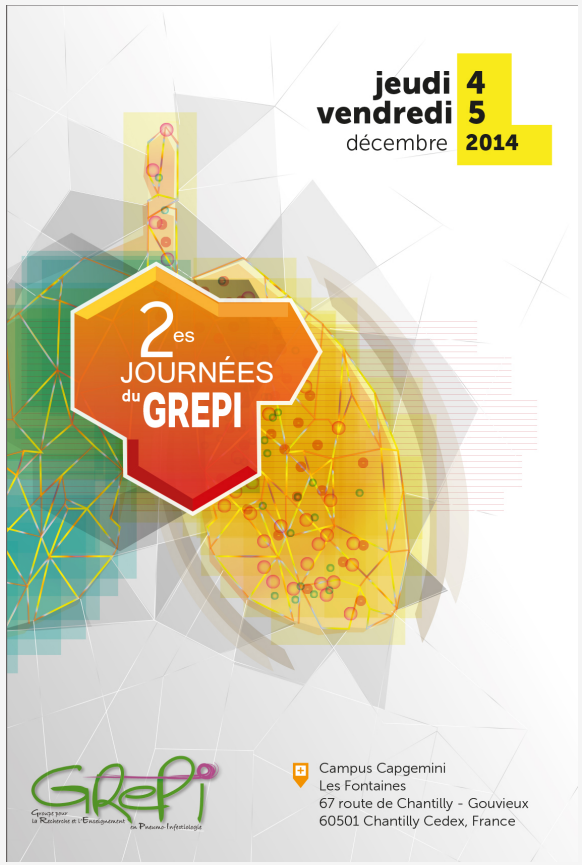

Isolement protecteur

J Robert

Pitié-Salpêtrière

Conflits d'intérêts

- Lien d'intérêt éventuel avec la présentation : néant

Médecine préventive hospitalière

Agranulocytose de longue durée présumée

(500 neutro/mm³ pdt ≥ 10 jours)

Patient	
Chambre	• Dans la mesure des disponibilités : individuelle avec SAS, en pression positive et avec air filtré: Veuillez vous référer au document intitulé " Chambres ou box d'isolement ou de sécurité " qui se trouve dans VDoc sous TEC / CVS / CVC / CVC_Liste_149
Prophylaxie anti-infectieuse sur ordre médical	• Toilette corporelle au Lifo-scrub® 1x/jour • Application de pommade nasale type Batramycine® 4x/jour • Application péri-anale de Bétadine® onguent 2x/jour et après chaque selle Si soins de bouche nécessaires, possibilité d'utiliser par exemple Corsodyl®, Hextril® ou Bucco-Tantum® selon la tolérance du patient
Alimentation	• Régime AGRANULOCYTOSE (ni légumes crus, ni fruits non pelés, ni produits laitiers non pasteurisés, ni viande crue) : veuillez vous adresser à la diététicienne.
Vaisselle	• Distribution et évacuation selon protocole habituel.
Literie	• Changement quotidien.
Plantes en pots et fleurs	• Interdites
Effets personnels	• Journaux, livres et autres objets personnels sont admis et n'ont pas besoin d'être désinfectés avant d'être introduits dans la chambre. • Journaux, livres et autres objets provenant d'autres patients doivent être désinfectés avant d'être introduits dans la chambre.

Matériel de soins	• Privilégier le matériel à usage unique.
	• Dédier le matériel à usage multiple au patient et le désinfecter avant de l'introduire dans la chambre, puis 1x/jour :
	  ◦ Stéthoscope
	  ◦ Manchette à pression
	  ◦ Thermomètre…etc
	• Désinfecter le matériel à usage multiple non dédié et les appareils avant de les introduire dans la chambre.

