



Infection à VRS du sujet âgé



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Déclaration d'intérêts de 2014 à 2022

- **Intérêts financiers durables : aucun**
- **Liens durables ou permanents :**
 - **Institut de Santé Publique :** Haute Autorité de Santé/ DGS/ ANSM /OMS / ECDC
 - **Invitation pour congrès :** Pfizer, Sanofi, Novartis, GSK, URPS Pharmacie (France), MSD
 - **Sociétés savantes :** ESCMID, EUGMS, SFGG, SPILF, EICA, CMI
- **Interventions ponctuelles :**
 - Pfizer/ GSK / BioMérieux/ Astellas /AstraZeneca/Sanofi / MSD/ Novovax/ Moderna / Sequirius / Thermofisher / MSD /Sanofi
- **Intérêts indirects :**
 - CD 38 / La poste

Les poumons ne sont pas stériles

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BACTERIOLOGIC FLORA OF THE LOWER RESPIRATORY TRACT*

GUSTAVE A. LAURENZI, M.D.,† ROBERT T. POTTER, M.D.,‡ AND EDWARD H. KASS, M.D., PH.D.§

TABLE 1. *Bacteria in the Expectorated, Pharyngeal, Tracheal and Bronchial Secretions of 10 Patients with No Evidence of Bronchopulmonary Disease.**

SOURCE OF SPECIMENS	"OROPHARYN- GEAL COM- MENSALS"†	<i>Diplococcus pneumoniae</i>	<i>Haemophilus influenzae</i>	COAGULASE- POSITIVE <i>Staphylococcus aureus</i> (<i>Micrococcus pyogenes</i>)	<i>Streptococcus haemolyticus</i>	COLIFORM RODS	ANY "PO- TENTIAL PATHOGEN"†
	no. of cases	no. of cases	no. of cases	no. of cases	no. of cases	no. of cases	no. of cases
Expectorated secretions	10	3	2	2	1	2	7
Pharynx	10	4	3	2	1	2	8
Trachea	10	2	1	2	0	0	4
Bronchi	0	0	0	0	0	0	0

*8 males, 2 females — mean age, 45 yr.

†See text for definition.

On ne meurt pas toujours de pneumonie même sans antibiotique

		Number	Percentages
Type I	..	18	62.06
" II	..	3	10.7
" III	..	2	7.2
Group IV	..	6	21.4

Osler and McCrae (1925), Cecil and Plummer (1933), and Ferguson and Lovell (1928) give the mortality percentages with the different types, as shown below :—

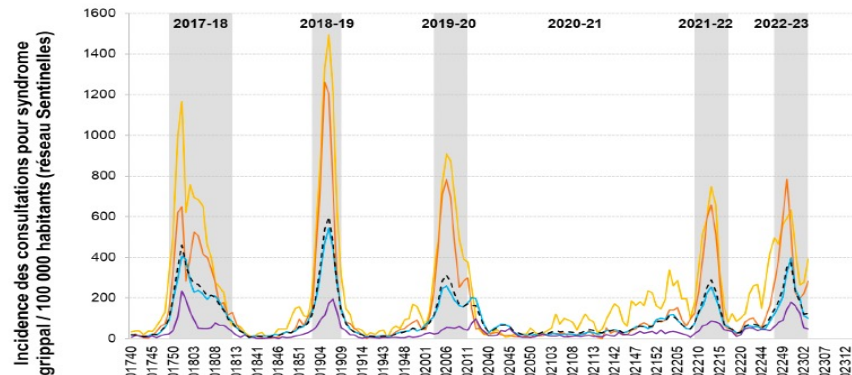
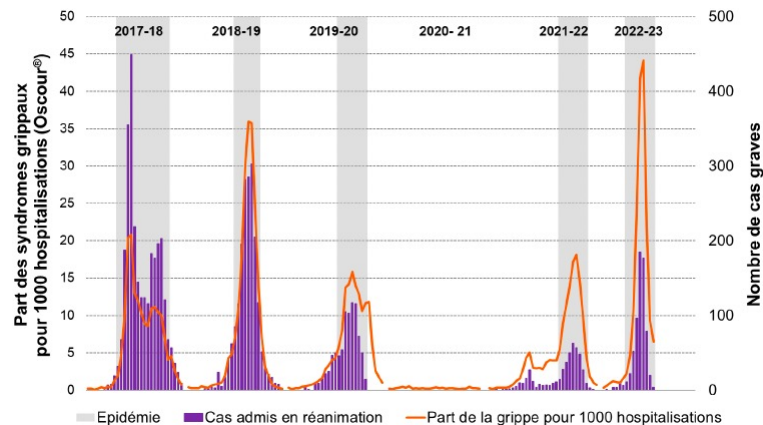
	Osler and McCrae	Cecil and Plummer	Ferguson and Lovell
Type I	.. 24.1	28.2	26
" II	.. 37.7	48.9	20
" III	.. 53.7	42.7	*
Group IV	.. 22.2	31.3	26.4

