?

R Menéndez,[1] R Martinez,[1] S Reyes,[1] J Mensa,[2] E Polverino,[3] X Filella,[4] C A Martinez,[1] P Ramirez,[5] A Torres[3]

Background: Biological markers as an expression of systemic inflammation have been recognised as useful for evaluating the host response in community-acquired pneumonia (CAP). The objective of this study was to evaluate whether the biological markers procalcitonin (PCT) and C-reactive protein (CRP) might reflect stability after 72 h of treatment and the absence of subsequent severe complications.

Methods: A prospective cohort study was performed in 394 hospitalised patients with CAP. Clinical stability was evaluated using modified Halm's criteria: temperature ⩽37.2°C; heart rate ⩽100 beats/min; respiratory rate ⩽24 breaths/min; systolic blood pressure ⩾90 mm Hg; oxygen saturation ⩾90%; or arterial oxygen tension ⩾60 mm Hg. PCT and CRP levels were measured on day 1 and after 72 h. Severe complications were defined as mechanical ventilation, shock and/or intensive care unit (ICU) admission, or death after 72 h of treatment.

Results: 220 patients achieved clinical stability at 72 h and had significantly lower levels of CRP (4.2 vs 7 mg/dl) and of PCT (0.33 vs 0.48 ng/ml). Regression logistic analyses were performed to calculate several areas under the ROC curve (AUC) to predict severe complications. The AUC for clinical stability was 0.77, 0.84 when CRP was added ($p = 0.059$) and 0.77 when PCT was added ($p = 0.45$). When clinical stability was achieved within 72 h and marker levels were below the cut-off points (0.25 ng/ml for PCT and 3 mg/dl for CRP), no severe complications occurred.

Conclusions: Low levels of CRP and PCT at 72 h in addition to clinical criteria might improve the prediction of absence of severe complications.

Thorax 2009

Table 1 Characteristics, comorbidity and initial severity, and clinical stability

Characteristics	Stability ≤3 days n = 220 (55.8%)	Stability >3 days n = 174 (44.2%)	p Value
Mean (SD) age (years)	65 (17)	67 (18)	0.2
F/M (%)	76/144 (34.5/65.5)	72/102 (41.4/58.6)	0.1
Current smokers, n (%)	46 (20.9)	44 (25.3)	0.3
Excessive alcohol consumption, n (%)	25 (11.4)	21 (12.1)	0.8
Prior influenza vaccination, n (%)	98 (44.5)	66 (37.9)	0.2
Coexisting illnesses, n (%)			
Cardiac insufficiency	40 (18.2)	25 (14.4)	0.3
Renal insufficiency	12 (5.5)	8 (4.6)	0.7
Diabetes	49 (22.3)	29 (16.7)	0.1
Liver disease	5 (2.3)	6 (3.4)	0.4
COPD	39 (17.7)	31 (17.8)	0.9
Neurological disease	38 (17.3)	31 (17.8)	0.8
PSI, n (%)			
I	32 (14.5)	15 (8.6)	0.07
II	42 (19.1)	28 (16.1)	0.4
III	49 (22.3)	39 (22.4)	0.9
IV	79 (35.9)	63 (36.2)	0.9
V	18 (8.2)	29 (16.7)	0.01
CURB-65, n (%)			
0	41 (18.6)	22 (12.6)	0.1
1	84 (38.2)	48 (27.6)	0.1
2	55 (25.0)	54 (31.0)	0.1
3	32 (14.5)	34 (19.4)	0.1
4	8 (3.6)	14 (8.0)	0.06
5	0	2 (1.1)	0.1
Antibiotic therapy, n (%)			
β-lactam/macrolide combination	127 (57.7)	103 (59.2)	0.7
Fluoroquinolone	64 (29.1)	30 (17.2)	0.006
β-lactam/quinolone combination	8 (3.6)	18 (10.3)	0.008
β-lactam monotherapy	12 (5.5)	9 (5.2)	0.9
Other*	9 (4.1)	14 (8.0)	0.09

Thorax 2009

Management of Community-Acquired Pneumonia

Ethan A. Halm, M.D., M.P.H., and Alvin S. Teirstein, M.D.

