

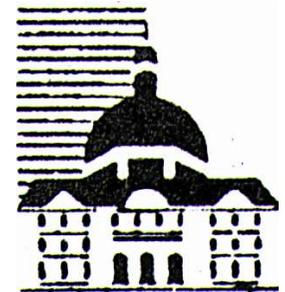
Nouveautés en VNI dans l'insuffisance respiratoire aiguë

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Pneumologie et Réanimation médicale

Groupe Hospitalier Pitié-Salpêtrière

Université Pierre et Marie Curie, Paris, France

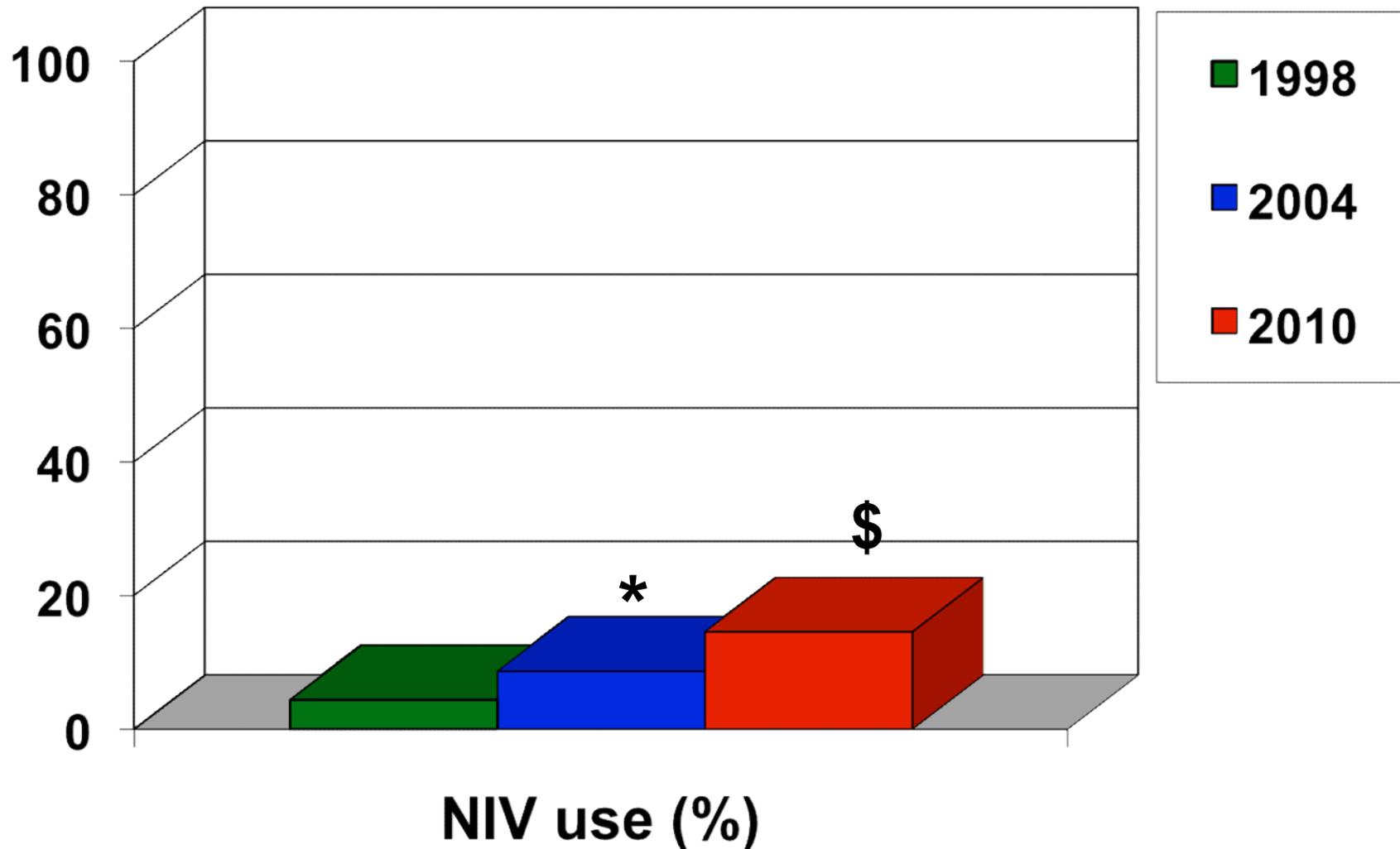


Liens d'intérêt

- Contrats de recherche, investigateur, consultants, interventions, inscriptions à des congrès :
- Maquet
- Covidien, Medtronic
- Dräger
- Philips
- Air Liquide santé
- MSD