Epidémiologie

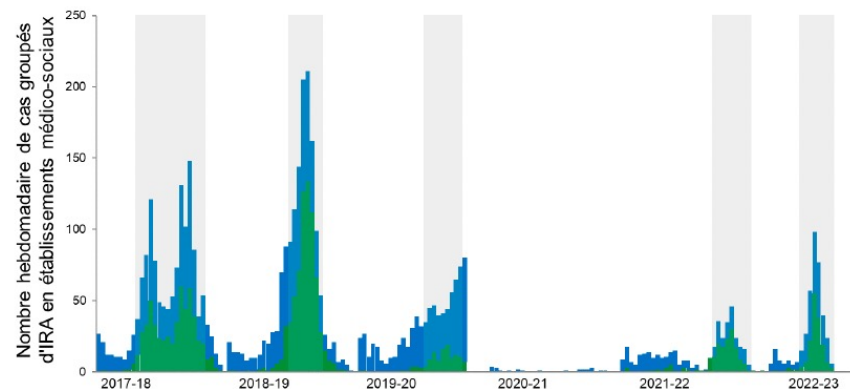
Figure 4 : Évolution hebdomadaire des taux de consultations pour syndrome grippal en France métropolitaine, pour 100 000 habitants et par classe d'âge, de 2017-18 à 2022-23* (réseau Sentinelles)

**Données provisoires sur les 2 dernières semaines*

Semaine 3 2023



(A)