- Overall, the median time to clinical stability is three days among low-risk patients, four days among moderate-risk patients, and six days among those at high risk.33 Once a patient's condition becomes stable, the risk of serious clinical deterioration is 1 percent or less, even among the sickest subgroup of patients.
- Conversely, patients who are discharged before their condition has stabilized have higher risk-adjusted rates of death or readmission and return more slowly to their usual activities.37 Several randomized controlled trials and observational studies corroborate the safety of this type of discharge criteria.25,38-43
- Although these studies used various designs and ways of defining clinical stability, they all stressed the importance of the resolution of fever, improving respiratory signs or symptoms, the ability to take oral antibiotics, and the absence of other active medical problems. Similar stability criteria can be used to determine when patients can be switched from parenteral to oral antibiotics. This topic has recently been systematically reviewed.43
- In brief, data from randomized controlled trials and prospective studies indicate that early conversion from intravenous to oral therapy does not adversely affect outcomes.25,38-41,44-46
- In addition, evidence from observational studies suggests that there is no need to observe patients for 24 hours after a switch to oral therapy.47,48
- The condition of individual patients will stabilize at different times depending on the initial severity of pneumonia, the presence or absence of coexisting conditions, and the response to therapy

NEJM 2002

AIR

- Surveillance quotidienne y compris en ville

Arrêter quand tout va bien ?

Opinion

EDITORIAL

The New Antibiotic Mantra--"Shorter Is Better"

Brad Spellberg, MD

can be traced to 1945. Meads et al wrote that they administered penicillin to patients with pneumonia, "until there was definite clinical improvement and the temperature had remained below 100°F for 12 hours...then given for another two to three days."[5(p748)] The perceived need to treat beyond resolution of symptoms was driven by a desire to prevent relapses. However, the recurrent infections seen in the case series were caused by isolates with distinct bacterial serotypes, indicative of reinfection rather than relapse. It is unclear how this confused desire to prevent reinfections subsequently transformed into the illogical dogma that antibiotic resistance could be prevented by continuing therapy beyond resolution of symptoms.[4]

Allez jusqu'au bout du traitement ?

BMJ 2017;358:j3418 doi: 10.1136/bmj.j3418 (Published 2017 July 26)

ANALYSIS

The antibiotic course has had its day

With little evidence that failing to complete a prescribed antibiotic course contributes to antibiotic resistance, it's time for policy makers, educators, and doctors to drop this message, argue **Martin Llewelyn and colleagues**

Martin J Llewelyn *professor of infectious diseases*[1 2], Jennifer M Fitzpatrick *specialist registrar in infection*[2], Elizabeth Darwin *project manager*[3], SarahTonkin-Crine *health psychologist*[4], Cliff Gorton *retired building surveyor*[5], John Paul *consultant in microbiology*[6], Tim E A Peto *professor of infectious diseases*[7], Lucy Yardley *professor of health psychology*[8], Susan Hopkins *consultant in infectious diseases and microbiology*[9], Ann Sarah Walker *professor of medical statistics and epidemiology*[3]

resistance. For example, in materials supporting Antibiotic Awareness Week 2016 WHO advised patients to "always complete the full prescription, even if you feel better, because stopping treatment early promotes the growth of drug-resistant bacteria."[4] Similar advice appears in national campaigns in