Utilisation de la VNI - International

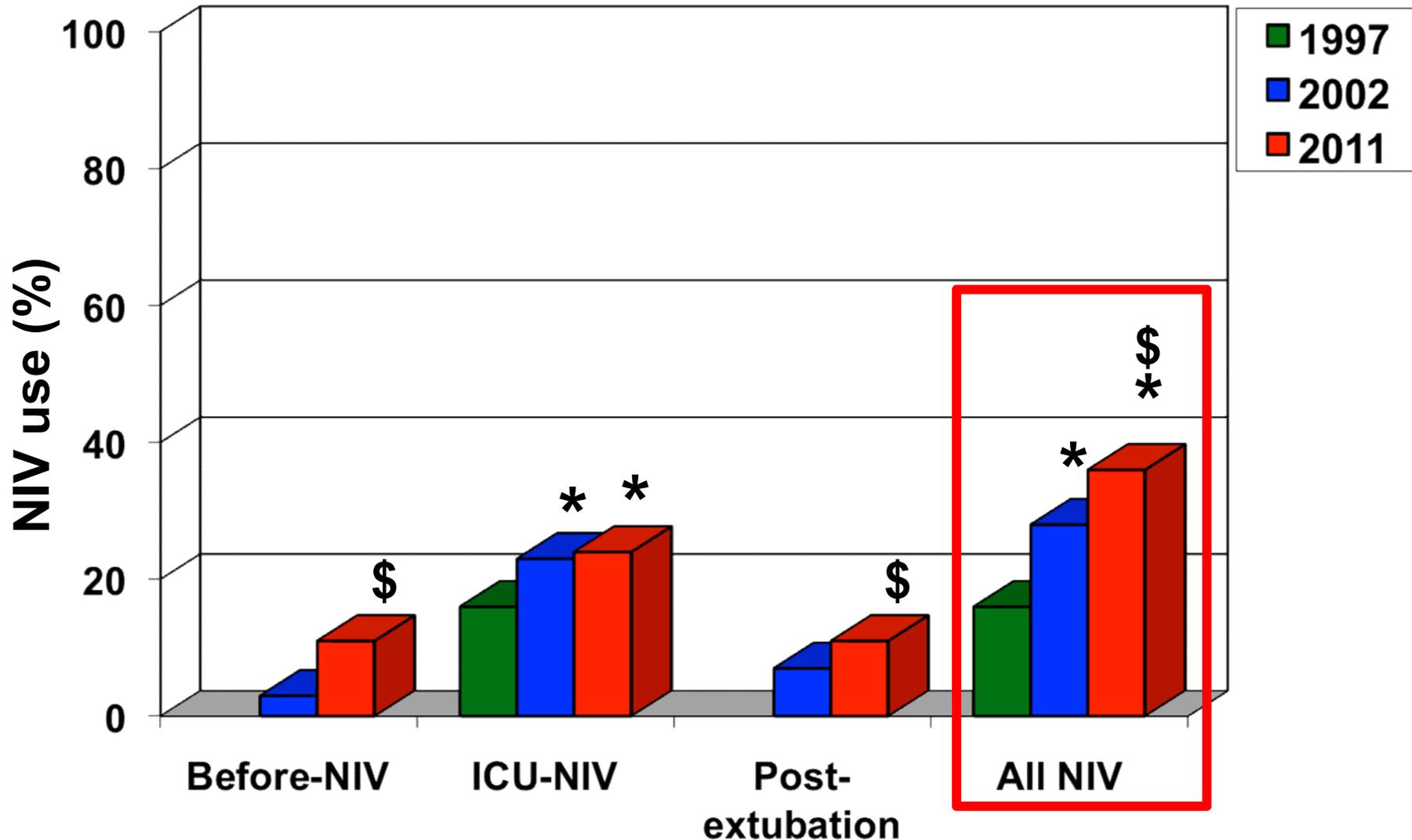
4.4% → 8.7% → 14.6%



Esteban et Coll. Am J Crit Care Med 2014

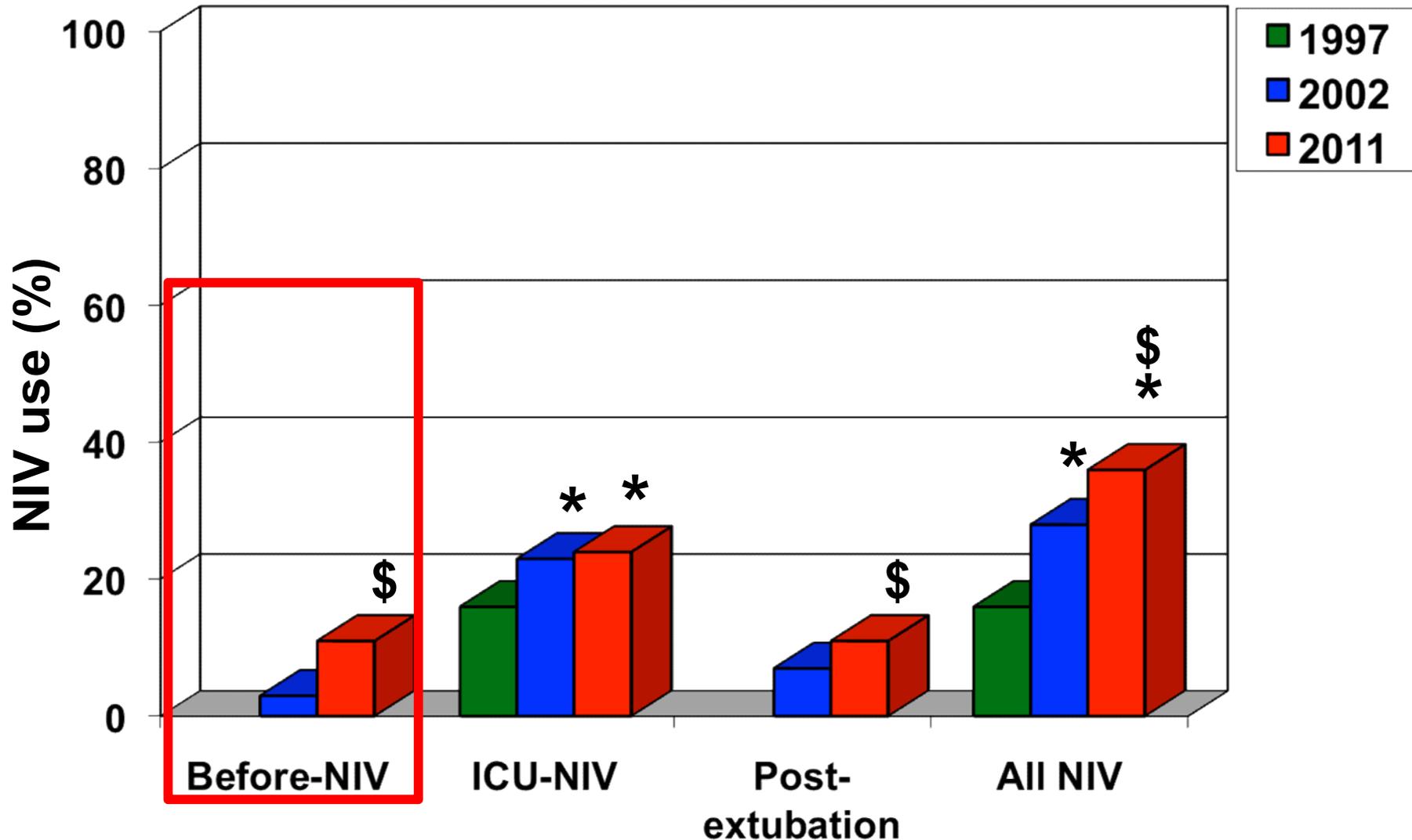
NIV use

Still increasing



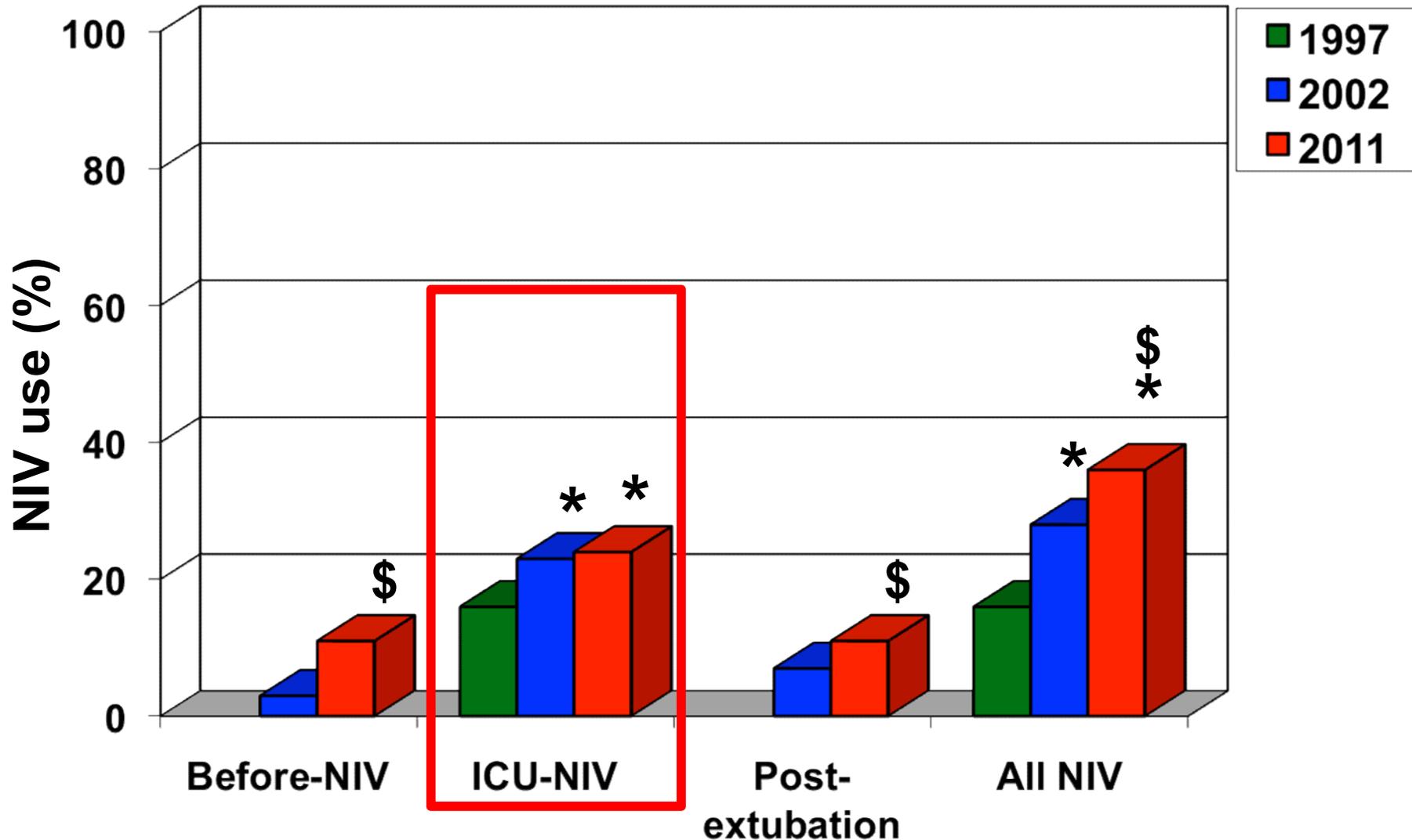
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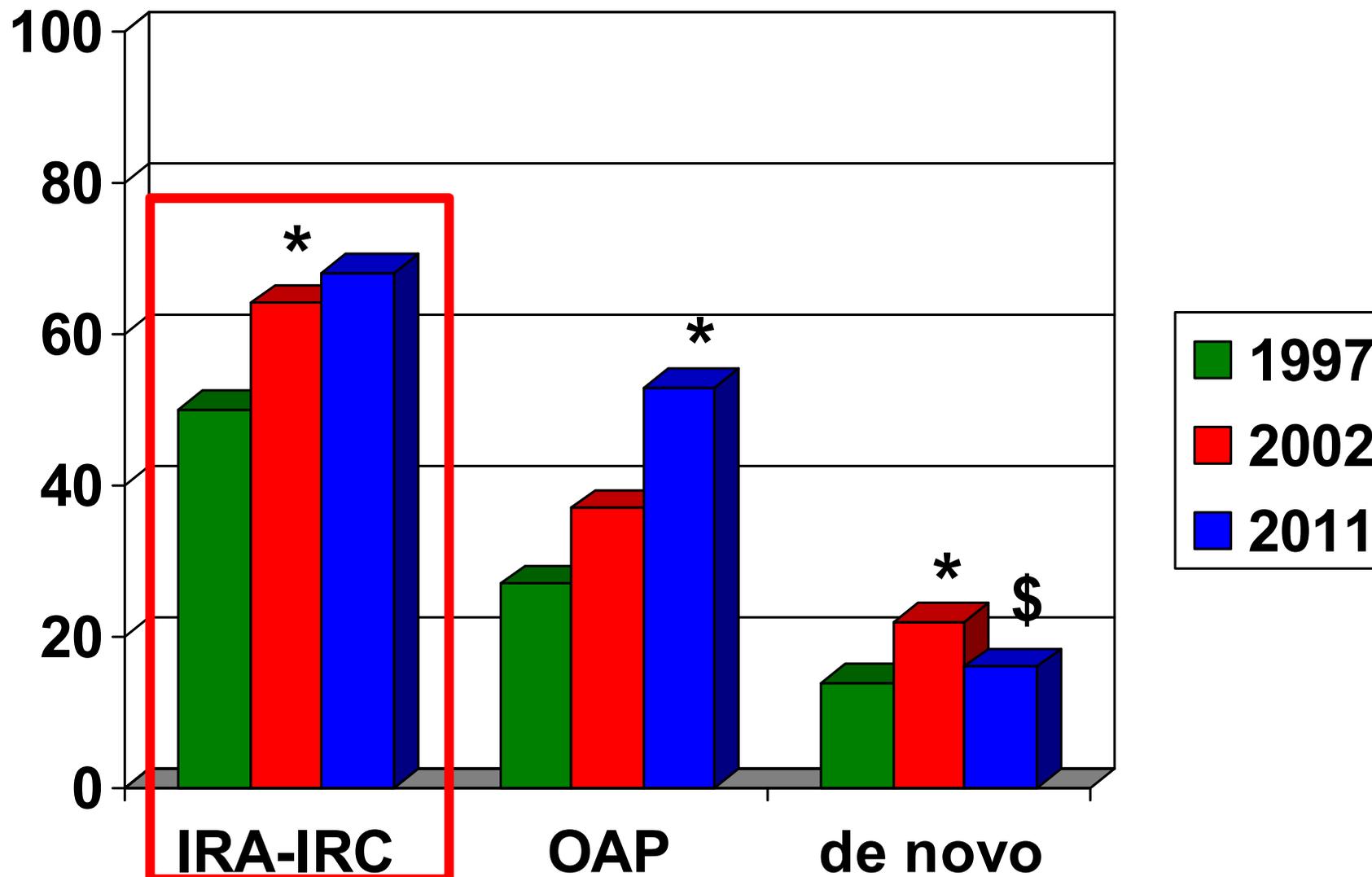
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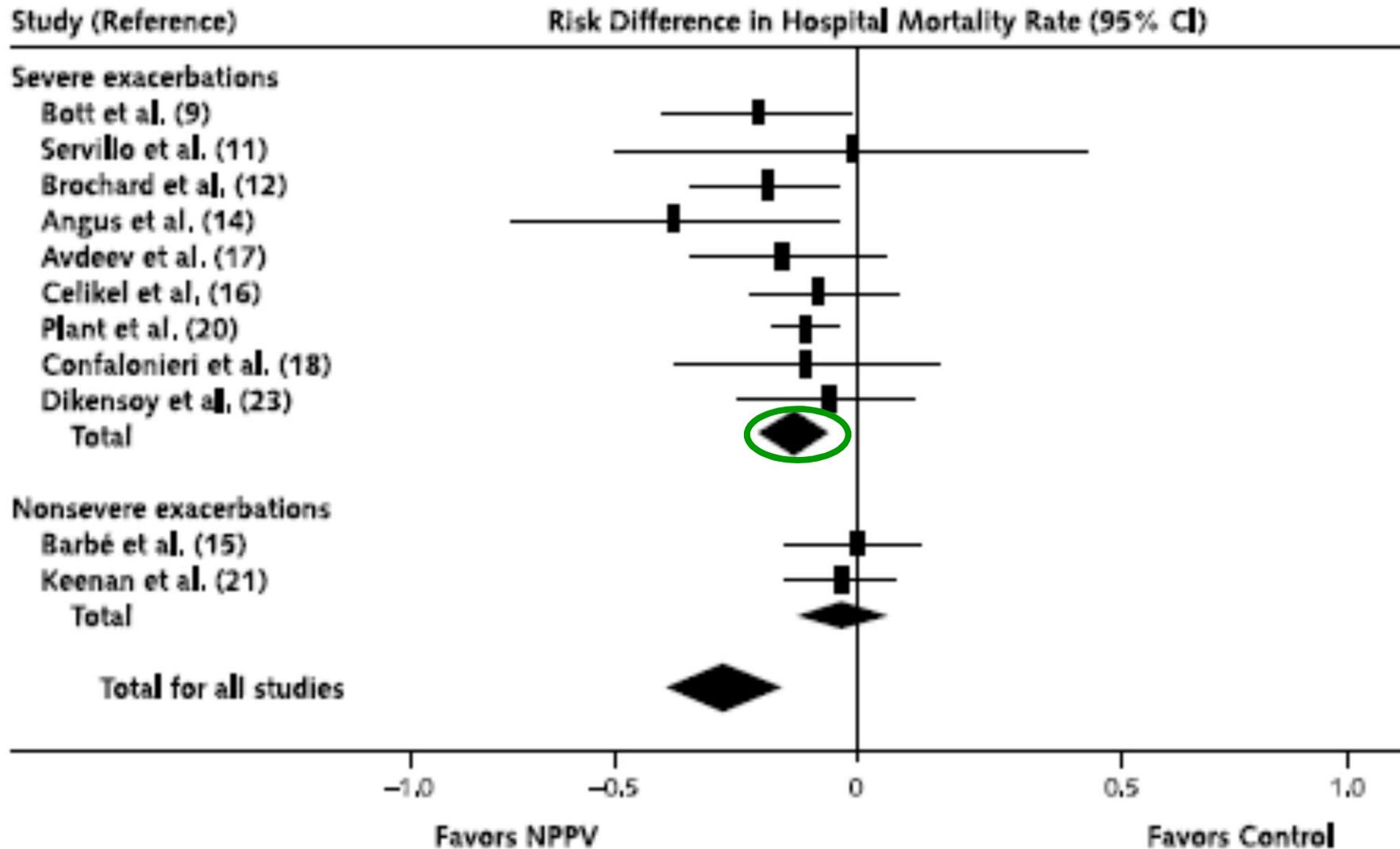
Utilisation de la VNI - France

3 principales indications



BPCO - bénéfice - survie

méta analyse → survie



Keenan et Coll. Ann Intern Med 2003

VNI – alternative à l'intubation

BPCO – VNI en cas de coma

Variable	Success (n = 76)	Failure (n = 19)	p Value
GCS			
Admission	6.5 ± 1.8	6.1 ± 1.5	0.341
First hour	11.2 ± 2.0	7.9 ± 2.2	< 0.0001
pH			
Admission	7.13 ± 0.06	7.11 ± 0.08	0.631
First hour	7.23 ± 0.05	7.17 ± 0.05	< 0.0001
PaCO ₂ , mm Hg			
Admission	98 ± 18	102 ± 25	0.513
First hour	78 ± 16	95 ± 25	< 0.0001
PaO ₂ /FIO ₂ ratio			
Admission	138 ± 40	140 ± 50	0.907
First hour	195 ± 40	166 ± 42	0.008