Dossier médical et infirmier	• Exception faite de la feuille de surveillance, les dossiers sont conservés hors de la chambre.
Transport du patient	• Le patient reste en principe confiné dans sa chambre. Si, pour des nécessités diagnostiques ou thérapeutiques, le patient doit quitter sa chambre, il doit être protégé par un masque ultrafiltrant 3M P2.
Déchets	• Elimination selon recommandations habituelles.
Désinfection des surfaces	• Quotidienne selon protocole standard.

Isolement protecteur ?

ORIGINAL ARTICLE ARCHIVE

A Study of the Value of Simple Protective Isolation in Patients with Granulocytopenia

William M. Nauseef, M.D., and Dennis G. Maki, M.D.

N Engl J Med 1981; 304:448-453 | February 19, 1981 | DOI: 10.1056/NEJM198102193040802

Share:

Abstract

To assess the value of simple protective isolation, we prospectively compared it with standard hospital care in 43 episodes of severe granulocytopenia, most occurring in patients with acute nonlymphocytic leukemia. Sterilized food and prophylactic oral antibiotics were not used. Twenty episodes in 17 patients were randomized to simple protective isolation (437 days), and 23 episodes in 20 patients to standard care (611 days). No statistically significant differences were observed in the overall incidence of infection, time to onset of first infection, or days with fever. Twenty-seven infections occurred in recipients of standard care (4.42 per 100 days), and 28 infections in isolated patients (6.41 per 100 days). Except for a threefold higher rate of bacteremia in patients in isolation (2.06 vs. 0.65 per 100 days), the profile of infection was similar in the two groups. Neither response to antileukemic therapy nor survival was improved by isolation. We conclude that protective isolation alone, as practiced in most hospitals, appears not to benefit granulocytopenic patients. (N Engl J Med. 1981; 304:448–53.)

MEDIA IN THIS ARTICLE

TABLE 1

Characteristics of 37 Study Patients with Granulocytopenia.

TABLE 2

Infection in Patients with Granulocytopenia.

Is there still an indication for nursing patients with prolonged neutropenia in protective isolation?
An evidence-based nursing and medical study of 4 years experience for nursing patients with neutropenia without isolation

Arno Mank, Hans van der Lelie

European Journal of Oncology Nursing 7 (1), 17–23
doi:10.1054/ejon.2002.0216

Table 1 Main factors *starting isolation* reported by respondents in International Inventory of Transplant Centre Guidelines, *n* = 101

Factor	No. of centres
Start chemotherapy	59
Leucocytes $< 0.5 \times 10^9/l$	20
No isolation	1
Other reasons	19
No response	2

Table 2 Main factors *stopping isolation* reported by respondents in International Inventory of Transplant Centre Guidelines, *n* = 101

Factor	No of centres
Leucocytes $> 1.0 \times 10^9/l$	43
Leucocytes $> 0.8 \times 10^9/l$	6
Granulocytes $> 0.5 \times 10^9/l$	22
With discharge	5
Other reasons	24
No response	1

Table 3 Patient data: pre-isolation (1992–1994) versus post-isolation (1995–1998)