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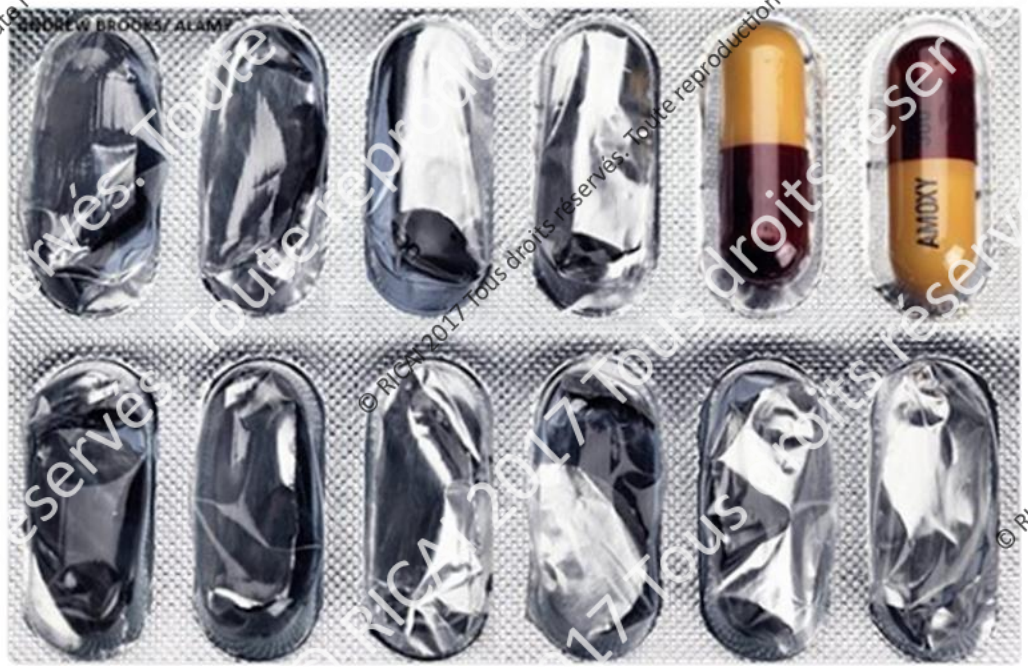
Response to our analysis article on completing #antibiotics courses from @BSACandJAC bmj.com/content/358/bm...

À l'origine en anglais



C'EST LA VIE

Antibiotiques: Non, vous n'êtes pas obligés de finir la boîte si vous vous sentez mieux

Selon une étude, aller systématiquement jusqu'au bout du traitement antibiotique augmenterait le risque de résistance aux médicaments

27/07/2017 11:16 CEST | Actualité 27/07/2017 11:16 CEST

AFP

IAN HOOTON

Pew Health @pewhealth · 7 août

U.S. deaths from antibiotic resistance are "equivalent to a jumbo jet of people crashing every week."—@AMahadevia pew.org/2veWdaf