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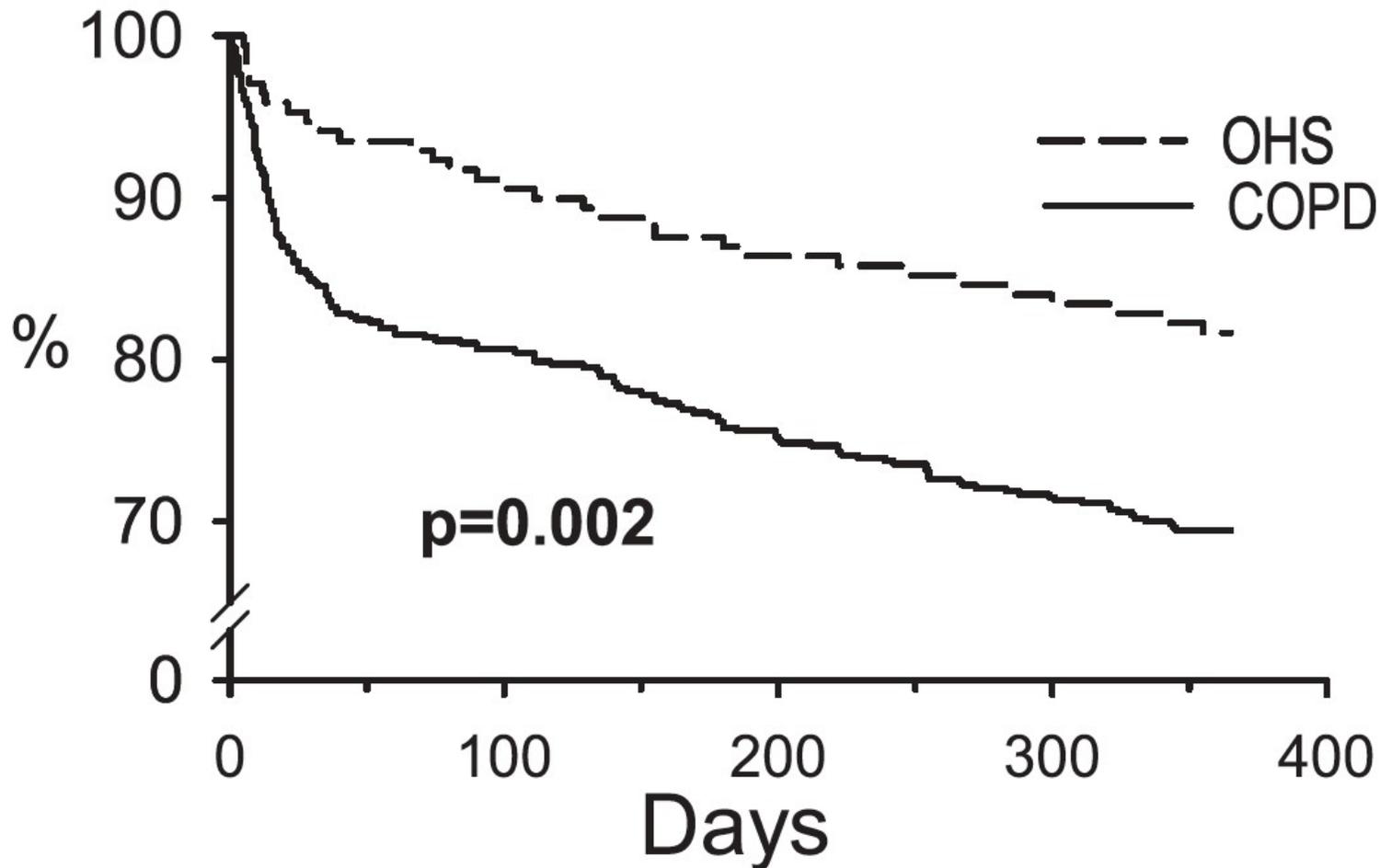
VNI – BPCO – Bénéfice survie

VNI – Survie hospitalière

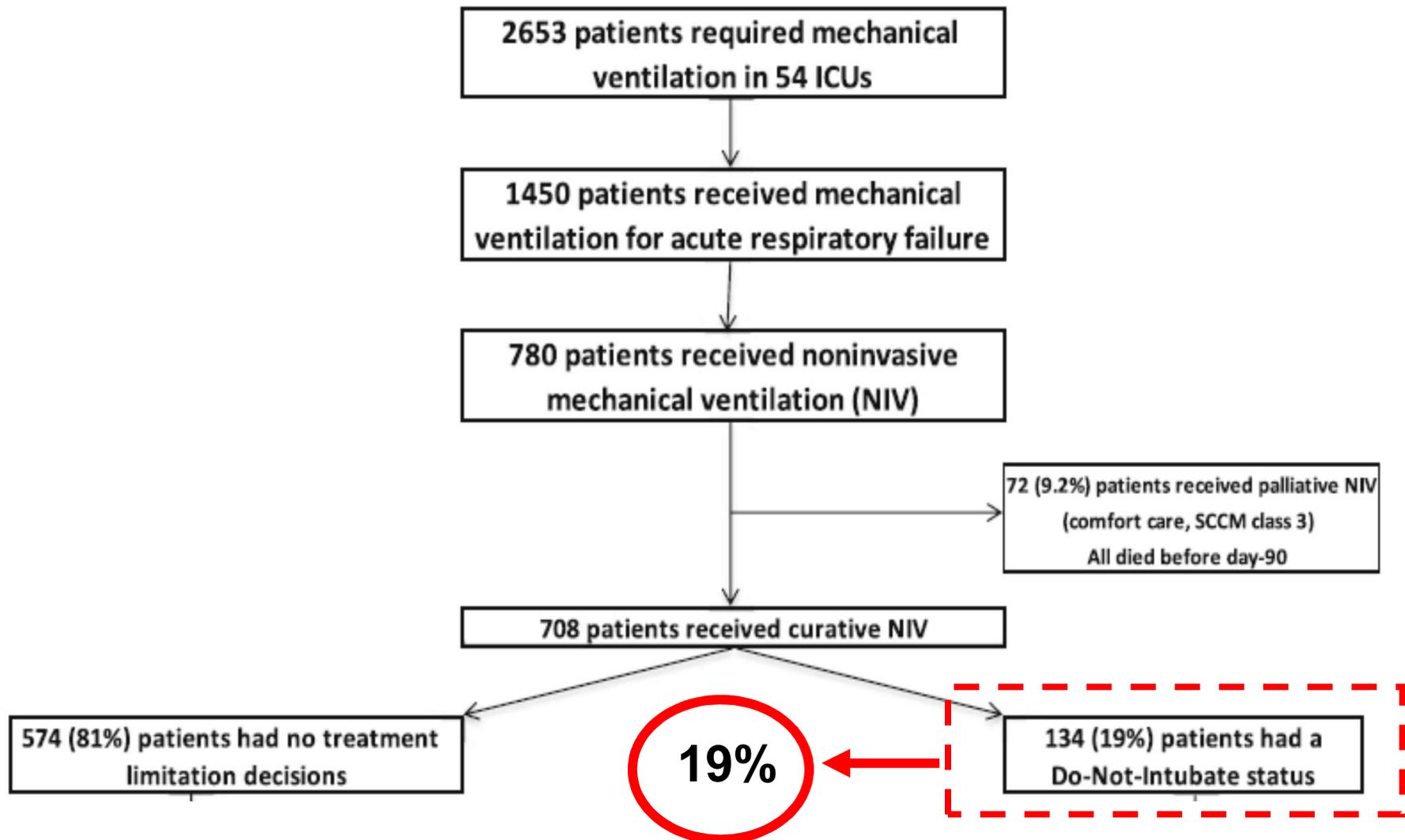
Population	Adjusted HR ^a (95 % CI)	P value
Study cohort (<i>n</i> = 3,163)	0.75 (0.68–0.83)	<0.0001
Acute-on-chronic respiratory failure (<i>n</i> = 1,036)	0.71 (0.57–0.90)	0.004
Cardiogenic pulmonary edema (<i>n</i> = 1,156)	0.85 (0.70–1.03)	0.10
De novo respiratory failure immunocompromised (<i>n</i> = 461)	0.89 (0.70–1.13)	0.35
De novo respiratory failure immunocompetent (<i>n</i> = 510)	1.18 (0.87–1.59)	0.30