	AML		TRANSPLANT	
	1992–1994 Pre-isolation	1995–1998 Post-isolation	1992–1994 Pre-isolation	1995–1998 Post-isolation
Baseline characteristics				
No. of patients	44	37	34	63
No. of episodes	134	85	—	—
Episodes per patient (range)	1–5	1–6	—	—
Male/female	22/22	22/15	25/9	35/28
Age in years, median (range)	51.4 (19–80)	52.2 (32–70)	33.4 (15–57)	43.2 (17–65)
Duration of hospital stay (days), median (range)	29 (15–60)	33 (20–73)	30 (16–112)	31 (18–102)
Neutropenia				
Days granulocytes $<0.1 \times 10^9$/l, median (range)	19 (7–75)	18 (9–44)	14.5 (6–29)	14 (6–55)
Days granulocytes $<0.5 \times 10^9$/l, median (range)	22 (9–75)	22 (12–57)	20 (7–54)	18 (11–107)
Fever and antibiotics				
Episodes with fever (days), (% of total episodes)	107 (82.1%)	66 (78.0%)	24 (70.6%)	44 (69.8%)
Days with fever, median (range)	8 (0–31)	7 (0–45)	6 (0–44)	4 (0–30)
Days until syst. antibiotics, median (range)	13 (0–35)	13 (0–28)	8 (0–18)	9 (0–20)
Days on syst. antibiotics, median (range)	12 (0–60)	12 (0–60)	10 (0–32)	10 (0–71)
Episodes without any syst. antibiotics (% of total episodes)	40 (29.9%)	26 (30.6%)	11 (32.4%)	29 (46.0%)
Episodes with i.v. Amfo-B (% of total episodes)	15 (11.2%)	10 (11.8%)	3 (8.8%)	4 (6.4%)
Infections				
Episodes with documented infection (%)	53 (39.5%)	22 (25.8%)	8 (23.5%)	15 (23.8%)
Episodes with central venous catheter infection (%)	40 (30.8%)	12 (15.3%)	5 (14.7%)	12 (19.1%)
Episodes with positive blood culture (%)	13 (9.8%)	10 (11.8%)	3 (8.8%)	3 (4.7%)
Episodes with major clinical documented infection (%)	15 (11.2%)	17 (20.0%)	7 (20.6%)	5 (7.9%)
Patients died of infection	9 (20.5%)	2 (2.4%)	3 (8.8%)	3 (4.8%)

Menu proposé

- Qui fait ? Pour qui ?
- Qu'est ce que c'est ?
- Y a t-il des mesures associées ?
- Pour qui ?

Isolement protecteur

- Mesures environnementales / architecturales
- Mesures de protection individuelle (personnel de soins)
- Mesures pour le malade
- Mesures associées

Isolement protecteur

- Pour qui ?
  - Hématologie
    - Greffe autologue
    - Greffe hétérologue
  - Greffés organes solides
    - Tous
    - Certains
  - Cancer avec chimiothérapie
    - Aplasie ou non
    - Durée
  - Autres
    - Corticoides
    - Cirrhose sévère …

Rôle des chambre avec filtres HEPA

The Influence of High-Efficiency Particulate Air Filtration on Mortality and Fungal Infection among Highly Immunosuppressed Patients: A Systematic Review

Tim Eckmanns,[1] Henning Rüden,[1] and Petra Gastmeier[2]

[1]Institute of Hygiene and Environmental Medicine, Charité–University Medicine Berlin, Berlin, and [2]Institute of Microbiology and Hospital Hygiene, Medical University Hanover, Hanover, Germany