Impact de la Grippe, un iceberg

Complications respiratoires

Décompensation de maladies chroniques

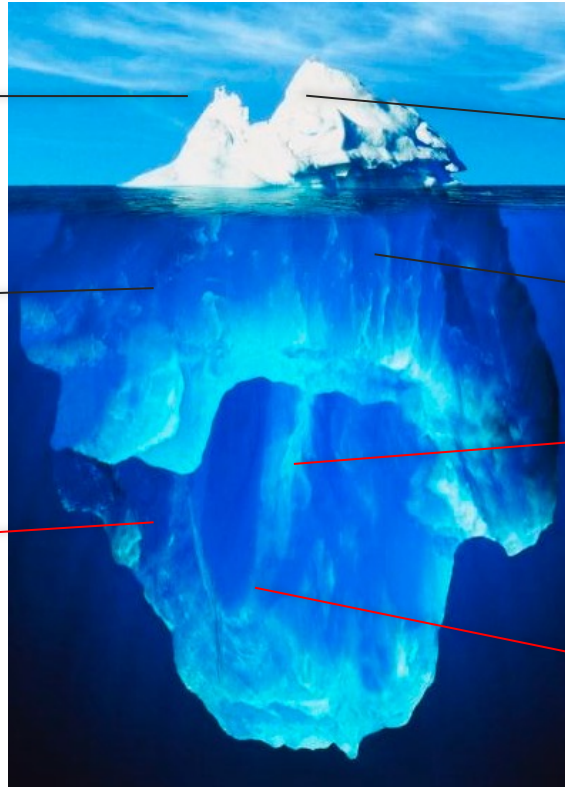
Risque de d'infarctus du myocarde¹

Risque d'AVC¹

+13% risque d'hospitalisation pour fracture du fémur²

Perte d'autonomie³

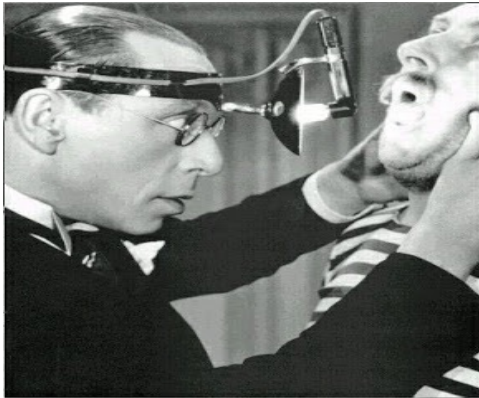
Autres complications³



1. Warren-Gash C, et al. Eur. Respir. 2018
2. McConeghy K.W. et al., J. Gerontol. A. Biol. Sci. Med. Sci., 2018
3. Gavazzi G, PUGG 2017 (ECCMID 2019)

Epidémiologie pneumonie sujet vieillissant

soit 1.000 à 5.000 /100.000



Prévalence	>65 ans	>80 ans
Pneumonie communautaire	1‰	10‰
Pneumonie nosocomiale	1%	à 5%
Pneumonie en EHPAD	1%	à 4,6%

incidence 0.3- 2/ 1000 RJ

France: Incidence annuelle en EHPAD : 21%

Epidémiologie pneumonie toujours une Boite Noire ?

RSV

RSV subtype A

RSV subtype B

Influenza A

Influenza A subtype H1

Influenza A subtype H3

Influenza A subtype H5

Other Influenza A subtype

Influenza B

Parainfluenza 1

Parainfluenza 2

Parainfluenza 3

Parainfluenza 4

Human Metapneumovirus

Rhinovirus/Enterovirus

Adenovirus

Coronavirus

Coronavirus 229E

Coronavirus OC43

Coronavirus NL63

Coronavirus HKU1

Coronavirus SARS

Streptococcus pneumoniae

Legionella spp.

**Respiratory syncytial virus infection
in older persons**

Vaccine 1998

Falsey AR

Respiratory Syncytial Virus and Other
Respiratory Viral Infections in Older Adults With
Moderate to Severe Influenza-like Illness

VRS

=

Pneumonie

Epidémie en institution :

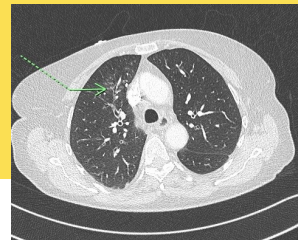
Taux d'attaques :

2 à 15 %

5-27% des IRA

jusqu'à 40%

Presentations cliniques SA ???



Incubation 3-5 j
Sisonier
Symptomes Fréquents - rare asymptomatiques < 10%
durée plus longue : > 3 s

Quid des formes atypiques (Chutes / AEG / confusion

Décompensation d'organe ?

Présentations cliniques en EHPAD ?

Hospitalisation ? / mortalité directe indirecte

Impact à long terme ?

Nasal congestion

Sore throat

Cough

Wheezing

Shortness of breath

Expectoration

Headache

Fever

Body pain

Fatigue

Neck pain

Sleep

Appetite

Méta-analyse Europe : Prélèvements + de 2000 à 2019

sujet âgé / et Haut risque /

>100 articles epidemio / analyse en etuds annuelle/ saisons

infection VRS adultes Haut Risque : 0.00% to 45.83%,
annuel: 7.03% (95% CI 5.18–9.48%), 7.69% (95% CI 6.23–9.46%) saison
mortalité 9.88% (95% CI 6.66–14.43%).

Tres heterogene (I²=92.1%, p<0.01

Sujet âgé > 60 ans

4.66% (95% CI 3.34–6.48%) Annuel 7.80% (95% CI 5.77–10.45%) saison
mortalité 8.18% (95% CI 5.54–11.94%).

