

Lung Allocation Score System Information for Transplant Professionals

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Effective in the Spring of 2005, U.S. lung allocation policy will change significantly. The new system prioritizes lung transplant candidates for lung offers by assigning them a lung allocation score. This score is based on each patient's individual medical information. It reflects both the seriousness of each patient's medical condition before transplant and his or her likelihood of success after a transplant.

What is the new lung allocation system?

At its June 2004 meeting, the OPTN/UNOS Board of Directors approved a groundbreaking revision to lung allocation policy. The new policy will prioritize lung transplant candidates for lung offers based on an estimate of each candidate's medical urgency prior to transplant and his or her probability of success following a transplant. This method is based on the concept of "net transplant benefit," and will allow those candidates who are most urgently in need of a transplant and who are expected to receive the greatest benefit from the transplant to receive priority for lung offers.

The new lung allocation system uses clinical diagnostic information from individual lung transplant candidates ages 12 and older to prioritize them for lung offers. This information includes lab values, test results, and disease diagnosis. The system uses this information in a complex formula that estimates candidates' medical urgency and their probability of prolonged survival following a transplant. These results are then combined to calculate a *lung allocation score*, ranging from 0 to 100, for each candidate. Candidates for lung offers will then be prioritized in descending order of their *lung allocation score*.

Why change the allocation system?

The new lung allocation system was designed to more effectively use the limited number of available donor lungs among transplant candidates. The OPTN designed this system by studying scientific data on lung transplantation and by drawing on prior experience with many patients. By prioritizing candidates according to their medical characteristics instead of their waiting time, lungs will be transplanted first to patients who most urgently need them and who will have the greatest chance of success after their transplant.

How is waiting time counted in the new system?

In the new system, waiting time is not considered when allocating lungs to transplant candidates age 12 and older. These candidates will be prioritized for lung offers based on their lung allocation score.

Transplant candidates under age 12 will continue to receive priority for lung offers based on the amount of time they have waited for a lung transplant.

Each transplant candidate's lung allocation score is calculated from the following diagnostic information:

- **Forced Vital Capacity**
- **PA Systolic**
- **O2 at rest**
- **Age**
- **Body Mass Index**
- **Insulin dependent diabetes**
- **Functional status – (NYHA Class)**
- **6-minute walk distance**
- **Ventilator use**
- **Pulmonary Capillary Wedge Pressure**
- **Creatinine**
- **Diagnosis****

** Research has shown that medical urgency prior to transplant and survival following transplant vary among patients with different lung diseases. Therefore, for every patient, diagnosis factors into the calculation of their lung allocation score.

How are new candidates registered on the system?

When it is time to register lung transplant candidates, they will need to have a complete transplant workup that includes tests and labs for the values listed (see chart). Those values will then be entered into UNetSM, the secure, Internet-based system for organ allocation and data collection. All required data fields must be completed for candidates to receive *lung allocation scores*. If data are unavailable, the transplant center may request that an estimated value be used instead that represents the transplant physician's best judgment of what that value should be.

Any required data fields that are not filled with an actual value—or an approved estimated value—will be considered incomplete. UNetSM will automatically fill any incomplete data fields with a pre-determined value that will result in the lowest contribution to the overall *lung allocation score* for that data field. This "least beneficial value" may result in a lower *lung allocation score* for the candidate than if the actual value had been entered. The "least beneficial value" will remain in place until the transplant center enters an actual value, or until an estimated value is approved by the Lung Review Board and entered.

How do candidates who are already registered get lung allocation scores?

Candidates who are currently registered for lung transplantation should be evaluated to determine if they should remain active candidates. If so, then those candidates will need to have their diagnostic information updated on UNetSM **by the date that the new lung allocation system begins.**

IMPORTANT: All registered candidates, who need to receive a lung allocation score, must have ALL required diagnostic information updated and completed on UNetSM when the new system begins, or they will receive a lung allocation score of zero, the lowest possible score.

Transplant centers will be given six months notice before the new system takes effect so that they may evaluate patients and enter the most current diagnostic information on UNetSM. During this transition period, centers will need to work with patients to schedule visits and update their diagnostic information.

How often must candidate data be updated on UNetSM?

Because the lung allocation system will determine priority for lung offers based on each candidate's diagnostic information, it is important that the most current information and test results are entered on UNetSM. The transplant center may update a candidate's diagnostic information on the system at any time to reflect a change in disease severity.

Transplant centers will be required to update each candidate's information at least once every six months. Each diagnostic variable must have a certification date within six months of the last date on record, or that patient's diagnostic information will be considered incomplete, and a "least beneficial score" will be assigned for each incomplete variable. Transplant centers will receive an alert on UNetSM for those candidates whose diagnostic variables are nearing the six-month expiration date.