VNI – obésité-hypoventilation

pronostic

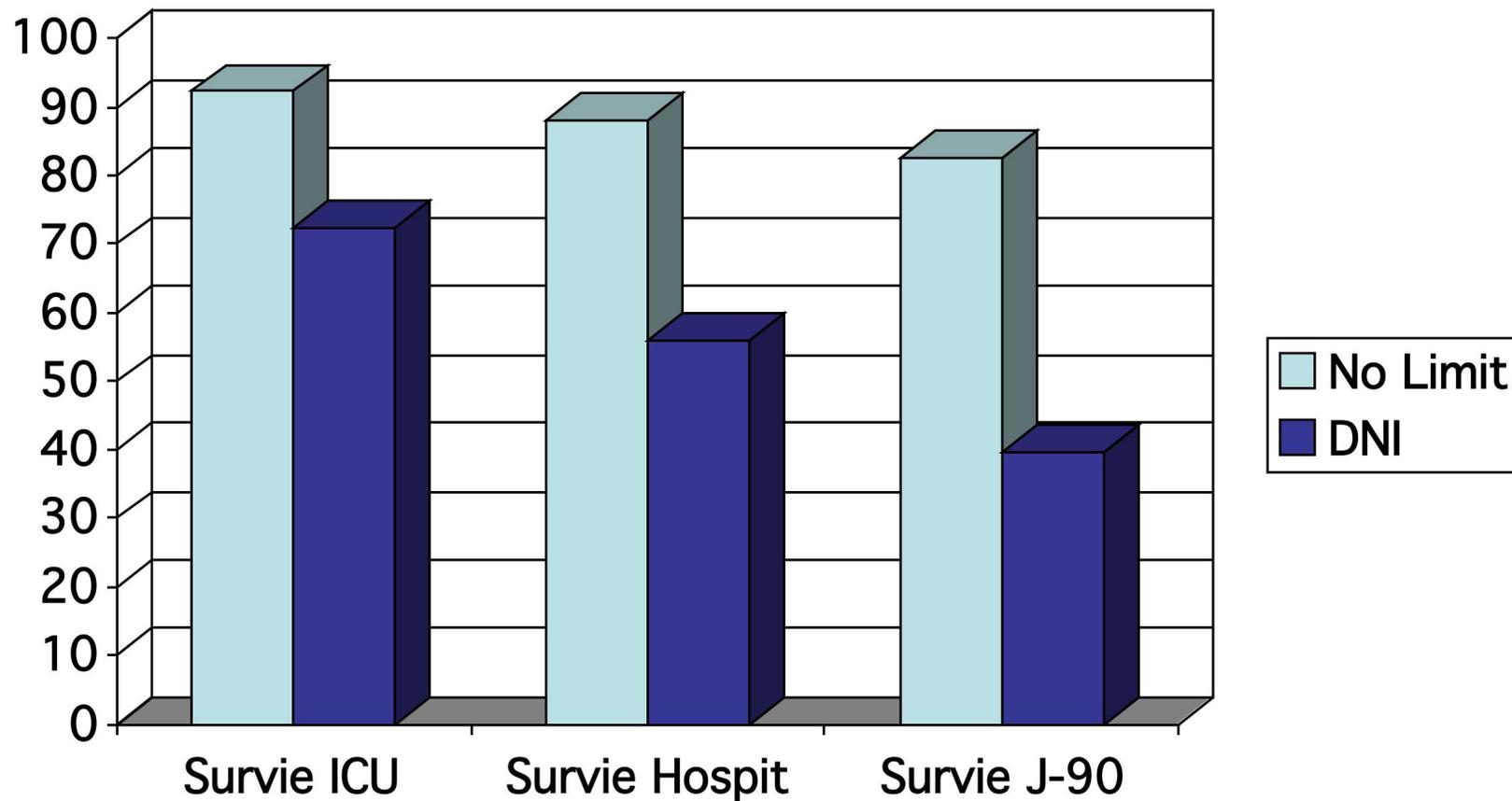


utilisation de la VNI - DNI



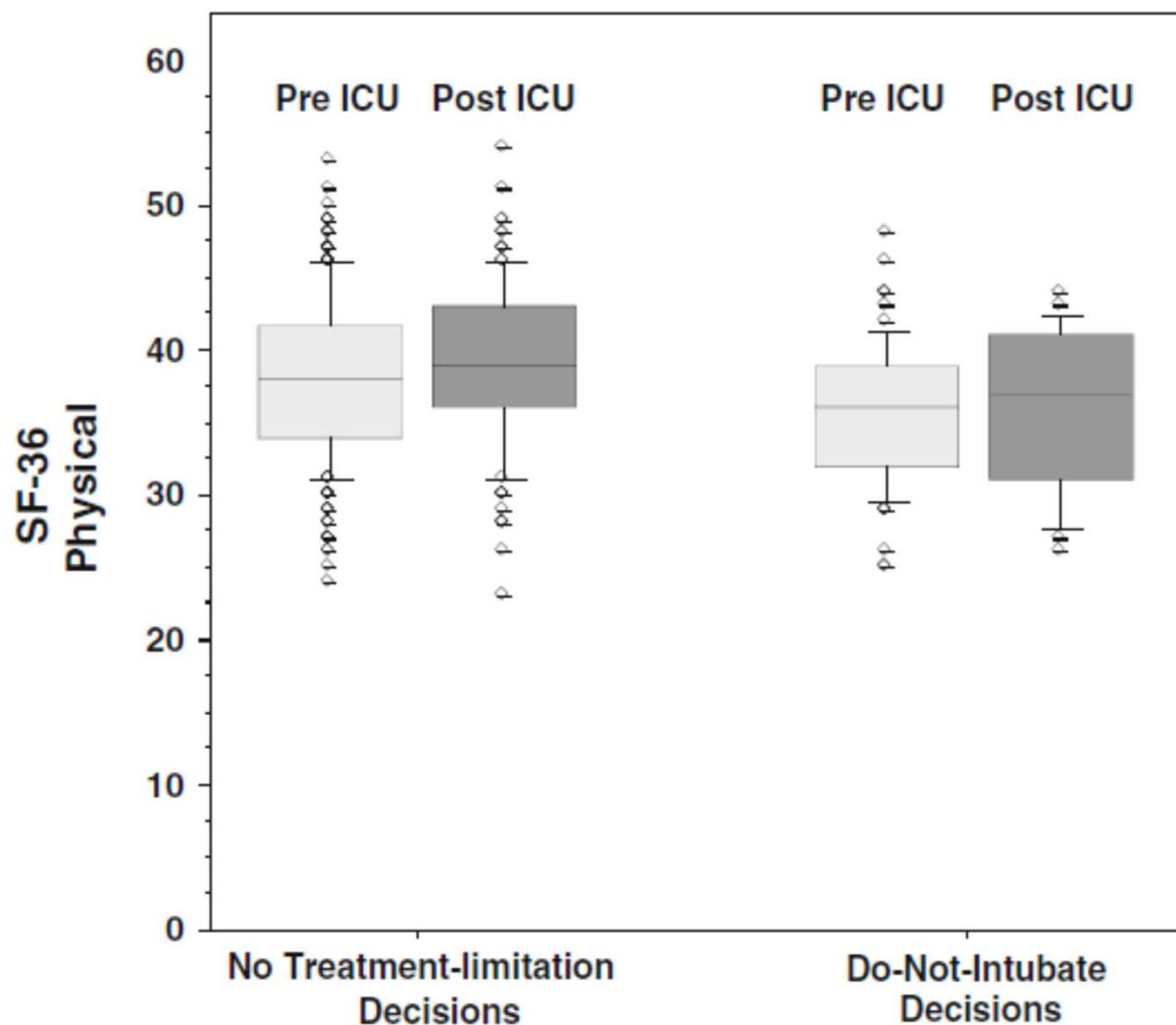
VNI et DNI - mortalité

mortalité : réanimation, hôpital, J90



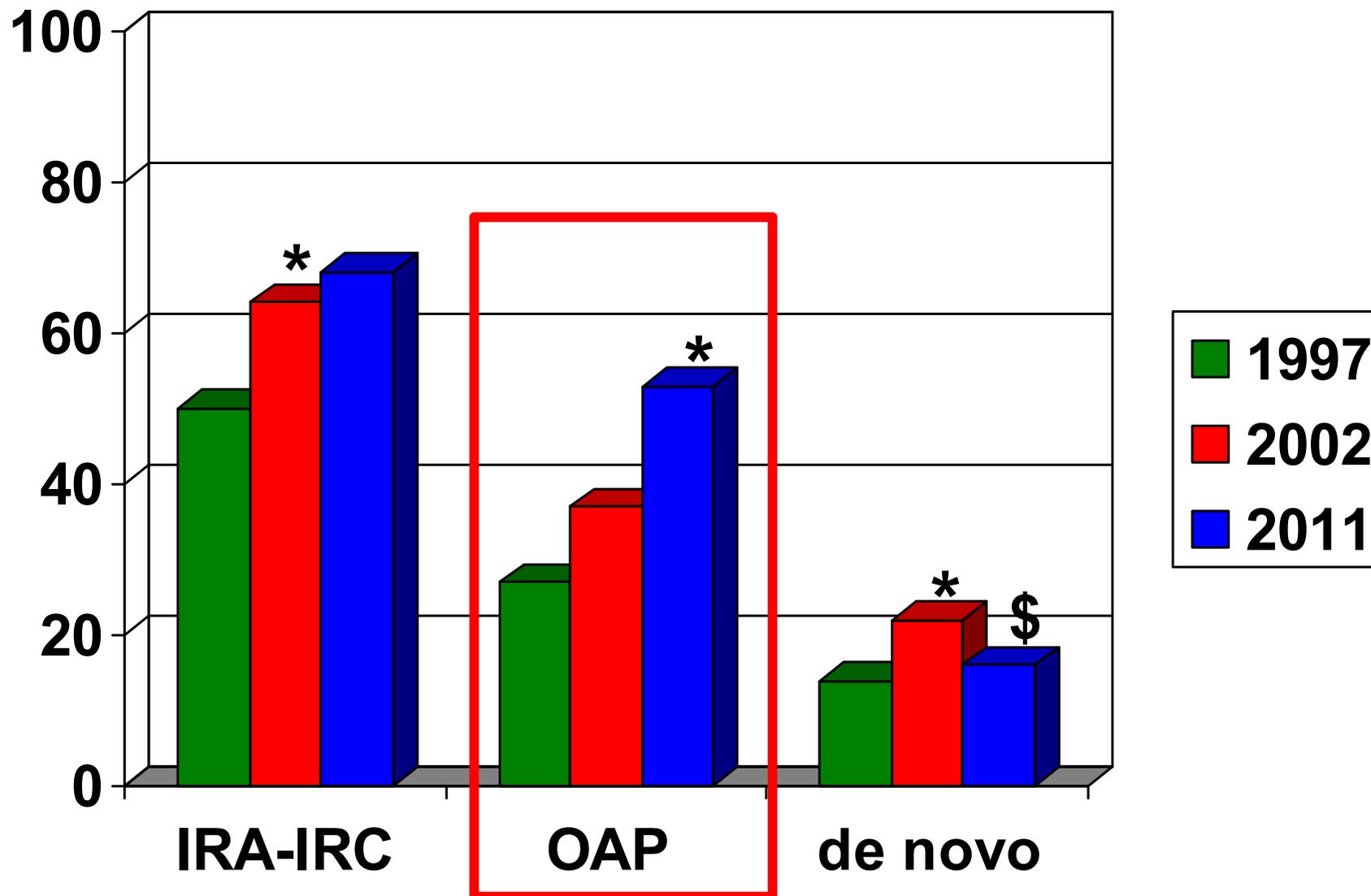
VNI et DNI – qualité de vie

SF36 - Physique

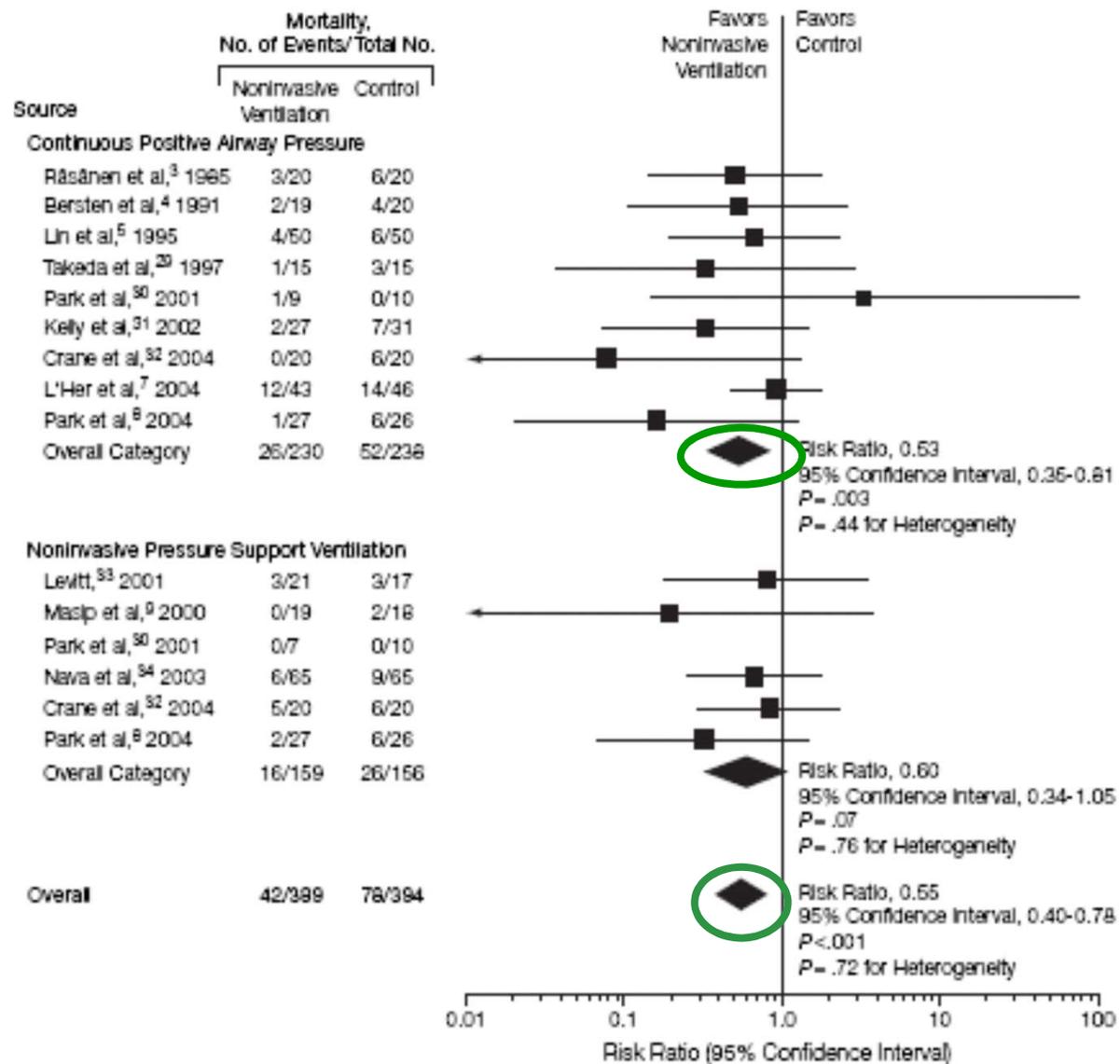