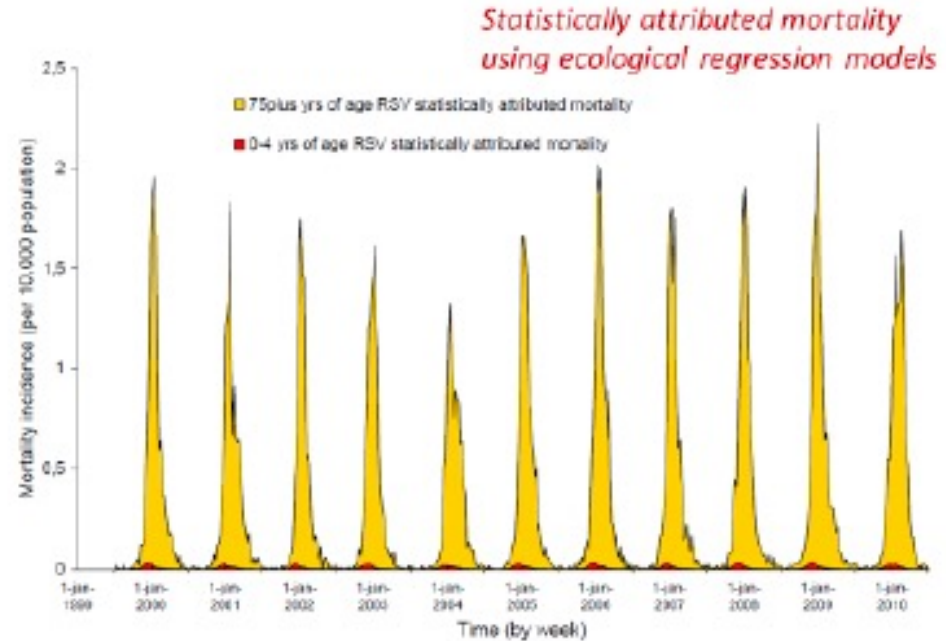
Impact SA : mortalité

Respiratory syncytial virus (RSV): a scourge from infancy to old age

James Andrew Coultas ¹, Rosalind Smyth ², Peter J Openshaw¹

Thorax 2019

les enfants hollandais
sont
costauds



Citation: van den Wijngaert CC, van Asten L, Koopmans MPG, van Pelt W, Nagelkerke NDC, et al. (2012) Comparing Pandemic to Seasonal Influenza Mortality: Moderate Impact Overall but High Mortality in Young Children. *PLoS ONE* 7(2): e31101. doi:10.1371/journal.pone.0031101

Figure 1 Estimated respiratory syncytial virus (RSV)-attributable mortality in the Netherlands according to age. Excess specific mortality

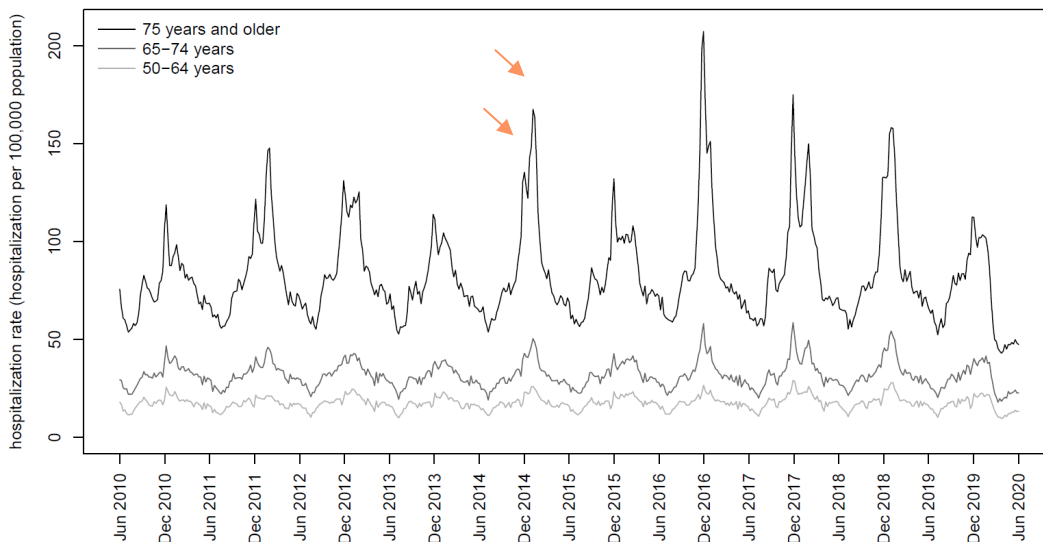
Hospitalisations : modèle France PMSI/CPIDC

PMSI diagnostic Primaire

- respiratoire et cardiorespiratoires

10 ans – 2010-2020

jusqu'à des pic > 200/100 000



I21: Acute myocardial infarction; I50: Heart failure; I63: Cerebral infarction; I64: Stroke, not specified as haemorrhage or infarction.