Rôle des chambre avec filtres HEPA

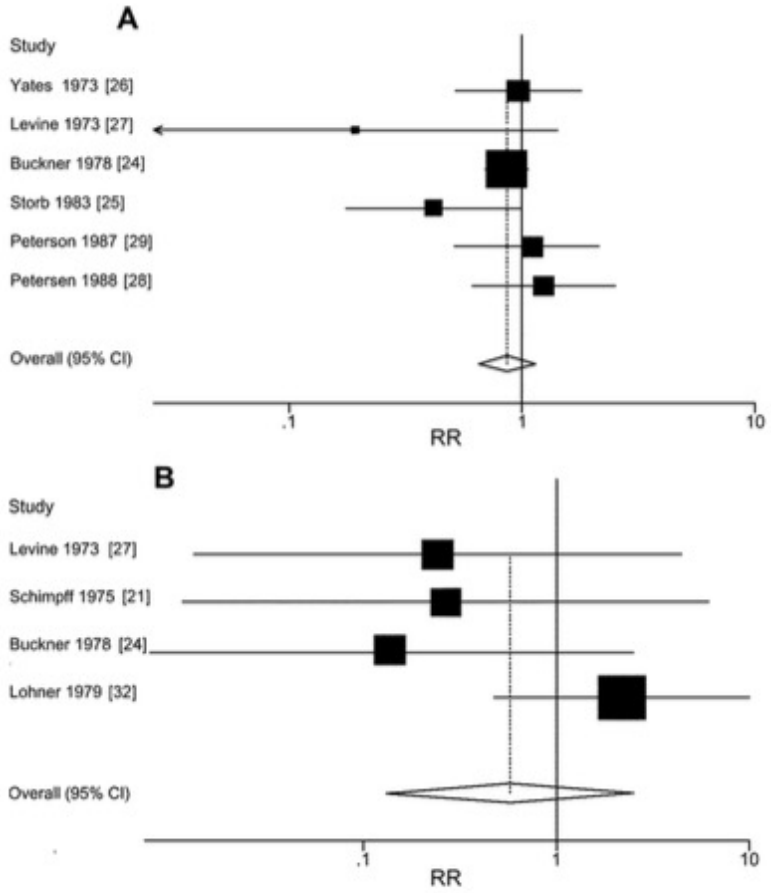

Figure 2. Forrest plot of relative risks (RRs) and 95% confidence intervals (CIs) for mortality *(A)* in 6 randomized controlled trials (RCTs) of air filtration and for fungal infection *(B)* in 4 RCTs of air filtration.

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Brief report

Effectiveness of a Protective Environment implementation for cancer patients with chemotherapy-induced neutropenia on fever and mortality incidence

Paula Stoll Pharm, MSc [a,*], Lúcia Mariano da Rocha Silla MD, PhD [b], Caroline Mioto Menegat Cola BS [c], Bruno Ismail Splitt BS [c], Leila Beltrami Moreira MD, PhD [d]

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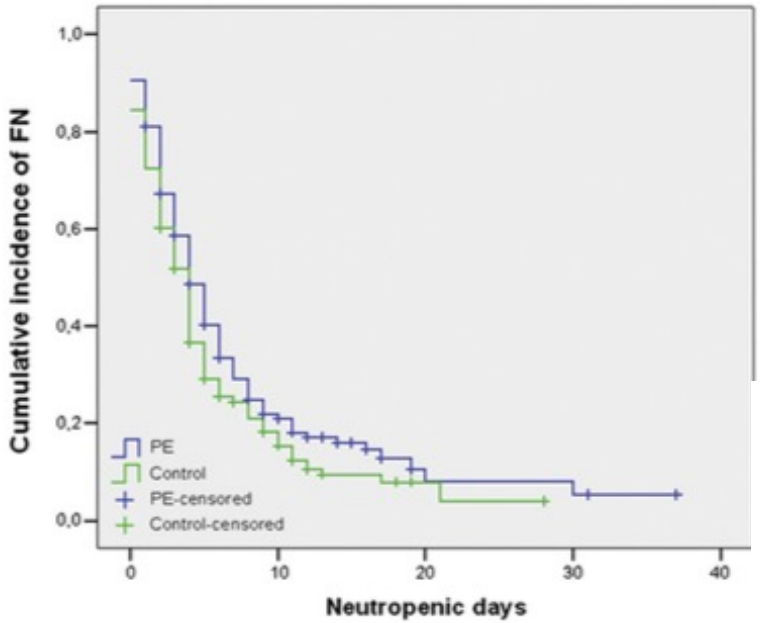


ig 1. Kaplan-Meier curves for febrile neutropenia (FN) incidence in protective e onment (PE) and control groups (log-rank test, $P = .045$).