Utilisation de la VNI - France

3 principales indications



OAP - bénéfique – survie réanimation



Masip et Coll. JAMA 2005

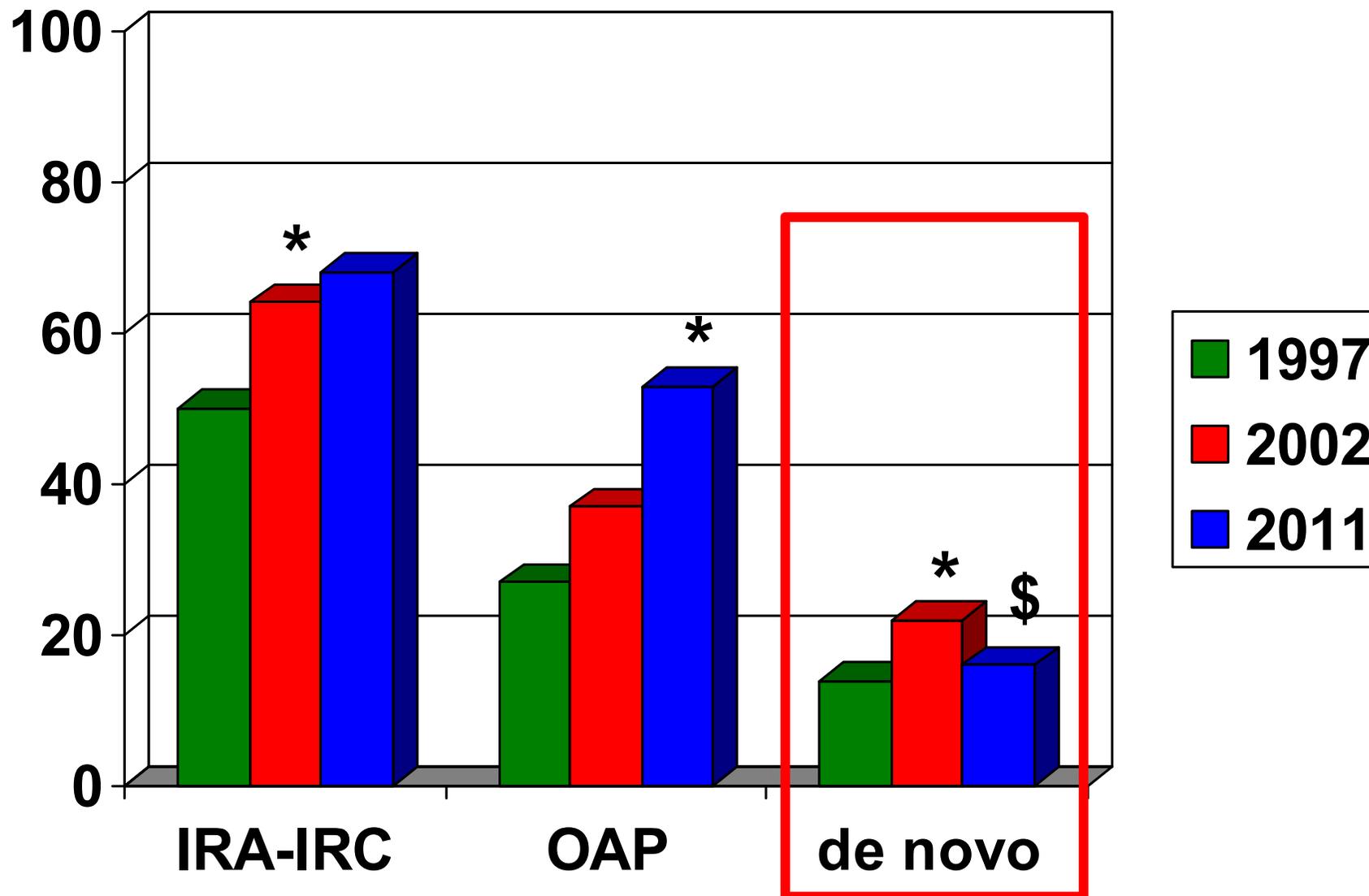
VNI – OAP – Bénéfice survie

VNI – Survie hospitalière

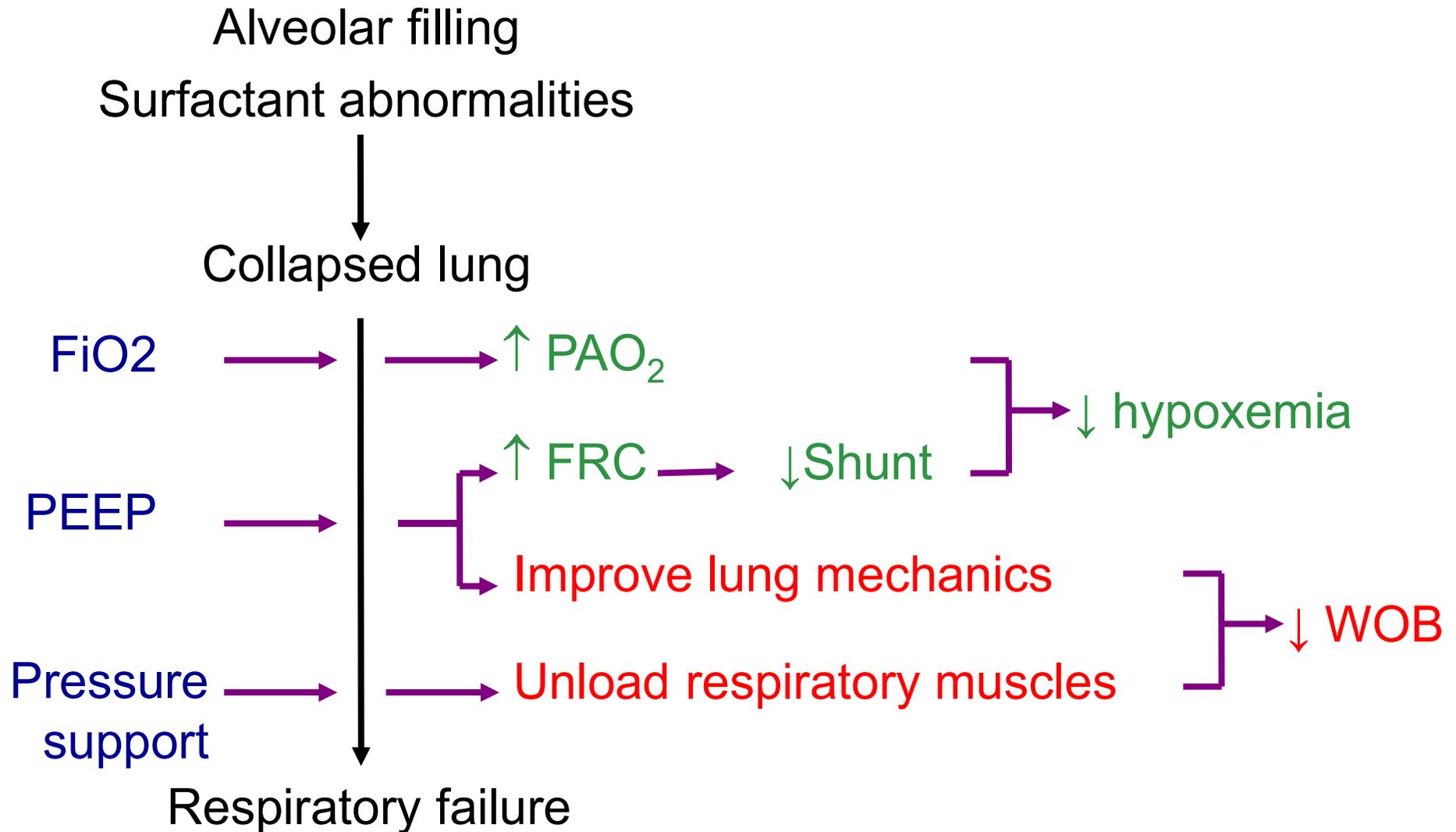
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Utilisation de la VNI - France

