



Pre-lung transplant evaluation

Because of a possible indication for lung transplantation in your patient, a number of screening investigations need to be performed. The results of these investigations have to be filled in on the pretransplant file, which is necessary for assessment and eventual listing for lung transplantation.

General data:

- personalia
- diagnosis, date and means by which diagnosis was made
- extensive medical history: attention for prior diseases and surgery, allergies, familial history, socio-economic status, current complaint and illness, systemic history, Karnofsky score, current and recent medications, ...
- anthropometry
- detailed clinical examination

Laboratoriumonderzoek:

Veneous blood sample for:

- Complete blood count, sedimentation, sodium, potassium, chlorine, calcium, phosphate, HCO₃, total protein, albumin, protein electrophoresis, CRP, urea, creatinin, bilirubin, alkaline phosphatase, liver-set, amylases, glycemia, HbA1C
- full clothing-set,
- cholesterol, triglycerides and lipids,
- osteocalcin, ACE, TSH, ANF, ANCA, Rheumafactor, IgA, IgM, IgG, IgG2, IgG3, IgE, α 1-antitrypsin
- complement factors, circulating immune complexes
- ABO blood group and rhesusfactor, irregular antibodies,
- HLA-typing + anti-HLA- antibodies (2 measurements in HLA lab Leuven)
- RAST Aspergillus, Aspergillus IgG (precipitins),
- Theophyllin- and digoxin through level (on indication),
- PSA in males > 50 years,
- Serology: HIV, Hep A IgM, Hep B s-Ag, Hep B s-Ab, Hep B c Ab, Hep C Ab, CMV IgM and IgG, HSV IgM and IgG, HZV IgM and IgG, EBV IgM and IgG, Toxoplasmosis IgM and IgG, VDRL

Arterial blood gasses: pO₂, pCO₂ and pH, with and without O₂

Urine sedimentation and 24 h urine collection for protein, electrolytes and clearance.

Cultures: urine, sputa (with gram -, Ziehl – and fungal stains), faeces (anal swab), pharyngeal and nose swab, other cultures if clinically indicated

Cutaneous tests: Mantoux, iodine or other antiseptics if clinically indicated

Technical investigations:

Pulmonary evaluation:

- chest X-ray (anterior oblique/lateral), Chest CT scan, CT scan of sinuses,
- full pulmonary function test with spirometry, diffusion capacity and lung volumes saturation while resting and during exercise
- 6-minute walk test, peripheral and respiratory muscle force, ergospirometry
- ventilation-perfusion scintigraphy with quantification
- polysomnography in patients > 40 years or on indication in other cases
- pulmonalis-angiography on indication

Cardiovascular evaluation:

- ECG, echocardiography
- 24 h holtermonitoring and 24 h blood pressure measurement in patients > 40 years or on indication in other cases
- coronarography in patients > 40 years or on indication in other cases
- right heart catheterization in case of pulmonary hypertension on echocardiography
- arterial ultrasound (doppler/duplex) of carotids and legs in patients > 40 years or on indication in other cases
- on indication: ventriculography (if heart failure), thallium scintigraphy or persantine-MIBI echocardiography

Abdominal evaluation:

- ultrasound of abdomen, CT scan of abdomen
- gastroscopy in patients > 40 years or on indication in other cases
- total colonoscopy in patients > 40 years or on indication in other cases

Urogenital evaluation:

- ultrasound of prostate gland in patients > 50 years or on indication in other cases
- Rx ultrasound-mammo in patients > 40 years or on indication in other cases
- advice urology or gynecology

Orthopedic evaluation:

- X-ray of dorsal and lumbar vertebrae,
- Bone densitometry (DEXA scan) in patients > 40 years or on indication in other cases

Other:

- advice oftalmologist
- advice stomatologist (with orthopantomogram)
- advice ear-nose-throat specialist
- advice psychologist and/or psychiatrist
- diet history
- Onco PET-scan on indication
- CT of brains on indication

Activation as lung transplant candidate

The patient and his/her partner or family are familiarized with the various members of the lung transplant team during a short admission at UZ Leuven: nursing staff, chest physicians (pulmonary specialists), a member of the surgical team, the transplant coordinator, social services and psychologist. The entire lung transplant process and procedure, expectations and possible risks of transplantation are discussed, including:

- Life expectancy and quality of life, both currently and after transplantation
- The importance of pulmonary rehabilitation before and after transplantation
- Peri-operative procedures, inherent risks and expectations regarding the transplant surgery
- The course on the intensive care unit and the transplant ward since a patient will spend several weeks in hospital before being discharged home after having sufficiently recovered
- The risk of rejection, as most patients will experience one or more rejection-episodes after transplantation
- The risk of infection, as the immunosuppressive therapy increases the risk of infection. In case of infection (fever, ...) the transplant team needs to be contacted immediately.
- The risk of renal insufficiency, hypercholesterolemia, hirsutism, diabetes, possible changes in appearance, ... secondary to the treatment
- The importance of strict medical follow-up and life-long need for medications to prevent rejection or infection
- The importance of frequent routine-investigations, including blood sampling, pulmonary function testing, imaging of the lungs and of other organs, bronchoscopies with lavage and biopsies of the lung allograft, ...
- The possibility for recurrent hospital admissions during the first year after transplantation or later on
- The modalities of transportation towards and from UZ Leuven will be discussed, as well as the need for continuous availability of the patient and his family during the waiting period

The patient will receive a brochure addressing all these points and has the possibility to meet transplanted patients during his short inpatient stay in UZ Leuven.

The treating/referring physician keeps in contact with the other members of the lung transplant team through a scheduled monthly team meeting or mutual discussion. A decision regarding the patient's listing is made by the lung transplant team as a whole and in case there are no major contra-indications the patient will subsequently be listed for transplantation. The patient will be personally informed about the team's decision by a member of the team. Waiting time begins when the patient's file is submitted to Eurotransplant by the transplant coordinator. During the waiting period before transplantation, the treating/referring physician remains the responsible for the patient's treatment unless otherwise agreed upon with the transplant team. He will ALWAYS keep the team updated on any changes in the clinical condition of the patient (i.e. hospital admission, exacerbation, accident, important changes in medication, ...). In order to adequately assess the situation/condition of the patient while on the waiting list, the patient will be seen every 8 weeks at the outpatient clinic by one of physicians of the lung transplant team. Any new contra-indications during the waiting period may cause the patient to be declined for future transplantation. After transplantation the patient will be followed-up life-long by the lung transplant team.