À l'origine en anglais

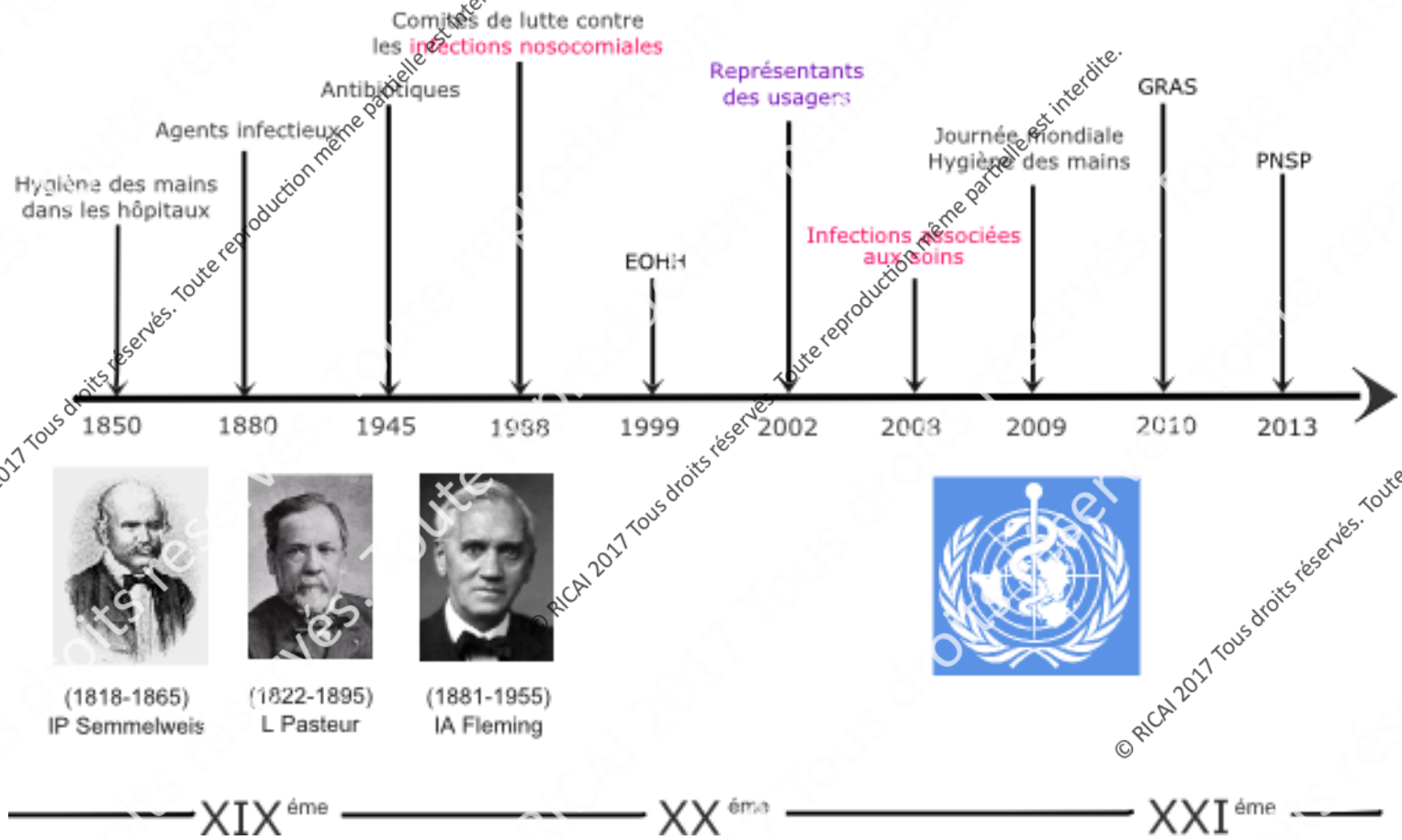
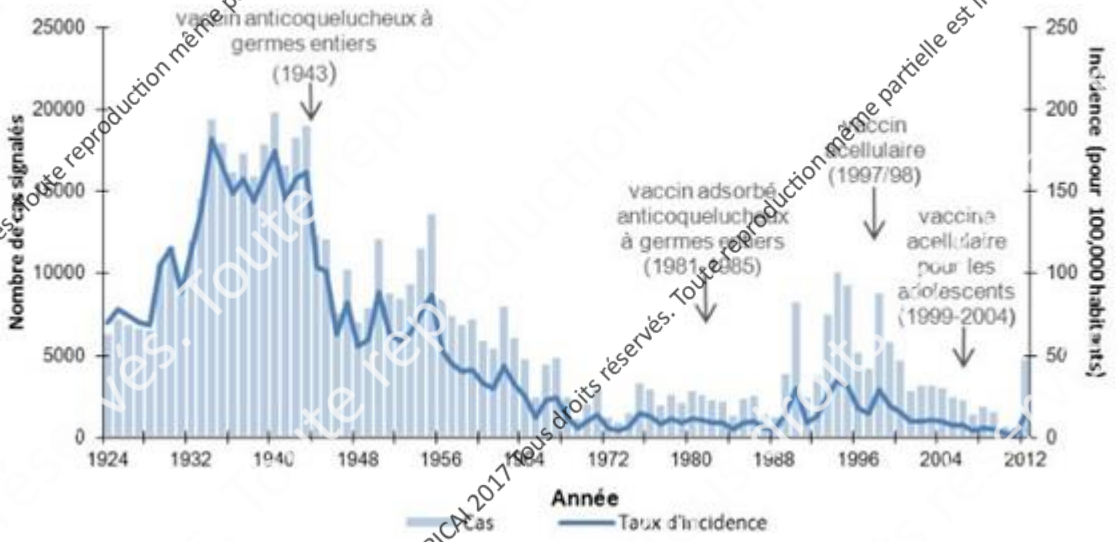


Figure 1. Taux d'incidence et cas déclarés (pour 100 000 habitants) de coqueluche au Canada, par année, de 1924 à 2012 [*].