3 principales indications

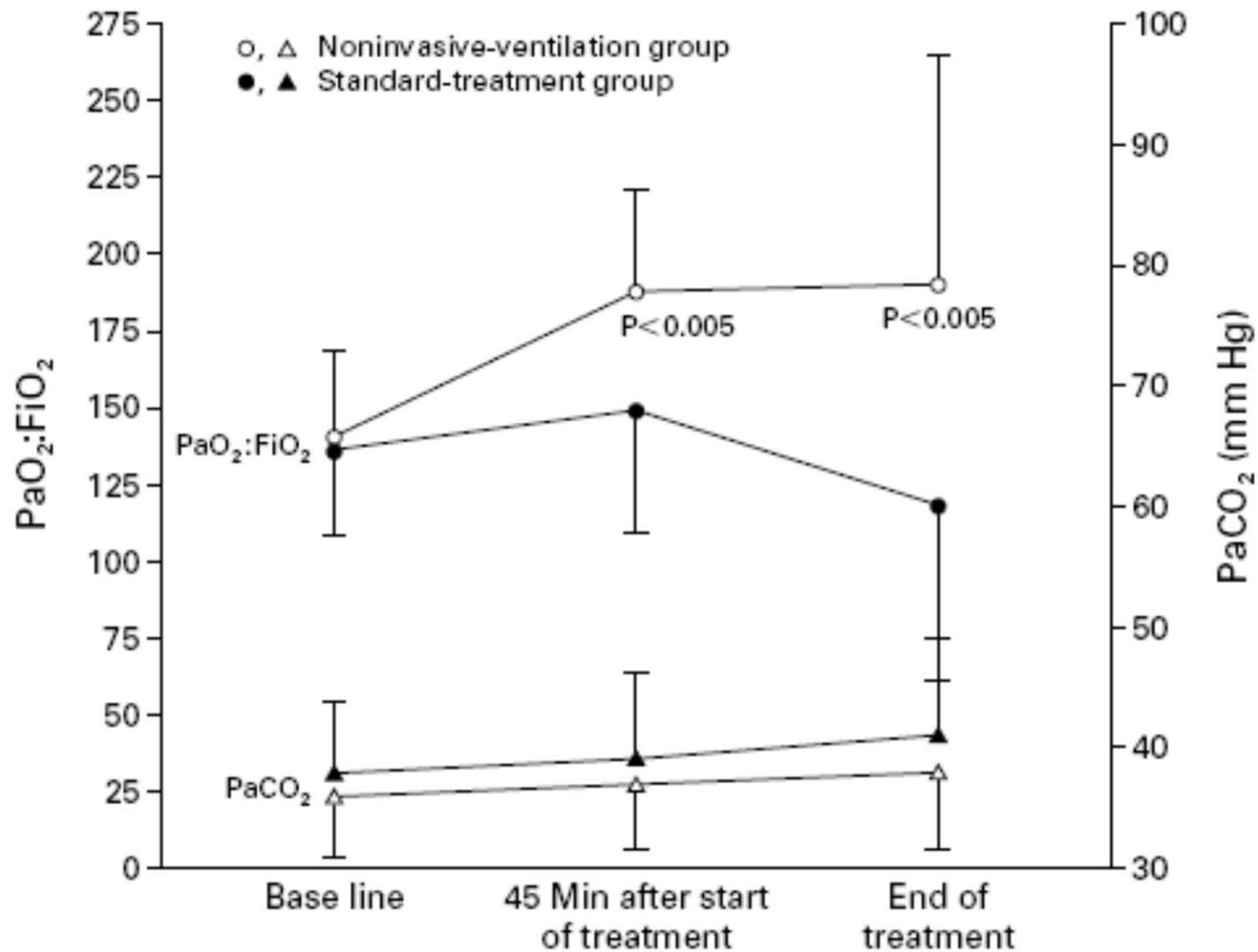


VNI dans l'IRA de novo : mécanisme



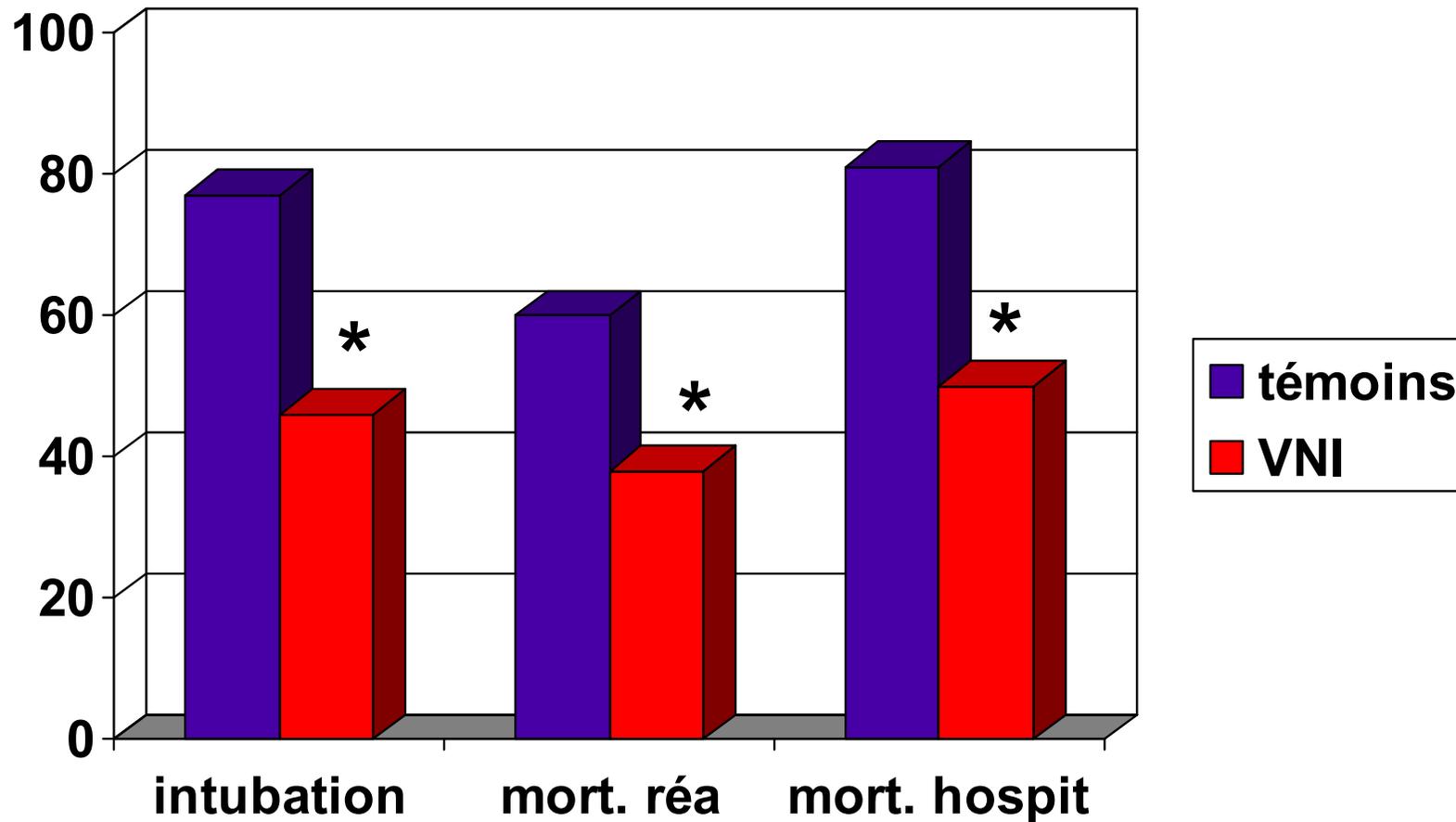
IRA *de novo*

VNI – Echanges gazeux



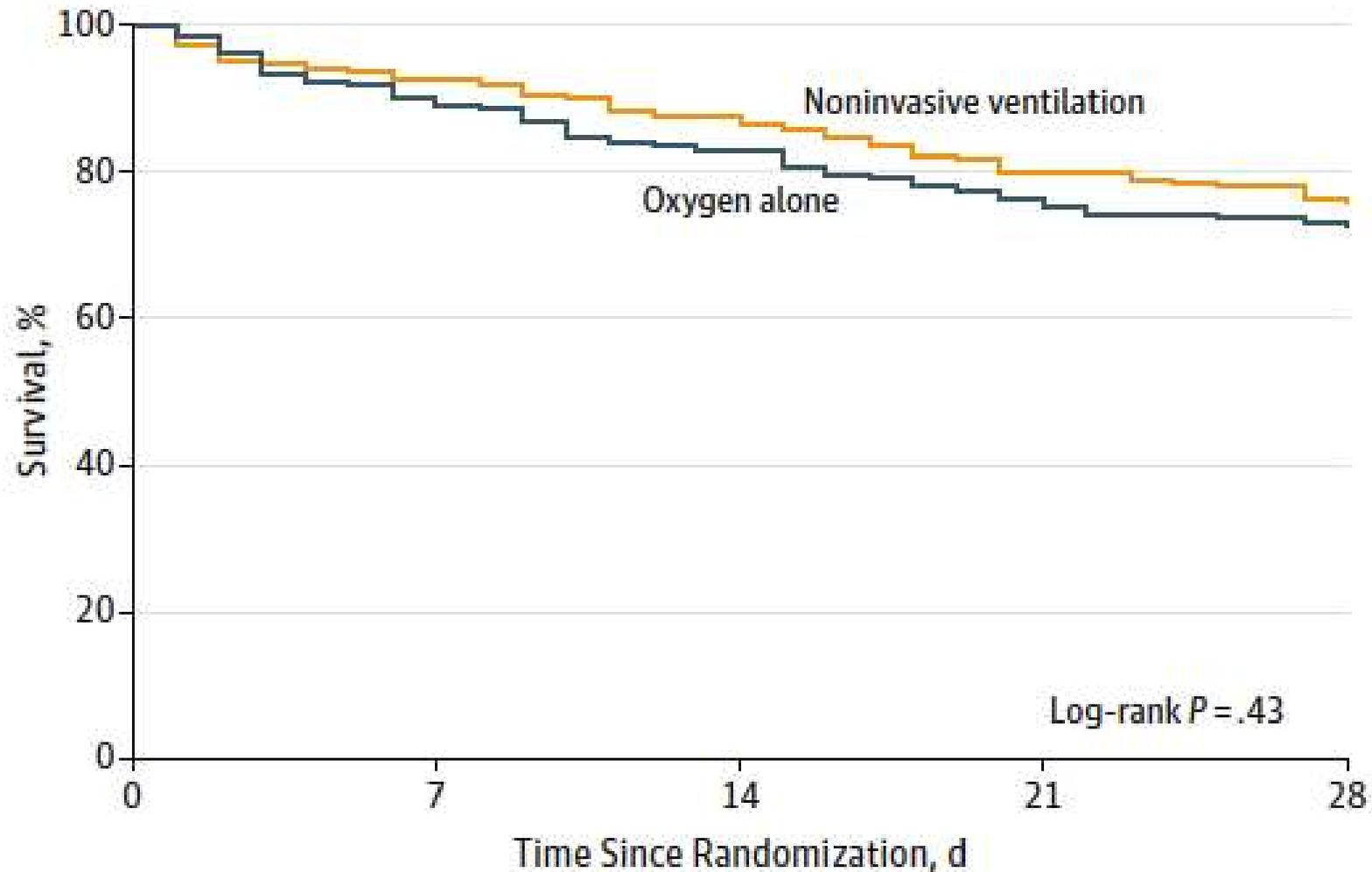
IRA *de novo* – l'étude positive...

immunodéprimés



IRA *de novo* – immunodéprimé

Nouvelle étude randomisée contrôlée



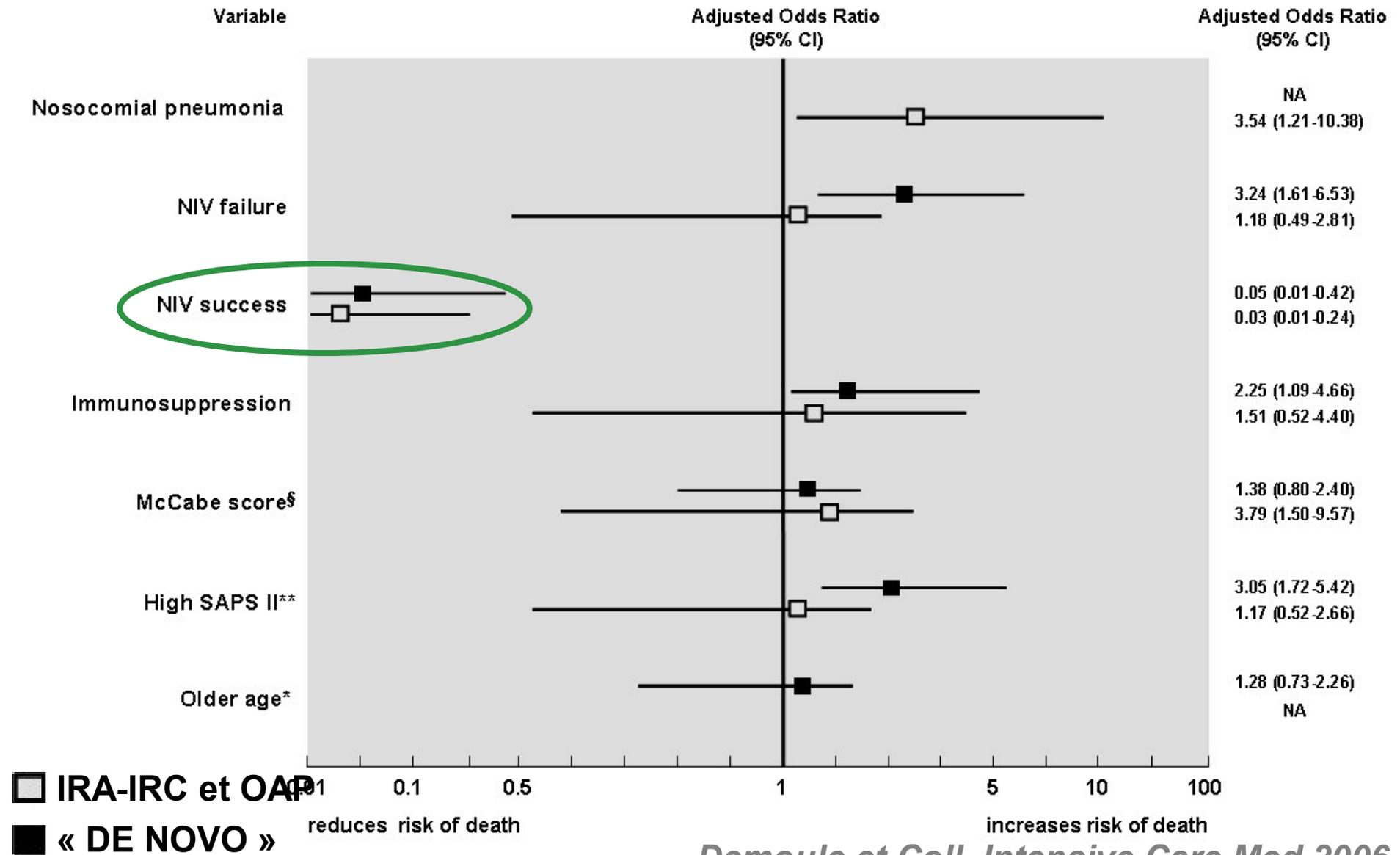
VNI – IRA de novo – Bénéfice survie

Cohorte – Survie hospitalière

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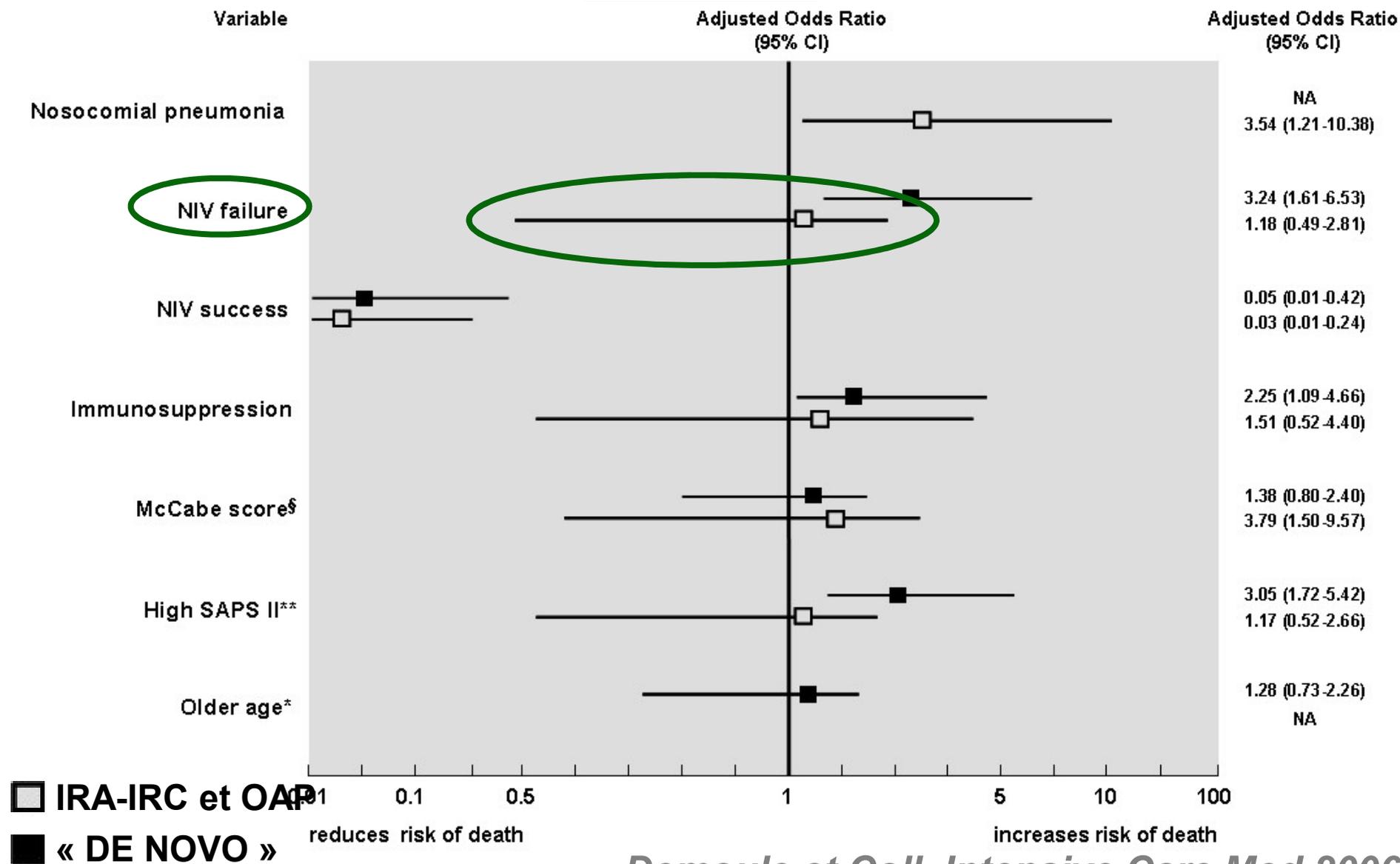
BPCO et OAP - « vraie vie »