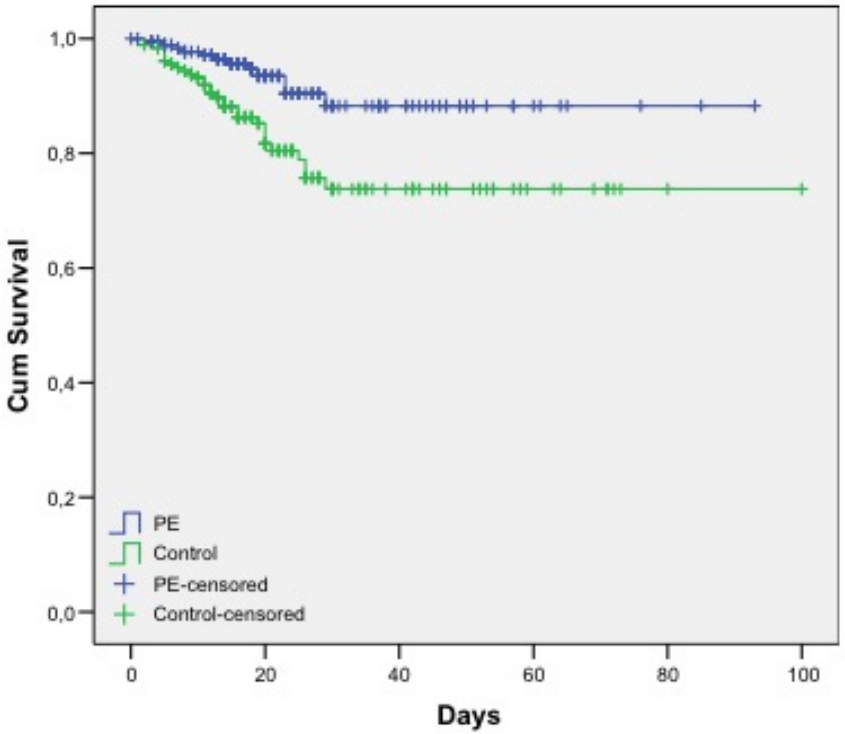


Fig 2. Kaplan-Meier curves for 30-day mortality in protective environment (PE) and control groups (log-rank test, $P = .003$).

Infection-control interventions for cancer patients after chemotherapy: a systematic review and meta-analysis

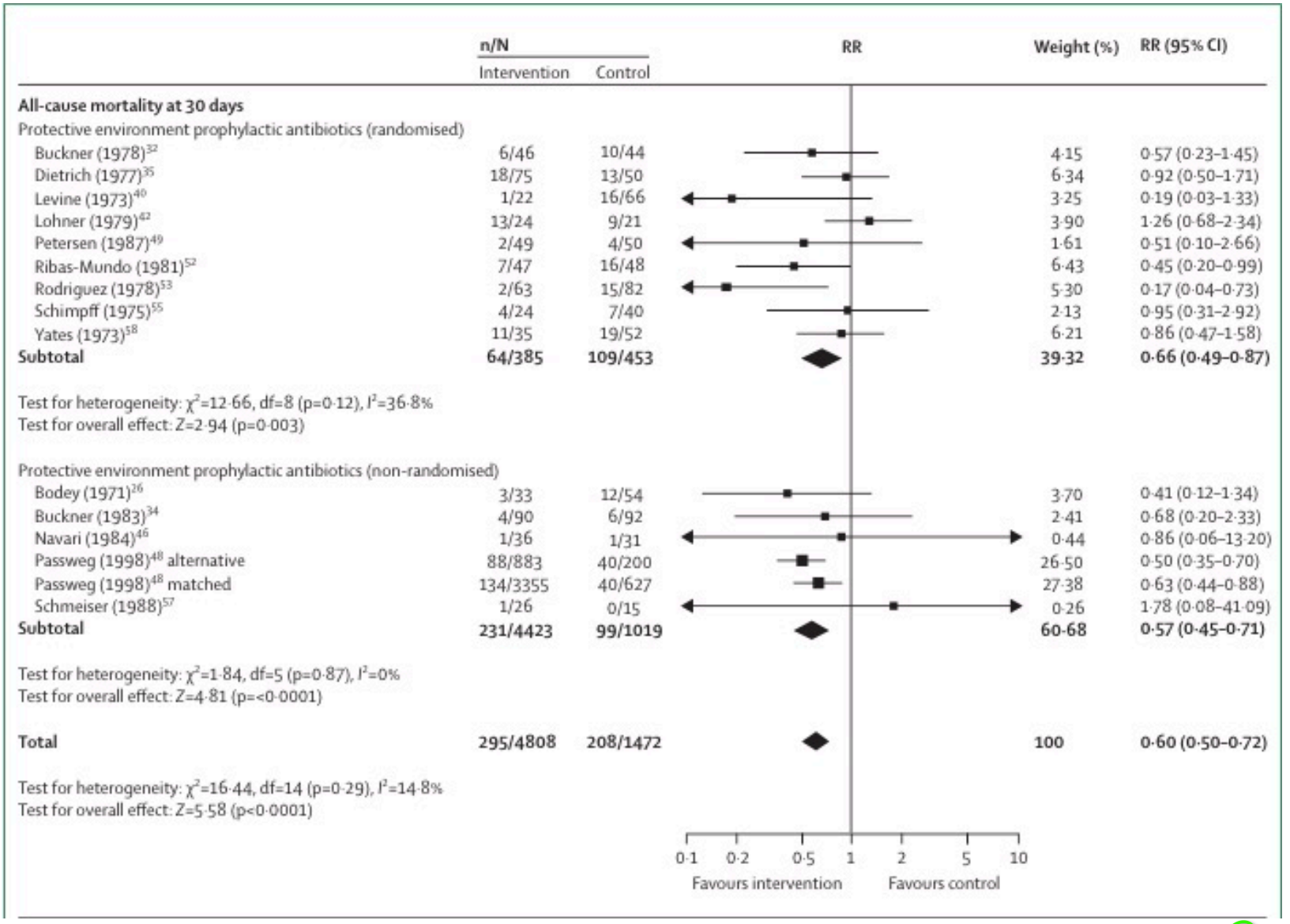
Agata Schlesinger, Mical Paul, Anat Gafter-Gvili, Bina Rubinovitch, Leonard Leibovici

