

## LAS: information for professionals

On April 22, 2014, LAS has been implemented for the allocation of donor lungs from the Netherlands. Previously, on December 10, 2011, Eurotransplant had already implemented the Lung Allocation Score (LAS) for the allocation of donor lungs from Germany and for the international exchange of donor lungs from all countries.

The LAS system was implemented in the United States in 2005 for allocating lung allografts. According to this allocation policy, the patient with the highest LAS will be the first one to receive the lung offer. The score is constructed from estimates of each candidate's medical urgency prior to transplantation and the probability of success after transplantation. Since the system is based on a 'net benefit' concept it will give priority to candidates who are urgently in need of a transplant and who are expected to have a good outcome of the transplant.

### International exchange

The Eurotransplant Thoracic Advisory Committee (EThAC) has decided that the international exchange of lung donors will be done according to LAS. This implies the following:

In the lung allocation scheme, patients with a high LAS and from a country with a negative total balance with the donor country will come on top of the donor country's match list. Patients with a low LAS and from a country with a negative total balance with the donor country will be sorted among the donor country's patients either according to LAS (in case of a German/Dutch donor) or according to waiting time (donor from non-LAS country).

Based on the expected survival benefit and on the experience from the United States the EThAC has decided to apply a LAS = 50 as the threshold value. Patients with a LAS of  $\geq 50$  are considered as high LAS patients, whereas a LAS  $< 50$  is considered as a low LAS status.

### How to submit data for obtaining a LAS

A LAS request has to be entered in TCP, where the following data are required:

- Date of birth
- Lung diagnosis
- Height and Weight
- Diabetes
- Supplemental oxygen requirement
- Six minute walk distance
- Pulmonary artery systolic pressure
- Pulmonary artery mean pressure
- Forced vital capacity
- Serum creatinine
- Mean pulmonary capillary wedge pressure
- Functional status
- Need for assisted ventilation
- Current, lowest and highest PCO<sub>2</sub>.

In addition, the EThAC has decided that LAS plus data must also be submitted as this will enable Eurotransplant to further study a future adaptation of the LAS.

These additional *LASplus* items are:

- Bilirubin
- Duration of ventilation
- Coagulopathy
- Extracorporeal support
- 6MWT\*end-saturation.

Due to the high impact of the high LAS status (see paragraph on LAS types), clinical data for high LAS patients should not be older than 7 days and for low LAS patients they should not be older than 4 weeks.

Original data will be checked; if the data do not correspond with the data entered for calculating the score, a LAS = 0 will be assigned to this particular patient.

## **LAS types and expiration dates**

### **Low LAS**

The score for patients with a LAS value <50 will be valid for 90 days (Germany) or 180 days (all other countries). After this period the clinical data need to be updated, otherwise the patient will be assigned a LAS = 0. There will be a random audit (except for the Netherlands) for these patients, where the original lab data will be requested and checked. A notification will appear in TCP if a patient was selected for this random audit.

### **High LAS**

The score for patients with a LAS  $\geq$ 50 will be valid for 14 days. After this period the clinical data need to be updated, otherwise the patient will be assigned a LAS = 0. All high LAS patients will be audited which implies that original data always have to be submitted at the same time the LAS request is made. A notification will appear in TUR that a patient has a high LAS value and needs to be audited.

### **Exceptional LAS value**

In rare cases it might occur that the calculated LAS does not reflect the perceived idea of transplant benefit for a particular patient. In these cases, it is possible to apply for an exceptional LAS. This can be done by proposing an alternative LAS value accompanied with a detailed description of the underlying reasoning. The Review Board will evaluate all proposals for an exceptional LAS value. In case the auditors agree with the suggested exceptional LAS value, this value will then be assigned to the patient. In case the auditors disagree, the requesting center is asked to propose a different exceptional LAS value, which will thereafter be evaluated by the Review Board.

The exceptional LAS value will be valid for 8 weeks (56 days).

### **Estimated value (Six Minute Walk Test [6MWT])**

If a 6MWT cannot be performed, the transplant center can suggest an estimated value for this test. These cases will be evaluated by the Review Board in a similar way as described for the exceptional LAS values. After acceptance, the field 'use estimated value' will become active in the LAS request form. By marking this checkbox, the estimated value will be used in the LAS calculation.

The estimated value for the 6MWT will be valid for 8 weeks (56 days).

### **Approved Combined Organ (ACO)**

Patients listed for lung(s) in combination with a liver, pancreas or intestine have to apply for an ACO status. As an integral part of the application for this ACO status an exceptional LAS value can be requested in case the calculated LAS is not deemed appropriate.

These ACO patients will all be evaluated by the Review Board according to the procedure described above.

The ACO exceptional LAS value is valid for 8 weeks (56 days).

## **Pediatric patients**

All lung patients <12 years will be assigned a LAS of 100. It is not necessary to undertake any action for these patients. It should be noted that at the latest on the day prior to their 12<sup>th</sup> birthday it will be required to submit LAS data for this patient via TCP in order to obtain a valid LAS value.

Notice: because of this rule, all pediatric patients listed in a country with a negative total balance with the donor country will appear on top of this country's match list.