mortalité

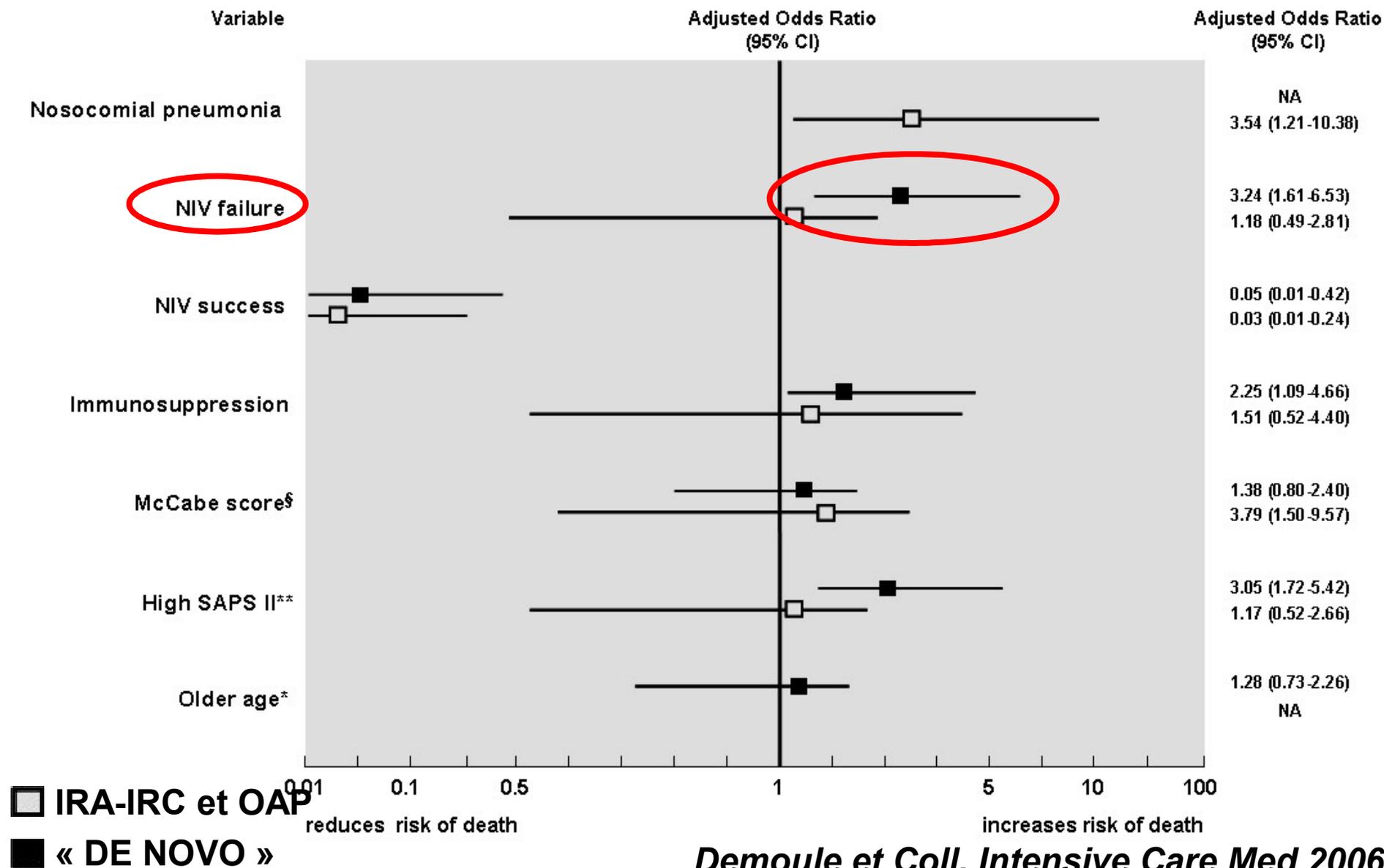


BPCO et OAP - « vraie vie »

mortalité

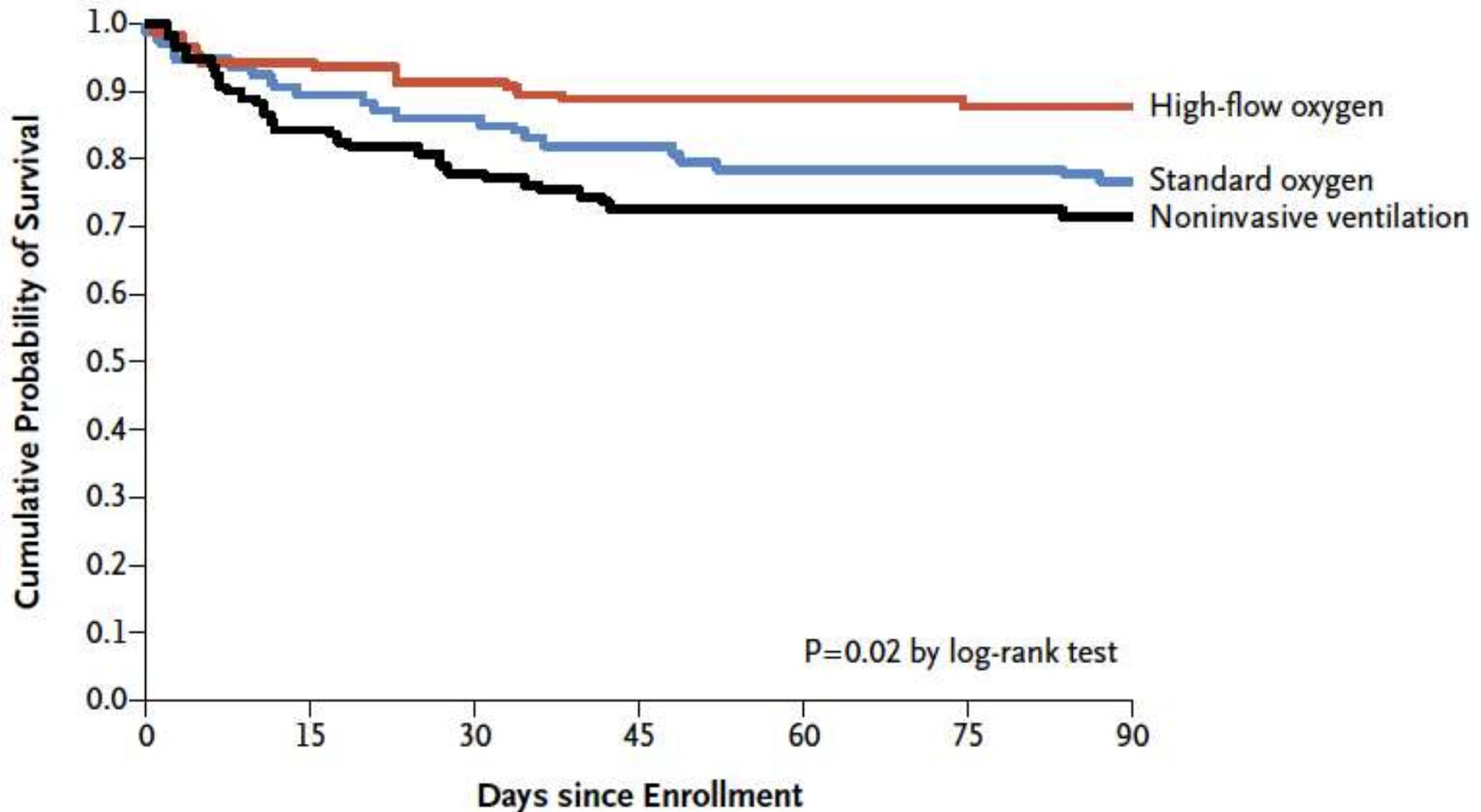


IRA *de novo* – Un risque ?