Hospitalisation / Mortalité France

VRS	incidence annuelle	Nombre cas / an
causes respiratoires	174 /100 000	20 904
	202/100 000	24 319.
Mortalité	9,8 décès/100 000	à 20,5/100 000

Grippe

causes respiratoires	80/100 000	21 732
cases cardiorespiratoires,	219/100 000 ,	26 481
Mortalité annuelle	de 18/100 000	à 37/100 000.

Infection à VRS et déclin fonctionnel ?

Change in functional status associated with respiratory syncytial virus infection in hospitalized older adults

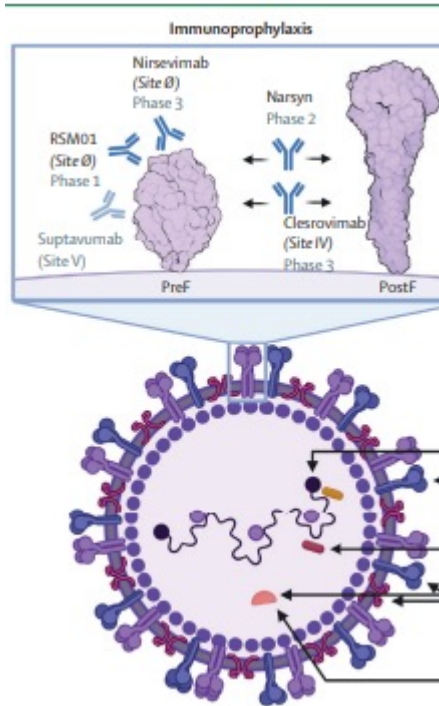
Angela R. Branche MD¹ | Lisa Saiman MD, MPH^{2,3} | Edward E. Walsh MD^{1,4}
 Ann R. Falsey MD^{1,4} | Haomiao Jia PhD⁵ | Angela Barrett BA² | Luis Alba BS²
 Matthew Phillips MPH⁶ | Lyn Finelli DrPH⁶

Influenza Other Respi Viruses.2022;16:1151–1160

TABLE 2 Median and IQR of functional scores from pre-hospitalization to admission, discharge, and 2, 4, and 6 months after discharge

	Lawton–Brody IADL score (IQR)	Barthel ADL score (IQR)	MRC score (IQR)	Living independently, No. (%)
Pre-hospitalization (N = 271)	5 (2, 8)	90 (70,100)	2 (1, 4)	122 (40%)
Admission ^a (N = 269)	3 (1, 6) [*]	70 (45, 95) [*]	4 (2, 5) [*]	-
Discharge ^b (N = 290)	3 (1, 6) [*]	85 (60, 100)	3 (1, 5)	79 (26%) [*]
2 months ^c (N = 250)	3 (1, 6)	90 (70, 100)	2 (1, 4)	88 (32%) ^{**}
4 months ^d (N = 237)	3 (1, 6)	90 (66, 100)	2 (1, 4)	95 (35%)
6 months ^e (N = 224)	4 (2, 8)	90 (65, 100)	2 (1, 4)	85 (32%) ^{**}
Better ^f at 6 months, %	23.6%	36.6%	37.7%	NA
Same ^f at 6 months, %	44.6%	30.9%	38.2%	NA
Worse ^f at 6 months, %	31.8%	32.5%	24.6%	NA

Des traitements



- immunoglobulines polyvalentes,
- anticorps monoclonal spécifique palivizumab
- nirsévimab

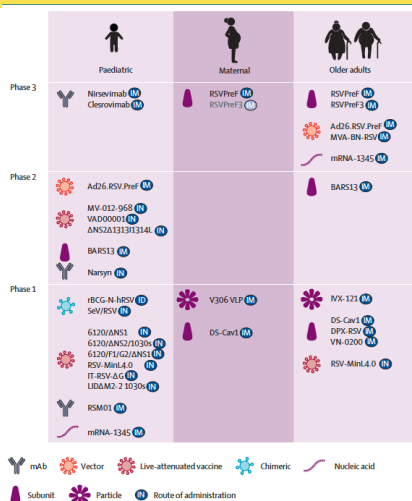
efficace chez les enfants (prevention / curatif)

.... Chez les SA / haut risque ?