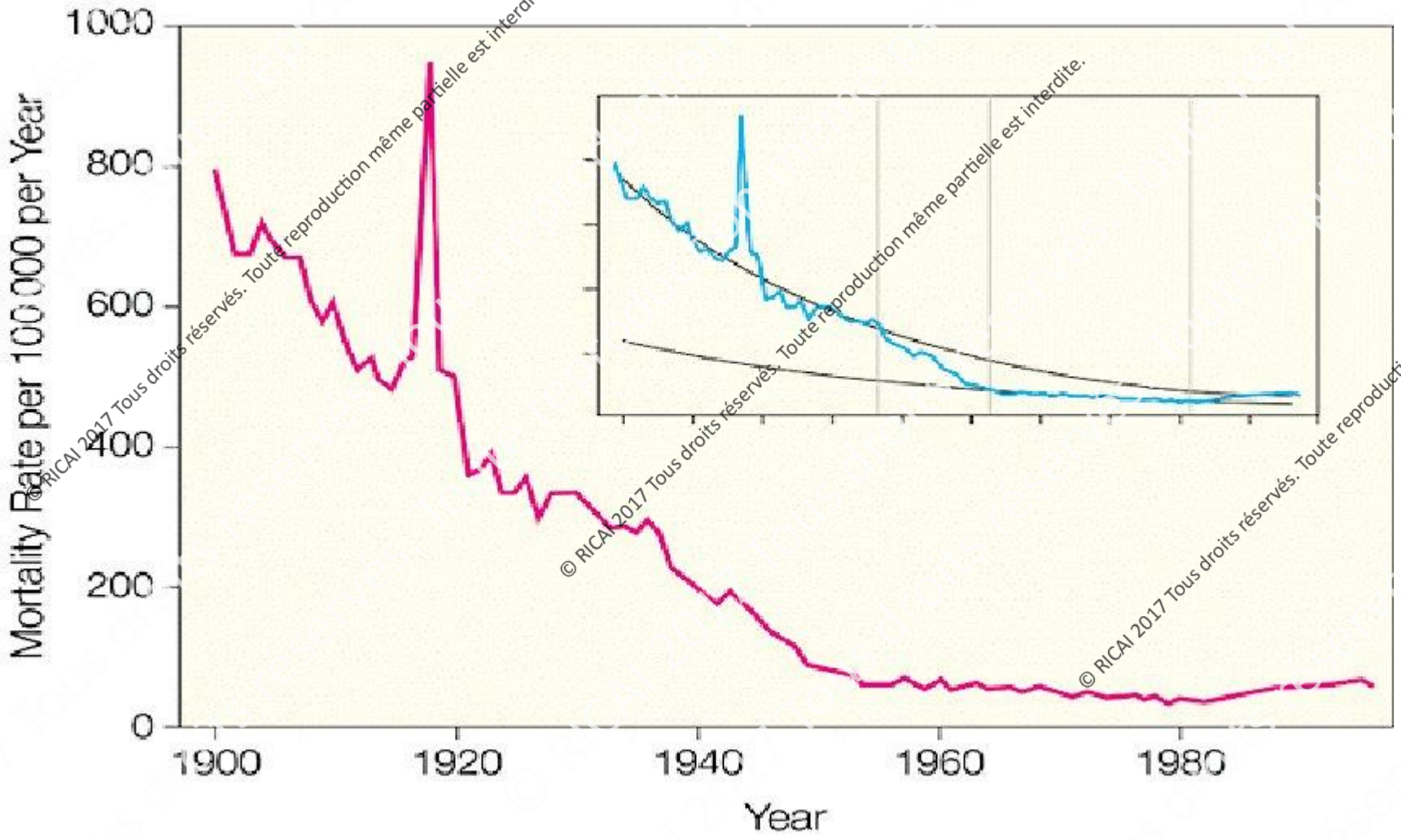


Table 1. Characteristics of 680 Patients Hospitalized With Community-Acquired Pneumonia*

Sociodemographic Characteristics	
Age, y	
18-44	202 (30)
45-64	179 (26)
≥65	299 (44)
Female sex	349 (51)
White race	564 (83)
Type of insurance	
Medicare/private	412 (61)
Medicaid	75 (11)
Canadian medical insurance	155 (23)
Uninsured	35 (5)
Married	292 (43)

Table 2. Frequency of Unstable Vital Sign and Clinical Status Factors on Discharge*