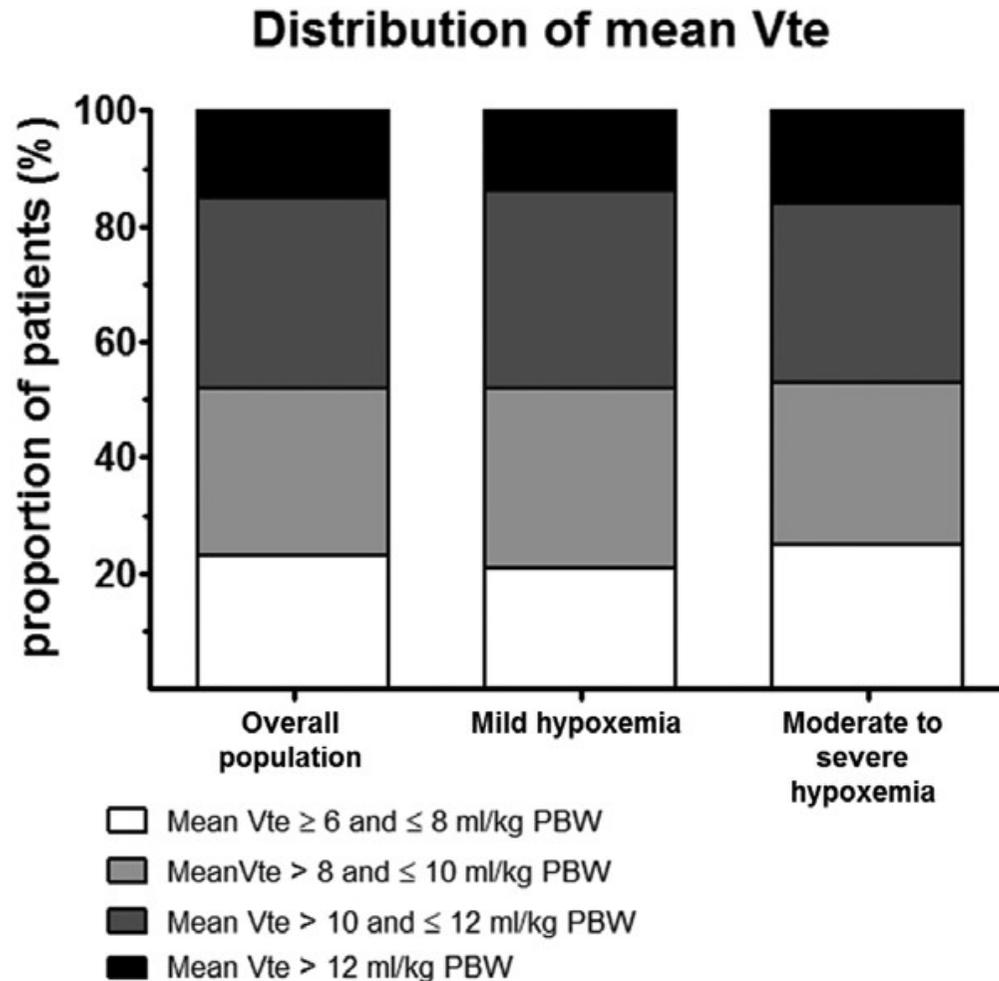
Oxygène haut débit

Mortalité



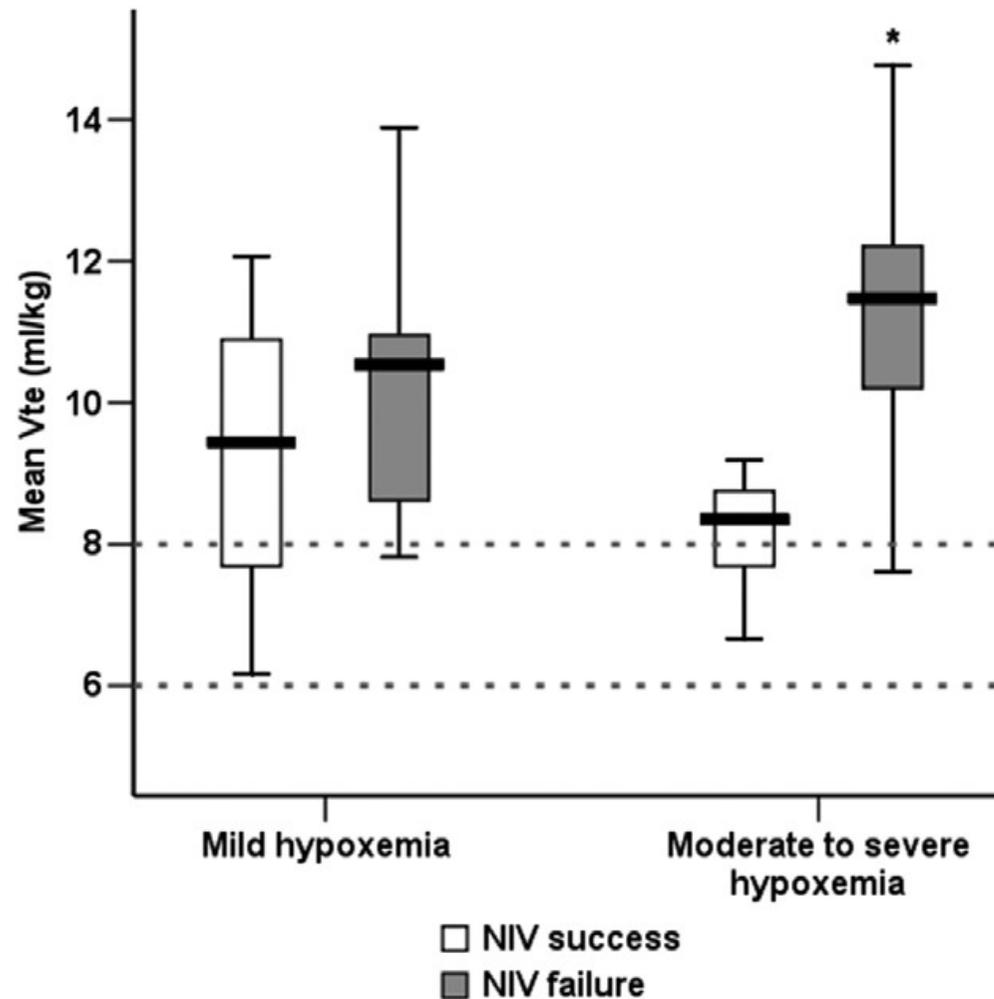
Pourquoi la VNI serait elle délétère ?

Impact du volume courant



Pourquoi la VNI serait elle délétère ?

VT et succès de la VNI



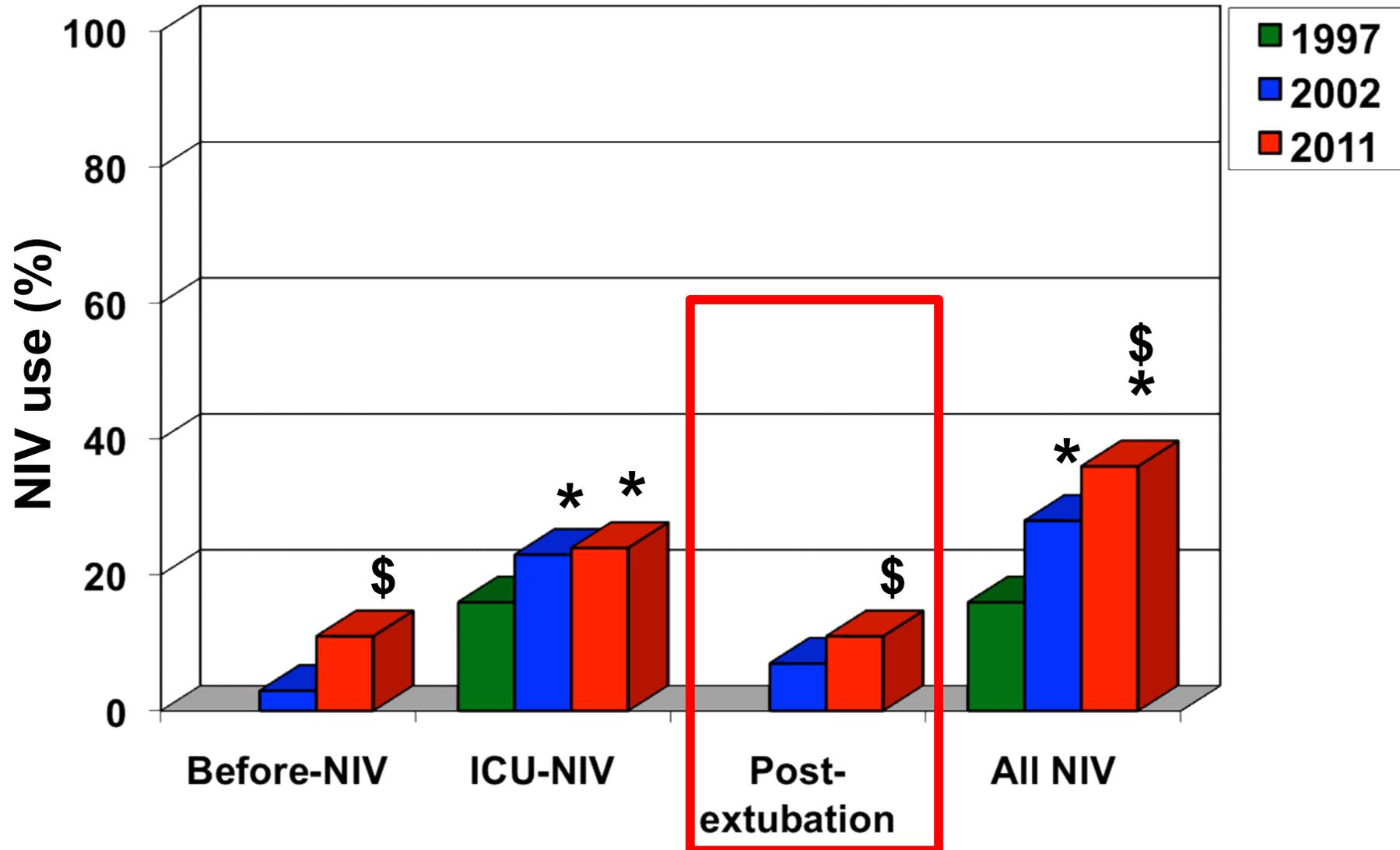
Pourquoi la VNI serait elle délétère ?

VT et mortalité

Risk Factors	Adjusted Hazard Ratio (95% CI) ^a	<i>p</i>
Simplified Acute Physiology Score II (30)	1.024 (1.007–1.041)	0.013
Immunosuppression	1.351 (0.598–3.056)	0.476
Pao ₂ /Fio ₂ before NIV	0.995 (0.989–1.001)	0.109
Mean expired tidal volume during NIV, per mL/kg predicted body weight	1.286 (1.069–1.547)	0.008

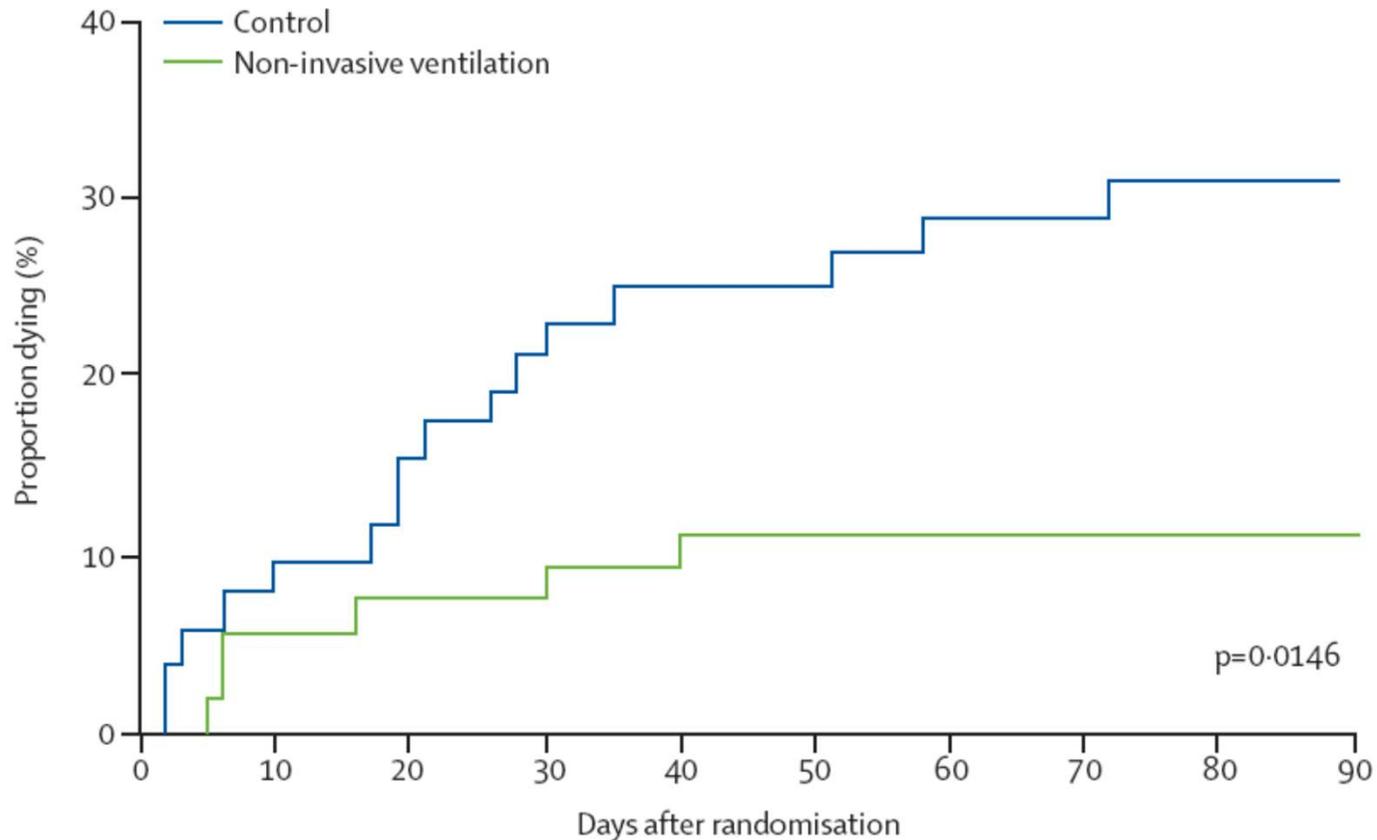
NIV use

Still increasing



post-extubation - prophylactique

PaCO₂ > 45 mmHg



Number at risk

Control	52	47	45	41	40	40	38	38	37	36
Non-invasive ventilation	54	51	50	49	48	48	48	48	48	48

Ferrer et Coll. Lancet 2009

Conclusion

La VNI en 2016

- **indications bien démontrées**
 - *BPCO : toujours des enjeux*
 - *OAP*
- **place dans la stratégie « palliative » ?**
- **indications moins bien montrées**
 - *IRA de novo*
 - *Oxygène humidifié à haut débit ?*
 - *nouvelles études nécessaires ?*
- **VNI prophylactique post-extubation**