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# Lung transplant in people with cystic fibrosis and nontuberculous mycobacteria infection.

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### Study design (if review, criteria of inclusion for studies)

nonâ€•randomised studies of pwCF (any age) with or without NTM lung infection or disease being considered for LTx as well as studies of pwCF and NTM who either did or did not undergo LTx.

### Participants

patiens with CF (any age) with or without NTM lung infection or disease being considered for LTx

### Interventions

NTM lung infection or disease; lung transplantation

### Outcome measures

Critical outcomes were mortality, disseminated NTM infection postâ€•LTx, time to chronic lung allograft dysfunction (CLAD), and quality of life at any time points reported; lung function, hospitalisations for pulmonary exacerbations, and nutritional parameters

### Main results

We analysed all NTM infections together for practical reasons and were not able to undertake a planned subgroup analysis by subspecies, but acknowledge that the prognosis and clinical trajectory of pwCF infected with different NTM may not be similar. We downgraded the certainty of the evidence due to nonâ€•randomised study design and serious risk of bias across all studies. We assessed all identified evidence as of very low certainty, such that lung transplant may have little to no effect on any of the outcomes listed below, but the evidence is very uncertain. Mortality Two studies (18 participants with NTM) reported similar survival data between NTMâ€•positive LTx recipients and matched controls without NTM. Another study (9 participants) reported that two of five participants NTMâ€•positive at LTx died within a few months postâ€•LTx, whilst one of four NTMâ€•negative participants died three years postâ€•LTx due to chronic rejection. One study (177 participants) found that pwCF who had positive NTM cultures preâ€•LTx had a longer median survival duration than those who had negative cultures. This study additionally reported on survival of participants with postâ€•LTx NTM infection, finding that the five participants who had postâ€•LTx NTM disease had a longer mean survival duration than the 141 participants without postâ€•LTx NTM disease. Disseminated NTM infection postâ€•LTx In the largest study, of the 18 pwCF with NTM at the time of LTx, seven had at least one positive NTM culture, and four developed NTM disease postâ€•LTx. Conversely, 79 of the 89 pwCF without NTM remained so postâ€•LTx; 10 participants recorded a positive NTM culture, but none developed NTM disease. For the 39 participants without a baseline NTM culture, three participants recorded positive NTM cultures postâ€•LTx, and one developed NTM disease. Of the remaining small studies, one reported that NTM was isolated in four of 13 participants at LTx and in three of these postâ€•LTx. A second study reported that one out of five pwCF had NTM infection postâ€•LTx (all were positive at LTx). The third study reported that five out of nine participants had NTM disease at LTx, and two of these five remained NTMâ€•positive postâ€•LTx. CLAD Two studies assessed CLAD. One study reported that none of the five NTMâ€•positive LTx recipients developed CLAD, stating that the risk of CLAD appeared to be similar between the NTM and the comparator group. The second study stated that three out of nine LTx recipients with NTM disease developed chronic rejection or graft dysfunction.

### Authors' conclusions

There are no randomised trials to guide clinicians and patients or their families when making decisions regarding LTx in pwCF with NTM. The available data come from observational studies and registry data, often with few people with NTM reported. It has not been possible to pool the available data in metaâ€•analysis, and we are very uncertain of the effect of NTM on pwCF undergoing LTx on the risk of developing NTM disease postâ€•LTx, survival after LTx, and the development of CLAD. The studies were small and at times contradictory. In the era of highly effective modulator treatments, as some centres do not offer LTx to people with a history of NTM, there is an urgent need for more data to guide decisionâ€•making.

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### See also

Safavi S, Smith S, Jahnke N, Stewart I, Watson SA, Prayle AP, Smyth AR, Cochrane Cystic Fibrosis . Lung transplant in people with cystic fibrosis and nontuberculous mycobacteria infection. Cochrane Database of Systematic Reviews 2026, Issue 4. Art. No.: CD016200. DOI: 10.1002/14651858.CD016200. Accessed 03 May 2026.

### Keywords

Adult; Aged; Bacterial Infections; Infection; Mycobacteriosis; pharmacological_intervention; Respiratory Tract Diseases; Respiratory Tract Infections; Anti-Bacterial Agents; Lung Transplantation; non pharmacological intervention - surg; Respiratory Insufficiency; transplantation;