Temperature >37.8°C	23 (3%)
Respiratory rate >24/min	26 (4%)
Heart rate >100/min	24 (4%)
Systolic blood pressure ≤90 mm Hg	7 (1%)
Oxygen saturation <90%†	40 (6%)
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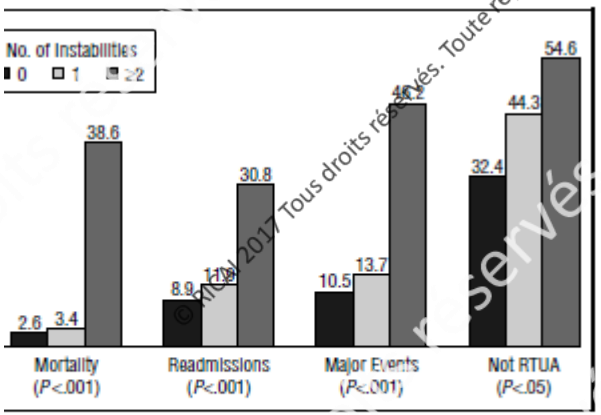

nstabilities on discharge and rates of 30-day adverse outcomes.
s were defined as death or readmission within 30 days of
lot RTUA indicates not returned to usual activities within 30 days
e.

Background: Investigating claims that patients are being sent home from the hospital "quicker and sicker" requires a way of objectively measuring appropriateness of hospital discharge.

Objective: To define and validate a simple, usable measure of clinical stability on discharge for patients with community-acquired pneumonia.

Methods: Information on daily vital signs and clinical status was collected in a prospective, multicenter, observational cohort study. Unstable factors in the 24 hours prior to discharge were temperature greater than 37.8°C, heart rate greater than 100/min, respiratory rate greater than 24/min, systolic blood pressure lower than 90 mm Hg, oxygen saturation lower than 90%, inability to maintain oral intake, and abnormal mental status. Outcomes were deaths, readmissions, and failure to return to usual activities within 30 days of discharge.

Results: Of the 680 patients, 19.1% left the hospital with 1 or more instabilities. Overall, 10.5% of patients with no instabilities on discharge died or were readmitted compared with 13.7% of those with 1 instability and 46.2% of those with 2 or more instabilities ($P<.003$). Instability on discharge (≥1 unstable factor) was associated with higher risk-adjusted rates of death or readmission (odds ratio [OR], 1.6; 95% confidence interval [CI], 1.0-2.8) and failure to return to usual activities (OR, 1.5; 95% CI, 1.0-2.4). Patients with 2 or more instabilities had a 5-fold greater risk-adjusted odds of death or readmission (OR, 5.4; 95% CI, 1.6-18.4).

Conclusions: Instability on discharge is associated with adverse clinical outcomes. Pneumonia guidelines and pathways should include objective criteria for judging stability on discharge to ensure that efforts to shorten length of stay do not jeopardize patient safety.

Arch Intern Med. 2002;162:1278-1284

Table 3. Effects of Instability on Discharge on Unadjusted and Risk-Adjusted 30-Day Outcomes*

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Time to Clinical Stability in Patients Hospitalized With Community-Acquired Pneumonia

Implications for Practice Guidelines

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Thorax 2009

Management of Community-Acquired Pneumonia

Ethan A. Halm, M.D., M.P.H., and Alvin S. Teirstein, M.D.

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NEJM 2002

PNP sévères

Comparison of 8 vs 15 Days of Antibiotic Therapy for Ventilator-Associated Pneumonia in Adults

A Randomized Trial

Jean Chastre, MD
Michel Wolff, MD
Jean-Yves Fagon, MD
Sylvie Chevret, MD
Franck Thomas, MD
Delphine Wermert, MD
Eva Clementi, MD
Jesus Gonzalez, MD
Dominique Jusserand, MD
Pierre Asfar, MD
Dominique Perrin, MD
Fabienne Fieux, MD
Sylvie Aubas, MD
for the PneumA Trial Group

Context The optimal duration of antimicrobial treatment for ventilator-associated pneumonia (VAP) is unknown. Shortening the length of treatment may help to contain the emergence of multiresistant bacteria in the intensive care unit (ICU).

Objective To determine whether 8 days is as effective as 15 days of antibiotic treatment of patients with microbiologically proven VAP.

Design, Setting, and Participants Prospective, randomized, double-blind (until day 8) clinical trial conducted in 51 French ICUs. A total of 401 patients diagnosed as having developed VAP by quantitative culture results of bronchoscopic specimens and who had received initial appropriate empirical antimicrobial therapy were enrolled between May 1999 and June 2002.