To quantify the evidence for infection-control interventions among high-risk cancer patients and haematopoietic stem-cell recipients, we did a systematic review of prospective comparative studies. Protective isolation, including air quality control, prophylactic antibiotics, and barrier isolation (29 studies), brought about a significant reduction in all-cause mortality: risk ratio 0·60 (95% CI 0·50–0·72) at 30 days (number needed to treat [NNT] 20 [95% CI 14–33]) and 0·86 (95% CI 0·81–0·91) at the longest follow-up (up to 3 years; NNT 12 [95% CI 9–20]). Inclusion of prophylactic antibiotics in the intervention was necessary to show the effect on mortality. The combined intervention reduced bacteraemia, and Gram-negative, Gram-positive, and *Candida* spp infections. Mould infections were not significantly reduced. 11 non-randomised prospective studies assessed inpatient versus outpatient management after autologous stem-cell transplantation. All-cause mortality was lower among outpatients: risk ratio 0·72 [95% CI 0·55–0·95]. We conclude that prophylactic antibiotics are the most effective treatment within the protective environment. Randomised trials on outpatient management of haematological cancer patients are needed.

Lancet Infect Dis 2009; 9: 97–107

Published Online December 17, 2008 DOI:10.1016/S1473-3099(08)70284-6

Department of Medicine E (A Schlesinger MD, M Paul MD, Prof L Leibovici MD), **Unit of Infectious Diseases** (M Paul), **Department of Hematology** (A Gafter-Gvili MD), **and Unit of Infection Control**


