

Annex 1:**Quality criteria for N₂ washout lung function tests.**1) N₂ Single Breath Washout (N₂SBW) – general principles for quality control during the test performance:

- Patients were instructed to sit in an upright position and to wear the nose use a nose-clip for the examination
- The position of the mouthpiece and noseclip was controlled through the lung function technician to avoid leakage.
- Patients inhaled 100% O₂ in a closed system and were advised to breath in complete and on constant flow and after to completely exhale to a constant flow to their residual volume, receiving guidance from the lung functional technician during the process.
- At least 3 maneuvers were performed with at least 2 minutes pause between
- Software gives active feedback during the maneuver to check for its quality and guide the lung function technician's orientation to the patient.
- The examination was performed using a flow reducer coupled to the system, as demonstrated in the picture (red piece).

*Quality control after test performed*

- Curves were proofed individually for relevant leak through graphical visualization.
- Inspiratory and expiratory vital capacity (VC) should express less than 20% difference within one trial. Inspiratory VC as well as expiratory VC were compared between different trials and should not differ more then 10% (reproducibility).

2) N₂ Multiple Breath Washout (N₂MBW) – general principles for quality control during the test performance:

- Patient were instructed to sit in an upright position and to wear the nose use a nose-clip for the examination.
- The position of the mouthpiece and nose clip was controlled through the lung function technician to avoid leakage.
- Patients inhaled 100% O₂ in a closed system, were advised to exhale completely (until reach of functional residual capacity) and then instructed to breathe in and out constantly at tidal volume. Patients received guidance from the lung function technician during the examination, who would be checking a “real time” feedback from the software during the process.
- At least 2 maneuvers evaluated as acceptable by the software were performed.
- The examination was performed without flow reducer

Quality control after test performed

- Curves for N₂ concentration over time as well as volume and flow over time were checked individually for leakage and/or discrepancies.

3) N₂ Single Breath Washout (N₂SBW) between MCT Dose increment:

Same procedure described in number 1, except for the number of maneuvers. Here just one maneuver was performed in order to avoid trespassing the ideal time between the MCT doses.

Appendix 2

Performed skin prick test



Stallergenes Alyostal Prick

Universitätsspital Basel Pneumologie	Patient Data
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Positive control (histamin)
Negative control (saline solution)
Grass mixture
Rye
Birch
Hazel
Alder
Ash
Ribwort
Mugwort
Ambrosia
Derm Pteronyssinus
Derm. Farinae
Dog hair
Cat hair
Aspergillus fumigatus
Cladosporium
Penicillum mix

Criteria for a positive test: welt of ≥ 3 mm circumference of diameter (Heinzerling et al., 2013).