Prévention : des vaccins

Des études d'efficacité
2, des candidats....

AS01_E-adjuvanted RSV prefusion F protein-based candidate vaccine (RSVPref3 OA)



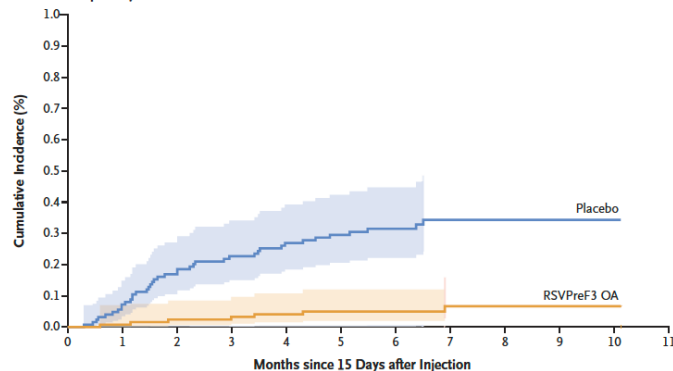
ORIGINAL ARTICLE

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. Hulstørn, for the AReSVi-006 Study Group*

ABSTRACT

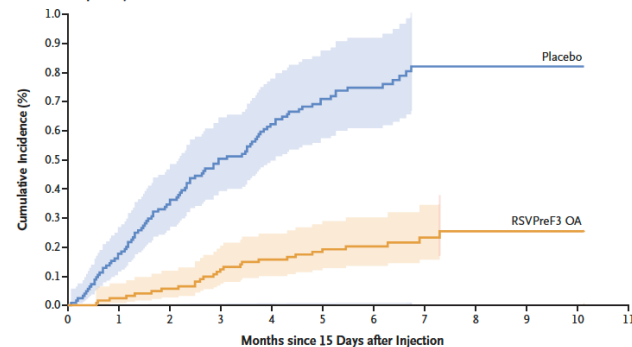
A RSV-Related Lower Respiratory Tract Disease



No. at Risk	12,494	12,403	12,290	11,887	11,640	11,022	8,291	5,464	2,709	559	2	0
Placebo	12,494	12,403	12,290	11,887	11,640	11,022	8,291	5,464	2,709	559	2	0
RSVPref3 OA	12,466	12,392	12,286	11,892	11,655	11,046	8,320	5,495	2,727	571	2	0

Cumulative No. of Cases	0	9	21	28	33	36	38	40	40	40	40	40
Placebo	0	9	21	28	33	36	38	40	40	40	40	40
RSVPref3 OA	0	1	3	4	5	6	6	7	7	7	7	7

B RSV-Related Acute Respiratory Infection



No. at Risk	12,494	12,390	12,268	11,853	11,597	10,973	8,255	5,441	2,697	554	2	0
Placebo	12,494	12,390	12,268	11,853	11,597	10,973	8,255	5,441	2,697	554	2	0
RSVPref3 OA	12,466	12,390	12,282	11,881	11,641	11,029	8,305	5,481	2,717	570	2	0

Cumulative No. of Cases	0	22	43	62	76	86	90	95	95	95	95	95
Placebo	0	22	43	62	76	86	90	95	95	95	95	95
RSVPref3 OA	0	3	7	15	19	23	24	26	27	27	27	27

Prévention : des vaccins

Des études d'efficacité
2, des candidats....