n/N
Intervention
Control
RR
Weight (%)
RR (95% CI)
All-cause mortality at 30 days
Protective environment prophylactic antibiotics (randomised)
Buckner (1978)[32] 6/46 10/44 4·15 0·57 (0·23–1·45)
Dietrich (1977)[35] 18/75 13/50 6·34 0·92 (0·50–1·71)
Levine (1973)[40] 1/22 16/66 3·25 0·19 (0·03–1·33)
Lohner (1979)[42] 13/24 9/21 3·90 1·26 (0·68–2·34)
Petersen (1987)[49] 2/49 4/50 1·61 0·51 (0·10–2·66)
Ribas-Mundo (1981)[52] 7/47 16/48 6·43 0·45 (0·20–0·99)
Rodriguez (1978)[53] 2/63 15/82 5·30 0·17 (0·04–0·73)
Schimpff (1975)[55] 4/24 7/40 2·13 0·95 (0·31–2·92)
Yates (1973)[58] 11/35 19/52 6·21 0·86 (0·47–1·58)
Subtotal 64/385 109/453 39·32 0·66 (0·49–0·87)
Test for heterogeneity: χ^2=12·66, df=8 (p=0·12), I^2=36·8%
Test for overall effect: Z=2·94 (p=0·003)
Protective environment prophylactic antibiotics (non-randomised)
Bodey (1971)[26] 3/33 12/54 3·70 0·41 (0·12–1·34)
Buckner (1983)[34] 4/90 6/92 2·41 0·68 (0·20–2·33)
Navari (1984)[46] 1/36 1/31 0·44 0·86 (0·06–13·20)
Passweg (1998)[48] alternative 88/883 40/200 26·50 0·50 (0·35–0·70)
Passweg (1998)[48] matched 134/3355 40/627 27·38 0·63 (0·44–0·88)
Schmeiser (1988)[57] 1/26 0/15 0·26 1·78 (0·08–41·09)
Subtotal 231/4423 99/1019 60·68 0·57 (0·45–0·71)
Test for heterogeneity: χ^2=1·84, df=5 (p=0·87), I^2=0%
Test for overall effect: Z=4·81 (p=<0·0001)
Total 295/4808 208/1472 100 0·60 (0·50–0·72)
Test for heterogeneity: χ^2=16·44, df=14 (p=0·29), I^2=14·8%
Test for overall effect: Z=5·58 (p<0·0001)
0·1 0·2 0·5 1 2 5 10
Favours intervention
Favours control