Transplant centers will need to work with registered candidates to set up a schedule for visits that will allow their information to be kept up to date.

What if a candidate cannot perform a test to provide the information?

Most of the clinical information that is needed to calculate the lung allocation score comes from diagnostic tests, medical procedures, and lab values. If the transplant physician determines that a patient should not perform tests or undergo procedures because of the severity of his or her condition, then the transplant center may request that an estimated value, representing the physician's best estimate of that unobtainable value, be used instead.

All estimated values must be reviewed and approved by the Lung Review Board before they may be entered on UNetSM.

What if the listing center's UNetSM access is down?

Candidate information will be updated immediately as it is entered on the UNetSM system. If the listing center is temporarily unable to access UNetSM, then the center should call the UNOS Help Desk at 1-800-978-4334. If it is outside normal working hours, the center should call the Organ Center at 1-800-292-9537.

How are pediatric candidates prioritized for lung offers?

All candidates age 12 and older will receive a lung allocation score. Matching lungs to young patients under age 12 offers unique challenges. For this reason, pediatric candidates under age 12 will continue to be prioritized for lung offers based on the amount of time they have spent waiting for a lung transplant.

Allocation of lungs from donors under age 12, ages 12-17, and 18 and older, to transplant candidates will be prioritized as follows:

	Donor Age <12	Donor Age 12-17	Donor Age 18+
1 st priority recipient	Age <12	Age 12-17	Age 12+
2 nd priority recipient	Age 12-17	Age <12	Age <12
3 rd priority recipient	Age 18+	Age 18+	

What if a patient has an exceptional case that is not reflected by the *lung allocation score*?

If the transplant physician or surgeon believes a candidate is an exceptional case whose needs are not being met by the lung allocation system, then the transplant center will have the option to appeal that case to the Lung Review Board. The Lung Review Board will promptly consider the special circumstances of the case and determine what steps to take. In addition, estimated values entered for patients with unobtainable diagnostic variables will require approval by the Lung Review Board.

The Lung Review Board will be operational approximately one month prior to the date that the new system will go into effect so that estimated variables may be reviewed. Transplant centers will receive notice when the Lung Review Board is ready to begin reviewing cases.

How high must a candidate's *lung allocation score* be before he or she might receive a lung offer?

There is no specific *lung allocation score* that will guarantee that a candidate receives an offer for donor lungs. When donor lungs become available, a match run list is created to match the lungs with suitable candidates by blood type, and distance from the donor hospital to their transplant center. Candidates registered at transplant centers in the local area around the donor hospital and having a blood type that matches the donor are then prioritized by their *lung allocation scores*. The candidate with the highest *lung allocation score* at that time will receive first priority to be offered the donor lungs. If no appropriate recipient is found among these closest candidates, potential recipients at greater distances from the donor hospital are then offered the lungs.

The physician and surgeon at the transplant center will always have the discretion to decide whether a lung transplant is the right choice for the patient at that time and whether the particular lungs being offered are right for the patient.

Upon implementation, there will be no anticipated changes to the geographic zones used in thoracic organ allocation.

When will the new system take effect?

The new system will take effect in Spring 2005. Before it begins, it will need to be programmed on UNetSM. Then, six months before the new system begins, transplant centers will be notified so they may examine patients and enter their diagnostic information on UNetSM.

What does this mean to me?

You will need to track your patients closely to keep their clinical information current in UNetSM so they may receive a *lung allocation score* that accurately reflects their condition. To do this, you will need to track data certification dates and work closely with patients to establish a visit schedule so that candidates can be tested and their data updated every six months.

In addition, you will need to be knowledgeable about the features of the lung allocation system so that you may explain it to your patients and answer their questions.

How do I explain this new system to my patients?

In addition to this pamphlet, UNOS has produced a patient brochure, "Answers to Your Questions About the Change in Lung Allocation Policy/Information for Patients and Their Families." If your center has not already received a supply, send an email to unoscommunications@unos.org

Will the system change again?

As transplant professionals apply this system and learn from it, some changes will likely be required to better meet patients' needs. This system is designed to be flexible and allow improvements, and it will be monitored closely after implementation so that necessary changes can be identified and adopted as more data are collected. Every six months, the required clinical diagnostic factors will be re-evaluated, and adjustments may be made to the way lung allocation scores are calculated.

What if I have more questions?

Additional details about OPTN, UNOS, allocation policy, and informational resources are available on the following Web sites:

www.optn.org • www.unos.org • www.transplantliving.org