

Bulletin de veille émissions d'aérosols par l'appareil respiratoire humain N° 27 – Février 2026

Objectifs : veille scientifique sur les émissions d'aérosols (gaz et particules) par l'appareil respiratoire humain (nez/bouche).

La validation des informations fournies (exactitude, fiabilité, pertinence par rapport aux principes de prévention, etc.) est du ressort des auteurs des articles signalés dans la veille. Les informations ne sont pas le reflet de la position de l'INRS. Les éléments issus de cette veille sont fournis sans garantie d'exhaustivité.

Les liens mentionnés dans le bulletin donnent accès aux documents sous réserve d'un abonnement à la ressource.

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Barkoci P, D'Costa W, Verlander NQ, Yaxley N, Moore G.

Assessing the generation and dispersal of respiratory particles using upper respiratory commensal bacteria as index organisms for respiratory pathogens.

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There is a need to better understand the dispersal and spread of respiratory pathogens. However, carrying out controlled microbiology-based simulation studies is difficult, particularly if the target organism is highly pathogenic or is currently unknown. An alternative approach is to use commensal upper respiratory tract (URT) bacteria as index organisms. Healthy volunteers were asked to perform defined respiratory activities within a purpose-built flexible-film isolator. The dispersal of large (L-RPs) and small respiratory particles (S-RPs) was assessed via passive (settle plates) and active air sampling, respectively. Activities were carried out with or without a face covering. Dispersal of respiratory particles differed with individual. During speech, increased vocal volume was associated with a significant increase in the number of URT bacteria deposited as L-RPs and captured by air samplers (S-RPs). Disposable (IIR) medical face masks significantly reduced deposition of L-RPs and reduced the odds of recovering higher numbers of S-RPs by 87% (CI: 63%, 96%). Transparent face coverings were as effective as (IIR) face masks, but face shields had limited efficacy, particularly when worn by individuals who dispersed high numbers of RPs. Commensal URT bacteria can be used to study the risk of respiratory transmission in the absence of the target pathogen.