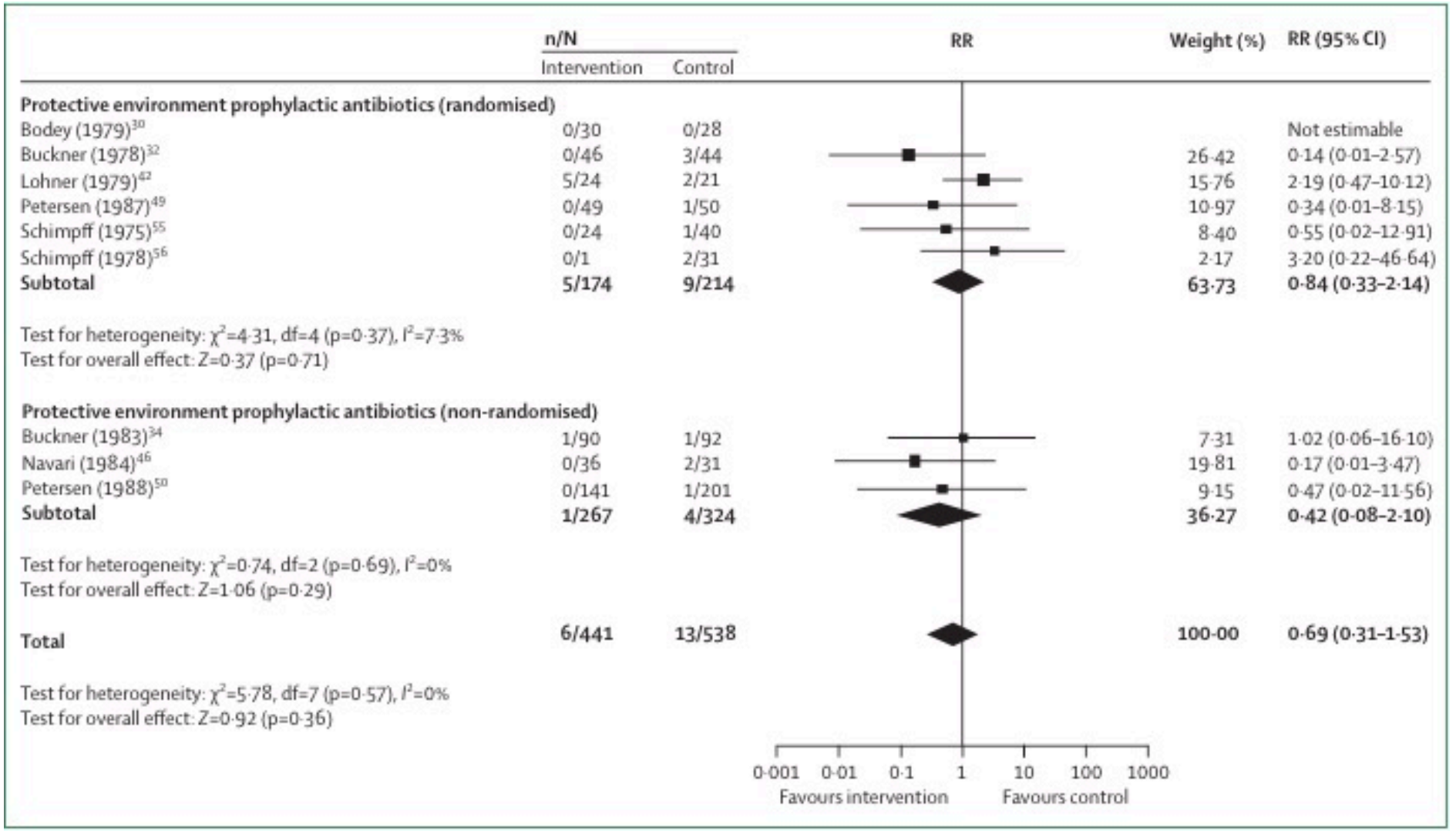


Figure 3: **Infections caused by moulds in studies assessing protective isolation, all with air quality control (including air filtration)**
Fixed-effects methods were used for all analyses. RR=risk ratio.

	Study location	Study years	Study design	Interventions assessed	Follow-up duration	Patients (n)	Underlying malignancy	Age (years)	Antibacteral/ antifungal prophylaxis	Outcomes	Conclusions
Sugahara[71]	Osaka University, Osaka, Japan	1997–2003	Historically controlled	1: no footwear exchange for staff and visitors. 2: footwear exchange. All patients hospitalised in HEPA filtered room with LAF; staff, and patients' families wore face masks	~50 days	112	Acute leukaemia, lymphoma, MM	Range 14–84	Oral polymyxin B, cotrimoxazole, oral amphotericin B or azole	No footwear exchange *vs* footwear exchange: any infection, 27·2 *vs* 28·5 infections per 1000 patients days; bacteraemia, 10/54 *vs* 17/58 patients; respiratory infections, 7/54 *vs* 6/58 patients; *Candida* sp infections, 0/54 *vs* 1/58 patients; mould infections, 2/54 *vs* 1/58 patients	Footwear exchange has no effect on infections rates

Masque pour le malade en dehors de sa chambre

original article

Annals of Oncology 20: 1560–1564, 2009
doi:10.1093/annonc/mdp034
Published online 18 May 2009

A prospective, randomised study on the use of well-fitting masks for prevention of invasive aspergillosis in high-risk patients

G. Maschmeyer[1]*, S. Neuburger[2], L. Fritz[1], A. Böhme[3], O. Penack[4], R. Schwerdtfeger[5], D. Buchheidt[6] & W.-D. Ludwig[7] on behalf of the Infectious Diseases Working Party (AGIHO) of the German Society of Haematology and Oncology

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Masque pour le malade en dehors de sa chambre