Intervention A total of 197 patients were randomly assigned to receive 8 days and 204 to receive 15 days of therapy with an antibiotic regimen selected by the treating physician.

Main Outcome Measures Primary outcome measures—death from any cause, microbiologically documented pulmonary infection recurrence, and antibiotic-free days—were assessed 28 days after VAP onset and analyzed on an intent-to-treat basis.

Results Compared with patients treated for 15 days, those treated for 8 days had neither excess mortality (18.8% vs 17.2%; difference, 1.6%; 90% confidence interval [CI], −3.7% to 6.9%) nor more recurrent infections (28.9% vs 26.0%; difference

Outcome

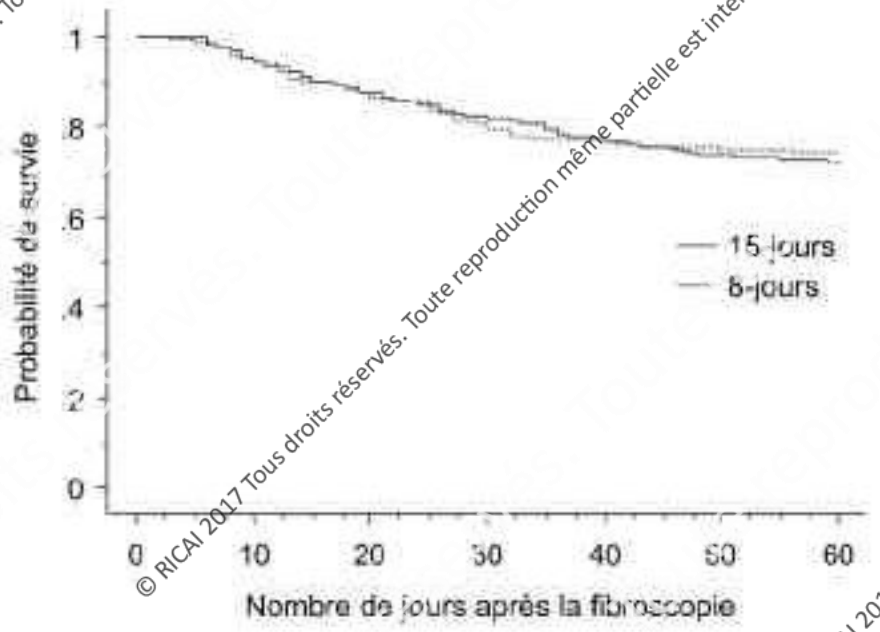

Fig. 2. Probabilité de survie (courbes de Kaplan-Meier) en fonction de la durée de traitement antibiotique (8 vs 15 jours) d'une pneumonie acquise sous ventilation mécanique [16].

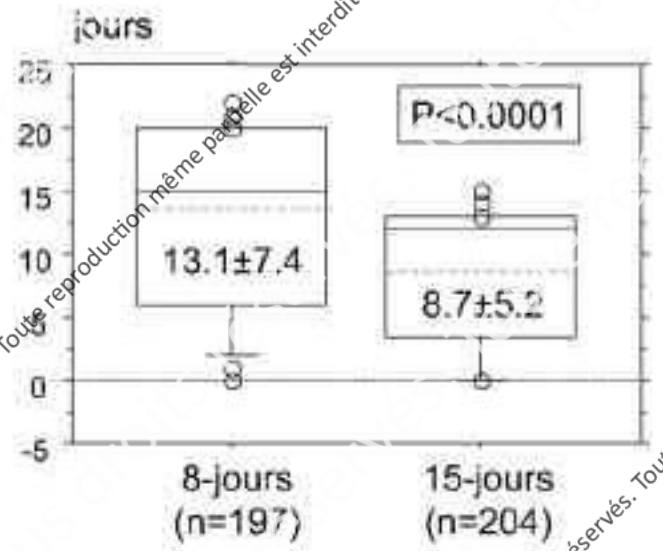

Fig. 3. Nombre de jours vivant sans antibiotique en fonction de la durée de traitement antibiotique d'une pneumonie acquise sous ventilation mécanique (d'après [16]).