

Using lungs from increased-risk donors expands donor pool, maintains current survival rates

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Carli Lehr, M.D., M.S. Credit: Cleveland Clinic

Cleveland Clinic researchers have found that using lungs from donors who are considered high risk for certain infectious diseases compared to standard risk donors results in similar one-year survival for recipients. In addition, researchers saw no difference in rejection or graft (donor lung) survival after one year in patients receiving lungs from increased-risk donors.

The study was published recently in the *Journal of Thoracic and Cardiovascular Surgery*.

In 2013, the proportion of non-standard risk-[lung](#) donors increased as the U.S. Public Health Service expanded the definition of what it means to be a "high risk" donor. The definition broadened the designation to include more organs in this category and changed the name to "increased risk" donors. The designation is used to identify risky donor behavior with the goal of reducing the transmission of HIV, hepatitis B, and hepatitis C. All organs considered for transplant are tested for infectious disease, but there is a very small possibility of an infection not showing up upon early initial testing because the immune system has not produced enough antibodies yet to be detected.

Increased risk behaviors include activities like non-medical intravenous drug use and sexual contact with a person known or suspected to have HIV, hepatitis B or hepatitis C infections. The broadened definition also encompasses donors whose medical or behavioral history cannot be obtained. Prior to the changes, about 8% of organs were considered "high risk;" after the changes, about 22% were considered "increased risk."

During the study, researchers looked at a total of 18,490 patients, with 64% transplanted during the high-risk-designation period and 36% during the increased-risk period. Researchers found no statistically significant differences in survival, acute rejection that was treated or organ survival for those receiving either increased risk or high-risk donor organs compared to those with standard-risk organs. This study did not look at recipients who accepted organs known to have hepatitis C, which, with new treatment options for the infection, is becoming more common.

Researchers worry the broadened definition has the potential to narrow

the donor pool, because [transplant candidates](#) often refuse organs from increased risk donors. Transplant candidates must consent to use a non-standard-risk organ, and studies have shown up to 78% of waitlist candidates refuse an offer from an increased-risk donor. Due to organ shortages, approximately 10% of U.S. lung transplant candidates die on the waiting list every year.

"Our findings raise the question of the utility of the designation of 'increased risk' for [donor](#) lungs, since there is no impact on outcomes," said Carli Lehr, M.D., M.S., a transplant pulmonologist at Cleveland Clinic and lead author of the study. "Forgoing the designation, treating all donors as potentially at risk, and using appropriate post-transplant screening for [infectious diseases](#) may increase overall organ utilization and lessen deaths on the waitlist."

Currently, there about 1,450 people waiting for a lung [transplant](#) in the United States.

More information: Carli J. Lehr et al. THE IMPACT OF CHANGE IN DEFINITION OF INCREASED RISK DONORS ON SURVIVAL AFTER LUNG TRANSPLANT, *The Journal of Thoracic and Cardiovascular Surgery* (2019). [DOI: 10.1016/j.jtcvs.2019.10.154](https://doi.org/10.1016/j.jtcvs.2019.10.154)

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