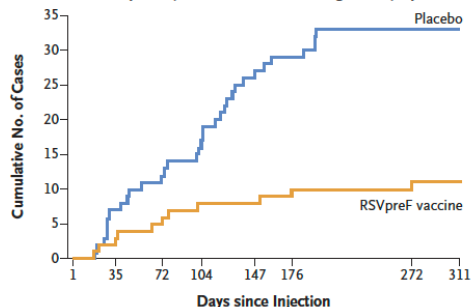
ORIGINAL ARTICLE

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

E.E. Walsh, G. Pérez Marc, A.M. Zareba, A.R. Falsey, Q. Jiang, M. Patton, F.P. Polack, C. Llapur, P.A. Doreski, K. Ilangovan, M. Rämets, Y. Fukushima, N. Hussien, L.J. Bont, J. Cardona, E. DeHaan, G. Castillo Villa, M. Ingilizova, D. Eiras, T. Mikati, R.N. Shah, K. Schneider, D. Cooper, K. Koury, M.-M. Lino, A.S. Anderson, K.U. Jansen, K.A. Swanson, A. Gurtman, W.C. Gruber, and B. Schmoeler-Thoma, for the RENOIR Clinical Trial Group*

essai RENOIR

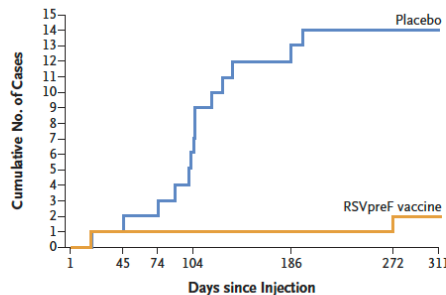
A RSV-Associated Lower Respiratory Tract Illness with ≥ 2 Signs or Symptoms



Vaccine Efficacy
(96.66% CI)
percent
66.7 (28.8–85.8)

Cumulative No. of Cases									
Placebo	0	7	12	17	27	29	33	33	
RSVpreF vaccine	0	3	5	8	8	10	11	11	

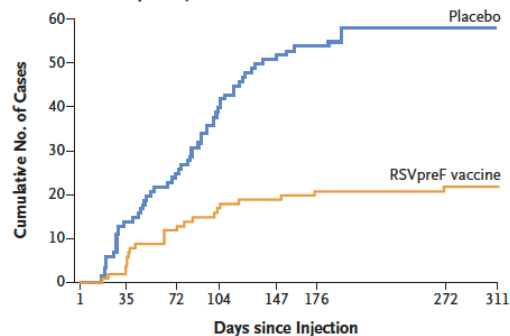
B RSV-Associated Lower Respiratory Tract Illness with ≥ 3 Signs or Symptoms



Vaccine Efficacy
(96.66% CI)
percent
85.7 (32.0–98.7)

Cumulative No. of Cases									
Placebo	0	2	3	7	13	14	14		
RSVpreF vaccine	0	1	1	1	1	2	2		

C RSV-Associated Acute Respiratory Illness



Vaccine Efficacy
(95% CI)
percent
62.1 (37.1–77.9)

Cumulative No. of Cases									
Placebo	0	14	25	40	52	54	58	58	
RSVpreF vaccine	0	4	12	17	19	21	22	22	

Le VRS est clairement identifié comme un Virus du S A

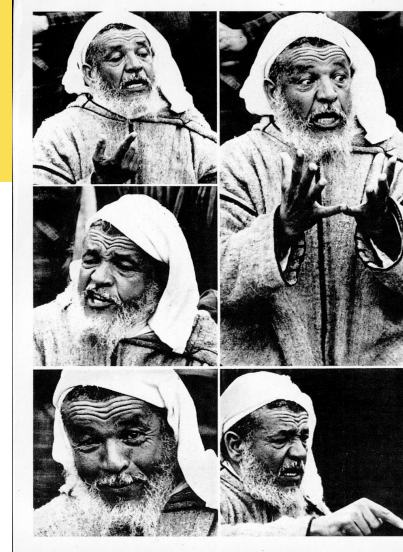
L'épidémiologie suivi « like COVID » fait encore défaut Variabilité

L'impact chez SA semble important mais probablement différent des autres virus

Les vaccins arrivent et efficaces sur l'incidence et...?
et.... Armons nous pour des couvertures respectables



Merci de votre Attention



Save the date
Ginger Date



...raconter....

7 décembre



24^{es} JNl, GRENOBLE

